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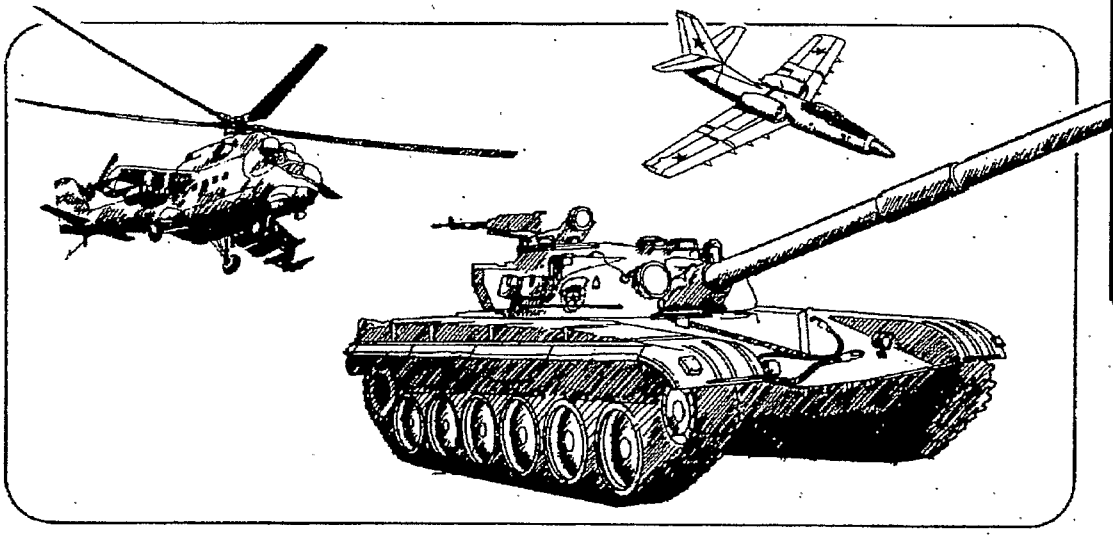
The Soviet Battlefield Development Plan

(SBDP)



EXECUTIVE SUMMARY (U)

Prepared by:

OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE

1 NOVEMBER 1982

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DATE OF PUBLICATION
1 November 1982

Information Cutoff Date
August 1982

This product was prepared by the Office of the Assistant Chief of Staff for Intelligence, with contributions from the US Army Intelligence and Threat Analysis Center, the Foreign Science and Technology Center, and the Missile Intelligence Agency. It has been reviewed and approved by the Assistant Chief of Staff for Intelligence, Department of the Army.

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PREFACE

1. (U) The Soviet Battlefield Development Plan (SBDP) is Army Intelligence's response to the request by the Commander of TRADOC for a Soviet counterpart to the U.S. Battlefield Development Plan. The SBDP provides an integrated and comprehensive analysis of Soviet military thinking, doctrine, and combined arms force development from the present to the turn of the century. As such, it will give Army doctrine and combat developers a long-range view of the competition they face so that they can design U.S. Army doctrine and forces in a dynamic perspective. Ideally, Army planners will be able to exploit our understanding of Soviet doctrine and force modernization, thereby giving the U.S. Army advantages in equipment, weapons, training, and tactics.

2. (U) This Executive Summary is designed to give senior officers the key findings of the SBDP in a form they can read in a couple of hours. It is intended to integrate the mass of intelligence information we have on Soviet military affairs in an interpretive framework. For details and supporting evidence, a reader must refer to the appropriate volumes that make up the SBDP.

3. (U) Although the OACSI coordinated the SBDP and designed its structure, all of the major Army Intelligence production organizations provided the analysis. ITAC, FSTC, MIA, AFMIC, and the OACSI Red Team were the primary Army contributors, (b)(3) per DIA

(b)(3) per DIA

Such a comprehensive undertaking inevitably has inadequacies and contentious conclusions in its first variant. Work on the next version is already under way, and it is directed toward refinement, filling gaps, and improving the forecasts.

4. (U) In designing a research structure for the SBDP, it became clear that some of the present production activities are not organized to support such an effort. It also was apparent that the SBDP design, if worked out in detail, could answer many other Intelligence Production Requirements (IPR) in addition to the original TRADOC IPR. It is hoped, therefore, that DARCOM and other MACOMs will examine the SBDP carefully and help OACSI review their IPRs to determine which of them are answered by the SBDP and which can be answered by improvements in the next version. The present version, as a comprehensive view of Soviet doctrine and force development, may also assist in the writing of future IPRs so that they can be answered properly and on a timely schedule.

5. (U) The SBDP is a forecast of what we believe is the Soviet General Staff's force development plan for "combined arms" operations in land warfare. It is not a prediction but rather an attempt to understand the Soviet General Staff's vision of the next two decades for planning and programming. It is an attempt to provide a Soviet view, not a U.S. mirror image. The Soviet General Staff does not have an "AirLand Battle" doctrine.

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It has a "combined arms" doctrine of warfare under the conditions of both conventional weapons and weapons of mass destruction. While there is much in common between these two types of doctrine, it is far more important to understand the differences.

6. (U) The basic assumption for the SBDP is the probable Soviet assumption that there will be no significant adverse changes in the present international order that will cause major changes in the Soviet development strategy for combined arms forces. The SBDP does take into account economic and demographic constraints that are reasonably predictable by Soviet planners. And it tries to anticipate the impact of new technologies on force development.

7. (U) While combined arms operations in Europe are clearly the central issue, Soviet planners must also worry about the Far East, Southwest Asia, and power projection to noncontiguous regions. These non-European concerns, therefore, are also treated.

8. (U) Because Soviet combined arms doctrine is not conceptually restricted to the theater of operations but also concerns the "rear," that is, the entire continental USSR as a mobilization and production base, the SBDP deals with this aspect of force planning. Preparation of the "rear" for both nuclear and nonnuclear conflict is seen by the General Staff as the first and most important step without which combined arms force development makes little sense.

9. (U) Finally, the SBDP Executive Summary devotes more attention than some readers may believe appropriate to the historical record of Soviet development of doctrine and force structure. Without this perspective, however, we may fail to grasp the key rationale and motivations for Soviet force planning. With this perspective, we will have less of a tendency to "mirror image" and a much better sense of where the Soviet General Staff believes it must go in its preparations for war. Our readers' indulgence, therefore, will be rewarded.

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Section 1: Introduction

A. (U) In order to forecast Soviet military planning, it is necessary to know at least two things. First, we must understand the Soviet doctrinal view of warfare, and we must do that in a historical perspective. In other words, we must take Soviet ideological perspectives and follow them through their historical development, focusing on how they interacted with Soviet political, economic, social, and cultural realities. This intellectual development of Soviet doctrine is the prism through which their General Staff views Soviet and Western military potentials and their future growth. It provides the bases for the General Staff to determine missions in support of political objectives and required military capabilities.

B. (U) Second, we must know the history of Soviet weapons, equipment and organizational development. Such knowledge gives us a dynamic view of the direction and momentum of Soviet force development, allowing us to make forecasts of its future growth. Only by knowing where the Soviets have come from in these developments can we estimate where they are going in the next two decades.

C. (U) Today, our confidence in projections can be much greater than it could have been 20 or 30 years ago. A very large and comprehensive military inventory and industrial base has grown up in the postwar decades. Its general directions cannot be changed easily, cheaply, or quickly in the next 10 or 20 years. That was not true 30 years ago. In the 1950s, the General Staff had a wider range of choices for the development of weapons and equipment because they had not yet invested heavily in a development infrastructure. That is no longer true. They have chosen development paths and have invested so heavily in them that both momentum and resource constraints make significant deviations extremely unlikely. While they could slow down due to a number of economic constraints, they could not significantly speed up or shift directions radically in less than two or three five-year planning cycles. We consider the likelihood of these kinds of deviations quite low. The greatest danger of error in our forecasts lies in our comprehension of Soviet doctrinal views about organizing, equipping, and training for war.

D. (U) The SBDP as a whole provides an integrated approach to understanding and evaluating Soviet force development. Each of the eight volumes, taken separately, attempts to evaluate a major area having a significant influence on the overall force development.

(1) To reduce the danger of inaccurate inferences about Soviet military planners' views, Volume I of the SBDP explores the ideological and historical heritage that forms their outlook. The Soviet General Staff is far more history minded than most general staffs and planning groups in other armies. They believe in grounding every planning decision in comprehensive historical analysis of both military and political experience.

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(2) From that historical perspective, Volume II flows logically as a study of the preparation of the homeland, or the "rear," for war.

(3) Volume III provides a detailed "order of battle," an inventory of all Soviet ground forces.

(b) (1) & (b) (3) per CIA

(4) Volume IV provides a history of Soviet weapons systems that have been produced. From this record it infers development cycles and makes projections of the kinds of new or improved systems to expect in the future.

(5) Volume V is a study of trends in organization and doctrine for "combined arms" operations. It elucidates key organizational changes that can be expected.

(6) Volume VI reviews command and control trends in the same fashion. It provides a picture of the geographical command structure. Additionally, it discusses Soviet force projection capability beyond its Eurasian borders.

(7) Volume VII is a study of Soviet exercises in the three major theaters: Europe, Southwest Asia, and the Far East. From the patterns of these exercises, it is possible to infer something of Soviet general war missions.

(8) Finally, Volume VIII is an attempt to discern the shortfalls between what seems to be Soviet military missions and the present Soviet capabilities for combined arms operations. Such an analysis gives us a stronger sense of the requirements the Soviet General Staff probably sees for building forces over the coming decades.

Section 2. Doctrine

A. Preview (U) Volume 1 of the SBDP discusses the fundamentals of Soviet military doctrine in detail. This Executive Summary presents a brief review of Soviet doctrinal development as a means of constructing a basis from which to present the SBDP's doctrinal forecast. This discussion emphasizes that future doctrinal evolution is anchored in present and past doctrinal decisions.

B. Military Reforms: The 1920s

(1) (U) Following the widespread destruction of World War I and the Civil War, the new Soviet leaders had to construct a new socialist state from the ruins of imperial Russia. The tasks were enormous. The men who were to accomplish these tasks were leaders of a political party that had all the characteristics of a military organization. Their leadership experience was developed in underground revolutionary activities until 1917, and thereafter, in war until 1921. Although revolutionaries (Lenin, Trotsky, and Stalin) provided the top military leadership of the new Red Army, about 47,000 imperial officers were retained in its ranks. A number of these were extremely gifted, well educated, and battle-tested officers (Frunze, Tukhachevsky, Shaposhnikov, et al). They quickly combined the Bolshevik ideological view of history and revolutionary development with sophisticated military professionalism. They set to work assessing the nature of future war, the role of new technology, the political and economic realities of the young Soviet State. From that, they developed a doctrine for operations and force development in support of Bolshevik revolutionary objectives.

(2) (U) The writings of M. V. Frunze, who succeeded Leon Trotsky as head of the Red Army in 1925, provide the best synthesis of the feverish endeavors and debates in the early 1920s on the "military question" for the young "socialist" state. Frunze's vision of future war was based on the technological advances he saw taking place at the end of the last war, especially advances in the fields of chemistry, aviation, and motorization. For Frunze the new technology meant that the positional warfare of World War I was a thing of the past and that mobile, combined arms warfare would characterize future war. This meant that future military forces, particularly air forces, would probably be able to penetrate deep into the rear of enemy forces, into the very heartland of the enemy's country. Thus, the old demarcation between "front" and "rear" would be swept away. The "rear," the entire home front, would be part of the battlefield; therefore, the "rear" had to be militarized. Thus Frunze developed, and his successors implemented, an economic and manpower mobilization structure by which the whole of the country's political, military, and economic efforts could be primarily directed to its protection and survival. This meant in fact that the Soviet economic and administrative substructure was from the very beginning primarily designed to create military power. A revolution, after all, is a military operation. Expanding the Bolshevik revolution

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logically required military power, above all, not consumer satisfaction of the working class.

(3) (U) In addition to preparing the "rear"--building a military-industrial base, training military manpower, developing a force structure, adapting new technology to military use, and providing a mobilization system--Frunze understood the need to develop an operational doctrine for employing forces in the kind of highly mobile war he forecast for the future. His "Unified Military Doctrine" essay expressed this need, and Soviet combat and materiel developers responded in the late 1920s and early 1930s with advanced tank designs, the pioneering use of airborne troops, and the unfolding of a tactical aviation infrastructure.

(4) (U) Although the Soviets were surprised by the "Act" of the German invasion in 1941, they had correctly anticipated its nature, i.e., "the nature of future war." The "rear" came under both air and ground attack. Yet, Soviet industry mobilized, survived, and expanded. Armored warfare, deep operations, and air support (although weak) characterized the Eastern Front. In retrospect, the Soviet military felt vindicated. Their forecasts, doctrine, materiel development, and manpower policies stood the test. Gaps and inadequacies, of course, were filled by Allied support, particularly the American Lend-Lease Program.

C. Revolution in Military Affairs: The 1950s

(1) (U) Following WW II, Soviet military leaders found themselves facing essentially the same predicament that confronted their predecessors in the 1920s. Once again, new military technologies had emerged--nuclear weapons, rockets, and cybernetics. The Soviet Union was far behind the West in all these areas of weapons development, particularly in their R&D base. The technical-cultural level of their officer corps was much too low to deal with such technologies. The industrial base had to be rebuilt.

(2) (U) Their response in the 1950s has many parallels with the response in the 1920s and 1930s. First, they demobilized and cut their force structure sharply. Second, they began an expansion and upgrading of the military educational system. Third, they began reconstruction of the industrial base across the board, not just military industry. Fourth, R&D in nuclear and rocket weaponry proceeded faster than all Western intelligence estimates had expected. Finally, discussion of new military doctrine emerged in the open press in the 1950s, revealing that rather comprehensive classified analysis had been conducted on how to adapt operations and force structure to exploit new technologies in any future war.

(3) (U) A group of military authors under the editorship of Marshal V.D. Sokolovsky produced a synthesis of the new analysis in Military Strategy, a book twice revised in the 1960s. Like Frunze's work four decades earlier, it defined the probable character of future war, particularly the impact of nuclear and chemical/biological weapons. It set forth the realities of new weaponry that Soviet force development and doctrine would have to take into account and exploit. Read with hindsight,

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it appears rather clearly to have been a guide, setting the tasks for the 1960s and 1970s: first, to develop a "combined arms" doctrine valid for both NBC and non-NBC conditions; and second, to establish the technical, organizational, and operational requirements to implement this doctrine.

D. Evolutionary Initiatives: 1970s and 1980s

(1) (U) With Marshal N.V. Ogarkov's emergence as Chief of the General Staff in 1977, a number of new initiatives, more evolutionary than revolutionary, were launched. Like Frunze and Sokolovsky before him, Ogarkov has expressed his views on the nature of future war in writing. His slim volume, "Always in Readiness to Defend the Homeland," is not as detailed or as sweeping as the previous doctrinal works. However, it bears the same synthesizing, authoritative, and directive character. It outlines the tasks Ogarkov sees as necessary to eliminate the gap between Sokolovsky's doctrinal goals of combined arms and deep operations and the existing Soviet capabilities to achieve these goals.

(2) (u) ~~(c)~~ Ogarkov's concept for achieving the convergence between doctrine and capability is the "theater-strategic operation." This concept is discussed in more detail in section 7 of the Executive Summary, but in brief it calls for operational improvements that, when accomplished, could give the USSR the capability to occupy Europe in approximately 30 days.

E. Doctrinal Forecast

(1) (U) Given the past Soviet record of reviewing their military experience, assessing the probable impact of new technologies on future war, and elaborating doctrinal concepts for guiding force development, we can have reasonable confidence that Ogarkov's initiatives give us a valid idea of where Soviet military developments are headed, probably to the year 2000 and beyond. Actions and statements following Ogarkov's becoming chief of staff provide significant insight into future force developments:

(a) (U) The "theater of military operations" must be developed as the key level of command and control for achieving "theater-strategic" objectives.

(b) (U) Troop control, i.e., troop-leading procedures, staff operations, automation, and logistics, must be improved, with the intent of greatly reducing the time required to conduct operations.

(c) (U) Perfecting capabilities for "operational maneuver groups." (See section 7.)

(d) (U) Reorganizing air and artillery support to give it more effectiveness in "combined arms operations."

(e) (u) ~~(c)~~ Achieving an effective strategic defense of the Soviet "rear" through civil defense, air defense, and, possibly, anti-ballistic missile defense.

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(2) ~~(S)~~ We forecast that the Soviet Union will very likely achieve this "strategic-theater operations" capability in the late 1990s. The remainder of this Executive Summary highlights projected improvements in equipment, organization, operations, and strategic defense that will move the Soviet military toward Ogarkov's goal.

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Section 3. Forecast on Preparation of the "Rear"

A. Concept of the "Rear"

(1) (U) The Soviet concept of the "rear" is both broad and unique. At the front and army level, it means supply and logistics capabilities. But it also has a specific meaning for the entire Soviet home front deriving from both the ideological concept of "socialism in one country" and the nature of modern war.

(2) (U) When socialist revolutions failed to break out in the most advanced parts of Europe during and after WW I, the Bolsheviks found themselves holding power not in an advanced industrial state with a strong working class, but rather in a backward state with largely a peasant economy and a weak working class. All Russian Marxists had expected Germany to lead the socialist revolution. Lenin was convinced that the Russian Revolution would spark revolution in Germany, France, and England, providing the young socialist camp with a strong political and economic base from which to easily and quickly expand the socialist revolution to the entire world. Trotsky was so convinced that revolution in Europe was necessary that he--and many of the young "Red Commanders" in the Red Army--believed it essential to carry war and revolution on Bolshevik bayonets straight to Western Europe before the forces of capitalism could regroup and launch an intervention that would stifle the new Soviet regime. Lenin had a different view. He sought a "breathing spell" for the new regime with his policy of "peaceful coexistence" in 1921, and turned his party to building a material and political base in Russia from which the revolution could be spread gradually, starting in the less developed states of the Far East. In the meantime, by a diplomatic opening to the industrial West, the Soviet economy could acquire credits and advanced technology for rapid Soviet development. Eventually, this siphoning of aid from the West while continuing the "international class struggle" by other than direct military means would shift the correlation of political, economic, and military forces in favor of the Soviets making possible the destruction of capitalism in its strong Western bastion. Stalin articulated this strategy shortly after Lenin's death as building "socialism in one country" before a direct revolutionary assault on the West.

(3) (U) This early Soviet development is critical to an understanding of contemporary Soviet foreign and military policy. Not only did it explain away many seeming ideological paradoxes, but it also put military factors as primary in Soviet economic and social policy. Because the socialist revolution in Russia was encircled by hostile forces and because it had an international military mission--i.e., revolution--building military potential was put ahead of all other purposes. Industrial policy, education policy, trade policy, and foreign policy were all subordinated to long-term revolutionary, and thus military, goals. Consumer satisfaction became an overhead cost while military potential became the end social product. This unusual ordering of social preferences ensured that the Soviet

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economy would be primarily that of a military-industrial complex, that foreign trade would be aimed at overcoming Soviet military-technical backwardness, and that "peaceful coexistence" would remain a tactic for altering the international status quo, not an acceptance of it. Today, that strategy persists, modified only in tactical details and not in political purpose or substance.

(4) (U) The nature of modern war meant for the Soviet homeland vulnerability to attack by aerial bombing and deep mobile force operations. Frunze made it clear in his "Front and Rear in War of the Future" that the old distinction between front and rear would no longer be valid. The rear would be part of the combat zone. The implications for the organization of the entire state and economy in peacetime as well as war were enormous:

-- Rapid transition to war required "militarization even in peacetime of the work of the entire civil apparatus."

-- Training of military manpower had to proceed on a universal basis supported by civil schools as well as a military school system.

-- The motorization and transport sectors of the economy had to grow primarily to support military requirements.

-- All industry and the entire economy had to be capable of mobilization for war in days and weeks. (Russia had no economic mobilization plans for WW I, a failing that gripped the attention of Soviet military writers in the 1920s.)

-- Although the military could not run the industrial sector of the economy, as some Red Commanders desired, it had to "influence the very character of production, based on the requirements of defense."

(5) (U) As Frunze summed it up: "The significance of the 'rear,' i.e., preparation of the entire economic and state apparatus, presents the most serious tasks for the workers of civil institutions--in the sense of accounting for the demands of future war and adaptation of production to meet them--and for workers of the military department, the task of establishing the tightest relations with appropriate civil institutions." This explicitly called for the Soviet state to become a modern military-industrial complex; above all else, this became the central core of Soviet policy.

B. The Military Five-Year Plan

(1) (U) By 1927, the first military "five-year plan" was drawn up and apparently used to influence the design of the first Soviet Five-Year Economic Plan of 1927/28. Much had already been done, however, in restructuring the Red Army:

-- Active-duty military manpower had been reduced drastically, shifting to a large "territorial militia" system and building a new officer training base.

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-- The R&D sector was harnessed to military needs, and the Commissariat of Foreign Trade was acquiring advanced technology for military applications.

-- Accumulation of large stocks of war reserves had been avoided in favor of a "militia" approach to industrial mobilization that could create a great surge of modern military production just before and during a war.

-- Plans were developed to locate industry in the Urals, beyond the reach of aerial attack.

-- An elementary air-attack warning system and a civil defense program were being developed.

(2) (U) The Russian economy had shifted radically during WW I, greatly emphasizing machine building, metallurgy, transportation, and energy. That structure was not greatly altered in the 1920s during Lenin's "New Economic Policy" (NEP). Collectivization of agriculture and the state economic five-year plans, beginning in 1927/28, essentially continued that inherited economic profile and its military rationale. It remains intact today, including military primacy in all its aspects over economic affairs, planning, R&D, foreign trade priorities, and production. The Mobilization and Organization Directorate of the General Staff today retains more fully than Frunze would have dreamed the capacity that he believed necessary to "influence the very character of production, based on the requirements of defense."

(3) (U) World War II turned out to be not very different from the Soviet descriptions of future war in the 1920s. The Soviet "rear" indeed suffered attack, and most of the European part of the USSR became a combat zone. While all mobilization and defense plans did not work smoothly, the military preparation work for defending and mobilizing the military potential of the rear proved the salvation of Soviet power. The official post-war view has been one of praise for the military doctrine for the "rear" that had been developed in the 1920s and a commitment to sustain and improve it. Thus, the post-WW II response to the new military conditions was also remarkably analogous to the response in the 1920s. Science and industry grew primarily according to military requirements. Foreign trade became the primary source of new technology. The military school system grew quickly to over 120 academies and colleges. By the mid-1970s, the colleges expanded from two-year commissioning courses to five-year courses with much higher-quality education, creating a virtual sociological revolution in the educational level of the officer corps.

C. Manpower: The Postwar Policy and the Future

(1) (U) After WW II, although active-duty manpower levels were reduced dramatically, a large mobilization structure was retained in the form of Category III divisions, which contained 90-100% of major combat equipment but less than 50% of authorized personnel. In many cases, strength was only 10-15% of that authorized. Expansion and quality upgrade in the

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officer schooling system has been enormous. Today there are approximately 120 four- and five-year commissioning schools with high-quality courses in engineering, mathematics, and military subjects. At no earlier time in Russian or Soviet history has there been such a well-educated officer corps. This change is a virtual sociological revolution, which may eventually have adverse political consequences for the Soviet system.

(2) (U) The growth of elementary and secondary schools has produced a manpower pool of literate soldiers also unparalleled in Soviet and Russian history. Additionally, by putting a large part of basic training into these secondary schools, the General Staff has dispersed the training base greatly, making it more resilient should there be a nuclear attack on the USSR.

(3) (U) ~~(S)~~ The 1967 Universal Military Service Law has led to a large trained military manpower base, totalling over 50 million reservists. Of these, over 5 million have been on active duty with Soviet ground forces within the past five years, providing enough personnel to bring to full strength the entire present structure of about 190 active and 20 mobilization divisions.

(4) (U) ~~(S)~~ The heart of the manpower system is the Military Commissariat structure. A Military Commissariat exists at the lowest administrative level of the Soviet state system, the "district," about the size of a US county. The local Military Commissariat keeps track of all reservists and all youth coming of military service age. It also follows and assists the preservice military training in high schools and factories. Responding to General Staff directions each year, the Military Commissariat system calls up about 2.1 million youths for active duty.

(5) (U) ~~(S)~~ While the system experiences local corruption and inefficiencies, as revealed by exercises, it is deeply rooted historically in the USSR, generally accepted by the public, and overall an effective administrative way to access the total manpower pool. It is able to ensure that the industrial labor force is not crippled by a military mobilization, a very sensitive point with the Soviet military because of the experience in WW I, when the few Russian military arsenals lost all their skilled workers to the mobilization and did not recover many of them until as late as 1916. The decentralized Military Commissariat system, therefore, is the linchpin in all aspects of mobilization of manpower for both military and industrial purposes.

(6) (U) ~~(S)~~ There has been much speculation in the West about a Soviet manpower shortage in the late 1980s, especially among draft-age young men. Figure 1 does, in fact, show a decline in available 18-year-olds beginning around 1980; but it bottoms out about 1986-1987 and returns to higher levels by the mid-1990s.

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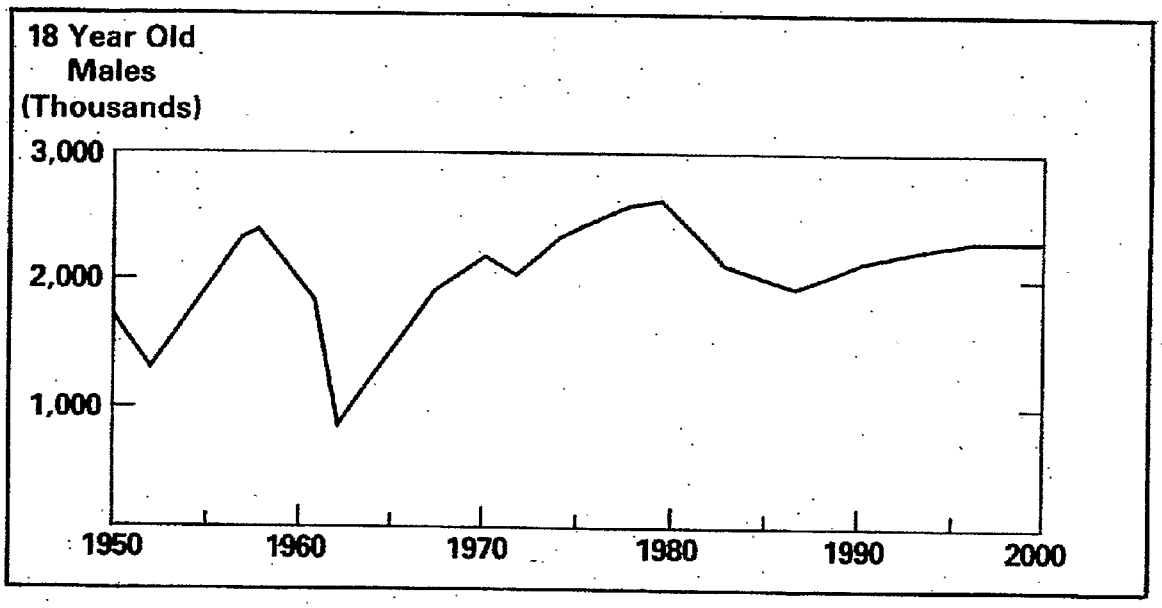

Figure 1. (U) Trend in Soviet Manpower Pool

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If the 2-million-man yearly conscription requirement continues as the norm, some manpower shortages can be expected in the mid- and late-1980s. However, several actions can be taken to alleviate the problem, such as extending time in service, decreasing deferments, cutting back the number of construction and support troops, and changing the conscript-career mix. It is likely that some steps will be taken in all these areas.

(7) Forecast (U) The military manpower pool will continue to improve in quality. With respect to quantity, demographic trends will put marginal constraints on the pool of Slavic officers and soldiers, but contrary to popular assertions in the Western press, these constraints do not portend serious problems in maintaining a military manpower base through the year 2000. The Soviet manning system permits mitigation of the problem by several means, as noted above. The greatest manpower problems for the Soviet military are likely to arise from ethnic animosities and rising educational levels. In the two decades ahead, the Soviet military will be dealing with a wholly different kind of soldier, one who does not remember WW II and one who has a greatly expanded intellectual development. The traditional system, designed to manage semiliterate peasant soldiers and unsophisticated officers, may generate discontent that will manifest itself in individual dissident political views and support for dissident circles.

D. R&D, Science, and Technology: Today and in the Future

(1) (U) The Soviet economy and R&D sector received a large infusion of

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Western technology during the course of WW II, including transfers through Lend-Lease from the U.S. and from war reparations from Germany. This infusion provided a spurt in the new military technology sectors, rockets and nuclear weapons. The economy itself recovered rapidly, achieving a growth rate in the 6-9% range in the 1950s. Lack of continuing access to Western technology, however, under the Western COCOM embargo of strategic goods, and inherent inefficiencies in the centrally planned economy, brought a slowing of growth to 2-3% in the early 1960s. By the 1970s, Soviet foreign policy had achieved extensive new access to Western economies, thereby enabling a sustained modernization of key military industrial and R&D sectors.

(2) Forecasts

(a) (u) ~~(C)~~ The recent slowdown in East-West trade and the increase in the Soviet foreign trade deficit have raised uncertainties about the future rates of growth in the R&D sector. The Soviet leadership will have to make difficult choices to sustain technology transfer, but their espionage approach to Western science and technology, combined with our allies' unwillingness to renew and implement effective embargoes, makes it likely that Soviet military modernization can continue more or less unabated. The future in this regard depends as much on Western policies as on Soviet policy and capabilities.

b1

E. Military Industry and Transportation

(1) (u) ~~(S)~~ Unlike in the 1920s and 1950s, when the Soviets decided against building large war stocks in peacetime, in the 1960s and 1970s they shifted toward larger inventories. That is vividly demonstrated in the

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projections we show for major weapons systems. At the same time, they have also retained something of the old "militia" approach to industrial mobilization for wartime. For example, tank production surge potential can now reach approximately 18,000 per year. For infantry fighting vehicles it is about 17,000.

(2) (U) The Soviet assessment of the nature of future war, as expressed in numerous open sources, places great emphasis on the "initial period." The length of the "initial period" has not been clearly defined. It could be weeks, or even months, judging from Soviet discussions of it. But it will likely be too short to permit adequate buildup of stocks of weapons after the beginning of hostilities. Therefore, the enormous reserve inventories of division sets of equipment are clearly consistent with this revised view of the character of future war. At the same time, industrial surge capacity is deemed essential for the succeeding phases of a general war.

(3) (U) Transportation remains and will continue to be a bottleneck in the preparation of the "rear." The highway system has been improved but it is far from adequate to meet Soviet goals to support wartime contingencies. The railways have been allowed to decay, and rolling stock shortages for the national economy, remain acute. Recent shifts in Soviet investment plans give the transportation sector much higher priority, but it would have to be sustained at an even higher level of investment for the next 20 years to produce a sufficient network of routes and means adequate for high-speed offensives in all theaters.

(4) (U) The European part of the USSR is best developed for transportation, although even this area does not have adequate excess capacity. The Far East is impoverished notwithstanding the massive undertaking of the Baikal-Amur Railway, a line parallel to the Siberian line but located farther north so it will be less vulnerable to a Chinese invasion. The Southwest Asia region is also quite impoverished in transportation. Growth in this region would not contribute to the peacetime economy as it would in the European region. It is unlikely, therefore, that significant improvements will occur there in the coming decades.

(5) Forecast for Transportation and Military Industry

(a) (~~S~~) (U) While transportation will remain a critical problem, it will slow but not prevent effective Soviet deployments for the initial phase of combined arms operations in Europe and the Far East. In Southwest Asia it will be more constraining, and initial deployments will require several weeks or longer. The weak transport infrastructure overall will, of course, significantly limit rapid shifts of ground forces from one theater to another. Airlift for airborne divisions is the major inter-theater mobility capability, and it is limited at present to a capacity to move only one division at one time. Soviet acquisition of wide-body airlift in the 1980s and 1990s will probably increase this lift capacity, even though Soviet airborne divisions are expected to increase both in size and in number of equipment pieces.

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(b) (u) (S) The military-industrial base includes approximately 120 major assembly plants involved in final weapons production. Tank production alone could average between 2000 and 3000 per year through 1995 and probably beyond. The industrial capacity and production forecasts for other types of ground combat weapons suggests that these weapons will also continue to be produced at approximately current levels.

(c) (U) It is more difficult to project growth throughout the military-industrial base. Certainly, this growth will not be as rapid as in the past 20 years because the additional investment for each percent of growth will have to be larger at a time when demands for capital outlays are growing in all other economic sectors. If the present rates of defense investment, 12-14% of national income, continue while the remainder of the economy slackens to the 2% predicted growth rate, the defense proportion will rise to about 20% of national income by 1990. (See Figure 2) This may not be as intolerable to Soviet economic planners as many Western specialists believe in the light of Soviet views about acceptable levels of allocation to the defense sector, but it does force difficult choices on the leadership. G.S. Kravchenko, the dean of Soviet "military-economics" history, wrote in 1970:

> "In our epoch of international tensions, when the expenditures on preparations for war in peacetime reach 20%, and expenditures in wartime reach 60-70% of national income, and when these enormous expenditures cause such highly substantive impact on the increased production of the total social product and production relations with all the ensuing sharp economic and political consequences, there arises the objective need of an account and analysis of the relation and interaction of production of military goods with production of goods in the investment and consumer branches."

(d) (U) In the next two decades, "the sharp economic and political consequences" will grow even sharper, but we do not predict a major shift away from the military sector for investment, rather a probable slowing of the rate of expansion.

F. Civil Defense

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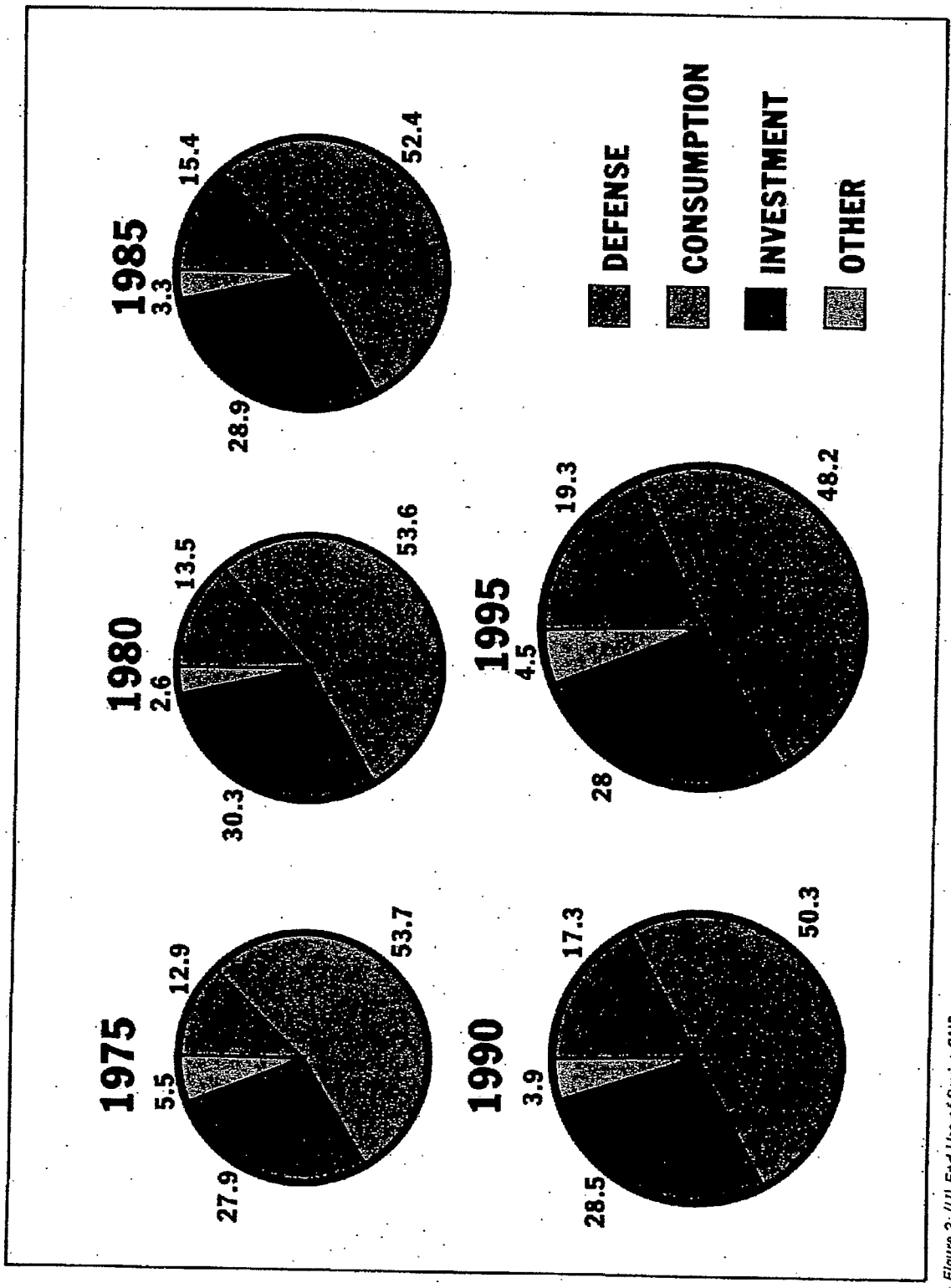

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Figure 2: (U) End Use of Soviet GNP

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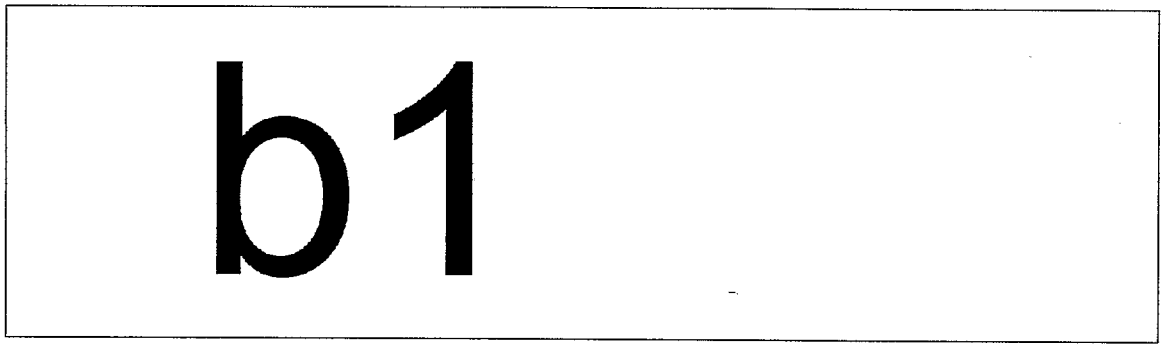
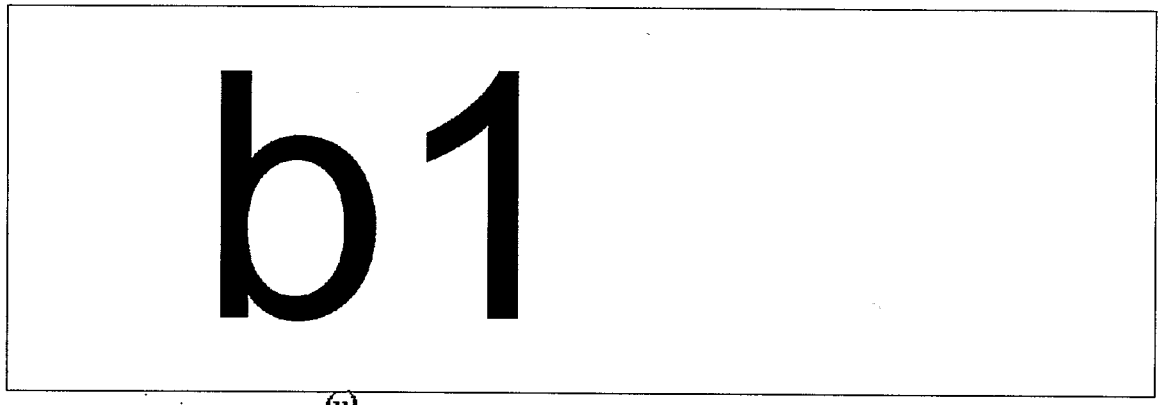
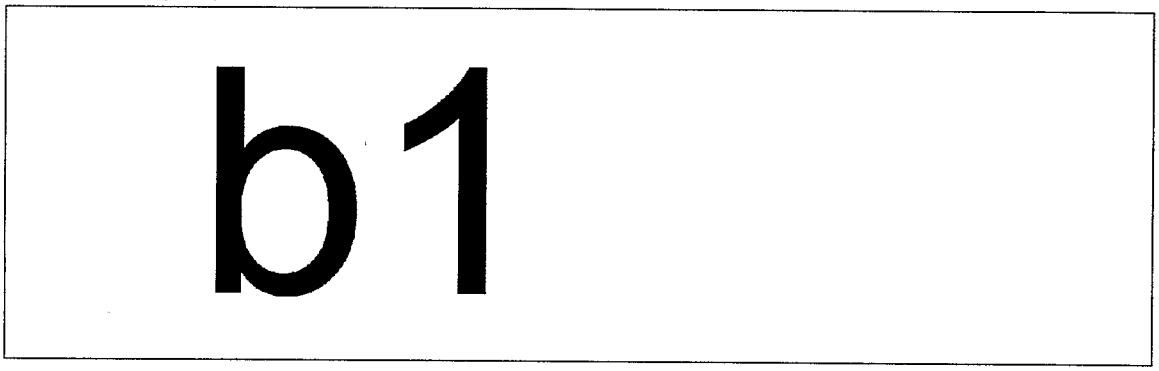


G. Anti-Ballistic Missiles (ABM)



(2) Forecast (u) ~~(C)~~ The Soviet potential for breakout with a country-wide ABM system is a matter of debate within the Intelligence Community. Although it is entirely possible that they could expand quickly to defend a few more high-value areas, it seems more likely that the Soviet military leaders would prefer for the near-term to abide by the ABM treaty and thereby retain the constraint on the U.S. ballistic missile defense program. In the 1990s, however, the likelihood of a country-wide program will be greater. Without it, the enormous Soviet air defense investments would not seem to make sense.

H. Air Defense



(2) Forecast (S/NOFORN) b1

b1

I. Summary (S) b1

b1

Section 4. Forecast of Ground Force Order of Battle

A. Background

(1) (U) In the light of Soviet military doctrine and political objectives, the present and projected very large growth of Soviet ground forces should not occasion surprise. The USSR is very large, and maintaining internal order is a secondary role for the Soviet armed forces. Until the last decade, it was considered a primary role. However, this role does not fully explain the size of the forces. Such large forces for a purely defensive external mission is also difficult to explain. Client or neutral states border most of the Soviet Union, with the exception of Turkey, Iran, Norway, and China. Of these, only China has great military potential, and even it has marginal offensive capacity. Thus, we are inclined to give considerable validity to the analysis of the Soviet ideological and doctrinal views of war that call for such a large military establishment (Volume 1 of the SBDP 2000) as the guide to Soviet force development.

(2) (u) ~~(S)~~ Since the 1950s, we have witnessed an unusually large buildup of ground forces. The numbers of divisions have grown, particularly in the Far East on the border with China. Two distinct trends evident in the buildup can be expected to persist for the next two decades. First, the full-strength ready divisions are fairly numerous but have leveled off in growth. Second, the lower-strength divisions that require a few days to mobilize and a few weeks to train are increasing. These trends fit the Soviet doctrinal view that very large ready forces will be needed in the "initial period" of war, a period that will probably be "decisive." At the same time, a general war in which nuclear weapons are used will probably not be short. Thus, mobilization units for subsequent phases of the war are imperative. It appears that the Soviets believe they have an adequate number of ready divisions for the "initial period" if it is only a matter of weeks. For longer campaigns, they apparently judge their needs as not yet fulfilled. Thus, we see the continued growth of forces that can be quickly mobilized and a leveling off of forward deployed fully ready forces.

B. Force Structure

(1) (U) As indicated by Table 1, active force structure is forecast to increase from the 185 active divisions in 1980 to approximately 221 divisions by the year 2000. This will be a 36-division increase.

(u) ~~SECRET~~

Table 1. (U) Soviet Order of Battle Trends

Year		60	65	70	75	80	85	90	95	2000
Active Divisions by Type	MRD	105	105	113	120	132	152	157	159	160
	TD	39	40	43	45	46	52	53	53	53
	ABND	7	7	8	8	7	7	8	8	8
	TOTAL	151	152	164	173	185	211	218	220	221

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Table 1. (U) Soviet Order of Battle Trends — Cont'd

Year		60	65	70	75	80	85	90	95	2000
Divisions by Categories	I	33	33	40	43	45	45	46	46	46
	II	22	24	29	30	34	39	39	40	42
	III	96	95	95	100	106	127	132	133	133
	SUBTOTAL	151	152	164	173	185	211	217	219	221
	Mob base	0	1	8	19	23	2	3	10	19
	TOTAL	151	153	172	192	208	213	220	224	240

~~SECRET~~ (u)

(u)
(2) ~~(S)~~ However, the overall force structure, including both active divisions and mobilization bases, will increase from 208 divisions in 1980 to approximately 240 divisions in 2000, for an overall increase of only 32 divisions. What the Soviets appear to be doing is upgrading mobilization bases (division equipment packs) to low level category III divisions with manning of 5% to 10%. Such a program increases the overall number of active divisions and decreases the time required during a crisis to upgrade a mobilization base to a combat-ready division.

C. Force Modernization System

(1) ~~(S)~~ b1

b1

(u)
(2) ~~(S)~~ The divisions that work with the combat developers and equipment developers we call "bellwether" divisions. At least three, and possibly seven, such divisions exist, as indicated in Figure 3. They are essentially R&D and test divisions.

(u)
(3) ~~(S)~~ The "leading edge" division is the name the LAMM project has given to the units in each military district that first reorganize, supported by a training division, to introduce modern equipment and organization into the regular forces. This apparently allows the supply system and training system of each military district to adapt fully to the requirements of a new organization before expanding the modification to the entire force.

(u)
(4) ~~(S)~~ Soviet training divisions have a twofold mission. They train troops during peacetime, and they also become line divisions for combat deployment in wartime.

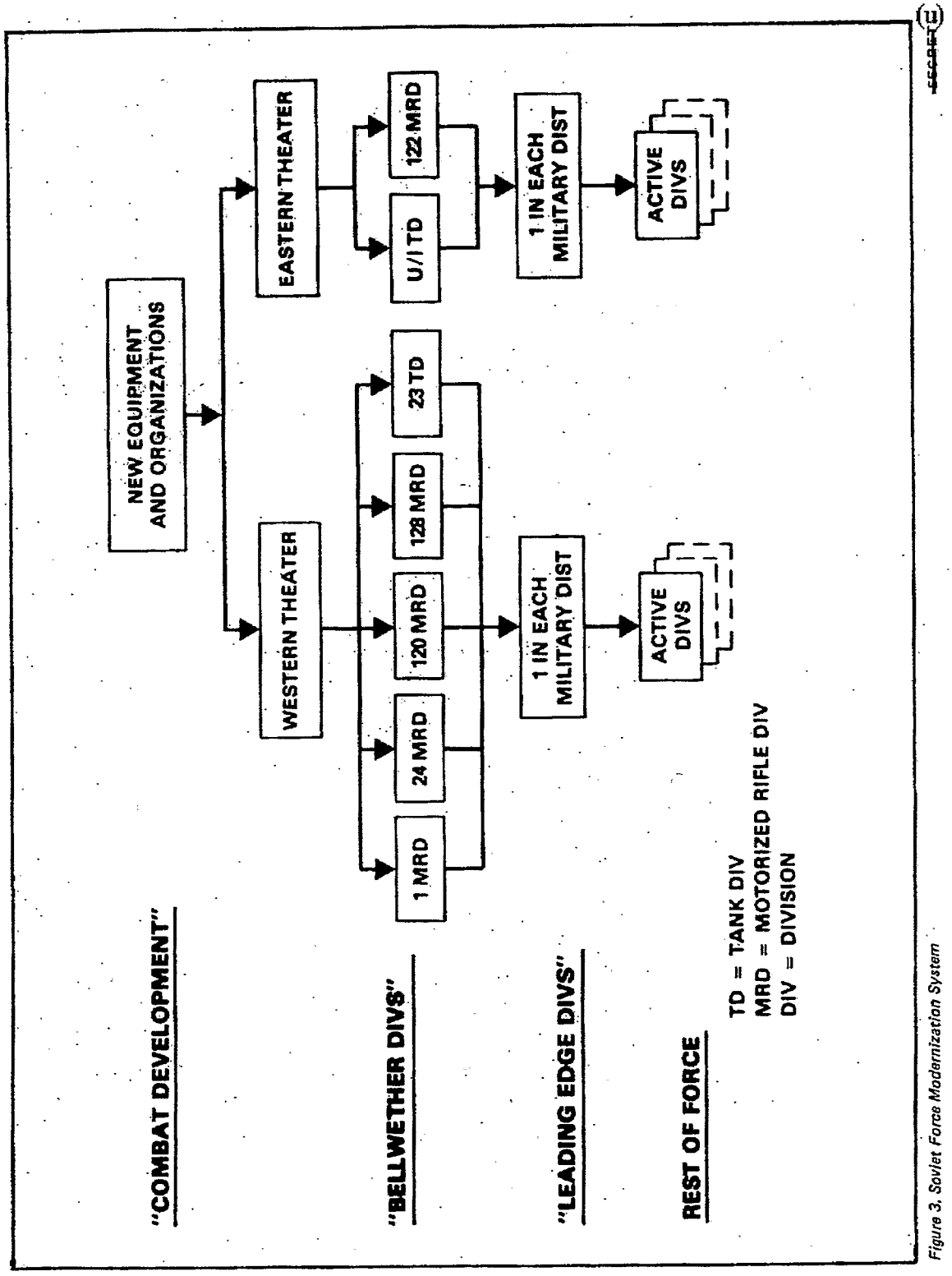

Figure 3. Soviet Force Modernization System

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(5) (u) ~~(S)~~ This system of modernization seems to be continuously at work, carrying through the combat and materiel development and introducing it into the forces. Because each new type of weaponry is not always produced in sufficient quantity to equip the entire force before the next new models appear, several generations of TO&Es are found in Soviet divisions. Older weapon systems are pushed down to the lower category divisions and eventually to mobilization divisions and units that have equipment but few personnel. Insofar, as we have correctly inferred this system, it explains some of the anomalies we have long observed from division to division, sometimes involving significantly different organizations in different locations and different units.

D. Conclusion (U) A detailed discussion of the force structure forecast can be found in Volume III. The main point here is that the increase in Soviet forces, i.e., numbers of divisions, is only one index of the growing Soviet capability in ground combat power. The other important index is the sustained modernization of both the TO&Es and the weaponry in divisions. By 2000, the total force will have gone entirely through at least the present modernization sequence, and many divisions will be well along in yet a second sequence. A third, more advanced modernization sequence will have been developed and will be in the early stages of deployment.

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Section 5. Forecast of Soviet Weapons

A. Background

(1) (U) The Soviets have established an effective weapons design, development, and acquisition process that enables them to rapidly introduce large numbers of qualitatively improved ground force systems. The overall process is characterized by long-term stability, continuity, and regularity. Over the past 20 years, a very large R&D and production base has been built. To change it dramatically would not only be costly but would require many years. Thus, by documenting the history of the major weapons systems, we can learn the timing and sequence of the fielding of new Soviet equipment. Projecting this pattern over the next two decades is the basis for our weapons systems forecast. Barring major changes in Soviet military policy, we can have high confidence in the quantities forecast and we can set reasonably accurate upper and lower limits to quality improvements.

(2) (u) ~~(C)~~ The Soviet development process is user-driven. The evolutionary development of Soviet ground force doctrine provides a unifying framework, a stable direction, and a strong demand pull for weapon development activities. When reviewed from the Soviet's structured doctrinal viewpoint, weapons developments reveal a balanced, coherent pattern aimed at assessing the combat potential of new technologies, and then adapting them both to Soviet production capabilities and to the technical-cultural level of their military manpower base.

(3) (u) ~~(C)~~ The functional requirements of this system are discussed in detail in Volume IV of the SBDP but are highlighted here in Figure 4. As indicated, the goal of ground force doctrine is to fight a "combined arms" operation, i.e., a deep, continuous, high-speed penetration into the depths of the enemy rear under NBC or non-NBC conditions. To achieve this goal, Soviet forces must be able to perform the six functions in support of the combined arms goal. To execute the maneuver function for example, Soviet forces must be capable of at least the four required operations depicted on the chart. Selecting just one of these requirements, e.g., to perform under "all conditions," means that the Soviets require fighting vehicles that can remain closed during combat to avoid NBC contamination, have night vision capability, and have internal navigation systems for use if communications are disrupted or if unit leaders become disoriented. That essentially describes the present Soviet infantry fighting vehicle, the BMP. By using this approach and working backward, we can now take almost every piece of Soviet military equipment and see what function it performs in helping the Soviets achieve their overall goal of combined arms operations. Had we done this in the early 1960s, taking account of new technologies, we might have been able to anticipate the general character of the present Soviet ground force.

(4) (u) ~~(C)~~ As suggested by Figure 5 this method also highlights areas where new capabilities and equipment must be developed for the next sequence of force modernization. By analyzing and prioritizing these

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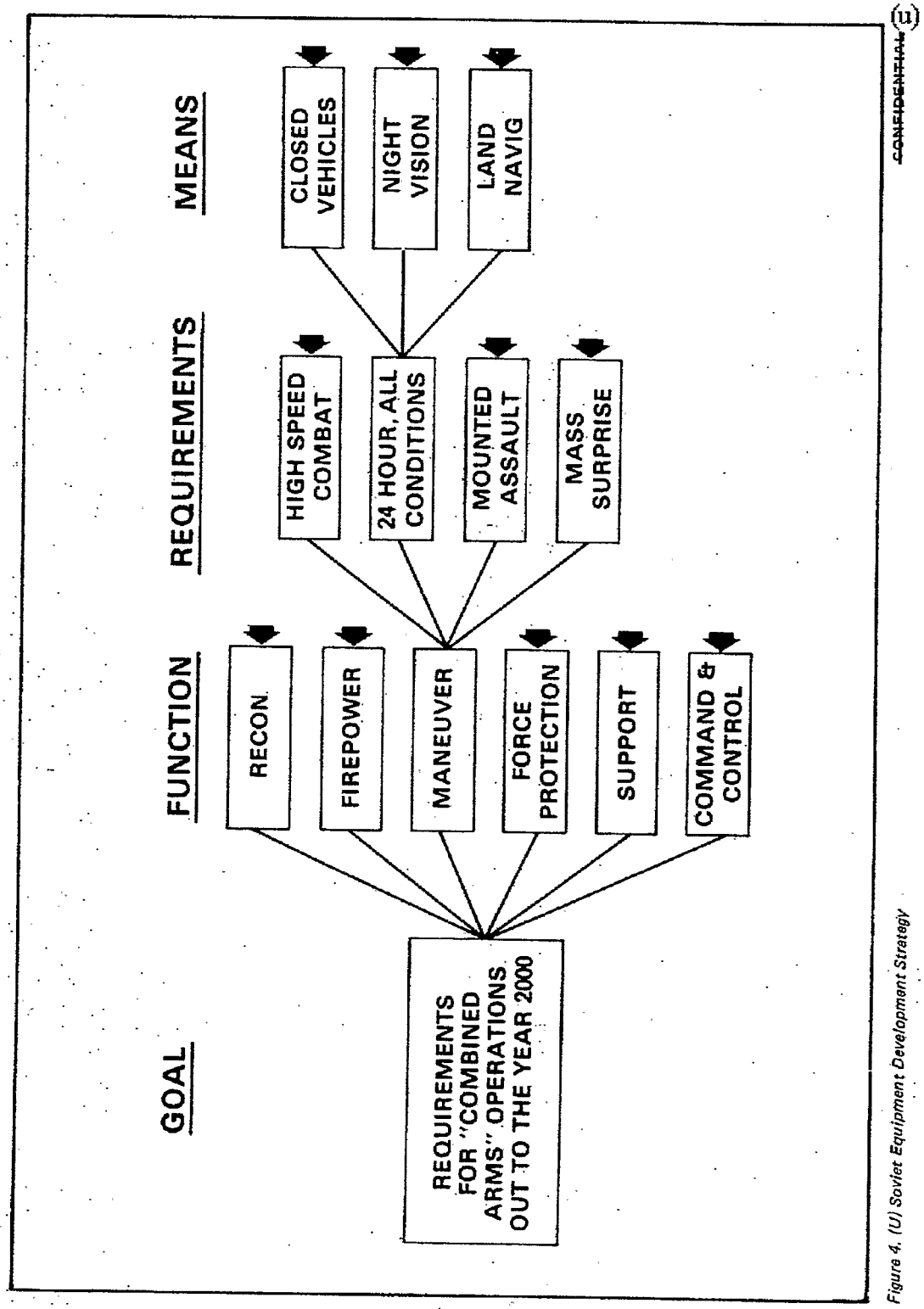

Figure 4. (U) Soviet Equipment Development Strategy

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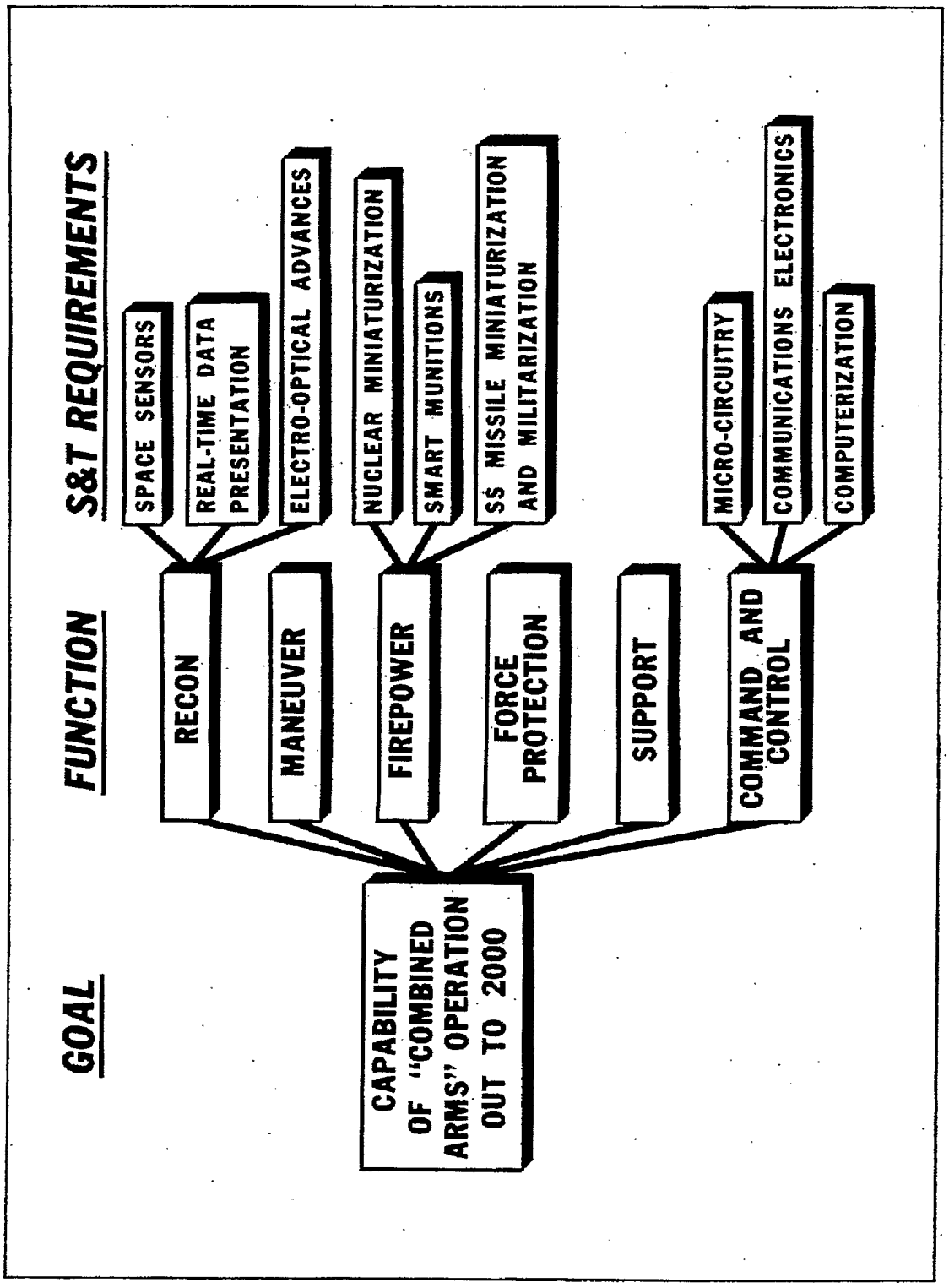

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Figure 5. (U) Soviet Science and Technology

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areas, we should be able to anticipate future Soviet fielding of new technologies in new or improved weapons systems and equipment. Steps could then be taken, of course, to deny Soviets access to scientific or technical information if we judge this information to be critical to future military developments.

(5) (S/NOFORN) b1

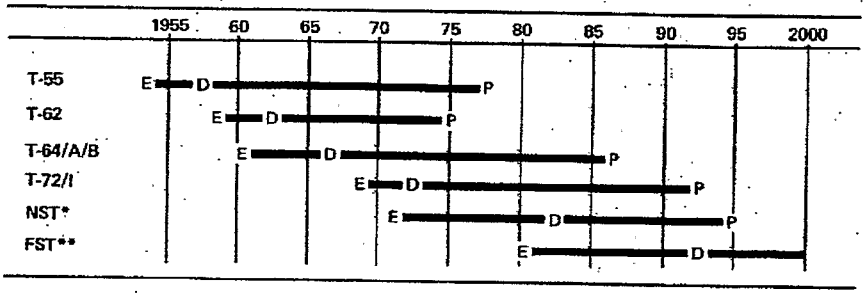
b1

B. Tanks

(u)

(1) (C) The weapons development-acquisition process is a many-faceted mechanism that provides a well balanced array of a large number of high quality weapons; its stellar product has been the tank. The Soviet Army has a large economic investment and institutional commitment to the tank. Although the viability of the tank on the modern battlefield is under question, the Soviets will attempt to prolong the operational life of its tanks, by both material improvements and operational innovations. However, the technical advancements in target acquisitions and munitions delivery systems suggest the tank of the future will become a more integrated part of the combined armed force, interacting more with other systems rather than being supported by them.

Table 2. (U) New Soviet Tanks, 1955-2000



* NST = NEW SOVIET TANK, OFTEN REFERRED TO AS T-80
** FST = FUTURE SOVIET TANK
E = YEAR ENGINEERING DEVELOPMENT BEGINS
D = YEAR FULL-SCALE DEPLOYMENT BEGINS
P = YEAR PRODUCTION STOPS

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(u) (2) ~~(S)~~ As indicated in Table 2 two new tanks are forecast for production before the year 2000. These forecasts are made within the historical, cyclical context of Soviet weapons development. Detailed estimates have been made of the characteristics of the NST, while those of the more distant FST are, naturally, much more general.

(u) (3) ~~(S/NOFORN)~~ As indicated in Table 3, the T-80 is estimated to pack the same firepower as the current T-64 and T-72, but is more maneuverable and has more armor protection. As discussed above, these improvements in mobility and armor are defensive measures designed to retain the tanks viability on future battlefields. Its offensive capabil-ity should also be improved as a result of advances in fire control.

Table 3. (U) Comparative Characteristics of Soviet Tanks

Characteristics	T-64A	T-72M	NST (T-80)
Mobility			
Weight	38T	41T	42T
Power	750 HP	780 HP	1,000-1,200 HP
Top speed	85 km/hr	60 km/hr	85km/hr
Firepower			
Main gun	125mm	125mm	125mm
Rounds	39	39	40
Protection			
Hull: KE	370-440mm	350mm	500mm
Turret: KE	370-440mm	400-450mm	500mm

~~SECRET NOFORN~~ (u)

(u) (4) ~~(C)~~ Soviet doctrine not only requires a high quality tank but requires these tanks in large numbers. Current estimates indicate the present active ground force structure contains approximately 45,000 tanks. The expected increase in force structure by the year 2000 should result in an overall increase of tanks in the active force to approximately 52,500, or by about 15%.

(u) (5) ~~(C)~~ However, although the overall number of tanks in the active force structure will increase by only 15%, the increase in overall tank capability should be much greater due to the high degree of force turnover. Present production forecasts indicate that the Soviets will produce approximately 57,000 NST and FST tanks by the year 2000, or enough to replace the entire present tank force with new tanks. There is much discussion within the intelligence community as to the reliability of present tank production forecasts. However, even if these forecasts are overstated by 1/3, approximately 40,000 new tanks will enter the force by 2000, enough to replace all the tanks in both the Western and Eastern theaters.

(u) (6) ~~(S)~~ Future tank production presents another problem. Even taking the low production forecast, the arrival of new tanks will cause about 40,000 T-55/64/72 tanks to drop out of the force. Previous Soviet practice suggests that a large majority of these tanks will be retained in some type

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of storage system. Thus, it is expected that combining their active tank force with tanks in the storage system, the Soviet ground forces of the year 2000 will have a potential inventory of over 90,000 tanks (Figure 6). Similar production and inventory forecasts also apply to other ground force systems.

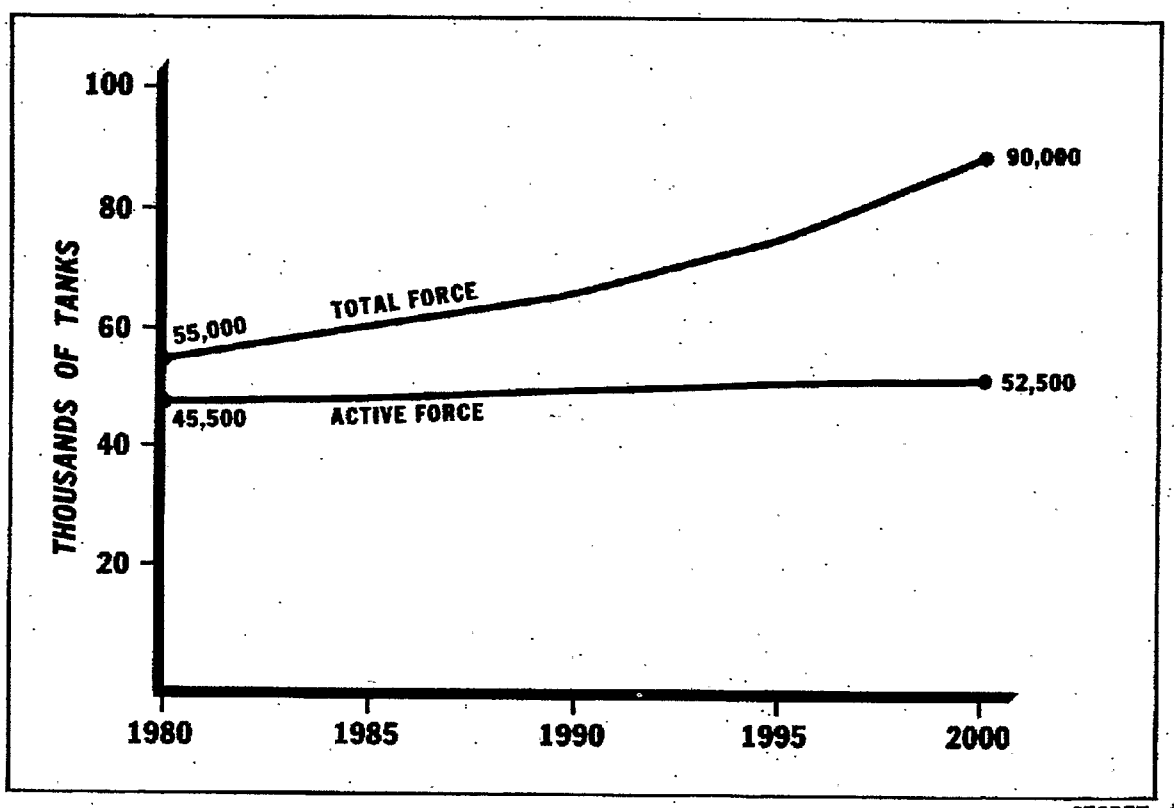

Figure 6. (U) Soviet Aggregate Tank Inventory, 1980-2000

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C. Infantry Fighting Vehicles

(u)

(1) (S) Both the BMP and the BTR will be discussed in this section, although only the tracked, antitank-missile-equipped BMP is considered a true infantry fighting vehicle. The wheeled, more lightly armed BTR is more correctly considered an armored personnel carrier that transports troops to the battlefield where they then dismount and fight on foot. Nonetheless, it does have some capability for mounted combat. No drastic changes are forecast for either the BMP or BTR in the near or mid-term. Although there is as yet no detailed information on follow-ons for these systems in the 1990s, it would appear, on the basis of past Soviet practice, that such systems can be expected.

(2) (S/NOFORN) b1

b1

(u) (3) (S) In the SBDP, we forecast the continued production and use of the BTR in Soviet MRDs. However, it is probable that certain MRDs, with specific offensive missions, may eventually contain core configurations of 1 tank regiment and 3 BMP regiments. This and other organizational changes are discussed in greater detail in Volume V.

D. Artillery

(u) (1) (S/NOFORN) The Soviets significantly improved their artillery capability by introducing a series of self-propelled (SP) weapons in the mid-1970s. Initially, it was expected that the production of towed guns would decrease significantly and that the majority of these guns would eventually be replaced by SP weapon systems. However, production of towed pieces continues and new towed systems are forecast for introduction in the late 1980s and early 1990s, as indicated in Table 4.

Table 4. (U) Soviet Artillery Development and Forecasts, 1960-2000

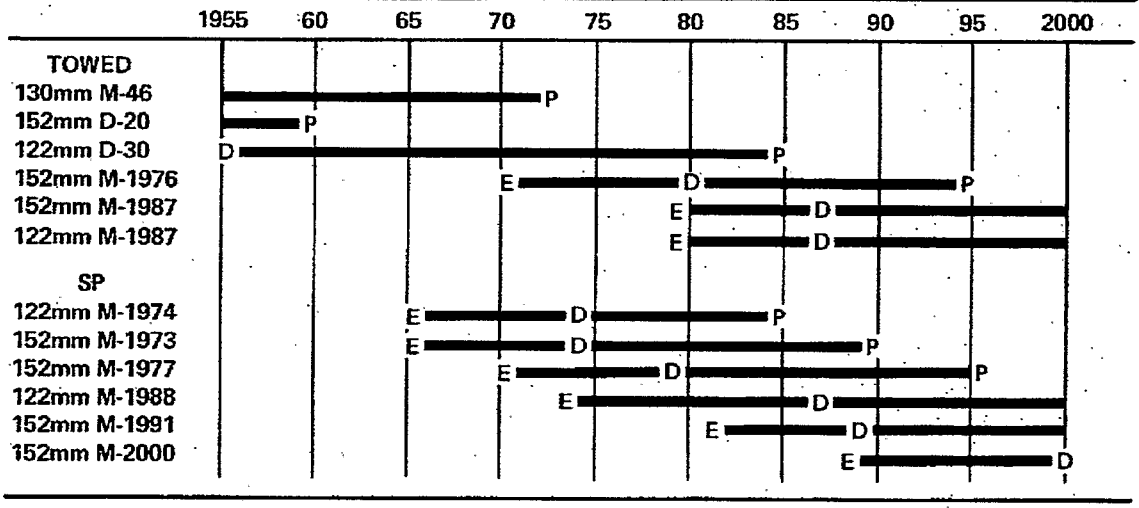

Table 4 also indicates that the first follow-ons to the recently introduced SP systems will begin appearing in 1988 with the introduction of a new 122mm howitzer. Two new 152mm SPs are also expected, the first about 1991 and the second about the turn of the century.

(2) (U) The specific improvements to each of these weapons are discussed in SBDP, Volume IV. As a norm, however, most of these systems will be improved over their predecessors in mobility, range, and accuracy.

(3) (S) (u) Projecting Soviet artillery production through the year 2000 provides the same type of picture as we see for tank production, in terms of growing fire power capabilities (Figure 7). Although the active-force artillery park is expected to increase by about 25%, the total force assets should increase by more than 50% to a total of approximately 57,000 tubes.

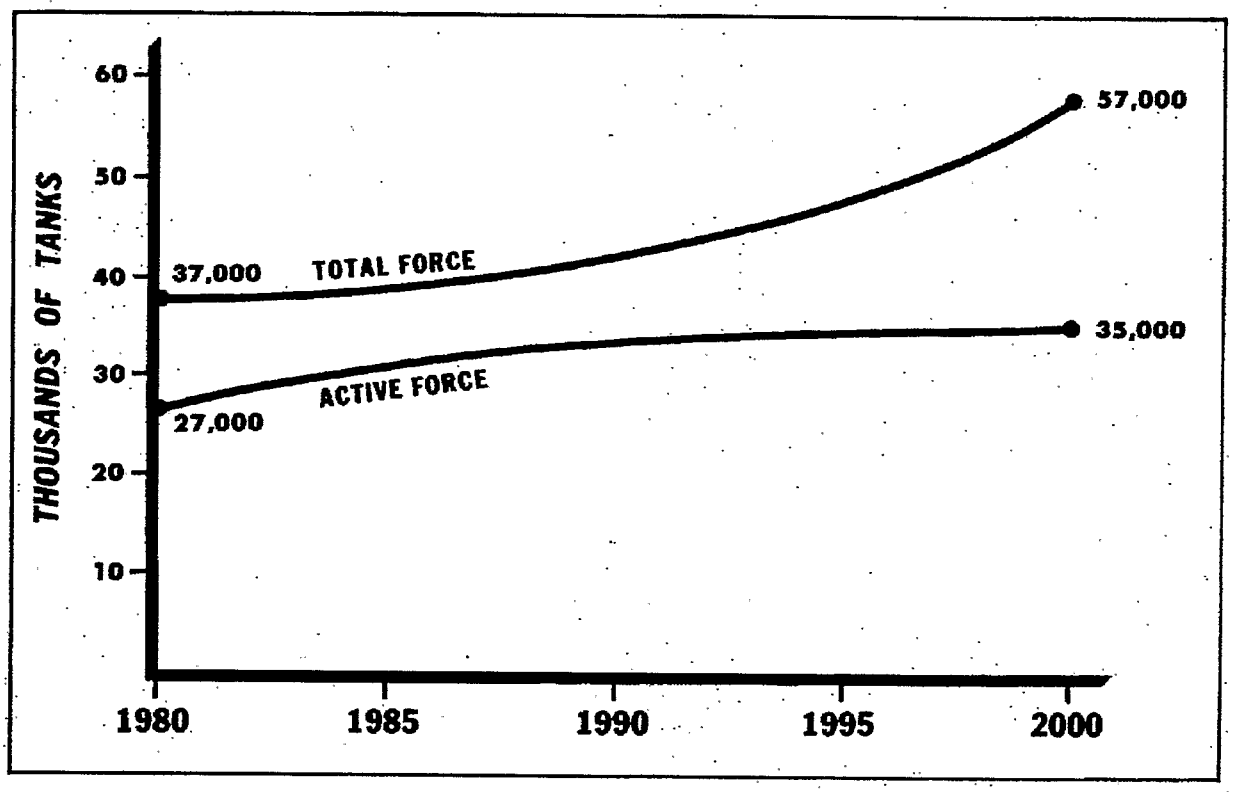

Figure 7: (U) Soviet Aggregate Tube Artillery Inventory, 1980-2000

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(4) ~~(S)~~ b1

b1

(5) ~~(S)~~ b1

b1

(6) (u) ~~(S)~~ Although this section of the SBDP Executive Summary is primarily concerned with forecasts concerning equipment improvements, an overall forecast for Soviet artillery capabilities must also include changes in organizations and operations. These changes will have an equal if not greater impact on Soviet artillery capability than technical equipment improvements. Analysis reveals that the Soviets are currently reorganizing the artillery support for both tank and motorized rifle divisions. Some long-range forecasts call for a 10% increase in artillery guns in support of MRDs and a 20% increase for tank divisions. However, these increases are considered conservative; high forecasts call for 40% to 60% increases in artillery/cannon weapons. Similar increases are also called for in other artillery weapons, such as mortars, multiple-rocket-launchers, and short-range ballistic missiles (SRBMs).

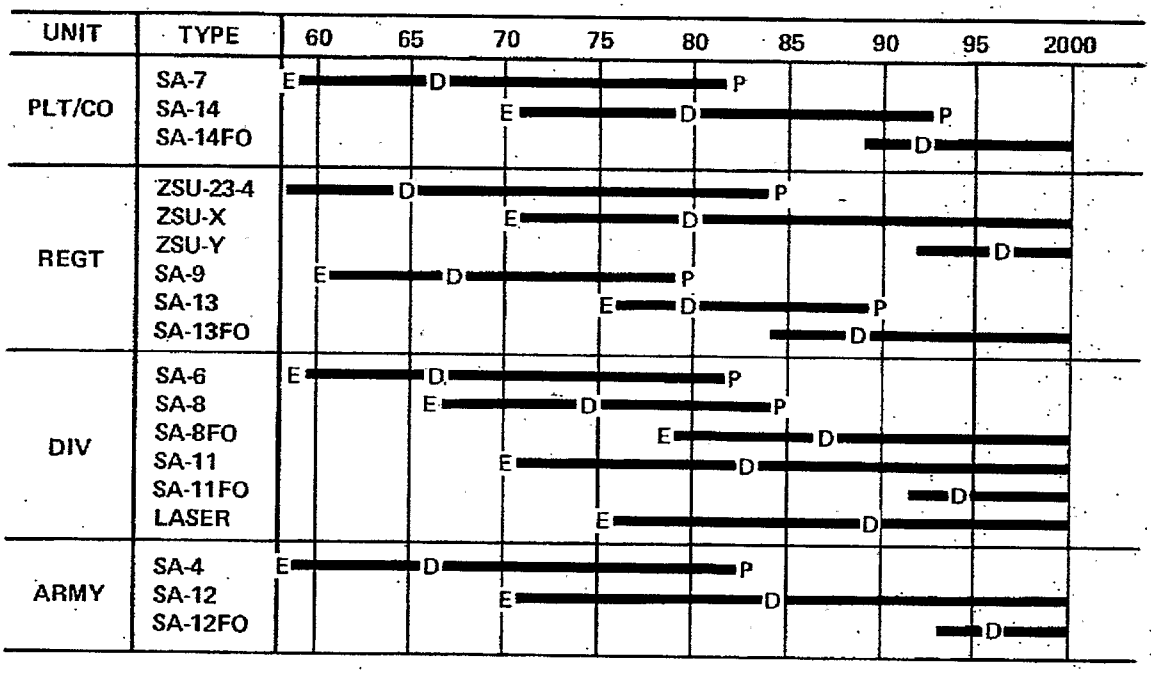
(7) (U) These increased numbers of weapons, plus changing concepts in target lethality norms and fire control techniques, reflect a developing adaptation of Soviet artillery methods to the demands of future battlefields. Changes now underway will allow the Soviets to engage both static and mobile targets more quickly and with higher density barrages. This increased, more mobile, highly flexible fire support is designed to significantly disrupt NATO's lightly armored antitank defenses. When enemy fire positions cannot be targetted with sufficient accuracy, these increased artillery weapons would then be able to also flood the battlefield with obscurants and agents that would hinder NATO devices for both detection and destruction of Soviet forces.

E. Air Defense Weapons

(1) (u) ~~(S/NOFORN)~~ As indicated in Table 5, follow-on models are expected for air defense weapons at all unit levels from platoon to Army before the year 2000. These new models will improve the already impressive mobile air-defense umbrella now protecting Soviet ground forces.

(2) (u) ~~(S/NOFORN)~~ Table 5 underscores the extensiveness of the Soviet equipment improvement programs. Not only are improvements planned in all weapons areas, but even within a single weapons area extensive and coordinated improvements are planned. Air defense units from platoon to Army can expect at least one new generation of weapons, and some, probably even two new systems, before 2000 AD.

Table 5. (U) Soviet Tactical Air Defense Development and Forecasts, 1960-2000



~~SECRET NOFORN~~ (u)

F. Short and Intermediate Range Ballistic Missiles

(1) (u) ~~(S)~~ Short and intermediate range ballistic missiles can be found at division through theater level. As indicated in Table 6, the Soviet research, development, and acquisition process provided initial systems in the early 1960s, updated versions in the mid-1970s, and is forecast to provide another follow-on series before the turn of the century.

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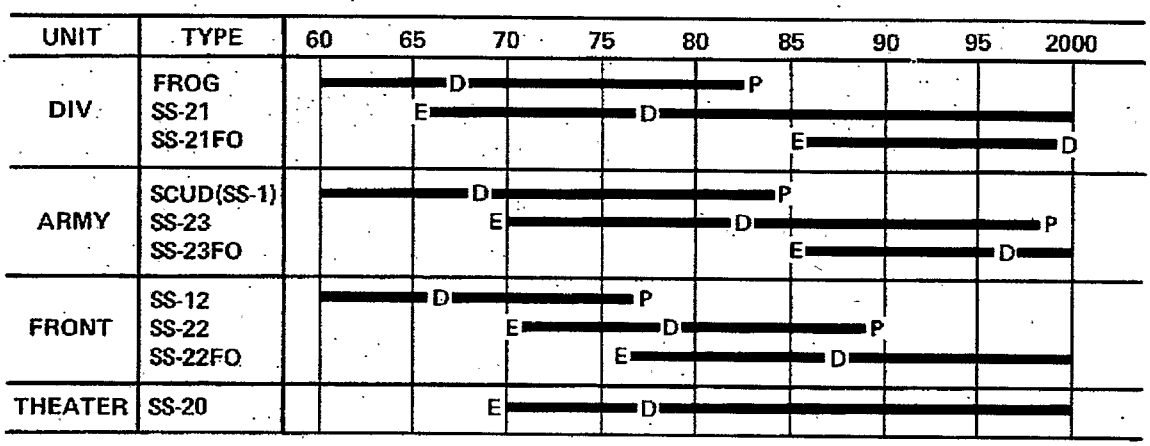
Table 6. (U) Soviet Intra-Theater Missiles, 1960-2000



E = YEAR ENGINEERING DEVELOPMENT BEGINS
D = YEAR FULL-SCALE DEPLOYMENT BEGINS
P = YEAR PRODUCTION STOPS
FO = FOLLOW-ON MODEL

~~SECRET~~ (U)

(u)
(2) ~~(S)~~ The SS-21 and SS-23 models located at division and army are estimated to have nuclear, chemical, and high explosive warheads. Those at front and theater are believed to have nuclear and chemical warheads.

(3) ~~(S)~~ Improvements forecast for the follow-on models expected in the 1990s are mainly in accuracy, with (b) (1) & (b) (3) per CIA expected for all of these missiles. This improvement in accuracy will allow for more effective use of HE and lower-yield nuclear warheads. Thus, operational commanders in critical situations will be able to deliver highly accurate fires to the depths of opposing enemy forces without depending on air-attack support that is vulnerable to antiair defenses.

G. Assault Helicopters

(u)
(1) ~~(C)~~ Soviet operational interest in assault helicopters increased in the late 1960s and early 1970s, as Soviet industrial facilities began producing them in significant numbers. The HIP (MI-8) is the workhorse of the helicopter fleet. Well over 8,000 having been produced since its IOC in 1966. Numerous modifications have been applied to the basic HIP, enabling it to perform a variety of roles, such as command and control, communications relay, and close air support. The HIP-E variant, for example, is the world's most heavily armed helicopter, with a 12.7mm nose gun, six 32-shot, 57mm rocket pads, and four anti-tank guided missile rails.

(u)
(2) ~~(C)~~ A second assault helicopter, the HIND, appeared on the scene in 1972. The HIND is a smaller, faster gunship and like the HIP it has undergone several modifications. The HIND E has an impressive array of armaments, mounting a 12.7mm, 4-barrel Gatling gun, 4x32-shot 57mm rocket pads, and 4x AT-6 antitank guided missiles.

(u)
(3) ~~(C)~~ A totally new ground attack helicopter (MI-28) is now in development and may enter the force in the 1983-1985 timeframe. The MI-28 has been described as a two-seat attack helicopter without the usual Soviet provisions for cargo or passengers. Information indicates the MI-28 is a copy of the US AH-64. G. P. Smirnov, who in 1977 was Chief of the Transmission Department in the bureau where the MI-28 was being designed, reportedly stated, "We are not designing a new helicopter but are copying the US design." The copy will probably not be exact but the resemblance will no doubt be unmistakable.

(u)
(4) ~~(S)~~ The helicopter is becoming an important Soviet battlefield weapons platform. It is forecast that by 1990s first-line divisions will have helicopter squadrons of 18 aircraft to support division operations. Moreover, lead divisions will receive additional helicopter support from army and front air assault or airmobile assault brigades. These forces will secure bridgeheads, attack and secure isolated objectives, move interdiction forces, and provide fire support. Their presence on the battlefield provides the Soviet commander with another asset to influence the battle. More importantly, growing use and increased knowledge of its capabilities will provide that commander with an appreciation for flexible operational planning and quick response initiatives.

H. Tactical Air

(u)
(1) ~~(S)~~ The Soviets are reemphasizing the ground support role of fighter-bomber aircraft. In 1980, a reorganization of the national air force structure took a significant number of aircraft away from direct national level control and placed them under the control of front commanders. Moreover, the emphasis appears to be moving away from a purely air-defense/air-superiority role toward more emphasis on deep-attack support role.

(u)
(2) ~~(S/NOFORN)~~ At present, the Soviets have four primary ground-support aircraft. The SU-17 (Fitter) and MIG-27 (Flogger) are single-seat, single-engine, variable geometry wing (VGW) fighter-bombers. They both have some adverse-weather and night-attack capability against area targets. The SU-24 (Fencer) is a two-seat, twin-engine VGW fighter-bomber designed specifically for the ground-attack role. It is believed to have a navigational/attack radar and a terrain avoidance capability that enables it to bomb with appropriate point-target accuracy under all weather conditions at altitudes down to 300 meters. The latest addition to Soviet ground-support aircraft is the SU-25 (Frogfoot), a subsonic fighter with the primary mission of close air support and the capability of operating from highways or prepared sod fields.

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(u)
(3) ~~(S)~~ It is forecast that the aging SU-17 (Fitter) and MIG-27 (Flogger), and eventually the SU-24 (Fencer), will be replaced by a new fighter-bomber, with a possible deployment date of 1987. This aircraft will incorporate improved aerodynamics and new avionic subsystems and will probably have a low-altitude penetration capability.

I. New Technology Weapons

(u)
(1) ~~(S)~~ In addition to improvements and follow-ons to present systems, the Soviets are expected to field new-technology weapons in the 1990s. The areas of most promising potential appear to be radiofrequency weapons and lasers.

(u)
(2) ~~(S)~~ We also forecast that the Soviets will field-test laser prototype weapons by the mid-1980s. These lasers are expected to be mounted on both ground and airborne platforms. These systems are expected to be effective out to 15 kms against targets such as personnel, optical equipment, helicopters, tactical missiles, and unarmored vehicles.

J. Other Weapon Systems

(1) (U) This Executive Summary cannot present all forecasts for Soviet ground force systems, and the reader is therefore directed to Volume IV, SEDP for additional detailed forecasts.

(2) (U) It is important to point out here that it is not just new and improved major weapons that should be taken into account when planning to counter the future Soviet threat. Equally important are improvements in supporting equipment and system components, such as munitions, fire control systems, and command and control. Forecasts in these areas are also contained in Volume IV.

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Section 6. Forecasts for Organizations

A. Background

(1) (u) ~~(C)~~ Forecasts of organizational developments are markedly more difficult than those in techological areas, where potentials for future progress are often similar for both the East and West and where progress can often be more easily monitored, thus providing more credible forewarnings of Soviet advances. Organizational changes can result from changes in equipment, in operational concepts, in operational areas, in resource constraints, in enemy tactics, or the like.

(2) (U) Organizational forecasts in the SBDP volumes are centered on divisional forces. Volume V of the SBDP contains both mid-term forecasts for Soviet motorized rifle, tank, and airborne divisions in 1990 and long-term forecasts for these divisions out to the year 2000. Some forecasts of Army and front changes, especially in helicopter and air support were also attempted.

(3) (u) ~~(S)~~ No major organizational changes between the 1990 divisions and the "best" year 2000 divisions are forecast. Additionally, the forecasts contained in this Executive Summary and in Volume V relate to the top Soviet divisions, i.e., the type of division found facing NATO along the German borders. Organizational forecasts will not be made for Soviet divisions in other geographical areas. However, the present organizational and equipment differences among these other divisions can be determined by reviewing individual division equipment holdings, as summarized in Volume III of the SBDP. Although all divisions will probably be improved over the long-term, the relative degree of the disparities that exist today between top- and bottom-line divisions will probably extend into the future.

B. Division Changes

(1) (u) ~~(S)~~ The major changes that will characterize the divisions of 1990 are already being implemented. In the late 1970s, new organizational concepts were developed and tested. In 1980, the Soviets began implementing those concepts that proved most successful in field tests.

(2) (u) ~~(S)~~ The major changes to the MRD are indicated in Table 7.

(3) (u) ~~(S)~~ The major changes to the tank division are indicated in Table 8.

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Table 7. (U) Changes in the Organization of the Soviet MRD, 1990

- An artillery battalion added to the tank regiment. (increase of 18 firing units)*
- Artillery regiment reorganized to include:
  - three 152mm SP battalions
  - one multiple rocket launcher (MRL) battalion

  (increase in SP mobility and 18 MRL units)*
- Helicopter squadron formed:
  - six HIND type helicopters
  - eight HIP type helicopters
  - six HOPLITE helicopters

  (a new air support capability)*
- Laser weapons units formed:
  - one SP high-energy laser per maneuver regiment
  - one SP low-energy laser per maneuver battalion

  (a new capability)

*compared to 1980 MRD

~~SECRET~~ (u)

Table 8. (U) Changes in the Organization of the Soviet TD, 1990

- Motorized rifle company in each tank regiment expanded to a battalion. (increase of 78 BMPs)*
- An artillery battalion added to each tank regiment. (increase of 54 firing units)*
- Artillery regiment reorganized to include:
  - three 152mm SP battalions
  - one multiple rocket launcher (MRL) battalion

  (increase in SP mobility and 18 MRL units)*
- Helicopter squadron formed:
  - six HIND type helicopters
  - eight HIP type helicopters
  - six HOPLITE helicopters
- Laser weapons units formed:
  - one SP high-energy laser per regiment
  - one SP low-energy laser per maneuver battalion

  (a new capability)

*compared to 1980 TD

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(4) (u) (S) The major changes to the airborne division are indicated in Table 9, below.

Table 9. (U) Changes in the Organization of the Soviet ABND, 1990

- All three regiments equipped with BMD armored fighting vehicles. (increase of 210 BMDs)*
- Airborne assault gun battalion expanded from 31 to 40 guns (increase of 9 guns; upgrade from 85 to 100-125mm)*
- Laser weapons units formed:
  - one low-energy laser per maneuver battalion (new capability)*

*compared to 1980 ABND

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(5) (u) (S) The divisions of 1990 are characterized by significant increases in firepower and mobility resulting from increases in infantry fighting vehicles, attack and transport helicopters, and self-propelled artillery. More speculative, but possible nevertheless, is the infusion of laser weapons into the battlefield which would significantly increase the Soviet division's capability to impede enemy intelligence functions. The overall impact of these changes would be in providing the Soviets the potential for greater battlefield quickness and flexibility.

(6) (u) (S) The divisions of the year 2000 are expected to change organizationally from those of 1990 in two specific areas: Laser units and the helicopter support squadron, both of which should almost double in size as production of these systems comes more closely into line with operational demands.

(7) (u) (C) Other improvements of the year-2000 division over the 1990 division should result mostly from refinements of changes undergone in the late 1980s and early 1990s. The divisions will also benefit from incremental quality improvements in their weapon systems. Finally, command and control procedures tested over time should significantly enhance the "combined-arms" capability of Soviet forces by the year 2000.

(8) (S) b1

b1

b1

C. Army, Front, and Theater

(1) (U) Our efforts in compiling SBDP-2000 revealed that some of the most significant Soviet organizational and operational developments over the next 10-15 years will occur at army, front, and theater level.

(2) (u) (S) The present SBDP discusses the impact of some of the more significant organizational changes at levels above division. An example of such a change is indicated in Figure 8. As a result of the 1980 reorganization of both the Soviet Air Force and the Troops of National Air Defense (PVO), some tactical aircraft have now been placed under the direct control of the front commander. Such assets increase his battlefield power and flexibility.

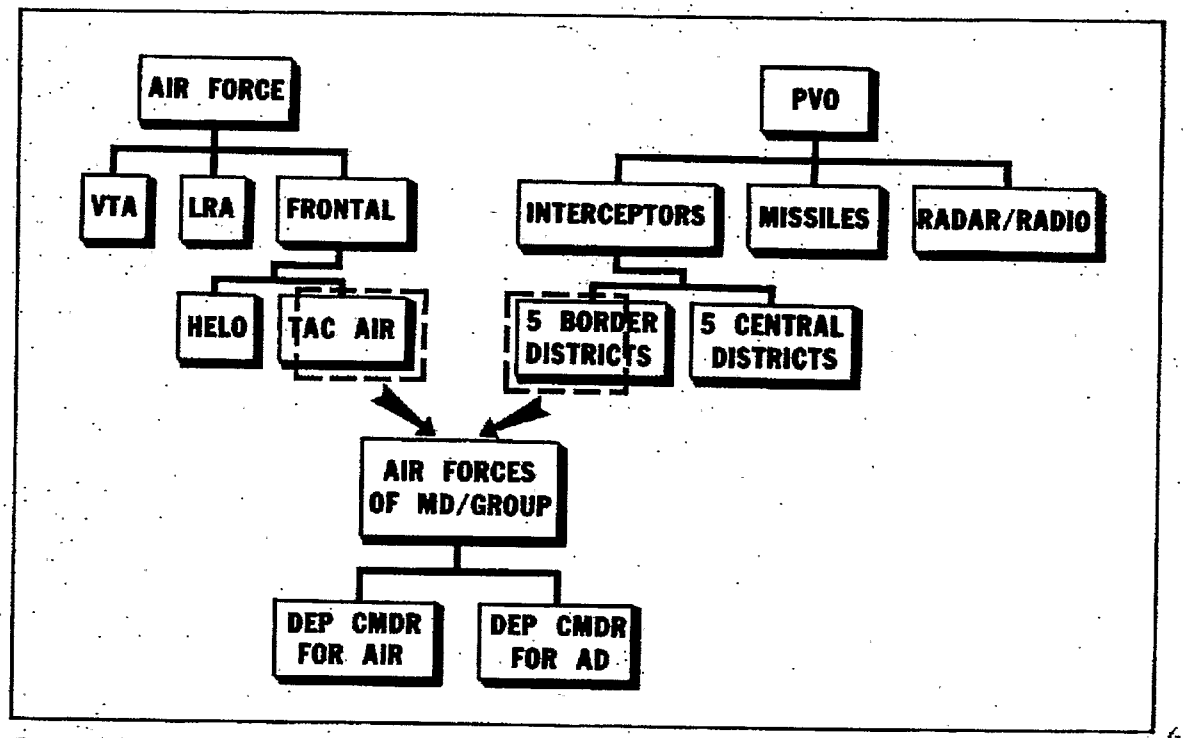

Figure 8. (U) Soviet Air Force Reorganization, 1980

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(3) (u) (S) Additionally, since 1980, the Soviets have formed about 12 air assault brigades and have apparently placed one in support of each front commander. Thus, he now has a large, flexible, well-armed force that can be employed early in the battle against targets deep in the enemy's

operational and/or tactical rear. Brigade air-assault units will seize, disrupt, or destroy nuclear weapons, airfields, C^3, logistics facilities, and key terrain such as river-crossing sites and road junctions and thereby help shift the focus of the battle away from the FEBA. If successful, the activities of the brigades should first facilitate rapid penetration by first-echelon units through the enemy's forward defensive zone and, second, directly support the high-speed movement of large exploitation forces advancing into the depths of the enemy's defenses.

(u)

(4) ~~(S)~~ In addition to the fronts, armies are also acquiring more air assets, thus improving their deep strike and combined arms capabilities. An aviation organization has recently been established in tank and combined arms armies. Although not a lot of detail is known about this unit, it does include an attack helicopter regiment. As a highly mobile fire support platform, the MI-24 HIND helicopter constitutes the backbone of this organization. In the future, this unit may also include the new SU-25 ground support fighter.

(u)

(5) ~~(S)~~ It has also become clear over the past year that nondivisional Soviet artillery units are undergoing major structural change. Some artillery regiments have been upgraded from three 18-gun battalions to brigades of four 24-gun battalions. This represents an 80% increase in artillery assets. Similar changes also appear to be underway in some artillery divisions subordinate to fronts.

(u)

(6) ~~(S/NOFORN)~~ Finally, the Soviets are in the midst of a major program to modernize their entire inventory of theater nuclear missiles. As noted under equipment forecasts, the mobile SS-20 is being complemented by a new generation of tactical- and operational-level missiles. In addition to equipment modernizations, the Soviets are also reorganizing Army level missile brigades, upping the number of launchers from 18 to 27, a 50% increase in launch capability. Figure 9 depicts the depths to which these missile systems can bring nuclear and conventional fires.

(u)

(7) ~~(S)~~ These marked increases in the quantity of artillery, missiles, and aviation assets, as well as their improved quality, enhance the ability of the combined-arms commander to quickly mass conventional and/or nuclear fires in conjunction with ground maneuver operations. These enhanced capabilities are critical to the success of the Soviets' new operational concepts, presented in the following chapter.

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Section 7. Forecasts for Operations

A. (U) Background

(1) (U) As the previous discussion of Soviet doctrinal development made clear, by the early 1960s the Soviet General Staff had developed clear ideas of the impact advances in nuclear weapons, rocketry, cybernetics, and motorization would have on battlefield operations. Among the most important concerns, as underscored by Sokolovsky in his work, Military Strategy, were the following three: First, a need to protect forces from NBC effects. Second, a requirement to concentrate and/or rapidly shift combat forces to breakthrough enemy defenses, yet not present lucrative targets for enemy nuclear weapons; and thirdly, a need for speed of execution in order to exploit fully the enormous increases in fire power, both in range and explosive potential, and also to exploit the significant improvements in ground force mechanization. In the early 1960s the General Staff viewed these operational requirements primarily in a nuclear context. By the mid-1970s, they began to realize that their new operational concepts for the nuclear battlefield greatly enhanced their conventional war-fighting capability as well.

(2) (U) The first requirement for the modern battlefield noted above, protection from NBC effects, was provided in three general ways. First, armor protection, which already made the tank troops a potent nuclear force, was provided to infantry and then to the artillery. Next, NBC defensive gear, both personnel and collective, was developed and decontamination devices were introduced. Finally, protection was enhanced through dispersion, aimed at denying the enemy concentrated, high-value force groupings. This dispersion was, and still is, achieved through "echelonment," i.e., the dispersal of forces rearward, in intervaled columns, which are separated laterally in order to reduce nuclear as well as conventional weapons effects.

(3) (U) But dispersal for protection tends to limit or reduce one's ability to concentrate and/or shift combat power rapidly. Soviet theoreticians have tried to resolve the dispersal-concentration trade-off in two ways. First, operationally decisive (i.e., nuclear) fires capable of destroying enemy defensive positions could be massed on objectives from widely separated locations by air and rocket delivery. This capability represents a revolutionary change in battlefield tactics. No longer would there necessarily be a direct relationship between power and massed troops. Instead of troops, supported by artillery fires, destroying enemy defenses at the critical point, nuclear fires could now destroy these defenses and could then be followed up and exploited by ground forces moving through the breach in closed fighting vehicles and striking deep into the enemy's rear.

(4) (U) Mass could also be achieved by ground forces as well as fires. In this method, the echeloned columns of mechanized forces advance at high rates of speed toward the enemy's defenses. As the offensive goes forward,

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the density of combat forces builds up dramatically and quickly at the FEBA. Enemy defenses should be overwhelmed before significant enemy reserves can reach the point of main attack. Succeeding echelons of fresh, high-speed mechanized forces quickly exploit the breakthrough and achieve redispersion by deep penetrations into the enemy's rear.

(5) (U) Both of the previous requirements for battlefield success, i.e., protection of forces and concentration of power, are highly dependent on the third, i.e., speed of execution. This operational concept clearly places great reliance on quick and effective troop-leading procedures, adequate intelligence, and robust communications--in other words, what we call C^3I (command, control, communications, and intelligence). Increased speed of operations is the primary goal for present Soviet leaders.

(6) (U) ~~(S)~~ Soviet writings about nuclear weapons have dwelt extensively on their "decisiveness" and on the greater importance of the "initial period" of war when nuclear weapons are used. This view is very consistent with high speed, deep operations. And it implies well coordinated, large, initial nuclear fires throughout the theater, which will create the possibility of decisiveness if the ground offense is swift and deep enough to exploit them. It does not, however, imply the necessary use of nuclear weapons, but it does compel Soviet leaders to try to avoid being surprised by an opponent's nuclear first-use and to seek to beat the opponent to the punch by large devastating lay downs of nuclear weapons. Precisely how to preempt the enemy's "first-use" has long been an ambiquity in Soviet operational doctrine. Their force structure, however, suggests that they want to retain as much choice as possible not to use nuclear weapons, for as long as possible. They do not want choices predetermined or automatic as a result of force design and doctrine. But once the nuclear use is decided, the first blow is, in their view, possibly decisive. Their forces are designed to provide successive strikes over days and weeks. How significant these lay-downs will be is not so clear to them. They are not even clear about whether to include them in the "initial period." The length of the "initial period," it seems, could be hours, days, or even weeks or months in length. We are inclined to see this ambiquity in Soviet doctrine not as a weakness but rather as a realistic appreciation of the uncertainties nuclear weapons present to military planners and of the necessity to keep open as many options as possible in the event of war.

B. The Ogarkov Era

(1) (U) Marshal Ogarkov's assignment as Chief of the General Staff in 1977 marked the beginning of a new series of initiatives to carry Sokolovsky's "force development plan" further and to achieve it faster. In reviewing Soviet military development since the 1960s, Ogarkov praised the progress made in equipment and organizational development. However, he expressed concern over the failure of operational concepts to keep pace with equipment developments. Operational planners were not maximizing the battlefield potential of new improved weapon systems.

(2) (U) ~~(S)~~ Figure 9 presents the kinds of improved weapon capabilities

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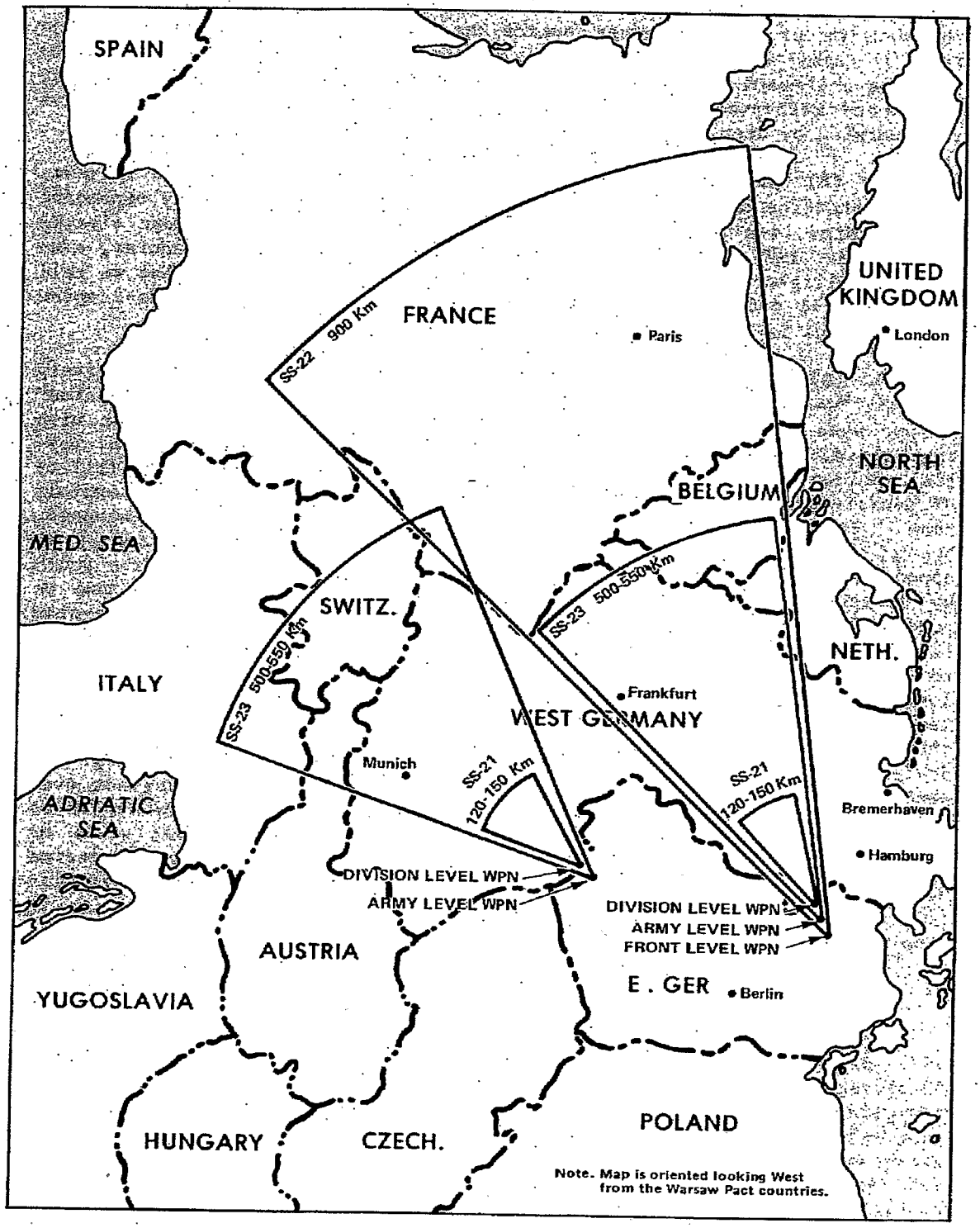

Figure 9. (U) Ranges of Soviet Division-, Army-, and Front-Level Organic Missiles

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Ogarkov had in mind. It indicates the depths to which Soviet commanders at various organizational levels can place nuclear or conventional fires by using their organic missile assets. When these ranges are superimposed on a map of Europe, we see that Soviet army- and front-level commanders, from the very beginning of the conflict, have the capability to target fires against objectives west of the Rhine. Additionally, the combat radii of front-controlled ground support aircraft have significantly increased over the last decade and further support Ogarkov's contention that present capabilities "substantially exceed the framework of (current) front operations."

(3) (U) ~~(S)~~ In order to improve the operational capabilities of Soviet forces and ensure that they maximize the combat potential of the new and improved weapons systems, Marshal Ogarkov has implemented the following changes since becoming chief of the General Staff in 1977:

- 1978: A new theater command was established in the Far East, creating a more balanced semi-independent war fighting capability on both the USSR's western and eastern borders.

- 1979-80: The most significant shuffle of high-level commanders and staff officers in almost a decade occurred. Critical positions for doctrinal developments and troop training were taken over by a new generation of military leaders.

- 1980: Reorganization of Air Defense Troops resulted in improved integration with ground forces.

- 1980: Reorganization of Frontal Aviation also resulted in improved integration with ground forces.

- 1980: Air Assault Brigades were created and assigned to fronts.

- 1981: A major exercise, ZAPAD-81, was conducted and formalized the acceptance of new organizational and operational concepts that had been under test since at least 1977. Among these concepts were:

  -- Operational Maneuver Groups (OMG)

  -- Increased Tactical Artillery Support for Divisions.

  -- Increased Helicopter Support for Divisions.

- 1981: The new concept of a "theater-strategic operation" was announced.

(4) (U) A review of these changes reveals significant innovation emerging at each level of organization from division up to "theater of military operations" (or TVD, the Soviet abbreviation). From what we have already noted concerning organizational developments, and from what Ogarkov has provided in overall operational guidance, we can infer rather confidently the main thrusts of future operational developments.

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C. Division (u) ~~(S)~~ The 1978-80 period saw the "bellwether" phase (Figure 3) of the new MRD, TD, and airborne division structures. Present activity indicates that divisions are well into the "leading edge phase" of the force modernization system. Division reorganization has resulted in greater artillery support for all divisions and increased motorized rifle support for tank regiments. Moreover, organic helicopter squadrons will be part of all front-line divisions. From an operational standpoint, these new divisions seem to require little cross-attaching or task-tailoring as missions change. At the same time, they have more armor protection, improved air-defense, and will probably receive laser weaponry by 1990. Thus, when they finally exist in significant numbers (early 1990s) they will comprise a faster, more versatile, better protected "combined arms" force, one more capable of operating to the full doctrinal potential outlined by Sokolovsky.

D. The Army

(1) (u) ~~(S)~~ Armies, usually composed of 3 to 6 divisions, seem to be the level at which most "task force tailoring" will occur in order to achieve the best mix of tank and motorized rifle divisions necessary to accomplish a specific mission. Moreover, increased assault helicopter assets and improved surface-to-surface missiles will also provide improved operational potential, in two ways. First, the improved range and accuracy of deep fire support gives the commander a capability to strike targets deep in his area of responsibility. What Ogarkov appears to be calling for is an improved operational capability for support weapons to quickly strike deep, but in such a way that the strike facilitates the attack and exploitation phases of either the front-line division's or the army's operational maneuver groups (OMGs) as early in their deployment as possible.

(2) (U) Second, while SSMs and aircraft are striking deep, increased assault helicopter assets will allow more support operations at shorter distances from the front of the attacking divisions. These helicopters can also facilitate the army's "operational maneuver groups" by swiftly transporting heavy fire power or supplies to assist them deep behind enemy lines.

(3) (U) The OMG concept, can be found in early Soviet military writings. However, since Ogarkov has become Chief of Staff, the OMG concept of forming a tailored, high-speed exploitation force at army and front level has achieved increased emphasis. This force is flexibly structured, depending on the battlefield situation and is designed to move deep into the enemy rear area and achieve critical objectives, normally before second-echelon Soviet formations are committed to combat.

(4) (U) Although the composition of OMGs appears to be highly situation dependent, an army OMG could be as large as a reinforced division, while a front OMG could be as large as an army. OMGs may be established before an operation as part of the initial plan or during an operation to exploit an unforeseen opportunity. It is most likely to be used when the enemy's defenses are perceived to be at a low state of readiness or when these defenses are relatively shallow and not supported by

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large reserves. The OMG has the mission of penetrating lightly defended areas along the FEBA in order to get behind enemy lines to disrupt logistics, troop movements, and the like. OMGs would make lateral reinforcement or movement by NATO units extremely difficult. Additionally, the OMG has a good chance of confusing NATO intelligence. While moving to the FEBA, the OMG, if detected, might confuse NATO intelligence organizations attempting early determination of the area of main frontal attack, or it might be mistaken for the second echelon moving forward.

(5) (u) ~~(S)~~ The OMG concept, when coupled with other operational changes such as increased artillery support, emergence of air assault brigades, etc., results in forecasts of increased flexibility for the Soviet ground forces commander. He will now have more ways to respond to operational tactical problems and more assets to achieve his missions. The high speed, and increased tempo of operations apparently essential to the "theater-strategic operation" seems to require more flexibility on the part of regimental and divisional commanders. The requirement for detailed planning before the initiation of the operation still remains. However, more flexibility in option selection appears probable when operations do not go as planned or when operations unexpectedly provide favorable opportunities for quick exploitation. The degree of flexibility allowed, however, can only be determined by analyzing Soviet exercises over time.

E. The Front

(1) (u) ~~(S)~~ The front appears to be receiving all of the same upgrades that we see in the army, plus additional ones. The frontal aviation and air defense reorganization discussed earlier is providing front commanders with organic aviation and air defense that were previously under the control of Moscow. In other words, in addition to better deep fire support with surface-to-surface missiles and helicopters, the front will also have its own aviation and air defense. The front, it seems, is evolving into a true "combined arms" organization.

(2) (U) The operational aim of this reorganization, Ogarkov has made explicit, is faster frontal operations. Ogarkov has specifically commented in published articles that during World War II fronts often halted for days and weeks between operations. This operational characteristic has continued to the present. However, Ogarkov insists that in future wars, frontal operations must be continuous, the second following almost immediately upon the first.

F. The Theater Military Operations (TVD)

(1) (u) ~~(S)~~ The Soviet General Staff seeks to achieve this continuity in frontal operations by establishing increased command and control capability at the theater (TVD) level. The concept of a TVD operation is not new; the term has been in use at least since WW II. However, now we are seeing it emerge as a fully developed and staffed command level, managing two or more fronts and being directed either by the General Staff or the theater command. At the moment, we know very little concerning the details of this new

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operational concept. However, we do have a sense of the importance it has begun to assume.

(2) (U) In his published articles, Ogarkov explains from a historical view why the theater operation is so important to future warfare. He states that whereas a country's highest combat grouping during the 16th century was a regiment, developments in weapons, support equipment, and lines of communication forced these groupings to grow to brigades in the 17th century and to divisions in the 18th century. During the Napoleonic period of the early 19th century, armies emerged as the highest operational command. Wars then became a series of army operations.

(3) (U) As the 20th century began, this evolutionary process continued. During the Russo-Japanese War in 1904, there arose again the need to find new ways to centralize control of even larger masses of troops, and for the first time a "front," consisting of two or more armies, emerged. WW II became a series of front operations, and as the war ended, fronts were beginning to be combined into groups of two or more. Thus was laid the foundation for the next higher operational level, for the theater-strategic operation.

(4) (U) Based on the just-described historical evolution of military operations and on the extremely significant technological advancement in weapons and support equipment over the past 10 years, Marshal Ogarkov comes to this conclusion in a 1982 article:

> "Thus one should evidently consider as the principal operation in war today not the Front but rather a larger-scale form of military operations--the theater-strategic operation. In the course of such an operation, each Front can conduct two or more front operations in succession with brief pauses and even without pauses." (Emphasis added).

(5) (U) Although many details of this new operational concept are unknown, it is clear from Ogarkov's words that at least one objective is to do away with major pauses in offensive operations. Thus, operational emphasis will now be placed on the concept of continuous land combat, conducted relentlessly, day and night until deep objectives are achieved. The operational emphasis here is not only on improving night fighting capabilities, although that is part of it. The primary emphasis is on the concept of "continuous" combat. This means the ability to gather more and more information in shorter periods of time in order to make quicker decisions in more complex situations. Most importantly, all this must be done while the operational units are on the move under combat conditions.

(6) ~~(S)~~ (U) In order to shorten the time during which the rigors of "continuous combat" will be required, it is probable that almost simultaneous strikes will be conducted throughout the depths of the TVD. Special operations forces (SPETZNAZ) infiltrated into the enemy's rear prior to D-Day, will begin the offensive with disabling attacks against command,

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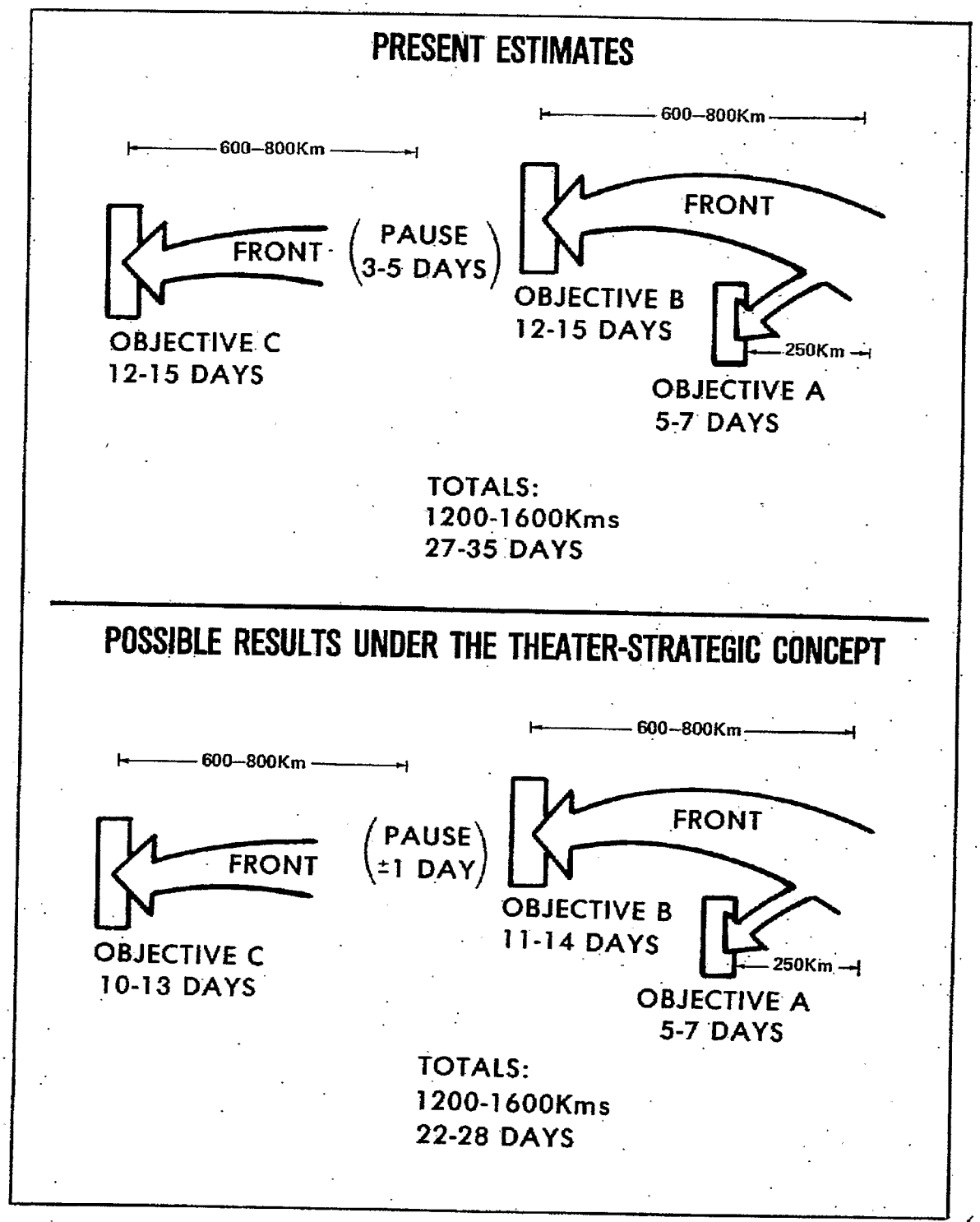

Figure 10. (U) Front Operations

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control, communications and nuclear targets located throughout the battle area. These attacks will be coordinated with and closely followed by attacks by aircraft and missiles against targets deep in the enemy's rear, while ground forces attack the forward area. Airborne and air-assault forces and operational maneuver groups will begin operations against targets to the rear of the forward area. These attacks throughout the depths of the battle zone are designed to prevent the marshaling of the enemy's counterattack capabilities, and at the same time to prevent an orderly withdrawal of his front-line forces. The intent is to avoid long, drawn-out, successive stages of an offensive by compacting these stages into an almost simultaneous act. Although the factors of time, space, and maneuver will not achieve immediate victory, the driving concepts of "attack throughout the depths" and "continuous land combat" will shorten the time required to achieve the results desired.

(7) (u) ~~(S)~~ It is difficult to represent quantifiably the battlefield changes that might result from the development of this "theater-strategic operation." However, Figure 10 shows one possible result. The top half of this figure depicts presently accepted time and distance goals for frontal operations. The bottom half indicates expected changes resulting from the new theater-strategic operation. In comparing the top and bottom halves of the chart, we see that the time to reach the first major front objective (OBJB) was cut by one day as a result of the emphasis on continuous combat and the removal of any short pause that which might occur after the front's first intermediate objective (OBJA), 250-280 km from the FEBA, has been achieved. The pause between major operations was reduced from approximately 5 days to 1 day. Then the time to the subsequent front objective (OBJC) was cut by two days, one for the deleted pause after achieving its intermediate objective (not shown) and one for the probable cumulative negative effect suffered by the defenders as a result of continuous combat against successive attacking echelons of fresh Soviets units. By simply eliminating or decreasing these pauses, 5 to 7 days, or 18% of the total time required, can be saved in successive frontal operations.

(8) (U) These effects of the new "theater-strategic operation" are purely speculative. Actual time-distance factors for front and theater operations would depend on the particular terrain, the enemy forces, weather conditions, and the utilization of nuclear or chemical weapons.

(9) (u) ~~(S)~~ It is also possible that the currently held time-distance figures of 1,200-1,600 kms in 27-35 days have always represented an operational goal that the ground forces have not yet been able to achieve. Thus, the new theater-strategic operations concept might result not in the shortening of these time factors but rather in making possible their attainment (as depicted in Figure 9 "Present Estimates").

(10) (U) In any case, the actions taken by Marshal Ogarkov and his staff since 1977, especially in organizational changes, have increased the battlefield impact of equipment developments since Sokolovsky's time. Ogarkov now sees the next step, perhaps the final step, in the convergence of Soviet offensive doctrine with capabilities, as improvements in the

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means and methods of command and control, which he perceives to be the key to improved operational effectiveness. He views improvements in this area as critical to the successful management of large numbers of troops dispersed across several theaters and engaged in extremely fluid operations. To achieve this end, Ogarkov has called for significant improvements and new concepts in staff organizations and operations at all levels. Such improvements are needed to give the commander the necessary assistance in interpreting the increasing volume of battlefield data reaching the operations centers. He emphasizes the need for increased computerization and automation of all combat functions, but especially for the activities of commanders and staffs. The Soviets are already heavily involved in developing such automation programs, and increased battlefield applications can be expected. Finally, Ogarkov underscores the need for new and improved concepts for logistical support, not only in the theater of operations but in the home front as well.

(11) (U) Thus, it is clear from Marshal Ogarkov's own discussion that although we can expect continued improvements in the development of weapons of war, the most significant changes in Soviet capabilities over the next decade will occur in the execution of new operational concepts at front and theater level. These operations will exhibit the combined arms interactive process from regiment through theater. Enemy targets will be struck throughout the depth of front and theater areas by aircraft, missiles, airborne troops, SPETZNAZ, operational maneuver groups, air assault brigades, battalions, and front-line troops.

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Section 8. Missions Versus Capabilities

A. Background

(1) (U) The preceding sections have discussed the present and forecasted capabilities of Soviet ground forces. The SBDP effort concludes that the Soviet General Staff is attempting to achieve the capability to carry out a theater-strategic level operation in which its forces will be able to assert military control over an area 1,600 kms deep in less than 30 days.

(2) (u) ~~(S)~~ This new operational capability is not being developed to serve its own ends, but rather in support of higher strategic concepts. As noted previously, shortly after Ogarkov became Chief of Staff in 1977, a new theater-command was established in the Far East. This new command structure leads to a more balanced, semi-independent war fighting capability on both the USSR's western and eastern borders. Subsequent to the establishment of the Far East Command, the Soviets improved their position along their southern border by occupying Afghanistan and improving contingency plans relative the Persian Gulf.

(3) (u) ~~(S)~~ These actions suggest that Soviet strategic doctrine gives the General Staff the mission of developing the capability to fight two-and-a-half wars simultaneously, one in the west against NATO; one in the east against a Chinese-Japanese-American axis, and a more limited action in Southwest Asia. Within each of these theaters of war, the new "theater-strategic operation" will be the key to the Soviet war fighting strategy.

B. Europe

(u) ~~(S)~~ Figure 11 depicts the requirements of the theater-strategic operation overlayed on the map of Western Europe as viewed from the Soviet perspective. The mission: to occupy militarily the Benelux countries, Northern Italy, Germany, and France in less than 30 days. As Ogarkov himself implies, the Soviets do not yet have this capability, but their doctrine and actions indicate that they are attempting to develop such a capability by the year 2000.

C. Southwest Asia

(1) (u) ~~(S)~~ Figure 12 depicts the requirements of the theater-strategic operation overlayed on a map of the Persian Gulf area. The mission: to occupy militarily Iran and the Persian Gulf littoral in less than 30 days.

(2) (u) ~~(S)~~ There is little open-source information on Soviet operational concepts against Iran. However, it is logical to assume that a major military campaign in this area would be primarily structured within the general framework of the theater-strategic operation as specifically modified for enemy, weather, and terrain peculiarities. It is doubtful, however, that the Soviets would, at present, be able to achieve such operational objectives in a 30-day period. The main constraints appear to be deficiencies in transportation networks and the lack of sufficient forward disposed air fields.

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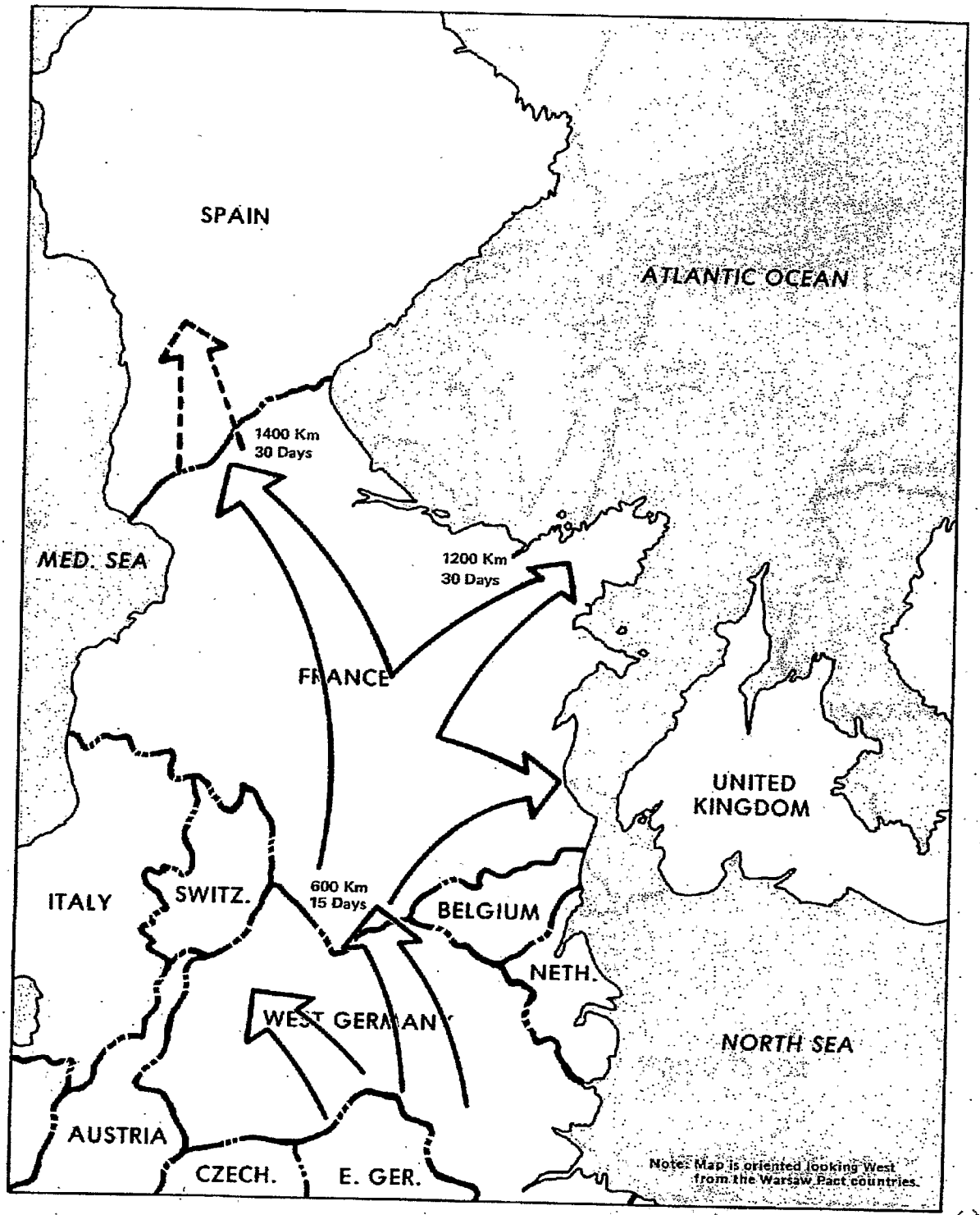

Figure 11. (U) Theater-Strategic Operations: Europe

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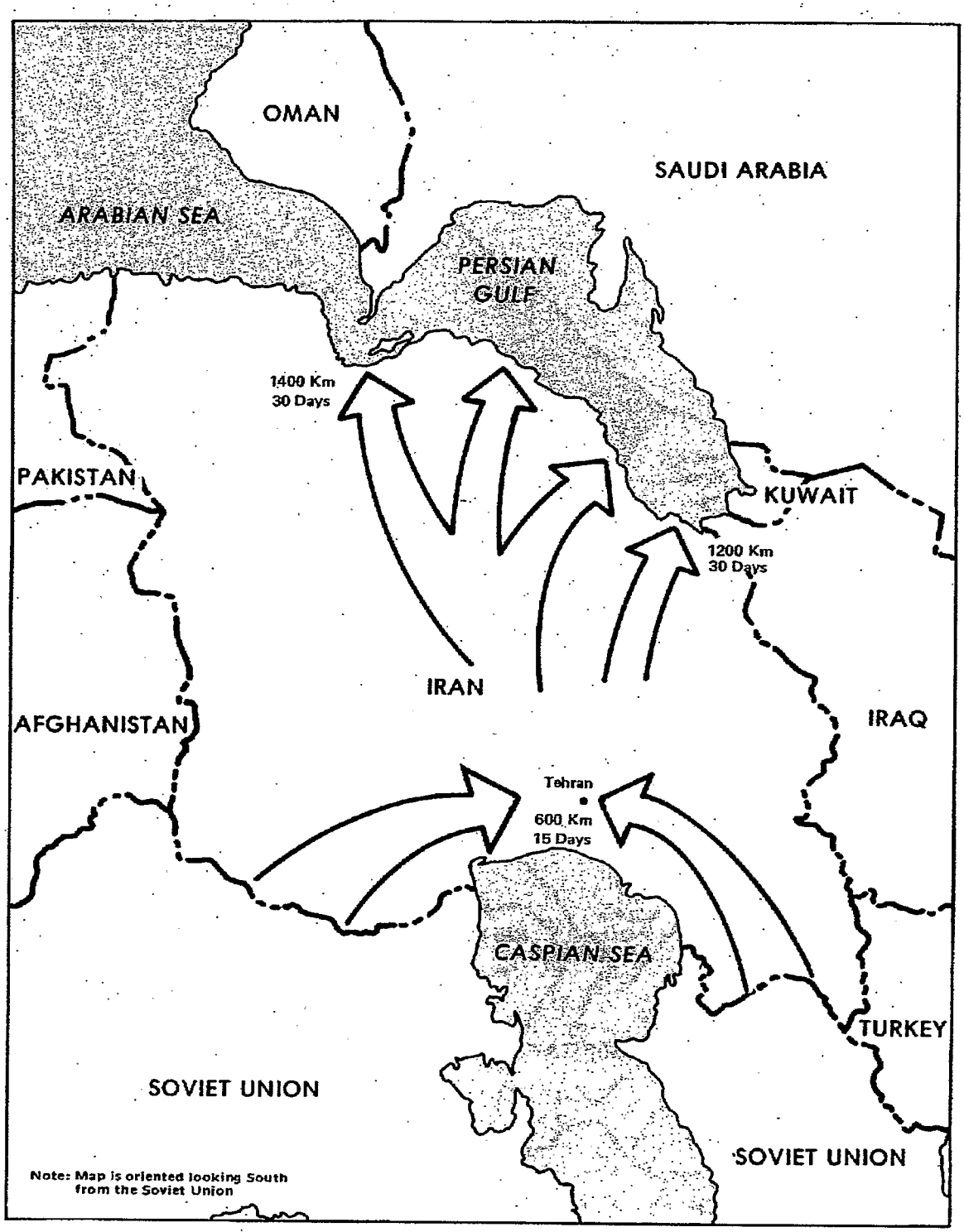

Figure 12. (U) Theater-Strategic Operation: Persian Gulf

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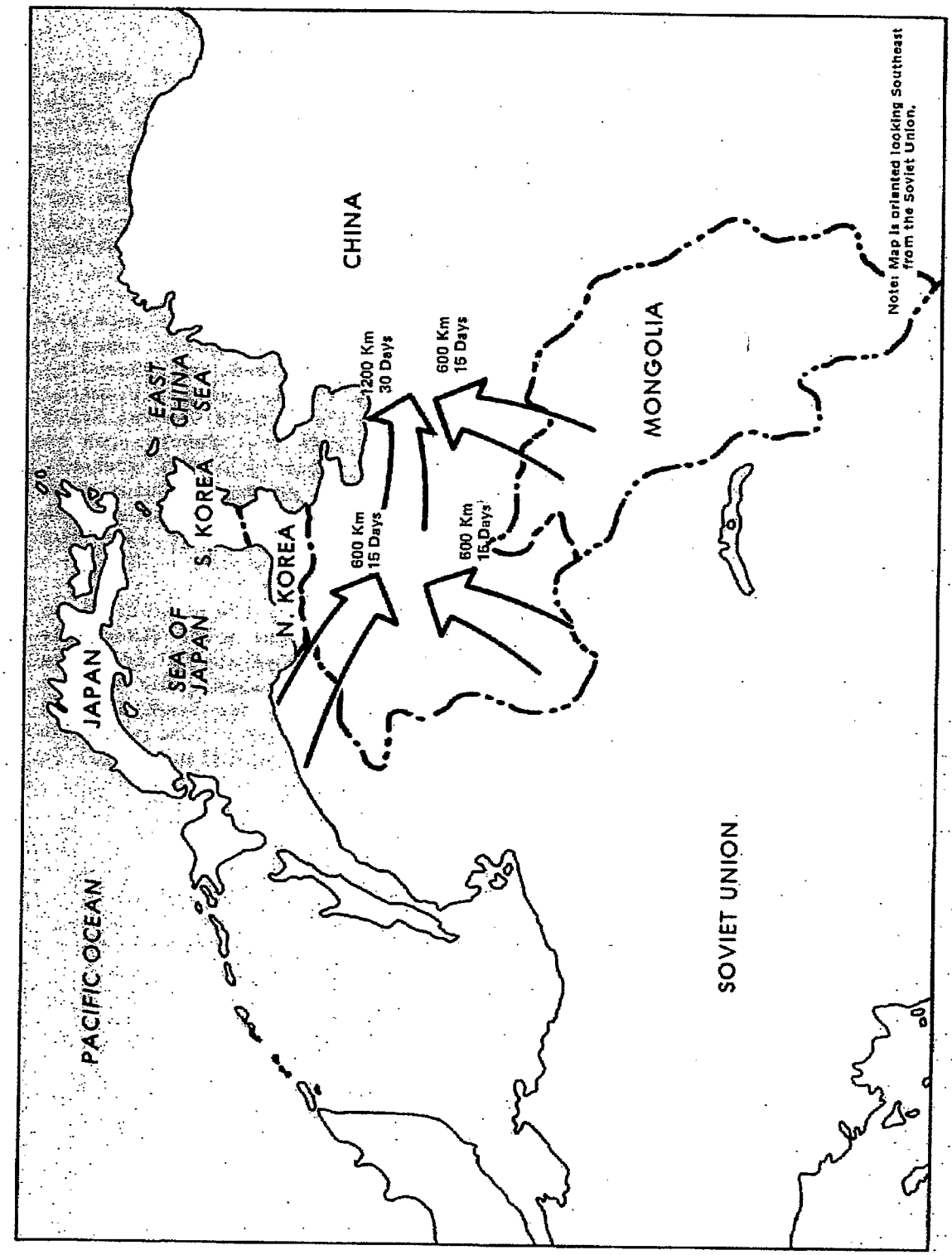

Figure 13. (U) Theater-Strategic Operations: Far East

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D. The Far East

(1) (U) ~~(S)~~ The Far East provides the Soviets with an array of complex problems. As indicated by Figure 13, the border with China is over 6,000 miles long. The Soviets have traditionally maintained a primarily defensive posture along the border. However, since the establishment of a Far East theater command in 1977, a more offensive capability has begun to develop. Yet, because of the amount and type of terrain to occupy and the number of people to be subdued, the Soviets are not credited with a current capability to conduct successful nonnuclear theater-strategic operations in the Far East.

(2) (U) The Soviets' primary concern in this area is the possible establishment of a strong coalition consisting of a numerically superior and developing China allied with a technically advanced and expanding Japan, supported by an aggressive United States. While using diplomatic channels to prevent such an axis from developing, the Soviets General Staff is building a force structure capable of dealing with it. Should such an alliance not be formed, growing Soviet military capability will probably result in increased political influence to separate Japan and China from the US. This military force structure is already establishing air and sea capabilities that expand Soviet military power and influence into the Pacific.

E. Conclusion (U) ~~(S)~~ At present, the Soviets do not have the capability to execute a theater-strategic operation in any of the three areas discussed. This does not mean they cannot conduct successful operations in these areas, only that they could not now achieve the time-distance goals that we believe we required by the new operational directives. The General Staff is taking steps to bring the operational capabilities into line with the strategic missions. However, it is unlikely that such capabilities will be achieved before the mid-1990s.

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Section 9. Constraints, Weaknesses, and Vulnerabilities

A. Introduction

(1) (U) No state's plan for military force development is unconstrained. Nor is any military force structure without weaknesses and vulnerabilities. Throughout the SBDP 2000, constraints and weaknesses have been mentioned in passing. This section pulls them together and puts them in a coherent overall perspective. We warn against taking individual apparent weaknesses and vulnerabilities out of context and drawing significant conclusions for U.S. Battlefield Development Plans. The Soviet military leaders are fully aware of most of them, and have attempted to compensate for them. For example, the Soviets have historically realized that they lag behind the West technologically and in quality of weaponry and manpower. They have tried to compensate for this weakness in quality through increases in quantity. That is readily apparent today in their large order of battle. Compensating for weaknesses is a deeply imbedded mode of Soviet military thought. This is not to argue, however, that weaknesses and limitations in Soviet forces, doctrine, and materiel cannot be exploited. They can. But this exploitation must be done with a full awareness of the overall Soviet force structure and its doctrinal integration.

(2) (U) This first version of the SBDP does not provide an exhaustive inventory of constraints, weaknesses, and vulnerabilities. It offers a few examples by class and type. In subsequent versions, a fuller inventory will be presented. A sound analysis of flaws and constraints will require time and care, but it is a highly promising analytical perspective, one we have not rigorously exploited heretofore.

B. Strategic Weaknesses

(1) The Reliability of Warsaw Pact Forces (U) The present Polish situation again emphasizes the underlying tensions that exist between the peoples of Eastern Europe and their Soviet occupiers. If a general war with the West were going badly for the Soviets or causing severe damage to East European countries, elements within Eastern Europe might take advantage of the Soviets weakened position or that of the national Communist parties, and revolt. Such uprisings would require significant forces to restore and maintain control.

(2) ~~(S)~~ (U) The potential for such events requires the Soviets to prepare for them now. For example, men and supplies must be allocated for rear control, thus limiting those available for the offensive. Alternate supply routes must be prepared. For example, work is currently underway on the construction of a large, modern 500 km rail-ferry facility across the Baltic Sea between the USSR and East Germany, bypassing land routes across Poland. Although primarily designed for economic reasons, its use in time of war or social unrest was undoubtedly a positive factor in obtaining approval for its construction.

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(3) (u) ~~(S/NOFORN)~~ Soviet problems of political control in Eastern Europe are reflected in the NSWP states' unwillingness to modernize their forces as fast as the Soviets demand.

(4) (u) ~~(C)~~ Eastern Europe, if exploited by U.S. policies in peacetime, can contribute enormously to overall "deterrence" of war in Europe.

(5) Discipline and Morale Among Soviet National Minorities (U) The multi-lingual, multi-ethnic character of the Soviet military manpower pool creates a series of weaknesses and constraints we only partially understand. Language alone causes serious training limitations. It also limits flexibility in the assignment of non-Russian speaking troops to the highly technical branches of service, e.g., rocket troops, signal troops, etc. Political experience with hegemonic Russian policies in the past create serious loyalty problems in some cases. For example, few troops from the Baltic ethnic groups are assigned to Soviet forces in Eastern Europe, particularly the GSGC in East Germany and the NGF in Poland. Many of these soldiers might sympathize with the German and East European cultures, which they have traditionally considered superior to Russian influences. Troops from Central Asian ethnic areas are considered quite reliable in Germany and Poland, but they bring other problems: language, hostility to the predominately Slavic officer corps, and Islamic religious sentiments.

(6) Discipline Problems in General (u) ~~(C)~~ Reports of disorders, shootings, mutinies, and suicides are frequent. Whether the overall trend is up is not known, but we do know that several high-level command and party meetings have been held in Moscow to address these problems. So-called "second year" soldiers haze "first-year" soldiers cruelly in many cases. Suicides are known to have occurred as a result of such pressure on first-year recruits in GSFG. Alcoholism is a problem. It is a training distractor and a source of discipline problems. However, alcohol does not severely impair overall combat capabilities. Corruption through black-market activities is a problem throughout the Soviet forces. Clearly, it is growing, if the complaints in the Soviet press are an indication. The problem is endemic to Soviet society; therefore, the military is afflicted as well. This kind of deviant behavior may well affect the level of Soviet stocks (like fuel and spare parts for trucks) and in turn the readiness of equipment for mobilization. We do not, however, have even a subjective estimate of the scale of this effect. Finally, political reliability within some elements of the officer corps will become a greater problem. As better higher education is provided, the most able of the younger officers will reflect more critically on the true nature of the Soviet regime. Dissident officers have already engaged in organizational activities, as examplified by the "Riga Naval Officers Group," which attempted to organize dissent; by a major at the tank school in Kharkov who supported dissidents; and by MG Grigorenko of the Frunze Military Academy who became a key dissident leader. The greatest impact of this sociological trend may not be within the military; rather, dissident officers may be driven out of the military and then join their civilian dissident counterparts. That has been the pattern to date, as seen in the limited evidence available.

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(7) Transportation: Roads, Rail, and Airlift. The limited Soviet transportation network, especially in the non-European area, puts a serious constraint on the number of units that can move in a given time during mobilization under the conditions of a general war. The limitations of this system will probably prevent quick, undetected, forward deployment of large numbers of mobilized units, thus providing the West with significant warning time in other than a "standing start" scenario.

(8) Prospects for the Soviet Economy (U) Can the Soviet economy continue to bear the weight of the large Soviet military programs? This question has become central to much discussion in the West about limits on Soviet military power. As the first two volumes of SBDP 2000 try to make clear, the Soviet economy is a military-industrial complex. It was initially designed to build and support a strong military force structure, and that has remained its primary objective. The structure of that economy and the ideological justifications for it are so fundamental to the nature of the Soviet regime that talk of a "guns-butter" trade-off becoming a central issue on the post-Brezhnev leadership agenda is basically misleading. The issue will not be: guns or butter--what mix for social satisfaction? It will be: how little must be done to maintain worker satisfaction and thus keep up the high level of military programs? Indeed, the new leadership must face sharp economic issues, and economic constraints may limit the speed and size of some military programs; but we do not foresee a slackening of the overall leadership support for military programs. In fact, to the extent that the West helps the USSR ease general economic problems by selling grain, technology, and intermediate industrial products, the pressure to slacken military programs will be mitigated.

C. Tactical Weaknesses

(1) The Criticality of Operational Timing (u) ~~(S)~~ Soviet operational plans call for a large number of units to conduct highly coordinated operations over limited geographic areas in relatively short periods of time. The success of such operations depends on highly developed command and control procedures and precise timing. NATO operations that disrupt the required flow and tempo of the Soviet offensive could result in some Soviet units not being sufficiently reinforced in the forward areas while other units could quickly become concentrated to the rear, providing lucrative targets to NATO interdiction aircraft and long-range fires.

(2) Equipment--Examples of Shortcomings

(a) (u) ~~(S)~~ Soviet armor, specifically the T-64 and T-72 tanks, was designed, produced, and fielded within very strict weight limitations.

(b) (u) ~~(S)~~ These limitations have resulted in heavy frontal armor but very thin top and side protection.

(c) (u) ~~(S)~~ Fuel and ammunition are stored together in these tanks, presenting an increased likelihood of fire should perforation occur.

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(u)
(d) ~~(S)~~ Surface-to-air missiles (SAMs).

(u)
(1) ~~(S)~~ Surface-to-air missiles (SAMs) are susceptible to blast and fragmentation damage.

(u)
(2) ~~(S)~~ SAM-associated radars can be degraded to varying degrees by electronic jamming, chaff, and in some cases antiradiation missiles (ARMs).

(e) (U) Electronic Warfare Equipment.

(u)
(1) ~~(S)~~ Soviet electronic warfare (EW) jamming equipment is generally unsophisticated and has great difficulty operating in dense signal environments.

(u)
(2) ~~(S)~~ Soviet jammers, resorting to wideband jamming modes in an effort to jam effectively in dense signal environments, present good targets for attack by ARMs.

D. Summary (U) The above is a broad discussion of Soviet constraints, weaknesses, and vulnerabilities. However, it does point out that Soviet weaknesses do exist at strategic, operational, and tactical levels. These weaknesses provide some constraints on the Soviet ability to improve its military capabilities as fast as it would like to. The exploitation of these weaknesses could significantly contribute to the defeat of Soviet forces on the battlefield. Many of them contribute to deterrence today.

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Section 10. Conclusions

A. (U) The Soviet Union will continue striving to develop a military capability second to none. The ground forces will continue to be an important part of that military capability. Moreover, since the strategic arsenals of the U.S. and USSR have attained a rough parity, the growing size and capabilities of ground forces will significantly increase their importance in the Kremlin's strategic plans for the future.

B. (U) In the early 1960s, Marshal Sokolovsky's book, Military Strategy, forecast the current capabilities of today's ground forces. Sokolovsky called for a totally mechanized force of tanks, infantry fighting vehicles, self-propelled artillery, and helicopters. He also provided an operational-doctrine outline describing how such forces would be used. Soviet military doctrinal statements of this kind usually relate to future goals, not present capabilities. Thus, the Soviet Union has spent the last 15-20 years creating the type of force called for in Military Strategy.

C. (U) It appears that in the mid-1970s the Soviets began to assess the progress they had made in achieving the military capabilities called for by Sokolovsky. A review of this assessment and our forecast of Soviet actions resulting from it are presented below.

D. 1977-78 (U) The General Staff probably completed its evaluation in late 1977 or 1978. Marshal Ogarkov, as the new Chief of the General Staff, found that the Soviet military has gone far in developing and acquiring the types of equipment called for by the military theorists of the early 1960s. However, he concluded that strategic, operational, and tactical thinking had not kept pace with equipment developments. He therefore charged his theorists, planners, and commanders to develop new operational concepts that would maximize equipment potential.

E. 1979-1982 (u) ~~(S)~~ During this interval, the following events occurred and are believed to be directly related to Ogarkov's emphasis on developing new operational concepts.

- (u) ~~(S)~~ A new theater command was established in the Far East.
- (U) There was the highest turnover of leaders in key positions in almost a decade.
- (u) ~~(S)~~ There was a reorganization of Soviet Air Force assets, resulting in better air integration with operations.
- (u) ~~(S)~~ There was a reorganization of Soviet air defense forces, resulting in better air defense integration with ground operations.
- (u) ~~(S)~~ Mobilization bases were activated to Cat III Divisions, thereby improving force-wide mobilization capability.

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° (u) ~~(S)~~ There was a reorganization of divisions and division support to improve "combined arms" operations on modern battlefields.

° (U) There was a renewal of emphasis on deep operations through OMGs.

° (U) Ogarkov announced a new operational concept--the "theater-strategic operation." This operation emphasizes theater-level warfare. Whereas strategic goals were previously attained by a series of front operations, they would now be achieved by simultaneous theater operations, not successive, front operations. Battlefield management at this higher level is designed to increase speed in achieving operational goals.

F. 1983-1993: Forecast

(1) (U) In announcing the "theater-strategic operation," Ogarkov does not claim that Soviet forces now have the capabilities to conduct such operations. Rather, just as Sokolovsky did 20 years ago, Ogarkov is stating now the doctrinal goals for Soviet forces of the future and directing that actions be taken now to develop the capabilities to achieve those goals.

(2) (U) Thus, the "theater-strategic operation" is the doctrinal concept that will guide the planning, development, and training of Soviet ground forces over the next decade, and probably longer. To implement this new concept, Soviet forces require both quantitative and, especially, qualitative improvements.

(3) (U) Marshal Ogarkov, in his work outlining this new concept, placed primary emphasis on improvements in command and control as critical to its success. He specifically called for improvements in:

-- troop control procedures

-- staff concepts

-- automation and computerization

-- logistics

(4) (u) ~~(S)~~ Over the next decade, Soviet forces will strive to achieve this "theater-strategic" operational capability. We forecast that it will take the Soviets at least until the early 1990s to perfect this concept, and, more probably, it will take until the middle or late 1990s.

(5) (u) ~~(S)~~ When perfected, the theater-strategic operation will require coordinated, successive front operations, with little or no pauses between them. Additionally, strategic planning will be characterized by multi-theater not multifront requirements. The time-distance requirements for these operations will result in Soviet control of areas up to 1,600 kms in depth in approximately 25 days. In Europe, this would mean control of the Netherlands, Belgium, Denmark, Luxemburg, Germany, France, and Northern Italy in less than 30 days.

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G. 1993-2000 Forecast

(1) (u) ~~(S)~~ In the early to mid-1990s, we expect the Soviet General Staff to again make a thorough reassessment of military capabilities. Technical and scientific advances over the next 10-15 years should result in significant weapon improvements. These new weapon capabilities should lead to new changes in organization and operations. New concepts will again have to be developed to maximize the potential of these new technological advances.

(2) (u) ~~(S)~~ Between 1995 and 2000, we expect the Soviets to begin testing the new concepts resulting from their reassessment. These new concepts should require fine tuning of the "theater-strategic operation." Emphasis will be on better coordination between the Western and Eastern theaters, resulting in increased Soviet confidence in their ability to fight a two front war. Additional emphasis will also be placed on force projection, providing the Soviets with capabilities to intervene militarily anywhere in the world.

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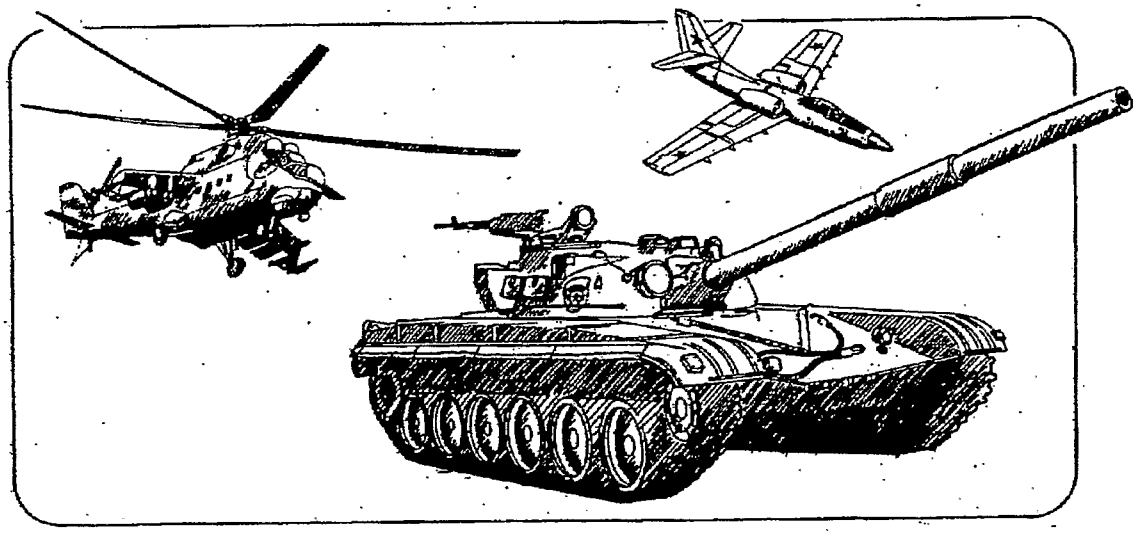
The Soviet Battlefield Development Plan

(SBDP)



VOLUME I

Soviet General Doctrine For War (U)

Prepared by:

OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE

1 NOVEMBER 1982

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ATC-PP-2660-05-83-VOL I
(ITAC TN M8760XWP)

OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE
WASHINGTON, D.C.

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(SBDP)

VOLUME I

Soviet General Doctrine For War (U)

DATE OF PUBLICATION
1 November 1982

Information Cutoff Date
August 1982

This product was prepared by the Red Team, Office of the Assistant Chief of Staff for Intelligence, with contributions from the US Army Intelligence and Threat Analysis Center. It has been reviewed and approved by the Assistant Chief of Staff for Intelligence, Department of the Army.

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DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE
WASHINGTON, DC 20310

REPLY TO ATTENTION OF
DAMI-FIR

1 November 1982

SUBJECT: Soviet Battlefield Development Plan (SBDP)

SEE DISTRIBUTION

1. The volume you are now reading is only one part of a multi-volume effort titled the Soviet Battlefield Development Plan (SBDP). The SBDP is an attempt to provide an integrated and comprehensive analysis of Soviet military thinking, doctrine, and combined arms force development for the present and the future, extending out to the turn of the century. Thus, it should allow Army doctrine and combat developers to have a long-range view of the competition they face, so that they may design U.S. Army doctrine and forces in a dynamic perspective. Thereby they can exploit Soviet doctrine and force modernization to give the U.S. Army advantages in equipment, weapons, training, and tactics.

2. The SBDP is a forecast of Soviet force development for "combined arms" operations in land warfare as we believe the Soviet General Staff intends. It is, therefore, not primarily a prediction but rather more an attempt to understand the Soviet General Staff's vision of the next two decades for planning and programming. It is an attempt to provide a Soviet view, not a U.S. mirror image. The Soviet General Staff does not have an "Air Land Battle" doctrine. It has a "combined arms" doctrine of warfare under the conditions of both conventional weapons and weapons of mass destruction. While there is much in common between the two doctrines, the differences are far more important to understand.

3. The basic assumption for the SBDP is the probable Soviet assumption that there will be no significant adverse changes in the present international order which will cause major alterations in the Soviet development strategy for combined arms forces. The SBDP does take into account economic and demographic constraints that are reasonably predictable by Soviet planners. Further, it also tries to anticipate the impact of new technologies on force development.

4. Since combined arms operations in Europe are clearly the central issue for Soviet planners, the equipment, organizational, and operational forecasts contained in the SBDP relate primarily to Soviet forces in the European theater. However, since these planners must also worry about the Far East, Southwest Asia, and power projection to non-contiguous regions, these non-European concerns are also treated but to a lesser degree.

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5. Because Soviet combined arms doctrine is not conceptually restricted to the theater of operations but also concerns the "rear," that is, the entire continental USSR as a mobilization and production base, the SBDP deals with this aspect of force planning. Preparation of the "rear" for both nuclear and non-nuclear conflict is seen by the General Staff as the sine qua non and the first step in an all combined arms force development.

6. The SBDP consists of eight volumes and an Executive Summary. These eight volumes are organized to provide an interpretive framework within which to integrate and analyze the large quantity of intelligence information we have on Soviet ground forces.

7. The following provides a brief overview of this interpretive framework:

a. Volume I explores the ideological and historical heritage which shapes the perspectives of Soviet military planners.

b. Volume II flows logically from Volume I showing how ideology and history combine in the Soviet militarization of the homeland, i.e., the preparation of the "rear" for war.

c. Volume III presents an "order of battle" listing of, and forecast for, the ground force structure which has resulted from the ideological and historical factors reviewed in the two preceding volumes.

d. Volume IV discusses the equipment used by the forces described in Volume III and forecasts developments in these weapons out to the year 2000.

e. Volume V discusses the present organization and operations of the ground forces and also presents long-range forecasts in these areas.

f. Volume VI reviews high level command and control trends for these forces and looks at how the Soviets intend to increase their force projection capability over the next two decades.

g. Volume VII is a study of Soviet exercises and what they might infer about actual war missions.

h. Finally, Volume VIII is an attempt to compare Soviet missions with their present capabilities. Such an analysis gives us a stronger sense of the requirements the General Staff probably sees for building forces over the coming decades.

8. Although the ACSI coordinated the SBDP and designed its structure, all the major Army intelligence production organizations provided the analysis. ITAC, FSTC, MIA, and MIIA were the primary Army contributors. b3 per DIA

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1 November 1982

9. Naturally, such a comprehensive undertaking inevitably has inadequacies and contentious conclusions in its first variant. Work on the next version is already under way, and it is directed toward refinements, filling gaps, and improving the analytical forecasts. You can help us in this effort by using the SBDP in your daily work, then answering and mailing the questionnaire which follows this letter.

10. We are developing the SBDP as a tool to assist both intelligence producers and consumers in accomplishing their tasks more efficiently and effectively. We hope you find this and future editions of the SBDP to be of such assistance.

WILLIAM E. ODOM
Major General, USA
ACofS for Intelligence

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SBDP EVALUATION QUESTIONNAIRE

1. The information requested below will help the office of the ACSI develop the SBDP in a way which is most useful to the consumer. If possible, do not detach this questionnaire. We request you photocopy it, leaving the original in the volume for other users. If the spaces provided for answers are not sufficient, please type your comments on additional sheets and attach them to this questionnaire form. We request all classified responses be sent through the proper channels.

2. Please provide your name, rank or position, unit, and a short job description. This information will help us determine the specific way in which you are using the SBDP.

a. NAME _____

b. RANK (POSITION) _____

c. UNIT _____

d. JOB DESCRIPTION _____

_____

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e. VOLUME YOU ARE EVALUATING _____

3. Total concept and structure: Do the eight volumes of the SBDP provide the necessary framework for effective integration and interpretation of available information? What improvements would you suggest to the overall organization or concept of the SBDP?

a. STRUCTURE: _____

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b. CONCEPT: _____

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4. Volume structure: Is this volume well organized? Does its method of presentation facilitate comprehension? Is the subject matter provided in the right degree of detail for your use? What improvements would you suggest in these areas?

a. ORGANIZATION: _____

b. PRESENTATION: _____

c. DETAIL: _____

5. Volume substance: Do you find the overall analysis and forecasts to be sound? How would you correct or improve them?

6. These questions are "wide-scope" by design. If you have other, more specific comments you wish to make concerning the SBDP please include them in your response. Send all responses to: HQDA (DAMI-FIR)
ATTN: SBDP Project Officer
WASH DC 20310

7. Thanks for your contribution in developing the SBDP.

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CHAPTER 1

THE SOVIET CONCEPT OF WAR

1. Introduction.

a. No sound understanding of the Soviet concept of war and military affairs is possible without an elementary grasp of the Marxist-Leninist view of historical development. Although it has become popular in the West to speak of the "death of ideology" in the Soviet Union and the turn to a more non-ideological or pragmatic view of politics and war, that interpretation is fundamentally misleading. It is misleading in two respects. First, it imputes a rigid and naive quality to Marxism-Leninism which distorts its flexibility and pragmatism. Second, it overlooks the degree to which Marxist-Leninist categories of analysis and thought have become internalized, particularly in the leadership circles, so that even a Soviet military analyst who professes to be cynical about the ideology nonetheless resorts reflexively to those modes of thought for military and political analysis.

b. Marx and Engels were, first of all, historians. They sought the scientific nature of human development in the study of history, primarily European history. Marx, of course, was the dominant intellect, the originator of a new economic theory of history and political development, but Engels made original contributions in military thought.

2. Materialism versus Idealism.

a. Pre-scientific historical analysis, in a Marxist view, emphasized "idealism" while failing to grasp that man's material relations to man were in fact the key to scientific historical understanding. From the earliest times, those material relations were based on property ownership. Masters' ownership of slaves, feudal lords' ownership of land and its produce, and most recently in Europe, the emergence of commercial private property ownership of "the means of production", which are used by propertyless "laborers" to produce goods for which they are paid only a small part of the true value -- all of these economic systems create an "alienated" or "exploited" class and an "exploiting" or "ruling" class. "Class," in the Marxist sense, is scientifically defined by property relations. Titles, uniforms, and institutional affiliations are at most the reflection of these material relations, i.e. , the "superstructure" of a particular society and economic system. The "base" of this superstructure is the material nature of the economic relations: Slave owning, feudal, capitalist, socialist...

b. History is marked, in Marx's view, by "stages." Progression from one stage to another comes only through "revolution." Revolutions occur when the "alienated" or "exploited" class becomes politically conscious of its exploitation and acts to destroy the social and economic system, creating in its place a new economic order. As long as each new system maintains some

form of "property" for individuals or groups, the "material" basis for "alienation", "exploitation," and yet another revolution is insured.

c. In the more advanced countries of Europe, primarily France and Britain, Marx discerned a new class of propertyless workers, the "proletariat," as it was called in France. The ruling class he called "capitalist" because it owned "capital" and land, the "means of production." The economic dynamic of this capitalist system was, in his estimate, producing a larger and larger working class and a smaller and smaller capitalist class. "Big business" was destroying small business, driving its members into the working class. Quite logically, therefore, one should expect a "revolution" in which the ruling class would be deposed by the ever-growing majority class of workers.

3. The Socialist Revolution.

Unlike previous classes, the proletariat, enlightened by Marx's own "scientific" discovery of the alienating role of private property, would "socialize" all property by making it belong to the new state, a temporary state ruled by the "dictatorship of the proletariat," a "democratic dictatorship" because it would represent the "majority" class, the workers. As the "vestiges" of the capitalist society disappeared, the "dictatorship of the proletariat" would "whither away". The absence of "private property" would prevent "alienation" and "exploitation." Therefore, there would be no more basis for warring classes. A "classless society" based on a "socialist" economic system would bring a new level of historical development, free of war and revolution because the "material conditions" for such conflict would no longer exist.

4. Uneven Historical Development.

Marx, as he began to consider non-European history, quickly concluded that different societies could be at different levels of historical development at the same time. Some societies clearly were still at the slave-owning level. Others were only at a feudal level. The most advanced were capitalist. Lenin would later adopt this idea of contemporaneously different stages of development as the basis for Soviet policy toward the Third World because it implied that the "revolutionary" class may be other than the working class in less developed countries. This became the theoretical foundation for revolutionary alliances with other classes, groups, and even governments.

5. Nationalism.

For Marx, the modern national state was a passing phenomenon, one required by capitalism. With the passing of capitalism, nation-states would also fade. Classes are, in the Marxist sense, "international." The class interests transcend state boundaries, particularly working class interests. The lines of conflict in modern Europe are class lines; not nation versus nation. Thus a socialist revolution would be international.

This view put inherent tensions between "nationalist" sentiment and Marxism-Leninism. Nationalism would prove a political force stronger than socialism, not only in colonial areas, where a Marxist would expect it, but also in the most advanced working class elements of Europe, where a Marxist would not expect it.

6. Socialism in a Backward Country.

Lenin, being concerned with a less-developed state, the Russian Empire, which was also a multi-national state, soon found it necessary to amplify Marxism to account for a number of realities peculiar to Russia and some also emerging in Europe in the course of WW I. First, the workers of Western Europe abandoned class loyalites and joined national armies with enthusiasm, quite unlike his prediction for them. Second, how could a "socialist revolution" take place in Russia, which was judged to be a "feudal society" where the revolutionary future should properly belong to the growing capitalist class and where workers were small in number? His answer was that capitalism was reaching a new "stage," "imperialism," in which the advanced states were linked together and with underdeveloped areas. Capitalism in Europe had proven too strong for an assault by its working class. Yet, at the same time it was vulnerable to attack in the less-developed and colonial areas on which it has become economically dependent. The international working class, therefore, had to find allies in the exploited classes of these regions.

7. The Leninist Concept of Party.

a. Lenin concluded, after watching labor union activity in Russia, that workers themselves, without trained political leadership, would settle for small increases, the rhetoric of patriotism, and other standard operating procedures from the ruling classes. Thus, a strong political "general staff" was needed for the working class movement. The party Marx had helped form in Germany, the SPD, seemed to Lenin such an organization, but he soon concluded that it was too passive in face of revolutionary opportunity. It was becoming not the "leading element" but rather the "tail" of the working class movement. Exasperated by German and French socialists' support for their nationalist governments in WWI, Lenin carried through the process of building a new workers' party, the Bolshevik Party, an effort with roots in his quarrels with other Russian revolutionaries as early as 1902. His concept of party involved building a small elite cadre of sophisticated Marxists wholly committed to life as revolutionaries, fully subordinated to central party leadership through the concept of "democratic centralism." It would not accept as members mere sympathizers and part-time enthusiasts. It would include only the "general and command staff" of the revolutionary masses. Built first in Russia, it became international in 1919 with the formation of the Communist International (COMINTERN).

b. Sociologically, the Bolshevik Party was analogous to an officer corps in a professional army. Leadership, discipline, knowledge of tactics

and strategy, skill in underground political activity, willingness to die in the struggle — these were the requisites for party membership. The analogy with an officer corps is more compelling when one considers that revolution is a form of war. Lenin's party was foremostly dedicated to the conduct of warfare, political combat, revolution, and civil war. By keeping this point clearly in mind, it is much easier to understand Soviet party-military relations today and contemporary communist party activities everywhere. A communist party is at root a military officer corps, just as revolution is at root a form of warfare.

8. Class Alliances.

a. With the Bolshevik Party at its head, the Russian working class could begin to deal with the international realities of the capitalist bastion in Europe and America and the weakness of the working classes in the underdeveloped regions, including Russia. First, Lenin perceived that in Russia the peasant class, the most exploited social stratum, could be taken as an ally in the struggle to overthrow the Tsar. Workers and peasants together constituted a vast majority, making destruction of the old regime more than idle talk. Furthermore, once in power, there was no reason to stop short of a "socialist revolution" if a state apparatus could be devised under the banner of the "dictatorship of the Proletariat" to prevent the property-minded peasants from controlling the economy. Peasant revolutionary terror was inspired by hunger for ownership of land, the "instrument of production," not socialist ownership. In this problem for a peasant-based socialist movement, the Bolsheviks anticipated great post revolutionary dangers.

b. Lenin fully expected Europe to follow shortly with a socialist revolution after he seized power in Russia. That would save Russian socialism from the hands of the potentially reactionary peasantry. When Europe's revolution failed to happen, it caused a general crisis in Lenin's own party, but he proved able to master it, both in leading his party and in adapting his theory of the international class struggle.

9. The Law of "Primitive Socialist Accumulation."

First, a temporary peace could be made with the peasantry, allowing land ownership but maintaining socialist ownership of industry, the "commanding heights" of the economy. The peace lasted until the late 1920s, when Stalin collectivized the peasantry, abolishing all private ownership, and gained state control of agricultural production. Presbrazhenski, a Bolshevik economist, theorized in the mid-1920s that the young "socialist" Soviet state might accumulate a larger "socialist" sector by making the "capitalist" peasant sector supply the capital to the socialist sector. The allusion was to Marx's "view of primitive capitalist accumulation", which explained how early capitalist enterprize grew within a feudal system.

10. Anti-imperialism.

Second, since capitalism in it's "imperialist" stage was vulnerable, in the colonial areas, Lenin could carry the international class struggle to those areas, making class alliances with anyone who was willing to fight against colonialism, be they peasants or national liberation groups of a "bourgeois" stripe, seeking to establish capitalist economies in their newly decolonialized states. Bolshevik-type parties might well succeed there in building Soviet-type institutions to hold power and create socialist economies, just as Lenin hoped to in Russia and as Stalin would do.

11. Peaceful Coexistence.

The danger of this strategy was the possibility that European capitalist states would use their superior economic and military power to throttle the fledgling Soviet state, because of its commitment to their demise. To deal with this danger, Lenin devised the concept of "peaceful coexistence." It amounted to establishing correct state-to-state diplomatic relations with capitalist states, primarily in Europe, promulgating a policy of "peace" between societies of different types although maintaining full commitment to the international class struggle -- by ideological and other peaceful means, particularly "party-to-party" relations with foreign communist parties. In the course of the 1920s, this tactic succeeded in bringing diplomatic ties with almost all major capitalist states. The US held out until 1933, the most conspicuous of those skeptical of the Soviet "peaceful coexistence" policy.

12. Socialism in One Country.

a. Some Bolsheviks were reluctant to accept this Leninist course. They preferred a more frontal revolutionary assault on Europe and ridiculed the idea of socialist revolutions in places like China and Africa. Trotsky expressed this alternative in his doctrine of "permanent revolution," which implied a near-term revolution for Europe, particularly Germany, which had fallen into the hands of the SPD, the oldest Marxist party in Europe, giving the Bolsheviks a glimmer of hope for the more traditional Marxist interpretation of how and where socialism would arise.

b. After Lenin's death, Stalin propounded the doctrine of "socialism in one country," meaning that a long period of "peaceful coexistence" was required for the infant socialist camp in Russia to build the industrial and military base essential for making a revolutionary reality of the international class struggle. Stalin did not abandon the Third World strategy of Lenin, but he put more emphasis on rapid construction of a modern "socialist" economy in the USSR.

13. The Present Doctrinal Stance of the USSR.

a. The tactics and strategy of Soviet policy today are not different in concept from those developed by Lenin and Stalin. The Soviet Union has

continued to build a base of political and military power for use in the international class struggle. The number of states brought into the "socialist camp" includes several on the Soviet periphery and a few non-contiguous states like Cuba and Vietnam. China, Yugoslavia, and Albania were lost, but even they maintain Soviet-type party and state structures. In every case where the socialist revolution has spread, it has been by war and military power, quite in line with Marxist-Leninist doctrine. "Peaceful coexistence" has proved a highly effective policy for holding the front against the advanced industrial states of the world. The "Leninist concept of party" has remained essentially unaltered, a combat party of elite cadres, controlled by unique organizational techniques for sustaining "democratic centralism." The "socialist economies" have given primacy to building military power by emphasis on heavy industry and weapons production, even when that means enormous hardship on the consumer. And the strategy of "anti-imperialism" remains the guiding approach to the Third World.

b. In forecasting Soviet doctrinal concepts in the year 2000, there is little or no ground for expecting other than a continual evolution of this traditional Marxist-Leninist view of the growth and purpose of Soviet power. The "irreconcilability" of the ideological and political struggle with the capitalist camp can be expected to remain the cornerstone of Soviet doctrine. The forms that struggle may be seen to take, of course, will depend on a constant "scientific" scrutiny of "objective" factors over the next two decades and their material implications for effective Soviet policy.

c. From a military viewpoint, this means that no form of detente, negotiated settlement, or new version of "peaceful coexistence" will bring Soviet acceptance of the post-WW II international order. Soviet policy will remain inexorably committed to altering that order, avoiding major war in Europe if possible, while nonetheless preparing for it, and at the same time cultivating Third World alliances with all kinds of "progressive" groups and parties, alliances aimed at revolutionary transformation not only of Third World regions and states but also of the Western industrialized states' strategic and economic influence in those regions.

d. This prognostication can be made with considerable confidence because the Soviet leadership could not significantly alter its ideological tenets without threatening the foundations of the Soviet state. The strong centrifugal forces within the USSR, particularly national minorities and exploited peasants, could bring widespread disorder and civil war if given both the justification provided by abandonment by the state of Marxism-Leninism and the weakening of the party controls that such a change in offical ideology would concomitantly involve. It cannot be ruled out that such an upheaval will occur anyway, but it is almost certain that the Soviet leadership will not initiate it with a radical change in doctrine and ideology.

14. Terminology of Leninism.

The sophistication of Marxism-Leninism is easy to miss without a clear understanding of the particular meanings that some of its key categories hold for Soviet analysts. All of those in the foregoing review are imperative to grasp; some of those and others are worth special attention here.

15. Objective versus Subjective.

One's beliefs, one's feelings, one's professed political purposes are, to a Leninist, purely "subjective." Material realities are "objective." An avowed anti-communist who acts in ways that hurt the power of the leading capitalist states is "objectively" supporting the international class struggle, and a good Leninist is prepared to facilitate his actions. Personal loyalties are subjective. The results of material actions are objective. It is, therefore, not strange for the Soviets to make tactical alliances with groups, parties, and states which are inherently class enemies. The material conditions determine the basis for alliances, not class essence.

16. Progressive and Reactionary Forces.

Any act, political, economic, or military, which weakens the capitalist camp, or "imperialism," is "progressive." Any act, which harms the socialist camp, i.e., the USSR, is "reactionary." Socialist China has become "reactionary." Argentina, although considered "reactionary" in almost every fashion, committed a "progressive" act by occupying the Falkland Islands and going to war with Great Britain. Khomenei's Iran, in its hostility to the U.S., is playing a "progressive" historical role. Sadat's Egypt was "progressive" until after 1973 when Sadat threw out the Soviet advisors and began a rapprochement with the US.

17. The International Correlation of Forces.

Although operational definitions are difficult to find for this concept, in principle it is an assessment of all the elements of power — military, economic, political, moral, and psychological — in the socialist camp versus those elements of power in the capitalist camp. It is a "net assessment" in the most comprehensive sense of the term.

18. United Fronts from Below and from Above.

In political tactics for dealing with other parties and groups, a "united front" may be formed, either by covert means using cadres friendly to the communists within the lower ranks of other organizations, or from above, by deals struck between the leaderships of the communist and other groups. The present "peace movements" in various western countries are "fronts from below." The French Communist Party, by joining the Mitterand government, is engaging in a "front from above."

19. Law of Uneven Development.

All societies and economies in the world have not developed at the same pace. Therefore, some are quite advanced, having already undergone one or two revolutions, while others remain backward with less revolutionary experience. At any time, the true "progressive" classes from society to society will not necessarily be of the same class. In a given society, a Marxist-Leninist must ask, what is the stage of development? Once he has determined that by examining the production relationships and ownership of property, he can determine which class and which groups are "progressive."

20. People's Democracy.

a. This term first arose in East Europe where revolution was introduced from "above," i.e., by the Red Army rather than working class action. Communist parties soon took power based on Red Army support. Their task was to transform the "base," i.e., the economic system, destroying "reactionary" social and economic groups. During the period of transformation, these states were not yet judged fully "socialist." Yet power was in the hands of the "people," to wit, a Leninist party acting scientifically in the working class interest. "People's democracy" became the new Soviet term for describing these political systems — satellites in the Soviet orbit, as they were called in the anti-Soviet West. China, North Korea, and North Vietnam also took this label, people's democracy, because they were far from fully "socialist" economies by the Soviet definition. Its utility lies in distinguishing states where "socialist" leadership is in power but socialism cannot be fully introduced quickly owing to economic and political realities that require several decades to alter.

b. These are a few of the more prominent terms of Leninist tactics and strategy. There are many more, most of which can be recognized if the foregoing concepts are used to analyze them for their "objective" and "progressive" functions.

c. Before turning to more narrowly defined military doctrine, it should be emphasized that everything, in the Leninist view, is "political" and that "military" factors are the most fundamental political factors. The Soviet Union is at war, in its broadest sense, with all non-socialist states and groups. Soviet leaders see themselves at the head of a new epoch in history, one that can be completed only by fundamental change in the world order, change that can come only through war, war between classes first of all, but also between states as long as capitalist states exist. The coupling of war and politics on an international class basis was Marx's invention, but Lenin expressed it quite clearly when he said,

"The more deeply political a war, the more 'military' it seems; the less deeply political it is, the more 'political' it seems." (Leninski sbornik, XII, p. 397.)

21. Lenin and Clausewitz.

a. A close student admirer of Clausewitz, Lenin adopted most of Clausewitz's philosophy of war. Clausewitz, however, lived before the Marxist era of "scientific socialism." Therefore, Lenin had to adapt the Clausewitzian paradigm of war to a Marxist view of class and history. The adaptation was neither difficult nor complex. Where Clausewitz saw war as a phenomenon between states, a function of state policy, Lenin saw war as a phenomenon between classes. For the Clausewitz, the "cabinet" and the "general staff" were the brains, the source of the rationality in using war as policy for a nation. For Lenin, it was the "Party" and the Red General Staff that served as the brains for war as a policy for a revolutionary class. For Clausewitz, the "passion" that provided the will to fight was in the spirit of the nation. For Lenin it was in the spirit of the working class. For Clausewitz, the uncertainties and confusion created by the battlefield were described as the "fog of war." For Lenin, the ultimate pragmatist and adaptable tactician, he agreed fully with Clausewitz on the uncertain nature of political conflict and war. This Clausewitzian trinity -- the nation, the cabinet and general staff, and the fog of war -- fit beautifully when properly adapted to the requirements of a revolutionary leader, convinced of man's rationality and armed with a Marxist scientific view of historical development.

b. Given the Marxist view of history and role of material relations, economic factors, primarily private property, is the basic cause for war. As long as propertied classes exist, war is likely inevitable.

22. Is War Inevitable.

a. For a time in the late 1950s, Soviet analysts toyed with the idea that nuclear weapons had made the inevitability of general war no longer the case. But that view was not long-lived, if it ever held serious acceptance in higher Soviet leadership circles. Today, it is the official Soviet view that growing Soviet military might makes it possible, though not certain, that a general war between the US and the USSR can be avoided. The rationale behind this view is that "sober" Western leaders will come to see the futility of continuing the struggle and make the best deal possible in accommodating to the inevitable expansion of the socialist camp. A primary task of Soviet diplomacy and propaganda is to encourage this "sobriety" among Western elites.

b. In the Third World, however, non-nuclear war is not only inevitable but also desirable where progressive forces profit from it at the expense of imperialism.

23. Types of Wars.

a. At the highest level of generality, the Soviets classify wars in two categories—"just" and "unjust" wars. Each case of war is judged on the "objective" conditions in which it takes place. It may begin as an "unjust"

war and change to become a "just" war. World War II is an example. A "just" war is not what it may seem to a Western sense of moral rectitude. Rather, it is "just" if it is "progressive" in the sense of harming "imperialism" and the capitalist camp. It is an "unjust" war if it gives advantages to "reactionary forces" and harms the interests of the "socialist camp." The Soviet invasion of Afghanistan is a "just" war because it expands the socialist camp. For the same reason, the North Vietnamese war against South Vietnam was "just". Israeli wars against Arab states are "unjust." US assistance to states fighting insurgencies is a contribution to "unjust" civil war. Soviet assisted war in Nicaragua is "just."

b. "Just" and "unjust" wars are very broad classifications. Soviet theorists further classify wars according to more particular circumstances and contexts. The following four categories reflect present Soviet theory about sub-types of wars:

- Civil wars between classes within a state.
- Wars between colonists and peoples fighting for their independence. These are often called "wars of national liberation."
- Wars between capitalist states.
- Wars between opposing social systems, i.e., general war between the socialist and capitalist camps.

c. Soviet policy toward the belligerents in a war depends first upon a determination of the type of war it is, just or unjust, and then the sub-type. Within each of the four categories, the degree and kind of Soviet response is tempered by the countries involved and the threat any particular response would present overall Soviet interests. For example, the Soviet leadership would more aggressively pursue the military support of leftists in Central America than of leftists in West Germany. Large supplies of arms and the use of Cuban surrogate advisors can be provided in the former case without great risks of general war or a US reaction directly against the USSR. In West Germany, clandestine third party support for low-level actions like terrorism can be provided, but even that must be done with great caution because it might disrupt Soviet strategy for detente in Europe and the weakening of NATO.

24. Laws of War.

a. Insofar as Marxism-Leninism is claimed to be a science, it must provide a basis for discovering objective laws of war. For Marxist-Leninist military science, the Western "Principles of War" are not laws but merely principles of conduct which change with changing conditions. Soviet military science takes a broader view than Western counterpart studies in that it proceeds from the Marxist view of history and the causes of war,

particularly internal war, or revolution, insurgency, and civil war, as well as war among states. Soviet students of military science see Western military science as more narrowly focused on inter-state war, ill-developed to deal with the phenomena of revolutions, class conflicts, and wars of national liberation. They also consider Western military science as static, ahistorical, and unconcerned with the political and psychological factors in war. Because historical development is driven by class struggle and revolutionary warfare, in the view of Soviet military science, the laws of war are seen as more centrally related to human progress and historical change.

b. For Soviet military science, the principle laws of war are:

- The course and outcome of war waged with unlimited employment of all means of conflict depend primarily on the correlation of available, strictly military forces of the combatants at the beginning of the war.
- The course and outcome of a war depend on the correlation of military potentials of the combatants.
- The course and outcome of a war depend on its political context.
- The course and outcome of a war depend on the correlation of moral-political and psychological capabilities of the peoples and armies of the combatants.

c. These laws might be too easily dismissed as non-operational, excessively general platitudes rather than serious bases for military programmatic decisions and actions by the Soviet leadership. In fact, they are derived from extensive and close review of war experience and policies of the Russian and Soviet states that were successful, or in some cases, failures.

d. The first law derives from study of the importance of the "initial period" of war, particularly WW I and WW II. The beginning of WW I was reviewed ad nauseam in the Soviet military literature of the 1920s. The early phase of WW II has received no less scrutiny. Nuclear weapons and rocketry have added to Soviet concern with the initial period. Forces in being at the outbreak of war, it is asserted, can prove decisive for the outcome of the war, all the more so in the event of use of "weapons of mass destruction."

e. The policy issue raised by the first law of war is how large and what kind of forces to have ready for the outbreak of a general war. Historical experience and new weapons technology suggest to Soviet leaders that it is a mistake to err on the side of too few forces and too little offensive striking power. The large Soviet force structure today, therefore, finds a clear military scientific justification in this first law of war.

f. The second law of war hangs essentially on a special meaning for "military potential" of a combatant. It includes far more than military forces. It includes the industrial base and the work force of the state, the scientific and research base of the state, the organizational mechanisms for turning civilian resources to military use, the technical-cultural level of the population, the educational infrastructure of the society, the political and administrative capacity of the state to direct and allocate resources effectively under conditions of war. In other words, it includes almost all aspects of mobilization. The course and outcome of the war will be determined by the relative mobilization potential, in addition to the forces already in being, possessed by each side.

g. The dictate of this law finds expression in the Soviet state in the extensive preparation of the home front, the primacy of military industrial potential, strategic stocks, civil defense, hardened command and control, and so on. Soviet analysts frequently note that Western states lack the political potential to take full advantage of their industrial mobilization potential. Civil defense, for example, is described as a Soviet capability which capitalist states cannot match because of class divisions and the weakness of political and administrative institutions. Organizational and administrative capability traditionally have been cited to explain how the extremely weak Bolshevik Party could prevail over its much stronger opponents in the revolution and the Russian civil war. Soviet strategic confidence today, in spite of the weak Soviet economy, can be explained in part by this view of the role of administrative and organizational potential as a large element of overall military potential of a state.

h. The third law dictates Soviet concern with the assessment of the "progressive" and "reactionary" forces that would be involved in a war. War against Western Europe would not involve war against all West European peoples but merely against "reactionary" classes and groups. Common cause would be made with "progressive" forces within those societies. Similar assessments of the political makeup of Soviet forces are also imperative. Soviet troops from national minority groups cannot be safely placed in national formations. Rather, they are spread through the forces to prevent the political aggregation of anti-Soviet sentiments. Finally, the "political context" concerns entering the right war at the right time on the right side. Misjudging the political context is criticized as "adventurism" and "subjectivism" rather than scientifically grounded Leninist decisionmaking.

i. The fourth law is more obvious in its implications. It dictates proper psychological preparation of one's own forces to include things as divergent as propaganda about the "unjust" character of one's opponent and technical knowledge of the effects of nuclear weapons so that they will seem less frightening and more survivable with proper protection and decontamination. Exploiting national feelings, traditional hostile feelings, and other psychological gambits are clearly appropriate as steps to exploit the fourth law of war.

j. In many respects, these laws are little different from Stalin's "Permanently Operating Factors:

°The stability of the rear. ("Rear" in Russian means the entire homefront--economy, manpower, morale, etc.)

°The morale of the army.

°The quantity and quality of divisions.

°The armaments of the army.

°The organizational ability of the army commanders.

They are both stated at a high level of generalization. They both emphasize the morale and political factors, and they both highlight technology of weaponry and command competence.

k. It has been frequently observed that both the Permanently Operating Factors and the Laws of War are too general to be either objectionable or useful. In many respects that is true. One who takes them seriously, however, would rule out a broad range of military policies and would be inclined toward some general thrusts in preparation for war that are enormously significant. For example, a proponent of these laws would:

°emphasize large and modern combat forces in peacetime, larger than those of major adversaries;

°allow no sector of civil life, economy, and activity to proceed without consideration of its wartime role, its potential contribution to defense, and plans for realizing that potential;

°subordinate the industrial sector of the economy to the requirements for modernization of armaments;

°pursue a public information policy that creates a sharp "we-they" view of the world, "we" being surrounded and besieged by a hostile "they".

l. The laws of war, of course, are considered a part of "military science". In the West, we would more readily classify them as part of the "art of war," but because Marxism is considered a "scientific" approach to history in general and revolution in particular, there must be scientific laws of war and revolution. At the same time, what is considered in the West as physical science is also included in military science in the USSR insofar as it bears on weaponry and other means of military conflict.

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CHAPTER 2

THE SOVIET STUDY OF ARMED CONFLICT

1. Introduction.

a. As described in Chapter 1, the Soviets view history as a conflict process, one in which these conflicts often take the form of war, i.e., armed conflicts. As a result, the Soviets view war as something to be expected, prepared for, and won.

b. Based on their view of history as a conflict process and their belief in scientific Marxism, the Soviets have taken a very scientific approach to the study of war, attempting to uncover its operating principles and, once understanding these laws, develop methods of operation which assure Soviet victory in all types of armed conflict. As mentioned in Chapter 1, this study of armed conflict is conducted within the framework of "Military Science," one of many sciences which, when taken together explain the historical process. By placing the study of armed conflict into an elaborate overall scientific framework, Soviet leaders underscore the principle that the "shooting war" is only a small, albeit the most violent and crucial, part of the total concept of war. What the Soviet study of war attempts to do is conduct a comprehensive analysis of all aspects of human activity as they relate to war.

c. Given the dogmatic way in which Soviet military science is used to assert the validity of such questionable precepts as "inevitable victory," "moral superiority", and the like, one may be excused for the tendency to dismiss the whole subject as merely "commie propaganda." This would be a mistake! In the first place, it is important to understand the psychologically and operationally unifying role the scientific aspect of these assertions play within the Soviet military structure and between the Soviets and their allies. Second, and more importantly, it is necessary to understand that beneath the surface rhetoric there is operating a toughminded, analytical process which functions within a framework designed to create a place for everything and put everything in its place. It is a comprehensive, well-focused approach to understanding and exploiting the dynamics of war.

d. Rather than dismiss Soviet military science because of its propagandistic characteristics, one might better ask some hard questions designed to differentiate it from western military science and critically compare the two. Does the West have a well developed and focused body of knowledge and thought process that compares with Soviet military science? What are its tenets? Who formulates it? Does it serve as an integrating mechanism to focus all studies of those aspects of human behavior which have military considerations?

e. It is hoped that the remainder of SBDP Volume One describes Soviet military science and its impact on the creation and development of the

Pages

2-2 and 2-3

Missing

the start. The transformation of doctrinal thought into action has been an historical trait of the Soviet state. Soviet consistency on this point is underscored in the historical commentary on Soviet military doctrine presented in Chapter 3 of this volume.

e. Finally, when the definition of doctrine states "regarding the country and its armed forces being made ready for war" it again emphasizes the high priority the Soviets place on preparing for war. This Soviet concept of preparation for war cannot be overemphasized. The U.S. definition of military doctrine contains no such emphasis. JCS (Joint Chiefs of Staff) publication #1 defines doctrine as "fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgement in application." (5/113) Unlike the Soviet's, our definition places no special emphasis on preparation or on actions outside the military sphere.

f. On the other hand, this Soviet phrase "being made ready for war" goes to the basic Soviet concept of war, i.e., history is a conflict process, conflicts often take the form of wars, wars should therefore be expected, and as a result war should be prepared for. Further, the laws of war dictate that war must be prepared for by:

- °Insuring the Soviet Union has superior forces at the start of war.
- °Insuring that the potential war capabilities of the homefront are always maximized for the support of war.
- °Insuring that the Communist Party maintains complete political control.
- °Insuring the Soviet people express views consistent with Party political and military policies.

4. Military Science.

a. The Soviet military dictionary defines Military Science as "A system of knowledge concerning the nature, essence, and content of armed conflict and concerning the manpower, facilities, and methods for conducting combat operations by means of armed forces and their comprehensive support." (4/38)

b. In defining its function, the dictionary states, "Military science investigates the objective laws governing armed conflict and elaborates questions pertaining to the theory of military art which is the basic component of military science, as well as questions pertaining to the organization, training, and supply of armed forces and also deals with military historical experience."

c. A more workable definition and functional description is "Military science examines all military affairs, past, present and future and then works out the most current methods of waging war."

d. As depicted in Figure 2.1 and described in the definition above, the study of military science is organized along functional lines with the development of the theory of military art being the "basic component." Although other areas such as organization, training, and history are important parts of military science, our discussion throughout the remainder of this chapter will be chiefly limited to the most basic component, i.e., the theory of military art.

e. Before proceeding further in the discussion of military science a few terms require elaboration. First the above definition gives the subject of military science as "armed conflict". The Soviets differentiate "armed conflict" from "war". War is a more comprehensive and broader phenomenon than armed conflict. War includes economic, diplomatic, ideological, scientific-technological, and other forms of struggle in addition to the struggle on the battlefield. Because of its wider range, the management of "war" resides in the political leadership.

f. Armed conflict on the other hand is defined as "the conduct of combat activities by armed forces to resolve strategic missions and to attain strategic goals."(4/206) In other words, the concept of armed conflict is primarily related to activities on the battlefield and is thus under the management of military leaders.

g. It is important to understand the differentiation between war and armed conflict in order to correctly understand the differences between the laws of war and the laws of armed conflict.

k. The Soviet approach to developing military concepts is in strict keeping with the Marxist-Leninist argument that there must exist "objective laws" of armed combat. Further, these laws do not depend on human consciousness and will act independently of them. Thus, if a commander does not understand these objective laws and pursues a plan which violates these laws, he will likely suffer defeat.

l. Soviet study of military history reveals that campaigns, operations, battles, and engagements are not subjects in which blind impulse and chance predominate. Rather, historical experience shows that they are subject to a specific order. They have objective causes which arise as a result of the interaction of the various material, moral, and political conditions of which armed combat is composed. Further, these objective processes which occur in war can be generalized and formulated into laws.

m. It is difficult to discern from Soviet writings an exact listing of the laws of armed conflict. However, one highly respected Soviet military writer provides the following as the most important of these laws: (5;99-112)

°Methods and forms of armed conflict depend on the material basis of the battle and operations.

°Any battle or operation at any given moment of its development takes shape in favor of that opposing

side whose troops possess the greater combat power in comparison with the enemy.

n. These laws are important for several reasons. First, for the Soviets these are not just subconscious observations. They are laws. They must be in the forefront of every doctrine developer's and commander's mind when formulating plans. They must be his first consideration when evaluating operational alternatives. They must guide his selection of the proper course of action or he courts defeat.

o. Second, they are in keeping with the laws of war which we noted in Chapter 1. In fact they are a specific application of the first law of war to the particular environment of the battlefield. This point is being made only to emphasize again the continuity and consistency in Soviet military thinking. The dictums of the general laws of war can be traced down through military doctrine, science, art, strategy, operations, to tactics. It is difficult to find such unifying dictums throughout all levels of western military thought. However, the Soviets do not view the unity and consistency of their approach as merely a compliment to the talent of their doctrinal developers. Rather, they see it as a demand of the subject under study, a demand of the objective nature of war.

p. Finally, these laws are in keeping with the materialist aspect of Marxist philosophy. The emphasis is again on equipment. The requirement is for both more and better. This requirement cannot be negotiated away. It does not evolve from the subjective desires of the political or military leadership. The requirement resides in and results from the objective nature of war.

5. Military Art.

a. According to the Soviet military dictionary, "Military art, as a scientific theory, is the main field of military science and includes tactics, operational art, and strategy, which constitute an organic unity and are interdependent... It includes both the theory and the practice of engaging in armed conflict." (4/39)

b. The Soviet military dictionary also discusses the principles of military art and the fact that they apply to all levels of planning, i.e. strategic, operational, and tactical. However, before discussing these principles and how they are applied, a review of the component parts of military art is in order; these are strategy, operational art, and tactics.

6. Military Strategy.

a "Military strategy, based on the tenets of military doctrine, the experience of past wars, and the analysis of the political, economic and military conditions of the current situation, investigates and elaborates on problems pertaining to the training of the armed forces as a whole and the individual services and their strategic use in war; the forms and

methods of conducting and directing war; and also problems pertaining to comprehensive strategic support of the operations of the armed forces."

b. "At the same time, military strategy is a field of practical activity for the higher military command in training the armed forces for war and providing leadership in armed conflict. Military strategy exerts an influence on the preparation of a country for war in such a way as to ensure victory." (4/215)

c. In the first part of this definition the Soviets emphasize that their military strategy is in keeping with their doctrine, the teachings of history, and their interpretation of present conditions. Thus, again the emphasis on continuity and integration throughout military thinking.

d. The last sentence in the above definition again emphasizes the importance "the preparation of a country for war" has in the Soviet Union. This constant and extensive preparation is "by definition" a part of their overall military strategy.

e. By way of comparison, the definition for military strategy found in JCS Pub. 1 reads "Military Strategy: The art and science of employing the armed forces of a nation to secure the objectives of national policy by the application of force or the threat of force."(6/217) This definition of military strategy emphasizes military forces. The civilian support base is not as openly included in the US concept of "military strategy."

f. However, for the Soviets the preparation of the homefront is a part of their concept of military strategy. In fact, as will be shown in Chapter 3, the economic and industrial substructure of the Soviet Union was originally designed to ensure the development of a strong military state or as the above definition reads — "to ensure victory."

g. Merely discussing the Soviet definition of military strategy doesn't tell us what it is. And if we don't know what it is, we won't know if we need to, or how to, defeat it. Unfortunately, Soviet military writers, unlike Westerners, do not lay out their strategy. Although many articles purport to describe particular past Soviet strategies by way of examples, they do not reveal current Soviet strategy. However, by closely studying what are described as past strategies and what is presently enunciated as characteristic of strategic thinking or planning, we can gain some insight into the concepts which will be reflected in Soviet strategy at any particular time.

h. Of particular interest in developing such insights is an article on military strategy which appears in the Soviet Military Encyclopedia and was written by the chief of the Soviet General Staff, Marshal Ogarkov. Among his comments on the nature of military strategy were these: (2/555-565)

> "Military strategy is closely linked to politics, results from it... In turn, military strategy exerts

its influence on politics. (It is) utilized by the poltical leadership in determining the objectives of war and the means for attaining them."

- "In solving practical problems, military strategy is guided by the principles of military doctrine. At the same time the conclusions and recommendations of military strategy (are used) in shaping military doctrine."

- "Modern operations will be characterized by increased scope."

- "The waging of modern war requires the availability of armies numbering in the millions."

- "The offensive is the basic type of strategic operation."

- "Defense on any scale must be active, must create conditions for going over to the offensive in order to obtain the complete and utter destruction of the enemy."

- "Comprehensive support of armed forces operations and firm centralized control of them (is) a necessary condition for attaining victory."

- "Control of troops under modern conditions on the one hand is becoming increasingly complicated, with an ever increasing volume of work to be accomplished by the organs of strategic leadership; on the other hand --the time to accomplish it is being reduced."

i. Ogarkov recognizes these strategic problems to be inherent to the dynamic nature of armed conflict. Means of command and control must keep up with the growing capabilities of improving weapon systems and the new strategic concepts which they may generate.

j. Since World War II, Soviet writings on military strategy have been overwhelmingly concerned with large-scale, nuclear conflicts. This is true also of Ogarkov's treatise of military strategy in the military encyclopedia. Of the 10 pages addressing military strategy only one paragraph specifically addresses the subject of "local wars." Ogarkov states:

"Soviet military strategy also takes into account the possibility of outbreak of local wars, the political nature of which is determined on the basis of class positions and the Leninist proposition concerning just and unjust wars. In supporting wars of national liberation, the Soviet Union resolutely opposes local

wars unleashed by the imperialists, taking into account not just their reactionary essence, but also the great danger associated with the possibility of their developing into a world war."

k. Although Ogarkov only allocated one paragraph to discuss local war, this paragraph is important for the following reasons:

- It's presence and wording reveals local wars as a separate but valid subject of concern for Soviet military strategists.
- It confirms Soviet intent to continue supporting wars of national liberation and that this support is part of the USSR's military strategy.
- It reaffirms previous official Soviet contentions that local wars are inherently dangerous because they can escalate into world, nuclear war.

l. As stated earlier the declaration of official military doctrine must result in action. Thus, the statement that military strategy has as one of its subjects, local wars, means that plans and policies for Soviet military involvement in these wars must be drafted, and capabilities to carry out these plans and policies must be developed and deployed.

m. Although Ogarkov only allocated one paragraph for local wars and their relation to Soviet military strategy, local wars have commanded an increasing portion of Soviet strategic thinking since the early 1970s. In 1974, then Soviet Minister of Defense, Marshal Grechko, wrote an article offically enunciating increased emphasis on the Soviet intent and capability for projecting Soviet military power on behalf of socialist revolutions. Since the Grechko declaration, we have seen use of Cuban troops and Soviet and East European advisors in local wars, in Angola, Ethiopia, and Afghanistan.

7. Operational Art.

a. The Soviet military dictionary defines operational art as:

"A component part of military art dealing with the theory and practice of preparing for and conducting combined and independent operations by major field forces or major formations of the Services.

Operational art is the connecting link between strategy and tactics. Stemming from strategic requirements, operational art determines methods of preparing for and conducting operations to achieve strategic goals, and it gives the initial data for tactics, which organizes

preparation for and waging of combat in accordance with goals and missions of operations." (4/143)

b. In the first paragraph of this definition, emphasis should be placed on the words "preparing for and conducting", while in paragraph two the words "connecting link between strategy and tactics" are equally important to understanding the Soviet concept of operational art.

c. All Soviet discussions of military art emphasize the interaction between its three component parts, i.e., strategy, operational art, and tactics. It is operational art's purpose to achieve the goals stated in military strategy by figuring out effective ways to use the military resources readily available. In turn, the plans emanating from operational art serve as guides for tactical operations.

d. It must be pointed out that operational art is not limited only to battlefield operations, but also includes those actions needed adequately to prepare the battlefield, during times of either peace or war. These activities would include determining and acquiring improved means and methods of adequate reconnaissance, logistics, troop control, and the like. Practitioners of operational art are seeking answers to these problems through such diverse means as training, mathematical modeling, computerization of field headquarters, etc.

e. The growing scope and complexity of large field operations are taxing the present Soviet concept of operational art. Since World War II operational art has dealt mainly with frontal operations. A front would consist of 12 to 25 divisions, 200,000 to 500,000 men, a zone of action 200 kms across, and objectives 500 kms to the enemy's rear. Strategic goals would be achieved by the control and combination of the efforts of several fronts.

f. However, the growing capability to collect almost real time intelligence on strategic targets, the ability of long range weapons at tactical to strategic levels to reach these targets, the increased rate of forward movement by mechanized forces, the capability of modern communications to coordinate operations of large numbers of complex forces to simultaneously move on these targets is forcing a change in the level at which operational art is conducted. Instead of strategic goals being achieved by a series of consecutive but separate frontal operations, Soviet military leaders are now addressing the possibility of achieving these goals by theater operations. This means that practitioners of operational art will no longer prepare and plan for a series of frontal operations to destroy strategic targets. Rather, they will plan theater operations which will consist of simultaneous frontal operations of more extensive depths and integrated complexity.

g. Improvements in weapon range and accuracy, coupled with improvements in command and control, may soon result in the almost simultaneous achievement of both tactical and strategic military objectives.

h. The Soviets have not yet achieved this operational capability, but they are attempting to. The problem would not appear to reside in hardware capability but rather in the ability of the practitioners of operational art to develop methods to use effectively all that is available or will soon become available. Operational art is the level at which the real changes of modern armed conflict are taking place.

i. Platoon and company level tactical operations have not changed significantly over the past 20 years nor have strategic goals or objectives. However, the potential for changes and improvement in the areas of operational art are significant.

j. As the potential for improvements is great, so are the impediments to achieving such improvements. As previously stated, they lie in a present inability to efficiently coordinate all available information, equipment, and forces to achieve strategic goals in the quickest most effective way. Commenting on this problem, one Soviet writer states:

> "The fact that it (armed conflict) is more and more becoming a collective creative effort is also a characteristic feature of modern operational art. And this is certainly not a chance phenomenon, but an expression of a creative trend brought about by the increasing complexities of controlling forces and weapons which possess diverse combat characteristics. The tremendous increase in the flows of information during the course of combat actions also inevitably and to an increasing degree involves large collectives of individuals in its processing and summarization—officers and generals of field directorates of operational formations."

> "Their calculations and substantiations are becoming an increasingly essential basis for decision making by the one-man commander. Of course, the very nature of a commander's activities has also changed, as have the demands placed on him. Volitional qualities, personal bravery, and assertiveness must now be combined with the qualities of a thinker and scientist capable of correctly detecting the main trend in the tremendous flow of diverse information. And these new phenomena are especially perceptible at the operational level."

k. Operational art, the link between strategy and tactics, is the area of military art which can best exploit the improved capabilities of modern means of weaponry. In recognition of this fact the United States Army has recently begun to consider developing its own formal concept of operational art along lines similar to that of the Soviets and Germans.

l. As previously noted, the Soviets are also aware of the potential and problems in the field of operational art and have been seeking ways to

improve its effectiveness under modern conditions of warfare since at least 1975. Efforts in this area appear to be extensive. As one writer states:

> "Participating in the elaboration of questions of operational art and in its progressive development is a tremendous number of generals, admirals, and officers of the General Staff, of the main staffs of branches of the armed forces, military academies, military districts, air defense districts and groups of forces and fleets under the direct supervision of members of the CPSU Central Committee Politburo, and USSR Minister of Defense..."

8. Tactics.

a. As defined by the Soviet military dictionary, tactics is:

> "A special field in the theory of and practice of military art which studies the objective laws of combat and develops methods of preparing for combat and conducting it on land, at sea, and in the air. Military tactics occupies a subordinate position with respect to operational art and strategy, acting in their interests, and serving to achieve the goals set for it by operational art. Each service and branch has its own theory and practice for the organization and conduct of combat and, consequently, its own tactics too, which are called Service tactics or branch tactics." (4/218)

b. Soviet authors consider tactics to relate directly to combat. Thus, there will be specific tactical principles for each type of unit, weapon, and situation. Tactics change most rapidly in conformity with changes in weapons.

c. The following discussion is taken from a 1973 acticle in the Soviet monthly journal Military Thought and briefly describes the role of tactics.

(1) "Tactics is an area of the art of warfare which encompasses theory and practice of combat. Theory of tactics includes elaboration of such matters as the character of combat operations on a technical scale in the war of the future, the place and role of subunits, units (large units) of arms (services) in such operations; the principles and methods of waging combat operations in organization for combat and troop control in combat, etc. The theoretical points of tactics are expressed in field manuals, training manuals, textbooks and military theoretical writings examining combat. The practical part of tactics consist in innovative application of its theoretical points and principles by commanders, staffs and troops when organizing and conducting combat operations on a tactical scale with the aim of executing assigned missions."

(2) "Tactics studies both combined-arms combat and combat by subunits, units and large units of the arms and services. Therefore it is subdivided into general tactics, which encompases matters pertaining to the combined utilization of various forces and weapons in combined-arms combat, and tactics of arms and services, which elaborates methods of combat utilization of subunits, units, and large units of a corresponding arm or service, based on their designation, features of organization, weapons, combat properties and capabilities."

(3) "Tactics is continuously developing and improving. Its development, as Friedrich Engels stated, is determined first and foremost by the achieved level of production, quantity, and quality of weapons, as well as quality of human material."

(4) "Strategy and operational art exert great influence on the development of tactics. Strategy determines the character and methods of conduct of the war of the future, and thus the place and role of combat in warfare, as well as methods of its conduct."

(5) "Operational art, proceeding from the demands of strategy, determines the specific tasks of tactics, areas of emphasis in training subunits, units, and large units of the various services and arms, as well as methods of their combined utilization in the engagement and operation. Thus, strategy and operational art create conditions for purposeful actions by tactical forces subordinated to an overall plan."

(6) "Tactics in turn exert considerable influence on operational art and strategy: The combat capabilities of tactical forces, level of elaboration and assimilation of the principles of their combat utilization determine to a large extent the goals and scale of operations and the methods of their conduct. The degree of mutual influence of the component parts of the art of warfare differs and depends first and foremost on the level of development of means of warfare and the scale of their employment."

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CHAPTER 3

HISTORICAL SURVEY OF SOVIET MILITARY DOCTRINE 1920-1982

1. Introduction.

a. The Soviet Union is one of the most power and conflict oriented states in history. In this state, considerations of a broad military nature occupy the central position in the leadership's decisions. The Communist Party of the Soviet Union is itself a complex, military-style organization with interests and programs broader in scope than those entrusted to its uniformed component. The reasons for this can be found in the origins and development of Marxism-Leninism, in Russian history, and in the experience of the Party since the revolution.

b. This chapter seeks to trace the historical development of Soviet military doctrine, describe that doctrine today, and forecast its development out to the year 2000.

c. There have been many changes in specific Soviet doctrinal views on individual issues since 1917 as is to be expected with a dynamic doctrine which responds to the dialectical changes in war itself. Yet throughout this period there has also been a remarkable continuity in the fundamental doctrinal tenets which have guided Soviet military policy. This continuity is largely due to the unchanging Soviet view on the nature of war and their geo-political and strategic situation vis-a-vis the capitalist and "third world". The central issue over which Soviet leaders have debated is how best to structure Soviet society and all its institutions in order to maximize future military potential while maintaining current force strength at a level adequate to meet current security requirements.

d. At various times the solution to this problem has dictated a demobilization (1924, 1946, 1960s) and at others a partial mobilization or at least strength increase (1935, 1970s 80s). During the entire period the solution has focused on measures to overcome Soviet relative inferiority in national industrial base, technological capability and personnel education levels. As the following narrative will demonstrate, both the World War I/Civil War period and World War II period were followed by remarkably similar developmental periods during which active forces were kept to a minimum size consistent with the assessment of immediate threat plus their role as a school to train future reserves. These periods saw a singleminded, massive effort to develop the national economic base for military purposes largely through exploitation of advanced foreign technology. They also witnessed major efforts to raise the education level of the entire population in the fields deemed most relevant to the requirement of modern war. In addition the leadership cadres (uniformed and non-uniformed) were singled out for special attention in their training to enable them to cope with new technology. The organizational structure of military formations underwent continuous reform as new technical capabilities were fielded.

Tactical, operational, and strategic principles evolved continuously to exploit these new capabilities.

e. While the predominant proportion of Soviet attention was always placed on the rapid development of Soviet military capability, the leaders never lost sight of the significant value to be obtained by use of non-Soviet (allied, proxy, surrogate) forces. Prior to WWII, these forces were predominatly organized by the COMINTERN and were relatively limited in practice (e.g. Spanish Civil War, Chinese Civil War). After World War II, in addition to this kind of force the USSR has developed the national armed forces of the Warsaw Pact countries, Cuba, Viet Nam, etc.

f. The outlook for future Soviet development to 2000 remains essentially the same. The fundamental problem will still be the conflict between allocation of scarce resources to current versus future requirements. Manpower is becoming increasingly limited in quantity while the need for improved technical quality grows. The industrial base requires modernization along with the forces in being on an ever increasing scale while the technological obsolesence cycle continues to shorten.

g. The requirements on both manpower and technology posed by the historic opportunities Soviet leaders see open to them to exploit the current transitional stage in the development of the so-called "third world" countries may be insurmountable. Nevertheless, when faced with an opportunity which they may assess as fleeting the Soviet leadership will respond in some way consistent with their doctrine.

h. In military affairs, as in all other activities, Soviet leaders believe in the necessity of firmly grounding all practice in theory. Soviets have an almost obsessive urge to base all activity in elaborate theoretical structures. In the field of defense policy even more than others the Communist Party (that is, its leaders) must be careful to control the content of the theory. The theoretical basis for Soviet military practice was established by Lenin. Although he came relatively late to the formal study of war, not taking up Clauswitz until World War I was underway, Lenin rapidly developed his views on the nature of war and the role of the army in support of the world revolution. During the remainder of his life he wrote prolificly on warfare and military issues. From the moment he began the actual seizure of power in St. Petersburg and all through the Civil War he was forced to give practical application to his theories. The constant attention given by Soviet writers to Lenin's literary output as the source for military concepts today should not be dismissed as an exercise in name dropping.

i. Among Lenin's most important contributions to Soviet military theory is his short book, Imperialism the Highest Stage of Capitalism. (1;667-767) In this work Lenin describes the manner in which capitalism is delaying the worker's revolution by exploiting the labor of the third world countries. Lenin proposes to hasten the revolution in Europe by severing the link between Europe and the colonial empires. The effort to do this has been one of the most important enduring cornerstones of Soviet military

strategy ever since. Among the first steps of the new Bolshevik government was the convening of a conference at Tashkent at which plans for fomenting revolution in the third world were developed. The Communist Party gave close attention to this effort throughout the 1920s and 1930s. Since World War II it has played an even greater role in Soviet strategy.

j. A second enduring contribution is Lenin's doctrine of peaceful coexistence. This idea has taken several names in its various reincarnations, but its content has not changed. At the time, many Bolsheviks were insistent on immediate consummation of the world revolution and were willing to die in the struggle. Without Lenin's counsel to the contrary it would have been difficult for anyone not to support immediate struggle for fear of appearing less a revolutionary than his neighbor. Only Lenin had the stature to be able to provide solid theoretical grounds for a policy of detente. Lenin showed the party that the purpose of detente was to preserve resources while building from a weak position toward eventual strength. This has been a cornerstone of subsequent Soviet strategy. The Soviet view of detente is to avoid potentially catastrophic military conflict while using ecomonic, political, and ideological weapons to advance the socialist position.

k. The fundamental strategic problem which faced the new Soviet Union was its weakness in military capabilities and in the economic bases for modern military power. Geographically, it lay in an exposed location, having few natural defenses while being surrounded by enemies. The main capitalist enemy lay secure behind wide oceans and possessed the finest economic base for military power.

l. Lenin's solution was to play for time while building strength. He recognized that if the communists confined their activities to targets of opportunity while appearing conciliatory the capitalists would actually provide the essential technical support and industrial materiel. The Soviet government had a unique asset in its ability simultaneously to use two opposite channels for influencing external events. One channel was the normal government to government diplomatic channels. Using this the Soviet government would seek allies, influence uncommitted nations and pressure opponents. Meanwhile the Soviet regime also had the party channel through which it contacted or even controlled the opposition to the same governments. Work in both channels was facilitated by extensive and elaborate disinformation programs. While the Soviet Union brought technology on favorable terms through one channel, it stole what it could not buy through the other. (8/Vol 3)

2. 1924-1945.

a. With Lenin's death and the end of the Civil War the Soviet leadership was faced with twin problems. On the practical side, they had to establish a real Soviet Army. On the theoretical side, they had to create, without Lenin to guide them, a theoretical basis for this new armed force.

b. The leaders of the new Soviet state placed a high priority on creating the doctrinal basis for their new military establishment. Marxist theory supported the concept of a people's militia. However, the requirements of modern war for technically trained personnel argued for a professional Army. The arguments for these two choices were seized upon by the rival factions in the political power struggle. Leon Trotsky, then still Defense Commissar, advocated a small, permanent, professional army supported by a large militia; while Michael Frunze, the leading party field commander, insisted on a large regular Army. Frunze's prominence in this struggle was not entirely his own doing. He was a convenient representative of the Voroshilov-Stalin group and in fact was murdered when he had served his purpose and appeared to be more of a personal threat than ally. The result of the doctrinal dispute was a compromise force containing elements of both concepts. The regular Army comprised 560,000 men and in addition there were about 60 infantry divisions organized on a territorial militia basis. The solution was primarily dictated by economics. The new Soviet state simply could not support a larger force. (9/10-19)

c. At first, the military doctrine guiding the real Army was a result of a mixture of the doctrinaire ideas of prominent Bolsheviks and the legacy of the past brought by coopted Tsarist officers and non-commissioned officers. The Bolsheviks were extremely sensitive about the unprecedented ideological nature of the Soviet state and many of them insisted on the need for an equally new military theory. Others found more similarity of current military problems to the past and argued for a less radically new theory.

d. The basic Marxist premise on which the new Red army was built was the "people in arms." In this view, the Army and society are indistinguishable. The armed forces are the people exercising their role as defenders of socialism and agents of revolution. The concept calls for the complete militarization of society, including all cultural and economic activity. While this is the theoretical goal, actual practice has fallen far short of achieving it. It's simply not possible to "spartanize" an entire population.

e. The main issue in the Trotsky-Frunze debate was who would control the education of the new Soviet Army. Trotsky favored continued control by the ex-tsarist officers he had successfully used during the Civil War. Frunze (speaking for Stalin) wanted a new Marxian doctrine taught by a new elite of bonafide Red commanders. How much different the doctrine really would be is questionable. The real target was Trotsky himself.

f. Frunze's first notable article was written in 1921 and titled "The Unified Military Doctrine and the Red Army". In this essay he advanced the concept that the new Marxist state needed a new Marxian doctrine of war. The article was reprinted in 1928, 1934, and 1950. Frunze went on to write, in 1924, an essay entitled "The Front and Rear in Future Warfare." The two articles together give a clear picture of early Soviet preoccupations, which are still of interest today to Soviet leaders. In the

first article Frunze begins with the proposition that modern war in contrast to previous war, includes as participants the entire population. "War itself draws into its orbit and decisively subordinates to itself all aspects of social life; it touches without exception all state and social interests." For this reason it is more important than ever before for the state to develop a totally integrated plan of action which will insure that all social actions conform in a manner calculated to enhance national military capabilities. "The state must create a stable unity of all the armed forces, united in a common point of view from top to bottom, both on the character of the military tasks, as well as on the means of carrying them out." In order to achieve the required unity of thought the "unified military doctrine" must be actively taught. (5/27-31).

g. Frunze defines the "unified military doctrine" as "the accepted teaching in the army of a given state which establishes the character of the organization of the armed forces of a country, the method of combat training of the troops, their direction on the basis of views prevailing in the state on the character of the military problems confronting it, and the methods for their solution. These views flow from the class character of the state and are determined by the level of development of the forces of production of the country." He emphasizes that this doctrine inherently conforms to the nature of the state and its ruling class. Thus, for the new Soviet state the process of developing a military doctrine must begin with an analysis of the character of this state. Such analysis shows that the new worker's state must be in a "long, stubborn, desperate war — a fight to the finish — a war demanding colossal endurance, discipline, firmness, and a strong and unified will." "The external form of these relations may be altered; the situation of open war may yield to some form of treaty relationship, permitting some degree of coexistence with the enemy. But these treaty forms will not change the basic character of the relationship." Continued coexistence is impossible in the long run.

h. Successful prosecution of this long struggle will require a massive propaganda effort to inculcate the masses with a spirit of total support for their military machine. For this a centralized organization must supervise all propaganda efforts and above all must spread this doctrine throughout the school system.

i. The fundamental question, according to Frunze, is whether the state should have an offensive or defensive policy; this will in turn determine its strategy, organization of forces, and all other military issues. He resolutely champions an offensive policy as an essential element of the long-term future but realistically counsels that the working class must first build a strong base in Russia and then gradually add the resource of other countries. The revolutionary process must "ripen" in other countries before the communists can succeed. Meanwhile, the Red Army must prepare itself. First of all the General Staff officers must learn more, not only about narrowly military subjects, but also all there is to know of economics and political conditions in the future theaters of war. The war plan must emphasize offensive, maneuver war, including use of partisans and

de-emphasize positional warfare from fortifications. Partisan warfare should be a major field of study.

j. In his second article Frunze elaborated on the unity of "front and rear" in modern warfare. Modern armies are huge organizations which depend on vast resources from the state economy. However, no state can maintain the required army in peacetime due to the expense. Nor should it, since rapid obsolescence would make large expenditures on equipment doubly wasteful. Rather, the center of military attention must be placed on creating a large basic industrial capacity and a strong economy capable of rapid mobilization. Future war will most likely be a "long and cruel conflict" supported by all the economic and political forces of the belligerent powers. Expressed in strategic language this means a change from the lightning strategy, which is decisive by a blow, to the "strategy of attrition." However, this view must be modified in the light of analysis of the class nature of warfare. In a war between opposing social systems, it may be possible for an initial, powerful offensive to disrupt the bourgeois state so that the proletariat would be able to seize power, thus ending the war rapidly. Even so, this emphasizes the importance of the close tie between front and rear.

k. Looking at the problem of future war on another level, the technical aspect, Frunze sees the same picture emerge. Aviation, chemical warfare, and bacteriological warfare increased the means of destruction available and (have) "overturned the very meaning" of "front" and "rear" in the old sense of these terms.

l. The immense importance of the rear together with the impossibility of maintaining a large standing army in peacetime create an "urgent, burning and immediate task: to strengthen the general work of preparing the country for defense." This requires "the adoption, while still at peace, of a firm course in the militarization of the work of all civil apparatus." This will include the complete militarization of the Commissariat of Education in order to supply the military with literate, trained personnel. The schools must teach not only general literacy but also specific military subjects. It will also require the mobilization and hence militarization of the transportation system, individual wagons and vehicles, agricultural tractors, communications networks."

m. In addition, the future mobilization of the entire nation for war must be carefully planned. "There must be established the same kind of definite plan for converting the national economy in time of war as we have worked out for the army." "We must have an organic bond between the industrial and the scientific-technical worlds welded by a central organ."

n. To recapitulate, the plan of action enunciated by Frunze, himself echoing Lenin, called for an understanding that future wars would involve the entire population of a state, that there would be no difference between front and rear, that the homefront must be prepared during peacetime for the conduct of war, that the conduct of war should be primarily offensive,

and that the Communist Party must tightly control both Armed Forces and the social and industrial base to form a totally integrated plan. In foreign policy both policies of coexistence and confrontation would be followed to support communist expansion. In other words, Frunze's plan for the 1920s is still the plan of the 1980s and probably that of the year 2000. The major change has been the increasing Soviet capability to effect such plans.

o. As early as the 1920s, Trotsky, Frunze, Tukhachevski, and other military leaders were united in their recognition that to overcome its military shortcomings the Soviet state must rapidly acquire the best Western technology and personnel training. The quickest way to obtain this was to find a Western country willing to supply it. Such a country was Weimar Germany, also an international pariah. Trotsky was interested as early as 1921 in German military industrial assistance in the rebuilding of Soviet military industry. A German company was established to manage the industrial aspects of the Soviet-German agreement. Priority items were all-metal aircraft, aircraft engines, poison gas, and artillery. Actual results were disappointing. By 1925, both sides decided that there were too many problems for mutually advantageous cooperation. (9/21)

p. Personnel training was a more fruitful area of cooperation. The Germans obtained bases in the USSR at which they could conduct experiments in new tactics suited for the new weaponry (aircraft, motorized troops and chemical warfare). In exchange the Soviets received war college training for their higher ranking officers and training with the new weapons for their tactical units. From 1926 to 1933, this exchange greatly benefited the Soviet Army. Among other schools established as a part of this program were air training, tank, and poison gas warfare schools. After 1933, despite the desire for continued association on the part of the professional military officers, the divergent political policies of the two countries brought a halt to the exchange.

q. Frunze began, as early as 1924, to reorganize the Red Army command structure. One of his main concerns was the unwieldy Red Army Staff. As part of the reorganization he was appointed Chief of Staff with Shapashnikov and Tukhachevski as deputies. From this time on the central staff truly became "the brains of the Army". It concerned itself with all aspects of planning national defense, to include preparation of the entire country for war. In 1924, he established the Soviet Air Force as a semi-independent service in order to free it from complete domination by ground force oriented thinking. (6/11-15)

r. On a more operational level, Soviet writers developed the theory of the deep operation as the centerpiece of their concept for achieving decisive results while preventing a reoccurrence of static warfare. According to this concept, a combined arms force employing masses of tanks, artillery, aircraft, and airborne forces would strike deep into the enemy's heartland in order to convert tactical success into operational and strategic success as rapidly as possible.

s. In 1927, V. K. Triandafillov's book Basic Character of Operations of Modern Armies was published. In this work the author developed the concept of the "deep operation" which would result in the rapid defeat of the enemy. Mass armor and air attacks would penetrate directly into the heart of the enemy country in order to undermine the defense, neutralize the opponent's economy, and shatter his society. Triandafillov also explained the value of war as a revolutionary tool and the revolutionary effect that the strain of war would have on society. Thus, the rapid achievement of total victory by use of offensive shock action would maximize the effect on the enemy society while minimizing the impact of war on Soviet society. (6/72)

t. Triandafillov's analysis was confirmed when the German invasion in World War II resulted in massive social disruption. With the advent of nuclear weapons, intercontinental missiles and bombers, and other modern weapons the Soviet leaders consider his view even more relevant today.

u. Despite the exchange with Germany, it was apparent by the late 1920s that much more would be needed to create a first class military force. Stalin, Voroshilov, Tukhachevski, and the rest of the leaders were greatly dissatisfied with the regular-militia system. The forces were equipped with small numbers of foreign made aircraft and tanks. Artillery was outdated and usually short of ammunition. It was clear that a more massive industralization and training program was required. It was equally clear that financing such a program would require measures to extract human resouces from the population. A centralized control system of state planning would be required to coordinate the multitude of tasks. (9/21-22)

v. Marx and Engles had noted the intimate connection between the economic and cultural structure of a country and its military organization. Frunze had worked hard to promote the close integration of industry to serve military needs. Stalin pushed the integration even further. He saw the concept contained in Frunze's articles as the driving purpose behind a massive industrialization program. In October 1928, he announced the First Five Year Plan. It was actually modelled on the "military five year plan" prepared a year or so earlier.

w. Stalin advocated "socialism in one country" in opposition to Trotsky's call for "permanent revolution." The base of Stalin's program was the rapid industrialization of the USSR for military purposes. Western and particularly American industrial experts played a major role in this process. Western technology was imported on a large scale under the direct supervision of Voroshilov, the Commissioner of War. In other words, the creation of the Soviet industrial base was conceived and carried out by military leaders primarily in support of military needs. This subordination of the Soviet economic base to Soviet military needs remains the same today.

x. While industry was being developed to produce armaments, the Soviet Army staff carefully analyzed the problems of modern warfare, developed

doctrine for waging war and determined what types of equipment would be needed. West European and American tanks were purchased and studied. After extensive tests to confirm their theories, the leadership decided five classes of tanks would be required to perform the various roles they envisioned from close infantry support to high speed raiding. The American Christie design was selected as a standard for suspension systems. This is but one example of the manner in which Soviet military leaders do their own theoretical analysis of the technical requirements of modern warfare and then hasten their ability to accomplish their goals by careful exploitation of relevant Western technology. (3/20-38)

y. The resulting forced industrialization has been called the "second revolution." Frunze could not have asked for more integration of military needs and economic planning. The extreme emphasis on heavy industry placed a heavy burden on the Soviet people. To centralize control further and obtain even more resources, Stalin collectivized agriculture as well. (9/23)

z. Some statistics give an indication of the rate of growth attained. In 1919-20, iron production amounted to 115,000 tons. By 1929, the pre-World War I output of 4 million tons was regained, while imports of special steels for armor were still high. By 1932, steel production reached 6.5 million tons and by 1937, 20 million tons. Production of tanks, aircraft, and other weapons followed immediately after the construction of the factories. Aircraft production went from 830 in 1931 to 3,578 by 1937. Tank production jumped from 740 in 1931 to 3,139 in 1937. (7/131)

aa. The delivery of modern arms and equipment caused a technological revolution in the Soviet Army, resulted in organizational changes, and generated further discussion of the strategy and tactics for employing new weapons. The basic theory of modern warfare was worked out by a handful of brilliant leaders in the late 1920s and early 1930s. After that, emphasis was on educating the bulk of the Officer Corps through the professional journals, as well as at schools and through correspondence courses.

bb. The military forces initially benefited from the scientific outlook of the Communist Party. Innovation was much in demand. Already in December 1918 Lenin helped form the famous Central Institute for Aerodynamics and Hydrodynamics at which research and development in aeronautics proceeded rapidly. A new generation of aircraft designers were trained including such famous men as Tupolov, Yakovlev, Illyushin, and Polikarpov.

cc. During the 1920s, Soviet designers and engineers worked to develop new aircraft and engines so that when the new industrial capacity came into being they were ready for immediate production of increasingly better models. Aircraft for strategic bombing were developed and tested on world record long distance flights. Tank design also showed rapid development as each new model benefited from the experience gained from its predecessor. From 1931 to 1935, production moved from the two-man turretless T-27 tankette to the 5-turreted heavy T-35. Main armament went from 37mm to 75mm guns.

dd. The rapid mechanization of the Soviet Army required large numbers of technically trained officers. During the first five year plan the number of aviation, tank, and engineering schools increased sixfold. By 1938, there were 75 military schools. Participation in correspondence courses was for all who could not be fitted into even the expanded regular student body. The Armed Forces also needed masses of soldiers trained to a technical level unheard of before in Russia. During the 1920s and 1930s Soviet leaders depended on paramilitary societies to train youth rapidly in military fundamentals.

ee. The Military-Scientific Society was formed in 1920 to increase military knowledge among officers and men. In 1923, a Society of Friends of the Air Force was established to promote aviation and raise funds. In 1926, the Military-Scientific Society changed its name to Society for Assistance in Defense which merged, in 1927, with the aviation group to form OSOAVIAKIM. This society continues to the present day under a new name to train youth in the technology of war.

ff. In the later 1930s, some Western observers wondered why, despite the massive industrial production which had already occurred by then, there still did not seem to be many consumer goods available. The reason was that the focus all along was on weapons production. By 1939 the USSR possessed more tanks, aircraft, and other categories of weapons than any other nation.

gg. Unfortunately for the Soviet Army and people, Stalin conducted a ruthless purge of the armed forces as well as the rest of the Party from 1937 on. Just when the carefully laid plans to match theory and equipment were beginning to pay off, the original architects of Soviet military power were killed and their places were taken by either inexperienced young men or incompetent supporters of Stalin. As a result, when Soviet authorities studied the record of Soviet participation in the Spanish Civil War they completely misunderstood the lessons which should have been learned. As a result, important new weapons were cancelled, advanced organizational structures dismantled, and general chaos was introduced into the Red Army on the eve of WWII. The experience gained in the Winter War against Finland in 1940 and the border war with Japan in 1938 in Manchuria was of some benefit, but it is no wonder Soviet action during the early stage of World War II did not match Soviet theory.

hh. The hard taskmaster, battle, did not take long to sort out the quality from the incompetence in the Red Officer Corps. But even then the Red Army still lacked the armament in sufficient quantity necessary to implement its version of mobile warfare until 1944 and 1945. The first half of the war was mostly a time for improving. Prewar Soviet theoreticians had not looked closely at defensive war, and if they had they would not have conceived of the appalling condition of inferiority under which the Red Army labored in 1941 and 1942 as a result of the initial German successes. During the war new tactical and operational methods were conceived, tested, and promulgated. New formations were designed and organized. New weapons were developed, produced, and deployed.

ii. Stalin kept strategy as an exclusive preserve for himself with advice from a small circle. Post - war Soviet critiques of his strategic ability have varied in tune with the political tone of the times from adulation to harsh criticism to appreciation. We will not attempt an evaluation in this short survey. However, the reader should be aware that Soviet strategy did adhere to the Marxist-Leninist precept that strategy supports policy and policy is based on political and economic factors and goals. Soviet leaders view military doctrine as a peacetime description of future war. Hence, it is not surprising that during World War II there was little attention paid to the development of new military doctrine.

3. 1945-59.

a. In Soviet eyes the end of World War II coincided with the beginning of a "revolution in military affairs." The Marxist concept of dialectical change states that quantitative change proceeds continuously in the form of incremental improvements and that qualitative changes of sufficient magnitude to be truly revolutionary occur more rarely. Such a change was the introduction of gunpowder. Another, and even greater change, was the introduction of nuclear weapons.

b. Moreover, such revolutionary changes in warfare are tied to changes in the underlying economic-technical base and lead to revolutionary change in the political-social superstructure. Thus, the Soviet theoreticians immediately sought to exploit this revolution in military affairs for the triumph of the socialist revolution just as the advent of gunpowder had figured in the transformation of society from feudalism to capitalism.

c. While the first two atomic bombs were exploded in action in 1945, the existence of a few such bombs did not constitute a revolution. It was during the period 1953-59, according to Soviet writers, that the revolution really gained momentum, with the development of large numbers of nuclear warheads, missiles to carry them, and cybernetics to control them. This period was one of rapid change as the new technologies were assimilated and made operational.

d. The strategic problem facing the Soviet Union in 1945 was essentially unchanged from 1918. It was still weak relative to its principal opponent and still needed time to import technology and build military power. Geography still favored the opponents, but not for long. Now that nuclear warheads mounted on missiles were a possibility, the USSR could develop weapons to launch the "deep strike" clear to the American heartland. Meanwhile, strategy called for developing means of at least knocking Western Europe out of any potential wars.

e. While the enormous increase in destructive power available in atomic weapons has been obvious to all, perhaps less obvious is the full meaning to the Soviet leaders of the "revolution" these weapons have generated. It is not merely their destructive power which matters. Rather, it is that by their use for the first time the Soviet Union could reverse its historic

strategic position. Whereas in the past it was vulnerable to direct attack while its chief capitalist adversary was not, now it would be able to strike directly at the US heartland. Moreover, by proper choice of weapons it could minimize direct attack upon itself. This has been the guiding principle of Soviet strategy since 1953. It has steadily increased its capability to strike enemy targets at increasing distance while progressively improving both its own defenses and its ability to use the twin weapons of terrorism and revolutionary war by proxy to deflect enemy attention from itself. Al the while it has acquired the advanced Western technology essential for building the military power that supports the entire system.

f. Stalin is frequently criticized for preventing the development of Soviet strategic thought, especially in the post-World War II period. The extreme denigration of his role in this respect is probably as unjustified as the extreme adulation he was shown during life. The written public record is not sufficient to judge. However, the Soviet record in terms of actual military accomplishments which must have had their genesis under Stalin's direct control in impressive. He faced enormous tasks in simultaneously rebuilding a nearly destroyed nation, absorbing a variety of people in the conquered Eastern European states, pushing at a maximum pace the development of nuclear weapons, rockets and long range bombers, controlling the revolutionary process in China, subverting Western Europe and all the while holding at bay the overwhelming strategic superiority of the United States.

g. While Stalin wrote little on military doctrine himself, his "cult of personality," which portrayed him as the sole source of inspiration for all doctrinal matters, effectively blocked others from writing. Stalin's one major foray into strategic thought was his famous concept of "permanent operating factors," which were nothing more than the most basic truisms any military leader would accept. He also downplayed surprise as a factor in war. On this basis he is frequently considered by Western analysts to have held back Soviet military doctrine. (5/79-82)

h. In practice, however, Stalin was quick to realize the revolutionary potential of nuclear weapons coupled with long range delivery systems. While he poured resources, diverted from national recovery, into their development he, out-of-necessity, sought to heighten the very secrecy he downplayed by focusing public attention on the power of a conventional mass army. He rightly recognized the importance of maintaining Soviet morale at a higher level and at the same time soothing the US by disparaging nuclear weapons. The result of this feverish activity plus adroit intelligence work and the cooperation of German scientists was a Soviet atomic device by 1949, a thermonuclear bomb by 1953 and three new long-range bombers by 1955. Thus, at his death Stalin left the USSR on the brink of the nuclear age. What could be criticized about Stalin's strategy was not its lack of attention to nuclear warfare because in fact great attention was being paid to it, albeit behind the scenes. Rather, it was the excessive reliance on crude attempts to use brute force, which only generated stronger foreign opposition, that proved counterproductive. Stalin's successors realized

this and returned Soviet policy to the Leninist line of promoting peace while preparing for war.

i. In 1947, as part of his preparation of the armed forces for future warfare, Stalin formed a basic research center for studying such questions as military economics, the organization of the armed forces, strategy, operational art, and combined arms battle. The center was established in the Military History Department of the General Staff, under General Major N.A. Talenskii. After Stalin's death this department was drastically reduced as the vestiges of Stalin's thought were rooted out. However, military history was re-established under Khrushchev as a major component of the analytical study supporting strategy and doctrine.

j. The demise of Stalin threw the Soviet leadership into a struggle for power reminiscent of that during Lenin's last days and the immediately following years. Once again there were two main groups who had to conduct their struggle in the form of a doctrinal argument. In format and content the doctrinal struggle assumed its inherent shape, that is one party for more armaments and heavy industry and one for less. Malenkov was for less, and for more consumer goods. He advocated concentrating military power in the new nuclear weapons and long-range delivery systems. This, he felt, would be sufficient to deter US attack and would allow the party to maintain an adequate security posture with a relatively reduced commitment to ground forces. In, essence he called for a policy of "more bang for the ruble" quite analagous to the American policy of the time.

k. Khrushchev opposed this plan, openly demanding more resources for military forces and their supporting heavy industry. He won the debate by winning the power to control it with the strong support of the Military. No sooner was he in power than he adopted Malenkov's program for expanded nuclear strategic forces and a smaller-sized ground force component in much the same way Stalin and Frunze adopted Trotsky's plan for a militia once he was ousted. However, Khrushchev did not reallocate resources to consumer goods. Once again economics was the deciding factor as the lower manpower pool available in the early 1960s forced a reduction in the size of the Armed Forces no matter what the reigning theory may have been.

l. One of the first written challenges to Stalin's public military doctrine came from Marshal of Tank Troops, Pavel Rotmistrov. Rotmistrov had already combined successful careers as a theoretician of armored warfare and a commander of an elite tank army in WWII. As head of the Stalin Armored Forces Academy he published an article in Military Thought in 1955 entitled "On the Role of Surprise in Modern Warfare". He showed that surprise had been an extremely effective tool in warfare. The advent of nuclear armed rockets could make surprise decisive in that the first blow could predetermine the ultimate outcome. This article was followed by a flood of others not only in the classified journal Military Thought but even in the open press on the formerly off-limits topic of surprise. (9/73-74)

m. The timing of this spate of articles is interesting for what it tells us about the role of military doctrine in the Soviet system and about the influences on it. First, as we have seen from the similar situation in the 1920s, doctrine is one of the visible battle-grounds for the power struggle. In this case, the period from Stalin's death in 1953 to Malenkov's ouster in January 1955 was the period during which conflicting doctrinal statements of the principals precluded remarks from the lesser actors. Rotmistrov's foray is itself confirmation of Khrushchev's victory and the role of the military in it. Second, doctrine is based on a consensus that a stated capability is in fact realizable in the future but is a call to achieve this goal rather than confirmation of its current existence. In this case, Rotmistrov's group was then sure of the Soviet capability to build and deliver hydrogen weapons and were calling for a major effort to make this potentiality a reality. Third, doctrine states the Soviet view on issues raised by Western leaders and strategists. In this case, Secretary of State Dulles in January 1954 had enunciated the "massive retaliation" policy. During the same period, rearmament due to the Korean War and the rearmament of West Germany made it clear that Stalin's strategy of holding West Europe hostage by threat of conventional attack alone would be insufficient as a deterrent from the Soviet viewpoint. Nor would Malenkov's preferred reliance solely on a relatively few intercontinental weapons suffice. Therefore, it was imperative that the Soviet leadership be on record with a credible doctrine to meet the external situation.

n. Even when doctrinal statements are issued in the form of articles signed by military officers one can be sure that they are the result of careful prior deliberation at higher levels, not individual initiatives. Thus, the 1955 phenomena indicates the period 1953-55 had been spent in developing the new doctrine and its publication awaited Khrushchev's victory. The next two years were a time in which the US, still overwhelmingly superior in nuclear delivery capability, appeared to believe Soviet threats to launch a preemptive attack should the US plan to attack the USSR. Yet, the US was surprised when, in 1957, the Soviets demonstrated a new capability by firing an ICBM and then launched the first space satellite. Rotmistrov's theoretical capability was becoming a reality, but not to the extent Khrushchev bluffed the Americans into believing. At the same time Khrushchev, far from reducing the military forces overall, pushed expansion also in long-range transport aviation, naval infantry, merchant shipping, and warships. This emphasis was in line with his new strategy for global expansion.

o. Although the Soviet Union had already, in 1945, launched a massive program to develop both nuclear warheads and missiles, until they had brought development nearly to a useable level little was said about the doctrine of war or strategy for use which would support the new weapons. The uncharacteristic lag in Soviet theoretical discussion of the role of nuclear weapons in future war was apparently due to the political turmoil which accompanied the death of Stalin in 1953 and the struggle for power from which Khrushchev finally emerged by 1955. Reflecting his victory,

Khrushchev denounced Stalin in 1956 during his famous "Secret Speech." This helped remove the Stalinist pressure to conform which inhibited free discussion of revolutionary ideas among the officer corps. But it took more time to sort out who would be in charge of policy.

p. Finally, in May 1957 the Soviet Ministry of Defense began a series of seminars designed to examine the influence these weapons would play in the future. The senior political-military leadership of the Communist party Politburo directed this discussion and monitored its conclusions. Beginning in 1960, senior members of the general staff and heads of military academies were directed to express their views on the way nuclear missile weapons would affect warfare, the Soviet Army, and their own branches, for others to critique. The resulting papers were published as a "special collection" in the classified Soviet professional military journal Military Thought. They contained a discussion of the problems of future war and the new Soviet military doctrine outlined by Khrushchev in January 1960. Those discussions were accompanied by extensive study conducted by the military academies and by field exercise in which the theories were tested. (9/48)

q. The convening of the seminars on military science opened the way for significant improvement in the study of military affairs. When the discussion of the future of warfare in the nuclear age was opened to the group of senior Soviet officers in 1957, it was influenced to a large extent by the mass of Western literature on the subject which had been translated and distributed within the USSR for that purpose. Thus, initial Soviet writing on nuclear weapons was evaluated by Western analysts as derivative and dismissed as outdated. What many Western analysts failed to appreciate was that the Soviet theoreticians took those Western views on nuclear war, which most closely reflected Soviet implementation capability, and set them into the comprehensive world view provided by Marxist-Leninist doctrine. Lacking such a world view themselves and generally not even believing such a systematic approach to be useful, it is perhaps understandable why the pragmatist Western writers ignored this aspect of Soviet theoretical work. The result for the Soviets was, however, that they were able to make rapid strides in developing a coherent philosophy which clearly defined the role of nuclear weapons not only in the total scheme of military activities but also in the total picture of state priority plans and programs.

4. 1960-68.

a. By the late 1950s, with Khrushchev firmly in control, the Soviet leadership was able to begin translating theory into practice. Among the first major results was the creation in December 1959 of the Strategic Rocket Troops as a major service. In speeches, in January 1960 and October 1961, Khrushchev emphasized the future dominant role this service was to play. It was to become immediately the senior service. Futhermore, the rest of the armed forces, in particular the ground forces, were to be significantly reduced. The basis of this dramatic shift was the doctrinal

prescription that future world war, should the imperialists be able to launch it, would be a nuclear rocket war. How much this doctrine was the personal product of Khrushchev's thinking and how much was based on the unfettered analysis of his military specialists is unknown and, while interesting, largely irrelevant. It is clear that the shift neatly coincided with the sharp drop in the size of the draft age population which would have required some other major changes if it had not been decided to reduce the size of the draft call. (6/41)

b. While Khrushchev was calling for state preparation to wage nuclear war in 1960, it was clear that the USSR was not in a position to do so. Not only did the fledgling Strategic Rocket Troops not possess enough intercontinental rockets of sufficient accuracy but also the ground, air and naval forces were ill-equipped or trained to operate on nuclear battlefields.

c. Although in actuality the Soviet intercontinental nuclear delivery capability was still relatively rudimentary, Khrushchev already, though bluffing, sought to put it to its intended use, namely as the shield behind which to relaunch Lenin's drive through the third world. Whereas Stalin had been forced to be relatively cautious in exporting revolution (even in Spain and China), Khrushchev by 1955 set a bold course. In that year Nasser initiated Soviet-Egyptian cooperation which blossomed after the Suez crisis of 1956 and allowed the Soviets to expand influence even further with deliveries of modern weapons, after 1961, throughout the Middle East. From 1960 on, Soviet influence grew in West Africa and from 1963 in East Africa. But a greater achievement was the success in wooing India from 1955 on. For Khrushchev, strategy in South East Asia was more difficult due to the complexity of the situation in Laos, Vietnam, Malaya, and Indonesia, where the Sino-Soviet rivalry was even more intense than in Africa or South West Asia. The crowning achievement of Khrushchev's strategy was the firm hold the USSR achieved over Cuba. Considered as a whole, the rapid shift in Soviet activity from the immediate border area to a worldwide context constituted a Marxist "qualitative leap" forward. That it was largely built on bluff, as demonstrated by the "Cuban Missile Crisis" in 1962, did not detract from the achievement. The expansion in both appetite and menu inaugurated by Khrushchev merely set the table for further expansion by his successors.

d. As the Soviet leaders learned during the missile crises, the process of acquiring military capability on a worldwide scale is complex, long term, and difficult. It requires not only specific kinds of hardware but also extensive training and experience. All of these were being acquired at a steady pace during Khrushchev's decade in power. This period also saw a "qualitative" leap in the Soviet military arsenal as new ICBM, aircraft, air defense weapons, and naval vessels came into production. In aircraft and ship development, in particular, Soviet actions revealed a true doctrine quite at variance with Khrushchev's pronouncements. However, at the time of the missile crisis Soviet military capabilities had not yet caught up to doctrinal requirements. Soviet military leaders vowed this would not happen again.

e. During this period, in 1962, one of the most important Soviet military books was published. This was Military Strategy written and edited by a team under the direction of Marshal Sokolovski. Publication of the book was closely linked to the promulgation of the new Party Program, which was presented to the XXII Party Congress in October 1961. Again, Western evaluation often misunderstood the role and significance of Soviet doctrinal literature. On the one hand, analysts compared the stated view of war with current capabilities and found inconsistencies. On the other hand, some considered the book to be the exploratory writing of a group of officers seeking to suggest future policy. Actually, it was neither. In terms of its relation to offical party/government policy it represented the conclusion of a developmental process, not the beginning. But in terms of its relationship to actual capabilities it represented the beginning chart to the future, not a statement of completed accomplishments. (7)

f. Military Strategy was published as part of an extensive campaign to educate the new generation of officers. It contained a summary of the Communist Party's thoughts on the whole range of theoretical issues which communists consider to be the content of military doctrine. In the lengthy section of historical review of Soviet strategy the authors did not hesitate to find fault with the strategy of the late 1930's. Moreover they pointed out that even strategy successful in the past would have to change to meet modern conditions.

g. Of particular interest to Western analysts was the picture of future war as painted by the Soviet authors. They noted the historical trend toward larger and larger mass armies and more and more critical involvement of the entire population of nations in war. With this, they stated that the political goals for which war is waged were now to be achieved not only by defeat of enemy forces but also by direct disorganization of the enemy economy and lowering of the morale of the population. They write that war is part of the political policy of a ruling regime and part of the social development of a nation. The armed conflict, used as a tool by various social classes and governments, is only one of many such tools of war. During periods when armed conflict is not used the war is conducted by means of political, economic and, ideological weapons. Armed conflict is but a specialized tool in the arsenal.

h. Sokolovski and his team of authors emphasize that in order to understand the specific content of war one must understand the nature of the particular historical era and the resulting nature of war peculiar to that era. All three editions of the book (1962, 1963, and 1968) emphasized the class character of war and gave war of colonial peoples against the capitalists as a major category of contemporary war. Most interesting, however, was the addition to the third edition in 1968 of an expanded section which expounded on the Soviet "duty" to render all possible military assistance to the colonial peoples in their struggle. The general expansion of discussion of naval matters and, especially, worldwide naval capabilities in the third edition is noteworthy in this context. However the third edition eliminated discussion of Soviet use of space for military

purposes and ascribed all such activity to Western nations. Evidently Soviet censors were not eager to draw attention to this program. (7)

i. Sokolovski reiterated the theme that the principal task of Soviet strategy and military policy in general is to prevent nuclear war, which is depicted as the ultimate reaction of the capitalists to their inevitable loss in the worldwide revolution. Nuclear war can be prevented by so decisively shifting the "correlation of forces" against the capitalists, using the already mighty power of the Soviet nuclear arsenal as a shield, to such a degree that the West would see the foolhardiness of initiating nuclear suicide. All editions stress the already achieved superiority of the USSR in hydrogen weapons. The third edition alone adds the note that Soviet strategic rocket - carrying submarines have provided an added measure of deterence.

j. The principal message conveyed in explicit language is that World War III, should the capitalists decide to initiate it, would be nuclear and would be carried immediately to the territory of the USA. Whereas, in past wars, including WW II, the military objective was slowly obtained by sequential operations that progressively converted tactical success into operational and, finally, strategic success; now the nuclear armed rocket will allow strategic goals to be obtained simultaneously with the initial tactical moves. Sokolovski stressed that, in fact, the intercontinental phase of the war would be more important than the theater war on Soviet borders. This assertion was obviously in tune with Khrushchev's relative prioritization in which he drastically reduced the size of the ground and conventional air forces in favor of the newly formed Strategic Rocket Forces (and later the naval and strategic airlift forces). In this future war the initial period would be decisive in the sense that it would determine the ultimate outcome, yet one could not be sure that the entire war would be short. It could well drag out and would likely require massive resources for successful conclusion. Therefore, surprise would be more important than ever.

k. In the first edition of his book Marshal Sokolovski, however, discounted the possibility of tactical nuclear warfare, at least as a significantly separate phase. This obviously was a reflection of Soviet lack of capability in this area as well as then current priorities for immediate development. Subsequently, as early as the third edition in 1968, Soviet views on this issue changed, along with their capabilities. In 1968, Sokolovski, et al., still thought nuclear war limited to the tactical level would be highly unlikely, but at least they did recognize the possibility. Marshall Sokolovski did not limit discussion to strategy in the sense of planning and conducting wartime operations familiar to Western officers. For the Soviet officer, strategy includes the strategy of preparing population, economy, country, war theater, and all components of the armed forces for future war. In this context he observed that throughout history new weapons have arrived suddenly, but their exploitation has required long periods of adjustment during which people learn to use them and economic capacity is built to produce them in significant quantity.

l. Sokolovski stressed one of the most common of Soviet themes, namely that modern war demands the total focus of science and technology on its requirements both in peacetime as well as just prior to and during a conflict. The ultimate decisive factor in war is the condition of the nation's economy. According to Sokolovski, the power of the Soviet military establishment in 1962 was the result of "wise" decisions reached by the Party immediately after World War II. The continuing improvement in military capabilities would require further development and dedication of science and industry to support war aims.

m. All in all, Marshal Sokolovski's book lived up to its billing as the most important Soviet work on strategy since the 1920s. However, it is essentially a consolidated version of the same themes emphasized in the large body of Soviet military literature. Insofar as its content differs from that of its ancestors or descendants, it is in the specifics recommended to meet contemporary conditions of that time. Its importance lies in the clarity of its exposition and convenience it affords the reader.

n. The new leadership team which replaced Khrushchev in 1964 did not desire nor implement a major change in national strategy or military doctrine. Rather, they sought more sophisticated ways to implement it. The Cuban crisis had demonstrated the danger of relying too heavily on bluff or, looking at it another way, of allowing the desire to exploit the burgeoning possibilities offered in the Third World to entice one out from under the nuclear shield. Before Soviet strategic nuclear weapons could provide a shield for world wide operations, they would have to be greatly expanded. The same was even more so for the Naval and Air Forces and the continential ground forces. But, the US was not idle. Nor was China remaining passive. An urgent requirement was to blunt American expansion in those areas which would most seriously challenge the Soviet program while at the same time diverting Chinese attention from Siberia. Hence, arms control and the diversion of US attention to Vietnam became priority programs. By the time Brezhnev and Nixon signed SALT I on 26 May 1972, the Soviet Union had largely achieved its objectives through the ABM Treaty and US intervention in Vietnam. Of course, there were also many setbacks along the way. Several allies in Africa and the Middle East proved less than reliable. Limitations of the domestic economy prevented the expansion of military procurement at the desired pace. Nevertheless, there has been a steady stream of new equipment deployed between 1964 and the present, each generation improving on its precdecessor in capability and sophistication.

o. In parallel with the emphasis on nuclear warfare at the strategic level, the 1960s saw considerable Soviet attention toward developing operational and tactical concepts for combat on a nuclear battlefield. Behind the concepts came the new weaponry, equipment, and organizational structures to carry them out. Increased quantities of nuclear weapons allowed for more to be allocated to ground force units for tactical missions. The battlefield use of nuclear weapons was studied. Various views were expressed during this discussion of tactical options. Tactics is always open for more discussion of alternatives by lower level officers than

either doctrine or strategy, which are established by high level party/military figures.

p. The basic conclusion reached was that in order to function on a nuclear battlefield the ground and theater air forces would have to become even more mobile, self-sufficient, protected, and flexibly controlled than was already the case. In other words, the advent of nuclear weapons merely accelerated trends already in motion during World War II and made achievement of the goals of "deep operations" as envisioned in the early 1930's both more urgent and more feasible.

q. But to achieve those goals would require major improvements in conventional weaponry, vehicles, logistics equipment, and communications equipment. Organizational structures would have to be streamlined. New operating methods and procedures were needed. And, at least as important, a much higher skill level would be essential for generals and privates alike. All of this required a sizeable commitment of resources over a long period of time. Among the first practical results of the modernization program was the BMP armored fighting vehicle. New air defense systems, communications gear, trucks, anti-tank missiles, tanks, and much more followed in a growing stream. Each piece of this hardware was designed to fill a particular role according to an overall, integrated conception of the combined arms force on the nuclear battlefield. Once again Soviet military doctrine had been translated into active military programs.

r. As the massive investment began to deliver the actual capability called for in the early 1960s there was a dynamic interaction or, as the Marxists say, the thesis-antithesis-synthesis cycle began anew. Faced with the growing Soviet intercontinental nuclear missile strength, the US began talking about war limited to Europe and conducted insofar as possible with only conventional weapons. The Soviets were quick to take up this theme, if somewhat skeptical that a war could be limited in this way. While continuing to insist that the nature of the underlying antagonism between imperialism and socialism was so fundamental that it would make any war between the two total, they did speculate that a war in Europe might have an initial, conventional phase.

s. The Soviet consideration of the possible conventional phase of a war in Europe was essentially a reaction to the NATO adoption of "flexible response," a concept advocated by the US since 1961. However, when they began to test the concept in practical exercises the Soviets came to realize that their extensive modernization effort undertaken to insure victory in nuclear war would also provide them with forces having significantly greater conventional capability. Thus the theory/practice/theory cycle moved around once again.

5. 1969-1974.

a. Between 1966 and 1968 Soviet attention was drawn to the possibilities inherent in conventional war as well as to the possibility of such a

mode of war. Sensing the advantages that would accrue to them with the coming acceptance by the West of nuclear parity, Soviet party officials turned their attention to the requirements generated by local war. In the immediate post-war period the US had pronounced through the doctrine of "massive retaliation" its readiness to strike the USSR directly if it considered Soviet support for local, revolutionary war too unacceptable. The achievement of parity would negate this threat and indeed the US had already fallen back on "flexible response." But in the meantime the US with NATO had also developed formidable conventional forces and was prepared to commit them as was demonstrated in Korea and Viet-Nam. Moreover it had also developed a theater based tactical nuclear capability. The next step in Soviet strategy would have to be to negate those forces.

b. The shift in Soviet military doctrine and strategic concepts to the next phase in the program was published gradually between 1967 and 1970. In the latter year Marshal Grechko made the new emphasis plain to the party faithful in an article in Kommunist, the official journal of the Communist Party, in which he explained that not only must the nation be prepared to repel surprise nuclear strikes but also it must be prepared for conventional warfare. In dialectical terms the new synthesis was a combination of nuclear and conventional options. Both types of weapons would be combined into an integrated battle plan. While the modernization program of the 1960s had already begun to pay off, much more extensive results were needed. The theme for the period 1969-1974 became one of seeking to create a favorable correlation of conventional forces capable of exploiting opportunities created by the parity in nuclear forces. (2)

c. The Soviet Navy also expanded its role during this period, intensifying its campaign to achieve a worldwide capability to project military power.

d. Although a revolution in the methods as well as hardware used for command and control was one of the most critical requirements enunciated in 1960-61, by 1969 strenuous effort had still not achieved the desired results. Consequently, the 1969-1974 period saw continued emphasis on developing command and control theory as well as hardware. (5/207-209)

6. 1974-1982.

a. As the Soviet military forces in the early 1970s appeared to reach parity with Western forces on the tactical nuclear and conventional battlefields comparable to that which they had achieved on the nuclear/intercontinental battlefield in the late 1960s, Soviet doctrine took another turn. The call now was even stronger for developing the capability to project power overseas. In 1974, Marshal Grechko emphasized the increased role of the Soviet Armed Forces in projecting power in behalf of the world revolution. A classic example of what he had in mind was the Soviet use of Cuban troops and Soviet and East European advisers in Angola and Ethiopia. Then, in December 1979, Soviet troops were used in large numbers in Afghanistan. All three deployments were in support of pro-Soviet regimes which required

Soviet assistance to survive. These events conformed to the previously stated Soviet doctrine of communist support for progressive forces struggling against imperialist intervention. Brezhnev then used the intervention in Afghanistan as the occasion for including this concept as part of the "Brezhnev Doctrine" which stated that once in power such progressive forces could count on Soviet support.

b. Implementation of Marshal Grechko's statement on increased roles did not require new weapons but rather new ways of doing business. In the 1930s the Soviets had employed "volunteer" units recruited from their own citizens and sympathizers abroad to help local forces. The pattern followed in the 1960s and later has been to employ local forces first to overthrow the previous government, then gradually escalate the pressure on all anti-socialist elements in the area. When resistance to social transformation became too intense for the pro-Soviet local forces, sufficient Soviet bloc forces were introduced to keep the new socialist regime in power, but not enough force to destroy the opposition to an extent which would suggest the withdrawal of Soviet forces. Not only does the continued loyalty of the client regime usually depend on a continued Soviet presence but also the social transformation is accelerated by the continued violence.

c. While the Soviet doctrine of conflict prepares them to exploit opportunities wherever they may occur, their own priorities are focused on key regions. These are distinguished by one of three geopolitical factors, proximity to the Soviet border, mineral resources, or critical locations on trade routes. During the 1970s the most significant Soviet efforts were devoted to securing these countries, to wit Afghanistan, Angola, Viet-Nam, Aden, Ethiopia, Libya, Syria, Cuba, etc.

d. Soviet aid to the indigenous forces seeking to overthrow Western imperialism or colonialism could proceed with a freer hand than in the 1950s and 1960s due to the negation of US intercontinental forces and containment of theatre forces. The times called for a doctrine stressing detente while furthering the improvement of all five armed services through the acquisition of the latest Western technology. Having achieved a comfortable margin in the existing types of forces, both conventional and nuclear, the Soviet leaders could push even harder for truly revolutionary breakthroughs in advanced technology weaponry including outer space, lasers, and energy beam devices. Meanwhile, the developmental work in terrorist techniques begun in the early 1960s and accelerated after 1968 began to pay off.

e. The Soviet government continued to employ the dual strategy of signing mutual friendship and assistance treaties with any governments it could, while simultaneously supporting communist revolutionary parties, often opposed to the same governments. Soviet policies toward specific countries and social groups were based on shrewd analysis of the local interests and potential for conflict among them. By fomenting conflict, the Soviet Union would insinuate itself into a supporting role while furthering the world revolution.

f. Meanwhile, the Soviet Union continued to develop and deploy conventional forces within the Soviet Union sufficient to enable it to fight wars on both NATO and Chinese fronts, if necessary. During the later 1970s Soviet forces along the Chinese border became so numerous a new headquarters was required to exercise command and control properly. Therefore, a Theatre of Operations Headquarters was established to insure close coordination between all the forces that would be employed against China. Opposite NATO, under Soviet pressure, the Headquarters of the Combined Armed Forces of the Warsaw Pact was reorganized to enable it to create two wartime theater of operations headquarters. Operational readiness, future plans, and staff training were all improved by frequent exercises.

g. Soviet literature on military affairs continues to pour forth from Moscow in the form of speeches, articles and books. In 1981 and 1982 Marshal Brezhnev, Ustinov, Kulikov, and Ogarkov have been particularly active in publicly defining current Soviet military doctrine. They have each written an important booklet elaborating on decisions of the 26th C.P.S.U. Party Congress. Their theme has not changed in its essentials from Frunze's stress on constant improvement and integration of "front and every 10-12 years." "The history of wars and military art convincingly testifies that changes in military affairs are brought about by changes occurring in the first place in weapons and military technology."

h. Marshal Ogarkov, as the Chief of the Soviet General Staff, devotes his writing to questions at the level of military strategy. His views on military strategy appear in the Soviet Military Encyclopedia and in his recent short book, Always in Readiness to Defend The Homeland. (4) In these works Ogarkov stresses the need for all service personnel to absorb the rapid developments in science and technology and then to exploit these developments to their full military potential. "The deep, in the full sense revolutionary, change in military affiars is occuring in out time in connection with the creation of thermonuclear weapons, the vigorous development of electronics, development of weapons based on new physical principles, and also in connection with broad qualitative perfecting of conventional means of armed conflict. This, in turn, influences all other sides of military affairs." He is drawing attention to the development of laser and energy beam weapons but also reaffirming the importance of conventional war. "Realization of this dialectic process is especially important in the contemporary stage when on the basis of scientific-technical progress the fundamental systems of armament are being renewed practically every 10-12 years." "The history of wars and military art convincingly testifies that changes in military affairs are brought about by changes occurring in the first place in weapons and military technology."

i. In these works, Marshal Ogarkov also expounds on another current Soviet theme in discussing the increasing scope of warfare. Future warfare will be conducted on a multi-front, theater basis without the pauses to regroup characteristic of World War II frontal operations. "However, in the course of the Great Fatherland War, especially in its second and third periods, the forces and means of one front frequently already turned out to

be insufficient to achieve major military-political objectives. In connection with this, it was necessary to combine the efforts of several fronts. Accordingly there arose a need to plan to conduct, simultaneously, several front operations, combined by the unified concept and leadership of the Supreme High Command. Thus, arose a new form of military activity, organically different from front operations — the operation of a group of fronts." It is apparently necessary to consider already not the front, but a larger scale form of military activity, the strategic operation in a theater of military action. In the course of such an operation by each front (fleet) there may be conducted consecutively, with small pauses and even without them, two or more front operations."

j. These words by Ogarkov are the planning orders for Soviet military and industrial leaders of the 1980s and 1990s just as Sokolovski's work provided direction and guidance in the 1960s and 1970s. Thus, based on Ogarkov's words we can expect the Soviet military industry to continue to develop new weapons systems and to improve old systems. As the new systems develop, operational art and tactics will change, but always in such a way as to improve Soviet capabilities and opportunities for domination and expansion. The constancy of Soviet thinking is expressed in the general laws formulated by Marshal Ogarkov and listed below.

> "Analysis of the development of military art in the post-war period also allows us to select a number of general, characteristic objective laws, among which the following may be named:
>
> "First, on the development of military affairs, the scientific-technological revolution has ever growing influence, presenting increased demands for qualitative characteristics in military technology and weaponry, and on searching out new methods and forms for conducting combat actions.
>
> "Second, the tempo of development of military technology and weapons is increasing, the time intervals between qualitative leaps in development in various areas of military affairs are being shortened, which in turn tells on the development of military affairs as a whole.
>
> "Third, the significance of strategic means of conducting war is growing, means which today are able directly to influence its course, and consequently also operational/strategic control organs.
>
> "Fourth, the processes of controlling troops and forces are becoming more complicated, which demands an approach new in principle for organizing structurally efficient systems of control and equipping them with the necessary modern control technology.

•And finally, the air sphere in combat actions and operations is acquiring an ever growing role, which gives modern operations a three-dimensional, deep character.

k. While Ogarkov focuses on strategy on the battlefield, Ustinov stresses the importance of state preparedness and readiness for combat. The possibility of surprise figures importantly in his texts. And Brezhnev continues to emphasize the international role of Soviet military forces in coming to the defense of revolutionary people everywhere. He also threatens retaliation in kind for any deployments of advanced theater nuclear missiles in Europe capable of hitting the USSR.

7. Summary: 1982 and Future.

a. This brief historical survey has emphasized the continuity of Soviet military doctrine from its formulation in 1918-24 to 1982. There is every reason to expect that it will remain relatively stable in the future. The doctrine identifies the principal opponent as Imperialism, whose main proponent is the USA. The doctrine states that war is caused by the existence of imperialism itself. Thus, it is to be expected that there will be many wars involving capitalist states either amongst themselves or against the oppressed people. The doctrine emphasizes that the interests of the Soviet Union and the world communist revolution are best served by preventing the Imperialists from launching a war against the Soviet Union and if possible also preventing war against the revolutionary movement. The way to do this is to be overwhelmingly powerful. In the present and future context, this means being able to fight and win at all levels of potential war, intercontinental nuclear, theatre nuclear, tactical nuclear, and conventional. In order to maintain this strength, according to Soviet doctrine, the Soviet Union must fully exploit science and technology, train the population, and organize all possible resources to support warfare.

b. Soviet doctrine will continue to affirm that the basic conflict between capitalism and socialism is so fundamental that should a shooting war breakout it would be unlimited in the political goals being sought, that is the existence of the two systems would be at stake. Hence, the military objectives, strategies, and means employed would be unlimited in scope. The initial phase of the war would be of potentially decisive importance in determining the outcome although the war might continue for an extended period. The doctrine will continue to emphasize the employment of the latest, high technology weaponry in a manner calculated to inflict maximum damage to the opposing social structure as soon as possible while minimizing damage to the Soviet society.

c. By the 1990s, development of new weapons even more revolutionary than nuclear weapons in their effect on warfare will require Soviet leaders to develop appropriate doctrinal positions on the nature of war and the employment of these weapons. These will include high energy weapons and weapons located in outer space. The doctrine will emphasize the role these weapons will play in support of political objectives. They will be used in

the same manner as nuclear weapons are, namely as subjects for a declaratory doctrine that attempts to gain political advantages from the fear that can be generated by constant discussion of their horrendous potential.

d. Also by the 1990s, Soviet penetration of third world countries will enable Soviet leaders to extend the "Brezhnev doctrine" to include additional countries. The doctrine of support of the world socialist revolution will be extended to justify Soviet bases in strategic locations. Support on self-determination for ethnic groups will be the basis for increased material assistance given to revolutionary groups in North and South America.

e. Soviet authors discuss the nature and role of strategy in great detail. Understandably, they do not discuss the actual content of current strategy. Nor do they give more than a general account of what actual Soviet strategy was in earlier historical periods. One must look to Soviet practice to find evidence from which to deduce Soviet strategic principles. A list of such principles observed during years of study of Soviet and Russian military history is as follows:

(1) Foment dissension in the enemy camp by supporting one or more internal dissident movements.

(2) Use the forces of allies, or even better of an enemy, to defeat the primary opponent.

(3) Do not support an ally if in doing so you will make him too strong.

(4) Do not let your enemy grow too weak too soon if a third party will be the principal beneficiary rather than yourself.

(5) Constantly use propaganda and claims for concessions on the principle that familiarity with uncongenial subjects eventually breeds readiness to take them for granted.

(6) Use terror on prospective areas to be conquered so the population will greet your conquest with relief.

(7) Be flexible in approach and accept compromises as the basis for new demands.

(8) Use peace talks and truces as a time for action by regrouping, employing deception, and taking whatever advantage the opponent will tolerate.

(9) Avoid two-front wars.

(10) Be patient; don't ask for everything at once. Insure thorough consolidation of previous position before advancing.

(11) Build such overwhelming military power that an opponent will realize he must accommodate.

(12) Combine offensive and defensive methods, tools, and weapons in a coordinated manner designed to insure retention of the initiative.

(13) Use psychological techniques known as "reactive control" to lead the opponent into unwittingly doing what you desire.

f. The strategic national goals in whose service these principles are employed have also not changed significantly. They may be sumarized as follows:

(1) Preserve the power of the ruling Communist Party.

(2) Defend the homeland.

(3) Defend acquired territories and assimilate them.

(4) Exploit every opportunity to expand own control and disrupt capitalist control.

g. Although goals and principles do not change much over time specific strategies must change in response to specific conditions. Therefore, it is not possible to predict what strategies the Soviet leadership may employ in the future. Nor can all the specific strategies being employed today with respect to many situations throughout the world be enumerated.

h. All these strategic principles can be summed up as contributors to an effort to make the issues involved not worth the struggle.

i. The following broad strategies being employed by the Soviet leadership may be expected to continue or expand in the future.

(1) Aggressively pursue R&D for possible breakthrough in new "exotic" weapons and space. Exploit Western technology to the fullest for entire spectrum of military purposes.

(2) Push programs to insure sufficient superiority in offensive intercontinental nuclear weapons delivery to negate rational employment by US of these weapons in any context (counter force or counter value)

(3) Seek breakthroughs in defensive means to negate US capability to attack using aircraft or missiles.

(4) Seek to negate NATO theater and "tactical" nuclear weapons through a combination of deployment of more and better theater nuclear weapons and employment of political and economic warfare techniques to disrupt NATO wartime mobilization and deployment.

(5) Continue to modernize conventional forces to enable them to conduct high speed, mobile, deep operations. The objective is to be able to knock Western Europe out of a war quickly without resort to nuclear weapons.

(6) Continue to increase capability to deliver and employ military forces on other continents (beyond immediate Soviet border area). These include Soviet and allied forces.

(7) Seek to disrupt NATO during peacetime at all levels by using political and economic warfare directly and indirectly.

(8) Continue encirclement of China while attempting to reestablish a favorable regime in Peking.

(9) Foment and support social unrest at all levels from local separatists to inter-state wars between capitalist countries. Especially strive to create antagonism between third world nations and Western countries.

(10) Increase psychological warfare programs against NATO and US exploiting conditioned response techniques to induce disorientation.

(11) Employ Western resources (financial, technical, etc) to overcome failures in Soviet bloc economy.

j. In summary, the Soviet Union has been founded on the premise that communism is the ultimate social structure toward which mankind is inevitably progressing. The transformation of capitalist society will require strenuous struggle on the part of all progressive people. Meanwhile, the continued existence of capitalism, especially in its highest stage of imperialism, will itself cause wars of various kinds. It is essential that Soviet communist party leaders press everywhere, using every opportunity, to advance the world socialist revolution without giving the capitalists an opportunity to start a world war in their desperate attempts to stave off the inevitable triumphs of communism. Great strides have been made in the period 1960-1980, during which time the correlation of forces has shifted decisively toward the socialist camp. During the rest of this century, heightened bold support of revolutionary movements and progressive forces everywhere will further tilt the balance, thereby ensuring the achievement of Soviet goals.

k. This historical survey of the development of Soviet military doctrine and strategy has shown that the view of the future presented in the preceeding paragraphs is essentially unchanged from that proposed by Lenin over 60 years ago. In the meantime Soviet assessments of their ability to forestall capitalist aggression during the transition period have waxed and waned but their objective has not changed. The Soviet Union was organized on Leninist principles with the communist objective in mind. The industry, agricultural system, education system, and entire social structure

have been formed with the necessity to maximize military power. Nothing short of a revolution will alter that structure in the next two decades. Without a change in the structure there can be no change in the doctrine which supports it.

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CHAPTER 4

REFERENCE BIBLIOGRAPHY ON SOVIET MILITARY AFFAIRS

1. INTRODUCTION.

a. Soviet and Western writings on Soviet military affairs are indeed extensive. Moreover, this plethora of published material is often repetitious in terms of either the subjects covered or the viewpoint offered. For these reasons an annotated listing of every writing on this diverse topic is neither practical nor desireable. Thus, in order to facilitate ease of use, this reference bibliography is composed of two parts: an annotated listing of selected key writings, and a more extensive and comprehensive listing of what is readily available on the subject.

b. Entries contained in the annotated section were selected on the basis of their conciseness, coverage of the topic, and in some cases authoritativeness of authors and recency of publication. These annotated selections provide a general introduction to the subject, from which the reader may proceed to more extensive study. The comprehensive listing is meant to serve as a guide to further study.

c. The bibliography is organized by subject topic. The subjects covered are Military Doctrine, Military Science, Military Art, Military Economics, War and the CPSU, and The Ground Forces. It should be emphasized that these divisions do not reflect Soviet military thinking, which in fact, emphasizes the profound interdependence and inseparability of these different topics. Rather, these divisions were made in an attempt to better organize the vast amounts of material available, in an effort to aid the bibliography's users.

d. Finally, this bibliography is by no means exhaustive. In addition to books and other publications containing translated Soviet writings from a variety of sources, it relies heavily on the classified journal Military Thought. While this publication represents the most important, and authoritative, of many Soviet military journals, it is not the only one worth reading. Military Herald, Rear and Supply, Military Historical Journal, and Red Star, to list a few, all provide important information on the Soviet military not covered here. These, of course, should not be overlooked.

2. ANNOTATED LISTING OF SELECTED SOVIET WRITINGS ON MILITARY DOCTRINE.

FRUNZE, M.V., "A Unified Military Doctrine and the Red Army." As translated and excerpted in both Readings in Soviet Military Theory, K.R. Whiting, Research Studies Institute, Air University, Alabama, and The Soviet Art of War, Harriet F. and William F. Scott, Westview Press, Boulder, Colorado, 1982. Frunze's work is considered by Soviet writers to be the standard text on early doctrinal development. Although written in 1921, it establishes fundamental principles and components of Soviet military doctrine which remain valid today.

IVANOV, S., "Soviet Military Doctrine and Strategy," Military Thought, March 1967. This article traces the historical development of the relationship between Soviet military doctrine and strategy, establishes the Leninist principles underlying Soviet military doctrine, and provides the Soviet view of future war in light of the Revolution in Military Affairs.

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STALIN, J.V., "Concerning the Three Distinctive Traits of the Red Army." (Readings in Soviet Military Theory, Whiting). One of the few military works Stalin published, this article is of little value except for its insight into the simplistic nature of Stalin's published military theory. See also: "Order of the People's Commissar of Defense, February, 1942, No. 55" in The Soviet Art of War, Scott. This short publication contains Stalin's famous "five permanently operating factors" which formed the basis of Soviet military thinking until 1953.

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key relationship between military science and the natural sciences, i.e., military science utilizes the latest developments of natural sciences while, at the same time, the demands of military science drive new scientific developments.

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4. ANNOTATED LISTING OF SELECTED SOVIET WRITINGS ON MILITARY ART.

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8. ANNOTATED LISTING OF SELECTED SOVIET WRITINGS ON WAR AND THE CPSU.

KULISH, V.M. "Military Power and International Relations," contained in Selected Soviet Military Writings, 1970-1975, US Government Printing Office, Washington DC, 1976. This article conveys the Soviet recognition of the extreme importance of military power as an instrument of foreign policy in the current international setting.

LENIN, V.I., "War and Revolution," excerpted and translated in The Soviet Art of War, Scott. Essential reading. Establishes the basis of Soviet military teachings; the class struggle, perpetuated by capitalism, is the fundamental cause of war. War will exist as long as capitalism.

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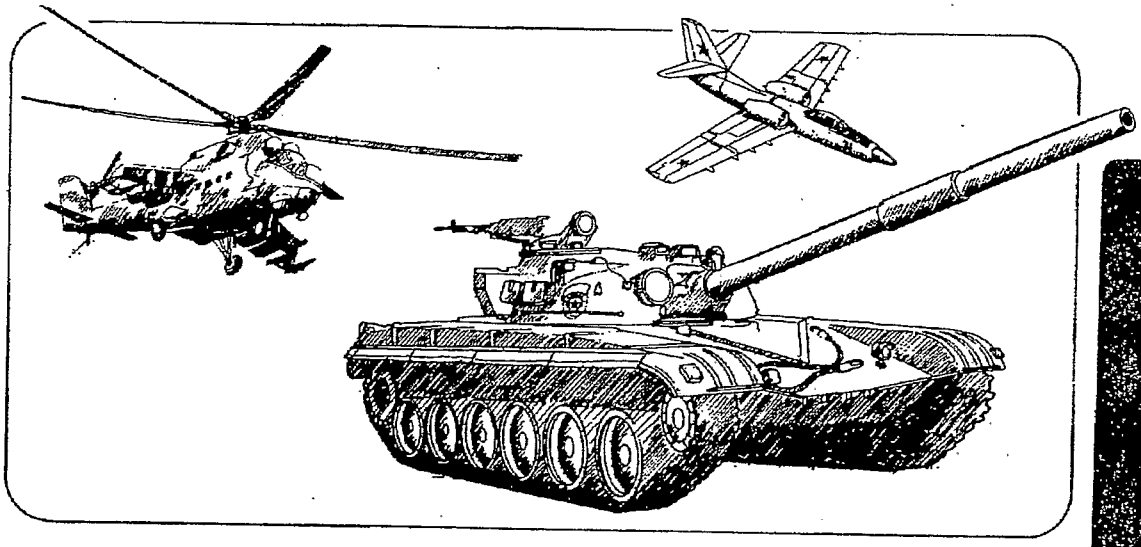

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Organization of the Home Front For Support of a General War (U)

Prepared by:

U.S. ARMY INTELLIGENCE AND THREAT ANALYSIS CENTER

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The Soviet Battlefield Development Plan
(SBDP)

VOLUME II
Organization of the Home Front For Support of a General War (U)

AUTHORS

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DATE OF PUBLICATION

1 November 1982

INFORMATION CUTOFF DATE

August 1982

This product was prepared by the US Army Intelligence and Threat Analysis Center. It has been reviewed and approved by the Assistant Chief of Staff for Intelligence, Department of the Army.

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REPLY TO ATTENTION OF
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1 November 1982

SUBJECT: Soviet Battlefield Development Plan (SBDP)

SEE DISTRIBUTION

1. The volume you are now reading is only one part of a multi-volume effort titled the Soviet Battlefield Development Plan (SBDP). The SBDP is an attempt to provide an integrated and comprehensive analysis of Soviet military thinking, doctrine, and combined arms force development for the present and the future, extending out to the turn of the century. Thus, it should allow Army doctrine and combat developers to have a long-range view of the competition they face, so that they may design U.S. Army doctrine and forces in a dynamic perspective. Thereby they can exploit Soviet doctrine and force modernization to give the U.S. Army advantages in equipment, weapons, training, and tactics.

2. The SBDP is a forecast of Soviet force development for "combined arms" operations in land warfare as we believe the Soviet General Staff intends. It is, therefore, not primarily a prediction but rather more an attempt to understand the Soviet General Staff's vision of the next two decades for planning and programming. It is an attempt to provide a Soviet view, not a U.S. mirror image. The Soviet General Staff does not have an "Air Land Battle" doctrine. It has a "combined arms" doctrine of warfare under the conditions of both conventional weapons and weapons of mass destruction. While there is much in common between the two doctrines, the differences are far more important to understand.

3. The basic assumption for the SBDP is the probable Soviet assumption that there will be no significant adverse changes in the present international order which will cause major alterations in the Soviet development strategy for combined arms forces. The SBDP does take into account economic and demographic constraints that are reasonably predictable by Soviet planners. Further, it also tries to anticipate the impact of new technologies on force development.

4. Since combined arms operations in Europe are clearly the central issue for Soviet planners, the equipment, organizational, and operational forecasts contained in the SBDP relate primarily to Soviet forces in the European theater. However, since these planners must also worry about the Far East, Southwest Asia, and power projection to non-contiguous regions, these non-European concerns are also treated but to a lesser degree.

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5. Because Soviet combined arms doctrine is not conceptually restricted to the theater of operations but also concerns the "rear," that is, the entire continental USSR as a mobilization and production base, the SBDP deals with this aspect of force planning. Preparation of the "rear" for both nuclear and non-nuclear conflict is seen by the General Staff as the sine qua non and the first step in an all combined arms force development.

6. The SBDP consists of eight volumes and an Executive Summary. These eight volumes are organized to provide an interpretive framework within which to integrate and analyze the large quantity of intelligence information we have on Soviet ground forces.

7. The following provides a brief overview of this interpretive framework:

a. Volume I explores the ideological and historical heritage which shapes the perspectives of Soviet military planners.

b. Volume II flows logically from Volume I showing how ideology and history combine in the Soviet militarization of the homeland, i.e., the preparation of the "rear" for war.

c. Volume III presents an "order of battle" listing of, and forecast for, the ground force structure which has resulted from the ideological and historical factors reviewed in the two preceding volumes.

d. Volume IV discusses the equipment used by the forces described in Volume III and forecasts developments in these weapons out to the year 2000.

e. Volume V discusses the present organization and operations of the ground forces and also presents long-range forecasts in these areas.

f. Volume VI reviews high level command and control trends for these forces and looks at how the Soviets intend to increase their force projection capability over the next two decades.

g. Volume VII is a study of Soviet exercises and what they might infer about actual war missions.

h. Finally, Volume VIII is an attempt to compare Soviet missions with their present capabilities. Such an analysis gives us a stronger sense of the requirements the General Staff probably sees for building forces over the coming decades.

8. Although the ACSI coordinated the SBDP and designed its structure, all the major Army intelligence production organizations provided the analysis. ITAC, FSTC, MIA, and MIIA were the primary Army contributors. b3 per DIA

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DAMI-FIR
SUBJECT: Soviet Battlefield Development Plan (SBDP)

1 November 1982

9. Naturally, such a comprehensive undertaking inevitably has inadequacies and contentious conclusions in its first variant. Work on the next version is already under way, and it is directed toward refinements, filling gaps, and improving the analytical forecasts. You can help us in this effort by using the SBDP in your daily work, then answering and mailing the questionnaire which follows this letter.

10. We are developing the SBDP as a tool to assist both intelligence producers and consumers in accomplishing their tasks more efficiently and effectively. We hope you find this and future editions of the SBDP to be of such assistance.

WILLIAM E. ODOM
Major General, USA
ACofS for Intelligence

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2. Please provide your name, rank or position, unit, and a short job description. This information will help us determine the specific way in which you are using the SBDP.

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3. Total concept and structure: Do the eight volumes of the SBDP provide the necessary framework for effective integration and interpretation of available information? What improvements would you suggest to the overall organization or concept of the SBDP?

a. STRUCTURE: _____

_____

_____

_____

_____

b. CONCEPT: _____

_____

_____

_____

_____

4. Volume structure: Is this volume well organized? Does its method of presentation facilitate comprehension? Is the subject matter provided in the right degree of detail for your use? What improvements would you suggest in these areas?

a. ORGANIZATION: _____

b. PRESENTATION: _____

c. DETAIL: _____

5. Volume substance: Do you find the overall analysis and forecasts to be sound? How would you correct or improve them?

6. These questions are "wide-scope" by design. If you have other, more specific comments you wish to make concerning the SBDP please include them in your response. Send all responses to: HQDA (DAMI-FIR)
ATTN: SBDP Project Officer
WASH DC 20310

7. Thanks for your contribution in developing the SBDP.

VOLUME II

HIGHLIGHTS

(u)

~~(C)~~ Each chapter in this volume is concerned with an aspect of the organization of the Soviet home front for support of a general war. Almost all of the aspects discussed would make overwhelmingly favorable contributions to that support. Soviet transportation capability, however, has many shortcomings. Balancing these against its strengths, we conclude that Soviet transportation capability would make neither a strong nor a weak contribution. Moreover, we consider two aspects of their economy, economic growth (discussed in Chapter 1) and the economic impact of the defense effort (discussed in Chapter 2), as impairing their ability to organize for support of a general war.

(u)

~~(C)~~ Soviet economy is expected to grow at only 2 percent per year through the next decade, while the defense effort is expected to continue to grow at 4 percent per year. Our expectation of a negative economic impact from the defense effort follows from our expectation that the percent of the GNP devoted to defense might increase from 14 percent to about 20 percent by 1990. Clearly, if these projections are borne out, the Soviet civilian economy will suffer significantly.

(u)

~~(C)~~ A look at Soviet weapons production rates in Chapter 3 indicates that this is one area where the Soviets could readily reduce their defense expenditures without impairing their war-making capability. Whether they will choose to do so is open to conjecture. Community estimates indicate they will not cut back the production of major items of equipment.

(u)

~~(C)~~ Chapter 5 addresses the extensive Soviet reserves of major items of equipment and accessible raw materials and concludes that these resources are more than adequate to support a general war. In Chapter 6, we conclude that the preparation of the Western Theater is more than adequate to support doctrinal requirements for the expected scenarios. Soviet civil defense, presented in Chapter 7, has some shortcomings, but it is being aggressively developed and is the world's largest and most comprehensive program of its kind.

(u)

~~(C)~~ Manpower and mobilization, treated in Chapters 8 and 9, are shown to be strengths. The Soviets have 25 million men who have served since 1970. Their force generation system has been sufficient to muster large groups successfully.

(u)

~~(C)~~ Chapter 10, which addresses propaganda and mass action, demonstrates the Soviets are well prepared to conduct extensive psychological operations against NATO troops and civilian populations.

(u)

~~(C)~~ Chapter 11 details the highly centralized Soviet military command structure and reveals that this structure, with its elaborate civil defense procedures for protecting the leadership, would certainly enhance Soviet

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warfighting capability. It also addresses political control and succession procedures in war and contends that under wartime emergency conditions, with maximum security measures in effect, the problems of possible leadership succession will be minimized in the interests of national security. (u)

~~(S)~~ The Soviet capability to defend the homeland against the strategic missile and air threat is discussed in Chapter 12. There are over 800 targets in and around Moscow, making it an extremely lucrative target and demonstating the importance of their array of ABM, SAM, and airborne interceptor defenses in that area. The Soviets are currently improving their low altitude capability against the US aircraft-launched Short Range Attack Missile (SRAM). (u)

~~(C)~~ In view of all aspects considered above and by observing developing trends, we conclude that the Soviets are, and will continue, organizing the home front successfully to prepare for and to fight a general war.

NOTE: (U) This SBDP volume features extensive cross-referencing to source materials. Source materials are listed in a bibliography at the end of each chapter. Throughout the text these materials are cross-referenced with notations such as (8/132). In this case, the 8 represents the reference document as listed in the chapter bibliography; the 132 represents the page within that reference document.

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LIST OF ABBREVIATIONS (U)

(This is list is UNCLASSIFIED)

AA	Antiaircraft
AAA	Antiaircraft Artillery
ACQ	Acquisition
ADA	Air Defense Artillery
AGITPROP	Agitation and Propaganda
AOD	Administrative Organs Department
APC	Armored Personnel Carrier
APVO	Aviation of the Air Defense (Soviet)
ARMD	Armored
ARTY	Artillery
AT	Antitank
BW	Biological Warfare
CBR	Chemical, Biological, Radiological
CM	Counter Mortar
CMEA	Council for Mutual Economic Assistance
CPSU	Communist Party of the Soviet Union
CW	Chemical Warfare
DIA	Defense Intelligence Agency
DOSAAF	Voluntary Society for Assistance to the Army, Air Force, & Navy (Soviet)
EMP	Emergency Mobilization Points/Electromagnetic Pulse
EMR	Electromagnetic Radiation
ENG	Engineering
FA	Field Artillery/Frontal Aviation
FC	Fire Control
FROG	Free Rocket Over Ground
FSED	Full Scale Engineering Development
GLAVSNAB	Main Administration for Marketing and Supply (Soviet)
GM	Guided Missile
GN	Gun
GNP	Gross National Product
GOSPLAN	State Planning Commission (Soviet)
GOSSNAB	State Committee of the Council of Ministers for Material and Technical Supplies (Soviet)
GRLCHR	Ground Launcher
GSFG	Group of Soviet Forces Germany
GVO	Gross Value Output

List of Abbreviations (Cont'd) (U)

HF	Height Finder/High Frequency
HOW	Howitzer
ICBM	Intercontinental Ballistic Missile
ICV	Infantry Combat Vehicle
KGB	Committee of State Security (Soviet)
Km	Kilometer(s)
LMD	Leningrad Military District
LCHR	Launcher
LOC	Line of Communication
m	Meter(s)
MAD	Mutually Assured Destruction
MAX	Maximum
MD	Military District
MED	Medium
MG	Machine Gun
mm	Milimeter(s)
MOB	Mobilization/Main Operating Base
MOD	Ministry of Defense
MOP	Ministry of Defense Industry
MORT	Mortar
MPD	Main Political Directorate of the Soviet Army and Navy
MRD	Motorized Rifle Division
MRL	Multiple Rocket Launcher
MRR	Motorized Rifle Regiment
MSL	Missile
MT	Metric Ton
MVD	Ministry of Internal Affairs (Soviet)
MVPO	Civil, Local Air Defense (Soviet)
NATO	North Atlantic Treaty Organization
NEC	Not Elsewhere Counted
POL	Petroleum, Oil, and Lubricants
POW	Prisoner of War
PSYOP	Psychological Operations
PSYWAR	Psychological Warfare
PVO	Air Defense Forces of the Homeland (Soviet)
R and D	Research and Development
RDX	Cyclonite (High Explosive)
RFL	Rifle
RKTL	Rocket Launcher

List of Abbreviations (Cont'd) (U)

RO/RO	Roll On/Roll Off
RSFSR	Russian Soviet Federated Socialist Republic
SAM	Surface-to-Air Missile
SBDP	Soviet Battlefield Development Plan
SLBM	Submarine Launched Ballistic Missile
SOVPACFLT	Soviet Pacific Fleet
SP	Self-Propelled
SRAM	Short-Range Attack Missile
SRF	Soviet Rocket Forces
SURV	Surveillance
TNT	Tri-Nitro Toluene (High Explosive)
TRK	Truck
TRTR	Tractor Trailer
TVD	Theater of Military Operations (Soviet)
UHF	Ultra High Frequency
VHF	Very High Frequency
VPK	Military Production Commission
WP	Warsaw Pact
WWII	World War Two
YeSKD	Unified System of Design Documentation (Soviet)

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CHAPTER 1

SOVIET ECONOMIC GROWTH (U)

HIGHLIGHTS

(U) There has been a steady decline in the growth rate of the Soviet economy in the last decade. This decline has been especially marked in the last few years. The industrial growth rate has also declined and some sectors, such as steel, have gone negative. Rate of growth per capita GNP has almost stagnated. The Soviet economy is projected to grow at the rate of only 2 percent per year and the living standard of the average Soviet citizen is not likely to improve significantly in this period. This economic decline will cause Soviet leaders to reassess how resources, including defense, are allocated within their system.

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CHAPTER 1

SOVIET ECONOMIC GROWTH (U)

1. Trends (U).

a. (U) The growth rates of the Soviet economy have slowly decreased. Indeed, the sustained growth rates evident in nearly all sectors since the end of World War II have gradually declined and, in some cases in recent years, have gone negative, as shown in Table 1-1. This trend has developed despite a policy of high investment in capital and labor.(2/xix)

b. (U) The following tables illustrate these trends.

(1) (U) The stress on investment over time is shown in Table 1-2.

(2) (U) The annual rates of growth in GNP by end use are shown in Table 1-3.

(3) (U) Trends in industrial production, the most significant factor affecting the defense effort, are shown in Table 1-4.

c. (U) The real average annual growth rate of GNP in 1979 and 1980 was a little over 1 percent, the worst in any two-year period since World War II. The average annual growth rate in the industrial sector for 1979 and 1980 was less than one-third of the average annual growth rate from 1971 to 1975 due to lagging industrial production and two successive harvest failures.(2/60)

d. (U) In contrast to most industrially developed countries, where productivity gains have been a key factor in economic growth, the USSR has relied more heavily on massive injections of labor and new fixed capital in support of its growth in GNP. During the 1950s this policy resulted in rapid gains in output because of the low level of GNP in the early postwar period and the relatively high efficiency of new fixed investment in reconstruction and repair of war damage.(3/30)

e. (U) During the early 1960s, as the Soviets moved out of the reconstruction phase, highly efficient investment projects became more difficult to identify and centralized planning and management of a burgeoning economy became increasingly cumbersome and inefficient. Productivity slowed and capital-output ratios rose rapidly. Output per combined unit of capital and labor, which has increased at an average annual rate of nearly one percent during the 1960s, fell by nearly 0.5 percent per year in the 1970s. Since the mid-1960s the Soviet leadership has groped continually for ways to stimulate growth in productivity. Failing in this, they had little choice but to continue the large commitment of resources to investment if economic growth was to continue apace.(3/30)

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Table 1-1. (U) USSR: Growth of Gross National Product by Sector of Origin

	Average Annual Rate of Growth in Percent				Annual Rate of Growth in Percent					
	1961-65	1966-70	1971-75	1976-80	1975	1976	1977	1978	1979	1980
GNP	5.0	5.2	3.7	2.7	1.7	4.8	3.2	3.4	0.8	1.5
Agriculture 3	3.6	3.9	-0.4	1.0	-8.8	8.1	4.6	3.3	-5.8	-4.4
Industry	6.6	6.3	5.9	3.6	5.9	3.9	4.0	3.5	3.0	3.4
Construction	5.0	5.8	5.6	2.4	5.0	3.4	2.4	3.0	0.8	2.5
Transportation	9.0	6.7	6.5	3.4	6.2	4.4	2.2	4.6	2.3	3.3
Communications	7.1	8.9	7.3	5.7	7.2	6.4	5.7	5.5	5.6	5.4
Trade	4.8	7.0	4.6	3.0	4.6	3.5	3.7	3.1	2.3	2.4
Services	4.4	4.2	3.4	2.8	3.2	2.5	2.5	3.1	3.0	2.9
Other	2.5	3.6	1.9	0.9	1.2	1.6	0.6	0.9	0.8	0.7

SOURCE: 1/57

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Note: (U) Excluding intra-agricultural use of farm products but excluding an adjustment for purchase by agriculture from other sectors.

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Table 1-2. (U) USSR: Percent Distribution of Gross National Product by End Use

	1960	1965	1970	1975	1976	1977	1978	1979	1980
Total	100	100	100	100	100	100	100	100	100
Consumption	58	54	54	54	53	52	52	53	53
Investment	24	27	28	31	32	32	32	32	33
New Fixed	20	22	23	25	25	26	26	26	26
Defense, Administration, R&D, Inventory Change, Net Exports, and Outlays Not Elsewhere Counted.	18	19	18	16	16	15	16	14	14

SOURCE: 1/ 2/

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Notes: 1. (U) Including consumption of food, soft goods, durables, personal services, and personal and government outlays for education and health.
2. (U) Including machinery and equipment, construction and other capital outlays, and net additions to livestock.

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Table 1-3. (U) USSR: Growth of Gross National Product by End Use

	Average Annual Rate of Growth in Percent				Annual Rate of Growth in Percent					
	1961-65	1966-70	1971-75	1976-80	1975	1976	1977	1978	1979	1980
Total	5.0	5.2	3.7	2.7	1.7	4.8	3.2	3.4	0.8	1.5
Consumption	3.7	5.3	3.6	2.6	3.9	2.2	3.0	2.7	2.8	2.2
Investment	7.6	6.0	5.4	4.2	2.2	8.0	5.1	3.7	1.7	2.7
New Fixed	7.2	6.4	4.8	3.7	3.2	7.6	4.4	3.1	1.4	2.3
Defense, Administration, R&D, Inventory Change, Net Exports, and Outlays N.E.C.	5.7	3.9	1.3	Negl	-6.3	7.1	0.2	5.3	-7.7	4.0

SOURCE: 1/86

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Notes: 1. (U) Including consumption of food, soft goods, durables, personal services, and personal and government outlays for education and health.

2. (U) Including machinery and equipment, construction and other capital outlays, and net additions to livestock.

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Table 1-4. (U) USSR: Industrial Production by Branch of Industry

	Average Annual Rate of Growth in Percent				Annual Rate of Growth in Percent					
	1961-65	1966-70	1971-75	1976-80	1975	1976	1977	1978	1979	1980
Industrial Materials	6.8	5.8	5.4	2.6	5.7	3.6	2.9	2.8	1.0	2.5
Electricity	11.5	7.9	7.0	4.5	6.6	6.9	3.6	4.7	2.9	4.5
Fuels	6.3	5.0	5.0	3.3	5.9	3.7	4.2	3.1	3.0	2.3
Ferrous Metals	7.2	5.1	4.0	1.1	4.4	2.7	0.7	2.2	Negl	-0.3
Nonferrous Metals	7.6	7.4	5.9	2.7	4.7	3.1	3.1	3.3	3.0	0.8
Wood, Pulp, and Paper Products	2.6	2.9	2.6	-0.1	3.6	-0.1	0.5	-0.5	-2.9	2.8
Construction Materials	5.4	5.7	5.4	1.8	4.5	3.5	1.9	2.4	0.3	1.0
Chemicals	12.0	8.9	8.6	3.8	9.7	4.8	5.2	3.6	0.2	5.2
Total Machinery	7.4	6.9	7.9	5.3	7.7	5.5	5.6	5.6	5.6	4.4
Producer Durables	8.9	7.8	8.6	5.9	8.2	6.4	6.5	6.3	6.0	4.1
Consumer Durables	9.6	11.3	11.7	N.A.	8.7	6.2	7.2	8.4	4.4	N.A.
Nondurable Consumer	4.8	6.4	3.4	1.6	4.1	1.2	3.3	0.6	2.6	0.1
Soft Goods	2.6	7.2	2.7	2.6	2.9	4.2	2.5	2.6	1.8	2.0
Processed Foods	6.8	5.9	3.9	0.7	5.1	-1.1	4.0	-1.1	3.3	-1.4
Total Industrial Production	6.6	6.3	5.9	3.5	6.2	3.9	4.0	3.5	3.0	2.9

SOURCE: 1/81

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f. (U) Thus, during the past 15 years, industrial and agricultural growth has been supported by average annual growth rates in capital assets much greater than the resultant growth in output. In addition to maintaining steadily larger annual flows of investment, Soviet planners have swelled the expansion of capital stocks through the following means:

- o Holding retirement of aging equipment to a minimum.
- o Prolonging the service lives of technologically obsolete capital stocks through repeated extensive capital repairs.
- o Continually expanding new construction projects, thus channeling the bulk of investment into buildings and structures rather than into new machinery and equipment, though the latter is the principal carrier of new technology.

g. (U) Sustaining a rapid increase in total capital assets by these methods has impeded technological progress and productivity gains. Efforts to increase the quality and quantity of output and make better use of available resources continue to be frustrated by a backward technological base, inflexible production processes, and a cumbersome and inefficient system of management planning. Moreover, military programs preempt capital equipment, trained labor, and materials that could be used in civilian production.(3/30)

h. (U) Future Soviet attempts to halt adverse trends in output and productivity growth must overcome resource problems quite different from anything experienced since World War II. Several new problems beset the regime in addition to the chronic difficulties associated with low efficiency. The growth of the labor force has decreased sharply because of the decline in birth rates that occurred in the 1960s. At the same time, the costs of obtaining raw materials and semifinished goods have risen sharply, as has the demand for technologically advanced finished products. In short, the economy is under increasing pressure to produce more and better products with declining resource increments and increasing costs. As a result, Soviet economic growth continues to fall.(3/30)

i. (U) Selected production trends from the industrial sector that indicate the pervasive nature of the Soviet economic slowdown are shown in Tables 1-5, 1-6, and 1-7.

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Table 1-5. (U) USSR: Production

	AVERAGE ANNUAL RATE OF GROWTH IN PERCENT			
	1960-1965	1965-1970	1970-1975	1975-1980
Iron Ore	7.7	5.1	3.5	3.7
Crude Steel	6.9	5.0	4.0	0.9
Metallurgical Coke	3.7	2.2	1.9	1.1
Primary Energy	7.3	5.2	5.1	4.3

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Sources:
1. (U) Iron Ore - (1/118)
2. (U) Crude Steel - (1/125)
3. (U) Metallurgical Coke - (1/123)
4. (U) Primary Energy - (1/100)

j. (U) In per capita terms, recent Soviet economic performance has been even less impressive, as demonstrated in Table 1-6.

Table 1-6. (U) Per Capita Gross National Product

AVERAGE ANNUAL RATE OF GROWTH IN PERCENT			ANNUAL RATE OF GROWTH IN PERCENT					
1960-1965	1966-1970	1971-1975	1975	1976	1977	1978	1979	1980
3.5	4.2	2.7	0.7	3.8	2.3	2.5	0.5	0.7

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Source: (1/131)

k. (U) The most recent GNP information available, shown in Table 1-7, confirms these trends.

TABLE 1-7. (U) Growth in Soviet GNP by Sector of Origin, in Percent

	1978	1979	1980	1981
GNP	3.4	0.8	1.3	2.0
Industry	3.5	3.0	2.9	1.8
Agriculture	3.3	-6.0	-4.8	1.7
Construction	3.0	0.8	2.5	1.9
Transportation and communications	4.7	2.6	4.0	4.2
Services	3.1	3.0	3.1	2.5

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Source: (7/1)

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2. **Projections (U).**

a. (U) The Soviet slowdown reflects exhaustion of the resources that fostered rapid development, especially the abundance of labor, fuels, and raw materials. The resource constraints facing Soviet leaders will become more severe in the 1980s, with potentially disruptive political consequences.(2/60)

b. (U) The Soviet leaders must begin to deal with a labor shortage. Birth rates in the USSR declined in the 1960s and this has begun to be reflected in a fall in the number of young people entering the labor force. The problem will become much more acute in the mid-1980s; by then the working-age population will be growing at less than 0.5 percent annually (compared to about 1.7 percent annually in the 1970s). Excess farm labor has long since been siphoned off to develop other sectors, leaving a rural population that is already inadequate and that includes a disproportionate number of elderly, unskilled field hands.(2/61)

c. (U) A further complication of this demographic problem is that nearly all of the increase in the labor force in the 1980s will be among the non-Slavic (principally Turkic) minority populations. These people are strongly disinclined to migrate from Central Asia to the labor-short industrial areas in the European or Eastern USSR.(2/61)

d. (U) Production of energy sources such as oil, coal, hydroelectric power, and atomic energy is being pushed about as hard as Soviet industrial capabilities permit with the help of imported Western equipment. The Soviets are attempting to conserve oil, but large sources of saving are difficult to identify (most automotive transport, for example, already is for commerical and industrial rather than private use). Even with conservation efforts and vastly increased investment in fuel production, the growth of domestic energy production may well fall short of expected demands in the 1980s.(2/61)

e. (U) Still other economic problems confront the Soviet leaders. Weather was better than average during most of the Brezhnev era; but, in the past few years, poor weather has wrecked harvests and disrupted transportation. If weather over the Soviet landmass returns to the long term pattern, harvests could regularly fall well below requirements. This could complicate the foreign trade situation by forcing Moscow to increase grain purchases at a time when oil, its principal hard currency export, will be scarcer.(2/61)

f. (U) Finally, the Soviets face rising costs for other raw materials including oil because of dwindling reserves west of the Urals and the high cost of developing resources in Siberia and Central Asia.(2/62)

g. (U) Under these circumstances, we expect the Soviet economy of the 1980s to be very different from that of the 1970s. In the past, although it grew more and more slowly, its growth permitted the policymakers to increase both defense spending and investment and still have enough left

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over for some gains for the consumer (however small). Over the next several years, however, developing demographic and energy problems will combine with the difficulties of longer standing to make a particular dent in growth. The annual growth increments in the 1980s will be smaller than those observed in most of the 1970s; Soviet leaders will have to make tougher choices among defense, investment, and consumption; and the political competition for resources is likely to become more intense.(2/62)

h. (U) It is difficult to forecast the precise impact of labor and energy shortages on Soviet economic growth. We have, however, used econometric models to make simulations of Soviet economic performance in the 1980s. These models, although subject to uncertainty, help us to gauge the general magnitude of Soviet economic problems and the impact of various policy options on economic growth.(2/62)

i. (U) Our simulation (see Table 1-8) suggests that Soviet economic growth will slow to a real average annual rate of 2 to 2.5 percent through 1985 and to less than 2 percent from then through 1990. Growth in investment and per capita consumption could be expected to fall short of past trends. Table 1-8 also compares historical data on Soviet economic performance with data from a simulation of economic growth in the coming decade. Our simulation is based on the following assumptions:

- Soviet oil production will begin to decline in the next few years, falling to 10 to 11 million barrels per day in 1985 and to 7 to 9 million by 1990.
- Soviet exports of oil to Communist countries will remain stable through 1985 at nearly 2 million barrels per day and decline to about half that amount by 1990.
- Soviet oil imports will be restricted by the availability of hard currency.
- The use of capital will fall when an energy gap emerges.
- Defense spending will increase about 4 percent through 1985 (a rate consistent with past trends and with current evidence on Soviet defense programs) and then moderate slightly to match more closely the growth rate of the economy.(2/62)

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Table 1-8. (U) Trends in Soviet Economic Performance

	AVERAGE ANNUAL RATES OF GROWTH IN PERCENT			
	1961-70	1971-80	1981-85	1986-90
GNP	5.2	3.3	2.0 to 2.5	Less than 2.0
Investment	6.8	4.9	About 2.5	About 2
Per capita consumption	3.9	2.3	About 1.0	About 0.5

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Source: (2/62)

j. (U) We do not know exactly how the Soviet leaders assess their own economic performance and the trade-offs between defense and civilian economic activities. We know that their economic concepts and measures, which are Marxist in origin, differ from those that we use to assess Soviet economic performance and show a slightly higher rate of economic growth. Both Soviet and Western figures, however, show a persistent decline in growth rates and it is this trend that is most worrisome to Soviet leaders. A slowdown in growth, however gradual, will make policy choices more difficult and will increase tensions among rival claimants. The targets for the 11th Five-Year Plan (1981-85) indicate that the leaders recognize that growth will continue to decelerate in the future, but prospects for achieving even the reduced targets are poor.(2/63)

k. (U) The Soviet leaders have taken note of the fact that growth in consumption is falling and that increases in labor productivity--a key to keeping economic growth at adequate levels in the 1980s--will be difficult to achieve unless more consumer goods can be made available. They also recognize that their energy supplies can be maintained at current levels or even increased slightly but fear that the more pessimistic Western projections may prove to be right. The leaders also admit that their agricultural problems are intractable and probably foresee another decade of unreliable performance from the farm sector.(2/63)

l. (U) The Soviet leaders are clearly concerned about their economic future and they have identified the key problem areas. They have not shown, however, any inclination to take radical action in response to their problems. This is probably due principally to the leaders' close personal identification with the current system and policies--an involvement that makes it difficult for them to accept extremely pessimistic forecasts. Moreover, they seem to be optimistic about the long-term growth prospects. In their view, the 1990s will offer some relief--increments to the labor force will rise again, albeit less rapidly than in the 1970s and (assuming their investment strategies are successful) new energy resources may be available.

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3. How This Influences Their Ability To Fight Now and in the Year 2000 (U).

(U) The level of a nation's defense effort depends to a large extent on the ability of that nation's economy to produce goods and services and the substances needed by defense. The decline in Soviet economic performance outlined in this chapter, if it persists, implies that Soviet military capabilities could be adversely affected in the mid- to long-range future. Notwithstanding this, one policy option open to Soviet leaders, and the only one likely to be selected, is to continue the defense effort at a high level despite a disappointing economic environment.

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(b) (1) & (b) (3) per CIA

5. Hunter, Holland (ed.), The Future of the Soviet Economy: 1978-1985, Boulder: Westview Press, 1978. (UNCLASSIFIED)

(b) (1) & (b) (3) per CIA

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CHAPTER 2

IMPACT OF DEFENSE EFFORT ON THE SOVIET ECONOMY (U)

HIGHLIGHTS

(U)

~~(S)~~ The Soviet Union maintains a very large defense effort that has been expanding at the rate of approximately 4 percent per year. It is projected to continue to expand at this rate for the next five years and possibly for the remainder of the decade. However, the economy as a whole is projected to grow at only 2.0 to 2.5 percent per year. If these trends persist, defense will grow at a faster rate than the economy and, as a result, the percent of GNP devoted to defense, already very high at 12 to 14 percent per year, may increase to 20 percent per year by 1990. This may lead Soviet leaders in coming years to question the amount of national resources given to defense programs. Since costs for general-purpose-forces programs are higher than for strategic programs, it is likely that general-purpose-forces programs will be most affected, if any cuts are made. This reassessment is more likely to occur since there could be major changes in Soviet leadership in the next decade. These new leaders, if confronted by disappointing economic performance, may elect to change priorities in the allocation of economic resources.

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CHAPTER 2

IMPACT OF DEFENSE EFFORT ON THE SOVIET ECONOMY (U)

1. Trends (U).

a. (U) For more than two decades, the USSR has been engaged in a major buildup of its military forces. In the Khrushchev era the emphasis was on strategic nuclear programs; but, since Brezhnev came to power in 1964, there has been an across-the-board expansion and modernization of all Soviet forces. Among the many factors underlying this buildup, the most basic is the attitude of the Soviet leaders that military might is a necessary and effective instrument of policy in an inherently unstable world. This attitude has been embodied in, and reinforced by, an ambitious military doctrine that calls for forces structured to fight and win future conflicts and by a political and economic system that gives priority to military requirements.(2/xii)

b. (u) ~~(S/NOFORN)~~ This attitude has imparted a considerable momentum to the Soviet military effort. Thus, despite changes in the international environment, Brezhnev's detente policy, and Strategic Arms Limitation agreements, the overall pace of the Soviet military buildup has remained steady during the Brezhnev years. Annual Soviet military spending has nearly doubled in real terms and now consumes over one-eighth of the GNP. Military manpower has increased by one-third to more than 5 million. Defense research and development facilities have more than doubled in size and weapons production facilities have expanded by nearly 60 percent. (2/xii)

c. (u) ~~(S)~~ As their military power has grown at the intercontinental, theater nuclear, and conventional levels, the Soviets have increasingly used military instruments to achieve political gains, especially in the Third World. Soviet exports of military equipment to the Third World have increased rapidly since the mid-1950s. During 1980, some $14 billion worth of hardware was sold to the Third World and in 1979 nearly 15,000 Soviet advisers were in Third World countries--more than four times as many as in 1965. Operations of naval ships outside home waters increased sixfold between 1965 and 1970.(2/xii)

2. The Use of Economic Resources by Defense (U).

a. (u) ~~(S)~~ Continually increasing defense expenditures have paid substantial dividends to the Soviet leadership in military capabilities and political prestige. The economic cost has been high, however, because the effort has entailed the use of scarce human and technical resources and raw materials. For example, we estimate that about 50 percent of all Soviet research and development manpower is engaged in military-related activity, which probably has an adverse effect on technical innovation in civilian sectors.(3/31)

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(u)

b. ~~(S)~~ The most widely used measurement of the proportion of a nation's economic resources taken by defense activity is the share of all goods and services purchased by the military establishment. It is customary to express this as the proportion of total defense expenditures to GNP. The Soviet defense share of GNP has averaged about 13 percent annually over the past 20 years.(3/31)

(u)

c. ~~(S)~~ In the early 1960s, defense grew more rapidly than the economy, resulting in an increasing defense share of GNP. In 1963 and 1964, defense consumed 14 to 15 percent of Soviet GNP, the highest level achieved during the 20-year period. Over the five-year period 1960-1965, however, the average defense share was 13 to 14 percent.(3/31)

(u)

d. ~~(S)~~ The expenditures in Table 2-1, expressed in billions of 1970 rubles at factor cost, are based on a broad definition of Soviet defense expenditures that includes activities the Soviets may define as defense related but that are not included within the US definition of defense. These include expenditures for internal security forces, construction and railroad troops, and the type of space programs that are carried out by NASA in the United States. The shaded area represents a confidence interval around the estimate for each year. We believe there is only a 10 percent chance that the true figure for any given year lies outside the shaded area.

(u)

e. ~~(S)~~ In 1965, a pattern developed of rather close correspondence between growth of the economy as a whole and growth of defense. During 1965-78, both grew at an average rate of about 4 percent annually. As a result of this phenomenon, a fairly constant 12 to 13 percent share of GNP went to defense (See Table 2-2).(3/31)

(u)

f. ~~(S)~~ By 1979, defense was growing more rapidly than the economy and began absorbing a larger share of GNP--13 to 14 percent. This return to the relationship of the early 1960s was the result of the especially poor performance of the economy in 1979-80 and the continued growth of defense expenditures at better than 4 percent.(3/31)

(u)

g. ~~(S)~~ These patterns indicate that during 1965-78 the Soviets were able to sustain substantial improvements in their military forces at a cost to their economy which, while extremely high by Western standards, did not require an increasing share of total economic resources.(3/31)

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Table 2-1. (U) Estimated Soviet Defense Expenditures, 1951-1980

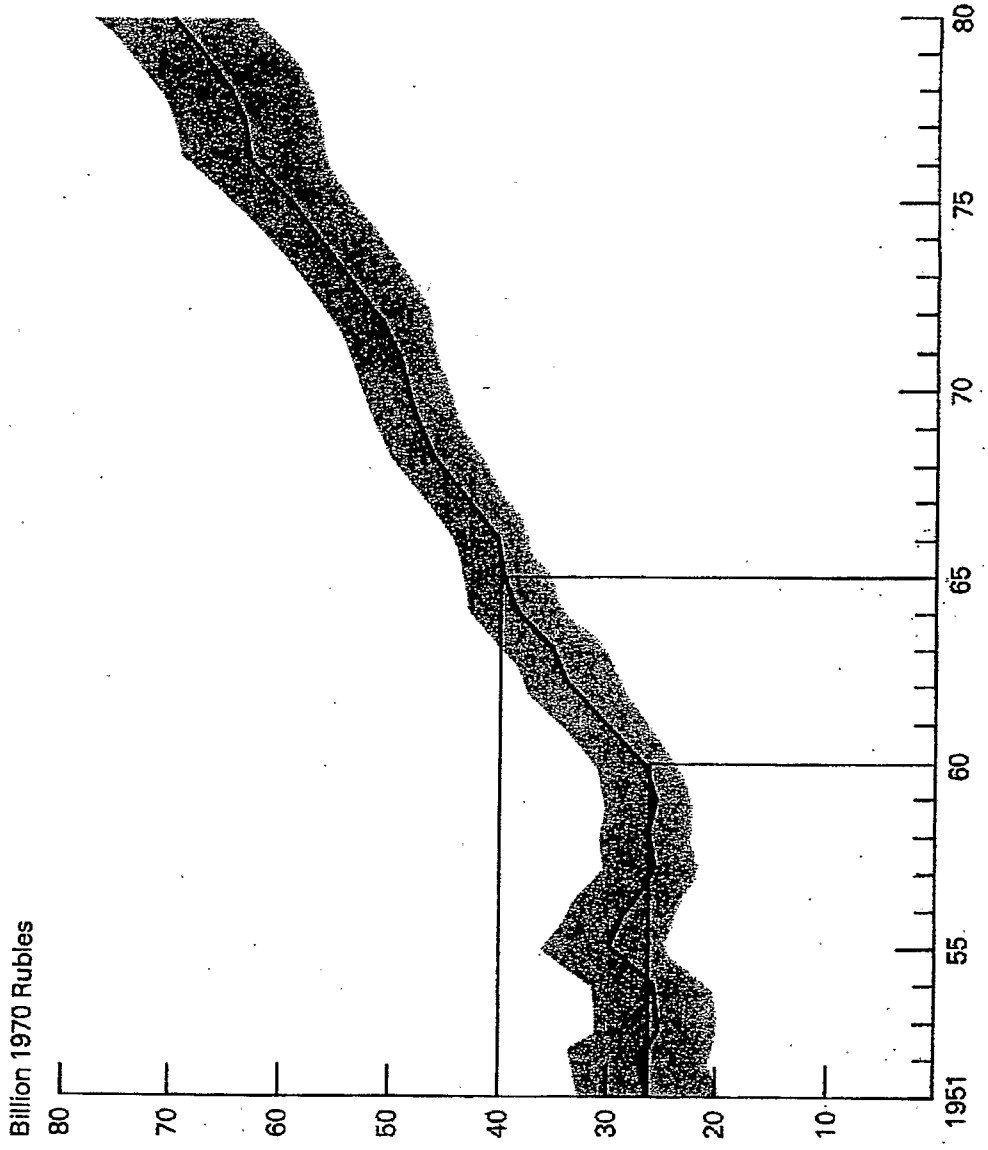

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Table 2-2. (U) Soviet Defense Expenditures and Economic Indicators

(Average Annual Growth Rate in Percent)

	1960-65	1965-80
Growth Rates		
GNP	5	4
Defense	8	4
Average defense share of GNP	13-14	12-13

~~SECRET~~ (u)

Source: (3/31)

3. Sectoral Impact (U).

a. (u) ~~(C)~~ The defense to GNP ratio does not convey the fact that the impact of defense spending varies considerably from one sector of the economy to another. Measurements of the impact of defense on economic sectors can include both direct and indirect effects.(3/31)

b. (u) ~~(C)~~ According to our estimates, the defense share of total gross value of output (GVO) of all sectors is about the same as the share of GNP that was devoted to defense (12 to 13 percent) in 1972, the year the data of Table 2-3 was compiled. The defense shares of many individual sectors, however, differ markedly from the aggregate proportion.(3/32)

c. (u) ~~(S)~~ The impact of defense is greatest on the machinery, metals, energy, and chemical industries. These sectors are all critical to economic growth and there is a great deal of interdependence among them. The machine building and metalworking sector is singled out continually by Soviet leaders as the mainspring of economic development. This sector produces military hardware and is also the source of most machinery produced for capital investment.(3/32)

d. (u) ~~(S)~~ It is clear that in these key sectors the total military requirement is disproportionately high compared with the 12 to 13 percent defense share of GVO and GNP. Further, much of the military demand represents indirect rather than direct military purchases from industry. For example, military hardware is procured directly from machine building and metalworking, which draws heavily from metallurgy, which, in turn, demands large inputs from the coal sector.(3/32) Thus, large indirect military demands are created on the metallurgy and coal sectors, although direct military purchases from those sectors are quite small.(3/32)

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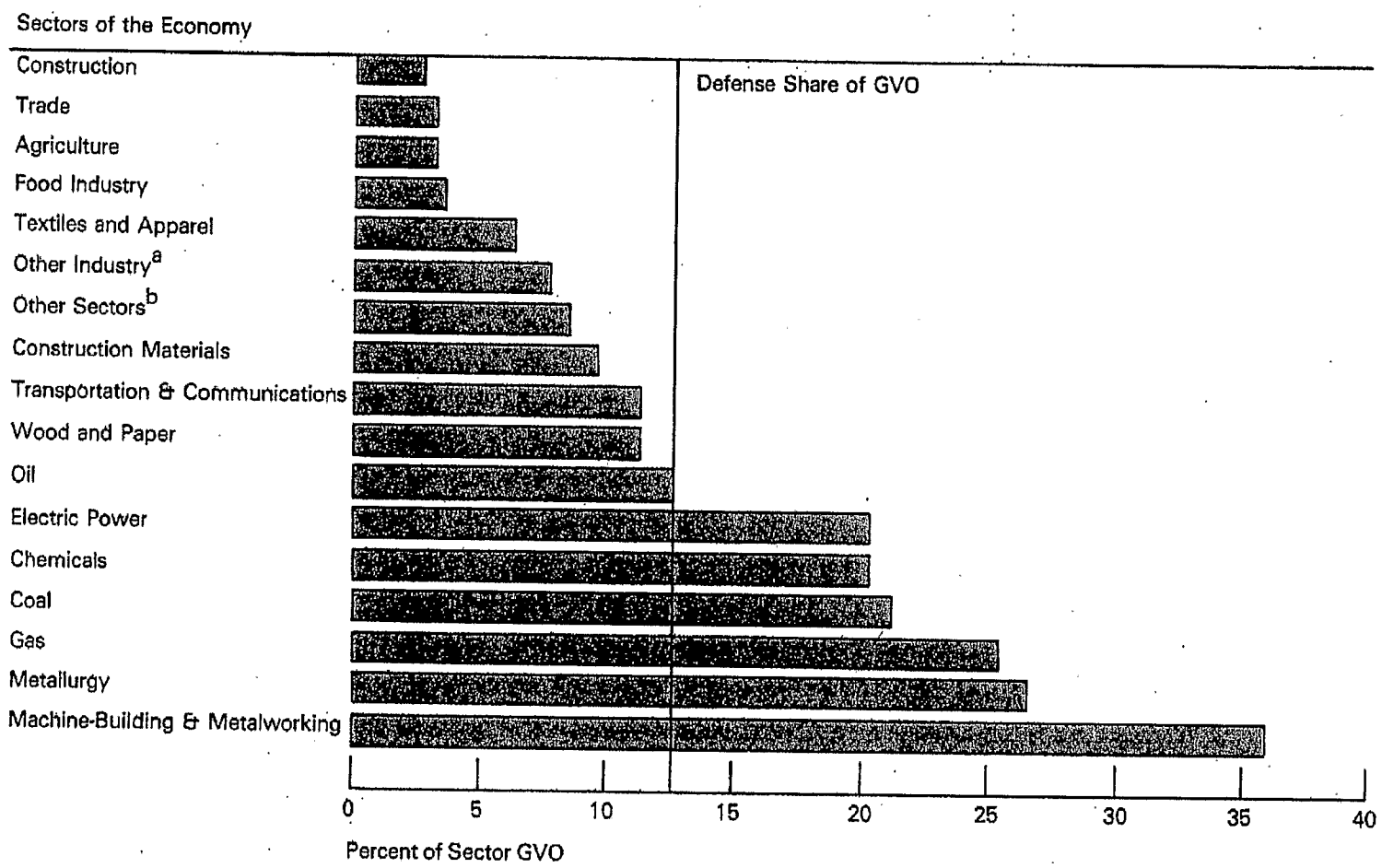
Table 2-3. (U) Total Military Requirements as a Percent of Sector Gross Value of Output (GVO)



[a]Industrial sectors not classified elsewhere.
[b]Other sectors of the economy not classified elsewhere.

SOURCE: 3/33

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e. (u) ~~(S)~~ We do not know if the Soviets have made an analysis of the economic impact of their defense effort along these lines. They do, however, use GVO data in their economic analyses and reporting and the kind of sector analysis we have undertaken reflects such an analytical perspective. In any event, there is no reason to doubt that they are aware--through whatever method--of the principal conclusions we draw from our analysis: that the impact of defense is heaviest on the areas of the economy that are important to economic growth and that defense vies with other strong claimants for the output of those key sectors.(3/32)

4. Trends in Expenditures by Military Service (U).

a. (U) The Soviet armed forces are organized into five major service groups: Air Forces, Ground Forces, Navy, National Air Defense Forces, and Strategic Rocket Forces (SRF). We can form a reasonable picture of the allocation of most defense spending among these services and gain insights into trends in Soviet priorities for allocating defense resources among competing claimants (see Table 2-4).(3/9)

b. (u) ~~(S)~~ Changes in the distribution of investment and operating expenditures among the services were most dynamic during 1955-1965 as a result of policies instituted under Khrushchev. These included substantial manpower reductions in the late 1950s, a shift away from intercontinental bombers, and cutbacks in tactical aviation that impacted on the Air Forces. Moreover, in 1959, a new branch of service was created--the Strategic Rocket Forces (SRF)--which in its formative years drew personnel primarily from the artillery troops of the Ground Forces. The period since 1965 has witnessed more stability in service shares overall, probably reflecting a more settled military doctrine and the more balanced approach to force development of the Brezhnev era. However, a major shift of resources toward the Air Forces materialized during the early 1970s.

5. Projections (U)

a. (U) A priority intelligence issue is the impact that a deteriorating economy will have on Soviet military and foreign policies. In the first year of the 11th Five-Year Plan (1981-1985) Soviet leaders were confronted with a continuation of the dismal economic picture of the past two years as well as prospects of countering expanding defense programs in the West. A key consideration in assessing future directions in Soviet military policy and programs is an understanding of past trends in Soviet resource commitment to defense that can serve as indicators of likely future effort.

b. (u) ~~(S)~~ It is estimated that the Soviets currently have in production some 190 major weapons and support systems. This total represents a slight increase over the annual average since the early 1970s. Nearly three-fifths of the programs concerned have entered production in the last five years, and production in most of these programs will continue through the early 1980s. For most major weapons, annual production rates have remained stable or have increased since the mid-1960s, and we see no evidence that

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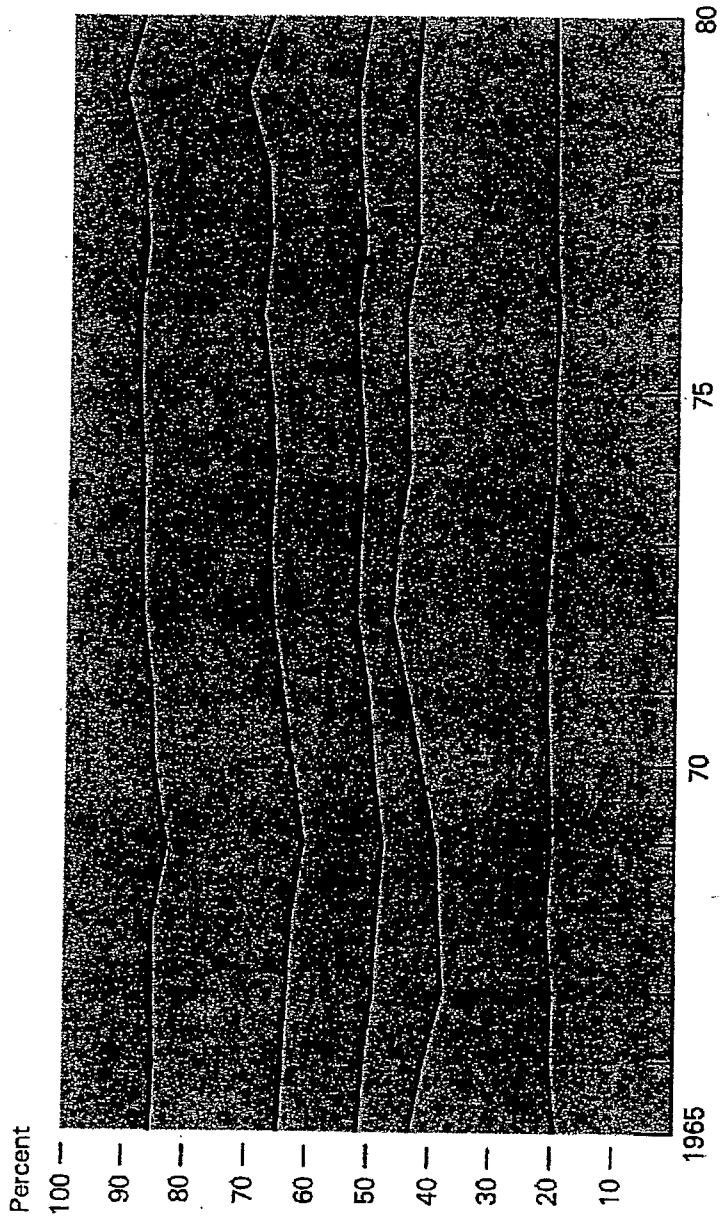
(U)

Table 2-4. (U) Military Service Shares of Defense Spending, 1965-80



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production rates are being cut in response to economic constraints.(3/36)

(u)

c. ~~(S)~~ Historically, there has been a close relationship between the completion of new facilities at weapons production plants and an upswing in the growth rate of defense spending. As new floorspace becomes active, the new weapons produced boost procurement expenditures, the largest component of defense expenditures.

(u)

d. ~~(S)~~ At the end of 1979, completed floorspace used for weapons production at a sample of 54 major facilities was growing more rapidly than at any time since the mid-1960s. The current high rate of expansion foreshadows the production of many major weapons now in the late stages of R&D. Expansion projects reaching completion in the next two or three years should cause Soviet defense spending to continue to grow at about its historical annual rate of 4 percent for the next several years. Moreover, construction activity now under way suggests that the Soviets have begun to make resource decisions that would lead to continued growth in defense spending through the remainder of the 1980s. In the past two years, sites have been cleared for expansion projects at about one-fourth of the 54 weapons production facilities examined. If the Soviets continue construction at normal rates at these sites, the new floorspace will become active in production programs in the next four to nine years. The new weapons production programs undertaken at these facilities could spur the continued growth of major weapons procurement and, therefore, total defense spending into the 1990s.

e. (U) Thus, the military systems we have already identified as being in various stages of development and production, if produced at historical rates, would maintain the growth of Soviet defense spending at about the average annual rate of 4 percent through at least 1985. The number of systems currently identified in development and slated for production during 1981-90 corresponds closely to production levels achieved during the 1970s (see Table 2-5).

6. Economic Consequences (U).

(U) In Chapter 1 of this volume, it was projected that the Soviet economy will grow at an average annual rate of 2 to 2.5 percent through 1985 and at a rate of less than 2 percent from then to 1990. If defense spending continues to increase at its historic rate while economic growth slows, the share of Soviet economic output devoted to defense will increase. The defense share of GNP, which was 12 to 14 percent in 1980 could be somewhat higher in 1985 and reach 20 percent by 1990. Moreover, the defense share of the annual increment to GNP could increase from one-fifth now to between one-fourth and one-third in the mid-1980s and to as much as three-fourths by the end of the decade. This would drastically reduce the ability of the Soviet leaders to allocate additional resources to investment and consumption and would erode the annual growth dividend that has been so important in the past in mitigating political tensions that have arisen from the competition for resources. These relationships are presented in the charts of Table 2-6.(2/62)

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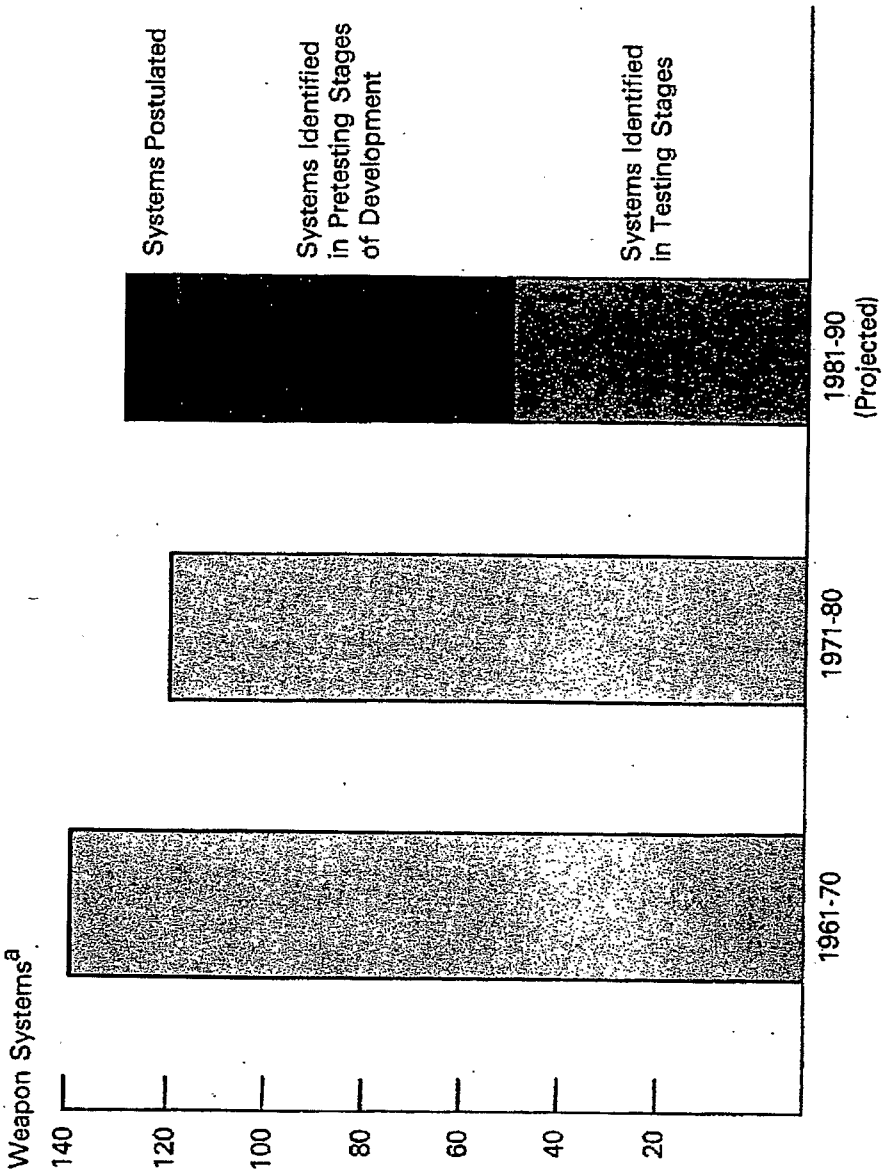
Table 2-5. (U) Number of New or Modified Soviet Weapon Systems Deployed



[a]Includes military aircraft, missiles, naval ships (surface combatants, mine warfare, and amphibious), submarines, military space systems, and principal land arms (tanks, armored vehicles, artillery, and antiair weapons).

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SOURCE: 3/37

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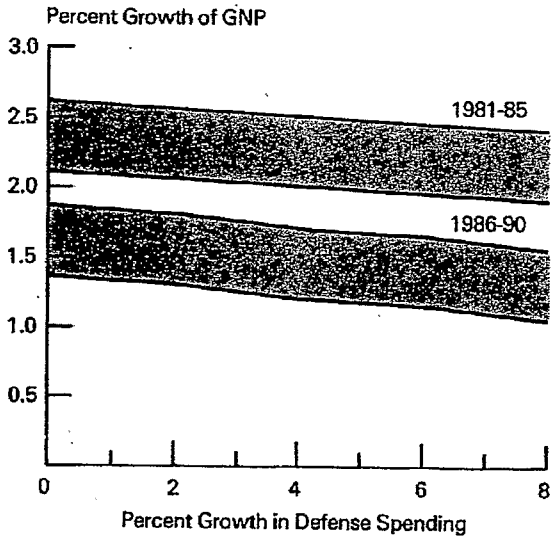
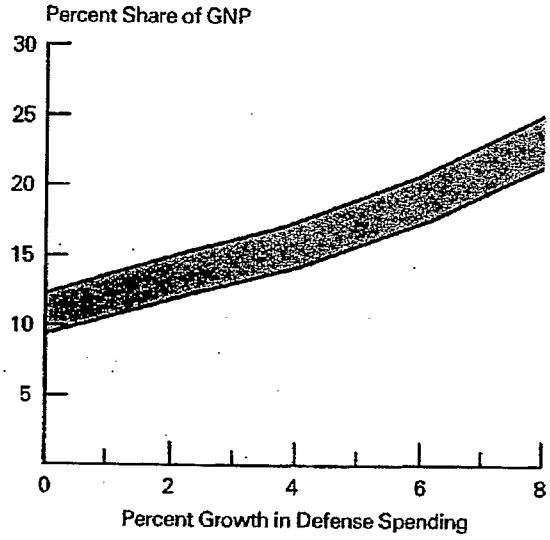
Table 2-6. (U) Economic Impact of Soviet Defense Spending in the 1980s

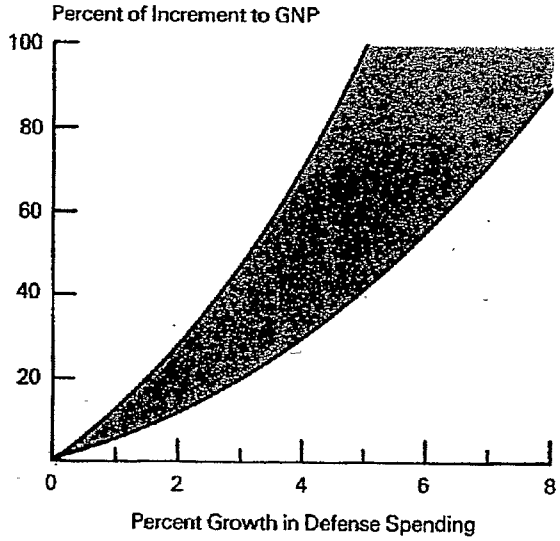
Rate of Growth of GNP (First and Second Half of the Decade)



Defense Share of GNP in 1990



Defense Share of Increment to GNP in 1990



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7. Conclusions (U).

a. (U) ~~(S)~~ Soviet leaders are concerned about their economic prospects and some leaders have linked economic problems directly to the costly defense effort. Resources committed to defense will be increasingly important to the economy as demographic and energy problems combine with longer standing difficulties to retard economic growth. Under these conditions, maintaining historical rates of growth in defense spending will be economically and politically more difficult. It appears that the preparation of the 1981-85 economic plan has entailed particularly difficult resource allocation decisions between defense and the other sectors of the economy. Despite such factors, there are no indicators of a shift of resources away from the defense sector.(3/iii)

b. (U) It is important to note, however, that to achieve even modest rates of economic growth, the Soviets must rely on increased productivity, which they can only achieve by directing more resources to investment and consumption. This tension between internal and external goals has the potential to cause serious political disarray that might prompt a major change in policies.

8. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

(U) Present trends suggest that by 1990 the defense budget of the USSR will absorb 20 percent of the Soviet GNP. More significantly, defense will absorb between 30 and 40 percent of those sectors needed for future investment. Unless economic performance improves, there could be increased pressure on Soviet leaders to lessen the defense burden on the economy. Since opportunity costs for general-purpose-forces programs are greater than those for strategic programs, general purpose programs are the more likely to be reduced. This could ultimately result in delays in the introduction of new ground forces weapon systems in the next decade.

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(b) (1) & (b) (3) per CIA

5. Hunter, Holland (ed.), The Future of the Soviet Economy: 1978-1985, Boulder: Westview Press, 1978. (UNCLASSIFIED)

(b) (1) & (b) (3) per CIA

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CHAPTER 3

MILITARY INDUSTRIAL PRODUCTION AND MOBILIZATION (U)

HIGHLIGHTS

(u)
~~(S)~~ The Soviet Union maintains the largest ground forces materiel production base in the world.(2/1) For most weapons and vehicles, its output and installed capacity exceed all of NATO's, including the United States. The Soviets produce far more weapons systems than any other country. There are 118 major assembly plants in the USSR involved in final production of weapons. In addition, over 3,500 installations have been identified that provide support to these final assembly plants.

(u)
~~(S)~~ A general consideration of Soviet military industrial production and mobilization capability indicates that the Soviets, if mobilized, will have an 18- to 24- month lapse between M-day and the day they can attain capacity production for their major systems of equipment. But reaching maximum, or capacity, output is not as important for the Soviets as it is for the United States. For example, in peacetime, the Soviets produce many more tanks than we do. From 1970 through 1981, estimated production indicated an average of 2,900 tanks per year,(10/2-121) while US production will not average 1,080 M-1 tanks per year until 1986. Estimates indicate the Soviets will produce an average of more than 3,500 tanks per year from 1982 through 1995.(13/V-4)

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CHAPTER 3

MILITARY INDUSTRIAL PRODUCTION AND MOBILIZATION (U)

1. Industrial Mobilization (U).

a. (u) (S) The Soviet Union maintains the largest ground forces materiel production base in the world.(2/1) For most weapons and vehicles, its output and installed capacity exceed all of NATO's, including the United States. In this chapter, we will investigate the particulars of that production: the concepts of production that foster it; the organizational structure and controls that allow it; its output and capacity; and the R&D effort that feeds it. We will explore production projections and identify the related intelligence gaps. But primarily, we will examine how these projections compare with what we think the Soviets will be able to do in wartime and how quickly they will be able to mobilize.

b. Concepts of Production (U).

(b) (1) & (b) (3) per CIA

(2) (u) (S) The nature of the Soviet manufacturing base has also had a profound influence on the configuration of their weapons. Massive facilities and work forces create extreme labor-intensive working conditions. They stabilize the level of innovation early enough to allow the manufacturing base to react to new product requirements. Systems such as surface-to-air missiles (SAM) and self-propelled (SP) artillery are produced despite their level of sophistication, but at a far lower rate than the simpler items they replace. (10/2-110)

(3) (u) (S) Standardization and use of available components is emphasized. For example, the French 152mm tube used for the Czarist M-1910 gun has been used subsequently on the 152mm gun Howitzer M-1937 (1937), the 152mm gun Howitzer D-20 (1955), and 152mm self-propelled Howitzer (1973). In addition, the basic PT-76 chassis has been adapted for the free-rocket-over-ground (FROG) system, the ZSU-23-4, the ASU-85, the BTR-50, as well as several newer systems. Likewise, the basic BMP vehicle underwrites its own family of variants for special purposes (M-1975).

(4) (u) (S) Multiple prototyping is also practiced. For example, several prototypes were developed leading to the T-64 and T-72 tanks. In essence, the majority of Soviet weapons generally owe their origins primarily to design inheritance and ordinarily do not employ wholly new component technologies considered advanced by Western standards.(10/2-110)

(5) (u) ~~(S)~~ The requirement to produce large amounts of equipment dictates that obsolescence be avoided by employing designs that permit future retrofitting or upgrading. Modifications may occur throughout the production and life cycles and are accomplished at the production facility. (10/2-112)

(6) (u) ~~(S)~~ It is only in cases where a mission is unprecedented or the possibilities of a previous design cycle appear exhausted that an entirely new system will be attempted. Even here, however, Soviet designers prefer to adopt state-of-the-art technologies and concentrate on using generally proven components in an innovative fashion. (10/2-112)

(7) (u) ~~(S)~~ Weapons and equipment are developed, produced, and deployed as the products of numerous influences that operate both sequentially and simultaneously. Thus, once the decision has been made to develop a new item, the resource and technology availability and the influence of key individuals determine its serial production. Similarly, the decision to produce a developed item generates a further range of issues to be resolved: 10/2-113

- o Entire systems rather than single items may have to be developed, e.g., missile system with radars.
- o The production rate has to balance with total production requirements, e.g., total inventory replacement, export obligations.
- o The number of items related by functional type must be balanced against items already in production, e.g., BTR-60PB and BMP being produced concurrently.

c. Organizational Structure and Control (U).

(1) (U) The organizational structure and control of Soviet production in peacetime is not known. Its mobilization capability for wartime can only be estimated. But we are aware of a hierarchical route that authority for industrial mobilization might follow.

(2) (U) In the Soviet governmental hierarchy, many of the members of the ruling Politburo are simultaneously members of the Council of Ministers and, thus, are also heads of powerful state ministries and committees. L. I. Brezhnev is thought to wear the most hats. In addition to being a full Politburo member, he is General Secretary of the Party Central Committee as well as Chairman of the Council of Defense, as shown in Figure 3-1, in which post he is ostensibly commander-in-chief of the Soviet Armed Forces. He is also Chairman of the State Presidium of the Supreme Soviet of the USSR (for all practical purposes, a rubber-stamp legislative body but a post that gives him legitimacy as titular President of the USSR). (10/B-5)

(3) (U) It is possible the government will be reorganized so that

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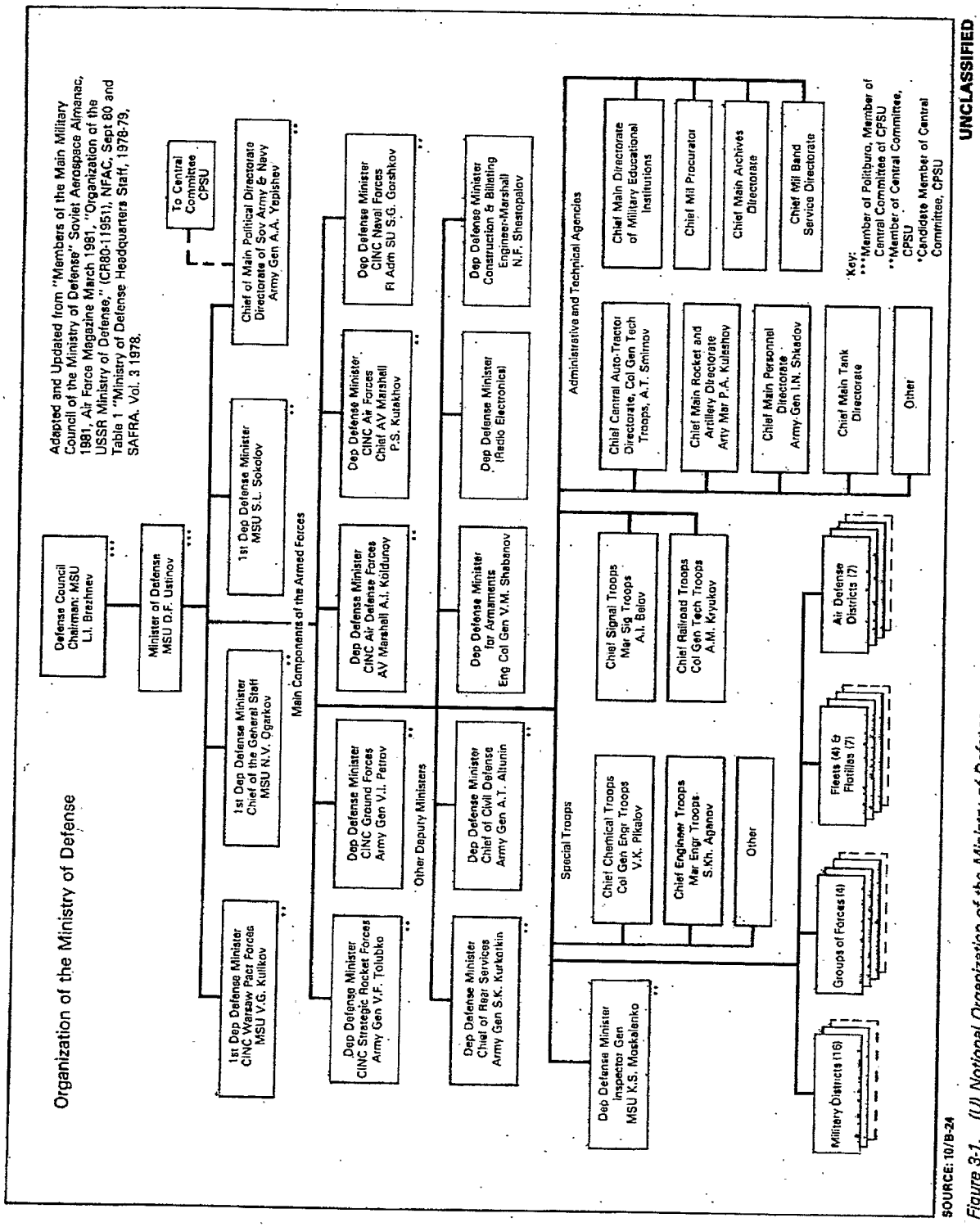

Figure 3-1. (U) Notional Organization of the Ministry of Defense

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the Council of Defense will oversee the preparation of the country, the economy, and the people for war. Thus, as Chairman of the Council of Defense, Brezhnev heads the organization that might run the country and armed forces during wartime.(12/98) The Council of Defense will insure that there are standby plans for mobilizing industry, transport, and manpower to meet the requirements for possible war at various levels of intensity. It has the power to form new staffs, create new military districts, or change the entire structure of the Soviet Armed Forces. The council examines proposals, makes judgements, and issues decrees.(12/99)

(4) (U) As Chairman of the Council of Defense, Brezhnev will have control of the Minister of Defense, who in turn controls the Deputy Defense Minister for Armaments.(10/B-37) The duties of the Deputy Defense Minister for Armaments, who is currently Engineer-Colonel General A. M. Shabanov, have never been discussed in detail in the open literature nor has any structure subordinate to him at Ministry of Defense (MOD) level been identified. Despite this, it is widely believed that he has general responsibility for coordinating and monitoring all procurement of weapons systems, ammunition, and related technical hardware and equipment for all of the armed forces. In this capacity, it is believed he would be the principal MOD individual responsible for coordinating with such bodies as the Military Production Commission (VPK), the State Planning Commission (GOSPLAN), the Defense Industries Department of the Communist Party of the Soviet Union (CPSU) Central Committee, as well as the major defense industrial production ministries and other ministries producing military hardware.

(5) (U) As a result, the Deputy Defense Minister for Armaments would have the overall control of planning and financial allocation which is vested in GOSPLAN. This agency is thorough and comprehensive in establishing production norms and goals for the whole economy. Initially, the GOSPLAN develops its own estimates for a given industry and then submits the plan to individual factories for their perusal and comments. The individual factory, when informed of its assigned role in the overall production plan, considers the availability of capital, labor, and raw materials and in turn proposes its own production plan, or counterproposal, for GOSPLAN consideration. The GOSPLAN then revises its enterprise plans in light of the counterproposals and dovetails them into the national central plan for the industry. The final plan is then submitted to the Council of Ministers for approval and once approved becomes law.(5/1)

d. Organizational Structure of the Machine Tool Industry (U).

(U) The route we have followed in tracing the path of authority and control through the organizational structure can be better followed at this stage if we address ourselves to a specific industry. We have chosen the machine tool industry, one of the more important industries in any industrialized country.

(1) (U) The Ministry of Machine Tool and Tool Building Industry (MINSTANKOPROM) is an all-union ministry subordinate to the USSR

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Council of Ministers. The manufacture of machine tools is coordinated and controlled by MINSTANKOPROM. The two most important departments for production in this ministry are the Main Administration for Marketing and Supply (GLAVSNAB) and the Department of Projections and Investments. GLAVSNAB is the more important department, for it not only has judicial responsibility from the ministry for channeling the flow of materials to the factories, but also for supplying the whole Soviet industry with machine tools. This department thus controls the actual flow of supplies and decides which sectors obtain what machinery or machine parts.(5/1) GLAVSNAB works in close cooperation with the USSR State Committee of the Council of Ministers for Material and Technical Supplies (GOSSNAB). The Department of Projections and Investments is concerned with the establishment of new production facilities or substantial expansion of existing plants.(5/2)

(2) (U) In 1973, the Soviets made an administrative change that resulted in a consolidation of the country's enterprises into production associations (or middle-level management bodies) between the ministries on the one hand and the individual plants on the other. These associations combined enterprises that (a) were in the same area, (b) produced the same output, or (c) used each other's products in the production of final goods. The associations are primarily intended to raise the level of technology in Soviet industry by putting under common management both industrial plants and research organizations and also by consolidating the weaker and more inefficient plants under the hopefully better management of the association. While the ministries will continue their responsibility for the general and long-range development of their industries, the associations will have operational authority over their enterprises.(5/1)

(3) (U) A managing director heads each plant. There are normally two or three deputy directors: one each for production, technology, and commercial operation. The production director supervises the fulfillment of targets, maintains general discipline, and ensures coordination. The technical director looks after such matters as designs and maintenance. The commercial director is in charge of orders, purchases, sales, inventory control, and accounts. The managerial personnel are normally appointed by the USSR Council of Ministers.(5/1)

(4) (U) One notable feature is that production and planning targets are set by GOSPLAN, which also plans material supply, fixes prices, and handles sales. Wages and salaries are also fixed by GOSPLAN. The principal function of management is to coordinate and concentrate on the achievement of targets.

2. Production Capability (U).

a. (U) ~~(S)~~ The Soviet military industrial base produces weapons and weapons systems that range from ballistic missiles to small arms. Analysis of Soviet production during the past five years reveals a gradual increase in weapons production that will probably be maintained for the next five years.(4/1)

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(u)
b. ~~(S)~~ The Soviet military industry has grown steadily over the past 20 to 25 years. Physical growth and the commitment of large amounts of financial and human resources are its most dynamic aspects; but, cyclical production is the most important factor in its expansion. The various production plants are engaged in continuous operations. As the old weapon programs are phased out, new ones are begun, leaving no slack periods in production. Because of the cyclical process, the continuing facility growth, and the high rates of production, about half of the arms industry is prepared to meet any contingency.

3. Plants (U).

(u)
~~(S)~~ There are 118 major assembly plants in the USSR involved in final production of weapons, as shown in Figure 3-2. In addition, over 3,500 installations have been identified that provide support to these final assembly plants, which always appear active with deliveries of raw materials, shipments of finished products, and expansion of facilities. The Soviets have invested extensive resources in tank production, with three plants involved in final assembly. The largest of these is Nizhniy Tagil Tank Plant with over 371,000 sqm of floorspace devoted to tank production. (4/2)

Tanks	3
Armored Fighting Vehicles	7
Submarine Shipyards	5
Major Surface Shipyards	8
Ammunition	86
ICBM	3
Fighter Aircraft	6
TOTAL	118

~~SECRET~~ (u)

Source: 4/4

Figure 3-2. (U) Final Assembly Plants in the USSR

a. Armored Vehicles (U).

(u)
(1) ~~(S)~~ Ten plants produce armored vehicles (Figure 3-3). Three manufacture medium tanks, and seven produce armored personnel carriers (APCs), ICVs, or scout cars. Table 3-1 gives production figures for Soviet armored vehicles during 1958-80.

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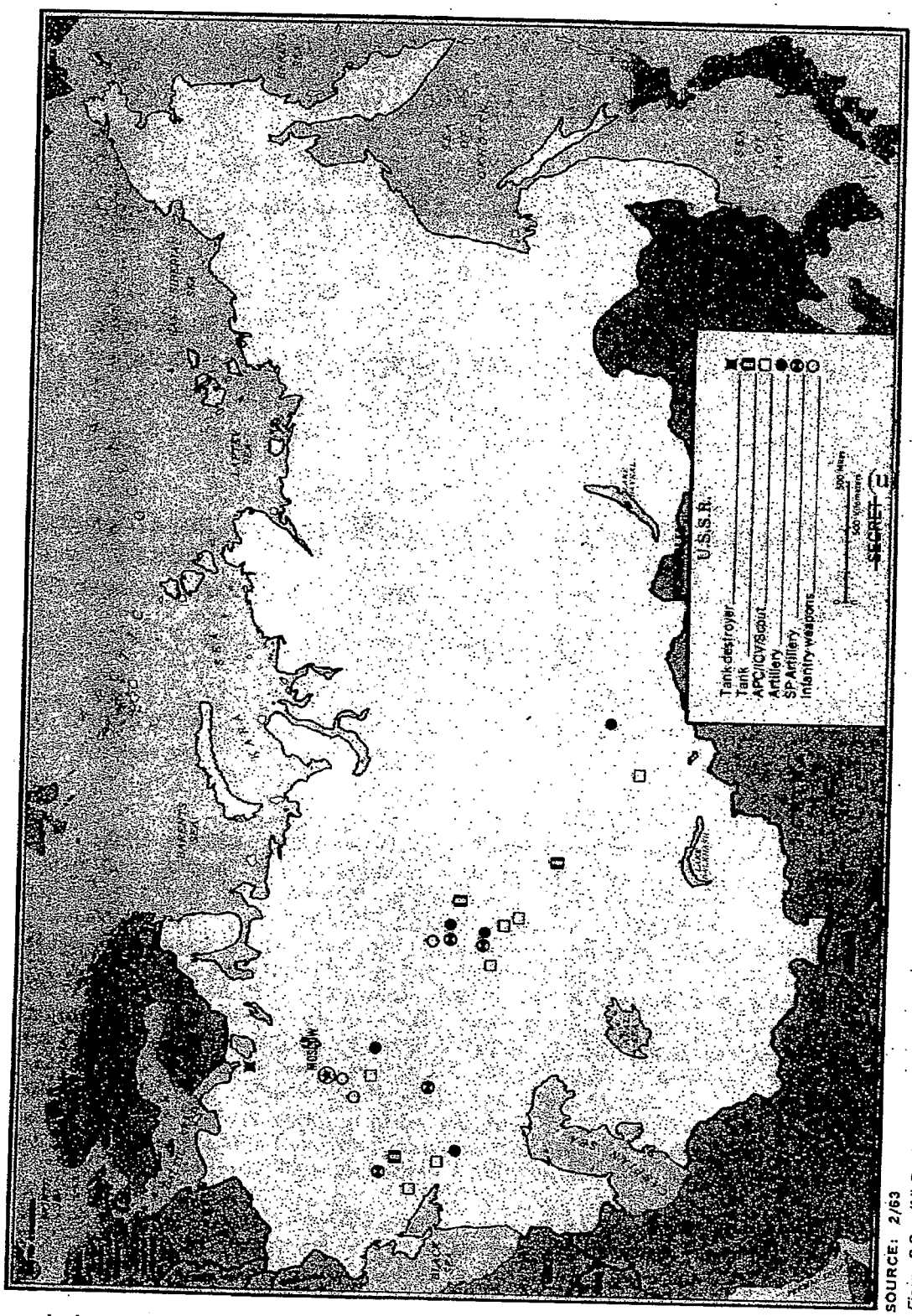

SOURCE: 2/63

Figure 3-3. (U) Soviet Arms Plants

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Table 3-1. (U) Soviet Armored Vehicle Production 1958-80

ITEM	PRODUCTION STARTED	1976	1977	1978	1979	1980	LIFETIME PRODUCTION
TANK, MED, T-55, 100mm	1958	800	300	300	300		26,800
TANK, MED, T-64, 125mm	1966	700	700	700	500	500	8,250
TANK, MED, T-72, 125mm	1973	1,400	1,400	2,000	2,000	2,500	9,900
TANK, MED, T-80	1979				50	200	250
AICV, BMB	1967	2,200	2,500	2,500	2,200	2,300	22,450
AAICV, BMB	1970	200	200	200	200	200	2,100
ARC, BTR-60B	1960	500	500	500	250	250	21,250
ARC, BTR-70	1974	500	750	1,200	1,700	1,700	6,450
ARC, BRDM-2	1966	1,000	1,000	1,000	1,000	1,000	16,250

~~SECRET~~ (u)

SOURCE: 2/6

(u)
(2) ~~(S)~~ Of the three plants that manufacture medium tanks, the plant in Nizhniy Tagil is by far the most significant in output and size. A major new tank assembly building was added for the T-72 program. This building, with a potential to assemble nearly 2,000 medium tanks annually, will replace or augment the main assembly line previously associated with the T-62. The T-72 is the only tank now being manufactured at this plant; the plant output was estimated at 2,500 for 1980. Nizhniy Tagil also manufactures railroad cars. The second plant is in Kharkov; it developed and now produces the T-64 and is trial producing the T-80. In 1980, its output was 500 T-64s and 200 T-80s. Kharkov also produces locomotive engines and frames and the chassis for LONG TRACK radar. The third plant is in Omsk; it produced the T-55 but probably is converting to the T-72. The conversion is taking time as series output did not commence in 1980 as planned. Omsk has also assembled MTU-20 tank-launched bridges.

(u)
(3) ~~(S)~~ Seven plants produce APCs, ICVs, or scout cars. Four--three of which have been added during the 1970s--assemble the BMP and three assemble APCs or scout cars. The Gorkiy Motor Vehicle Plant has the

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largest capability and its APC assembly lines have been modernized. The Kurgan Armored Vehicle Plant is probably the most modern plant and it manufactures the BMP. Overall plant capacity has been increased by over 20 percent with the plant additions of the 1970s.

b. Artillery (U).

(u)
~~(S)~~ Nine major plants have produced artillery (Table 3-2). Two in Sverdlovsk are believed to produce either the 122mm D-30 or the 122mm SP Gun M-1974; the latter is also produced in Kharkov. One of the Sverdlovsk plants is known to produce the GANEF chassis for the GMZ minelayer and it is likely that this plant also produces the chassis of other weapons: the 152mm SP Gun M-1973, the 203mm SP Gun, and the 240mm SP Mortars. The second plant in Sverdlovsk also makes tank gun tubes and the D-30 Howitzer. The artillery plant in Perm produces SP guns and various MRLs, the 130mm Field Gun(?), an antitank gun, as well as tank gun tubes. The major expansion at Perm is most likely related to the acquisition of new barrel-forging equipment and special steel for the gun tubes. Several other plants are also believed to have installed this new type of equipment. The artillery plants in Gorkiy and Yurga produce the T-12M antitank gun, and plants in Ulyanovsk and Tula have manufactured the ZSU-23-4 and ZU-23 antiaircraft weapons, respectively. A ninth facility--Volgograd 221--formerly produced a mountain gun but now makes tank gun tubes and is developing 120mm mortars.

Table 3-2. (U) Soviet Artillery Production 1976-80

ITEM	PRODUCTION STARTED	1976	1977	1978	1979	1980	LIFETIME PRODUCTION
FA,GUN,122mm,SP,M-1982	1980					50	50
FA,GUN,122mm,SP,M-1974	1972	500	500	200	100		2,250
FA,GUN,130mm,SP	1979				5	10	15
FA,GUN,152mm,SP,M-1973	1972	400	400	400	100		2,150
FA,GUN,152mm,SP,M-1982	1980					50	50
FA,GUN,203mm,SP,M-1975	1975	10	30	30	30	30	135
MORT,240mm,SP,M-1977	1976	20	40	40	40	40	180
ATGN,100mm,T-12M	1975	200	500	700	700	700	2,900
FA,HOW,122mm,D-30	1962	500	500	500	500	250	11,050
ATGN,125mm	1975	50	50	50	50	100	375
FA,GUN,130mm	1976	50	100	100	100	100	450
FA,GUN,130mm,M-46	1952	100	100	100	100	100	7,600
LCHR,FROG,7	1965	60	60				7,200
FA,RKTL,122mm,RM-21,40RD	1964	400	400	400	200		4,200
FA,RKTL,122mm,ZIL131	1978			50	100	200	350
FA,RKTL,122/140mm,MRL,GAZ66	1974	15	30	30	30	20	150
FA,RKT,220mm,BM27	1976	25	50	50	100	100	325
ADA,23mm,QUAD,SP,ZSU-23-4	1965	500	400	100	100	100	4,475
ADA,23mm,TWIN,ZU-23	1962	300	200	100			5,800

~~SECRET~~ (u)

Source: (2/11)

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c. Infantry Weapons (U).

(u)

~~(S)~~ Six plants produce infantry weapons (Table 3-3). Three produce rifles, one manufactures automatic grenade launchers and mortars, one makes antitank (AT) weapons, and one manufactures both machineguns and AT weapons. Capacity has been increased with the acquisition of large quantities of modern barrel-forging machinery.

d. Ammunition and Explosives (U).

(u)

~~(S)~~ More than 100 facilities have been identified as producers of ammunition components, explosives and propellants, and/or as assemblers of complete rounds of ammunition. Plant locations are shown in Figure 3-4. Included within this group are major ammunition loading or final assembly plants, significant explosives plants producing TNT and/or RDX, and double base and single base propellant plants. There are many more plants or depots where ammunition is manufactured or assembled as indicated by plant numbers or letters that have not been linked with specific facilities.

e. Transport and Engineering Vehicles (U).

(u)

(1) ~~(S)~~ Fifteen plants produce multidrive trucks in the USSR. The locations of these plants are shown in Figure 3-5 and their estimated output is shown in Table 3-4. Over two-thirds of the facilities are located in the Russian Soviet Federated Socialist Republic (RSFSR), three in Belorussia and one in the Ukraine. The plants having the largest capacities are located in Gorkiy, Moscow, and in Naberezhnyye Chelny, at the new Kama River Truck Plant. The Gorkiy plant is also an important producer of armored vehicles. These three facilities also provide large numbers of vehicle chassis and engines to other motor vehicle plants for the assembly of special purpose vehicles. Their combined capacity equals nearly 70 percent of total vehicle production in the USSR.

(u)

(2) ~~(S)~~ The Soviet Union still suffers from a chronic shortage of both heavy trucks and spare parts. The giant Kama River Truck Plant, constructed at Naberezhnyye Chelny to help reduce this shortage, produces diesel engines and trucks in the 5-19 ton capacity range and probably will turn out even heavier trucks in the near future. Limited production started at this plant in 1976, with the completion of the first assembly line. When the plant reaches peak design capacity, it will produce approximately 250,000 diesel engines and 150,000 trucks per year. The Kama River Truck Plant was constructed at a cost of $4 billion, of which US sales totaled approximately $.5 billion. However, problems arising from improper equipment installation and maintenance so far have kept the plant from reaching its projected production goals. Eleven major plants are confirmed producers of engineering equipment.

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Table 3-3. (U) Soviet Infantry Weapons Production 1976-80

Item	Production Started	1976	1977	1978	1979	1980	Cumulative Output
MORT, 82mm, Automatic, Vasilyok	1974	1,500	2,000	2,500			7,500
MORT, 120mm, M1979, Towed	1979				500	500	1,000
ROLS, 73mm, New	1976	100	500	1,000	1,000	1,000	3,600
GRLCHR, Automatic, AGS-17 Plamya	1976	250	500	500	500	500	2,250
ATRKTL, 80mm, RPG-74	1972	18,000	12,000	8,000	3,000	2,000	88,000
MG, 5.45mm, RPK-74	1976	5,000	10,000	10,000	20,000	4,000	49,000
MG, 7.62mm, PKM/PKMS	1971	2,500	2,500	2,500	1,000	500	18,000
MG, 7.62mm, RPK	1961	1,000	1,000	1,000	1,000	1,000	88,000
RFL, 5.45mm, AK/AKS-74	1974	100,000	100,000	300,000	300,000	300,000	970,000
RFL, Sniper, 7.62mm, SVD	1964	250	250	250	250		16,000
RFL, 7.62mm, AKM/AKMS	1959	100,000	100,000	100,000	100,000	100,000	3,757,000

SOURCE: 2/20

~~SECRET~~ (U)

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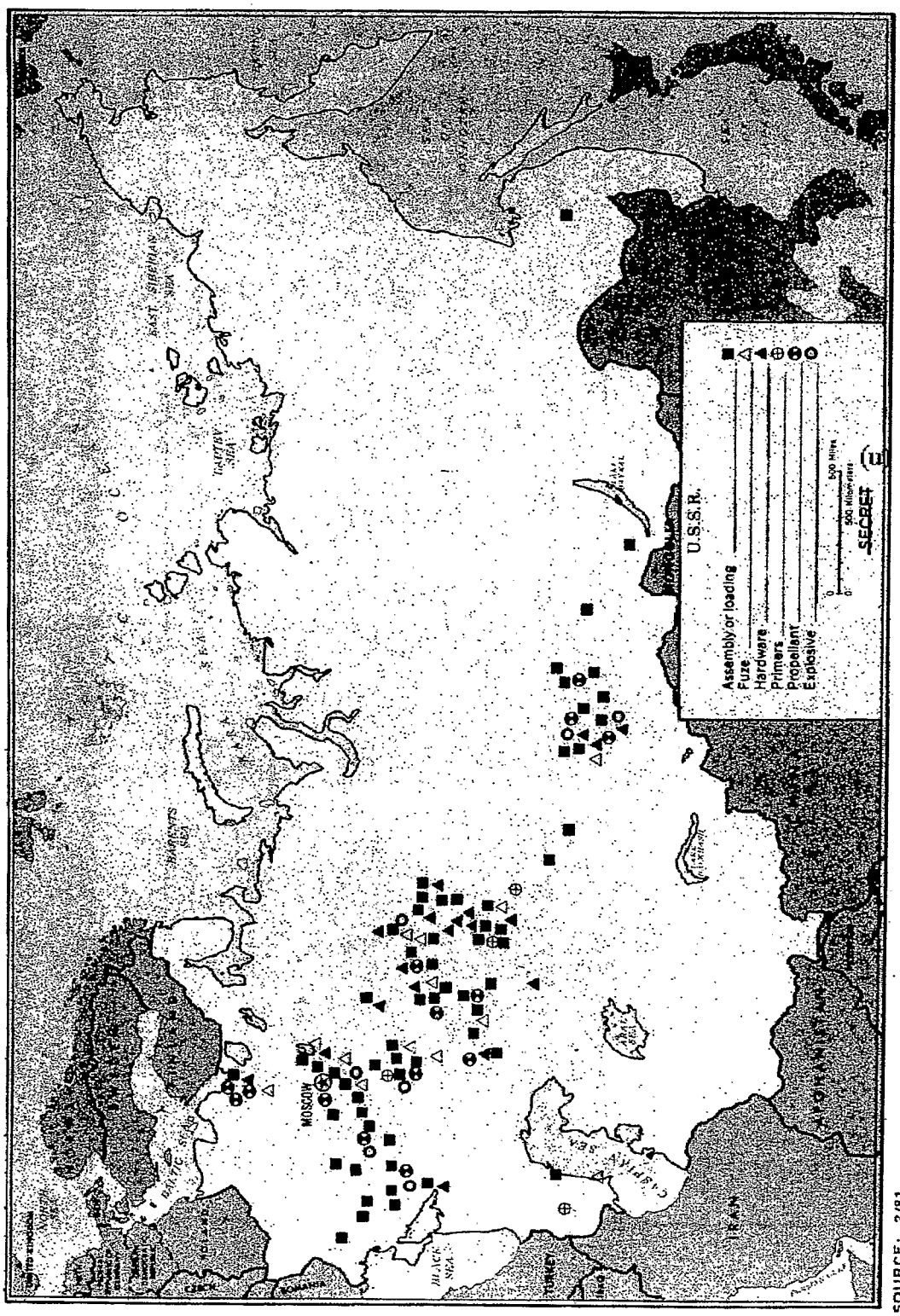

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Figure 3-4. (U) Soviet Ammunition Facilities

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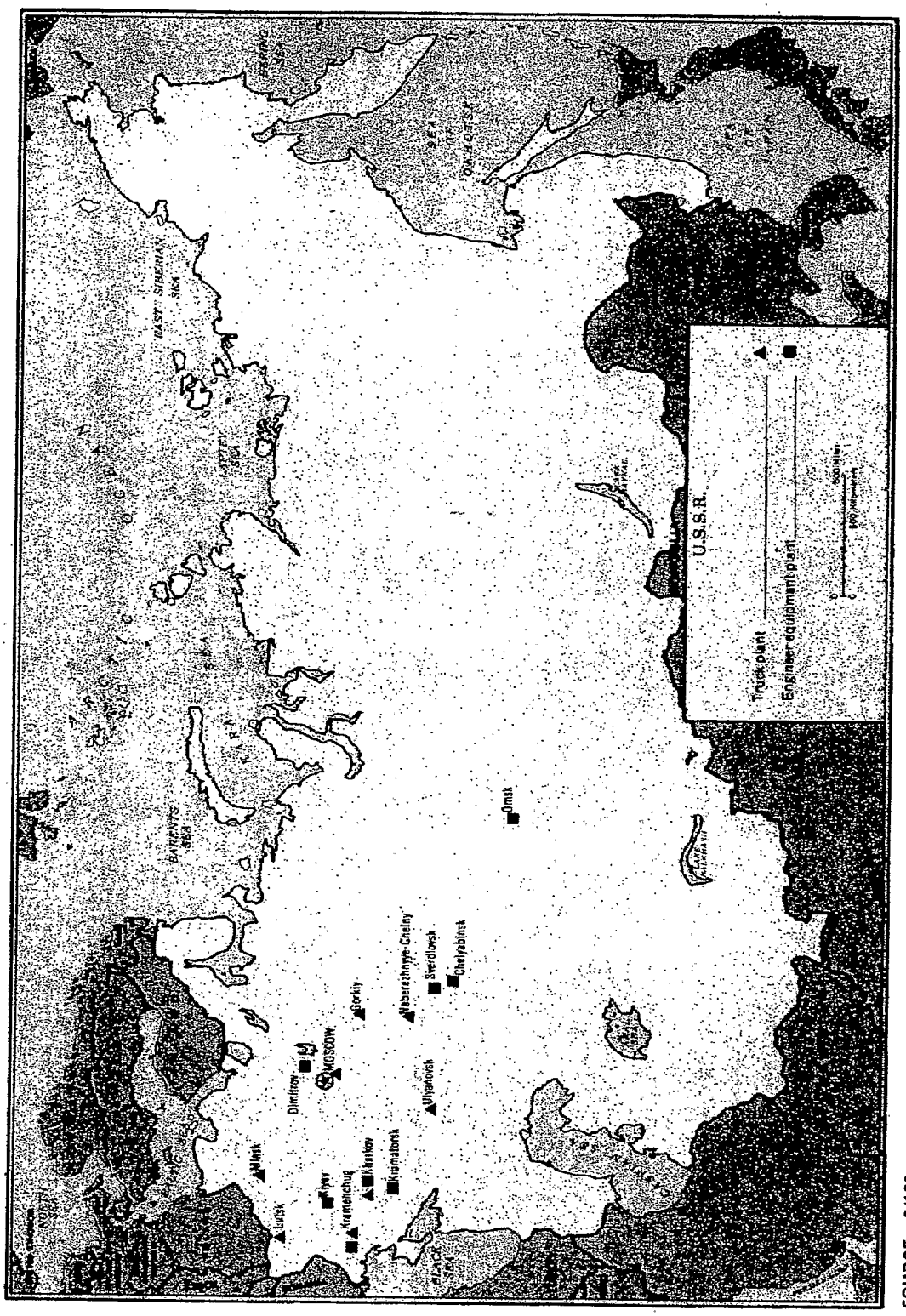

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Figure 3-5. (U) Multidrive Truck and Engineer Equipment Plants

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Table 3-4. (U) Major Soviet Transport Vehicle Production 1976-80

Item	Production Started	1976	1977	1978	1979	1980	Cumulative Output
ASV, Arty Trtr, MT-LB	1969	300	300	100	50		3,000
TRK Tractor, KRAZ-258, 6x4	1958	3,100	3,100	3,000	3,100	3,150	65,940
TRK Tractor, MAZ-537, 8x8	1964	700	700	700	700	700	9,800
TRK, ½-Ton, LUAZ-969	1965				11,000	11,000	176,000
TRK, ¾-Ton, UAZ-451 Van	1972	12,950	13,000	28,415	28,699	32,638	157,253
TRK, BV, ¾-Ton, 4x2, UAZ-452	1968	17,650	18,128	20,329	20,532	21,280	196,763
TRK, 0.6-Ton, 4x4, UAZ-4698	1973	46,000	46,000	46,000	46,000	46,000	321,400
TRK, 2.5-Ton, 4x2, GAZ-52	1973	16,000	16,000	16,000	16,000	17,500	132,201
TRK, 4-Ton, 4x2, GAZ-53A	1965	181,500	182,500	219,914	234,530	248,143	2,006,729
TRK, 2-Ton, 4x4, GAZ-66	1964	102,000	103,000	115,762	121,550	124,067	1,208,375
TRK, 5-Ton, 6x6, KAMAZ-4310	1978			13,670	20,670	24,170	58,510
TRK, 8-Ton, 6x4, KAMAZ-5320	1976	4,000	15,000	13,670	20,670	26,227	79,567
TRK, 8-Ton, 6x4, KAMAZ-5410	1977		7,000	13,670	20,670	27,505	68,845
TRK, 4-Ton, 4x2, MAZ-503	1966	11,387	11,185	11,110	11,467	11,685	136,271
TRK, 4.5-Ton, 4x4, MAZ-505	1962	7,600	7,600	7,600	7,600	7,600	129,200
TRK, Cargo, 7-Ton, 8x8, MAZ-535	1964	200	200	200	200	200	3,400
TRK, 4.5-Ton, 6x6, URAL-3750	1965	40,000	40,000	25,380	26,649		390,740
TRK, Cargo, 5-Ton, 4x2, ZIL-130	1962	113,000	112,372	116,900	118,900	122,165	1,707,269
TRK, Cargo, 3.5-Ton, 6x6, ZIL-131	1966	40,800	41,000	55,000	55,000	58,570	506,012
TRK, 2.5-Ton, 6x6, ZIL-157	1958	3,500	3,500	3,500	3,500	3,500	450,365
TRK, 4-Ton, ZIL-MMZ-555	1968	41,500	41,500	40,000	40,000	40,000	513,430
TRK, 8-Ton, 6x6, KRAZ-2558	1967	7,950	8,000	7,350	7,550	7,680	100,393
TRK, 12-Ton, KRAZ-257	1965	6,200	6,300	6,700	6,900	7,125	102,950
TRK, 7.5-Ton, 6x6, MAZ-500	1970	9,200	10,000	9,800	10,000	10,225	105,825
TRK, 8-Ton, 8x8, ZIL/BAZ-135	1964	100	100	100	100	100	1,700

SOURCE: 2/3

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4. Production Output (U).

a. Armored Vehicles (U).

(1) General (U).

(U) ~~(S)~~ The Soviets are by far the world's leading manufacturers of armored vehicles; they continually upgrade their products. At present, for example, several older model armored vehicles are being phased out and newer versions introduced. The output levels for these vehicles are shown in Table 3-1.

(2) Medium Tanks (U).

(U) (a) ~~(S)~~ The medium tank is the key ground forces weapons system. Neither the advent of antitank guided missiles (ATGMs) nor the results of their application in modern conflict have altered the Soviet view of the tank's importance. The tank production has been consistently high--2,000 to 3,000 a year (Table 3-1). Maximum output could reach 22,200 tanks a year under mobilization conditions. This figure assumes the conversion of railcar production lines at the prime tank plant. Without this change, capacity would be 9,000 fewer. It also assumes our floorspace estimating methodology is accurate. Our experience shows that for every 500,000 square feet of assembly floorspace there is a capacity to make up to 3,000 tanks.

(U) (b) ~~(S)~~ Two medium tanks are in series production - the T-64 and the T-72. Production of the T-55 was probably halted after 1979 and production of the T-62 ceased in 1975. The most modern tank, the T-80, is in the trial-production, troop-testing stage; this improved tank should enter series production in the mid-1980s. Output rates of the T-72, which has been serially produced since late 1973, have increased steadily and could reach a peak at about 3,000 annually by 1981.

(3) Armored Personnel Carriers, Infantry Combat Vehicles, and Scout Cars (U).

(U) (a) ~~(S)~~ Current output of armored personnel carriers, infantry combat vehicles, and scout cars includes both tracked and wheeled versions. All are amphibious and designed to provide some degree of chemical, biological, and radiological (CBR) protection. Output of these vehicles has fluctuated in the past few years as follow-on models, requiring some retooling of production lines, have been introduced.

(U) (b) ~~(S)~~ Modified versions of the BMP, the world's first ICV, are in series production. A similar combat vehicle, the BMD, is being produced to equip airborne divisions. A turretless version of the BMD, called the BTR-D, has appeared in Afghanistan with Soviet airborne units. The BTR-70, an apparent successor to the BTR-60, was to have entered production in the early 1970s but was delayed until 1974. Its production ceased temporarily in 1981-82. Production of the MT-LB prime

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mover, which also serves as an APC, continues. Output of the BRDM-2 Scout Car also continues. Fully mobilized capacity for APCs/ICVs is believed to be 18,000 and for scout cars, 11,000 annually. Overall, exports of these vehicles account for 18 percent of production.

b. Artillery (U).

(1) General (U).

(u)
~~(S)~~ A wide variety of both towed and SP artillery weapons, including field guns, AT guns, howitzers, rocket launchers, mortars, and antiaircraft (AA) guns are in production and development. Artillery production estimates are shown in Table 3-2.

(2) Field and Antitank Guns (U).

(a) Towed Pieces (U).

(u)
~~(S)~~ One of the world's best AT guns, the 100mm T-12, was produced from 1965 until 1975 when an improved model, the T-12M, was introduced. A newer AT gun, probably 125mm in caliber, is believed to be in development. The old 130mm M46 Field Gun continues to be produced for export as does the D-30 Howitzer. An improved probable 130mm system is in advanced development and is at least partially deployed. The maximum capacity for towed pieces is estimated to be 27,200 annually.

(b) Self-Propelled Field and Antitank Guns (U).

(u)
~~(S)~~ Three SP weapons are produced to enhance artillery mobility. Follow-on versions to two of the three are in development and should be produced serially within the next several years. An AT version should enter series production in the early 1980s. The 122mm SP Gun M-1974 and the 152mm SP Gun M-1973 were produced until at least 1979 and follow-on models are now being developed. The M-1974 is replacing the 122mm D-30 howitzer, and the M-1973 is replacing the 152mm towed versions in artillery regiments. However, not all 122mm and 152mm towed weapons are expected to be replaced. A third and larger system, probably 203mm in caliber, possibly has been deployed with nondivision heavy artillery brigades. Production requirements for the 203mm system are assessed to be a modest 250 to 300 units. Over 300 SP units, excluding 203mm SPs, have been exported. Fully mobilized production capacity of all these systems is assessed to be as high as 5,000 yearly.

(3) Mortars (Large Caliber) (U).

(u)
~~(S)~~ One towed and two SP mortars are being produced or developed. The 240mm SP Mortar has been produced since 1976, while towed and SP 120mm mortars probably are being produced or developed. The estimated maximum annual capacity is 1,000 for the SP version and 2,000 for the towed weapons.

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(4) AA Pieces (U).

(u) ~~(S)~~ Only the ZSU-23-4 self propelled AA gun is in production, as output of the towed ZU-23 is estimated to have ceased in 1978. Development of a possible 30 to 40mm SP system is underway and is postulated to enter production by the mid-1980s. The new, possibly multibarrel system could be mounted on a medium tank chassis and has a full solution fire control system. No new towed systems are thought to be in development. Estimated maximum annual capacity is 5,000 for the SP systems and 10,000 for the towed versions.

(5) Rocket Launchers (U).

(u) ~~(S)~~ Four multiple-rocket launchers (MRLs) are being manufactured. The 122mm BM-21 MRL is being phased out, but production continues at a steady pace for the version mounted on the ZIL-131 6x6 truck chassis. The two other MRLs in production are a 122mm/140mm MRL mounted on a GAZ-66 4x4 truck chassis and the 220mm MRL BM-27 mounted on the ZIL-135 8x8 truck chassis. The singleround FROG-7B launcher was phased out of production in 1978 in favor of the SS-21. The estimated maximum annual capacity is nearly 4,000 for the MRLs and 600 for FROGs.

c. Infantry Weapons (U).

(1) General (U).

(u) ~~(S)~~ Infantry weapons in production include recoilless guns, automatic and manual grenade launchers and mortars, assault and sniper rifles, and lightweight and general purpose machineguns. Estimated output levels are shown in Table 3-3.

(2) Recoilless Guns and Grenade Launchers (U).

(u) ~~(S)~~ A product-improved model of the standard SPG-9 Recoilless Gun is probably in production and a new AT grenade launcher, the RPG-16, has been observed with Soviet airborne forces. A second new light AT weapon, the RPG-18, is a disposable weapon that will reportedly take the place of RKG AT grenades. The AGS-17 Automatic Grenade Launcher, also known as the "Plamya", can be mounted on a vehicle or fired from a tripod ground mount; it has been deployed with Soviet forces in Soviet and Warsaw Pact (WP) forces. The maximum annual production capacity is 5,000 recoilless guns, 25,000 AT grenade launchers, and 500,000 light AT weapons.

(3) Mortar (Medium Caliber) (U).

(u) ~~(S)~~ The 82mm Vasilyok Automatic Mortar, mounted on trucks or APCs, is speculated to have gone out of production. A 120mm towed mortar is being developed. Older towed mortars have not been manufactured for some time. The maximum annual capacity for such pieces is 10,000.

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(2) Protective (U).

(u)
(a) ~~(S/NOFORN)~~ A wide variety of protective materiel is produced for the Soviet military and for recipients of Soviet foreign aid. The Shlem-1 protective mask and the MO-2 and MO-4U filter canisters, as well as a variety of other protective mask assemblies, are manufactured. Rubberized impermeable protective suits with boots and gloves, air-permeable impregnated protective clothing, and paper capes and ground sheets are also made. In addition, various kits and apparatus for CW agent detection and decontamination are made. The Soviet Union manufactures its own nerve agent antidotes and antidote syrettes; the latter are produced and filled using imported West German equipment and technology.

(u)
(b) ~~(S/NOFORN/WNINTEL)~~ Several types of CW decontamination vehicles are produced, including the TMS-65, ARS-type, DDA-type, and AGV-3 set. Appproximately 8,000 of these vehicles are with Soviet ground forces. An additional sizable but undetermined number are with the Soviet Air Force, Navy, and Civil Defense organizations or have been exported. An estimate of the numbers of decontamination vehicles produced is shown in Table 3-6.

Table 3-6. (U) Soviet Decontamination Vehicle Production 1976-1980

ITEM	PRODUCTION STARTED	1976	1977	1978	1979	1980	LIFETIME PRODUCTION
TMS-65 Decontamination Truck	1968	45	45	45	45	45	540
DDA-66 Decontamination Truck	1970	75	75	75	75	75	725
ARS-14 Decontamination Truck	1972	415	415	415	415	415	3,320

Source: (2/29) ~~SECRET/NOFORN/WNINTEL~~ (u)

f. Military Electronics Equipment (U).

(1) General (U).

(u)
(a) ~~(C)~~ The Soviet Union has the technolgy and resources necessary to develop and manufacture the diversity of electronics equipment required by a large, modern army. Output is sufficient to meet domestic requirements and to permit substantial exports.

(u)
(b) ~~(C)~~ The design of some Soviet electronics equipment is dated by US standards, primarily because of the US lead in microelectronic

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technology, but the Soviet equipment is effective and fulfills ground forces requirements. Much of the Soviet lag in microelectronics technology is attributable to deficiencies in Soviet production capabilities. As a result, the Soviet Union invests considerable amounts of effort and money in obtaining advanced Western and Japanese production and test equipment. For example, the Soviets have made many purchases of production machinery and supplies for making printed circuit boards. The Soviets also copy Western electronic equipment; for example, the IBM 360 and 370 computers are the basis for the Soviet Ryad I and II series general purpose computers. Such transfers of technology serve to upgrade the general Soviet electronics technology base and production capabilities with a resultant beneficial effect on the quality of military equipment.

(2) Telecommunications Equipment (U).

(u)
(a) ~~(C)~~ The total range of telecommunications equipment produced in the Soviet Union provides the ground forces with parallel and reserve communication links that are combined to form a complex integrated system capable of providing communications over distances up to thousands of kilometers. This reflects the great emphasis on mobile, secure, reliable, and durable command and control. Among the telecommunications items the Soviets produce are tactical radios, radio relay stations, satellite communications equipment, and wire communications equipment.

(u)
(b) ~~(S)~~ Tactical radio transceivers currently in production include the R-107 and R-111, which are replacing the R-105, R-108, and R-114 series of tactical radios; the R-123, which is the standard armored vehicle radio and is replacing the R-113; and the R-130 command vehicle radio, which is the follow-on to the R-104 and R-112. Tens of thousands of these tactical radios are produced annually, but there is a capacity for production surges approaching and even exceeding 200,000 units per year.

(u)
(c) ~~(S)~~ Van-mounted radio stations in production are the R-136 and R-140. The R-136 is replacing the R-110. The R-140, which is a highly sophisticated, transistorized high-frequency radio station capable of being remotely controlled at distances up to 20 km via wire or radio, is replacing the R-102 and R-118.

(u)
(d) ~~(S)~~ Several mobile radio-relay systems are in production. The 24-channel R-404 is the follow-on to the R-400. The R-409/CATS PAW/CATS EYE, which is capable of 3, 6, or 12 channels, depending on the multiplexer used, is the replacement for the R-401/405 system. The R-410/TWIN PLATE utilizes tropospheric scatter, is capable of 3, 6, or 12 channels, and is replacing the R-400. The R-133/TWIN EAR is also a tropospheric scatter system normally used in a two-channel mode, although it is capable of 3 and 12 channels. The R-133 is replacing the R-122. The newest tropospheric scatter radio relay equipment in production is the R-412.

(u)
(e) ~~(S)~~ PARK DRIVE is a mobile satellite communications terminal produced by the Soviets for use by the ground forces.

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(f) (u) ~~(C)~~ The Soviets make a multitude of other telecommunications equipment such as field telephones, field switchboards, ZAS encryption/decryption devices, teleprinters, telegraph keyers, armored vehicle intercom units, and multiplexers. Vehicular mounted communications centers, such as the P-299M, contain a diversity of telecommunications equipment to receive, process, and disseminate tactical communications.

(3) Radars (U).

(a) (U) Currently produced Soviet radars used by ground forces include battlefield, fire control, and missile control radars. Table 3-7 shows production output for selected ground force radars.

(b) (u) ~~(S)~~ One portable and three APC-mounted battlefield radars are currently produced. The PSNR-3 battlefield surveillance radar may have replaced the PSNR-2. The signal parameters of the PSNR-3 are unknown, but probably are similar to the PSNR-2, which can detect personnel to a maximum distance of 3 km and vehicles to a maximum distance of 10 km. SMALL FRED is a battlefield surveillance radar, mounted on the BMP variant M-1975, used for target tracking artillery fire adjustment. It is the only radar deployed with both the 122mm and 152mm SP artillery; its maximum detection range is 20 km. BIG FRED is assessed to be either a battlefield surveillance or countermortar/counterbattery radar and is mounted on an MT-LB chassis. SMALL FRED and BIG FRED incorporate milimeter wave technology, which provides for excellent target resolution and measurement accuracy. Production of PORK TROUGH and SMALL YAWN battlefield radars has ended with the introduction of SMALL FRED and BIG FRED. Another battlefield radar, TALL MIKE, is stowed in a BMP variant M-1976; TALL MIKE is assessed as a short-range, unsophisticated radar similar to the PSNR radars and is intended for surveillance and reconnaisance.

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Table 3-7. (U) Soviet Radar Production 1976-80

ITEM	PRODUCTION STARTED	1976	1977	1978	1979	1980	LIFETIME PRODUCTION
RADAR,MSL,LOW BLOW (SA-3)	1961	30	30	30	30	10	720
RADAR,MSL,PAT HAND (SA-4)	1967	60					600
RADAR,MSL,STRAIGHT FLUSH (SA-6)	1971	45	45	45	45	30	550
RADAR,MSL, LAND ROLL (SA-8)	1972	40	40	40	40	40	425
RADAR,MSL FO,FLAP LID (SA-10)	1977		10	20	30	40	100
RADAR,MSL ACQ,CLAM SHELL (SA-10)	1978			10	40	50	100
RADAR,FC,GUN DISH	1965	500	400	100	100	100	4,475
RADAR,FC,FLAP WHEEL	1967	20	20	20	20	20	2,000
RADAR,CB/CM,BIG FRED	1975	10	15	20	20	15	85
RADAR,SURV,SMALL FRED	1975	50	50	50	50	50	275

Source: 2/30

~~SECRET/NOFORN/WNINTEL~~ (u)

(c) (u) ~~(S)~~ Production of fire control radars for use with towed AA artillery has virtually ended. They have been replaced by the GUN DISH radar-equipped ZSU-23-4 SP AA gun and by radars associated with mobile tactical SAM systems. FLAP WHEEL is the only towed AA gun fire control radar still in production; it is replacing the less mobile and less sophisticated FIRE CAN fire control radar for use with 57mm AA guns, which will remain in service for several more years; FLAP WHEEL is being deployed increasingly outside the Soviet Union.

(d) (u) ~~(S/NOFORN/WNINTEL)~~ Tactical SAM system radars still in production are STRAIGHT FLUSH (SA-6) and LAND ROLL (SA-8). Production of a third tactical SAM radar, PAT HAND (SA-4), has ended. STRAIGHT FLUSH, which is mounted on a tracked chassis separate from the missile TEL consists of both a target acquisition/surveillance radar and a target tracking radar. LAND ROLL, which consists of target surveillance and fire control radars, is integrated with the missile launchers on a very mobile six-wheeled vehicle. A new tactical missile system, the SA-11, is under development. The SA-11 TEL is used by some SA-6 units with SA-6 missiles. How-

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ever, the SA-11 TEL has a radome that probably mounts fire control radars and significantly enhances the target engagement capability of the SA-6 unit. A new acquisition radar for the SA-11 is expected to enter series production soon. As a result, STRAIGHT FLUSH production should be phased out.

(4) Electronic Warfare Equipment (U).

(u)
(a) ~~(C)~~ Soviet combat doctrine integrates physical destruction resources with electronic warfare (EW) resources for the disruption of enemy command, control, and communications systems and the protection of friendly electronic control systems. To equip the largest EW force in the world, the Soviets produce in large numbers a variety of EW systems designed to intercept, locate, and jam enemy emissions. New equipment is being developed on a regular basis.

(u)
(b) ~~(S)~~ The primary high-frequency, tactical direction-finding system deployed by Soviet ground forces is FULL HOUSE. In 1974, production started on a new mobile control station for this system. The new equipment, called BOX TOP, is mounted on a URAL-375 van truck replacing the previously used ZIL-157 truck. Cumulative production of these new FULL HOUSE control vehicles is estimated at between 300 and 500 units. Another series of groundbased communications intercept and direction-finding (DF) equipment began production in the early 1970s and is known as the TURN series: TURN CUT (HF), TURN TWIST (UHF), and TURN SPIKE (VHF). TURN SPIKE is the follow-on to SPIKE SQUARE, which has been the primary Warsaw Pact tactical VHF DF system. Significant production of the TURN series for integration in the division reconnaissance battalion and communications jamming units is expected. The Soviets make general purpose communications intercept receivers, such as the R-250M2, R-323, and R-314; sometimes they serve as components of intercept and DF systems, but the receivers may be installed in van trucks and function individually. Production of the R-250M2, probably the most utilized of the receivers, has averaged about 5,000 units annually in recent years; however, not all R-250M2 receivers go to Soviet ground forces.

(u)
(c) ~~(S/NOFORN/WNINTEL)~~ Several noncommunications intercept and DF systems currently are made in the Soviet Union and deployed with ground forces. VIEWPOINT, LONE BOX, and TWIN BOX are all van truck-mounted intercept systems. VIEWPOINT, which consists of four URAL-375 van trucks was first produced in the early-to-mid 1970s. However, production apparently has been minimal and system redesign may be occurring. Radar intercept and DF systems are NRS-1, which uses three tripod-mounted POLE DISH antennas and a mechanical computer, and van truck-mounted BAR BRICK and SWING BOX. Although BAR BRICK and SWING BOX are first-line equipment, they represent outdated technology and production may have ended in favor of other more modern systems.

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(d) (u) (S) Soviet ground-based jamming equipment varies from modified communications systems to sophisticated automatic jammers. The known Soviet ground-based jammers targeted against noncommunication systems are primarily for use against aircraft radars. Soviet communication jammers are due for replacement and/or upgrading soon. Thus, production of tactical communications jammers R-834P (UHF), R-330A (VHF), R-325 (HF), and R-378 (HF) is probably ending. Follow-ons to the R-325 and R-378 are anticipated with higher jamming powers. The follow-on to the R-834P is expected to have a broader frequency range and automatic tuning. Aircraft radar jammers in production include KING PIN and JACK KNIFE. A third jammer, TUB BRICK, may no longer be in production. TUB BRICK is possibly being replaced by a new jammer, BIG CAP. A new three-vehicle system called PAINT BOX is currently assessed to be a radar-jamming control system.

(5) Radiation Detectors (U).

(u) (S) A complete line of radiation detection devices are made in large quantities. As many as 13,000 DP-3B vehicle-mounted area survey meters and 50,000 DP-5A portable contamination/area survey meters have been produced in a single year. Pocket dosimeters are made for the individual troops.

(6) Electro-Optical Devices (U).

(u) (C) The Soviets produce a variety of electro-optical equipment for their army, including night-vision devices, low-energy laser devices, and television tracking systems. Night-vision devices are produced for several types of ground forces equipment, including night driving systems for armored vehicles, artillery rangefinders, sighting devices for small arms and tank guns, and handheld observation devices. Thousands of these items are produced annually. For example, as many as 17,000 infrared night driving units and 7,600 commander's infrared observation units for SP weapons and armored vehicles have been produced in a single year. Portable laser rangefinders are made for use with artillery units. The Soviets probably are also making laser rangefinders for some tanks and other armored vehicles. Television target tracking systems are produced for use with SAM fire control radars such as STRAIGHT FLUSH and LAND ROLL.

(7) Computers (U).

(u) (S) The Soviets make specialized computers for command and control, weapons system control, and logistics and administration. Because demands on greater rates of signal and data processing are increasing rapidly, Soviet computer production for the ground forces should grow at a fast rate.

(8) Land Navigation Systems (U).

(u) (C) Navigation systems, such as the TNA series, are built for use in armored reconnaissance vehicles, command tanks, and air defense

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vehicles. Increasing use of computer control is being made in these systems. Specialized topographic survey vehicles, such as the GAZ-66T, are outfitted to assist firing accuracy for artillery and SCUD units.

g. Transport Vehicles and Engineering Equipment (U).

(1) Transport Vehicles (U).

(u)
(a) ~~(S)~~ The USSR's motor vehicle industry is the world's fifth largest, producing over a million transport vehicles in 1980. Many of these vehicles have tactical applications and are in widespread use by the Soviet armed forces. Although only a small quantity of the transport vehicles produced are directly assigned to the military, many are distributed to quasi-military transport units called autokolonnas (civilian vehicle pools available for military mobilization), where they are readily available to the military. The high-capacity trucks now being produced at the USSR's newest motor vehicle plant, the Kama River Truck Plant, are being used by the Soviet military.

(u)
(b) ~~(S)~~ In 1980, the USSR produced over a million transport vehicles, including over 86,000 jeep-type vehicles. Table 3-7 provided detailed information on the major types in production. The trend toward producing a wider variety of trucks with ever-increasing capacities and mobility probably will continue throughout the 11th Five-Year Plan (1981-85). Major design improvements contributing to increased off-road capacity include a tire inflation/deflation system, low-profile tires, locking differential, power brakes, and power steering. Soviet designers have also improved vehicle power-to-weight ratios.

(u)
(c) ~~(C)~~ Since 1969, the Soviets have been producing the MT-LB Tracked Prime Mover. While chiefly used to tow artillery, it also is used in marshy areas as an APC.

(2) Engineering Equipment (U).

(u)
(a) ~~(S)~~ The USSR is the world's largest producer of military engineering equipment and provides its ground forces with both a high degree of mobility and a fast-advance capability. Production is sufficient to provide for the requirements of Soviet forces and to support a substantial export trade, (Table 3-8).

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Table 3-8. (U) Soviet Engineering Equipment Production 1976-80

ITEM	PRODUCTION STARTED	1976	1977	1978	1979	1980	LIFETIME PRODUCTION
MINE,LAYER,GMZ	1968	300	300	300	300	100	2,850
AVLB,MTU-20	1967	50	50	50			1,550
AVLB,MTU-20 F.O.	1979				50	100	150
TRTR,ARMD ENG,M1972	1972	400	400	400	400	400	3,100

Source: (2/43) ~~CONFIDENTIAL~~ (u)

(b) (u) ~~(S)~~ The principal items recently produced are the GSP Heavy Amphibious Ferry, the KMM Truck-Mounted Treadway Bridge, the MTU-20 Tank-Launched Bridge, the PMP Heavy Folding Ponton Bridge, the TMM Truck-Mounted Scissors Bridge, and the TPP Heavy Ponton Bridge. The K-61 Amphibious Carrier is still in use, but it has been replaced in production by the PTS-M Heavy Tracked Amphibious Transporter.

(c) (u) ~~(S)~~ Among other landmine-associated engineering equipment are the GMZ Minelayer and the BTR-50PK Mineclearer, both produced exclusively for Warsaw Pact forces. The Soviets have also developed a new mineclearer, mounted on an M-1974 SP howitzer chassis, that uses a rocket-fired explosive hose to clear mines.

(d) (u) ~~(S)~~ Among other military engineering equipment are the IMR (M-1972) Armored Engineer Tractor, the BAT-M Bulldozer, the BTU-55 Tankdozer, the BTM, PZM-2, and the MDK-2M Ditching Machines. Plans exist for follow-on models of ditching machines (PZM-3 and 4), but there is no evidence of these ever having gone into production. Some of the T-64 and T-72 medium tanks have a special blade mounted under their frontal armor that affords a limited engineering capability by enabling it to dig itself into a fixed firing position.

(e) (u) ~~(C)~~ There are four new pieces of military engineering equipment under development. These are code named ZUBR (the BAT-M mounted on a T-64 chassis), the NOSORGO (the MDK-2M mounted on a T-64 chassis), the BISON (the equipment of the IMR armored engineer tractor mounted on a T-64 chassis), and the LED (a new ditching machine, based on the PZM-2, designed to operate in regions of permafrost). In addition, a new tank-launched bridge is in development. These new models are believed to be still in the testing/development stage and are not yet in series production.

5. Production Capacity (U).

a. (u) ~~(S)~~ The Warsaw Pact and NATO each have six tank plants; however,

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the Pact's plants are considerably larger with an annual production capability three times that of NATO's plants. The Soviet capacity is 90 percent of the Pact total. Furthermore, the Pact production base can be converted to military production faster than NATO's. than NATO's. Upon mobilization, even a small percentage increase in labor results in a larger numerical increase in production than can be realized by NATO. Two of the three largest Soviet facilities and the Polish tank facility produce heavy equipment in tandem with tanks using similar fabrication processes. Hence, when necessary, skilled workers can be transferred to the tank production sections of these plants to increase production by adding more shifts.

(u)
b. ~~(C)~~ Estimates of production capacities during wartime are based on the availability of resources, the size and number of plants producing major end items, and a consideration of other items produced by the same facility. Generally, the Soviet military enterprises operate on a 40-hour work week, 300 days a year. However, some reports indicate some two-shift work. It is believed that the Soviets work primarily single shift and that the second shift is at a greatly reduced level. Mobilization plans call for two 12-hour shifts per day. A comparison of 1980 Soviet weapons production data and estimated mobilization capacities is provided in Table 3-9 and 3-10.

(u)
c. ~~(S/NOFORN)~~ The buildup in Soviet production over time is shown in Table 3-11.

(u)
d. ~~(S/NOFORN)~~ It should be noted from Table 3-11 that very little increase occurs during the first 30 days following mobilization. Further, by M+180, approximately 25 to 40 percent of the annual capacity shown earlier in Table 3-9 has been achieved.

(u)
e. ~~(S)~~ The maximum production rate of most equipment would occur several months after the beginning of their mobilization for war. Table 3-12 shows the number of months required to reach peak production of major items of equipment.

6. Research and Development (U).

a. Overview (U).

(u)
(1) ~~(C)~~ The Soviets develop their new weapons based on requirements derived from tactical doctrine and sometimes according to an historical pattern. For example, the Sino-Soviet dispute probably led to a perceived need for weapons with greater effectiveness against ground troops. The automatic mortar, Vasilyok, and the automatic grenade launcher, "Plamya", and new models of MRLs could have been developed in response to this perceived need. On the other hand, medium tanks generally appear to be developed according to a 10-year cycle.(2/4)

(u)
(2) ~~(C)~~ Research institutes, design bureaus, and test ranges within the Ministry of Defense, the Ministry of Defense Industry (MOP), Ministry of Machine Building (MM), and other industrial ministries develop

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Table 3-9. (U) Weapons Annual Production Rates (Peacetime and Maximum)

Category	Model	Peactime 1980	Maximum
Medium Tanks	T-64	500	22,000
	T-72	2,300	
	T-80	200	
Towed Arty	100mm T-12M	700	
	122mm -30	250	
	125m AT	100	27,000
	152mm Gun M-1979/76	100	
	130mm M-46	100	
Sp Arty	122mm M-1982	50	
	130mm Gun	10	
	152mm M-1977	100	5,000
	203mm M-1975	30	
MRL	122mm ZIL-131	200	
	122mm GAZ-66	20	4,000
	220mm BM-27	100	
APC/ICV	BMP	2,300	
	M-1974	400	
	BTR-60P	250	18,000
	BTR-70	1,700	
	BMD	200	
Scout Car	BRDM-2	1,000	11,000

SOURCE: 10/2-151

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Table 3-10. (U) Transportation Vehicle Production Rates (Peacetime and Maximum)

Model	1980	Annual Capacity
GAZ-52	17,500	
GAZ-53	248,143	
GAZ-66	124,067	400,000
MTLB	—	500
KRAZ-255B	7,680	
KRAZ-257	7,125	32,250
KRAZ-258	3,150	
LUAZ-969	11,000	30,000
MAZ-500A	10,225	
MAZ-503	11,685	
MAZ-505	7,600	35,000
MAZ-537	700	
MAZ-535A	200	
ZIL-130	122,165	
ZIL-131	58,570	
ZIL-157	3,500	240,000
ZIL-135	100	
ZIL-555	40,000	
KAMAZ-4310	24,170	
KAMAZ-5320	26,227	150,000
KAMAZ-5410	27,505	
UAZ-451	32,638	
UAZ-452D	21,280	150,000
UAZ-469	46,000	

SOURCE: 10/2-162

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Table 3-11. (U) Soviet Phased Surge Industrial Mobilization Capacity (Monthly Output)

ITEM	M-DAY	M+30 DAYS	M+90 DAYS	M+180 DAYS
TANKS	240	240	300	830
APC/IFV/SCOUT CARS	445	450	650	900
FIELD ARTILLERY (SP)	20	20	30	110
FIELD ARTILLERY (TOWED)	120	140	220	485
AA ARTILLERY (SP)	8	8	20	100
AA ARTILLERY (TOWED)	0	15	50	100

Source: (10/2-13)

~~SECRET/NOFORN~~ (u)

Table 3-12. (U) Months to Reach Peak Production

EQUIPMENT	MONTHS TO PEAK
T-72	24
T-80	24
BTR-70	18
BMP	18
BRDM	18
122mm SP Howitzer	24
152mm SP Howitzer	24

SOURCE: (U) DIA Analyst's Files

~~SECRET~~ (u)

ground force weapons and ammunition. Guidance and approval is furnished from the Council of Ministries by the Military Industrial Commission (VPK) and within the Polit stages covering the initial Technical Assignment to the final stage of Stabilized Series Production are completed within the specifications and goals of the Unified System of Design Documentation (YeSKD).

(u)

(3) ~~(C)~~ The number of systems generated within this organizational structure is impressive. Since 1970, the Soviets have introduced well over 35 systems, including three battlefield radars, two tanks, three helicopters, three small arms, four artillery systems, three MRLs, and a new generation of trucks.

b. Control of R&D (U).

(u)

(1) ~~(S)~~ The Soviet R&D effort falls under the control of two overlapping bureaucracies--the Communist Party of the Soviet Union (CPSU), which establishes policy, and the Council of Ministers, which implements policy (see Figures 3-6 and 3-7). The highest ranking party member who oversees

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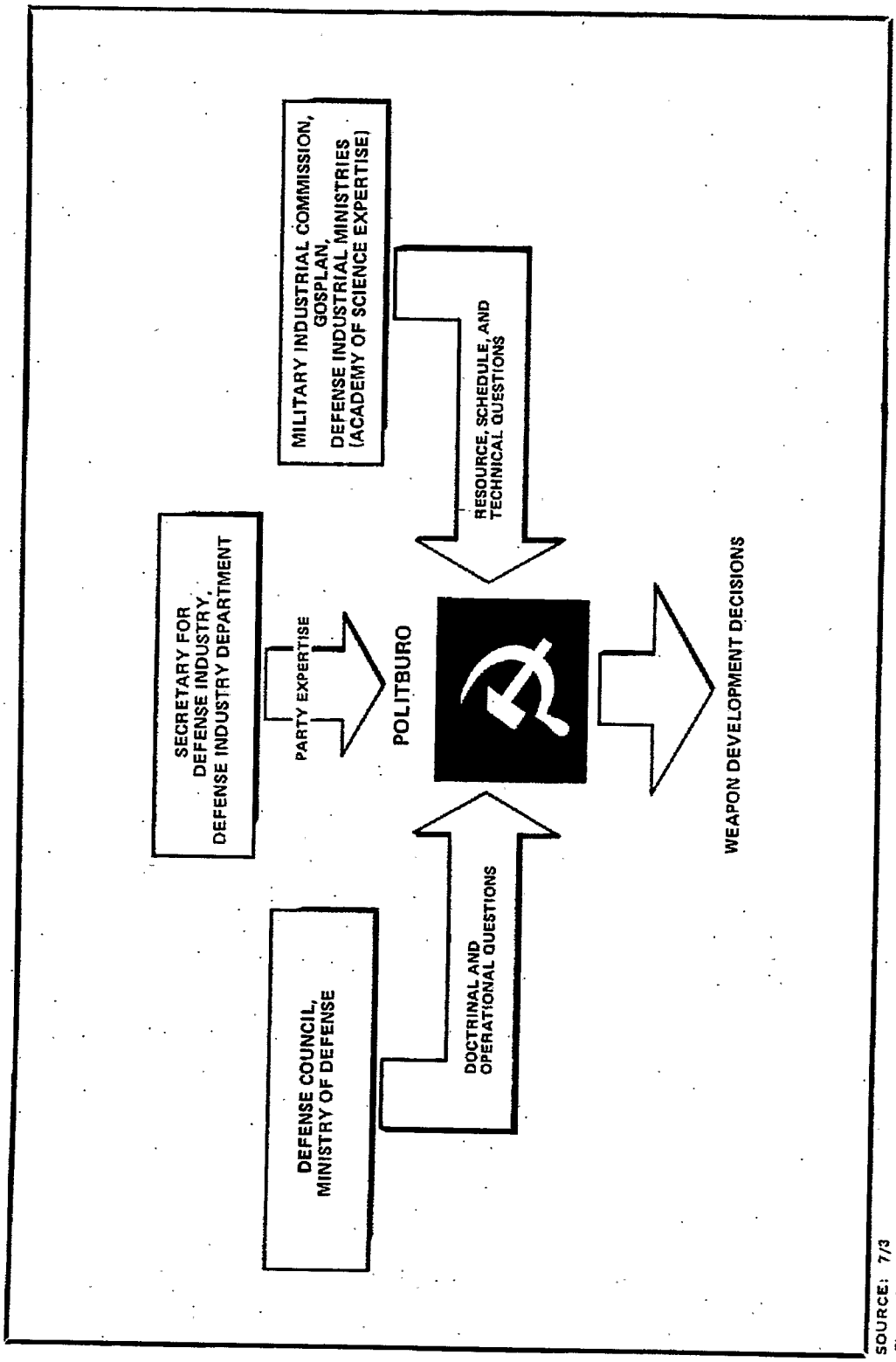

Figure 3-6. (U) Factors Influencing Weapons Development

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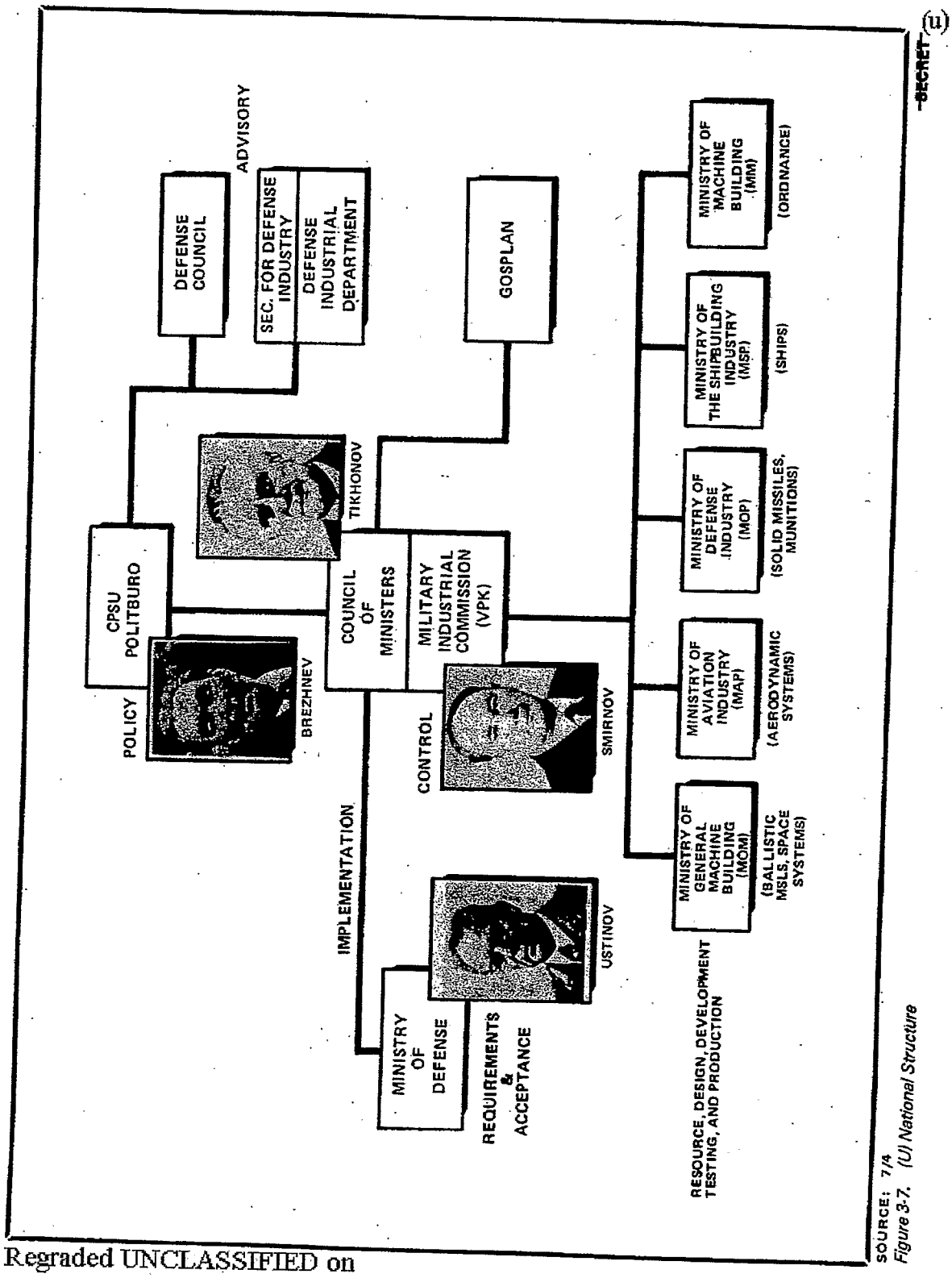

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Figure 3-7. (U) National Structure

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Pages

3-36 through 3-39

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into military doctrine.

(b) Generation of Requirements (U).

(u) ~~(S)~~ The main technical directorate for each armed service generates weapons system requirements by preparing and issuing tactical technical requirements (TTT).

(c) Preliminary Design and Draft Decision of the VPK (U).

(u) ~~(S)~~ The defense industrial ministry selects a design bureau that reviews the TTT and prepares a "Preliminary Design" and a "Draft Decision of the VPK."

(d) Party/Government Approval (Decision I) (U).

(u) ~~(S)~~ The "Preliminary Design" and the "Draft Decision of the VPK" are reviewed and approved by the appropriate Party/Government decisionmaking authority. Their decision (Decision I) authorizes design development through pilot lot production, names primary participants, and allocates necessary resources.

(e) Design/Development, Prototype Production Phase (U).

(u) ~~(S)~~ The design bureau performs calculations and analyzes possible configurations. It also manufactures prototypes and prepares the "Technical Proposal," "Draft Design," and "Technical Design". The experimental production plant produces the "Pilot Model" and "Pilot Lot" versions of the weapons system.

(f) Party/Government Approval (Decision II) (U).

(u) ~~(S)~~ During the design/development phase, the weapons system development program is reviewed and necessary approvals for series production preparation are given by the appropriate decisionmaking authorities. This is necessary in order to allow sufficient lead time for construction and/or retooling of participating series production plants. This process (Decision II) provides resources and authorizes naming of series production plants, production preparation, and procurement of long lead time equipment and tooling.

(g) Operational and State Qualification Tests (U).

(u) ~~(S)~~ Prescribed operational and state qualification tests are performed at a test facility; e.g., flight-test center, ordnance proving ground, artillery test range, naval test facility, etc.

(h) Party/Government Approval (Decision III) (U).

(U) The documentation requesting series production is reviewed and approved by the appropriate decisionmaking authorities. De-

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cision III authorizes series production, endorses deployment plans, and specifies the number of weapons systems to be deployed.

(i) Series Production (U).

(u) ~~(S)~~ The series production plant is assigned responsibility for quantity production of the weapon system. Quality control and final acceptance of the series produced weapon systems are accomplished by the military customer's plant representatives.

(j) Operational Deployment (U).

(U) The weapon system is forwarded to the military customer field element for operational use.

(k) Product Improvement (U).

(U) Product improvement entails ongoing periodic testing and design modification.

7. Research and Development Facilities (U).

a. (u) ~~(S)~~ Over a hundred research institutes, design bureaus, or ranges are known to be associated with ordnance research and development; those listed in Table 3-13 and shown in Figure 3-10 are of prime importance.

b. (u) ~~(S)~~ Most of the renowned designers are either deceased or inactive. The chief tank designer, A. A. Morozov, affiliated with the Kharkov Design Bureau, was actively designing tanks from the T-34 through the T-64. Zh. Ya. Kotin, active in the armored vehicle developmental facilities in Leningrad, and who outranked Morozov, worked on the design of tanks and also APCs/ICVs. Both of these designers passed away last year. Likewise, the two foremost artillery designers, F. F. Petrov and V. G. Grabin, associated with prominent artillery design facilities either in Sverdlovsk or Leningrad, are also deceased. The names of their successors are not known, but it is unlikely they will soon command the same respect. It is believed that artillery design is now centered on ranges and design bureaus or institutes in Perm and Leningrad, suggesting a decrease in the importance of artillery design at Sverdlovsk.

8. Soviet Weapon System Development Forecast by Five-Year Plan, 1976-1991 (U).

a. (u) ~~(S)~~ The 10th Five-Year Plan, which started in 1976, is the plan that was in effect when this analysis was undertaken. If resources were allocated for full-scale engineering development (FSED) in 1976, observable milestones would not begin to appear until about 1978-79. As indicated by the solid milestones of Figure 3-11, between 70 and 90 percent of those systems that were forecast are in fact in development and can be expected to become operational in the near term future.

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Table 3-13. (U) Major Soviet Research and Development Facilities

NAME/BE NUMBER/LOCATION	FUNCTION
Chelyabinsk Tractor and Armored Personnel Carrier Plant BE 0164-00361 Chelyabinsk 55-09-14N 061-28-10E	Design research on tracked APC/ICVs
Chebarkul Hg MT2 RIF DIV/ABAL 1 BE 0164-00244 Chebarkul 54-54-58N 060-23-13E	Range; state tests of armored vehicles
Dmitrov Vehicle Test Area BE 0154-02388 Dmitrov 56-20-00N 037-18-30E	Largest and most complex testing ground for wheeled vehicles
Donguz Artillery Test Area BE 0236-00719 Donguz 51-32-25N 054-57-30E	Radar; rocket launchers and radar development
Emba Missile Test Center BE 0236-00476 Emba 48-38-00N 058-03-00E	Tests mobile air defense systems including associated radars
Golovino Laser Development and Test Center BE 0166CA0121 Golovino 55-58-30N 040-18-18E	Development and testing of a mobile laser weapon system
Gorkiy Motor Vehicle Plant BE 0154-00006 Gorky 56-14-59N 043-53-45E	Collocated design bureau for wheeled APC and scout car development
Kazan Scientific Research Institute BE 0165-00157 Kazan 55-47-30N 049-07-50E	Ammunition research and development
Kharkov Tank and Locomotive and R&D Plant Malyshev 75 BE 0234-00862 Kharkov 49-58-02N 036-16-59E	Collocated design bureau for tank research and development (T-64, T-80)
Kiyev Tank and Motor Vehicle Repair Plant Darnitsa BE 0233-00116 Kiyev 50-25-18N 030-42-00E	Collocated design bureau; development of new tank assembly lines, modifications to T-64s, T-80s
Krasnoarmeysk Ordnance Research and Development Facility BE 0154-01863 Krasnoarmeysk 56-06-45N 038-09-56E	Research institute for basic research and development of ammunition
Kubinka Training and Research and Development Area BE 0167-02561 Kubinka 55-33-50N 036-42-50E	Research institute, and state test; area for armored vehicle development including medium tanks APCs, ICVs. Subordinate to the Chief Directorate of Armored Vehicles (GBTU)
Leningrad Central Scientific Institute of Materials BE 0153-01030 Leningrad 59-56-19N 030-22-28E	Research and development of armor related materials
Leningrad Heavy Equipment Plant 185 BE 0153-00029 Leningrad 59-53-02N 030-15-03E	Collocated design bureau, possible ICV development, medium tank chassis suspension (T-64/T-72), IT-1 tank destroyers
Leningrad Ordnance Research and Development Facility BE 0103-01225 Leningrad 60-03-00N 030-32-30E	Range; testing facility for the Chief Artillery Directorate (GRAU)
Leningrad Tank Testing Area BE 0153-02352 Leningrad 59-46-32N 030-10-25E	Research institute; industrial testing and acceptance for armored vehicles
Luga Training Area BE 0153-01171 Luga 58-46-40N 029-48-50E	Early troop testing of self-propelled guns
Nizhniy Tagil Tank Plant 183 BE 0156-00027 Nizhniy Tagil 57-55-48N 060-05-26E	Tank research and development (T-72), MTU development
Pavolgrad Ordnance Research and Development BE 0156-00786 Pavolgrad 48-30-30N 035-57-02E	Design bureau; artillery research and development
Perm Armament and Guided Missile Support Equipment Plant 172 BE 0156-00786 Perm 58-02-15N 056-18-20E	Collocated research institute; rocket launcher, tank, and self-propelled gun development
Sverdlovsk Artillery Test Range BE 0166-01876 Sverdlovsk 57-04-00N 060-32-30E	Range; towed and self-propelled gun development

SOURCE: 2/52

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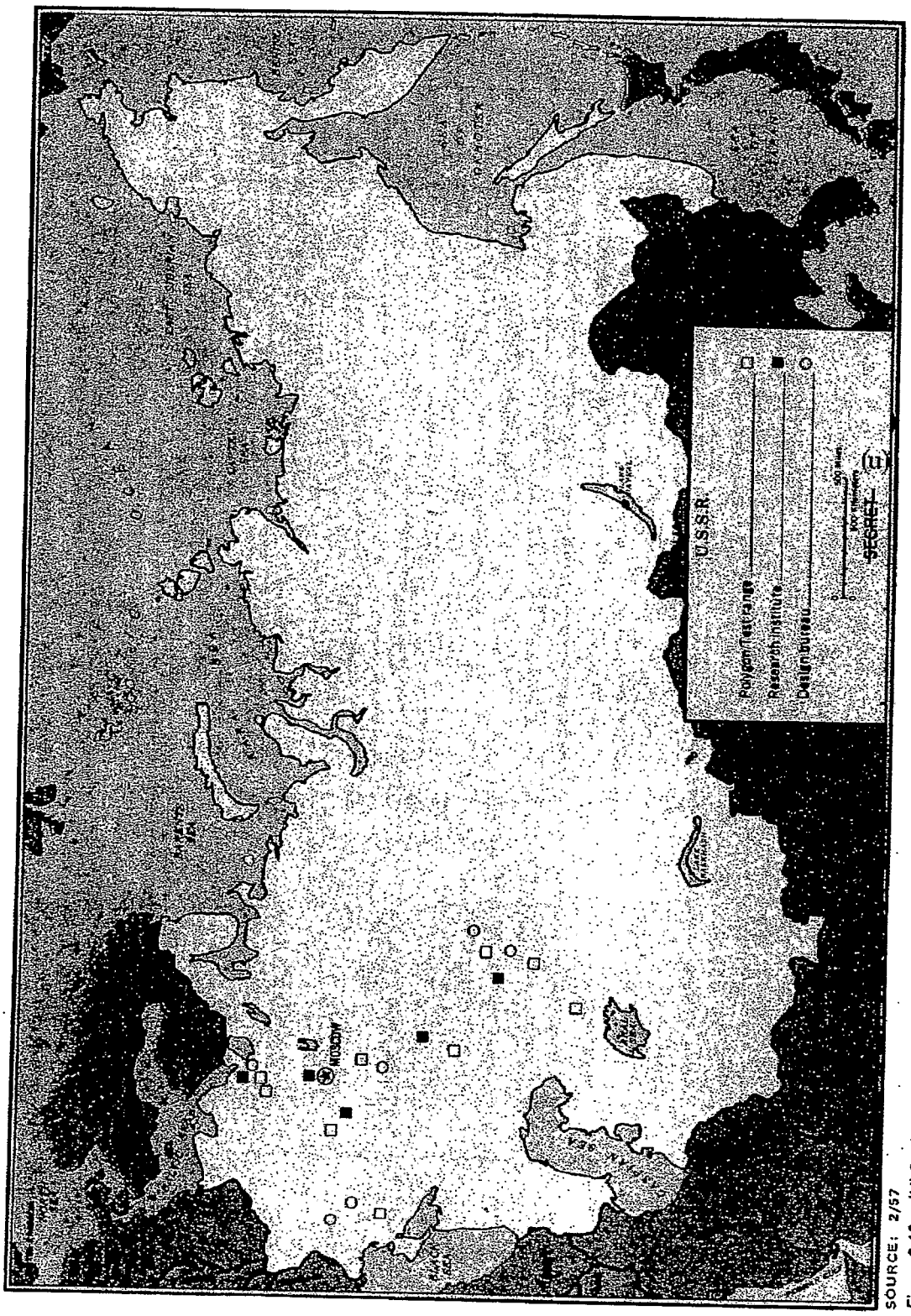

Figure 3-10. (U) Soviet Research and Development Facilities

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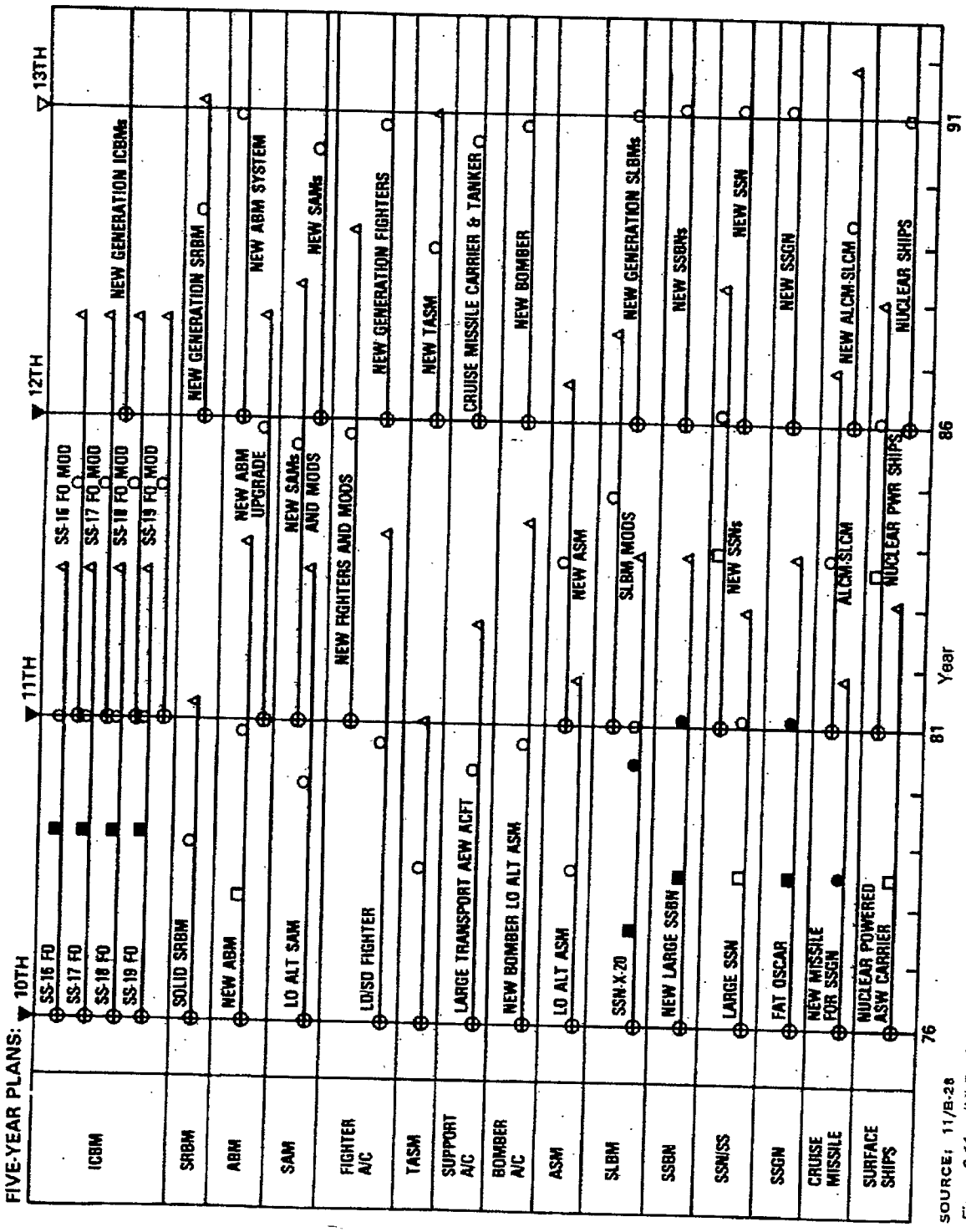

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Figure 3-11. (U) Soviet Weapon System Development Forecast by Five-Year Plan

(u)

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(u)
b. ~~(S)~~ The 11th Five-Year Plan became effective in 1981. If the patterns of the past 25 years continue, one could expect the allocation of resources for continued development of the types of systems indicated in Figure 3-11. Milestones confirming these developments can be expected in the near term future and these systems will become operational in the mid-to-late 1980s. If the expected milestones do not appear, something unusual or new is underway and the resources that are available for these systems have been diverted or applied to other developments that have not been observed or detected.

(u)
c. ~~(S)~~ Continuing the development pattern of the past 25 years, the 12th Five-Year Plan, which starts in 1986, could be expected to allocate the resources for the development of the new generation of systems as depicted in Figure 3-11. Milestones for this new generation should begin to appear in the late 1980s. These systems could be expected to become operational in the early-to-mid 1990s and will comprise the primary Soviet threat in the year 2000.

9. Trends in Industrial Production and a Look at the Future (U).

(u)
a. ~~(S)~~ The Soviets already have a large and growing defense effort. Over the past 15 years, Soviet defense expenditures have increased in real terms at an average annual rate of about 4 percent. In 1980, defense expenditures accounted for some 12 to 14 percent of GNP.(8/4)

(u)
b. ~~(S)~~ On the basis of current military activity--the number of weapons systems in production, weapons development programs, and trends in capital expansion in the defense industries--we expect that Soviet defense spending will continue to grow through at least 1985. We estimate that over 100 new or improved military systems are slated to emerge from development and enter production in the near future and that about the same number of older programs will be phased out of production.(8/4)

(u)
c. ~~(S)~~ Construction at defense series production plants is another indicator of future defense activity. The amount of new plant space at key final assembly facilities is currently growing more rapidly than at any time since the mid-1960s. In addition, large amounts of new plant space are being created at several key component production facilities. Expansion at military R&D facilities is a precursor of defense activity for the longer term and, since the mid-1960s, floorspace at these facilities has doubled. All this construction resulted from defense decisions made before consideration of the 11th Five-Year Plan.(8/5)

(u)
d. ~~(S)~~ The overall trend in production will be upward as full-scale series production of newer items proceeds (Figure 3-12). The application of new production technology will add to capacity and, at the same time, improve the quality of output.

(u)
e. ~~(C)~~ Output and capacity have been enhanced with the application of new technology acquired fromt the West. For example, highly productive rotary forging machinery acquired from Austria has substantially increased

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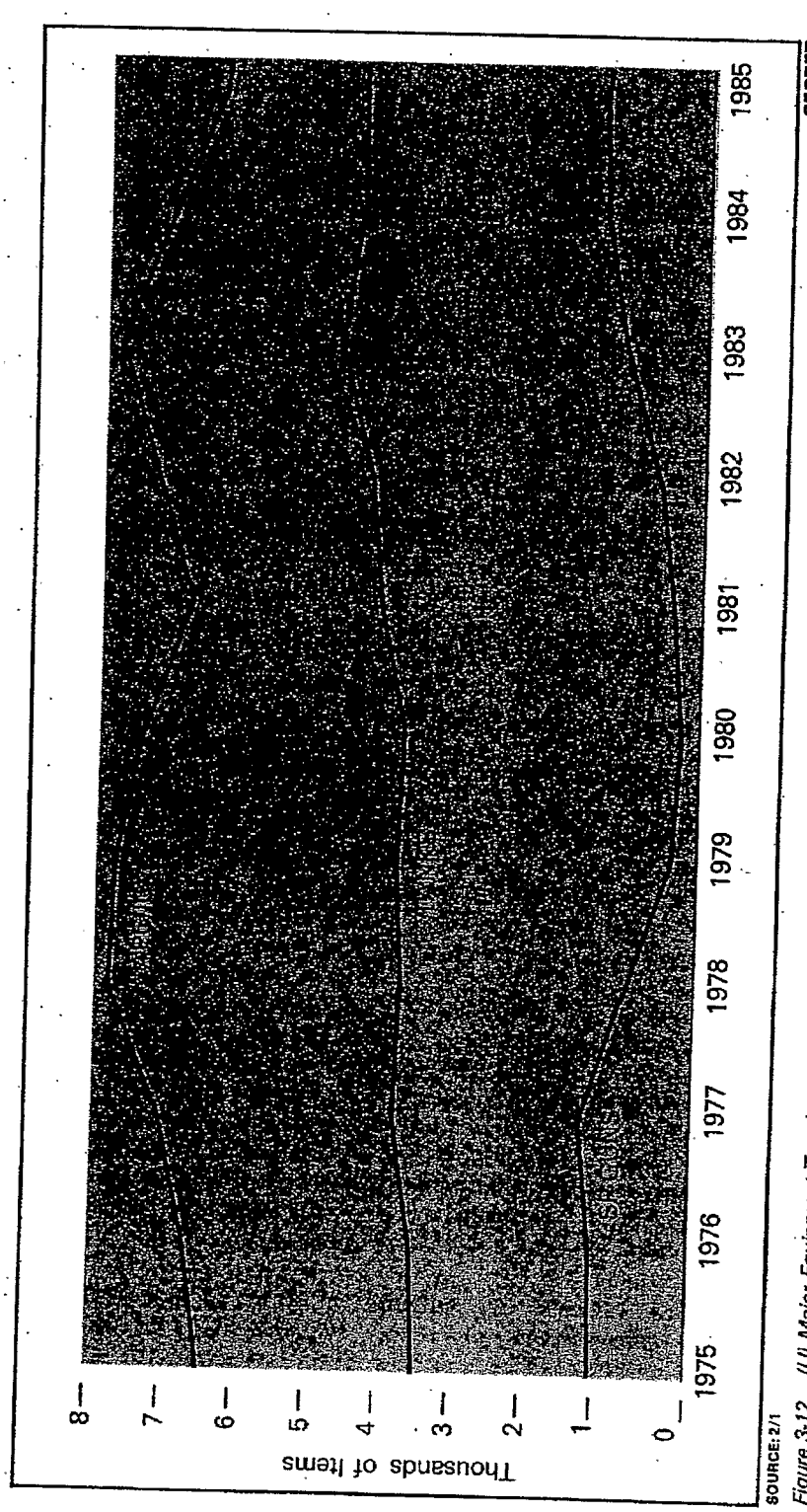

Figure 3-12. (U) Major Equipment Trends

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Soviet capacity to produce all sizes of gun tubes (Figures 3-13 and 3-14). (2/2)

10. The Influence of the Arms Race (U).

a. ~~(C)~~ Over the past two years, Soviet officials, in both public and private statements, have attempted to communicate to the US Government Moscow's concern over a US military buildup and Soviet determination to respond to an expanding American defense effort.

(b) (1) & (b) (3) per CIA

b. (u) ~~(S)~~ If the Soviets are adjusting their forthcoming Five-Year Plan to accommodate "large increases" in defense activities, they could in the near term increase the production of selected military systems already in or about to enter production; in the extreme, they could resort to industrial mobilization. Over the longer term, the Soviets could increase investment in defense industries to augment their capacity to produce military systems in the mid-to-late 1980s and add new development programs to those already planned. (8/i)

c. (u) ~~(S)~~ Since March 1981 the Soviets have apparently become less hopeful about the prospects of achieving arms control agreements with the United States and, therefore, are more convinced of the need to undertake steps to preserve Moscow's own military-strategic position. With this perspective, the Soviets would probably pursue a combination of near term production increases for selected systems and longer term increases in investment and developmental activity to hedge against an increasingly uncertain strategic environment. (8/ii)

d. (u) ~~(S)~~ If the Soviets pursued these options, defense spending would probably grow at higher rates in the mid-to-late 1980s and beyond. In the near term, investment in some civilian sectors would suffer. Cutbacks would occur mostly in such areas as consumer durables, services, housing, and machinery and equipment for the food and soft goods industries. Such cuts would worsen already poor prospects for improving labor productivity over the next five years and could increase worker discontent. Despite these consequences, we believe the Soviet leadership would be inclined to undertake any steps necessary, including adoption of repressive measures, to insure continued growth of the defense effort while simultaneously preserving domestic control.

e. (u) ~~(S)~~ We are confident we would detect large increases in Soviet weapons development and production programs well before the resulting weapon systems became operational. The best indicators would be higher levels of weapons testing activity and increased capital construction at key weapons production facilities. Specific testing programs and plant expansion pro-

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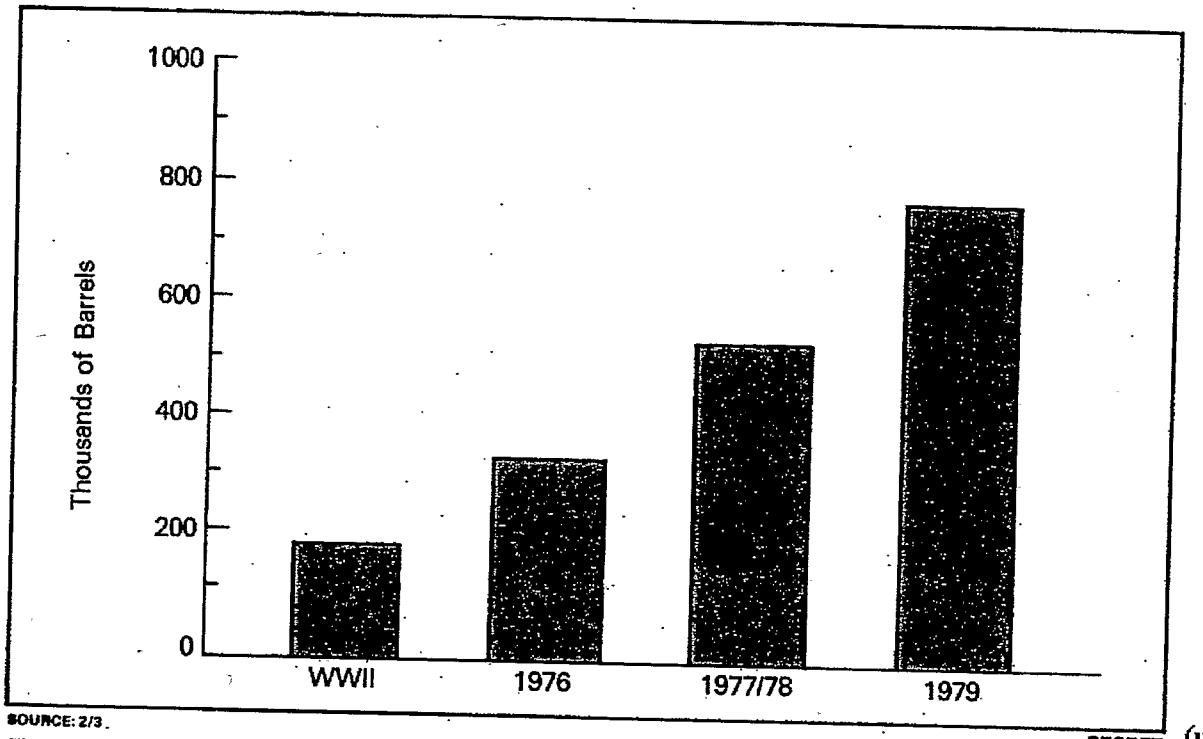

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Figure 3-13. (U) Increased Capability with New Barrel-Forging Machinery — Medium to Large Caliber

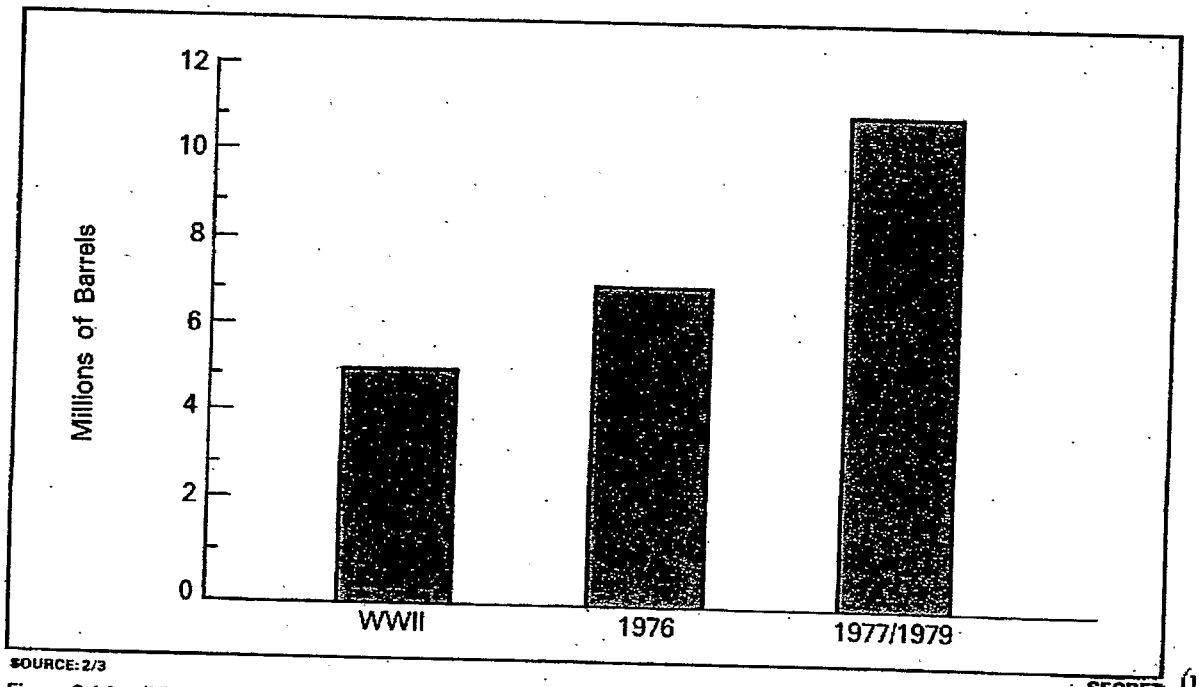

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Figure 3-14. (U) Increased Capability with New Barrel-Forging Machinery — Small Caliber

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jects probably would provide warning several years in advance of changes in the mix and levels of weapons the Soviets intend to acquire later in the decade.

11. Influence of the Current Polish Situation (U).

a. (U) ~~(S)~~ Both Poland and the USSR have been experiencing serious economic problems. The worsening state of the Soviet economy was most recently acknowledged by Leonid Brezhnev in a speech regarding the revision of the 11th FiveYear Plan. At that time, he said 30 billion rubles originally planned for capital construction (to include major industrial projects and improvement in the infrastructure, such as roads, railroads, an airports) were being cut. This represents about a 5 percent cut in overall investment.(3/1)

b. (U) ~~(S)~~ Industrial growth rates in the USSR continue to falter. An annual rate of 1.5 percent was reported during the first nine months of 1981, which is down from nearly 3 percent in 1980 and substantially below the longer term average growth rate of 5 percent achieved over the last decade. Poland is suffering from absolute declines in industrial production. This is likely to affect many Soviet industries that rely on materials and parts from Poland. (3/2)

c. (U) The investment cut in essentially nondefense industries may reflect greater stress on military output at the expense of future economic growth. During the past 15 months, reports from both high-ranking officials and technicians have indicated such a shift was likely. The revised plan provides partial confirmation of this shift.(3/2)

d. (U) ~~(C)~~ This major revision of the 11th Five-Year Plan, coupled with production problems in some key industrial sectors, indicates the extent of current Soviet economic problems. These problems will only be exacerbated by continued deterioration of the Polish economy and the concomitant strain on Moscow to provide economic support to that nation, as well as to other client states.(3/2)

12. Conclusions (U).

a. (U) The continuity and momentum of Soviet military product R&D bespeak a political leadership committed to qualitative and quantitative superiority. The Soviet weapons development effort, paced by a weapons acquisition process in which key national policymakers and decisionmakers directly participate, permits a systematic correction of deficiencies in existing military capabilities through the methodical addition of new weapons capabilities.

b. (U) The present Soviet military capability reflects the achievements of an R&D base that has grown steadily since the late 1950s. Top priority continues to be accorded military R&D. This sector has continued to receive regular and large infusions of capital investment allocations, the latest and best domestic and foreign equipment, the most highly quali-

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fied science and engineering graduates, and the management/guidance efforts of the country's elite. In return, the military product R&D establishment has justified its preferential treatment by producing a steady succession of new and improved weapons systems for the Soviet arsenal as well as the means for effective and responsive command and control of deployed forces.

(u)

c. (S) The huge investment in human resources has given the USSR the world's largest pool of professional, scientific, and engineering manpower engaged in R&D. Capital investment in the Soviet R&D base directed toward military R&D has shown a steady and significant growth. These resources provide the framework for continued development of Soviet weapons systems. Many of the developments noted in the 1960s through the present were based on resource investments made during the 1950s. The continued growth trends in R&D investments during recent years indicate programming of future system developments of high national priority.

(u)

d. (S) The characteristic lag between R&D resource investment and returns on that investment in the form of new and improved systems suggests that the full impact of the last decade's investments has not yet been realized. The Soviet pattern has been such that as developments are completed, the resources are immediately recycled to address new R&D tasks. Although the cost effectiveness of the Soviet R&D system is generally assessed to be inefficient, it has been effective in steadily developing and improving their military capability. The capital resource investments made to date should support the continuation of military hardware improvement and new weapons development well into the 1980s even if the growth of these investments should be terminated abruptly. These resource investments reflect the resolve of current Soviet commitment to future weapons development.

(u)

e. (S) The level of effort expended in Soviet weapon FSED programs is significantly larger than the US level of effort. The Soviet level of effort has been sustained since the early 1960s, while the US level of effort since that time has steadily declined. Intelligence indicates that the Soviet level of effort will remain stable or increase.

13. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

(u)

(S) The Soviet production of major end items is much greater than ours and definitely has a positive influence on their ability to fight now. Their mobilization of industry, if thought of as their ability to reach maximum or capacity production, generally takes 18 to 24 months and thus would not occur under the scenarios normally considered in studies. However, their industries are considered warm. That is, they are being used for some sort of military-related production almost constantly. Therefore, they can begin to increase production of most items after beginning mobilization, perhaps within two weeks. On the assumption they will maintain their prodigious production capability and that their ability to mobilize industry will not decline, these factors will be positive influences on the Soviet's ability to fight in the year 2000 as well.

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CHAPTER 4

TRANSPORTATION FOR MILITARY EMERGENCIES (U)

HIGHLIGHTS

(u)
~~(S)~~ In this chapter, we introduce each of the Soviet transportation modes: railroads, highways, pipelines, inland waterways, and airlines. We then discuss the mobilization potential of Soviet transportation, the chief vulnerabilities inherent in each mode of transportation, and the prospects for the future.

(u)
~~(S)~~ The railroads accounted for 56 percent of the freight traffic volume in 1979, which represents three times as much freight turnover as their nearest competitor, pipelines. The Soviets have less than 15 percent of the total world rail network; but, they process half the world's rail freight turnover. Fuel is the largest category of freight hauled, comprising one-third of all rail turnover. Despite its obvious importance to the military transportation system, the railway network appears to be unusually vulnerable to attack. Among the most significant reasons for this vulnerability are the change in track gauge at the USSR-Polish border, the many bridges required for crossing north-south running rivers, and the concentration of the rail lines in passes of the Ural Mountains.

(u)
~~(S)~~ The crux of their transportation mobilization capabilities is that they can accomplish their objectives, but under many conditions they have considerable problems.

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Table 4-1. (U) Freight Turnover by Mode of Transportation

(Billion Ton-Kilometers)

Mode	1960	1965	1970	1975	1976	1977	1978	1979
All modes	1,886	2,764	3,829	5,201	5,433	5,633	5,949	5,987
Railroads	1,504	1,950	1,495	3,237	3,295	3,331	3,429	3,350
Inland Waterways	100	134	174	222	223	231	244	233
Pipelines	51	147	282	666	795	922	1,049	1,141
Highways	99	143	227	338	355	373	395	418

Note: (U) Since maritime and air traffic turnover are not shown, the components do not add to the totals.

Source: (9/3)

~~SECRET/NOFORN~~ (u)

Table 4-2. (U) Freight Tonnage Hauled

(Million Tons)

Mode	1960	1965	1970	1975	1976	1977	1978	1979
All modes	10,795	13,776	18,381	25,712	26,480	27,249	28,266	28,087
Railroads	1,885	2,415	2,896	3,261	3,654	3,723	3,776	3,688
Inland Waterways	210	269	358	476	485	521	546	537
Pipelines	130	226	340	498	532	558	589	609
Highways	8,493	10,746	14,623	20,914	21,591	22,223	23,123	24,023

Note: (U) Since maritime and air traffic tonnage are not shown, the components do not add to the totals.

Source: (9/4)

~~SECRET/NOFORN~~ (u)

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Table 4-3. (U) Average Length of Haul Per Ton of Freight

(Kilometers)

Mode	1960	1965	1970	1975	1976	1977	1978	1979
All modes	164	174	174	175	178	180	183	178
Railroads	798	808	861	894	902	895	908	908
Inland Waterways	474	498	486	467	459	443	446	434
Pipelines	394	649	829	1,337	1,494	1,650	1,781	1,874
Highways	12	13	15	16	16	17	17	17

Note: (U) Calculated by dividing freight turnover in ton-kilometers (Table 4-1) by freight hauled in tons (Table 4-2).

Source: (9/5)

~~SECRET/NOFORN~~ (u)

Table 4-4. (U) USSR: Operating Length of Railroads

(1,000s of Km)

Year	Total Operating Length	Length of Electrified Lines
1960	125.8	13.8
1965	131.4	24.9
1970	135.2	33.9
1971	135.4	35.0
1972	136.3	36.2
1973	136.8	37.2
1974	137.5	38.1
1975	138.3	38.9
1976	138.5	39.7
1977	139.8	40.5
1978	140.4	41.1
1979	140.8	42.4
1980 (Plan)	141.3	N.A.

Source: (9/8)

~~SECRET/NOFORN~~ (u)

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b. Highways (U).

(1) (U) The highway system is used primarily for short-haul movement of freight and passengers and provides a means of interface with other modes of transport. There are about 1,564,000 kilometers of highways in the Soviet Union, less than half of which are paved (see Table 4-5). In 1979, trucks carried 24 billion tons of freight; the average length of haul was 17 kilometers.

Table 4-5. (U) USSR: Length of Highways

(1,000 Kilometers)

Year	Roads	Improved Hard Surfaced
1960	270.8	77.1
1965	378.3	131.7
1970	512.6	207.0
1975	660.5	296.7
1976	689.7	315.1
1977	716.6	331.5
1978	741.6	352.3

Note: Concrete, bituminous concrete, or bituminus macadam.

Source: (9/9)

~~SECRET/NOFORN~~ (u)

(u)
(2) ~~(C)~~ The highway network is unevenly distributed ranging from a relatively dense net in European USSR to a very sparse net in Asiatic USSR. Most paved or improved roads are located in the central and western parts of European USSR and along the southern border. Significantly, no continuous paved road crosses the entire country in an east-west direction. The first hard-surface, through highway across the Ural Mountains--a limited access two-lane road--was completed only last year.

c. Pipelines (U).

(u)
~~(C)~~ The development of the oil pipeline network has been one of the major transportation achievements during the past two decades. The network has grown from 17,300 kilometers in 1960 to over 65,000 kilometers currently, 80 percent of which is laid out in an east-west orientation to support deliveries of crude oil to refineries in Western USSR. Crude oil turnover has increased roughly twenty fold, from 51 billion ton-kilometers in 1960 to over 1 trillion ton-kilometers last year. During 1979, about 90 percent of all crude oil transported moved by pipeline. However, little effort has been put into the construction of refined product pipelines, and the vast bulk of refined products continues to be moved by rail (see Table 4-6).

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Table 4-6. (U) USSR: Domestic Shipments of Crude and Refined Oil

(billion ton-kilometers)

Mode	1970	1975	1980 (Plan)
Railroads			
Crude Oil	83.1	112.2	96.5
Petroleum Products	270.6	369.3	443.8
	353.7	481.5	540.3
Pipeline			
Crude Oil	259.7	638.8	1,150.0
Petroleum Products	22.0	27.0	38.0
	281.7	665.8	1,188.0
Total oil hauled by rail and pipeline	635.4	1,147.3	1,728.3

Source: (9/11)

~~SECRET/NOFORN~~ (u)

d. Inland Waterways (U).

(U) The USSR has the largest inland waterway system in the world. In 1978, there were about 143,000 kilometers of navigable inland waterways over which 244 billion ton-kilometers of freight traffic moved--primarily output of the mining and other basic processing industries. The system is oriented mainly in a north-south direction with a few lateral (east-west) interconnections. The European USSR waterway system, although unevenly distributed, is dense and fairly well integrated in the heavily populated and highly productive areas. Waterways in Asiatic USSR are widely separated and unconnected, but are the primary means of surface transport north of the Trans-Siberian railroad.

e. Aeroflot (U).(19/2-228)

(1) (U) The Soviet Civil Air Ministry (Aeroflot) is headed by a career Chief Marshal of Aviation and a number of his major staff members have been identified as active senior Soviet Air Force generals.

(2) (U) Soviet civil aviation has very definite strategic and tactical significance from the standpoint of convertibility to immediate military use for long-haul troop lift. Many current Aeroflot activities, besides personnel and cargo hauling, have direct logistics and other military application: spraying, air ambulance and rescue work, aerial photography, mapping, and heavy helicopter use in construction work.

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3. Mobilization Potential (U).(9/13)

a. (U) (~~S~~) If a rapid mobilization were undertaken in preparation for a five-front attack by Soviet and other Warsaw Pact forces against Central Europe, the operation, in one likely contingency, would require the Soviet transportation network to move the Belorussian Front, the Carpathian Front, and the 11th Guards Army from the Soviet Union into Eastern Europe, where they would reinforce the Northern Polish, Central Soviet-East German, and Southern (Soviet-Czechoslovak) Fronts. Under such a scenario, Soviet transportation planners would be faced with the following problems: (1) the movement of as many as 750,000 men and a huge volume of equipment and material in the initial phase of the mobilization effort, (2) the provision for aspects of troop logistical support not met by stocks in the Forward Area, and (3) maintenance of a sufficient level of transportation services in the civilian economy to support both the war effort and domestic needs.

b. (U) (~~S~~) The transportation of troops and hardware of the Belorussian and Carpathian Fronts plus the 11th Guards Army in the initial phase of mobilization would produce a sudden surge in demand for transportation services. Such an undertaking would preempt a large share of the transportation facilities normally available to support the civilian economy.

c. Rail Potential (U).(9/14)

(U) (~~S~~) We estimate that approximately 3,000 locomotives and almost 150,000 boxcars and flatcars would be required to move troops, materials, and supplies from the Soviet Union into Eastern Europe. This would preempt approximately 15 percent of the Soviet locomotive park and 30 percent of the box and flat car inventory (the approximate percentage of locomotives and flat cars we consider to be empty at a given time) for the military effort alone. If additional transportation assets were required during this phase of mobilization, to meet civil defense needs the initial effort would require an even higher share of transport services.

d. AVTOKOLONNY (U).(4/8)

(1) (U) (~~S~~) AVTOKOLONNAS (Civilian vehicle pools available for military mobilization) were first noted during the Soviet invasion of Czechoslovakia and have since been identified supporting Soviet airborne, motorized rifle, tank and artillery regiments, combat divisions, Soviet Air Force headquarters, naval units, civil defense units, and rear services. Over 90 percent of the AVOTOKOLONNAS identified are in cities where ground force units or depots are also located.

(2) (U) (~~S~~) All Soviet civilian transport vehicles must be registered with the Ministry of Defense. As a result, all vehicles are subject to requisition by the Soviet military forces, although only a portion of all vehicles are in AVTOKOLONNAS.

(3) (U) (~~S~~) The detailed organization of civilian motor transport

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into AVTOKOLONNAS is achieved at the oblast administrative level. A permanent military liaison officer is assigned to work with the oblast automotive trust concerning matters of registration, maintenance, inspection, and mobilization. Each vehicle is placed into one of three categories:

- o Category I vehicles are in excellent mechanical condition and are considered available for immediate military use.
- o Category II vehicles are identified as suitable for military reserve purposes and would be used only in extreme necessity.
- o Category III vehicles are considered of little military value.

(u)
(4) ~~(S)~~ Within an oblast, the civilian enterprises that control transport resources are organized into automotive trusts. These, in turn, are composed of several automotive-related enterprises, such as vehicle plant or bus transportation organizations. The most common of these enterprises is the motor vehicle park, which is responsible for general-purpose cargo operations. The park forms as many AVTOKOLONNAS as required for potential mobilization duties.

(u)
(5) ~~(C)~~ In some cases, an AVTOKOLONNA is directly subordinate to the automotive trusts. Regardless of subordination, however, each AVTOKOLONNA continues its normal civilian pursuits such as operating buses or hauling cargo.

(u)
(6) ~~(C)~~ Since the AVTOKOLONNAS are totally manned by military reservists, an AVTOKOLONNA with military support obligations can be mobilized--both transport and drivers--as a military unit.

(u)
(7) ~~(S)~~ There are approximately 1,000 AVTOKOLONNAS with a total of 200 thousand to 4 million trucks(19/2-227) dispersed throughout the USSR. About 80 percent of these are located in the European USSR.

(u)
(8) ~~(C)~~ The Soviet AVTOKOLONNA system provides a vehicular mobilization base that can be used to fill shortages of general and special purpose trucks in ground force units in a short period of time. Because the AVTOKOLONNA is primarily a peacetime organization that daily serves civilian transportation needs, its drivers possess a high degree of operational experience.

e. Pipeline Use in Wartime (U).

(u)
~~(S)~~ Petroleum supplies to support any major force deployment from the Western USSR into Eastern Europe would be delivered primarily by pipeline. A "friendship" pipeline consisting of two parallel lines runs over

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4,800 kilometers from oilfields in the Almetyevsk/Kubyshev area in the USSR into Poland, East Germany, Czechoslovakia, and Hungary. Ranging in diameter from 1,020 to 1,220 mm within the Soviet Union to 410 mm at its western extremities, the system is capable of supplying over 60 million tons of oil per year to Eastern Europe. Though currently transporting crude oil, the pipeline could be converted in its entirety to transport refined petroleum products in about a month. This pipeline, or any other major pipeline, can be tapped by military mobile tactical field pipelines.

f. Inland Waterways in War (U).

(U)

~~(C)~~ The inland waterway system provides an important, albeit slower means of transporting both troops and supplies. In a protracted conflict, the waterways could serve as effective long-distance lines of communication over which large tonnages of military equipment and supplies--including POL--could be transported at a sustained rate of delivery. Soviet inland watercraft can transport such items as armored trucks, personnel carriers, missiles, and other equipment too large for transport by other modes. The system's major weakness is winter ice conditions, which prevent navigation for periods of from two to nine months, depending on locale. Moreover, traffic on the waterways is subject to interdiction by destruction of the vulnerable dam and lock installations.

g. Aeroflot Mobilization (U).

(1) (U) Aeroflot is estimated by Western sources to have over 1,600 long and medium-range aircraft with which it could augment military airlift capability, plus at least several hundred each of smaller fixed and rotary wing aircraft. It also builds and operates its own civil air facilities, which include communications.(19/2-228)

(2) (U) Aeroflot has been heavily involved in many Soviet global projection endeavors in recent years, including flying military equipment to Southeast Asia, Ethiopia, Angola, and Cuba. Aeroflot planes were among the first to land at Prague airport in 1968, to bring in paratroops and have since been active in a military resupply role in Afghanistan. Aeroflot has been doing the bulk of troop rotation work between the Groups of Forces, especially between the Group of Soviet Forces Germany (GSFG) and the USSR for around a decade. In wartime, the almost immediate use of Aeroflot as a source of logistics replacement personnel or for meeting military transport needs in quantity with personnel, aircraft, and facilities can be expected.(19/2-228)

4. Vulnerabilities in Soviet Transportation Capabilities (U).

a. Railrod Gauge Differences (U).

(U) Cross-border movement of military troops and supplies by rail from the Soviet Union into adjacent countries is complicated by differences in rail gauges. The gauge of most Soviet railroads is 5 feet as compared to the standard 4 foot 8 inch gauge used in most other countries of the

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world. As a result, transloading is required at border points, thus necessitating delays and increasing vulnerability to interdiction.(9/21)

b. Interdiction Susceptibility of Railroads (U).

(U) ~~(C)~~ The railroad system is also susceptible to interdiction in a military conflict. First, there are many bridge crossings that can be damaged or destroyed. Second, raw materials and supplies from Asiatic USSR, which are becoming an ever larger share of Soviet resources, must in most cases move over a single rail trunkline. This vulnerable trunkline eventually branches into several feeder lines that funnel through two passes in the Ural Mountains, one near Sverdlovsk and one near Chelyabinsk. Not only would these main rail centers be "choke" points in the mass movement of military equipment, but they would be particularly open to interdiction.(9/22)

c. Uneven Transportation Net (U).

(U) The capability of the highway system to support major military operations is severely limited except in European USSR, which has the greatest density of roads and most of the paved mileage. As such, it would afford considerable flexibility of movement for motorized forces. In the central and eastern regions of the country, the sparse and poor quality road nets have limited capacities and road movement of large-scale military operations would generally be confined to deployment to and from railroads along the Trans-Siberian route.(9/22)

d. Impact of Weather (U).

(U) ~~(S/NOFORN)~~ Some notion of the ripple effect of transportation snarls can be gleaned by studying the impact of disruptions caused by the adverse weather conditions in early 1979. Severe winter weather west of the Urals crippled rail operations over widespread areas, causing shortages of raw materials and fuel throughout much of the nation and halting the flow of products between factories to the point that some plants had to discontinue operations.(9/16)

e. Seasonal Fluctuations in Demand (U).

(U) ~~(S/NOFORN)~~ Seasonal fluctuations in demand for transport services, as well as unplanned requirements levied on the system, have also been disruptive. For example, the priority given to shipping both grain and fuels during the fall to build up winter stocks has caused widespread shortages of rail cars and resulted in partial embargoes on rail traffic on several major railroads. The shipping requirements prompted by the Olympic games also produced widespread disruptions throughout the rail system.

f. Disruptions Due to External Events (U).

(1) (S/NOFORN) External events have also impacted negatively on

the over burdened rail system.

(b) (1) & (b) (3) per CIA

(2) (U) According to calculations by the Soviet Institute of Comprehensive Transport Problems, the national economy loses as much as 6.5 billion rubles of industrial production and another 4 billion rubles in agricultural output annually because of transportation inadequacies. These losses could be expected to be much greater in the event of a more disruptive disturbance such as a full-scale mobilization effort.

5. Trends in the Soviet Transportation Sector (U). (9/12)

a. (U) Since the mid-1970s, the performance of the transportation sector, particularly the railroads, has deteriorated significantly. Whereas rail freight traffic increased at an average annual rate of over 5 percent between 1960 and 1975, it grew less than 1 percent in the first four years of the 1976-80 Five-Year Plan. Indeed, in 1979, rail freight turnover fell almost 80 billion ton-kilometers--a 2.3 percent drop compared with 1978.

b. (U) This declining railroad performance is the result of (1) a changing demand for transport resources, (2) poor resource allocation, and (3) an increase in the use of pipelines and highways for freight haulage. Capital investment allocated to railroad transport has been relatively small--less than 3 percent of national total investment resources since 1960--and its growth has been erratic.

c. (U) As a consequence, the increase in freight traffic in the Soviet Union has far outpaced the growth in railroad transport capacity. Other modes--notably trucks--have picked up some of the increased demand for freight transfers but not to the extent necessary. Today the rail system operates at full capacity and with limited flexibility so that even minor disruptions in one area lead to major dislocations across the whole rail system.

6. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

a. (U) ~~(C)~~ Soviet transportation facilities are not the best in the world, but their shortcomings in this respect will not significantly impair their ability to conduct a successful invasion of Europe. However, the transloading points between the Soviet and Polish rail lines appear to be extremely vulnerable. Also, the many railroad bridges they must use are outstanding interdiction points. They have enough supplies forward for many days of battle, but it seems possible to make it extremely difficult for them to bring reinforcements forward over the many rivers they must cross heading into Europe.

b. Soviet transportation capability in the Western USSR is limited,

but it appears they will double their Trans-Siberian rail network by the year 2000. Also, they are working to improve their river transportation potential, which will enable them to move in a north-south direction more easily than they can now.

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b3 per DIA

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CHAPTER 5

STRATEGIC RESERVES, RAW MATERIALS, AND GOODS (U)

HIGHLIGHTS

(U)

~~(S)~~ This chapter addresses the Soviet strategic reserves, raw materials, and goods situation in peacetime and its potential contribution to their warfighting ability now and to the year 2000. Their reserve holdings are large, but their holdings available under the category of resupply materiel is much larger. They are self-sufficient both inside the Soviet Union and within the Non-Soviet Warsaw Pact countries, to a great degree in almost all strategic raw materials. Between 1960 and 1980, they made significant increases in their production of goods. The gains were much more significant between 1960 and 1970 than from 1970 to 1980, but overall the trend in goods production was upward from 1960 to 1980. In summation, the Soviets have extensive materiel holdings in reserve and even more available for total resupply. Also, they have better access to raw materials in wartime than does the United States.

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CHAPTER 5

STRATEGIC RESERVES, RAW MATERIALS, AND GOODS (U)

1. Introduction (U).

(U) The Soviets have four categories of reserve holdings. In this chapter we address each of them. Then we present information on related Soviet sources of resupply. We also provide information on raw materials and goods as well as the current Soviet production of major commodity items. Finally, we make projections about their future in these areas.

2. Reserves Defined (U).

(U) Classically, we distinguish four categories of Soviet reserve holdings: Mobile, Mobilization, State, and Strategic Reserves. They are defined in the following subparagraphs.

a. Definitions (U).

(1) Mobile Reserves (U).

(U) Mobile reserves consist of ammunition, fuel, rations, and equipment permanently located with employed ground units and transported by these units with their own organic transport. Ground forces maintain these supplies for use in immediate conduct of ground operations. These supplies are distributed throughout the ground forces elements in both tactical and support units. Quantities of these supplies are established by published norms and are constantly maintained at proper levels. An emergency reserve, a level of supplies that can only be expended on order of the unit commander, is maintained within these stocks.

(2) Mobilization Reserves (U).

(U)
~~(S)~~ Mobilization reserves are held for resupply of newly activated, large military units and for replacement of combat unit losses in the early stages of conflict. A specific directorate within the Ministry of Defense (MOD) is assigned the responsibility for determining and maintaining the level and configuration of these stocks. Armor and artillery weapons system mobilization reserves are found principally in the complement of division-size "mobilization equipment bases" that have been identified throughout the USSR. For the most part, the reserves on these bases consist of equipment models which, while still in service in some units, do not represent the latest generation systems. At present, some 26 division-size mobilization equipment bases have been located inside the ~~USSR~~ (see Figure 5-1). These mobilization bases comprise unit-configured equipment sets which, in accord with the Soviet concept, may form new divisions upon mobilization or be drawn upon incrementally to provide replacement items.[1/17]

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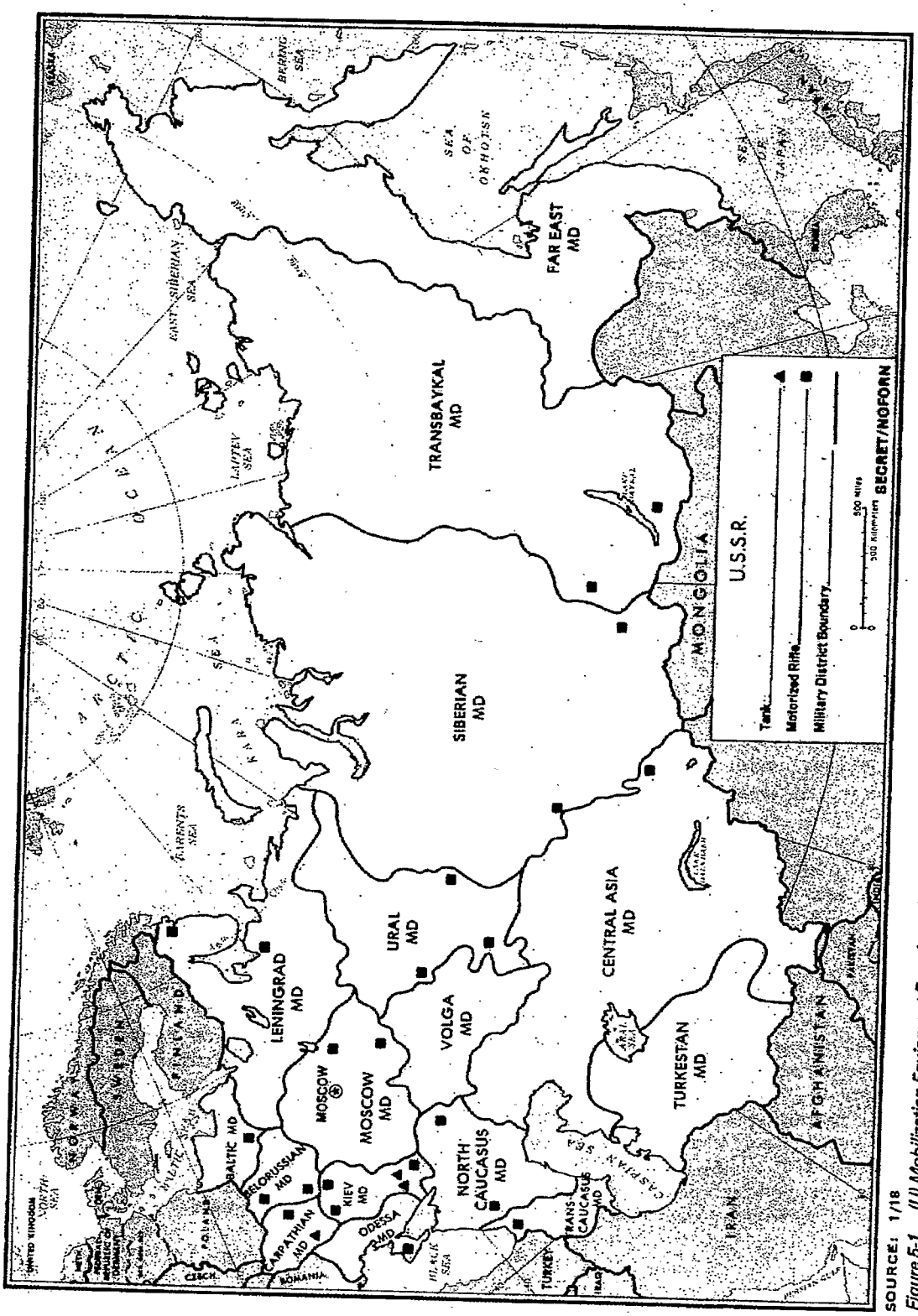

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Figure 5-1. (U) Mobilization Equipment Base Locations

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(3) State Reserves (U).

(U) State reserves consist of various items such as foodstuffs, petroleum products, manufactured goods, and other strategic raw materials stored in special government warehouses. These items can be issued only with the express permission of the State. Although these stocks are considered to be over and above the military items held in Strategic Reserve, ultimate armed forces use of at least a part of these items is anticipated.

(4) Strategic Reserve (U).(1/17)

(u)
(a) ~~(C)~~ Strategic reserves consist of "military-trained contingents and materiel stockpiles, under the control of the Ministry of Defense or the Supreme High Command, and intended for use as supplementary resources in both peacetime and wartime." Strategic materiel reserves are maintained in depots of the central logistic system and may be allocated in wartime to operational formations upon decision of the Supreme High Command.

(u)
(b) ~~(S)~~ A number of armor and artillery storage depots have been identified in the USSR that probably are part of the Soviet strategic reserve system. To date, some 12 armor storage depots in nine military districts have been located. These are estimated to hold about 7,000 tanks and armored personnel carriers (see Figure 5-2). Thirty-one artillery depots holding about 12,000 field artillery pieces and 9,000 antiaircraft artillery weapons have also been located (see Figure 5-3). These artillery systems are mainly older models. Although stocks in the above depots may be used to implement various ground force expansion options, we believe that they would be used also as a source of replacement weapon systems.

b. Related Sources of Resupply (U).

(U) The Soviets have sources of reserves which do not fall into the above categories. These sources are used by the Soviets now and will be in the future. They are defined below to help distinguish among them.

(1) Floats (U).

(u)
(a) ~~(S)~~ Floats are stocks of weapons systems in training and maintenance organizations. These stocks are not specifically in reserve, but they are a source of resupply the Soviets will undoubtedly choose to use in emergencies. At present, these stocks cannot be completely quantified nor can we determine their quality or serviceability.(1/20)

(u)
(b) ~~(S)~~ An initial assessment has identified 14 armored fighting vehicle repair installations within the USSR holding appreciable quantities of equipment (see Figure 5-4). Although equipment is continually arriving and departing, a relatively constant range of as many as 2,000 to 3,000 armored vehicles may be contained in this portion of the system.(1/25)

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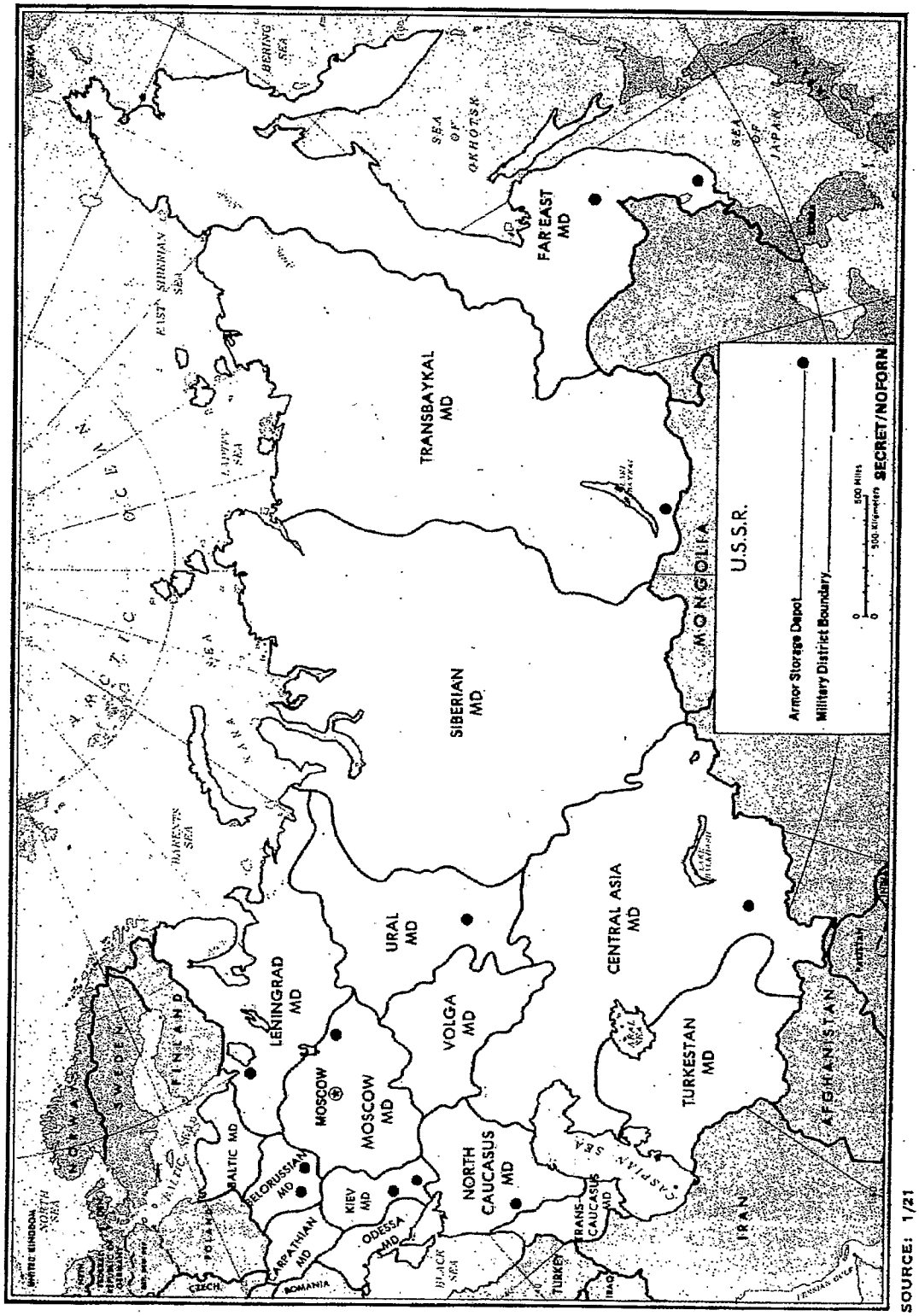

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Figure 5-2. (U) Major Reserve Armor Storage Depots

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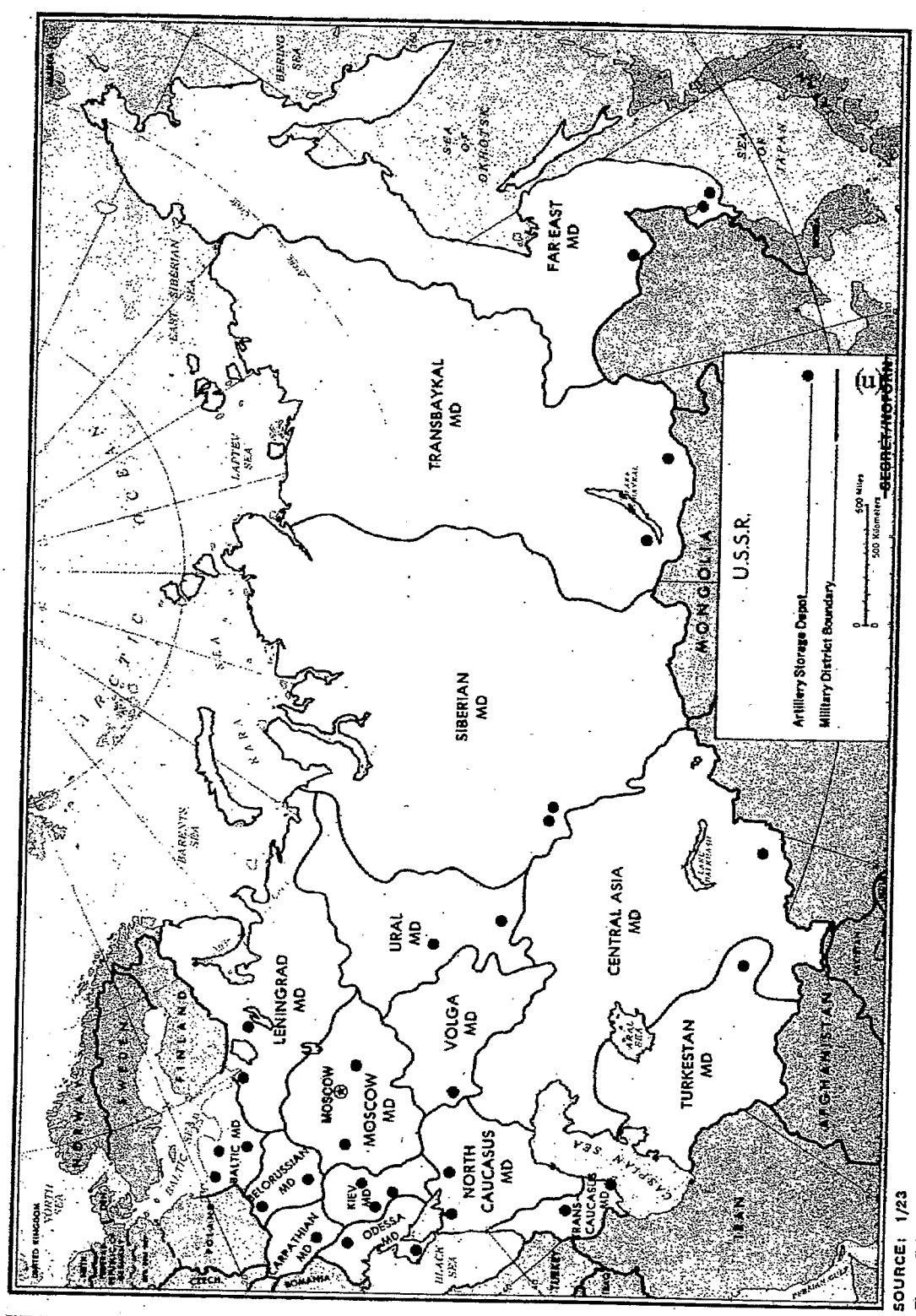

SOURCE: 1/23

Figure 5-3. (U) Major Reserve Artillery Storage Depots

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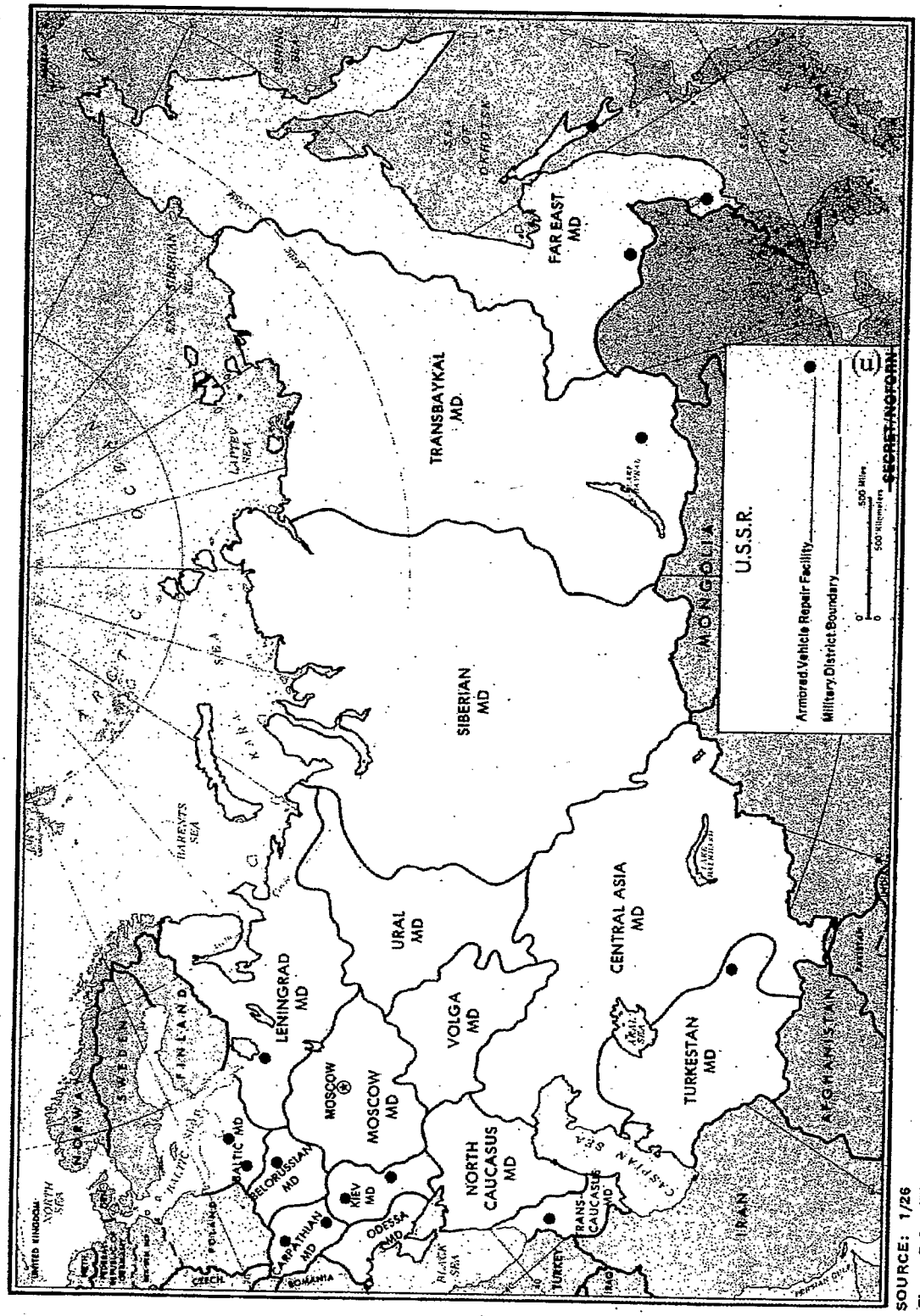

Figure 5-4. (S) Armored Fighting Vehicle Repair Facilities In the USSR Storing Possible "Float" Items

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(u)

(c) ~~(S)~~ There are 19 schools in the Soviet military school system associated with the tank, armor, and artillery branches. Additionally, there are 10 combined arms schools. A number of these schools (some of which have subordinate training units) maintain armor and artillery equipment used to train assigned students in various specialties associated with their branch arms. This materiel is a potential source of limited replacement equipment that probably would be reassigned if removed from the schools. A lack of precise data on the size and mix of school holdings precludes a detailed assessment of their potential contribution in this role.(1/25)

(u)

(d) ~~(S)~~ Among other potential sources of replacement equipment are the one motorized rifle and three tank training regiments assigned to the Group of Soviet Forces Germany. The combined assets of these regiments could become a readily available source of weapons system replacement items. Training divisions, it should be noted, are counted in the total complement of active Soviet line divisions. However, training equipment assigned to these divisions in excess of designated wartime Table of Organization and Equipment (TOE) stocks could be used as replacement items if not required for continued training purposes.(1/25)

(2) Production (U).

(U) Another method of resupplying units is to use freshly produced items and insert them directly into front line units at approximately the same rate they are produced. Again, this is not a form of reserve as defined earlier but is a method of resupplying units and, for this reason, is included in this chapter.

3. Raw Materials and Goods (U).

a. Resource Base (U).

(1) (U) The Soviet Union's mineral reserves rank among the largest in the world. The Soviets claim to have the world's largest reserves of iron ore, manganese, nickel, lead, molybdenum, mercury, and antimony. They also claim that their reserves of chromite, gold, platinum-group metals, and copper are among the largest in the world and are sufficient to support Soviet mine production for many decades. Western specialists generally accept the validity of these claims. There is a strong possibility, moreover, that the enormous undeveloped and virtually unexplored regions of the Eastern USSR will provide many of the world's richest discoveries in the future. For example, the huge Aldan iron ore deposit in Eastern Siberia probably contains sufficient reserves to support current Soviet production for at least 30 years and the Udokan copper deposit in Eastern Siberia probably can support current Soviet production for at least 25 years. The Soviets claim that vast reserves of nickel and copper exist in Northern Siberia in addition to the giant deposits already discovered near Noril'sk. Major reserves of tungsten probably exist in the Bogutin region of Southern Kazakhstan, and major reserves of gold probably exist in the Kyzylkum desert of Uzbehistan. There are indications that large

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deposits of tin exist near YamAlin in Khabarovsk Kray as well as large deposits of low-grade bauxite in the Kustanay Oblast in Kazakhstan.

(2) (U) Soviet studies state that recoverable reserves of iron ore amount to about 60 billion tons--some 40 percent of the world's total. Reserves of manganese are estimated at 2.5 billion tons, enough to support current Soviet production for over two centuries. Reserves of chromite are placed at about 270 million tons, about an 80-year supply. The bulk of these ferrous ores, located in relatively accessible regions of the Western USSR and Kazakhstan, do not pose serious exploitation problems by Soviet standards.

(3) (U) Data on reserves of nonferrous minerals are protected by the Soviet State Secrecy Decree. Nonetheless, studies by the US Bureau of Mines and other Western specialists indicate that, at a minimum, Soviet reserves of major nonferrous metals (such as copper, nickel, cobalt, gold, and platinumgroup metals) are sufficient to support current Soviet production for at least 15 years, in the case of cobalt and to almost 50 years, in the case of nickel (Table 5-1). As in the West, the Soviets have established prudent policies with respect to the reserve base that must be available to justify construction of mineral processing plants. New copper, nickel, aluminum, and lead/zinc plants must have a reserve base sufficient to support production for at least 30 years; tungsten and tin plants, 20 years; and gold at least 10 years.

Table 5-1. (U) USSR: Estimated Reserves of Selected Nonfuel Minerals

	Size of Reserves	Share of World Reserves (Percent)	Years to Exhaustion (At 1980 Production)
Iron ore	63.3 billion tons	40	250
Manganese	2.5 billion tons	40	250
Chromite	271.2 million tons	10	80
Copper	40.0 million tons	7	28
Nickel	11.3 million tons	18	48
Cobalt	100 million tons	NA	17
Lead	17 million tons	11	28
Zinc	22 million tons	10	24
Gold	200 million troy ounces	35	20
Platinum-group metals	90 million troy ounces	25	25
Tungsten	215 thousand tons	11	24

Source: 2/2

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(4) (U) Unlike the reserves of most ferrous ores, many of the largest Soviet nonferrous deposits are located in remote and climatically severe regions of the country. In some cases (nonbauxite ores, for example), the deposits would not be considered economically exploitable by Western standards. Major deposits of copper, nickel, cobalt, and platinum-group metals are located near Noril'sk where operating conditions are among the worst in the world in terms of climate, depth of mines, and distance from major industrialized centers. The bulk of the country's reserves of gold, tin, diamonds, tungsten, and molybdenum are located in the Far East economic regions where mining operations are carried out at great cost and, in the case of gold and tin, only during part of the year.

b. Production (U).

(1) (U) After years of sustained effort and billions of rubles in capital investment, the Soviets have developed the largest complex of metallurgical industries in the world. The USSR is the world's largest producer of iron ore, crude steel, manganese, nickel, lead, zinc, titanium, tungsten, platinum-group metals, and a raft of minor metals as well. It is second only to South Africa in production of chromite and gold; second only to the United States in primary aluminum, refined copper, and magnesium; and, even though partially dependent on imports, second only to Zaire in cobalt; in third place among world producers of tin; and in fourth place among world producers of bauxite (Table 5-2).

(2) (U) A comparison of Soviet versus European and US 1980 minerals and metals imports as a share of consumption (Figure 5-5) underscores the relative vulnerability of the industries dependent on these items in wartime in the European Community and the United States as contrasted with those in the USSR and Eastern Europe.

(U)

(3) ~~(C)~~ A comparison of selected consumer goods, shown in Table 5-3, demonstrates that the Soviets have improved in their production per farm worker of grain and meat production. Their production of washing machines and refrigerators increased dramatically from 1960 to 1970 but has remained constant since 1970.

(4) (U) A comparison of Soviet commodity production with ours (Table 5-4) shows that over the past 20 years the Soviets have significantly and impressively increased their production of almost all items. The production levels of many commodities have more than tripled between 1960 and 1980. Again, however, 1960 to 1970 production increases have greatly exceeded 1970 to 1980 increases. For instance, crude steel production increased an average of 4 percent per year from 1960 to 1975 as against 0.9 percent from 1976 to 1980. This slowdown in the growth of output extends to many other products and is indicative of the many problems besetting the Soviet production industries.

c. Problems (U).

(1) (U) Despite its impressive size and great strength, the

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Table 5-2. (U) USSR: Production of Nonfuel Minerals and Metals

	1970	1973	1974	1975	1976	1977	1978	1979	1980
Crude steel *(million tons)*	115.9	131.5	135.2	141.3	144.7	146.7	151.5	149.0	148.0
Iron ore *(million tons)*	197	216	225	234	241	242	246	242	245.0
Manganese ore *(million tons)*	6.8	8.2	8.2	8.5	8.6	8.6	9.1	10.2	10.0
Tungsten ore *(contained metal; thousand tons)*	6.9	7.6	7.8	8.1	8.3	8.5	8.8	9.0	9.2
Chromite *(million tons)*	3.0	3.3	3.4	3.5	3.5	3.4	3.3	3.2	3.4
Molybdenum *(contained metal; thousand tons)*	9.5	10.0	10.3	10.5	10.7	11.0	11.3	11.6	12.0
Bauxite *(million tons)*	6.7	7.5	7.8	8.0	8.2	8.5	8.8	9.0	9.1
Aluminum *(thousand tons)*	1,490	1,890	2,020	2,130	2,220	2,270	2,330	2,410	2,530
Copper *(thousand tons)*	1,015	1,200	1,250	1,320	1,350	1,400	1,460	1,500	1,520
Lead *(thousand tons)*	470	510	530	540	560	575	580	585	600
Zinc *(thousand tons)*	690	780	790	820	840	860	875	890	900
Tin *(thousand tons)*	21.0	23.0	24.0	25.0	26.5	28.5	30.0	32.5	32.5
Nickel *(thousand tons)*	137	170	180	195	215	220	230	235	235
Cobalt *(thousand tons)*	3.7	4.5	4.8	5.0	5.2	5.4	5.6	5.8	6.0
Titanium *(thousand tons)*	31.6	38.0	43.0	47.4	48.5	50.0	51.3	53.0	56.0
Gold *(million troy ounces)*	7.0	8.0	8.4	8.3	8.9	9.2	9.5	9.9	10.2
Platinum-group metals *(million troy ounces)*	2.5	3.0	3.2	3.3	3.4	3.4	3.5	3.6	3.7

SOURCE: 2/4

(U)

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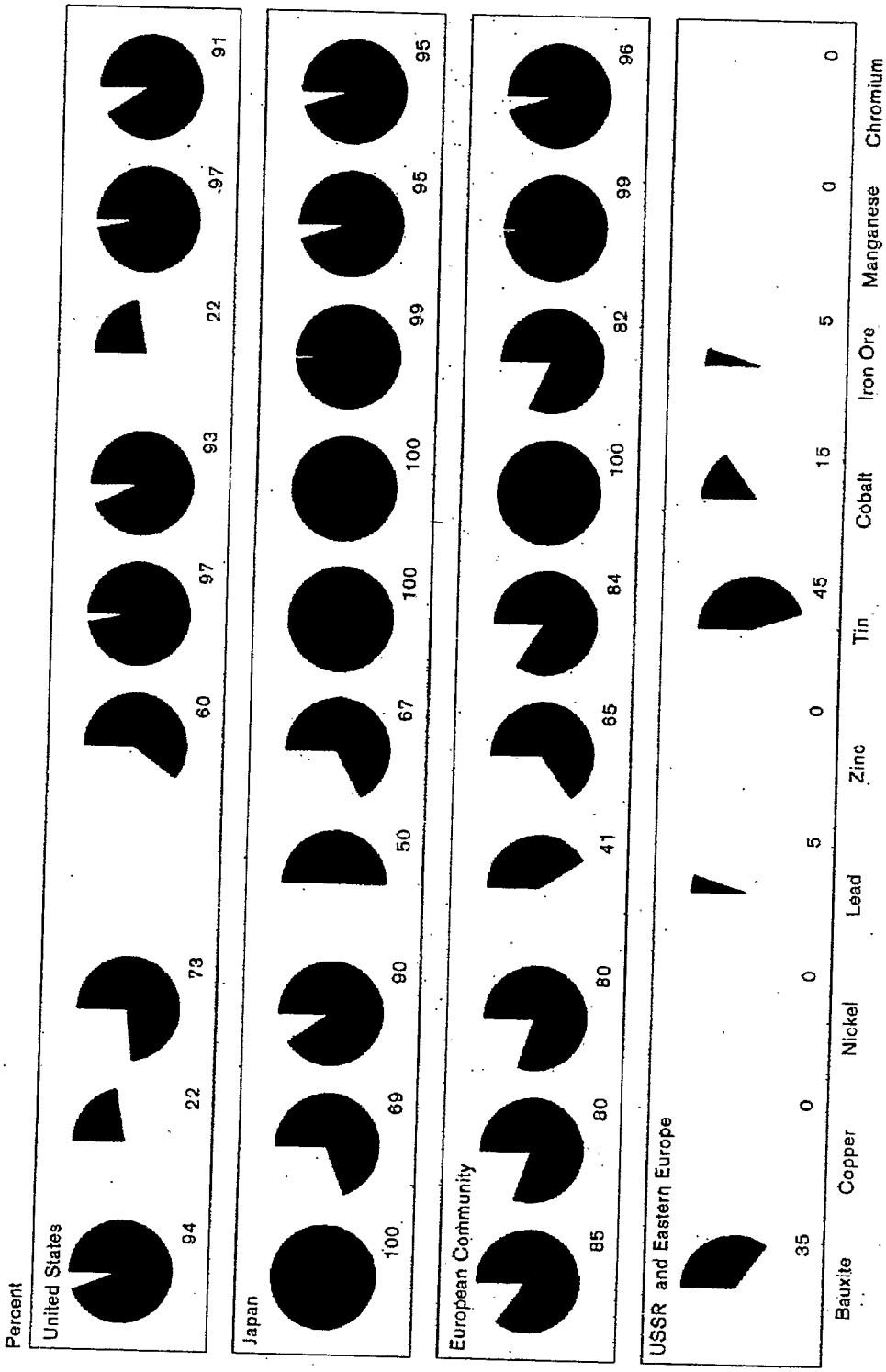

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SOURCE: 3/12

Figure 5-5. (U) Minerals and Metals: Imports as a Share of Consumption, 1980

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Table 5-3. (U) Production of Selected Consumer Goods in the US and USSR

	1960	1965	1970	1975	1976	1977	1978	1979	1980
Food									
Grain production (kilograms per capita)									
United States	1,003	944	911	1,151	1,180	1,197	1,227	1,328	1,158
USSR	586	524	769	551	871	756	908	680	713
Meat production (kilograms per capita)									
United States	71	74	110	106	114	114	113	114	116
USSR	41	43	51	59	53	57	59	59	57
Persons supplied per farm worker									
United States	26	35	45	50	50	53	56	60	60
USSR	5	6	6	7	7	8	8	8	8
Transportation									
Passenger automobile production (units per hundred persons)									
United States	3.69	4.79	3.19	3.11	3.90	4.18	4.12	3.74	2.81
USSR	0.06	0.09	0.14	0.47	0.48	0.49	0.50	0.50	0.50
Household equipment									
Washing machine production (units per thousand persons)									
United States	18	22	20	20	21	23	23	22	20
USSR	4	15	22	13	14	14	14	14	14
Washing machines in use (units per thousand persons)									
United States	158	170	194	238	248	256	267	272	279
USSR	13	59	141	189	195	200	203	205	209
Refrigerator production (units per thousand persons)									
United States	19	25	26	21	22	26	26	25	23
USSR	2	7	17	22	23	22	23	23	22
Refrigerators in use (units per thousand persons)									
United States	281	295	336	340	344	349	355	352	351
USSR	10	29	89	178	194	210	226	240	249

SOURCE: 3/21

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Table 5-4. (U) Commodity Production of the US and the USSR

Commodity	1960	1965	1970	1975	1976	1977	1978	1979	1980
Primary energy (million b/d of oil equivalent)									
US	21.1	24.9	30.8	30.2	30.1	30.3	30.9	32.2	32.6
USSR	9.3	13.2	17.0	21.9	23.2	24.3	25.4	26.3	27.1
Crude oil (thousand b/d)									
US	7,055	7,804	9,648	8,375	8,131	8,245	8,707	8,533	8,595
USSR	2,943	4,835	6,976	9,570	10,110	10,650	11,140	11,400	11,700
Natural gas (trillion cubic feet)									
US	12.8	16.0	21.9	20.1	20.0	20.0	20.0	20.5	20.1
USSR	1.6	4.5	7.0	10.2	11.3	12.2	13.1	14.4	15.4
Hard coal (million metric tons)									
US	391.5	475.3	550.4	576.2	598.5	606.2	577.1	670.9	716.4
USSR	355.9	397.6	432.7	485.0	494.0	503.0	501.0	497.0	494.0
Brown coal and lignite (million metric tons)									
US	2.5	4.6	7.2	17.7	22.8	26.2	30.9	37.7	42.0
USSR	134.2	147.4	144.7	160.0	160.0	160.0	163.0	161.0	161.0
Electricity (billion kilowatt-hours)									
US	893.7	1,229.6	1,742.7	2,131.1	2,263.2	2,361.7	2,436.0	2,472.1	2,437.8
USSR	292.3	506.7	740.9	1,038.6	1,111.4	1,150.1	1,201.9	1,238.2	1,295.0
Iron ore (million metric tons)									
US	90.2	88.8	91.2	80.1	80.0	55.8	82.8	86.5	69.3
USSR	105.9	153.4	197.1	234.7	241.1	241.9	246.2	241.7	245.0
Bauxite (thousand metric tons)									
US	2,030	1,680	2,120	1,800	1,989	2,013	1,669	1,821	1,617
USSR	3,100	5,300	6,700	8,000	8,200	8,500	8,800	9,000	9,100
Pig iron (million metric tons)									
US	62.2	82.6	83.0	72.5	78.8	73.4	79.6	78.9	62.3
USSR	46.8	66.2	85.9	103.0	105.4	107.4	110.7	109.0	107.0
Crude steel (million metric tons)									
US	90.1	119.3	119.3	105.8	116.1	113.7	124.3	123.7	101.5
USSR	65.3	91.0	115.9	141.3	144.7	146.7	151.5	149.0	148.0
Refined copper (thousand metric tons)									
US	1,642	1,957	2,065	1,622	1,737	1,707	1,869	2,014	1,755
USSR	475	700	1,015	1,320	1,350	1,400	1,460	1,500	1,520

SOURCE: 1/21

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Table 5-4. (U) Commodity Production of the US and the USSR (Continued)

Commodity	1960	1965	1970	1975	1976	1977	1978	1979	1980
Primary aluminum (thousand metric tons)									
US	1,830	2,500	3,607	3,520	3,856	4,118	4,358	4,557	4,654
USSR	620	970	1,490	2,130	2,220	2,270	2,330	2,410	2,530
Lead (thousand metric tons)									
US	347	379	605	577	592	549	565	576	550
USSR	300	385	470	540	560	575	580	585	600
Refined zinc (thousand metric tons)									
US	788	978	866	450	515	454	441	525	350
USSR	360	475	690	820	840	860	875	890	900
Gold (million troy ounces)									
US	1.7	1.7	1.7	1.0	1.0	1.1	1.0	1.0	0.9
USSR	3.6	5.3	7.0	8.3	8.9	9.2	9.5	9.9	10.2
Synthetic ammonia (million metric tons of N)									
US	3.6	6.6	10.3	12.2	12.5	13.0	12.8	13.8	14.2
USSR	1.1	3.1	6.3	9.9	10.1	10.7	11.5	12.3	13.8
Mineral fertilizer (million metric tons, nutrient content)									
US [b]	7.4	10.6	14.8	17.1	18.2	19.2	19.0	20.9	22.4
USSR	3.3	4.5	13.1	22.0	22.6	23.5	23.7	22.1	24.8
Nitrogen fertilizer (million metric tons of N)									
US [b]	2.5	5.1	7.6	8.5	9.6	9.8	9.5	10.1	11.2
USSR	1.0	2.7	5.4	8.5	8.6	9.1	9.3	9.2	10.2
Plastics (million metric tons)									
US	2.8	5.3	9.7	10.2	13.3	11.2	12.4	13.9	12.4
USSR	0.3	0.8	1.7	2.8	3.1	3.3	3.5	3.5	3.6
Synthetic rubber (million metric tons)									
US	1.5	1.8	2.2	2.0	2.4	2.5	2.6	2.7	2.2
USSR	0.3	0.6	0.9	1.4	1.6	1.7	1.8	1.9	1.9
Woven cotton fabrics									
US (billion linear meters)	8.6	8.4	5.7	3.7	4.1	4.0	3.7	3.5	3.4
USSR (billion square meters)	4.8	5.5	6.2	6.6	6.8	6.8	7.0	7.0	7.0
Tractors (thousands)									
US	178.5	271.8	191.7	232.0	213.2	226.3	197.3	222.4	155.4
USSR	238.5	354.5	458.5	550.4	562.2	569.1	576.1	557.0	557.6
Automobiles (millions)									
US	6.7	9.3	6.5	6.7	8.5	9.2	9.2	8.4	6.4
USSR	0.1	0.2	0.3	1.2	1.2	1.3	1.3	1.3	1.3
Trucks and buses (millions)									
US	1.2	1.8	1.7	2.3	3.0	3.4	3.7	3.0	1.7
USSR	0.5	0.4	0.6	0.8	0.8	0.8	0.8	0.9	0.9

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Table 5-4. (U) Commodity Production of the US and the USSR (Continued)

Commodity	1960	1965	1970	1973	1974	1975	1976	1977	1978	1979
Cement (million metric tons)										
US		56.1	65.1	67.4	61.8	66.2	71.3	76.2	75.3	67.2
USSR		45.5	72.4	95.2	122.1	124.2	127.1	127.0	123.0	125.0
Grain (million metric tons)										
US		181.3	183.5	186.7	248.7	257.4	263.8	273.1	298.8	263.6
USSR		125.6	121.1	186.8	140.1	223.8	195.7	237.4	179.2	189.2
Wheat (million metric tons)										
US		36.9	35.8	36.8	57.8	58.3	55.4	48.9	58.3	64.3
USSR		64.3	59.7	99.7	66.2	96.9	92.2	120.8	90.2	98.1
Coarse grain (million metric tons)										
US		141.9	144.2	146.1	185.1	193.9	203.8	218.1	234.5	192.7
USSR		61.1	60.8	85.8	71.9	124.9	101.3	114.5	86.6	88.3
Potatoes (million metric tons)										
US		11.7	13.1	14.8	14.6	16.2	16.1	16.6	15.8	13.6
USSR		84.4	88.7	96.8	88.7	85.1	83.6	86.1	91.0	66.9
Sugar (million metric tons)										
US		3.6	4.9	5.3	5.7	6.2	5.5	4.9	5.2	5.2
USSR		6.9	12.0	11.1	11.3	10.1	13.1	13.3	11.6	11.0
Meat (million metric tons)										
US		12.8	14.3	22.5	23.0	24.9	25.1	25.2	25.6	26.3
USSR		8.7	10.0	12.3	15.0	13.6	14.7	15.5	15.5	15.1
Milk (million metric tons)										
US		53.7	56.3	53.3	52.3	54.6	55.6	55.1	56.0	58.3
USSR		61.7	72.6	83.0	90.8	89.7	94.9	94.7	93.3	90.7
Ginned cotton (thousand metric tons)										
US		3,107	3,260	2,219	1,808	2,303	3,133	2,364	3,185	2,428
USSR		1,458	1,925	2,343	2,674	2,815	2,978	2,890	3,115	3,386

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Soviet nonfuel minerals industry is facing a series of mounting problems that in the late 1970s caused a substantial slowdown in the output growth of many commodities. Growth of ferrous metals production slowed to about 1 percent per year during 1976-80, compared with 4 percent annually during 1971-75. Over the same periods, growth of nonferrous production slipped to about 2.5 percent per year from 5.5 percent per year. Some of the problems, notably increasing depletion of easily accessible reserves and rising costs of production, are common to all Soviet extractive industries. Others--shortages of investment and labor and transportation difficulties--are typical of the economy as a whole. None can be solved easily.(2/4)

(2) (U) The most serious problems were experienced in the ferrous metals industry, both in the mining of iron, chromite, and manganese ores and in the manufacture of iron and steel products. Production of crude steel and rolled steel products fell slightly in 1979 and again in 1980, marking the first absolute decline in Soviet steel production since World War II. Soviet crude steel production of about 148 million tons in 1980 was almost 11 percent short of the original plan goal. Production of iron ore amounted to 245 million tons in 1980, about the same level as 1978, and was 30 million tons short of the 1980 goal. Production of chromite slipped to about 3.4 million tons in 1980, down slightly from the 1975-76 peak of 3.5 million tons and well short of the 4.2 million tons originally planned. Output of manganese stagnated at about 8.5 million tons per annum during 1975-77 but rebounded to about 10 million tons in 1979-80, the result of commissioning new mines in the Georgian SSR.(2/5)

(3) (U) In the case of nonferrous metals, overall performance was mixed. The Soviets continued to post impressive gains in the production of titanium, magnesium, and nickel; but, output of aluminum and copper fell considerably short of desired levels, and only small increases were achieved in the production of lead and zinc.

(4) (U) The Soviets advance a number of reasons for the slowdown in production of nonfuel minerals. A major difficulty in steel production has been the inability of the industry to meet the growing needs of the economy for a broader assortment of high-quality steel products. Projects to add capacity have raised capital costs, overtaxed equipment manufacturers, and forced increased reliance on foreign steel. Ferrous metals production has also been hurt by the spot shortages of coking coal and transportation bottlenecks that became more severe in the late 1970s. Shortages of labor and capital, together with declining growth in labor productivity, hampered ferrous metals along with other Soviet industries across the board.

(5) (U) As in Soviet extractive industries, delays in commissioning new mine capacity and accelerating mine depletion are also holding back production of nonfuel minerals. Gross annual commissionings of new iron ore capacity, for example, remained unchanged at about 26 million tons during the 1970s. At the same time, annual depletion rose to about 24 million tons during 1976-79, compared with about 19 million tons in 1971-75. Fragmentary information suggests that chromite deposits were de-

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pleting at about 100 thousand tons a year in 1971-75 and this rate probably increased during the latter 1970s.(2/5) Viewed in a different way, the Soviet data suggest that about 90 percent of gross annual commissionings during 1976-79 were simply to offset depletion. Timelags in bringing new mines up to rated capacity and unusually large commissionings can introduce aberrations in annual comparisons, but there is little question that new commissionings are needed to offset depletion.

(6) (U) Another long-term problem is the continuing decline in the average grade of the ores being mined. This is certainly true in the case of iron ore and some nonferrous ores and apparently true for chromite and manganese. For example, almost 87 percent of the USSR's output of iron ore in the late 1970s required concentration, compared with only 37 percent in 1950. Moreover, only 50 percent of raw iron ore output in 1980 was usable, compared with 64 percent in 1965 and 82 percent in 1950. As a result, the Soviets have had to devote increasing investments to ore-beneficiating facilities thus raising production costs and capital investment requirements. According to Soviet studies, real capital investment per ton of raw ore rose steadily from about 20 rubles per ton in 1965 to almost 25 rubles per ton in 1980. The Soviets have reported that the average grade of copper and zinc ores has dropped by about 50 percent since the mid-1960s; the average grade of lead ore fell by about 40 percent during the same period. Ore grades at chromite deposits are declining as well, forcing the Soviets to utilize more expensive underground mining techniques. Because of the steady drop in the average grade of gold at surface mines in Magadan Oblast, the Soviets have had to construct underground mines and processing plants to process the more complex ore. The Soviets have reported that the amount of ore that must be processed to obtain an ounce of gold in the Kolyma and Chukotka regions of Magadan Oblast has been increased by about 33 percent since 1976 alone. Depending on a variety of factors, production costs at underground mines can be as much as three to four times greater than surface operations.

(7) (U) As in many other industries, delays in bringing new capacity on stream resulted in a sharp rise in the backlog of unfinished construction. The value of the backlog in ferrous metals rose to about 5 billion rubles in 1979, more than double the value of the backlog in 1970. Despite repeated urging by top Soviet officials, the industry continues to spread investments over too many new projects instead of concentrating on completing those already under construction. As a result, the backlog of unfinished construction is likely to get worse before it gets better. Although data are not available, it is reasonable to assume that the problem of unfinished construction also plagues the Soviet nonferrous metals industry.

d. Outlook for Production (U).

(1) (U) Mounting difficulties in production are reflected in the comparatively modest goals set for the industry during 1981-85. Output of rolled steel is scheduled to increase to a range of 117 to 120 million tons by 1985-equivalent to about 165 to 170 million tons of crude steel in that

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year. The Soviets had planned to produce this amount of crude steel in 1980. Despite current problems, achievement of at least the lower end of the range for crude steel production does not appear beyond reach given the long-term Soviet track record. Of course, the Soviets would have to break the current logjam in production and take tough mesures to assure that the industry has adequate amounts of coking coal, fuel, iron ore, and labor for relatively trouble-free operation. Failure in any one of these areas probably would bring 1985 production below the range we are presently projecting. Production of chromite will increase to about 3.8 million tons by 1985, as a result of the commissioning of a new mine in Kazakhstan. Production of manganese will increase to about 12 million tons by 1985.(2/7)

(2) (U) During 1981-85, aluminum output is scheduled to increase by 15 to 20 percent and copper output by 25 to 30 percent, a somewhat slower pace than in the previous Five-Year Plan. These goals also appear reasonable in view of the steady progress the Soviets are making in adding aluminum capacity in Siberia. The big increase in copper production will result from the new coppernickel smelter near Noril'sk. Small increases are likely for lead and zinc, tin, tungsten, and molybdenum, but details are not available.

(u)

(3) (C) Rapid expansion in production is foreseen for several of the metals during the 1980s. The Soviets are planning to increase the production of nickel and cobalt by at least 30 percent, all of which will be attributable to increased output from Noril'sk. We believe that these goals will be met and possibly overfulfilled by a wide margin. The following results are likely as early as 1985 and probably no later than 1990:

- Soviet nickel production will increase to about 350,000 tons a year, compared with 235,000 tons in 1980.
- Cobalt production will about double to 13,000 to 14,000 tons, a year compared with 6,000 to 7,000 tons in 1980.
- Platinum-group metals production (mainly palladium), could jump to 4.5 to 5.0 million troy ounces a year compared with 3.7 million ounces in 1980.

(u)

(4) (C) Production of titanium will probably continue to increase rapidly because of additions to capacity at the titanium-magnesium combines at Ust'Kamenogorsk and Berezniki. Completion of new capacity at these plants could increase annual titanium production to about 75,000 tons by 1985, compared with 56,000 tons in 1980. Similarly, major increases in gold production are likely as a result of the completion of plants at Muruntau and Mardzhambulak in Uzbekistan, the Zod/Ararat Combine in Armenia, and the Darasun-Aginskoye plant in Chita Oblast.(2/7)

(5) (S/NOFORN) Increased internal needs--including substantial

amounts for the titanium submarine program--as well as weak demand in the West apparently caused a drop-off in Soviet titanium exports in the late 1970s. To date, the Soviets have built at least seven and possibly eight titanium hulled submarines, each requiring several thousand tons of special alloy, high-purity metal that can be produced only from high-quality titanium sponge. Soviet exports of high-quality titanium sponge needed to produce this high-purity metal have virtually ceased since the mid-1970s. In recent years, the bulk of Soviet exports has consisted of titanium scraps and other waste products. We believe that the commitment to titanium submarines will continue and possibly accelerate during the 1980s. The Soviets are expanding both domestic titanium sponge production capacity and metal fabricating capacity substantially, but it seems that most of the increase is earmarked for domestic use.

(b) (1) & (b) (3) per CIA

(6) ~~(S)~~ Annual Soviet purchases of tungsten and molybdenum averaged some 3,000 to 4,000 tons each during 1970-78.

(b) (1) & (b) (3) per CIA

Similarly, imports of molybdenum rose to about 5,000 tons in 1979 and to slightly more than 13,000 tons in 1980. The Soviets were buying tungsten through East European countries, some directly from China, and some through Western metals dealers. More recently, the Soviets have attempted to buy substantial amounts of tungsten concentrate from Bolivia. The Soviets purchased molybdenum mainly from the United States and some from Western Europe.

(b) (1) & (b) (3) per CIA

(u)

(7) ~~(S)~~ The reason for the reported sharp rise in Soviet purchases of tungsten and molybdenum is unknown. Soviet domestic production may be stagnating, but the limited information available suggests that output is continuing to rise. In the case of tungsten, we know of no new military or civilian programs that would require abnormally large amounts. Increased requirements for oil drilling (tungsten carbide drill bits) and armaments programs might increase tungsten imports, but by only 2,000 to 4,000 tons per year. The Soviets could be adding to strategic reserves. Increased Soviet purchases of molybdenum could be tied to the construction of natural gas pipelines from Siberia to Western Europe. The building of a dual pipeline would need about 7 million tons of steel pipe. Assuming a 1 percent molybdenum content in the pipe, this would require about 70,000 tons of molybdenum to complete the project.(2/9)

(u)

(8) ~~(C)~~ We do not know if Soviet purchases of tungsten will continue at present high rates or if they will fall back to the levels prevailing through most of the 1970s. In the case of molybdenum, the Soviets have taken steps to acquire new supplies from Mongolia and may ultimately be able to reduce or eliminate their dependence on the West.(2/10)

(u)

(9) ~~(C)~~ On balance, therefore, the broad pattern of Soviet trade

in nonfuel minerals during the 1970s does not reflect a fundamental weakening of the Soviet commitment to self-sufficiency. The Soviet dependence on imports of steel, tin, bauxite, tungsten, and molybdenum does not appear to be a critcal issue for the West; these purchases generally are small in terms of world supply and do not threaten the security Western supply. Nor does this limited dependence seem critical from Moscow's point of view, since the Soviets are self-sufficient, or soon will be, in strategic commodities such as platinum-group metals, chromite, titanium, manganese, and cobalt.(2/11)

(10) (U) We expect that during the 1980s Soviet capability to export gold, platinum-group metals, nickel, copper, and aluminum will increase. At the same time, exports of chromite, manganese, lead, and zinc will remain steady at best but more than likely will fall. On the import side, Soviet purchases of steel, tin, bauxite, and alumina will continue to increase and large purchases of tungsten are possible as well. Imports of cobalt from African sources could be eliminated, but some small purchases could continue as a result of long-term agreements or simple Soviet intent to maintain an economic foothold in African countries. Imports of molybdenum from the West will probably be reduced or eliminated entirely.
(u)

(11) ~~(C)~~ In terms of hard currency trade for nonfuel minerals, the USSR may continue to run deficits with the West - the result of continued large purchases of steel products. The Soviets will, however, continue to have the capability to reduce these deficits, the major swing factor being the future of Soviet exports of gold, and to a lesser extent, platinum-group metals. Moscow also has the option over the next few years of relying somewhat more on imports to avoid the high marginal costs of extracting and transporting some minerals.(2/11)

5. How This Influences Their Ability to Fight Now and in the Year 2000 (U).
(u)

a. ~~(C)~~ The Soviet ratio of imports to consumption of many key minerals and metals places them in a much more strategically sound position than does our ratio of imports to consumption of the same minerals and metals. Although they are encountering increasing problems in their mining and production, these are not problems that should adversely impact on their ability to prepare for or conduct general war. Although their capabilities will decline, ours will also decline at generally the same rate. However, twenty years from now, they will be in a less self-sufficient position unless they find sources for depleted metals and minerals that are not now known to the West.
(u)

b. ~~(C)~~ It appears their production will not increase over the next twenty years at the rate it progressed over the past twenty. Since their stocks of war related items are so immense now it is difficult to envision a decrease in the rate of production so large as to impair their fighting capability to any great extent. A decrease in the rate of their production of consumer products might negatively affect the morale of the populace

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but this would be overcome by the average Russian support for a strong defensive posture.
(U)

c. ~~(C)~~ The Soviets have extensive reserves of equipment, under many titles, throughout their country. This will certainly assist them in fighting any war now or anytime in the future. Judging by our estimate of their production of major end items and their characteristic frugality, their holdings of major end items in reserve should increase significantly. Their ability to fight any future war should increase accordingly.

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CHAPTER 6

PREPARATION OF POTENTIAL THEATERS (U)

HIGHLIGHTS

(U) The Soviets are assiduously striving to improve the posture of their forward areas to support a potential conflict. The effectiveness of combat support resources is directly related to the circumstances surrounding the initiation of hostilities and the amount of preparation time available immediately prior to conflict. This is particularly true of the Western military districts.
(U)

~~(S)~~ Combat resources consist primarily of ammunition and petroleum, oil, and lubrication (POL) supplies. They also consist of the transportation assets needed to move supplies from the depots where they are stored to the using units. Our assessment is that transportation resources in the Western military districts can be fully mobilized within four days to support doctrinal requirements for a Soviet attack on Western Europe. Ammunition and POL supplies are more than adequate to support doctrinal requirements for the scenarios postulated, and have been growing.

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CHAPTER 6

PREPARATION OF POTENTIAL THEATERS (U)

1. Introduction (U).

(u) a. ~~(S)~~ Soviet military forces in the forward areas are maintained in a high state of readiness. Almost all forces are prepared to clear garrison areas in a matter of hours to reach places of assembly. POL required for communications equipment are kept available on preloaded vehicles in garrison areas.

(u) b. ~~(S)~~ However, Soviet and East European nondivisional rear service units are normally manned at far below planned wartime strength. Once their initial holdings of ammunition and POL are consumed, the rear service combat forces will have to rely on the stocked supplies of the forward areas and on the movement of these supplies from point of stockage. The need to integrate the forward areas with the rear service units will present the Soviets and their WP allies with logistical problems in establishing the front level and higher command, control, and communications structure required for an attack against NATO.

(u) c. ~~(S)~~ The preparedness of a potential theater's resources directly affects the combat effectiveness of the forces to be employed. The readiness of these resources is scenario dependent to a large extent. The extent of prehostilities preparation is a funciton of the degree of surprise desired in the attack. Almost certainly, any WP attack against NATO would try to achieve some measure of surprise with combat preparation times restricted accordingly. The routine state of readiness of a potential theater's resources and the rapidity with which they can be brought to wartime readiness are the decisive factors.

2. Leningrad Military District-Northwestern Theater (U).

a. Description (U).

(u) (1) ~~(S)~~ The Leningrad Military District (LMD) is the peacetime domain of the major armed forces field command in the Northwestern USSR. Of the 16 Soviet military districts, it ranks fifth in physical size and is larger than the combined land area of Finland, Norway, and Sweden and its peacetime active ground forces strength is three-quarters the sum of similar forces in those three nations.(1/1)

(u) (2) ~~(S)~~ Soviet forces dedicated to potential operations against northern Norway and adjacent waters are based in the LMD. Naval forces operate primarily out of the Kola Peninsula, whereas ground and air elements are dispersed throughout the LMD, primarily in a north-to-south orientation opposite Finland.(1/1)

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divisional mobilization bases at Murmansk and Arkhangelsk and numerous nondivisional support units. These two mobilization bases each have most of the equipment for an MRD less armored personnel carriers. They may have wartime missions of defending the critical areas in which they are located after the collocated active divisions are deployed. Their mobilization to full operational status could be accomplished in as little as one month. Additionally, some nondivisional units and the airborne division may have extra sets of equipment for generation of additional formations.(1/6)

f. Logistics (U).

(u)
(1) ~~(S)~~ Logistically, the LMD has experienced a materiel and equipment upgrading that has resulted in overall ground forces improvements within the district. Ammunition stocks have increased by 20 percent during the past five years, accounting for a present estimated 230,000 metric tons (mt) maintained in 20 major depots. POL stocks have also shown a gradual increase in recent years with a present total of over 325,000 mt of POL in 84 ground forces depots.(1/7)

(u)
(2) ~~(S/NOFORN)~~ The main operating base (MOB) serving the transport helicopter regiment at Klyuchevoye airfield has POL storage areas containing about 1,225 mt of aviation POL and an ordnance storage area containing about 750 mt of ammunition. A motor transport company located on the MOB maintains about 100 trucks of various types and would be utilized to support unit deployments to forward operating locations. Helicopter squadrons at Leningrad/Kasimovo, Nurmalitsy, and Vyborg are also known to have POL prepositioned on the airfields. Data concerning ammunition is not available.

(u)
(3) ~~(S/WNINTEL)~~ Ground forces reserve equipment stocks, which are maintained within logistic channels, also represent a significant reserve for the LMD. These stocks include armored vehicles (tanks/APCs), artillery, antiaircraft weapons, and signal and engineer equipment, most of which is maintained in long-term storage. The Sertolovo Reserve Armor Storage Depot, which is part of a large complex of military installations near Leningrad, has vehicle storage buildings capable of housing an estimated 700 armored vehicles. Two depots containing both artillery and AAA weapons, one at Toksovo and the other at Petrozavodsk, house an estimated 90 artillery and 200 AAA weapons in reserve storage. Numerous reserve signal and engineer equipment depots spread throughout the district also contain significant quantities of reserve equipment designated for "force restoration" purposes. (1/7)

(u)
(4) ~~(S/WNINTEL)~~ A substantial motor transport capability within the LMD has recently been enhanced by the force-wide introduction of KAMAZ trucks at army and front levels. To supplement this capability, the LMD has an estimated 75 civilian AVTOKOLONNAS, which contain an average of 300 vehicles each. These civilian assets could be used to support military operations staged from the district.(1/8)

(u)
(5) ~~(S)~~ Frontal Aviation logistics support in the LMD relies heavily on the prepositioning of POL, air ordnance, and air technical supplies

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on the four primary MOBs in the MD. Estimated stocks of POL and ordnance in metric tons (mt) on these airfields are shown in Table 6-2. Based on consumption rates of aircraft types currently based at these airfields, mission roles, and maximum sortie generation, these stocks could support five to seven days of FA combat operations without resupply from depots.1/8

Table 6-2. (U) Estimated Stocks of POL and Ordnance (mt)

Airfield	Type Units	POL	Ordnance
Gdov	Ftr-Bmr Regiment	7,175	500
Siverskiy	Ftr-Bmr Regiment	3,900	850
Vyborg East	Ftr-Bmr Regiment	3,000	Unk
Monchegorsk	Recon Regiment	11,250	700

(u)
Note: ~~(S)~~ Airfield also supports a Soviet APVO regiment.

~~SECRET~~ (u)

(u)
(6) ~~(S)~~ Although an estimated 1,122,000 mt of aviation POL is stored in offbase depots in the LMD, only about 214,500 mt would be available to FA forces should they remain at their respective MOBs. This is based on POL requirements of Soviet Naval Aviation (SNA), Aviation of Air Defense (APVO) Longe Range Aviation (LRA), and Military Transport Aviation (VTA) forces based in the LMD and a large number of depots geographically removed from the border areas or supporting specific airfields. The Krechevitsy Air Force ammunition depot near Novgorod probably holds reserve ordnance stocks for FA forces in the LMD. Stocks are estimated at about 1,850 mt. The depot probably stores bombs of various sizes, rockets, small arms ammunition, air-to-air missiles, and possibly a limited number of of air-to-surface missiles. Another air ammunition depot of comparable size is located near Obozerskiy, an APVO airfield; however, this depot is possibly subordinate to the Leningrad Air Defense District and supports APVO units.(1/8)

(u)
(7) ~~(S)~~ Although information is lacking on the exact amount of spare parts and other air technical materials prepositioned on MOBs, FA units are assessed to have sufficient stocks at least for initial combat operations. A large air technical depot located in Leningrad near the Leningrad/Levashevo airfield maintains a significant reserve of spare parts and ground support equipment. The depot also stores at least 200 vehicles of various types that are probably in wartime reserve. A second air technical depot storing similar materials is located in Shonguy, south of Murmansk.(1/8)

(u)
(8) ~~(C)~~ The Soviets are actively improving the rail system and its related facilities within the LMD. Track capabilities have been increased on most routes with the major improvements centered on the Leningrad-Petrozavodsk line. The capacity of this line has been recently doubled

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as a result of electrification and double tracking.(1/8)

(u)

(9) ~~(C)~~ Over the past 10 years, the Soviets have constructed a new rail line from Ledmozero via Kostomukcha to the Finnish border. This new line, which connects with the Finnish State Railway, has an estimated capacity of eight trains a day and could provide a major supply route for northern operations.

(u)

(10) ~~(S)~~ The highway system of the LMD has been greatly improved in recent years. Major road construction efforts, especially on the Leningrad-Murmansk, Moscow-Arkhangelsk, and Vologda-Leningrad routes have increased travel speeds and road capacities. Externally, road connections between the LMD and the Baltic, Belorussian, and Moscow MDs have also been improved and provide excellent access between these districts. Specific major improvements on the Moscow-Leningrad-Finland Highway were recently completed for the Olympic games and provide a widened and paved route directly to the border area.(1/10)

(u)

(11) ~~(S)~~ Although it would be incorrect to consider the LMD in isolation as a logistics base, the district does possess sufficient stocks of both materiel and equipment to support limited operations in the northern region. Additionally, sufficient motor transport and an improved highway and railroad network have greatly improved the LMD's logistical ability to support such operations.(1/10)

g. Equipment (U).

(u)

(1) ~~(S/NOFORN/WNINTEL)~~ In the past, the LMD was equipped with less modern types of equipment than those found in MDs oriented toward Central Europe or China. In some respects, the LMD is similar to the Transcaucasus MD. Forces in both districts would be expected to operate in terrain that is not optimal for employment of tanks. As a result, only motorized rifle and airborne divisions are located in those districts. Furthermore, the 160mm mortar is still found in some divisional artillery regiments instead of 152mm howitzers (see Table 6-3).(1/10)

(u)

(2) ~~(S/NOFORN/WNINTEL)~~ The T54/55 is the most prevalent tank in tank regiments and the Motorized Rifle Regiment (MRR) tank battalion in the LMD. The PT-76, which is amphibious and has low ground pressure, is an effective vehicle for use in the snow and tundra of the LMD and is the next most numerous tank. Four of the active divisions include one PT-76 battalion in their tank regiments. There are few T-62s and the presence of the T-64 has not been confirmed. As part of a recent upgrade, the Kirillovskoye MRD has received T-72 tanks as replacements for T-54/55s.(1/10) Also part of that upgrade was the transformation of two MTLB equipped MRRs into the only BTR-70 and BMP MRRs in the LMD. With this exception, the MTLB armored personnel carrier is the standard APC for MRRs. Where the MTLB is not available, the unarmored GT-T or GT-S is used as a troop carrier. The MTLB was developed from the GTS family of tracked, amphibious, adverse-terrain vehicles designed for operation in Arctic snow and tundra.(1/12)

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(U)

Table 6-3. (U) Major Divisional Equipment Profile (page 1 of 2 pages)
(Actual/Percent of Total)

Division Location/ Equipment Type	Murmansk	Kandalaksha	Sortavala	Murmansk[1]	Kirillovskoye	Saparnoye
PT-76	50/21	19/8	50/21	19/12	19/8	50/21
T-54/55	183/79	121/52	183/79	135/88	—	183/79
T62	—	93/40	—	—	—	—
T72	—	—	—	—	214/92	—
Total	233/100	233/100	233/100	154/100	233/100	233/100
GT-T	—	—	170/63	—	—	60/20
NTLB	282/100	324/100	100/27	—	117/33	240/80
BTR-70	—	—	—	—	117/33	—
BMP	—	—	—	—	117/33	—
Total	282/100	324/100	270/100	—	351/100	300/100
100-mm	18/14	18/14	90/63	18/30	18/12	18/14
122M30	36/29	36/29	36/25	24/40	72/50	36/29*
122D30	54/43	54/50	—	18/30	36/26	54/63
152 D-1	18/14	18/14	—	—	18/12	—
160 Mort	—	—	18/12	—	—	18/14
Total	126/100	126/100	144/100	60/100	144/100	126/100
57-mm S-60	—	24/100	18/100	18/100	—	24/100
SA-8	—	—	—	—	20/100	—
SA-6	20/100	—	—	—	—	—
Total	20/100	24/100	18/100	18/100	20/100	24/100

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(u)

Table 6-3. (U) Major Divisional Equipment Profile
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(Actual/Percent of Total)

Division Location/ Equipment Type	Arkhangelsk	Vologda	Arkhangelsk[1]	Leningrad[2]	MD Total	
					Actual	%
PT-76	19/8	19/8	36/28	50/15	345	15
T-54/55	214/91	214/91	92/72	281/85	1606	71
T62	—	—	—	—	93	4
T72	—	—	—	—	214	10
Total	233/100	233/100	128/100	331/100 All Div	2258	100
GT-T	170/63	270/100	—	—	670	29
NTLB	100/27	—	—	270/100	1441	61
BTR-70	—	—	—	—	117	5
BMP	—	—	—	—	117	5
Total	270/100	270/100	—	270/100 All Div	2345	100
100-mm	18/14	18/14	54/45	18/14	288	24
122M30	36/29	36/29	48/40	36/29	396	32
122D30	54/43	54/43	—	54/43	378	31
152 D-1	18/14	18/14	18/15	18/14	126	10
160 Mort	—	—	—	— All Div	36	3
Total	126/100	126/100	120/100	126/100	1224	100
57-mm S-60	18/100	24/100	24/100	18/100	180	80
SA-8	—	—	—	—	20	10
SA-6	—	—	—	—	20	10
Total	18/100	24/100	24/100	18/100 All Div	208	100

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SOURCE: 1/13

Notes: [1] ~~(S)~~ Mobilization Base
[2] ~~(S)~~ Training Division

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(u)

(3) ~~(S)~~ The Soviets have adapted much of their equipment and techniques to a more rigorous climate, as might be expected of a military force with an Arctic environment. Ski racks have been observed on APCs and at least the motorized rifle troops of the 45th MRD in the Kola Peninsula are known to be ski-trained and equipped. Most, if not all ground force troops in the LMD can be expected to have this capability. Troops are also issued warmer clothing and the standard white Soviet winter camouflage uniform in addition to the normal work uniforms. One technique employed to deal with the effect of cold on vehicle engines is the hot-water start. A water trailer with a heater is maintained by many units and accompanies them to the field. Vehicle radiators are filled from the trailer to allow engines to start and warm up in the severe cold.(1/12)

(u)

(4) ~~(S/NOFORN/WNINTEL)~~ Major nondivisional equipment (Table 6-4) is concentrated in units subordinated to the LMD and 6th Army. Equipment types are comparable to those found in most other MDs; but, in at least two cases the amount of equipment differs. The SCALEBOARD unit at Luga has only four launch vehicles and is limited to a training function in contrast to a fully active brigade with 12 launchers. The heavy artillery brigade at Luga has 203mm guns; but, thus far, 240mm mortars have not been confirmed. HIP C, HOUND, and/or HOPLITE helicopters are used in Corps, Army, and MD Liaison squadrons, while the MD-subordinate transport helicopter regiment has a nearly even mix of HOOKs and HIP Cs.(1/12)

Table 6-4. (U) Selected Major Equipment of Nondivisional Units

Equipment Type	30th Corps	Arkhangelsk Corps	6th Army	MD	TOTAL
SS-12/SCALEBOARD	0	0	0	4	4
SS-1/SCUD	0	0	12	24	36
203mm, M1931	0	0	0	24	24
152mm How, ML-20	36	0	6	153	195
152mm How, D-20	0	0	18	9	27
130mm Fld Gun, M46	12	0	36	76	124
122mm Gun, D74	0	0	0	18	18
122mm How, M-30	5	0	30	0	35
Tank, Heavy	0	0	0	94	94
T62, Tank	0	0	0	31	31
SA-4, TEL	0	0	27	27	54
PMP	0	0	108	150	258
PTS/K-61	0	0	11	44	55
GSP	0	0	62	48	110
HIP C, Helicopter	3	0	2	24	29
HOOK, Helicopter	0	0	0	21	21
HOPLITE, Helicopter	0	0	14	22	36
HOUND, Helicopter	13	0	0	0	13

SOURCE: (1/14)

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h. Special Purpose Combat Units (U).

(u) (1) ~~(S/NOFORN/WNINTEL)~~ The LMD has various forces available for special purpose missions. The 76th Guards Airborne Division (GAD) at Pskov is operationally controlled by the airborne forces command (VDV) in Moscow. It is considered to be a Northwestern Theater asset because of its location and the orientation of its training towards NATO's northern flank operations, but it may be employed wherever directed by VDV. The division has a full complement of equipment and two of its three parachute regiments are equipped with approximately 100 BDMs each.(1/15)

(u) (2) ~~(S)~~ Support for either an airdrop or an airland of elements of the 76th GAD would come from VTA, two of whose regiments are located in the LMD itself, at Pskov and Krechevitsy. Like airborne divisions, VTA regiments are operationally wherever the General Staff directs. To move the 76th GAD, VTA might well employ the Pskov and Krechevitsy regiments as well as the third regiment of this particular VTA division, located at Vitebsk Northeast Airfield in the Belorussian MD. Each of these regiments is equipped with 25 Il-76/CANDID long-range jet transports and four An-12/CUB medium-range turboprop transports. The CANDIDs of this force could simultaneously lift the combat and combat support elements of a BMD-equipped parachute regiment to a theoretical combat radius of 2,500 although practically this would be limited by the need for fighter escort and defense suppression when in or near enemy territory.(1/15)

(u) (3) ~~(S)~~ Other nearby VTA regiments, located at Kalinin and Ivanovo in the Northern Moscow MD, could be made available if necessary. A total of three VTA heavy airlift divisions (123d CANDID, 100th CUB, and 56th AN-22/COCK) are located in the northwestern USSR and could support LMD operations if the priority were high enough. Besides supporting airborne forces, VTA units would be involved in high-priority logistics resupply operations. As an example, the Krechevitsy regiment is near the Krechevitsy Air Force ammunition depot and could easily support such resupply operations.(1/15)

(u) (4) ~~(S)~~ The LMD has two air transport units of its own, at Leningrad Levashevo and Siverskiy, together consisting of 3 CUBs and 16 light transports. These, combined with some VTA CUB assets, if allocated to the Leningrad Front commander, could aid in high-priority logistics resupply, insertion, and support of SPETSNAZ units, and other tasks as needed. The Levashevo Air Technical Depot is conveniently near the unit at Levashevo Airfield.(1/15)

(u) (5) ~~(S)~~ An independent air reconnaissance unit is stationed at Pushkin and consists of two Il-20/COOT A modified transports equipped with side-looking airborne radar and signal intelligence collection capability. Although in peacetime this unit may receive its intelligence tasking from Soviet General Staff Intelligence (GRU), in wartime it could presumably come under the control of the Leningrad Front commander.(1/15)

(u) (6) ~~(S)~~ A GRU Special Purpose Forces (SPETSNAZ) Brigade at Pechory is available for specialized reconnaissance and sabotage missions. This

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unit is also primarily targeted against the Northwestern Theater and is specially trained to operate in Finland and other Scandinavian countries. (1/15)

(7) ~~(S/NOFORN/WNINTEL)~~ No designated airborne forces are maintained by the LMD, but motorized rifle units of the 45th and 54th MRDs on the Kola Peninsula and the 30th Corps north of Leningrad do train in airmobile tactics. The only sizable helicopter unit in the LMD readily available for airmobile operations, is the transport regiment located in the 30th Corps area at Klyuchevoye. Elements of this regiment periodically deploy to the Kola Peninsula to train with MRDs located there.(1/16)

i. Conclusions and Projections (U).

(u)
(1) ~~(S/NOFORN/WNINTEL)~~ Recent upgrading of equipment and facilities, increased stockage of supplies and intra-MD redeployments suggest that, compared with the past, the LMD is receiving increased emphasis in Soviet defense planning. Ground force organizations suited to the environment have been established. Enhancement of capabilities in the form of dedicated air assault and/or airmobile forces are expected but have not yet been detected. Additional expectations for the near future are the identification of an antiaircraft artillery (AAA) division, mobilization bases in the Karelian Isthmus and at Tedrovo and a third BMD-equipped regiment in the airborne division.(1/17)

(u)
(2) ~~(S)~~ Equipment upgrades probably will take place in step with other border MDs. Complete equipping of MRRs with MTLBs will receive priority. Most equipment types will remain the same with the possible exception of the addition of T-64/72 tanks to the Murmansk and Kandalaksha divisions. Any further increase in the readiness of divisions should be a cause for concern, given the general stability of the area. The current basin of Frontal Aviation appears to downplay the importance of the Kola Peninsula area and indicates a more vital importance of the general Leningrad area. Although Frontal Aviation elements can be deployed to airfields on the Kola Peninsula, the lack of permanent main operating bases there would impact adversely on air support of ground operations. The Soviets have the dominant peacetime forces on Europe's northern flank. With full MD mobilization and support from interior MDs, the LMD can mount a creditable offense into or through Finland and Norway by land, supplemented by airborne forces and sea transported units from the Murmansk, Arkhangelsk, and Leningrad areas.(1/17)

3. Western Theater of War (TVD) (U).

a. Definitions and Setting (U).

(u)
(1) ~~(S)~~ The greatest concentration of WP forces facing NATO would be encountered in the Western TVD. The size of the initial WP force and the preparedness of its combat support and theater support forces would depend on the time expended to organize the assault on NATO.(2/1)

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(2) (u) (~~S~~) DIA has concluded that the WP nations would require a minimum of 96 hours to prepare for an attack on NATO. However, an 8- to 14-day period would probably be required to achieve the optimum level of preparation. The 96-hour to 14-day span enables adequate preparation and at the same time confronts NATO with warning and mobilization problems.(2/1)

(3) (u) (~~S~~) In the 96-hour option, preparations would be made in the forward area but the attack would be initiated before the arrival of reinforcements from the USSR. This option is a compromise between surprise and strength. The force structure for this option would consist of 57 ground divisions (including airborne and assault landing divisions) from the Soviet Groups of Forces, Poland, East Germany, and Czechoslovakia.(2/2)

(4) (u) (~~S~~) Theoretically, a minimum of eight days would be required to mobilize and move all theater ground forces into position. It is not certain, however, that the 29 divisions in the Western military districts could actually move into the forward area in so short a time; a more realistic reinforcement time is judged to be 14 days. The 8 to 14 day option would enable deployment of 90 divisions (including airborne and assault landing divisions) in the forward area disposed in a three-front assault force configuration.(2/2)

b. Combat Readiness for the Rear (U).

(1) (u) (~~S~~) Soviet doctrine states that rear service units at the tactical level (division and below) should be fully equipped, manned, and ready to deploy in support of maneuver elements. Logistic readiness at army level is about 50 percent and about 30 percent at front level, since the magnitude of operational-level (army and front) support precludes full staffing and equipping during peacetime.

(2) (u) (~~S~~) However, in practice, a higher level of logistic readiness exists at the operational level for the first echelon fronts to be formed from the Groups of Forces than for second fronts that may be formed from the border military districts. Nevertheless, all armies and fronts would require mobilization of rear service support to achieve an optimal operational capability.(2/9)

c. Logistics Network and Supply Concept (U).

(1) (u) (~~S~~) To support a front operation, supplies are stockpiled for at least 20 days (some reports indicate 25 days) of combat. These supplies are dispersed throughout the logistics network, ranging from troop-level (division and below) to front-level depots. The echelons and average level of supply are shown in Table 6-5.

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Table 6-5. (U) Echelons and Days of Supply

Division	3-5 days
Army Mobile Base	2 days
Front Supply Base Section	3-4 days
Rear Front Base	10-15 days

Source: (2/9) ~~SECRET~~ (u)

(2) (u) (~~S~~) The emphasis at division level is on mobility; consequently, supply capacity is based on anticipated requirements and lift capacity. The emphasis at army level is also on mobility; however, under conventional combat conditions, with a slower rate of advance and higher rates of supply consumption, some stocks at army level may be dispersed in off-loaded field depots. If this is done, the supplies at army level could last from four to six days.(2/9)

(3) (u) (~~S~~) Army mobile bases normally are deployed to the rear of second echelon divisions and keep pace with the advance so that they are not more than 100 km from supported divisons. Maximum supply distances between front supply base sections and supported armies would not exceed 200 to 250 km.(2/9)

(4) (u) (~~S~~) The support levels provided by the logistics system can be viewed as a spectrum (see Figure 6-1) from division to front depicting varying degrees of supply sufficiency. At the lower end of the spectrum, divisions can be self-sustaining for a period of about three to six days. The rear service complex at front, where the bulk of supplies are held, marks the upper end of the spectrum, with an intermediate linkage of supply bases.(2/11)

d. Ammunition Availability at M-Day Under the Attack Scenarios (U).

(1) (u) (~~S~~) Warsaw Pact divisions generally maintain mobile stocks of ammunition, POL, and other supplies for several days of combat. Depending on the scenario, these mobile stocks are considered sufficient for three to six days of combat. In the Soviet concept, the division is designed for five to six days of combat. It is not tailored for long term, sustained operations. Beyond this initial stock level, the division is dependent upon the army (and subsequently front) support systems for resupply.(2/11)

(2) (u) (~~S~~) The quantity of ammunition at division level in peacetime is estimated at between 2,000 to 3,000 mt.(2/11)

(3) (u) (~~S~~) At some point after mobilization--probably in a matter of hours--additional ammunition would be loaded into division vehicles in addition to those stocks already uploaded. Thus, the estimates of division stocks available under all attack options are determined by the total lift capacities of all weapons systems, motor transport assets, and miscellaneous

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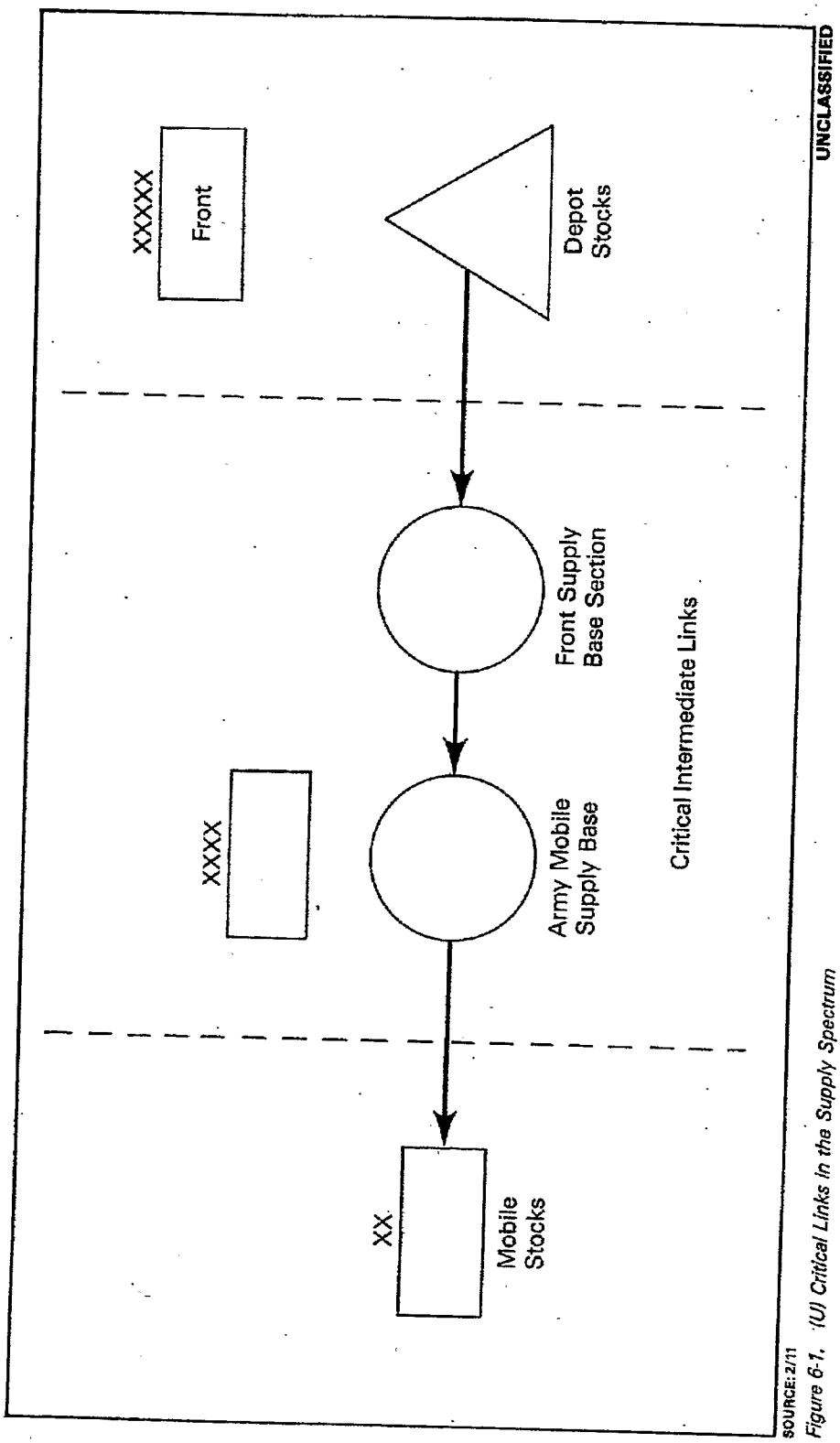

Figure 6-1. (U) Critical Links in the Supply Spectrum

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supply vehicles. The tonnage for an average Soviet tank and motorized rifle division is estimated at 3,500 mt. At the army level, in a conventional environment, lift capacity does not correspond to total ammunition availability because offloaded field supply depots would be established.(2/12)

(u)
(4) ~~(S)~~ According to Soviet doctrine, approximately two days supply of ammunition is maintained at army mobile bases. A portion of this ammunition is held in an uploaded status in peacetime. The quantity of such uploaded stocks at army level is difficult to assess; but, based on information available, is estimated at about 2,500 mt. This tonnage is less than a two day supply for an army operation and is only approximately one-half the ammunition cargo transport capacity at army level. This points out the criticality of preparation time for outloading ammunition depots to provide the army with the required two days supply.(2/12)

e. Ammunition Availability Under the Attack Options (U).

(u)
(1) ~~(S)~~ In the 96-hour option, 54 of the 57 divisions considered as available would have completed their deployment after 72 hours. In addition, army and front level support units would be enroute to their deployment areas, including the Polish forces of the Northern Front and several additional divisions of the Southern Front. This scenario is still referred to as an unreinforced attack but is the first option in which a three-front configuration is employed.(2/14)

(2) After 72 hours, the Central Front would be in position. At H-hour, the Central and Southern Fronts would be ready to conduct operations, while the Northern Front, with two of its three armies and some front level support units, would be ready to provide limited support.(2/14)

(u)
(3) ~~(C)~~ Calculations of the outload capabilities after 96 hours of all depots supporting this force are based on the three-front configuration.

(u)
(4) ~~(S)~~ The Northern, Central, and Southern Fronts would have about 310,000 mt, 386,000 mt, and 293,000 mt of ammunition available, respectively. Although the Warsaw Pact Army of the Northern Front would not be fully operational, the ammunition availability for the Northern Front would reflect the outloading of all major Polish military districts and national level depots. At this point, the Warsaw Pact Army would be partially mobilized and could be deployed within a matter of days.(2/14)

(u)
(5) ~~(S)~~ In the 8 day scenario (see Table 6-6), the 54 divisions, 3-front assault force would be combat ready after eight days. The 29-division theater second echelon force would function generally as a theater reserve and probably would be organized into one or two fronts with independent divisions and armies. Regardless of organization or employment, the total force will include 83 ground divisions.(2/15)

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Table 6-6. (U) Ammunition Availability after Eight Days for Western Theater

In the area of the Northern Front	480,000 mt
In the area of the Central Front	445,000 mt
In the area of the Southern Front	420,000 mt
In the area of the theater second operational echelon	400,000 mt
	1,745,000 mt

Source: 2/15

~~SECRET~~ (u)

(u)
(6) ~~(S)~~ All of the higher level depots in the Western Theater and the three western military districts of the USSR could be completely outloaded in eight days, barring any manpower or transport limitations. At this point, the maximum assessed stocks for the entire NATO Guidelines Area (Poland, Czechoslovakia, and Hungary) and three western MDs could be considered available.

(u)
(7) ~~(S)~~ The ammunition available in the three first echelon fronts exceeds requirements significantly; whereas, the ammunition available to the theater second operational echelon meets requirements. Additionally, a disparity exists between the relative sizes of the fronts and the ammunition allocated to each. This disparity between ammunition availability and requirements for the forces in the three first echelon fronts is explained by Soviet doctrine that requires the maintenance of a theater reserve, separate stocks of training ammunition, and prestocked ammunition for use by strategic reserve forces.(2/15)

f. Assumptions and Uncertainties in Calculating Ammunition Availability (U).

(u)
(1) ~~(C)~~ As the linear progression of the depot outloading shown in Figure 6-2 indicates, the quantity of ammunition outloaded is a constant factor over time. In reality, this is unlikely to be the case. It is assumed in the graphs that the rolling stock and manpower needed to outload such quantities of ammunition are available upon receipt of the alert orders. However, since many of the larger depots are served by rail, ammunition outloading will be impeded by the limited availability of railroad rolling stock at the outset of such a full-scale mobilization. Similar limitations may exist for motor transport at lower echelon depots.(2/15)

(u)
(2) ~~(S)~~ Also, there are inherent problems in assessing the stockage capacities and the outload capabilities of depots. Estimated stocks are based on an 80 percent fill factor of the measured capacity. Outload capabilities are based on the configuration of the depot (number of outload doors and whether the depot is rail or road served) and on data derived from US depot operations.(2/16)

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(3) (u) ~~(S)~~ Subordination of depots at all levels remains a problem. Using a standard figure for divisional stocks instead of individual depot stocks negates the problem in identifying and subordinating all regimental and divisional depots. Higher level depots, with stockage levels over 10,000 mt, are easier to identify but some may be incorrectly subordinated. However, when considering the size and magnitude of a three-front operation and the longer preparation times, the huge quantities of ammunition available alleviate the subordination problem of a few depots.(2/16)

g. Ammunition Availability Compared With Estimated Consumption (U).

(1) (u) ~~(S)~~ Warsaw Pact ammunition consumption estimates are based on the assumption that mobile offensive operations will be of relatively short duration. Estimated average ammunition expenditures for the various echelons are shown in Table 6-7.

Table 6-7. (U) Ammunition Expenditures

Echelon	Length of Operation	Ammunition Expenditures
Division	5-6 days	900-1100 mt per day
Army	6-9 days	15,000 mt per operation
Front	12-15 days	150,000 mt per operation

Source: (2/16)

~~SECRET~~ (u)

(2) (u) ~~(S)~~ In the Soviet conception, a series of front operations would be conducted to achieve the theater objective. For several of the possible attack options, operations would be started with smaller than front-size formations.(2/16)

(3) (u) ~~(S)~~ The above estimates in Table 6-7 represent expenditures; however, it seems likely that the Warsaw Pact nations would maintain ammunition stockage levels above anticipated expenditures to replace combat losses and to reestablish reserves at the end of the operation. With this reserve, the stocks maintained at front could range from 200,000 to 250,000 mt of ammunition. This estimate is based on a type front of 20 divisions. Since many of the fronts used in this study are less than 20 divisions each, an average of 200,000 mt per front is used for later comparisons. In this study, the total amount of ammunition stocked within the front is considered the front's stockage requirement as opposed to actual expenditures.(2/16)

(4) (u) ~~(S)~~ An important distinction must be made between the Warsaw Pact's anticipated ammunition expenditures outlined above and the expenditures that would be under shorter unreinforced attack options. The expenditure rates for a type operation are predicated on a fully deployed NATO force. The breakthrough phase of such an operation would involve intense

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and by country. For example, the Groups of Soviet Forces, which includes the Central Groups of Forces (CGF), the Northern Groups of Forces (NGF), and the Groups of Soviet Forces Germany (GSFG), have a higher level of readiness (as percentages of TOE in personnel and equipment) than do Soviet forces located in the three western military districts and are generally at a higher level of readiness than the national forces of the country in which they are stationed. The levels of readiness of motor transport assets (as with other support functions) also vary from the tactical to operational levels.(2/23)

(4) (u) (~~S~~) In accordance with Warsaw Pact doctrine, motor transport elements, especially major items of equipment for combat ready forces at the tactical level (division and regiment) are kept at full or near full strength. On the other hand, motor transport assets at army and front levels (except for the Groups of Soviet Forces) would require extensive supplementation to reach full operational strength.(2/23)

(5) (u) (~~C~~) The AVTOKOLONNA system in the USSR and similar ones in the Non-Soviet Warsaw Pact countries can add substantially to the number of transport vehicles. The locations, disposition, and numbers of these civilian assets play a critical role in the Warsaw Pact forces wartime logistic apparatus.(2/23)

n. Relative Strengths of Motor Transport (MT) Assets by Groups of Forces and by Country at M-Day (U).

(1) Groups of Soviet Forces (U).

(a) (u) (~~S~~) Current evidence indicates that motor transport units in the GSFG, CGF, and NGF have at least 95 percent of their full vehicle complement. However, a personnel shortage (primarily army level and above) may exist in some units of these groups, although the precise figure is unknown. This personnel shortfall could partially be relieved by the mobilization of civilian reservists who work in certain rear service units, including motor transport, or by reservists from the USSR.(2/24)

(b) (u) (~~S~~) The current inventory of Soviet motor transport units includes a mix of transport vehicles, primarily URAL 375/77 and KAMAZ 5320 trucks. The introduction of the KAMAZ series trucks has substantially boosted the lift capability of the MT units. The KAMAZ has been observed primarily at army and Groups of Forces levels. Minimal mobilization and augmentation would be required to bring these units to full strength.(2/24)

(2) National Forces of the NSWP Countries (U).

(a) (u) (~~S~~) The MT battalions of all seven Category I divisions of the Czechoslovak ground forces are assessed to have a full complement of equipment and 71 to 85 percent of their personnel. The MT battalions of the one Category II and two Category III divisions have a full equipment TOE complement but are about 40 percent short of personnel.(2/24)

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(u) (b) (~~S~~) Information on the MT assets at army levels is incomplete. However, both Czech ground armies probably have MT regiments, although not at full strength in either equipment or personnel.(2/24)

(u) (c) (~~S~~) The Czechoslovak Western Military District Headquarters will very likely form the Southern Front HQ in wartime. Two and possibly three MT brigades are subordinate to the Czechoslovak western MD. These MT brigades are in a cadre status with only 10 to 25 percent of TOE personnel. Limited information precludes assessment of equipment levels in these brigades.(2/24)

(u) (d) (~~S~~) The motor transport battalions of all six East German divisions are assessed to have their full set of major equipment but are 25 to 30 percent below strength in personnel. The two East German military districts, which will form armies in wartime, have cadre-status MT battalions in peacetime. In wartime, these MT battalions could be mobilized to form regiments through mobilization.(2/24)

(u) (e) (~~S~~) In general, the MT battalions in the division of the Pomeranian and Silesian military districts are at a higher state of readiness than those in the Warsaw Military District. With only two exceptions, motor transport assets of the 10 divisions in the 1st Army (Pomeranian MD) and 2d Army (Silesian MD) are at 90 to 100 percent equipment levels. This may reflect the projected deployment schedule for forming the bulk of the Northern Front. The three mechanized divisions of the 3d Army (Warsaw MD) have MT battalions with cargo vehicle levels at 25 to 50 percent of TOE. In addition, each Polish army may have a motor transport regiment in wartime. One such regiment has been identified in the 2d Army (Silesian MD) in the form of a reserve unit to be formed from public transport elements.(2/24)

(u) (f) (~~S~~) Motor transport support to the External (Northern) Front would also be based on augmentation by civilian transport vehicles. These civilian transport vehicles are contained in a motor transport regiment that maintains over 500 trucks and several hundred sedans in a housekeeping role. In wartime, this regiment could be expanded to form a motor transport brigade for support at front level. There is also a peacetime MT Training Regiment that probably would provide national-level support to the Internal Front (a term used to identify those forces that would be responsible for the operation of a communication zone in Poland as opposed to those forces that would be deployed to the Northern or External Front).(2/25)

(3) Soviet Forces in the Three Western MDs of the USSR (U).

(u) (a) (~~S~~) The readiness of motor transport in the three western military districts of the USSR reflects the category levels of the 29-division force, which comprises the theater second operational echelon. Most transport units in these 29 divisions would require both personnel and transport vehicle augmentation.(2/25)

(u) (b) (~~S~~) Table 6-14 shows the readiness status of the various

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nondivisional, army, and MD/front-level MT assets within the three Western MDs.

Table 6-14. (U) Readiness Status of Various Assets

Unit	Subordination	Percent Manpower	Percent of TOE (MT Assets)
Carpathian MD			
u/i MT Brigade	MD/Front	10%	100%
u/i MT Battalion	?	50%	70%
u/i MT Battalion	?	50%	70%
777th MT (POL) Battalion	?	50%	70%
Belorussian MD			
u/i MT Brigade	MD/Front	15%	100%
u/i MT Regiment	7th Army	30%	?
Baltic MD			
u/i MT Regiment	MD	50%	75%

Source: (2/25)

~~SECRET~~ (u)

(u)

(c) ~~(S)~~ The estimates of strengths presented in Table 6-14 are based on limited information; other MT regiments subordinate to armies probably exist. No organic transport regiments have been identified for the three armies in the Carpathian MD.(2/25)

(u)

(d) ~~(S)~~ An interesting note is that both identified transport brigades have an estimated 100 percent of their TOE transport vehicle allocation. The timeliness with which personnel could be augmented and the reliability of the vehicles kept in long-term storage are consequently the critical determinants in making these transport brigades combat ready.(2/25)

o. The AVTOKOLONNA System (U).

(u)

(1) ~~(S)~~ The expansion of military forces by mobilized civilian motor transport vehicles plays a key role in Warsaw Pact war plans. In the event of mobilization, quasimilitary transportation units would be formed from the civilian transport enterprises. All Warsaw Pact nations have some form of civilian transport mobilization system, although the organization and capability of each varies. Although the term AVTOKOLONNA is a Russian term used to describe the mobilization of transport in the Soviet Union, it is used here as an all-inclusive descriptive term for the other countries' systems as well.(2/26)

(u)

(2) ~~(S)~~ AVTOKOLONNAS are manned primarily by military reservists who would be required to report to assigned military units within hours

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after mobilization. Most of the vehicles in these systems are general purpose, medium cargo vehicles with 2 to 5 ton load capacities. Some AVTOKOLONNAS include passenger cars, buses, 8 x 8 equipment transporters, semitrailers, and dump trucks. The Soviet Union is increasing vehicle standardization to the extent that eventually the only difference between military and mobilization-designated vehicles will be an all-wheel drive potential and the military markings and insignias painted on military vehicles.(2/26)

(u)

(3) ~~(C)~~ There is no standard AVTOKOLONNA organization. The type and number of vehicles vary, based on the mobilization mission.(2/26)

(u)

(4) ~~(S)~~ Table 6-15 shows the current numbers, locations, and mobilization times of identified AVTOKOLONNA/mobilization systems of the Warsaw Pact countries and that portion of the Soviet system located in the three western military districts of the Soviet Union.

Table 6-15. (U) Characteristics of the Civilian Vehicle Mobilization System

Location	Number of Mobilization-Designated Vehicles	Mobilization Time
USSR (3 Western MDs)	35,000	2 Hours
East Germany	37,000	2 Hours
Poland	25,000	2 Hours
Czechoslovakia	18,000	6-18 Hours

Source: (2/26)

~~SECRET~~ (u)

(u)

(5) ~~(S)~~ The longer mobilization time for the structure in Czechoslovakia results from a different reporting system. The vehicles designated for military mobilization report to reserve processing centers rather than to specific military units. The army takes control of these vehicles at the reserve processing centers and assigns them to specific units.

p. Comparison of Civil Transport Mobilization Potential to TOE Vehicle Shortfall (U).

(u)

(1) ~~(S)~~ The current assessment of the Warsaw Pact ground force mobilization requirements in the Central Region is shown in Table 6-16. These estimates include requirements to equip all types and echelons of forces, not exclusively motor transport units, the relative strength of which is described in Table 6-16 below.

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Table 6-16. (U) Mobilization Requirements for Warsaw Pact Forces in the Central Region

Country	Civilian Trucks Required For Ground Forces*	Trucks Designated For Mobilization
East Germany	5,000	37,000
Poland	12,000	25,000
Czechoslovakia	5,000	18,000
USSR (3 Western MDs)	40,000	35,000
	62,000	115,000

Note: (U) *The difference between TOE and actual unit inventory.

Source: (2/27) ~~SECRET~~ (u)

(u)
(2) ~~(S)~~ The data in table 6-16 probably reflects a "best case" assessment. The requirement for mobilized trucks may be even greater at operational echelons if additional motor transport units were formed over and above a "type" TOE. There is no set TOE for operational-level rear service units, including motor transport. Although a "type" TOE normally shows a motor transport regiment at army level and a motor transport brigade at front, evidence indicates that Warsaw Pact wartime structure could include several motor transport regiments for each army and more than one motor transport brigade at each front.(2/27)

(u)
(3) ~~(S)~~ In addition, an informational grey area exists with respect to the utilization of motor transport for depot operations. Some evidence suggests that wartime depot operations at the higher levels (front and MOD level depots) may include organic motor transport elements. If so, the motor transport requirements for these depot operations may be filled by mobilized civilian trucks.(2/27)

q. Conclusions (U).

(u)
(1) ~~(S)~~ From the preceding analysis, the following conclusions may be drawn about Soviet theater resource capabilities:

- Ammunition: Stocks of ammunition are assessed to be adequate to support operations under possible scenarios. After four days, ammunition would be available in sufficient quantities to provide for reserves beyond expenditures called for by operational level logistics criteria.

- Motor transport: Within 24 hours after mobilization, civilian-mobilized vehicles could be expected to fill shortfalls in

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TOEs. However, the effectiveness of the vehicle mobilization system could be impaired by breakdown rates, excessive mobilization times, or by the possible unsuitability of some vehicles for military service.

- POL: A comparison of POL stocks to requirements, based on geographic allocation of POL, shows that POL supply would not be a constraint on operations. The increase in pipeline capability could enhance distribution and afford greater flexibility in the allocation of motor transport lift capacities. The lack of a method for calculating POL capabilities precludes analysis of availability over time. The availability of POL is predicated on the distribution of joint military/civilian stocks to the advantage of the military forces.(2/32)

(u)

(2) ~~(S)~~ In short, theater logistics resources to support combat operations against the NATO Central Region reach their optimum level after three or four days of preparation. Thereafter, theater resources can be expected to be more than sufficient to support operations as anticipated in Soviet military doctrine.(2/32)

4. Far East Theater (U).

a. Regional Setting (U).

(u)

(1) ~~(S)~~ The Soviet Far East, comprising the area east of 100 degrees longitude, is characterized by remoteness, difficult terrain, and severe climate. Military ground movement, resupply, and storage is severely restricted by rugged mountains and hills, large river systems, and areas of flooded or frozen ground. The mountainous terrain requires extensive grading and tunneling, and large rivers, some in excess of 150 meters in width, call for major bridging effort. Permafrost in much of the area poses major engineering problems for rail and road alignment, ballasting, road surfacing, warehouse and plant siting, and airfield construction. Extreme winter cold requires development of specialized rail and cargo handling and construction equipment to minimize shipment losses and equipment breakdowns. Positioning of repair crews and equipment for road and rail maintenance is a problem in a region where population density is sometimes less than one person per square kilometer. Finally, winter sea ice can seriously restrict or entirely halt navigation along Soviet Far Eastern coastal areas, as well as rivers, and often requires the use of ice breakers.(3/5)

(u)

(2) ~~(S)~~ No scenarios have been developed concerning the initiation of hostilities in the Far Eastern region. This section addresses the general

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general state of theater readiness to support combat in the region and deals with stocked supplies and the ability of transport resources to move these supplies. No judgement is made about the adequacy of these resources to cope with contingencies involving Soviet forces in military operations.

b. Military Storage and Distribution (U).

(1) (u) ~~(S/NOFORN/WNINTEL)~~ In the Soviet Far East, major military commodities have been strategically prepositioned in areas supported by adequate transportation lines to facilitate rapid resupply to combat elements. Because of limited regional production capabilities, most military consumables require requisitioning from military districts in the European region and transshipment to warehouse sites in the Far East. To compensate for this dependency, there are approximately 588 POL, 60 ammunition, and 107 materiel storage installations/depots in the Soviet Far East (see Table 6-17). Moreover, military units maintain limited organic supplies that could initially sustain operations in the event of hostilities.(3/15)

Table 6-17. (U) Soviet Far East Ammunition and POL Storage

	Total Sites	Total Storage (mt)
POL	588	8,867,339
Ammunition	60	814,703

Source: (2/15)

~~SECRET~~ (u)

(2) (u) ~~(S)~~ Depot stockage in the Soviet Far East for major combat consumables of POL and ammunition is believed sufficient to support ground forces during a short war (less than 90 days) as projected in current Soviet doctrine. Fuel and ammunition stores in close proximity to Far East ports are believed sufficient to meet SOVPACFLT needs for up to nine months. While stockpiles of aviation fuels probably equal or exceed a 90 day supply, air force requirements for specialized ammunition, including missiles, could create shortfalls in this area in less time depending on combat roles.(3/15)

(3) (u) ~~(S/NOFORN/WNINTEL)~~ There are 380 known major petroleum products storage facilities in the Soviet Far East having an aggregate capacity of 69,495,000 barrels or 8,763,556 mt. This capacity represents approximately 10.9 percent of the country's total and includes only those installations with at least 15,000 standard US 42-gallon barrels. In addition, there are 208 widely scattered minor POL storage facilities servicing motor pools, railroad and ship refueling points, industrial plants, and airfields. One hundred and eight of these minor POL depots have a known capacity of 823,000 barrels or 103,783 mt, while the balance have unknown capacities. Eleven percent of the total Far East POL storage is concentrated in the industrial Vladivostok-Ussuriysk complex.(3/15)

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(u)
(4) ~~(S/NOFORN/WNINTEL)~~ Nationwide, the Soviet Union has approximately 4,742,268 square meters of stored ammunition. Eighteen percent or 839,900 square meters is stored in 60 warehouses in the Soviet Far East. Fifty-three of these are classified as major facilities, each with a storage capacity in excess of 2,000 square meters of floor space. The aggregate capacity for these installation is 835,500 square meters or 810,435 mt. Forty-seven installations or 78 percent of the total Far East storage capacity are located within the Transbaykal Military District and the remaining 22 percent are located in the Far East Military District. The Vladivostok-Ussuriysk complex alone represents 12 percent of the total Far East ammunition stockpiled. Ammunition depots throughout the study area are generally concentrated at key transshipment points along the Trans-Siberian Rail line. Additional storage concentrations can be found in coastal cities at major port facilities.(3/16)

(u)
(5) ~~(S/NOFORN/WNINTEL)~~ Ground force materiel storage (less ammunition) in the Soviet Far East is distributed among 107 depots. Sixty-four of these are major installations, each with a floor space of at least 4,500 square meters. The aggregate capacity of these installations is a floor space of approximately 1,822,000 square meters or 892,780 mt.(3/16)

c. Ground Transportation - Rail (U).

(u)
(1) ~~(S)~~ Ground transportation in the Soviet Far East is dominated by the 5-foot gauge, double-tracked Trans-Siberian Railway (TSR). This 6,581-kilometer supply line connects Omsk in Soviet Central Russia with the port of Vladivostok on the Sea of Japan. The TSR has automatic signalling and is 56 percent electrified from Omsk to Karymskoye and from Ussuriysk to Vladivostok. The remainder of the line employs diesel locomotives. The TSR has 100 trains each way per day logistic capability, or the equivalent of a tactical reinforcement capacity of about two modernized Soviet motorized rifle divisions (MRDs) a day under 100 percent military preemption. In terms of resupply, this line at 60 percent military utilization can deliver 118,800 mt of military class cargo daily which is sufficient to support 95 upgraded MRDs under sustained offensive combat conditions. This is far in excess of the resupply requirements of all present Soviet Far Eastern forces. The TSR not only furnishes most regional military and civilian supply and industrial requirements but has become increasingly involved in Russia's West Europe-Asia container transport sytem. Consequently, the TSR has been labelled the "Siberian land bridge", and the Soviets claim that it now rivals competing sea routes. Single-tracked branch lines exist extending to the Mongolian, Chinese, and North Korean borders.

(u)
(2) ~~(S)~~ The rail lift and resupply capability for this region will be enhanced considerably on completion of the Baykal-Amur Mainline (BAM) railway, which generally runs parallel to and 150 to 600 km to the north of the TSR. This line, which initially will be single-tracked, will run from Tayshet, its juncture with the TSR in central Siberia, to Vanino (Sovetskaya Gavan) on the Sea of Japan. Slightly over half of its projected 4,000 km length has been completed to date, with certain segments

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and branches already in operation. Because construction over some of the most difficult terrain still remains, the original estimated completion date of 1983 has now been moved to the late 1980s. As a second cross-continental route, the BAM will not only provide much needed additional rail capacity and open up extensive areas of mineral rich Central Siberia to exploitation and industrial development, but also, and what is perhaps strategically more significant, it could provide an alternate logistic supply route for Soviet Far East forces if TSR were interdicted.(3/7)

d. Ground Transportation - Road (U).

(U) ~~(S)~~ Although the major portion of long-distance military traffic presently is by rail, the nationwide trend is toward a fully integrated transportation system using all modes of transport. Nevertheless, the capacity of the Soviet highway network east of 100 degrees longitude remains extremely limited, since it is designed primarily in the form of feeder links from railheads and ports to the surrounding countryside. Although a number of strategically situated roads lead directly from the Soviet Union or through Mongolia to the PRC border, there is no through east-west highway across Siberia. Roads are principally two-lane, gravel, or loose surface. Because of snow blockage, alternate freezing and thawing, and flooding, roads require nearly continuous maintenance to remain passable. As a result of the frequent maintenance problems encountered over the entire Far Eastern road net, the Soviets have developed a wide range of rugged, multipurpose vehicles geared to poor roads and severe climates. Two notable examples are the Ural 375D cargo truck and the TZ-5-375 POL transporter. Both have become standard vehicles of Soviet motor transport battalions.(3/9)

e. Sealift (U).

(1) (U) ~~(S)~~ The Soviets possess an extensive civil maritime fleet with great potential to support military operations. The fleet has about 1,700 ships larger than 1,000 gross tons, for a lift capacity of over 18,000,000 mt. These ships have a total theoretical lift potential for 30 MRDs or 30 Tank Divisions (TDs). The 27 percent of the Soviet maritime fleet normally based in the Far East has a one-time lift capacity of 7 MRDs or 7 TDs.(3/9)

(2) (U) ~~(S)~~ The many large hatch/heavy lift cargo ships available are particularly well suited for providing logistics support to deployed naval and ground forces during wartime. However, seaborne supplies from European Russia must come from the Black, Baltic, or North Seas over a long circuitous route via the Suez Canal, Cape of Good Hope, or, possibly in the summer, the northern Arctic route. All sea lanes would be extremely vulnerable to interdiction in a general war but probably would be relatively secure in a limited war, such as against the PRC, because of the growing Soviet naval force available to guard them. Despite its slowness, sealift could provide valuable supplementary shipping capacity, especially for nonperishable, heavy bulk cargo. Although the majority of new vessels constructed are general cargo ships under 16,000 deadweight tons, the existence of roll-on/roll-off (RO/RO) ships, and projected delivery of more RO/RO ships in the 1980s, plus barge float on/off ships like LPDs,

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signals a trend toward the use of civilian shipping in support of military logistics. In addition, naval transport vessels, such as LSTs and LPDs like the Ivan Rogov, have the capacity to sealift the combat elements of the currently constituted Pacific Ocean Fleet Naval Infantry Division.(3/9)

(u)

(3) ~~(S/NOFORN/WNINTEL)~~ Soviet sealift capability in the Far East, at present, is constrained primarily by limited port cargo handling capability. There are 24 major and minor Soviet seaports in the region with a gross handling capacity of about 189,000 mt daily. The five larger coastal ports of Vladivostok, Nakhodka, Vanino, Slavyanka, and Nikolayevsk along the Soviet Maritime Province have a combined cargo handling capacity of about 94,300 mt daily. With the introduction of RO/RO ships, lighter aboard ships (LASH), and improvements in port facilities, the handling capacities of these ports should increase. Nevertheless, port handling capacity rather than ship cargo carrying capacity remains the primary logistic restriction on seaborne traffic in the Soviet Far East.(3/10)

(u)

(4) ~~(S/NOFORN/WNINTEL)~~ Though there are numerous river systems throughout the region, their potential as shipping routes is limited by winter freezing, which makes them unnavigable four to six months of the year, and by their predominantly north-south orientation; whereas, reinforcement requirements need to be served in an east-west orientation. Only the Amur River, which forms part of China's northeast border with the Soviet Union, possesses facilities for inland river transport of cargo in the maritime area. Three sizeable Amur River port complexes--Blagoveshchensk, Komsomolsk, and Khabarovsk--add about 17,000 mt of daily cargo handling capacity, boosting the regional total to approximately 206,000 mt a day. Some of the other rivers, however, form access routes for overland vehicles when frozen solid in winter months.(3/10)

f. Airlift (U).

(u)

(1) ~~(S/NOFORN)~~ Soviet airlift capability in Eastern Siberia is of less importance than rail or sea capabilities (see Table 6-18). Though the total Soviet inventory of transport aircraft, which includes military and civilian transports, is imposing, all of the AN-22/COCK and IL-76/CANDID large, long-range transports are based in European Russian. Moreover, only 66 in the inventory of 552 AN-12/CUB medium-range turboprop transports are based in the Soviet Far East. An additional 48 AN-12 aircraft are stationed at Fergana in the Turkestan Military Districts, 3,500 km away. Although the Soviets also have smaller transport planes, only the IL-76s, the AN-12, and AN-22 have the capacity and configuration to transport bulky military cargo. Soviet Military Aviation (VTA) is capable of simultaneously lifting the assault elements of two divisions, which could include combat and combat support equipment with limited transport, supplies, and support elements. This capability also includes lift of small arms but not heavy equipment such as tanks. However, it is unlikely because of cost, distance, weather, and maintenance factors that this total capability would be deployed to the Soviet Far East. Estimates indicate it would actually take about a week to move a complete TOE division from the European USSR to the Soviet Far East. Because of the need for follow-on aircraft maintenance

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and other problems, it would take considerably longer to airlift a second airborne division. It would probably be quicker (about a week) to ship the second division overland to the Far East via the TSR. Air transports after the initial flight could be retained in the Far East for use in overwater operations.(3/12)

Table 6-18. (U) Soviet Troop/Cargo-Configured Aircraft

TYPE	MILITARY CONTROL	CIVIL CONTROL	TOTAL
AN-22 (COCK)	54		54
IL-76 (CANDID)	95	8	103
AN-12 (CUB)	552	165	717
TOTAL	701	173	874

Source: (3/10) ~~SECRET/NOFORN~~ (u)

(u)

(2) ~~(S)~~ There are ample major airfields in the Soviet Far East suitable for use by transport aircraft, including helicopters. Most of these facilities are concentrated in the southern portion of the Maritime Province. Of these, both military bases and civil airfields possess sufficient fueling, maintenance, and storage capabilities for sustained operations.(3/12)

g. Military-Related Production (U).

(u)

(1) ~~(S)~~ The USSR possesses a modest war materiel production capability in its Far East region. This limited industrial base is adequately supported by the existing ground transportation network, principally the Trans-Siberian Rail Line, which links major suppliers of raw and semi-finished materials in the Central and Western USSR with Siberian industry. Sea lanes and river-borne shipping, though slow, supplement the overland lifeline. In most instances, the distribution pattern of Far Eastern industry adheres closely to the alignment of the Trans-Siberian Rail Line. (3/27)

(u)

(2) ~~(S)~~ Of 28 military-related industries surveyed in the Far East, 17 are engaged in naval and/or commercial shipbuilding and repair/fitting. Multiple function facilites at Vladivostok, Khabarovsk, Komsomolsk, and Petropavlovsk-Kamchatskiy are nationally ranked yards that contribute significant tonnage to the growing Soviet naval arm. Komsomolsk is paramount among these in production of nuclear submarines and all four yards possess some potential for expanded wartime production.(3/27)

(3) ~~(S/NOFORN/WNINTEL)~~ Of the remaining 11 facilities, four are associated with airframe production. Irkutsk and Komsomolsk are ranked nationally as major producers nationally of fixed-wing aircraft; Arsenyev and Uland Ude as major and secondary producers, respectively, of helicopters. All have some potential for expanded wartime output. For example, based

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on past performance, Arsenyev and Ulan Ude have a potential for fixed-wing aircraft production.(3/27)

(u)

(4) ~~(S)~~ Aside from the Elban Ammunition Loading Plant, which accounts for 5 percent of the nation's artillery ammunition loading capability, the remaining industrial sites involved in motor vehicle assemblies, parts, and explosive manufacture are secondary in importance.

(u)

(5) ~~(S)~~ Notwithstanding the significance of peacetime Far East shipbuilding and airframe production to the Soviet military, these and lesser industries remain heavily dependent on tenuous overland and sea lines of communications (LOCs) for many raw materials and key subassemblies to sustain production. And while ship repair/fitting capabilities at Vladivostok, Komsomolsk, Khabarovsk, Petropavlovsk-Kamchatskiy, and others appear capable of sustaining most SOVPACFLT maintenance needs, both rail and sea logistics support lines would be subject to intermittant hostile disruption during wartime. The port and railyard congestion that would be occasioned by accelerated wartime deliveries would be a further disruptive influence. Airlift, except for movement of low bulk, high priority component, cannot effectively substitute for conventional land and sea transport because of limited aircraft inventories in the Far East, the inherent cargo handling limitations of the aircraft, and the inservice maintenance difficulties surrounding any massive air transport deployment over extended distances from European Russia to the Far East region.(3/28)

5. Conclusions and Projections (U).

(u)

a. ~~(S)~~ Distances, terrain, climate, and remoteness all conspire to present the Soviets with difficult logistics and support problems in the Far East region. Moreover, forces have grown more rapidly in the Far East than elsewhere in the country. To cope with these problems, the Soviets have established a network of depots and storage sites for both ammunition and POL. These supplies are believed adequate in the Soviet view to support the doctrinal requirements for a short duration conflict.

(u)

b. ~~(S)~~ Ground forces in the Far East are projected to increase in the next 10 years and it is likely that stocked supplies of ammunition, POL, and other assets will also be expanded to match the additional requirements necessitated by the increase in combat capability.

(u)

c. ~~(S)~~ Transportation resources are believed sufficient to cope with the demands expected in the event of a general war. Under 60 percent military preemption, the Trans-Siberian Railroad has a resupply capacity far in excess of the requirements expected for all of the present Soviet Far Eastern forces. This regional resupply and rail lift capability will be enhanced considerably with the completion of the Boyhal-Amur Mainline railroad some time in the late 1980s.

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6. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

a. (U) (~~S~~) Future Soviet military operations will require support from regionally based resources. These include, principally, supplies such as stockpiled ammunition and POL and the transportation assets needed to move these supplies to using organizations. Also included are the command and control organizations needed to insure that operations are carried out smoothly.

b. (U) (~~S~~) A review of the present status of all these aspects of military support indicates that the resources available are more than sufficient to meet the requirements of any likely Soviet attack against NATO. This is particularly true of Soviet Forces opposite NATO's Central European forces. Both the stockpiled materiel and the transporation assets have been steadily upgraded in recent years and this trend is projected to continue. Resources are expected to continue to be more than sufficient to meet the requirements of likely future conflict scenarios. It is estimated, moreover, that these resources can be mobilized and made available to the field forces four days after general mobilization begins. This mobilization capability is expected to keep pace with changing field forces requirements.

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CHAPTER 7

CIVIL DEFENSE (U)

HIGHLIGHTS

(U)

~~(C)~~ The Soviet civil defense program is the world's largest and most comprehensive. Even though it has some shortcomings, the program is being pushed with great intensity and appears to reflect a new sense of concern.

(U)

~~(S)~~ The Soviet national agency, known as the Civil Defense of the USSR, is directed by a four-star general. The operational chain of command extends from the national level, through the 16 military districts, to regional and local administrations. Civil defense units are organized at all administrative levels down to cities, factories, and collective farms.

(U)

~~(S)~~ The goal of these civil defense units is to protect the people: leadership first, essential work force second, and the remainder of the population third. In the event of a nuclear war, the surviving population would prepare for a long-term postattack recovery.

(U)

~~(S)~~ The exact amount spent on civil defense is not known. The civil defense expenditures are concealed in the Soviet budget; but indications are that Soviet civil defense preparations will continue during the current decade.

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CHAPTER 7

CIVIL DEFENSE (U)

1. Concept of Survival (U).

a. History (U).

(1) (u) ~~(S)~~ In the 1920s, a "voluntary" paramilitary organization was created to perform air and chemical defense, as well as construction work in the civilian economy. In 1932, the civil Local Air Defense (MVPO) was established under the Ministry of Interior with civil defense as its primary mission. The German threat caused this organization to expand and during the war its units erected defensive works, cleared obstructions, disarmed bombs and mines, relocated important industrial plants eastward, participated in population evacuation, and reconstructed industrial and other structures. A postwar hiatus lasted until the 1950s, when the nuclear threat to the nation was recognized. Civil defense training was initiated, evacuation plans were drawn up, and work began on shelters to protect the leadership.

(2) (u) ~~(S)~~ In 1961, a national organization called the Civil Defense of the USSR was established under the Council of Ministers. A Deputy Minister of Defense was appointed Chief of Civil Defense. In 1971, civil defense became a single, nationwide organization fully integrated into the Ministry of Defense. In the following year, then Colonel General A. T. Altunin was designated as Deputy Minister of Defense and Chief of Civil Defense.(7/32) The national agency is still known as the Civil Defense of the USSR, and General Altunin has achieved four-star rank.

(3) Program (U).

(a) (U) The Soviet Union has the largest and most comprehensive war-survival program in the world. The hub of the program is the USSR civil defense structure, but much more is entailed than civil defense measures of the type familiar to Americans. Along with relatively massive civil defense training, indoctrination, and organizing activities, a systematic effort has long been underway to ensure preservation of industrial production capacities through a far-reaching dispersal and "hardening" program, including, as Brezhnev reaffirmed at the 25th Soviet Party Congress held in February-March 1976, further development of "a West Siberian complex" and a "fundamentally new state in the exploitation of the productive forces of Eastern Siberia." At the same Congress, Kosygin added on March 2 that the "eastern regions," and in particular, Siberia, "will develop at increasingly preferential rates," while the development of industry during 1976-1980 "in the European part of the USSR and in the Urals will be implemented primarily by means of the technical re-equipping and modernization of existing enterprises." Also, the regime has extended to truly large-scale proportions the long established practice of maintaining onsite reserves of spare parts, fuel, and other materials at major industrial

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complexes and it is evidently increasing military grain reserves to a level that can take care of civilian requirements for an extended period.

(b) (U) Throughout the country, military commanders and staffs, as well as special units of the armed forces, plan, direct, participate in, and support civil defense activities and the development of war-survival capabilities. In addition, these military organizations are being prepared to command and control civil defense and recovery operations during and after a nuclear conflict.(10/1)

(4) Growth (U).

(U) The strictly civil defense component of the Soviet war-survival program has been growing steadily since the mid-1950s, and especially since 1961, when it was placed under the control of the Ministry of Defense. Civil defense now permeates all aspects of Soviet government and society. The civil defense organization today, both civilian and military, includes tens of millions of persons and has the active participation of party committees and local leaders, the Young Communist League (Komsomol), the Pioneer Movement, the elected councils (Soviets), administrators, economic managers, educators, medical personnel, scientists, and all elements of the mass media. Civil defense is also a major preoccupation of a variety of mass paramilitary and propaganda organizations, such as the Voluntary Society for Assistance to the Army, Air Force and Navy (DOSAAF), the "Znanie" (Knowledge) Society, and the All Union Sports Organization. As with other elements of USSR military power, Soviet spokesmen make repeated use of a standardized formula to emphasize the value of civil defense: "The Communist Party and the Soviet Government attach great importance to civil defense and show constant concern for strengthening it." Indeed, civil defense is not only a long standing program but has received, and continues to receive, large allocations of relatively scarce Soviet resources.

(5) Detente (U).

(U) The advent of detente in US/Soviet relations has not led to any decline in Moscow's ongoing efforts to improve Soviet war-survival capability. On the contrary, since mid-1972 there has been a marked upsurge in the level of civil defense activities with the aim of raising the "combat readiness" of the civil defense forces and of the population generally to the level of that of the Soviet Armed Forces. The reason for this is that the Soviet leadership has come to view civil defense as a critical "strategic factor" which, in a large measure, can determine the course and outcome of a nuclear war.(10/2)

(6) Revisions (U).

(U) The revisions introduced into the USSR Civil Defense Program since 1972, and particularly in 1973-1974, appear to reflect a new sense of concern and of realism in the development of the Soviet war-survival capability. Currently, Soviet authorities appear willing to allocate civil defense resources at an appreciably higher level than the estimated

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average $1 billion per year of the past two decades. This is indicated by decisions to increase the rate of shelter construction and to attempt to provide shelter space for all urban residents; to initiate large-scale construction of special training facilities in order to provide more effective and realistic training of the civil defense formations and of the population as a whole; to complete the equipping of civil defense formations; to carry out measures to improve the survivability of industry; and to provide advanced training for responsible civilian civil defense leaders. The expanding scope and increasing complexity of civil defense exercises also attest to the seriousness of the effort now being made by the authorities to raise the operational readiness of civil defense to a new and higher level. (10/2)

b. Civil Defense Organization (U).

(U) (~~S/NOFORN~~) Civil defense organizations exist at all levels of the Communist Party, government, and economy. Full-time civil defense staffs exist at each echelon of the Soviet administrative strucure, as well as at all significant economic institutions and enterprises. In wartime, the civil defense administrative structure would be converted into a chain of command subordinate to the deputy command for civil defense of each military district. The operating elements that would carry out postattack recovery consist of civilian civil defense formations and about 60 military civil defense units, of which 47 have been confirmed. To carry out Soviet civil defense measures in peacetime, there are about 115,000 full-time civilian and military personnel. According to guidelines issued by General Altunin in 1975, the total number of civilians in the program in wartime would be upwards of 16 million - a number that includes many perfunctory participants. Recent information indicates that the total number of wartime participants could be about 25 million (see Figure 7-1)(2/9&10)

c. Civil Defense Goals (U).

(1) Objectives (U).

(U) The following are the specific objectives of the Soviet civil defense program:

- An ability to protect people--the leadership first, the essential work force second, and the remainder of the population third. (3/1)

- An ability to protect the sources of economic productivity, to assure the continuity of economic activity in wartime, and to permit the restoration of production following a nuclear attack.

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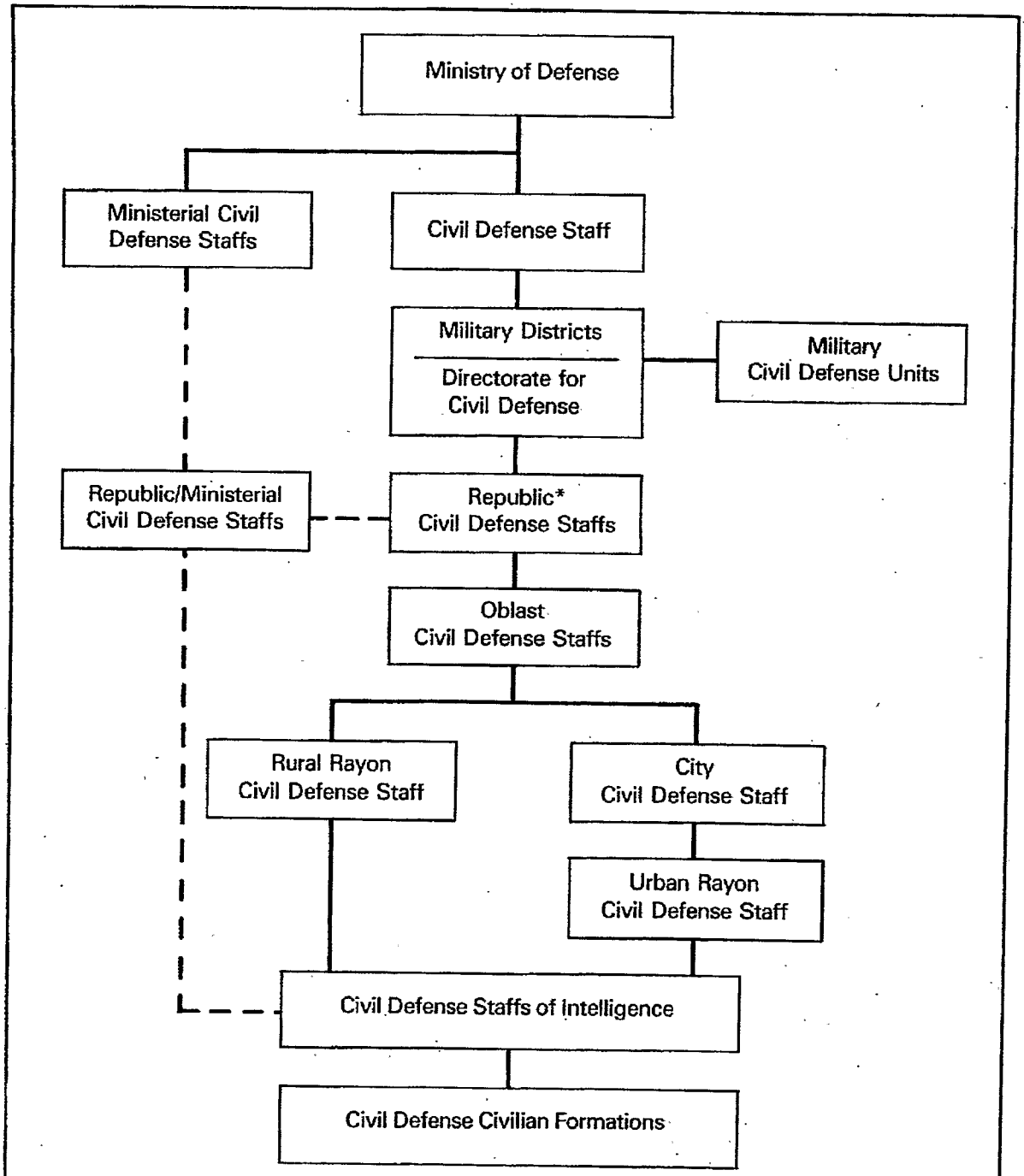

*Two of the 15 Union Republics (the RSFSR and the Ukraine) extend geographically across the boundaries of several Military Districts. In these cases, the precise relationship of the republic civil defense staffs to the Military District is uncertain.

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Figure 7-1. (U) Organization of Soviet Civil Defense

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- An ability to sustain the surviving population in the period immediately following a nuclear attack and to prepare for longer term postattack recovery.(3/2)

(2) Protection of People (U).

(a) Leadership (U).

(U) The Soviets probably have sufficient blast shelter space in hardened command posts for virtually all of the leadership elements at all levels (about 110,000 people). Some of these shelters are harder than those available to the general population. All fixed leadership shelters that have been identified are vulnerable to direct attack, but it is assumed that alternative arrangements are available to protect at least the top leadership (see Figure 7-2)(1/47)

(b) Essential Work Force (U).

(U) Shelters at key economic installations could accommodate about 12 to 24 percent of the total work force. However, Soviet plans do not call for sheltering the entire work force. In a crisis, nonessential and offduty workers would be evacuated. Only those required to maintain essential production would remain behind to be sheltered. If one-half the total work force is dispersed, from 24 to 48 percent of the remainder could be sheltered.

(c) Population (U).

(U) A minimum of 10 to 20 percent of the population in urban areas (including essential workers) could presently be accommodated in blast-resistant shelters. By 1985, the percentage of the urban population that could be sheltered will rise to 15 to 30 percent, assuming no change in the present rate of shelter construction. Despite the scope and pace of shelter construction, the absolute number of city dwellers not afforded such protection will increase by 1985 because of the expected population growth in urban areas. The critical decision to be made by the Soviet leaders would be whether or not to evacuate cities. Only by evacuating the bulk of the urban population could they hope to achieve a marked reduction in the number of urban casualties. An evacuation of urban areas could probably be accomplished in two or three days, but as much as a week would be required for full evacuation of the largest cities. These times could be extended by shortages in transportation, other bottlenecks, or adverse weather conditions.(3/2)

(3) Protection of the Economy (U).

(a) ~~(S)~~ (U) Plans for protecting the Soviet economy include a number of complementary measures, not all of which are to be taken at any individual site but which could be applied selectively depending on a site's importance to a wartime economy.

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(u)

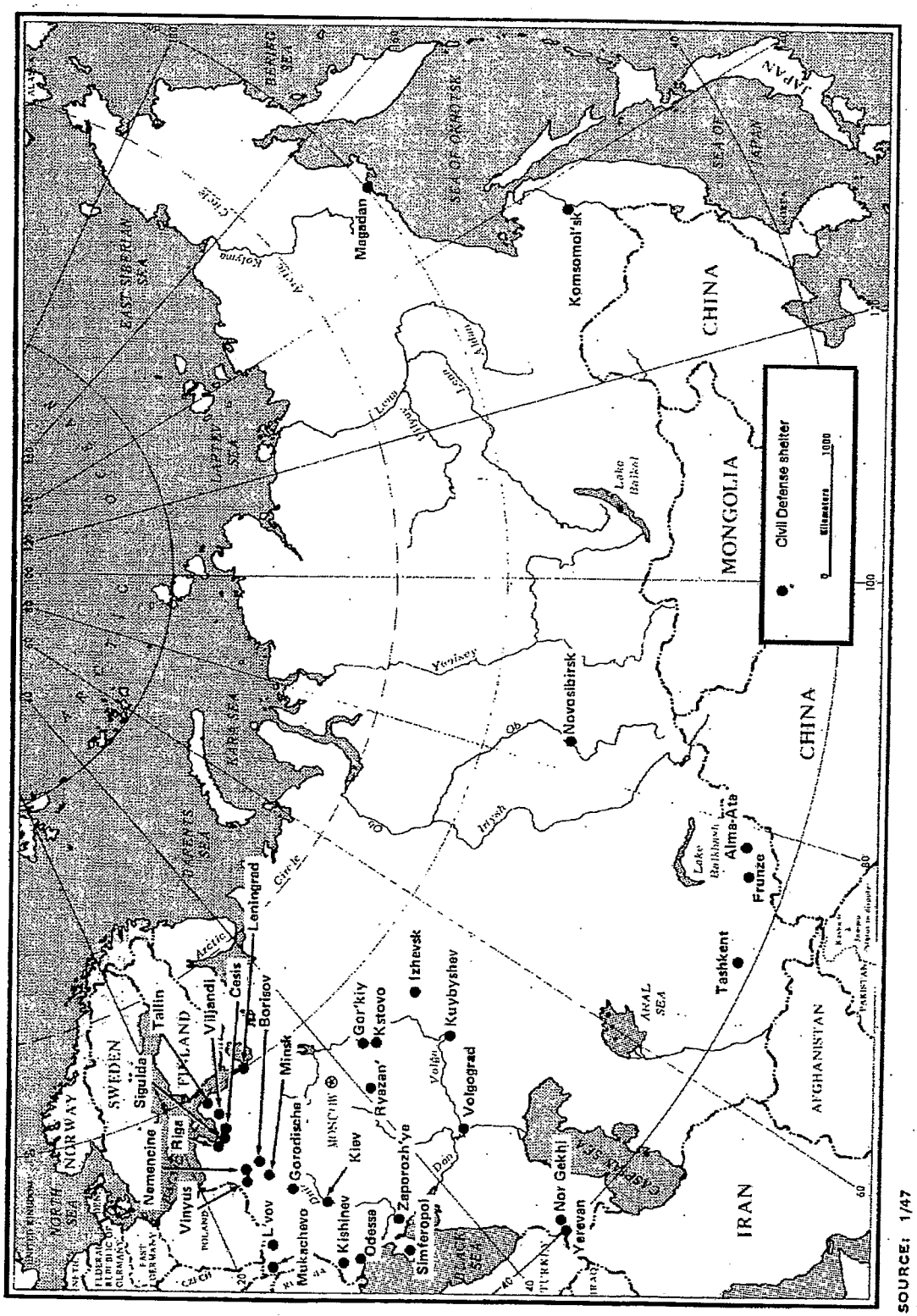

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Figure 7-2. (U) Identified Civil Defense Shelters for the Soviet Leadership

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- o Sheltering personnel at installations in the event of attack.
- o Dispersal of a portion of the work force during a period of crisis.
- o Geographic dispersal of new installations.
- o Hardening of physical structures.
- o Hasty hardening measures when an attack is imminent, such as sandbagging of equipment and earth mounding around structures.
- o Rapid shutdown of equipment.(1/10)

(b) (u) ~~(S)~~ The Soviet program for geographic dispersal of industry is not being implemented to a significant extent as evidenced by the following:

- o New plants have often been built adjacent to major existing plants.
- o Existing plants and complexes have been expanded in place.
- o No effort has been made to expand the distance between buildings or to locate additions so as to minimize fire and other hazards in the event of a nuclear attack.
- o Previously open spaces in fuel storage sites have been filled in with new storage tanks and processing units.(1/11)

(c) (u) ~~(S)~~ Little evidence exists that would suggest a comprehensive program for hardening economic installations. In some cases, in fact, construction guidelines for the physical hardening of industrial sites appear to have been ignored. Published Soviet civil defense guidelines acknowledge the high cost of such measures and explicitly state that they are to be carried out only when economically feasible (see Figure 7-3).(1/12)

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time. The 1977 civil defense textbook refers merely to actions to be taken upon the "announcement of a decision to carry out evacuation."

(b) (1) & (b) (3) per CIA

4. Expenditures on Civil Defense (U).

(U) Moscow does not provide civil defense cost data. Allocations are hidden in the budgets of the armed forces, municipalities, ministries, industrial plants, and so on. But conservative estimates in terms of what an equivalent US effort would have cost over the past twenty years (that is, since the Soviets launched their shelter construction program) would amount to an average of $1 billion annually, or about $4 per person per year. With the acceleration of the program and the expansion of its scope beginning in 1972, which includes new outlays for equipment and large-scale construction, the annual cost may now be substantially higher. Most of the costs are for hardware elements because the bulk of the civil defense personnel is unpaid and the training is conducted during free time periods. It is likely, therefore, that the Soviet Union has already invested more than $20 billion in civil defense, most of it in equipment and training, shelter facilities, and in measures to harden and disperse industry.(10/10)

5. Civil Defense Training (U).

(u) ~~(S/NOFORN)~~ Soviet leaders use civil defense to foster favorable popular attitudes toward the Soviet system, to demonstrate concern for the people, and to lend credibility to calls for vigilance against potential enemies. Nearly every Soviet citizen receives civil defense instruction in school, in premilitary training, or through training courses, lectures, and exercises at places of work. Public attitudes about surviving a nuclear war are skeptical, however, and there is evidence that many people do not take the program seriously. Nevertheless, it is believed that Soviet people would respond to directions from civil defense authorities.(2/9)

(b) (1) & (b) (3) per CIA

b. Individual Protective Equipment (U).

(u) ~~(S)~~ The basic items of individual protective equipment are masks, respirators, and protective clothing. For years, gas masks of various types

have been produced and distributed, and the general population has been instructed in their use. Masks are not retained by the population but are stored at work or in housing areas. Detailed instructions in civil defense manuals on how to fashion expedient masks suggests an inadequate supply of gas masks for rural inhabitants and nonessential urban residents. Special protective clothing (coveralls, head and hand covering, goggles, and boots) is normally available only to civil defense formations.(1/92)

6. Conclusions and Key Findings (U).

(u)

a. ~~(S/NOFORN)~~ Soviet civil defense is an ongoing, nationwide program under military control. It is focused primarily on protection of people--the leadership, essential personnel, and the general population; continuity of economic activity in wartime; and recovery from the effects of a US nuclear attack. While it is not a crash effort, the pace of the program, as indicated most clearly by shelter construction starts in urban areas, increased beginning in the late 1960s. Improvements have been made in virtually all facets of the program. However, the program has been marked by wide variations from area to area and year to year in both the rate of shelter construction and the total number of shelters. Other hindrances to the program include bureaucratic difficulties and apathy toward civil defense by a large segment of the population. Most progress has been made in providing shelters for the leadership and essential personnel. Shelters are available for at least 10 to 20 percent of the urban population, which, however, must depend mainly on evacuation for protection. The Soviets have made little progress in protecting industry through hardening and geographic dispersal; however, extensive stopgap procedures such as sand bagging industrial machines, etc. are practiced.

(u)

b. ~~(S/NOFORN)~~ While total civil defense costs are unknown, cost estimates have been made of three major elements of the Soviet program: about 117,000 full-time civil defense personnel, operations of specialized military civil defense units, and shelter construction. The cost of these elements in 1976 amounted to about 400 million rubles, less than 1 percent of the estimated Soviet defense budget. If these three elements of the Soviet program were to be duplicated in the United States, they would have cost about $2 billion in 1976, with about three-fourths of this representing manpower costs. (These estimates should be considered approximations because they are affected by uncertainties both in the quantitative data on civil defense programs and in estimates of prices).(1/1)

7. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

(u)

a. ~~(S/NOFORN)~~ The Soviets almost certainly believe their present civil defenses will improve their ability to conduct military operations and will enhance the USSR's chances for survival following a nuclear exchange. They cannot have confidence, however, in the degree of protection their civil defenses will afford them, given the many uncertainties attendant to a nuclear exchange. We, therefore, do not believe that the Soviet's present civil defenses will embolden them sufficiently to deliberately

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expose the USSR to a higher risk of nuclear attack.

b. (U) ~~(S/NOFORN)~~ We have no present reason to believe that in the foreseeable future there will be any significant change in the Soviet leaders' judgement that civil defense contributes to war-fighting and war-survival capabilities, nor do we believe that their uncertainties about its actual effectiveness will be lessened.(1/3)

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CHAPTER 8

MILITARY MANPOWER (U)

HIGHLIGHTS

(U)
~~(C)~~ The Soviet manpower and materiel mobilization support system is enormous and complex. At the heart of the system is the network of voyenkomaty, or military commissariats, that in one form or other are found in nearly all villages, towns, and cities of the Soviet Union. The voyenkomaty have no counterpart in the United States. Their functions combine those of US draft boards, armed forces reserve centers, and the Veterans' Administration.

(U)
~~(C)~~ The primary mission of the military commissariats in peacetime is conscription and training of Soviet reservists and youths. Currently, the voyenkomaty provide to the active ranks a yearly total of approximately 2.1 million conscripts, train for eventual induction several million more Soviet youths, and manage a manpower base of more than 50 million reservists. The mission of the commissariats in wartime would be to mobilize this manpower base, as well as materiel from the civilian economy, to meet the needs of the armed forces. Although expected to call-up and dispatch resources rapidly, the commissariats must also be able to respond to resource requirements over time. Implementing and maintaining such a comprehensive mobilization involves close coordination with GOSPLAN and other elements of the national economy as well as with civil defense. Measures to improve this coordination are underway and receiving high-level attention. For example, the commissriats, as they become automated, will be able to carry out all of their responsibilities with greater speed and efficiency.

(U)
~~(C)~~ Although the system of force generation has not been tested by general war since World War II, the ability of the voyenkomaty to muster large groups of men during alerts and training exercises in peacetime has been well demonstrated. In instances of partial mobilization, notably the invasions of Czechoslovakia and Afghanistan, the rapidity of the commissariats in responding to the needs of the armed forces (with certain exceptions in the case of Afghanistan) has been impressive.

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CHAPTER 8

MILITARY MANPOWER (U)

1. Introduction (U).

a. (U) ~~(C)~~ The Soviet manpower and materiel mobilization support system is enormous and complex. At the heart of the system is the network of voyenkomaty, or military commissariats, which were established by decree of the Council of Peoples' Commissars on 8 April 1918, that in one form or other are found in nearly all villages, towns, and cities of the Soviet Union. The voyenkomaty have no counterpart in the United States. Their functions combine those of US draft boards, armed forces reserve centers, and the Veterans Administration. Their most important functions, however, are conscription, controlling and training the millions of Soviet reservists at their disposal, and mobilizing these reservists in a timely fashion. Although structured hierarchically and regulated by stringent laws, the network of commissariats appears to function with surprising flexibility and variety. This is both necessary and inevitable not only because of the size of the Soviet Union but also because in the USSR there is no reserve system akin to that of the United States. With the exception of some officers and enlisted reservists who hold critical specialties, millions of Soviet reservists would not receive assignments from the voyenkomaty until mobilization or after the outbreak of war.

b. (U) In the past, the military commissariats have been quite successful in meeting the manpower needs of the Soviet Union in times of crises. Not only was their role crucial to victory of the Bolsheviks in the Civil War of the early 1920s, but during World War II the Soviet Union mobilized enough divisions to greatly exceed German estimates of the Soviet order of battle.

c. (U) ~~(S)~~ Although successful in meeting Soviet manpower needs in past crises, the nature of modern warfare and the potentially heavy losses anticipated by both Soviet and Western planners could place severe strains on the Soviet system of manpower/materiel generation. Even so, the pool of over 50 million reservists over which the voyenkomaty exercise control is impressive. The size of the reserve pool maximizes the force generation options of Soviet planners and decisionmakers in case of war.

d. (U) A purpose of this study is to examine the relationship of the military commissariats to this manpower base. However, before this can be done, it will be useful to examine in some detail the hierarchical structuring, internal organization, and duties of the voyenkomaty.

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2. Hierarchical Structuring and Internal Organization (U).

a. Hierarchical Structuring (U).

(U) ~~(C)~~ The military commissariats are widely dispersed throughout the USSR. Within the military chain of command, they are under the control of the local military district (MD) commander through the Organization and Mobilization Department of the MD staff. Ultimately, however, and as shown in Figure 8-1, the command links of the voyenkomaty lead up to the Organization and Mobilization Directorate of the Soviet General Staff. The commissariats are organized hierarchically and parallel the civil/territorial divisions of the USSR. Each voyenkomat is subordinate to the next higher level but with many variations. For example, at the lowest level are the rural rayon and urban rayon commissariats. Generally, the former are subordinate to oblast or kray commissariats and the latter are subordinate to their respective city voyenkomat. However, in republics with no oblast or kray subdivisions, the rural rayon commissariats report directly to the republic military commissariat. By the same token, in those few instances where city commissariats do not exist, the urban rayon voyenkomaty report directly either to oblast, kray, or republic commissariats.

b. Number and Distribution (U).

(U) ~~(C)~~ By drawing on classified data and Soviet open-source publications, it is possible to estimate the number and geographical distribution of voyenkomaty. This information is shown in Table 8-1. The table presents an estimate of at least 4,180 voyenkomaty located throughout the Soviet Union. As can also be seen from the table, lower level commissariats make up 96 percent of the network. Because of differences in size and population, some voyenkomaty are known to administer more than one rayon or city. This accounts for the difference in the number of commissariats and the number of rayony and cities shown in the table.

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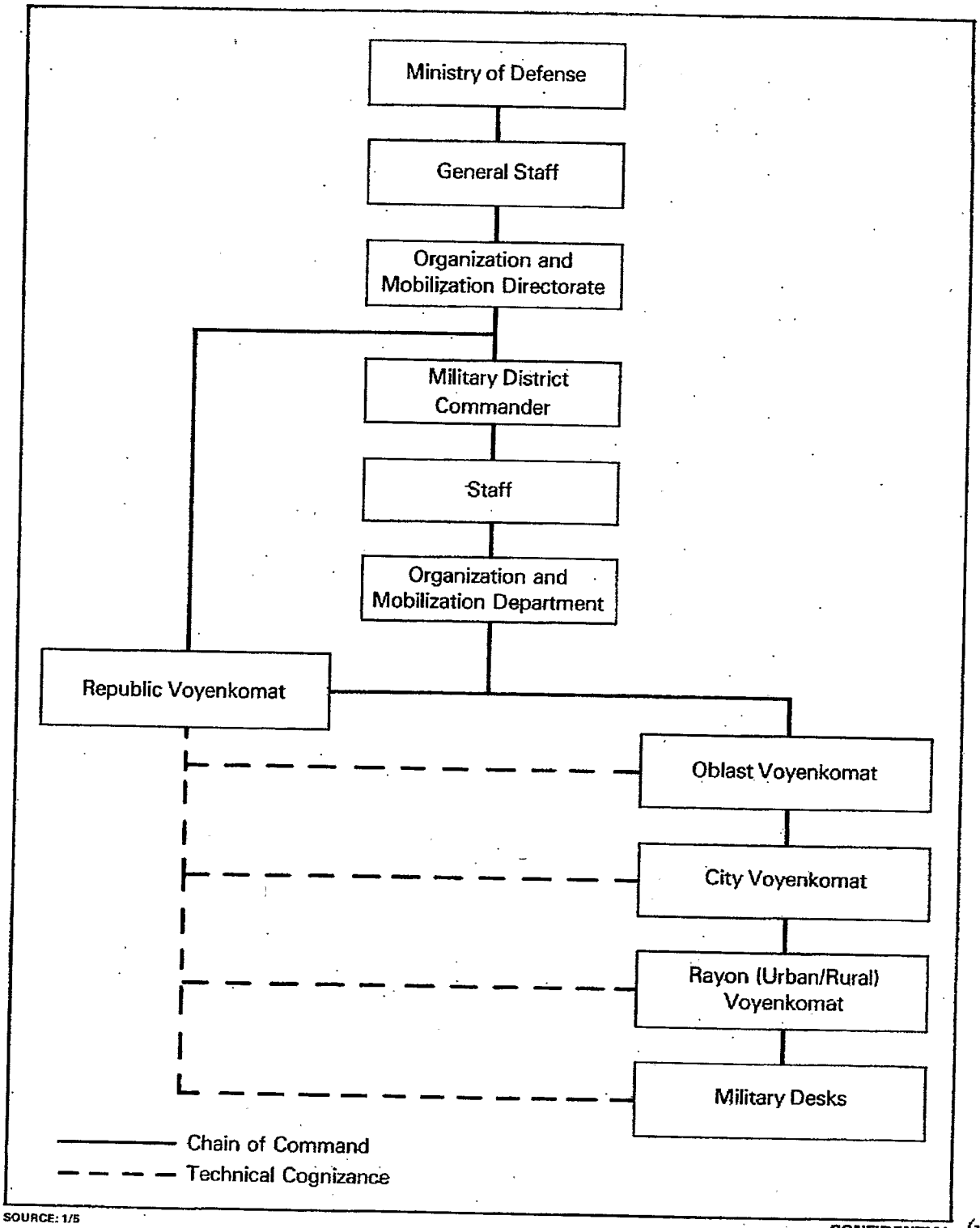

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Figure 8-1. (U) Command Links of the Voyenkomaty

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Table 8-1. (U) Estimated Number of Voyenkomaty

Civil/Territorial Divisions*	Number of Divisions	Number of Voyenkomaty
Union Republic**	15	12
Autonomous Republic	20	20
Autonomous Oblast	8	8
National Okrug	10	10
Kray	6	6
Oblast	121	121
Rural Rayon	3,176	3,056
City/Urban Rayon	2,074	947
Total	5,430	4,180

* Soviet civil/territorial divisions have the following equivalents:
kray - territory
oblast - region
national okrug - autonomous territorial unit (all of the national okrugs are located in the RSFSR)
rayon - district (rural or urban)

** There is no republic level commissariat in the RSFSR, the Ukraine, and Belorussia.

~~CONFIDENTIAL~~ (u)

c. Internal Organization (U).

(1) (u) ~~(S)~~ The size and organization of a military commissariat is determined by the population and geographic area it serves. Smallest in size and at the lowest level, are the voyennyye stola, or "military desks," which are found in rural areas, small towns, factories, institutes of higher education, and government agencies. These "military desks" are operated by no more than two of three clerks, and their function is primarily one of record keeping and coordination. They maintain files on male employees and male students and report such data to the voyenkomat at the next higher level, usually the rayon. Although the duties of the voyennyye stola are primarily administrative, their records enable them to assist the rayon voyenkomaty to carry out such functions as training and mobilization of reservists and the conscription of youths.

(2) (u) ~~(S)~~ The typical organization of a commissariat emerges is at the urban- or rural-rayon level. Usually such commissariats have four departments. These have been identified as follows: First Department - Mobilization; Second Department - Conscription; Third Department - Officer Records/Affairs; and Fourth Department - Enlisted Records/Affairs. The designation and number of departments may vary according to the size of the voyenkomat. Nevertheless, regardless of how they are designated or consolidated, the functions listed above are performed by all voyenkomaty. At the rayon level, military commissariats are usually commanded by a lieutenant colonel and staffed by 25-50 persons, of whom half are almost invariably

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officers and the remainder civilian clerks. Support functions such as communications, driving, etc., are usually performed by enlisted personnel.

(u)
(3) ~~(c)~~ The city commissariat, at the next higher level, is organized similarly to the voyenkomaty at the rayon level. However, and again depending on the size of the area served, the city voyenkomaty could have a small communications section, an administrative/finance section, and perhaps an expanded conscription department to include a permanent but small staff of medical personnel. This is especially true of the larger cities where processing of personnel for various reasons is apparently continuous and not limited to specified periods for registration and induction. At this level the commander is usually a colonel or lieutenant colonel supported by a staff of 25 to 60 people. Again, the mix of staff personnel is the same as at the rayon level.

(u)
(4) ~~(c)~~ Although exercising similar functions as the lower level commissariats, the regional, or oblast, voyenkomat has the additional responsibility of supervising all commissariats in the oblast. Moreover, and with the exception of the large cities under its administration, the oblast voyenkomat often serves as the only induction center for the region. During the semiannual call-up, conscripts are sent from subordinate voyenkomaty to the oblast commissariat for assignment and shipment to military units throughout the USSR. The staff of the oblast voyenkomat varies from 50 to 150 persons and commander ranks as high as major general have been reported. The organization of a typical oblast commissariat net, in this case that of Odessa Oblast, Ukrainian SSR, is shown in Figure 8-2.

(u)
(5) ~~(c)~~ At the highest level of commissariat organization is the union republic voyenkomat. All but three of the union republics have a republic commissariat. There is no republic-level commissariat in the RSFSR, the Ukraine, and Belorussia. However, there is very little information available about such voyenkomaty. Essentially, their functions are supervisory and they serve to facilitate control by the military districts of subordinate commissariats. On the other hand, in those republics not having regions the republic voyenkomat performs the duties of an oblast commissariat. This is true of the Baltic republics.

(6) ~~(c)~~ All voyenkomaty are linked by an intricate communications network that is also tied into the military communications system. Within this network, the oblast voyenkomaty appear to play a key role.

(b) (1) & (b) (3) per CIA

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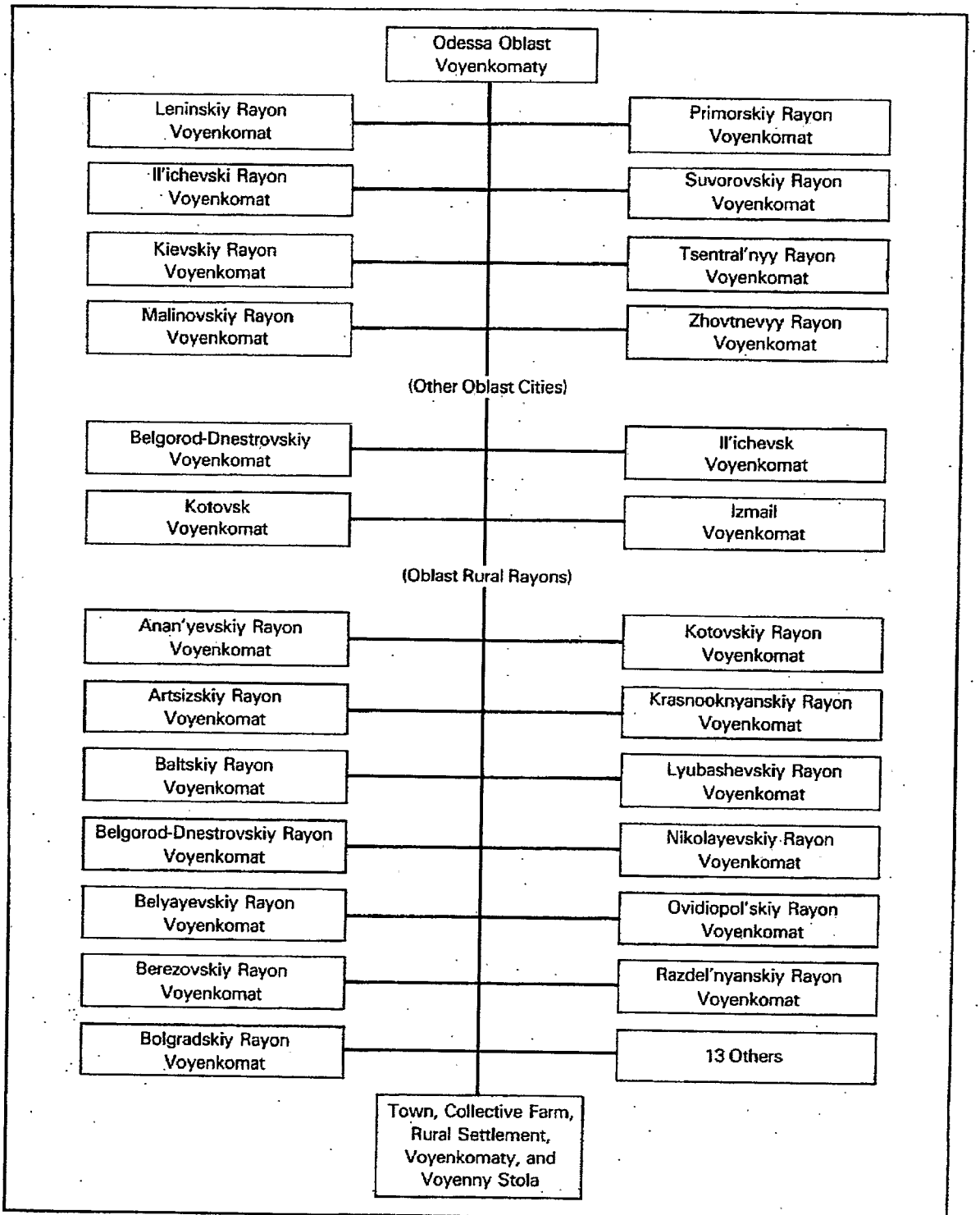

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Figure 8-2. (U) Organization of the Odessa Oblast Voyenkomaty

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(7) (u) ~~(C)~~ In the event of war, commissariat command, control, and communications activities, either in part or in whole, would become mobile during deployment to dispersal sites. Transportation assets assigned to the Odessa Oblast Voyenkomat for such a contingency include two ZIS-150 communications vans (each equipped with an R-105 transmitter/receiver and a STA-5M teletype); two GAZ-69 vehicles equipped with unidentified radio sets; two ZIL vans (one for the commissariat commander and one for the deputy commander); and a NIVA transceiver similar to US-made citizen band radios. Similar equipment has been observed at other oblast-level voyenkomaty.

3. Duties and Responsibilities (U).

a. (U) Since the inception of the voyenkomaty in 1918, their duties and responsibilities have grown significantly. This has been especially true since World War II and the emergence of the Soviet Union as a superpower. Many of the duties and responsibilities of the commissariats are defined in the 1967 Law on Universal Military Service, which became effective on 1 January 1968. The most important of these duties are as follows:

- o Premilitary training of youth (usually commencing at age 16).
- o Registration for conscription of all males at ages 16 or 17.
- o Conscription of males at age 18.
- o Approval or disapproval of all deferments.
- o Selection, records maintenance, and annual inspection of all civilian transportation assets designated for mobilization.
- o Discharge of conscripts into the reserves.
- o Maintaining and updating reservist records.
- o Training reservists.

b. (u) ~~(C)~~ In addition to these duties, the commissariats participate in the preparation and implementation of mobilization plans and perform such other tasks as processing veterans' claims and grievances, arranging emergency leaves for conscripts, monitoring deferments, and maintaining liaison with the next higher or subordinate military commissariat. The activities of the voyenkomaty necessarily affect a large portion of the Soviet population when performing their duties, the commissariats must also coordinate and work closely with officials from many walks of Soviet life. All of these functions, especially the necessity of maintaining current files on more than 50 million reservists, requires an enormous amount of time and paperwork. Nevertheless, and regardless of the flaws in the system, the commissariats seem to function with a relatively high degree of efficiency in

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meeting their responsibilities and responding to the needs of the Soviet Armed Forces. Attention will now be focused on the most crucial of these responsibilities, which are training, conscription, and the mobilization of manpower and materiel.

4. Manpower Availability (U).

a. (u) ~~(S/NOFORN)~~ As the 1967 Law on Universal Military Service expanded the duties and responsibilities of the commissariats, so did it expand the manpower base over which the voyenkomaty exercise jurisdiction. A chief provision of the law was to reduce obligatory military service from three to two years (from four to three years for certain naval components) and to lower draft age from 19 to 18. Thus, one advantageous effect of the law from the Soviet planners' perspective was to increase reserve strength every second rather than every third year.

b. (u) ~~(S/NOFORN)~~ In the Soviet Union, all conscripts are automatically discharged into the reserve after completion of mandatory service and remain subject to callup until age 50. Most officers remain obligated until at least age 55. According to the most recent National Basic Intelligence Factbook, of the total population of the USSR, 21 percent, or nearly 54,220,000, are males "fit" for military service. Of this total, it can be calculated that at least 25 million are reservists who have been added to the reserve pool since 1 January 1970. Additionally, it has been estimated that prior to that date the pool consisted of approximately 33 million reservists, making a grand total of 58 million. For purposes of this study, however, and for reasons stated in Appendix A, the lower figure of 25 million will be used.

c. (U) It is this large, expanding, and regenerative manpower base and the eligibility each year of millions of young Soviet males for military service that enable the military commissariats to perform their three most crucial functions of training, conscription, and mobilization.

(1) Premilitary Training (U).

(a) (u) ~~(C)~~ Although some form of premilitary training has long been a feature of Soviet life, prior to 1968 such training was essentially voluntary. The law of that year, however, made premilitary training obligatory and gave the commissariats a shared responsibility for such training as well as a major responsibility for the training of reservists. The need for critical skills and manpower in the civilian sector undoubtedly caused the change in the conscription law. This change required more effective preinduction training as well as more effective reservist training.

(b) (u) ~~(C)~~ Formal training of youth, ages 16 to 17, is conducted under a program formally called, Nachal'naya Voyennaya Podgotovka (NVP), which can be translated as, Pre-induction Military Training Program. This training is conducted in secondary schools, factories, and collective farms and is the responsibility of voyenkomaty. School authorities and

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employers allocate time and facilities and the commissariats provide materiel and instructor personnel, usually retired officers or reservists. The typical NVP training program consists of 140 hours of classroom instruction in subjects such as first aid, civil defense, military regulations, tactics (to platoon level), small arms (including firing at a local military installation), close order drill, and map reading.

(u)
(c) ~~(C)~~ Upon registration at local commissariats at age 17, future conscripts are carefully screened and encouraged, or ordered, to undertake training in specialties such as telecommunications, radar-technology, aviation, navigation, diving, and driving. These are skills constantly in demand by the armed forces and the practical training is meant to complement NVP. Responsibility for such training belongs to the Voluntary Society for the Cooperation of the Army, Air Force, and Navy (DOSAAF). Much of the training is conducted throughout the year and takes place in facilities of either DOSAAF, the voyenkomaty, or the armed forces.

(u)
(d) ~~(C)~~ It is not within the scope of this study to assess the quality of such training. Whatever the quality, which undoubtedly varies, the training is certainly extensive. It is estimated that in any given year in the Soviet Union, there are approximately 11 million youths in DOSAAF alone. Allowing for an attrition rate even as high as 10 percent, it can be stated that at any given time in the Soviet Union there is a revolving pool of millions of youths familiar enough with basic military skills to serve their country in some defense/support role if necessary.

(2) Reserve Training (U).

(u)
(a) ~~(S)~~ After completion of obligatory service, all inductees are automatically transferred into the reserves and their further training becomes the responsibility of the commissariats. Within the voyenkomaty this responsibility is shared by three departments: Mobilization, Officer Records/ Affairs, and Enlisted Records/Affairs. The ultimate purpose of all reserve training is to insure that there are reservists sufficiently trained to fulfill the mobilization requirements of the Soviet Armed Forces. To assure this, and to expedite mobilization, the files of the three departments are maintained according to numbered occupational specialties. Within these specialties, the files are further subdivided according to class of reserve and names of reservists. This breakdown of commissariat files is designed to support the needs of mobilization plans.

(u)
(b) ~~(C)~~ Reserve training in the USSR takes such forms as refresher courses and lectures conducted at the voyenkomaty and local garrisons, alerts and exercises, and active-duty tours. The 1967 law established tours of duty for reservists that were also defined in the law. For enlisted men, the number and length of tours by reserve category are shown in Table 8-2.

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Table 8-2. (U) Reserve Categories, Enlisted Men

	Category I (More than 1 year of active service)	Category II (Less than 1 year of active service)
*Class I - to age 35	Four tours up to 3 months per tour	Six tours up to 3 months per tour
Class II - to age 45	Two tours up to 2 months per tour	Same as Category I
Class III - to age 50	One tour of 1 month	Same as Category I

* Air reservists in this class may also be called up for flight training a maximum of five times for a total of 40 days.

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(c) (U) The frequent alerts and readiness checks conducted in the USSR are in addition to active-duty tours. As reservists in Category II accumulate duty time of more than 1 year, they are transferred into Category I. The Ministry of Defense, under current law, has authority to extend all reserve call-up tours two months. Article 40 of the conscription law provides for early discharge of draftees for reasons of health, compassion, etc. Such conscripts would be discharged into Category II of the reserves.

(d) (U) For officers, as shown in Table 8-3, reserve category is determined by rank as well as age.

(e) (U) All officers in Class I are subject to call-up each year for a period of up to three months; officers in Class II are subject to call-up for two tours of up to three months each; and those in Class III are subject to one tour of two months. Additionally, all are subject to a readiness check of up to 10 days anytime. Active-duty tours for all reserve officers may extend to 30 months. As with enlisted personnel, the Ministry of Defense may extend all tours two months. Finally, military commissariats are supposed to provide all reserve officers in Class I with courses of classroom instruction of 24 to 40 hours. Such courses must be attended once every three years.

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Table 8-3. (U) Reserve Categories, Officers

	MAXIMUM AGES		
	CLASS I RESERVE	CLASS II RESERVE	CLASS III RESERVE
Junior lieutenants, lieutenants, and their equivalents	40	45	50
Senior lieutenants, captains, and their equivalents	45	50	55
Majors and their equivalents	45	50	55
Lieutenant Colonels and their equivalents	50	55	60
Colonels and their equivalents	55	--	60
Generals and admirals up to lieutenant general, vice-admiral, and their equivalents	60	--	65
Colonel-generals, admirals, and their equivalents, generals of the army, marshals of various forces, fleet admirals	--	--	65

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(f) (8) Although the 1967 law establishes and defines training for reservists, many former reservists report gaps in training ranging from six months to several years. And it appears that only reservists with specialties are called up with any regularity. Albeit stringent in tone, the law was probably meant to be enforced with some flexibility and to serve initially as a guide to the commmissariats in their expanded role in reserve training. The size of the reserve base and economic necessity also justify some selectivity in reserve training. Furthermore, the accelerated accrual into the reserve base of discharged inductees provides sufficiently trained reservists for the needs of the Soviet General Staff. For example, it is estimated that at any given time the number of Soviet reservists who have completed obligatory service within the past five years is at least nine million, or 36 percent of the reserve base (calculated on the basis of a pool of 25 units.

(b) (1) & (b) (3) per CIA

The unit and sometimes the place of assignment are rarely known to the draftee until he actually arrives at the unit. Unit assignments are usually located in areas far from the draftee's home, a deliberate practice.

(u)
(d) ~~(C)~~ Assignment to units is made by the oblast induction commission on the basis of assigned quotas, personal data about the inductee received from subordinate commmissariats, and final interview with the conscript. Ultimate assignment for draftees is not only dependent on the immediate vacancies in the peacetime force structure but often on critical skill requirements listed in mobilization plans as well. Commission members usually include the commander of the oblast commissariat, the chief doctor of the medical commission, and representatives of the government, party, KOMSOMOL, and the militia.

(u)
(e) ~~(C)~~ Quotas are created and filled not only on the basis of the long-term needs of staff planners but also, as already indicated, on the immediate needs of operational components. This is especially true of such technical services as the Strategic Rocket Forces, PVO Strany, the Air Force, and seagoing naval elements. The difficulty in filling critical specialties has led to the system of "pokupateli" or military "buyers". These are usually officers from active units (not only from the technical services) who visit voyenkomaty at all levels to scan the files of draftees for selection into their units. Such "raids on talent" are coordinated with the staff of the local military district and are especially fruitful in urban areas. One source who worked many years in what could be termed a typical urban, rayon commissariat claims the percentage of draftees meeting the qualifications of the technical services was as high as 75 percent. Conscripts less qualified, usually from rural and non-Russian areas, are often placed in railroad or construction units. Appearing below are basic requirements of some of the service branches recalled from memory by another former commissariat employee. According to other sources who have served in some of these branches, the requirements are generally complied with.

Strategic Rocket Troops	–	Ten years of education, strict KGB security check.
Airborne Troops	–	Ten years of education, no physical defects, height over 175 centimeters, driver's license, DOSAAF training with four parachute jumps.
Tank Troops	–	Ten years of education, no physical defects, height under 165 centimeters.

(u)
(f) ~~(S)~~ The following may be concluded regarding the Soviet system of conscription. First, the system functions with a high degree of efficiency. It is, after all, as old as the Soviet state, has played a key role in its survival, and has become an accepted feature of Soviet life. Over time, the system has also been refined to meet more modern needs. Today, few qualified males escape some form of service in the Soviet Armed Forces. Deferments are carefully defined in statutes and rigidly enforced. All deferments are automatically reviewed annually by the commissariats. To be sure, the system is vulnerable to human manipulation and has occasionally been circumscribed. However, instances of bribery for purposes of draft evasion are relatively rare. Second assignments are generally made primar-

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ily on the basis of the draftee's qualifications and potential. Moreover, and in spite of some reports to the contrary, there are many instances of Jews, Balts, and ethnic Germans serving in sensitive assignments, including even the border guard. Removal from such assignments has followed only after announcement by those involved of plans to emigrate from the Soviet Union.

(4) Mobilization (U).

(u)
(a) ~~(C)~~ Military mobilization in the USSR is the ultimate responsibility of the Mobilization and Organization Directorate (MOD) of the Soviet General Staff.

(u)
(b) ~~(C)~~ For the most part, and especially at rayon level and below, the mobilization functions of the commissariats are primarily manpower and materiel generation rather than extensive coordination outside the military chain of command. These two important functions will be examined separately.

(5) Manpower (U).

(u)
(a) ~~(C)~~ In the event of mobilization, the voyenkomaty would immediately be tasked with the call-up of reservists to augment the manpower and materiel resources of existing and newly created units. As previously mentioned, and as Table 8-4 shows, the reserve pool of the Soviet Armed Forces is more than sufficient to meet manpower requirements.

(u)
(b) ~~(S)~~ Column IV of the table shows an estimated total number of conscripts, designated by service type and function, discharged into the reserves within the past five years. The nine million reservists, as such, not only represent those reservists with the most recent compulsory service but also comprise 36 percent of the reserve base, assuming a pool of 25 million reservists. The table also indicates that in the event of war, as little as 31 percent of these nine million reservists would be needed to supplement the active forces plus the 26 mobilization bases of the ground forces. Therefore, of the huge remnant force of well over 22 million men, at least 6.3 million, or nearly 29 percent, would have had recent training, many in specialized fields. It is also to be noted that this calculation does not include the more than 30 million reservists in the system prior to 1 July 1968. When consideration is also given to the training given older reservists, the general quality of the remnant force should not be underestimated. Furthermore, it should be remembered that in the commitment of units, quality is not always a leading consideration on the part of Soviet planners. Depending on the exigencies of the battlefield, numerical superiority per se may be an acceptable alternative.

(u)
(c) ~~(C)~~ Given the availability of such vast reserves, how quickly and efficiently could they be mobilized by the commissariats in the event of hostilities? The question cannot be satisfactorily answered because there has been no general mobilization in the USSR since the end of World War II. However, through a system of relatively frequent alerts,

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Table 8-4. (C) Estimated Net Augmentation of Forces From Reserve Pool in the Event of War/General Mobilization

Functional Grouping	Column I Peacetime Strength	Column II Wartime Strength	Column III Net Augmentation	Column IV Reservists (1976-1980)	Column V Percent Reservists Required
Command and General Support	1,721,100	2,170,000	448,900	2,702,000	17%
Ground Forces	1,714,000	4,012,000	2,298,000	3,210,000	72%
General Purpose Naval Forces	308,100	339,000	30,900	446,000	7%
Air Forces	237,200	263,200*	26,000	567,000	5%
Strategic Attack Forces	274,700	274,700	None Initially	549,000	0%
Strategic Defense Forces	500,300	500,300	None Initially	914,000	0%
Subtotal	4,755,400	7,559,200	2,803,800	8,388,000	
Frontier Troops	157,800	185,000	27,200	296,000	9%
Internal Troops	280,900	303,000	22,100	526,600	4%
Grand Total	5,194,100	8,047,200	2,853,100	9,210,600	31%

*Does not include rotary wind assets, nor support elements for FA and VTA.

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Soviet planners are constantly attempting to test and reduce response time to specified minimums.

(b) (1) & (b) (3) per CIA

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(b) (1) & (b) (3) per CIA

(i) ~~(S/NOFORN/WNINTEL)~~ (u) The ability of the commissariats to respond to alerts under conditions of actual, albeit partial, mobilization was tested during the Czechoslovak crisis of 1968, and during the more recent Soviet invasion of Afghanistan. With some exceptions, the voyenkomaty appear to have performed very efficiently in both instances. For example, during the Czechoslovak crisis, the eight urban voyenkomaty of the Minsk Oblast were ordered to mobilize 10,000 reservists. Three hours after the alert, 60 percent of the force had been notified and had reported to initial assembly points. Within six hours, all reservists had been assembled. Once assembled, the reservists were segregated according to military specialties and sent, usually in groups, to field assembly areas adjacent to units as yet unidentified to them. At the assembly points, receiving units had established makeshift facilities, at which the reservists received uniforms, equipment, and weapons. In many instances, processing and/or integration into units was accomplished within a matter of hours.

(j) ~~(C)~~ (u) Improving mobilization capabilities, however, and perhaps even more so in the aftermath of Afghanistan, is a constant preoccupation of the commissariats. The generally impressive results achieved can be attributed not only to the highly integrated communications network of the voyenkomaty and the military commands but to their equally highly coordinated alert procedures as well.

(k) ~~(C)~~ (u) The above examples and statistics pertain to conditions of simulated or partial mobilization. How capably the commissariats could actually service the needs of the Soviet Armed Forces in the event of general mobilization remains unknown. However, there are indications that Soviet planners have taken steps to keep mishaps to a minimum under such circumstances.

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

5. Conclusions (U).

~~(c)~~(U) Considering the scope of the force generation system in the Soviet Union and the relatively high degree of efficiency with which it is implemented, the positive features of the system considerably outweigh its shortcomings. It is a system well rooted in Soviet history; a system that has been severely tested and proven dependable in World War II and more recently in mobilization exercises and call-ups in periods of crises; and one whose structure would maximize the force generation options of Soviet planners and decisionmakers in future wars.

6. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

~~(c)~~(U) The Soviets are in an excellent position to mobilize millions of trained men quickly if the need arises. This availability of millions of trained people would permit them to fight a war now and in the future with much less concern for the quality of the required personnel than will be the case in many other countries under similar conditions of mobilization. They have established a system of commissariats that enables them to meet their immediate manpower and material requirements. Judging from the improvements in this system and the strength of its performance, their mobilization capability will be even stronger in the future. If the Soviets choose to maintain their current level of active personnel, they most certainly will be able to do it.

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Appendix A

Methodology for Calculating Reserve Manpower Base (U)

~~(S)~~ (U) To eliminate confusion and reduce the margin of error, calculations of manpower accrual into the reserve base are limited to the period 1 January 1970 to 1 January 1981. This is the timespan accruals began under the provisions the 1967 Law on Universal Military Service (which became effective 1 January 1968). Other reasons for limiting accruals into the reserve base to this timespan are as follows:

- In the event of mobilization, many reservists called up would be those with the most recent training.
- The number of reservists generated by the 1967 law is more than adequate to meet the mobilization requirements of the Soviet Armed forces in the event of a general war.

~~(C)~~ (U) It is estimated that since 1970 at least 25 million males have been added to the reserve pool. The total of 25 million is based on a series of relatively simple calculations. It is estimated that each year 2.5 million Soviet males reach age 17, at which time they are required to register for military service. Of this total, and according to sources examined, approximately 5 percent, or 125,000, will never serve in the armed forces because of permanent deferments, migrations, deaths, and other attrition. Of the remaining 2,375,000, at least 57 percent, or 1,353,800, will be drafted at age 18. Most will serve a required two years of active duty, although this total also includes the relatively small number drafted three years for sea rather than shore duty with the Soviet Navy. Of those reaching age 18, another 40 percent, or 950,000, will be granted temporary deferments (easily acquired under current law to encourage study at institutions of higher education) but remain subject to conscription. The percentage of those in this category who ultimately serve in the armed forces is unknown. However, because many students at institutions of higher learning are required to enroll in officer training programs and all deferments are closely monitored, few in this category are believed to escape at least some form of military duty. Finally, because of infirmity the remaining 3 percent, or 71,200, of those reaching age 18 also will never serve in the armed forces.

~~(C)~~ (U) Therefore, from January 1970 to January 1981, allowing for an attrition rate of 5 percent during active duty and a reenlistment rate of 3 percent, it can be calculated that each year 1,246,000 conscripts drafted at age 18 have been discharged into the reserve for a cumulative total of 14,952,000. At the same time, allowing a 10 percent margin for attrition and variations, it is estimated that 855,000 draft eligibles granted temporary deferments each year have added another 10,260,000 men to the reserve pool. This total of 25.2 million reservists takes into account an initial input of 2,101,000 men on 1 January 1970.

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CHAPTER 9

MILITARY MOBILIZATION (U)

HIGHLIGHTS (U)

~~(C)~~ (U) The Soviets have a highly centralized governmental apparatus for mobilizing their resources in the event of war. At the heart of the system is a network of military commissariats that, in wartime, would be responsible for mobilizing the manpower base of more than 50 million reservists as well as materiel and transport resources from the civilian economy. It is a system well rooted in Soviet history that has been severely tested and proven dependable in World War II and more recently in mobilization exercises and callups in periods of crises. It is a system whose structure would maximize the mobilization capabilities of Soviet planners and decisionmakers in future wars.

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CHAPTER 9

MILITARY MOBILIZATION (U)

1. Introduction (U).

a. (U) According to the Soviets, mobilization is the conversion to a war footing of the armed forces, national economy, and government institutions. It is accomplished in accordance with a mobilization plan that details the procedures for mobilizing the necessary resources of the country, including the armed forces as a whole and supporting elements from the national economy. Mobilization is either general or partial. General mobilization is the conversion of all armed forces, civil defense, and the national economy to wartime footing. Partial mobilization involves only a portion of the armed forces and the economy. It is carried out when the missions of the armed forces necessitate the mobilization of only one or several military districts (or fleets, flotillas), or even individual major field forces, formations, and organizations that form part of them. Generally, it is carried out when there is a local war or a threat of one.(19/342)

b. (U) Mobilization of the armed forces includes bringing existing units up to strength with personnel and materiel, activating new units, and providing all necessary transportation and support in accordance with specifications worked out in mobilization plans.(15/125)

c. (U) Partial mobilization can be carried out either secretly, under the guise of another activity such as reserve training, or openly for political significance. Normally, partial mobilization is carried out openly and is announced by all available means.

2. The Soviet Military Establishment and Its Mobilization Machinery (U).

a. (U) In order to provide a framework for discussing the Soviet mobilization machinery, it is necessary to describe some relevant aspects of the Soviet military establishment.

b. (U) Ultimate operational and policymaking control of the armed forces is vested in the Politburo of the Central Committee of the Communist Party of the Soviet Union (CPSU). Its control is exercised through a Defense Council headed by the General Secretary of the CPSU. This defense Council is the apparent successor to the State Defense Committee formed during World War II to control the state and direct its war effort. In the event of a future war, it would probably function in a similar role.(9/2-1, 2-14)

c. (U) Immediate control of the Soviet Armed Forces is exercised by the Minister of Defense. He has a broad spectrum of administrative and

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operational functions. He controls and directs the General Staff of the Armed Forces, the Warsaw Pact Headquarters, the five major armed forces components--Ground, Navy, Air, Air Defense, and Strategic Rocket Forces, 16 military districts, 10 air defense districts, four naval fleets, two flotillas, and four groups of forces.(9/2-1,2-14)

d. (U) The air defense districts are designated for purely operational considerations, whereas the fleets and military districts (MDs) are endowed with both operational and logistical responsibilities. The MD commanders report directly to the Chief of the General Staff in operational matters and to the specialized directorates of the Ministry of Defense in administrative, technical, and logistical affairs.

e. (U) The MDs are high-level military territorial commands, which include troop units, conscription districts (administered by military commissariats or voyenkomats), military schools, and various establishments (e.g., garrisons, training areas) of the different services of the Soviet Armed Forces. MDs can function as fronts or other field commands in wartime. Their major missions include training, combat readiness, induction of conscripts, mobilization, civil defense, and premilitary and reserve training.(9/2-1,2-14)

f. (U) The MD commander is assisted by his staff, a number of subordinated directorates or departments, and a military council. The latter is a consultative body that exists in branches of the armed forces, fleets, groups of forces, armies, and flotillas as well as military districts. In the MD, it is headed by the MD commander and has as members the Chief of the Political Directorate, the Chief of Staff, several other deputies, commanders of major troop units, and the leading members of the CPSU within the MD--probably the secretary of either the oblast or republic Party committee.(9/2-1,2-14)

g. (U) Political control over the armed forces extends through the apparatus headed by the Main Political Directorate at Ministry of Defense level but is subordinate to the Central Committee of the CPSU.(9/2-1,2-14)

h. (U) The highest mobilization organ is the Mobilization Directorate of the General Staff of the Ministry of Defense. Its mission includes planning for the mobilization and support of the armed forces as a whole, each of the services, each Military District (or its naval counterpart: fleet or flotilla), and each formation, unit, and organization. The Directorate has an account of the stockpiling of mobilization supplies and a prediction of the mobilization resources needed for the uninterrupted supply of the war effort.(9/2-1,2-14) The Directorate's mission also includes the coordination of mobilization measures, not only with all main directorates of the Ministry of Defense, but also with all other ministries and civilian departments.(1/64)

i. (U) In each headquarters of the 16 military districts, there is an Organizational-Mobilization Directorate. It controls the mobilization activity, both military and civilian, within the military district. Like

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its counterpart at MOD, it also coordinates mobilization matters, not only with the other staff elements of its own headquarters and other military agencies, but with civilian elements of the national economy. This coordination, however, embraces only the territory of the MD concerned, whereas the MOD's coordination is with ministries and other agencies having nationwide responsibilities. The civilian departments within the MDs receive directions on mobilization measures from their respective ministries, but these measures are coordinated with the Mobilization Directorate of the MD and are controlled by the military commissariats (voyenkomats) in accordance with MD's directives. Based on directives from the MOD, the MD's Mobilization Directorate prepares a mobilization plan, appropriate portions of which are held in the headquarters of military units down to, and including, separate battalions. The plan lists by numbers and locations the units to be formed and contains a time schedule for the formation of these units. The plan indicates the sources from which personnel and materiel are to be drawn and the transportation to be used in moving units to concentration areas.(13/64)

j. (U) The units, in turn, incorporate detailed instructions for receipt and assignment of personnel, securing supplies, special security measures, turnover of post property, and other administrative matters. Each action has a precise time for accomplishment that is calculated in hours and minutes after the declaration of mobilization. In preparing their plans, the units coordinate with local party and government organs and with the mililtary commissariats (voyenkomats) to arrange for personnel replacements and delivery of some vehicles.(13/64)

k. (U) Another organization playing a role in the mobilization process is the military garrison. The garrison consists of the aggregate of troop units, military establishments, and institutions situated permanently or temporarily in an inhabited locality. Generally, the garrison commander is the officer having the senior appointment position. Garrison service consists of maintaining discipline in the garrison; in providing the necessary conditions for billeting, everyday life, and training of troops; and in conducting a number of activities involving troop participation (parades, firefighting, emergency measures, honor guards, military funerals, and so forth).(13/55,56)

l. (U) The garrison commander has certain mobilization responsibilities. These include drawing up procedures for notifying the units of mobilization (once he has received word from the MD), working out procedures for concealing mobilization within the garrison if secret mobilization is called; making a register of civilian premises that would be of use in the event of mobilization (he coordinates this with local government and party officials); arranging for the availability of local enterprises such as laundries, bakeries, sources of fuel, medical facilties, etc.; and working out procedures for turning over by troop units materiel not needed in the field. The garrison commander is assisted by officers detailed from the troop units within the garrison in planning these responsibilities.(13/293-294)

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m. (U) Critical to the whole mobilization process within the military district (especially relative to mobilizing the necessary manpower) are the territorial administrative agencies of the Ministry of Defense called Military Commissariats or, simply voyenkomats. As described in Chapter 8, these are somewhat analogous to US selective service agencies but have responsibilities extending well beyond conscription. They prepare and carry out troop mobilization, compile and keep records of human and national-economic resources, prepare young people for military service, organize conscription, call up reservists for reserve training periods (assemblies), and implement other defense measures. Their work is directed by the General Staff of the Armed Forces of the USSR and the commanders of the military districts in which they are located.(5/Vol 5,256)

3. The Mobilization Process (U).

a. Governmental Mechanisms (U).

(1) (U) The Presidium of the USSR Supreme Soviet has the responsibility for declaring mobilization status. The conversion of all or part of the armed forces from peacetime to wartime footing would take place by order of the Minister of Defense. Under his supervision, the General Staff, through its Mobilization Directorate, would give the appropriate instructions to the Military Districts, and the military councils of the districts would carry out the indicated measures in the forces themselves with the help of the General Staff, the district directorates of the various branches of service, the directorates and organs for procurement of materiel, and finally the voyenkomats.(13/5)

(2) (U) Upon declaration of general mobilization, the following would occur: All individuals who at the time are in the ranks of the Soviet Armed Forces are detained until further notice; and Reservists appear at the places and times indicated in their mobilization instructions, in call-up notices received, or in the orders of rayon or city military commissariats (voyenkomats).(23/4-10)

(3) (U) The call-up of reservists would be orchestrated, of course, by the rayon or city voyenkomats based on their mobilization plans. Their manpower resources have been categorized in advance by date of birth, military and civilian occupational specialties, rank, state of health, and other considerations such as availability for military service. Availability is a critical consideration, since some workers in essential industry and agriculture must be granted either permanent or temporary deferment from call-up. Permanent deferment is granted for individuals in specified jobs for as long as the job is held. Temporary deferment, usually for three to six months, is given to permit training and replacement. Replacements are usually men or women not of draft age.

(4) (U) Such organizations as police, professional firemen, industrial guards, guards on lines of communications, and certain others--numbering more than a million men--have 50 percent on permanent deferment and 50 percent on temporary deferment. Some personnel in industry, communi-

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cations, and medical institutions would be mobilized upon the outbreak of war and would remain at their places of work as servicemen.(1/69)

(5) (U) Meanwhile, martial law would probably be declared in some portions of the country. The MDs would react in accordance with their mobilization missions and instructions from the Mobilization Directorate of the General Staff of the MOD. To an extent, their actions would be dictated by the type and proximity of conflict. Thus, at the beginning of a conflict embracing its territory or a territory sufficiently near it, the headquarters of a border MD would probably become the headquarters of a front. The headquarters of the less populated interior MDs would probably furnish the field headquarters and the field units of an army rather than a front. In these cases, the MD headquarters will split, with part becoming the headquarters of the operational forces and part staying behind to continue operations as an MD headquarters after filling up with reservists. (13/100)

(6) (U) Once the mobilization instructions were received from MOD, the Mobilization Directorate of the MD headquarters would notify relevant individuals in the other staff sections and directorates. They could be expected to react accordingly. They may, in fact, become (or assign) permanent representatives in the Mobilization Directorate for the duration of conflict since they have so many responsibilities connected with the mobilization process per se. The Transportation Section, for example, in accordance with the plan for mobilization, concentration, and expansion of troop units, will have the staggering job of drawing up schedules of the required rolling stock and shipping for transporting troops and their materiel. They will have to coordinate not only with the troop units concerned but with various civilian agencies such as the railway administration. Other staff sections, of course, will have similarly large workloads.(13/127)

b. Military Mobilization Procedures (U).

(1) (U) Military mobilization includes a call-up of reserves, a buildup of peacetime cadre units to wartime TOE strength activation of new troop units and replacement training units, and the transfer of transportation and other facilities and equipment from civilian agencies to the military forces.

(2) (U) The mobilization of units existing in peacetime, and especially the formation of new units, has unique aspects in each of the armed forces. Some of the forces are kept at full or almost full combat readiness at all times such as the Navy, Air Forces, strategic rocket forces, air defense forces, and security forces. The most extensive mobilization effort would be expended in the ground forces and Civil Defense troops. The least would occur in the composition and organization of strategic rocket forces and air defense forces, since they are maintained completely combat ready in peacetime.(1/66)

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- o The Soviets have detailed plans for mobilization that would likely enhance the speed with which they could reach a war footing. This advantage could turn out to be critical.

- o The Soviets have a massive number of reservists --over 40 million. A significant proportion of these reservists have had relatively recent training since they are discharged from the active forces into the reserves at the rate of 1.7 million per year (for a total of more than 8 million over a five-year period).

- o The mobilization machinery for activating the reserves is in place and functional. The men (and some categories of women) are registered on a nationwide basis by rayon and city voyenkomats and have mobilization assignments.

- o The machinery is flexible since it provides for full mobilization and partial mobilization possibilities.

- o The Soviet mobilization system, though highly centralized in its planning, activation, and control aspects has some decentralized features to its organization as well. It meets Sokolovsokiy's dictum that present-day mobilization be simplified to disperse manpower and materiel resources as quickly as possible. The territorial arrangement by the military districts which minimizes the transport distances of men and equipment and provides the fullest possible autonomy of the mobilization centers (voyenkomats) satisfies the requirements for efficiency.(18/319)

5. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

~~(C)~~ (U) The Soviet mobilization system has proved itself dependable in World War II and in those instances of partial mobilization, notably the invasions of Czechoslovakia and Afghanistan. Given the current efforts to improve the coordination of the mobilization system with the national economy, it seems reasonable to expect that the USSR could do at least as well as it did in World War II, when it dispatched no less than 291 divisions and 94 brigades to the Soviet-German front between July and December 1941, both now and in the year 2000.

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CHAPTER 10

PROPAGANDA AND MASS ACTION (U)

HIGHLIGHTS (U)

(U) The Soviet Union controls and manipulates information to a greater extent than has any other nation in history. Moscow does this both internally and in the presentation of itself to the outside world. Through intense propaganda efforts, rigid censorship, misinformation, and occasionally direct and forceful action, Soviet decisionmakers deliberately distort the perceptions of foreign audiences and domestic ones.

(U) To accomplish their propaganda and mass action goals, the Soviets use all of the following assets: the KGB, communist parties operating in Western countries, news agencies, diplomatic contacts, TV and radio, front groups, and friendship societies.

(U) Primary targets of Soviet propaganda have been, and continue to be, the United States and its NATO allies. Emphasis has consistently been given to creating a worldwide image of the United States as an aggressor and as an imperialist country. A concerted effort has also been made to isolate the US from its allies, to portray the policies of the US and its NATO allies as inimical to third world nations and, generally, to present NATO as a threat to world peace.

(U) From a tactical viewpoint, Soviet equipment for propaganda is far superior to US equipment. Loudspeakers with ranges of up to 15 km have armor and NBC protection. Additionally, the BTR-60Ps have rockets with leaflet warheads, as well as loudspeakers.

(U) Finally, the Soviets are much more sophisticated and better prepared for propaganda today than they were at the start of WWII. They have preprinted stockpiles of leaflets already developed in several languages for use in wartime and they include psychological warfare in most of their Command Post exercises (CPX) and Field Training exercises (FTX).

(U) Based upon Soviet target analysis of the US soldier, preparations have been made to conduct extensive psychological operations in coordination with the first wave of Warsaw Pact troops that crosses NATO's borders. This is a threat that most US soldiers must meet unprepared.

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CHAPTER 10

PROPAGANDA AND MASS ACTION (U)

1. Introduction (U).

a. (U) The manipulation of mass opinion is an important element in the Soviet goals of absolute control at home and increased influence throughout the world. Propaganda, disinformation, half-truths, and big lies are indispensable and dangerous tools in the hands of those who want to manipulate mass opinion in order to seize power or to perpetuate the power they already have.(1/22)

b. (U) The Soviet Union and other members of the Warsaw Pact have actively engaged in and supported operations designed to influence Western public opinion and decisionmakers for many years. The Soviets, however, have never admitted that they use psychological operations (PSYOP) in the Western sense of the word to help them achieve their national objectives. They contend that only the imperialist states of the West engage in such despicable tactics. As a result, the term PSYOP is not even mentioned in their encyclopedias and dictionaries.

c. (U) Among the various methods of persuasion and education available to a state is the art of propaganda. Propaganda is characterized as the art of inducing people to leap to conclusions without examining the evidence.(2/1) Propaganda is one of the major means by which a nation seeks to achieve its foreign policy objectives. Although it does change in blend and emphasis from time to time, Soviet foreign propaganda supports the remarkably unchanging goal of Soviet Foreign policy - to enhance the power and security of the USSR. Toward this end, Soviet foreign policy steadfastly seeks to expand and to increase the strength of the Socialist bloc of states; to preserve insofar as possible the unity of the world Communist movement; and to foster coexistence with states that have different social systems. Robert Moss stated on William F. Buckley's Firing Line in May 1980 that:

> . . . the American people have not been informed about the extensive and widespread efforts of the Soviet bloc secret services and its satellites to shape public opinion and above all to disinform public opinion about the reality of the Soviet threat. If we cannot understand the reality of the Soviet threat and the means by which the Soviets mean to impose their will upon us, then we can never organize ourselves to contain and answer that challenge.(3/unnumbered page preceding page 1)

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d. (U) The Soviets believe in the power and value of PSYOP and have centralized and institutionalized it, both internally and externally, to a degree unparalleled by other modern countries. In addition, other members of the Warsaw Pact have replicated the Soviet's PSYOP organization and have exercised it to an alarming extent throughout the free world.

e. (U) Grounded in Marxist-Leninist teachings, the Soviets envision PSYOP as a tool with which to reduce the material cost of world domination. PSYOP is regarded as a force multiplier, operating to structure and mold the political and military environments in ways that support the Soviet national self-interest and the interests of the Soviet Armed Forces. Present Soviet leaders have been shaped by the Marxist principle that military campaigns can be lost long before the first shot is fired on the pre-battle fronts of economics and politics. They have built a PSYOP machine to win such pre-battle conflicts and are prepared to convert the same machine to military use once war begins.

f. (U) Soviet PSYOP proceeded in the past on the basis of those stereotypical characteristics of capitalist societies that Marx defined and forecasted. These characteristics are viewed in Moscow today through the modern prism provided by organizations like the Russian Institute of the United States and Canadian Studies. This has caused the Soviets to change their methodology, but not their Marxist assumptions. The end result has been a more sophisticated and successful PSYOP effort.

2. Propaganda and Agitation (U).

a. (U) The Bolshevik Revolution added a new dimension to the concept of propaganda with the term "agitprop"--the combination of propaganda with agitation. To the Bolsheviks, "propaganda" referred to the dissemination of many ideas to a few people. Marxist-Leninist ideological propaganda was meant exclusively for the cadre, to provide them with instruction for carrying out their tasks and with inspiration to refurbish their morale; it was not intended for the masses. "Agitation," on the other hand, meant disseminating a few ideas to many people. It was believed that the masses did not understand complex issues, but could be aroused from their apathy by the constant repetition of simple, emotional issues that directly reflected their daily frustrations and needs.

b. (U) In the practice of psychological operations today, however, the classic distinction between agitation and propaganda is less clear. Propaganda has come to be identified as themes and messages disseminated via mass media to a large audience while agitation has come to denote face-to-face communications directed toward small selected audiences. These means of propaganda and agitation are interdependent and complementary. Typically, mass communications stress the broader message of the movement and agitation assumes the task of translating this message and tying it to the grievances of specific people in specific situations. (4/137)

c. (U) This differs from the basic concepts that V. I. Lenin had in mind in his 1902 manifesto, "What Is To Be Done?" Lenin expected that the

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propagandist would help educate a small cadre of leaders, but that the agitator was to "rouse discontent and indignation among the masses." With the passage of time, Soviet doctrine and practice have moved closer to blending these two related but quite different concepts. Note, however, that the essence of Lenin's approach is still basic today to the Soviet view: the success and indeed the survival of communism as a movement depend largely on the energy and skill of Communists as communicators.

d. (U) Because the USSR places such enormous emphasis on propaganda, it is easy to overestimate its impact and effectiveness. This is understandable. The Soviet hero is Lenin, who saw in propaganda--coupled with the power of organization--a mighty lever for action. But Soviet propaganda, like the propaganda of other countries, whether totalitarian or democratic, by itself can accomplish little. It has to be orchestrated under a grand strategic plan and used in concert with other major instruments of national policy.

e. (U) The USSR has some extremely effective instruments of national policy. Its armed forces are large and powerful and many are in a state of combat readiness. Its nuclear weaponry and missile delivery systems are thought to be about equal to those of the United States. Its submarine fleet is the largest in the world. The Soviet Union is the second largest economic power in the world, despite all the difficulties it has had in solving the economic problems of an advanced industrial society.(5/42-43)

(U) These are impressive assets. The intent of this chapter is to examine how--and how well-- Soviet propaganda has played a role in Soviet progression toward the ultimate goal of a wholly Communist world.

3. The Evolution of Soviet Propaganda (U).

a. (U) Propaganda has been a principal weapon in the Communist armory from the beginning. Most of the big names in early Socialist history from Marx and Engels down through Herzen, Chernyshevsky, Plekhanov, etc. were voluminous writers possessing varying degrees of skill in promoting the faith. By 1900 Lenin was the Managing Editor of the Communist newspaper, Iskra (The Spark), published first in London and then in Geneva.

b. (U) In 1902 Lenin produced a small pamphlet entitled "What Is To Be Done?" This booklet, which is scarcely known today among non-Communists is the first systematic outline of what has since become known as Leninism. It alone has probably had a more baleful influence than any other publication of its kind in twentieth century history. After 1902, Lenin and his followers produced snowstorms of theoretical writings, which have been published and republished in multi-volume editions and pored over by studious Communists. Nevertheless, the major lines of Lenin's theories were all contained in this first pamphlet.

c. (U) The pamphlet's first main point is that the working class must be led by an elite of dedicated full-time professional revolutionaries; the party faithful, the vanguard. Second, Lenin called for internal dis-

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agents not only among the opponents' military and government officials with access to top secret information, but also among the media.

(6) The Cultivation of Satellite Organizations and Fronts and the Enlistment of Non-Communist Sympathizers and Fellow Travellers (U).

(a) These new strategies grew naturally out of the principle enunciated in "What Is To Be Done?" that the Communist Party should be the vanguard leading less sophisticated satellite groups towards a final goal of Communism. As early as 1920, Grigory Zinoviev, president of the Comintern, began to preach the transmission belt method, urging the Comintern members to use every hook to manipulate all groups with any grounds for dissatisfaction: labor unions, veterans organizations, tenants' leagues, and so forth. Of course 'front' groups are useful for many other purposes besides propaganda.

(b) (U) The first master of the art of Communist fronts was Willi Munzenberg. Munzenberg first came to prominence organizing Communist-dominated Youth Groups in Germany after World War I. From there he branched into organizing the International Workers Aid, the first true Communist front--i.e., an organization dominated secretly by the Communists for ostensibly disinterested purposes. The International Workers Aid ran campaigns to raise relief money to help the Russian people who were suffering from a famine in 1921. It was a tremendous success in stimulating assistance and sympathy among non-Communist organizations and opinion leaders in the democracies. After Munzenberg rose to become the (secret) director of the Comintern's Agit-Prop Department in Western Europe, countless organizations of all kinds were created or infiltrated: stamp clubs, hiking clubs, writers organizations, and so forth. Munzenberg called these his "innocents' clubs."

(U) Munzenberg also masterminded the launching of a number of journals and newspapers, including one picture magazine that reached a circulation of 500,000. He was especially skilled at attracting leading intellectuals to his Communist-inspired functions, including the French writer, Henri Barbusse (who later wrote a flattering biography of Stalin); Britons like Lord Marley and Allen Wilkinson; the American black leader, James W. Ford; and even on some occasions, Albert Einstein. Countless writers, artists, and scholars around the world helped to parrot the party line without, in most cases, realizing that it was the party line. Munzenberg was the first to use the phrase "fellow traveller" to describe the more dedicated of these collaborators.(6/21)

(c) (U) At the end of World War II, there was no doubt that the people of the Soviet Union liked Americans, or that the warmth of this feeling was reciprocated. But in the Spring of 1946, Stalin set the stage for a campaign of anti-Americanism, both at home and abroad, with his charge that "international reaction" was making plans for a new war. In 1949, the Joint Committee on Slavic Studies sponsored a study of the cartoons concerning America that had appeared in the official Soviet humor magazine Krokodil during the preceding three years. The editor, William

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Nelson, introduced this study as follows: "In the early summer of 1946, the Soviet government began in earnest to teach its people to hate the United States... During the war and for a little while thereafter, Krokodil echoed, rather distantly, the popular note of goodwill toward America. Stalin was certainly not enthusiastic, but at least he was not unfriendly, either." But by 1949, nearly half of the contents of each issue of Krokodil attacked the sins of America. Even the Nazis had never rated this kind of attention. The faithful follower of Krokodil found nothing novel in this, except for the intensity and sustained quantity of the attack. He remembered that, except during the war, Krokodil had always seen America "as a nation of dollar-mad imperialists with a moribund economic system and a gangster culture." In 1929, he had found battleships hiding under the skirts of the Statue of Liberty. In 1936, the racketeers and kidnapers of America appeared in his cartoons. Three years later, America was a merchant of death, selling arms and getting rich on the distress of England and France. No one should have been surprised by these changing cycles of Soviet propaganda. They reflected the alternating rhythms of Soviet foreign policy itself, serving the constant and unchanging long-term goals of the USSR. Tactics and emphasis changed, but the main goals did not.

(d) (U) In the years immediately after the end of World War II, Soviet foreign propaganda under Stalin was not notably successful. It came to be used mainly to preserve an official illusion about Russia and the world. Still, during the last three years of Stalin's life, new propaganda policies were being developed. A peace campaign was initiated. Trade with foreign capitalist countries was encouraged. Nationalism began to emerge as an important concept for propaganda use. By 1955, the Soviet Union completed a major tactical shift from the Stalinist hard line to a new soft line which was supposed to present the USSR as the great supporter of world peace. This shift was made to appear as a genuine move toward rapprochement with the West. The theme of Western aggression was temporarily forgotten. About this same time, a basic revision of Lenin's theory of colonialism was also completed. Bulganin and Khrushchev began to apply it during a triumphal pilgrimage to Asia, where they acknowledged that a postcolonial era had opened. The Soviet Union made offers of economic aid to countries of the Middle East and South Asia. The themes of solidarity and unity rivalled peace as the great Communist slogans for the peoples of Asia. Direct appeals were made to anti-imperialist and especially anti-American elements. Nationalism and anticolonialism were recognized as major social forces of our time. A propaganda theme foreshadowed in the early 1930s came to prominence: the less developed countries should find in the Soviet model for industrialization the best path to the higher standards of living offered by modern technology. Accompanying these themes was the proclamation of a major strategic concept; namely, that war between the capitalist and the Socialist systems was not inevitable. The concept of "peaceful coexistence," which actually meant an intensification of the struggle to advance Moscow's goals by all means short of outright war between the superpowers, was resurrected and given major emphasis. This theme had been used many times previously in Soviet propaganda campaigns since Lenin first launched it in 1920.

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(e) (U) The Twentieth Party Congress of the CPSU in 1956 was highlighted by the drastic revelations about Stalin in Khrushchev's secret speech. This Congress also reinforced the doctrine that war was no longer "fatalistically inevitable" because of the increased strength of the forces of socialism and it also provided a new formula for a "voting revolution" that would enable Communists to take part in the parliamentary politics of capitalist countries, to form coalitions, and to work for the gradual replacement of the old structure in a peaceful transition (instead of the forcible and violent destruction prescribed since 1920).

(f) (U) The year 1956 also witnessed a major crisis in international Communist affairs. For the first time, the new regime in mainland China clearly showed itself as a second, and potentially as a rival, center for directing Communist world propaganda, although initially it formed a supporting propaganda axis with Moscow. The events of 1956 gave the Soviet propaganda apparatus "its most difficult defensive mission in the 39 years of communism. It was called upon, in sequence, to destroy selected features of the carefully built myth of Stalin; to justify 'national communism' in Poland and support Soviet repression of it in Hungary; and to rehabilitate Stalin's concepts of a unified Soviet empire without making it seem a complete reversion to Stalinism. It was ironic that Soviet propaganda could use the Israeli (and Anglo-French) invasion of Suez to divert attention from its exercise of modern colonialism in Hungary, and at the same time persuade many Arabs that the United States was rapidly becoming the world's chief colonial power, while the Soviet Union was their principal protector against such imperialism.

(g) (U) These themes were broadened and developed in later years under Khrushchev. Communist trade and aid were said to be based on the principle of equality and did not infringe on the sovereignty of the recipient. US economic aid, on the other hand, was said to require the recipient country to give up some of its independence. Free World military alliances and American bases on foreign territories were aggressive and constituted threats to peace. The USSR consistently advocated conventional and nuclear disarmament, while ominously rattling missiles and charging the West, under US leadership, with aggravating the arms race. The main thrust of Soviet propaganda was on a peaceful transition to "socialism," and attention to the developing countries steadily increased.

(h) (U) After the ouster of Khrushchev in October 1964 and a few additional months of internal debate, the collective leadership of Brezhnev and Kosygin instituted far reaching changes of a hard line character in both domestic and foreign policy. It became increasingly clear that "peaceful coexistence" was being given a lower priority. The first goal of Soviet foreign policy was stated at the Twenty-third Party Congress in 1966 to consist of "ensuring, together with other Socialist countries, favorable international conditions for the construction of socialism and communism." This objective was closely followed by that of "supporting the national liberation movement and engaging in all-round cooperation with the young developing states." "Consistently standing up for the principle of peaceful coexistence between states with different social systems"

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was in last place, coupled with "giving a resolute rebuff to the aggressive forces of imperialism" and "safeguarding mankind from another world war."

(i) (U) By the Twenty-fourth Party Congress in March 1971, Brezhnev's report placed even greater emphasis on the first goal of Soviet foreign policy--to further develop the friendship and cooperation of the Socialist countries. The second goal was to increase political and economic cooperation with the developing countries liberated from colonial rule, and to support the struggle for national liberation, which meant in practical terms to lead the fight against imperialism. Said Brezhnev:(5/47)

> "Imperialism is being subjected to ever greater pressure by the forces which have sprung from the national liberation struggle, above all by the young independent and anti-imperialist minded states of Asia and Africa... and this means, of course, a most heavy blow at the positions of capitalism, as a whole, as a world social system."

(j) (U) The increased emphasis on the developing countries was unmistakable; the Twenty-fourth Congress devoted twice as much time to this theme as the Twenty-third Congress; fourteen countries were mentioned by name, as compared with six in 1966. Peaceful coexistence was referred to only twice in Brezhnev's report and in a minor key. Much more attention was devoted to the new prospects opening up in Europe as a result of "a substantial shift in our relations with the Federal Republic of Germany." Europe was stated to have been "one of the most important lines in our foreign policy activity all these years;" Brezhnev foresaw the treaties since concluded by the USSR and Poland with West Germany confirming the inviolability of borders and permitting (when ratified) "an improvement of the situation in Europe as a whole...(and) the convocation of an all-European conference" on collective security in Europe. Brezhnev also reaffirmed the policy of developing relations with the Left Socialist parties, and of cooperating with the Social Democrats, "without, of course, making any concessions in ideology and revolutionary principles."

(k) (U) These public statements at successive Party Congresses lay down the long-term goals that the current leadership wishes to emphasize. They are important indicators of the policies we currently see and expect to see in the future.

4. Political Organization (U).

a. (U) Responsibility for Soviet propaganda rests not with any government department but with the Communist party, which directs a huge Department of Propaganda and Agitation responsible for both foreign and domestic efforts.

b. (U) The decisionmaking procedure employed in the development of a propaganda campaign begins with a meeting of the Politburo, during which Soviet national objectives are articulated. This supreme policymaking

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organ of the party also outlines the general actions to be taken in support of the campaign. This guidance is then passed to the Secretariat, which has responsibility for monitoring the implementation of party decisions. The Secretariat, in turn, adds other, more detailed directives. Finally, these guidelines from the top two party organs go the Department Chairmen of the Central Committee for implementation.

c. (U) The heads of departments are the most important administrators in the country and act as the planning staff for legislation and administration. In the conduct of strategic operations, the following four departments are the most important:

- o International Information Department
- o International Department
- o Propaganda Department
- o Liaison with Communist and Workers Parties of Socialist Countries (see Figure 10-1)

These four departments are given the objectives of the Politburo through the Secretariat. Each department prepares a plan using the proper blend of fact, distortion, disinformation, omission, lies, and other actions (performed largely by the KGB) to accomplish this plan. The end result is the creation of an international psychological climate that helps the Politburo to achieve its national objectives.

d. (U) The International Information Department is responsible for conducting Soviet PSYOP in the traditional sense, primarily through the use of propaganda. It decides what aspects of Soviet policy to discuss openly; how to present them to various international publics; how to counter the free flow of information generated by the media of the West, both inside and outside the USSR; and how to encourage a favorable Western response to Soviet actions and policies.

e. (U) Until 1978 these duties were performed by the Propaganda Department. Three factors caused the Soviets to create the International Information Department at that time: the inability of foreign audiences to understand or relate to Marxist-Leninist terminology; the increasing influence and acceptance of the Western reporting style within the USSR itself; and the increasing attention being given to the shaping and molding of Western opinion by Soviet propagandists.

f. (U) The Soviets view public opinion as a major vulnerability of the West. The ability of public pressure in America in the 1970s to help remove a president from office and the army from Vietnam must surely have strengthened this perspective. As one Soviet spokesman has said: "American public pressure represents one of the decisive factors in diminishing and preventing international conflict." Thus the International Informa-

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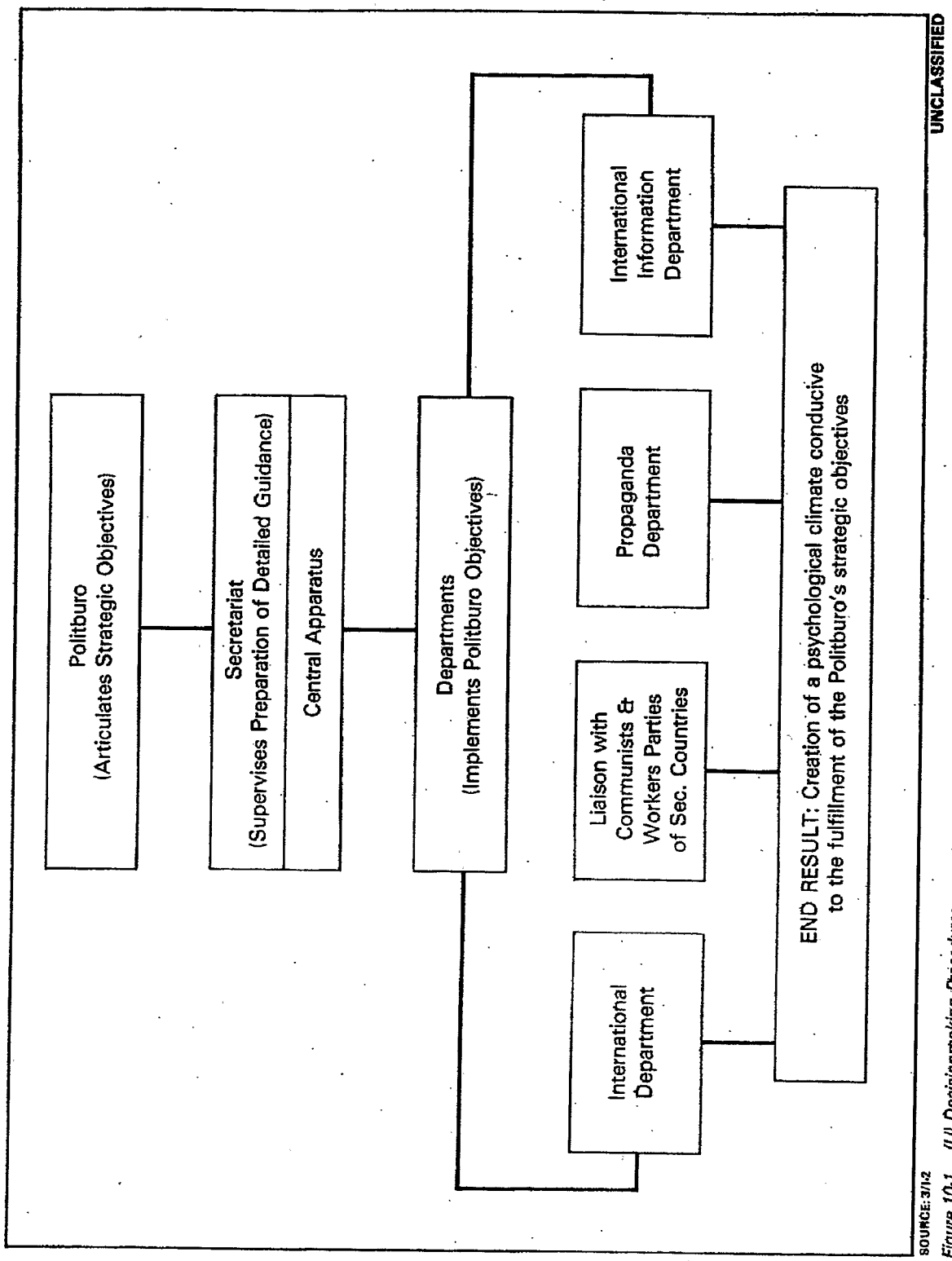

Figure 10-1. (U) Decisionmaking Procedures

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tion Department is the Soviet's attempt to form and control Western public opinion in line with its own goals.

g. (U) Another important Department that aids in creating a psychological climate to help sway decisionmakers and public opinion in the West is the International Department. Whereas the International Information Department relies upon reiteration of the party line to sway public opinion, the International Department uses a slightly different technique. Its role is to retransmit Soviet views and perspectives after having obliterated the Soviet trademark. Thus the International Department has a gray/black propaganda mission which it carries out by:

- o developing and exploiting national liberation movements.
- o supporting communist parties not in power in a country.
- o controlling Soviet front groups.

h. (U) Through these three means, the International Department tries to persuade Western public opinion that the nonaligned countries, international organizations (which supposedly retain the "most objective" view of world affairs) and certain elements within the West itself (i.e., the left) either support or are neutral to Soviet actions and statements. At the same time the International Department attempts to portray the action and statements of the West as an "external threat" to the rest of the world, accusing it of being racist, colonialist, imperialistic, and anti-Soviet. To assist in creating this perception, the International Department relies heavily on the assets of the KGB, in particular on the covert actions of disinformation, forgery, distortion, and even open agitation (see Figure 10-2).

i. (U) The Department of Liaison with Communist and Worker's Parties of Socialist Countries works closely with those countries within the Soviet sphere of influence. This coordination insures that the Soviet Party line is retransmitted through Moscow's allies in accordance with Soviet national objectives and introduces repetition or an "echo" effect into Soviet Campaigns. The Propaganda Department is responsible not only for the USSR's internal propaganda program but also for the dissemination of Soviet propaganda to other Socialist countries.

j. (U) These, then, are the functions of the various Soviet government agencies that produce and implement Soviet strategic PSYOP campaigns. It is a centralized and coordinated effort at every level with the sole purpose of furthering Soviet national objectives.

(1) Assets (U).

(U) To accomplish its strategic mission, the Soviet Union has developed a worldwide net of propaganda assets unmatched by that of any other

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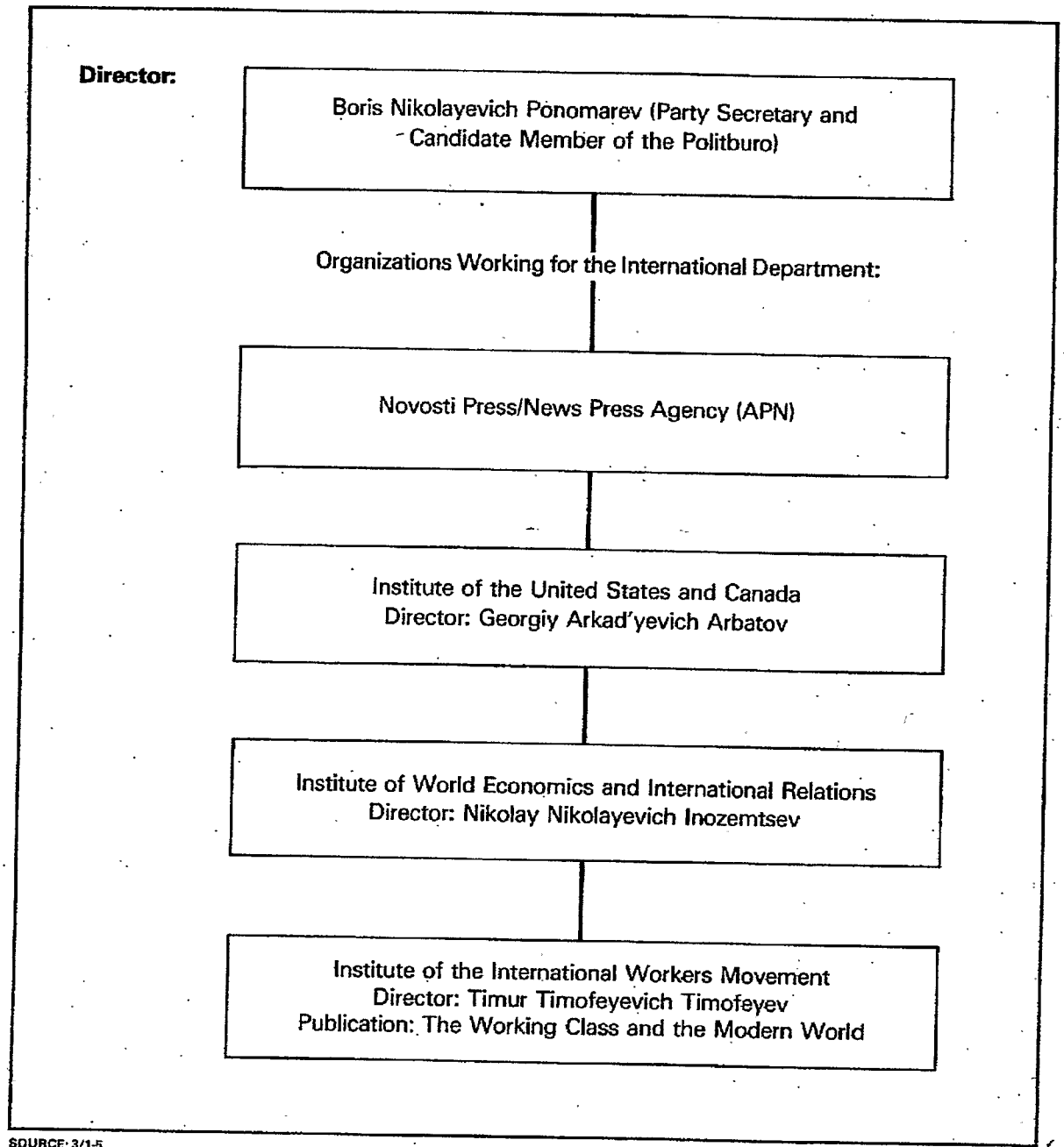

SOURCE: 3/1-5

~~CONFIDENTIAL/NOFORN~~ (u)

Figure 10-2. (U) International Department

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nation. It is in fact, difficult to grasp the vastness of the total Soviet propaganda effort and organization. It has been estimated that it involves some half a million people and an annual expenditure of about three billion dollars. This sum includes an estimated 200 million dollars spent for the support of national liberation fronts and another 200 million dollars for special campaigns. Assets involved in implementing these campaigns include: the KGB, shortwave broadcasting, television, news agencies, publications, communist parties in NATO countries, front organizations, friendship societies, other propaganda channels, and non-Soviet Warsaw Pact propaganda.

(2) The KGB (U).

(a) (U) The KGB provides a nonattributable adjunct to the vast overt Soviet propaganda network. It performs certain unique functions, such as the manufacture and distribution of forgeries and the operation of high-level agents of influence; but its propaganda activities represent only a small fraction of the overall effort of the Soviet union. Though the International Information Department of the Communist Party "is the directing center of the Soviet propaganda effort," it is the KGB that backstops overt Soviet propaganda efforts through covert activities such as forgeries, planned press articles, rumors and controlled media information.

(b) (U) KGB covert propaganda efforts are, at best, only semi-clandestine. Pro-Soviet or anti-American propaganda appearing in the foreign press is often so blatant that its Soviet origin is obvious, even though the source is not acknowledged. Much of this semi-clandestine effort is believed to be handled by nonintelligence personnel, rather than the KGB. KGB placements will normally be far more subtle, even occasionally containing mild criticism of the Soviet union to conceal their sponsorship. Another category of KGB-sponsored press placements is directed at the domestic Soviet audience and often involves quoting foreign press reports which support a given Soviet action (e.g., Afghanistan), subsequently reprinting them widely in the Soviet media.

(U) Intelligence reporting indicates that the KGB uses individuals who are adept at developing strong personal friendships with political and economic leaders in both capitalist and Third World countries. Such friendships result in an understanding that permits the non-Soviet leader to collaborate occasionally with the Soviets on matters of mutual interest. In return for these services, the KGB may offer various kinds of support to the individual when there is no conflict with Soviet interest. There are indications that some KGB "agents of influence" are senior executives of institutions that comment upon or publish material on domestic or foreign policy matters.

(c) (U) At times the KGB assists in the clandestine funding of certain political leaders or movements. This support, however, must be indirect since the KGB usually wishes to avoid direct contact with certain terrorist or national liberation movements, because exposure would have serious consequences for the Soviet image or Soviet foreign relations. In

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such cases the Soviets operate through "cut-outs," such as non-Soviet revolutionary support organizations; leftist branches of certain international religious, social, or philanthropic organizations; or local communist parties.

(d) (U) Forgeries, apparently of Soviet origin, have been appearing with increasing frequency in recent years. Most of the recent are believed to have been produced by the KGB or one or more the East European intelligence services under Soviet control. The bulk of these forgeries have been alleged copies of official US government documents that contain derogatory references to friendly governments. One of the most skillful of these is a US Army Field Manual (FM 30-31B, Stability Operations-Intelligence) that has been repeatedly used for propaganda purposes. Bearing the signature of retired General William Westmoreland, the manual purports to offer general guidance on how the Army might react to threats from leftist and communist forces in allied countries. The manual has so far surfaced in 20 countries, most recently in Portugal, where a Portuguese-language version was distributed to army officers by the Soviets. It was also used extensively during the Aldo Moro kidnapping in Italy. The manual was first cited in two Madrid newspapers and later in many other European journals as evidence of US involvement with the Italian Red Brigade, the terrorist group which ultimately claimed credit for killing Moro.

(e) (U) Other Soviet forgeries have been designed to create tensions between the US and its NATO allies. At least three such forgeries represented the US as highly critical of Greece during the period when the US government was urging the Greeks to resume an active role in NATO. One of the forgeries was a fabricated speech by President Carter in which he allegedly made demeaning remarks about Greece. It was widely distributed as an official text on USIS (now ICA) stationery and published by at least two Athens newspapers before it was discovered to be fraudulent. Another case involved a Defense Department message purportedly expressing US sympathy for Turkey in its dispute over Cyprus. Finally, a collection of counterfeit State Department directives ordered US military personnel to spy on dozens of prominent Greek political figures.

(f) (U) Another influential organ in propaganda against the United States is the Institute for the Study of the USA and Canada, a part of the Soviet Academy, headed by Dr. Georgi Arbatov.

(g) (U) How is the apparatus organized within the United States? Ray Wannall, former chief of the FBI's Counter-Intelligence Service, is of the opinion that since the early 1950s Soviet propaganda against the US has been directed from outside the country. Certainly the Communist Party USA plays only a subsidiary role. Most propaganda direction comes from Ponomarev's International Department of the Central Committee, although often the KGB performs overlapping operations. In order to direct activities in the US, Soviet control officers travel in and out of the country. They do so under a variety of identities and pretexts. In this, the large international Communist front groups are useful. The largest of

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these is the World Peace Council. Other activities are transmitted through a myriad of other fronts, including the World Federation of Trade Unions (WFTU), the International Union of Students, the International Organization of Journalists, the Christian Peace Conference (which despite its name is a Communist front), the Women's International Democratic Federation, and the International Association of Democratic Lawyers. All of these groups maintain relations with contacts in the US and promote continuous intercourse through international conferences, periodicals, and other communications. The World Peace Council works through the US Peace Council headed by veteran American Communist Pauline Rosen. The American counterpart of the World Federation of Democratic Youth is the Young Workers Liberation League. Other links are less formal, and direct control has not been proven. The National Lawyers Guild has close ties to the International Association of Democratic Lawyers, while Women Strike for Peace in the US has a long-standing close association with the Women's International Democratic Federation. The WFTU maintains close relations with an American organization known as Trade Unionists for Action and Democracy.

(h) (U) In addition, within the US there has surfaced a large number of study centers, citizens' committees, and public affairs coalitions that maintain close relationships with these international Communist fronts. Only a few of these have been identified by congressional committees or the attorney general as Communist fronts, but all of them have one common characteristic: they consistently back causes that knowingly or unknowingly give aid or comfort to the Communists and have never advocated policies that are contrary to the Communist line. As a group they can be classified under one name, "The Far Left Lobby".(6/14-15)

5. Soviet Tactical PSYOP Threat (U).

a. ~~(S)~~(U) The separation of the Soviet tactical structure from the strategic represents an arbitrary division for the purposes of this chapter. The tactical PSYOP capability of the Soviet armed forces is in reality an extension of the strategic PSYOP apparatus. This is underscored by the fact that the Main Political Administration of the Soviet Army and Navy (MPA), which has responsibility for tactical PSYOP, enjoys the unique status of being a section of the Central Committee of the Communist Party (see Figure 10-3), the same decisionmakers that formulate strategic policy.

b. ~~(S)~~(U) From primitive beginnings at the outset of WWII, the MPA has evolved into a larger and considerably more sophisticated organization. The command emphasis accorded the MPA is reaffirmed by Moscow's willingness to expend substantial resources to continuously upgrade the Soviet tactical PSYOP capability. This has resulted in the Soviet possession of a demonstrably superior tactical delivery capability than that currently enjoyed by the US Army.

c. (U) The MPA is currently organized as shown in Figure 10-4. This current MPA organization reveals that there is a Propaganda Section by name. But, from a historical perspective, this should come as no surprise. Dr. Louis Nemser, the chief Justice Department Soviet propaganda analyst during

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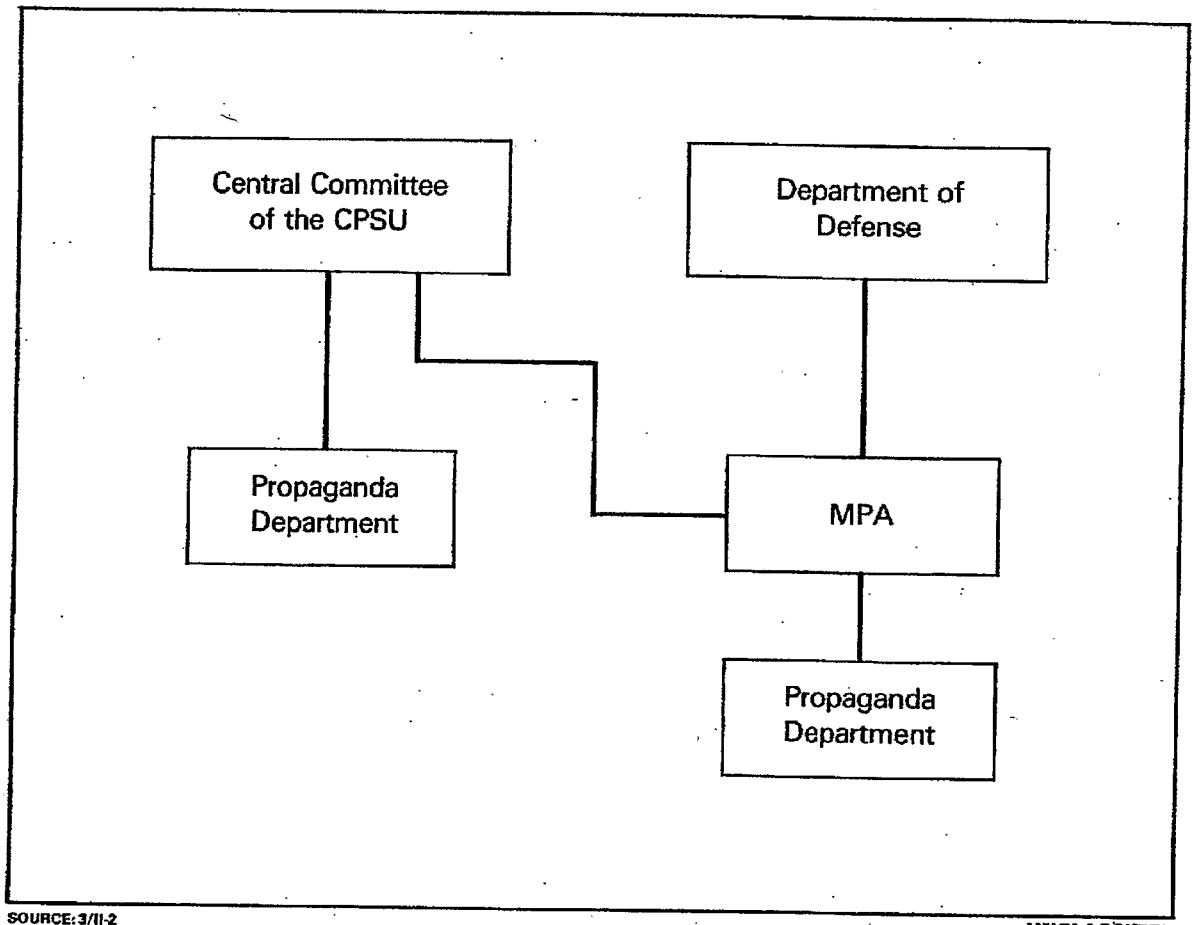

SOURCE: 3/II-2

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Figure 10-3. (U) Soviet Organization for PSYOP

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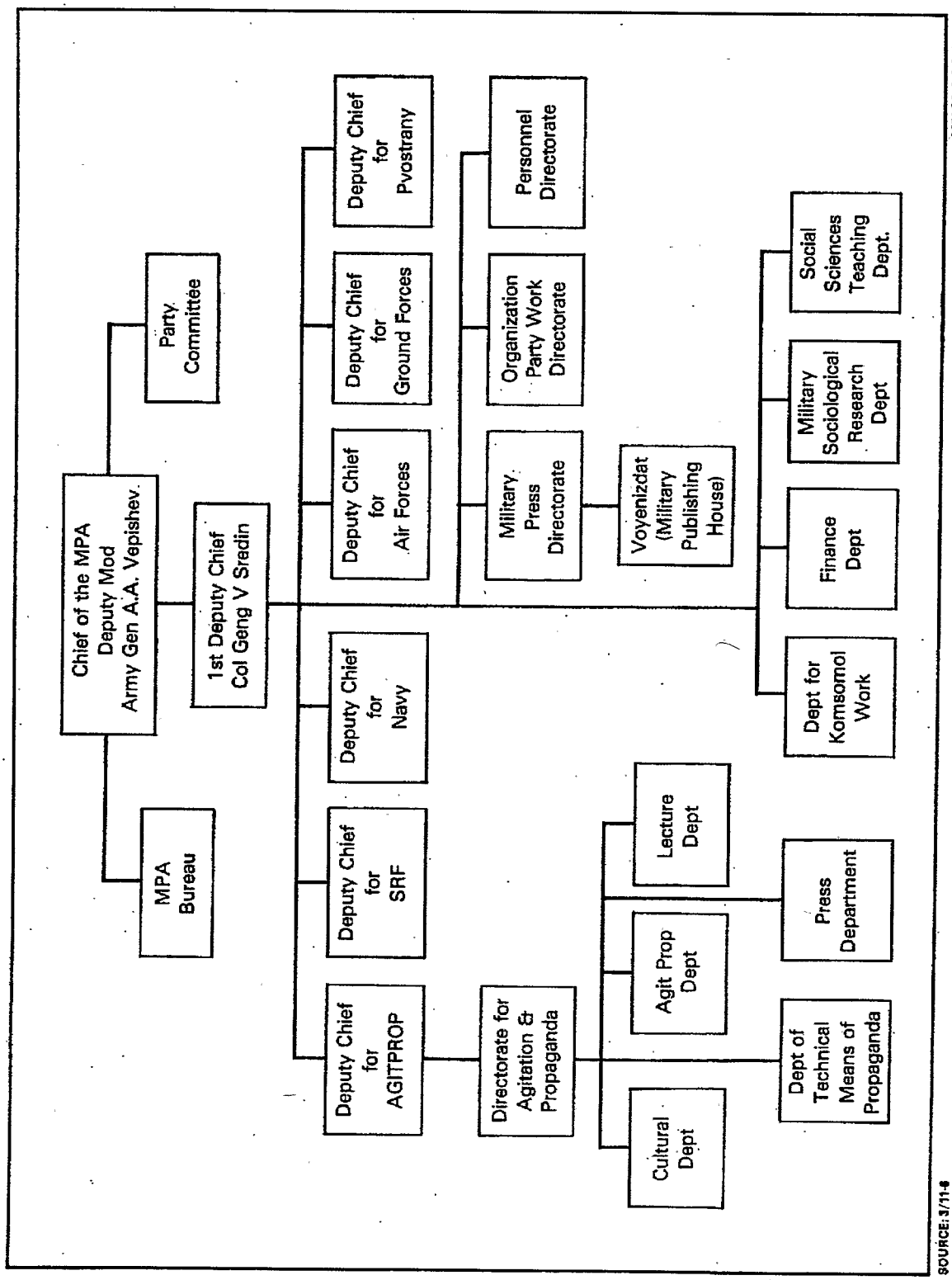

SOURCE: 5/11-8

Figure 10-4. (U) Main Political Administration of the Soviet Army and Navy

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WWII, wrote in 1953 that "descriptions of the political apparatus of the Soviet Armed Forces in peacetime make no mention of any units concerned with planning or executing such operations (enemy propaganda)." And, he further stated, "the political section of the Soviet Army during WWII did not at first have a PSYOP unit." A unit was developed only after hostilities had actually commenced.

d. ~~(S/NOFORN)~~ (u) Today the MPA is still the agency responsible for the control and execution of enemy-directed PSYOP. It influences all Soviet military media resources and has its own apparatus coinciding with unit commanders from service level to at least regimental level. It performs functions of political control daily and is thus easily converted, by experience, to PSYOP tasks."

(b) (1) & (b) (3) per CIA

g. ~~(S)~~ (u) In summation, the MPA is still the controlling PSYOP agency, as it was in World War II, with most plans being made at regimental or higher levels. The Soviets have introduced a new term, Special Propaganda, to disguise their enemy PSYOP effort, but that appears to be the only major change. Per Lenin's desire, the Central Committee (CC) of the CPSU still has the final word.

6. Operational Factors and Patterns (U).

a. (U) Propaganda and political operations in a Soviet military campaign would presumably begin when the basic plans for war propaganda, written in the Kremlin, are received by the MPA. These plans would probably be supplemented and spelled out for the military audience by the MPA's own plans and by the numerous directives it regularly sends to the headquarters of military districts (or fronts), armies, divisions, and regiments.

Pages

10-22 through 10-27

Missing

- o pointing out its disastrous effects upon the working class.
- o demonstrating the indestructible force of the states of the socialist alliance.
- o calling for evasion of military service, for surrender to friendly forces, and for refusal to employ nuclear weapons.
- o given particularly favorable conditions, agitation to encourage active antiwar acts.
- o lowering the psychological state of the forces prior to the utilization of weapons of mass destruction, and spreading panic, disorganization, and demoralization of hostile forces, as well as the enemy populace.

It is apparent that every appeal listed here, except those intended to exploit the fear of nuclear weapons, appeared in World War II campaigns directed at German military target audiences.

(d) (U) It is also certain that the Soviets will attempt to capitalize on the issue of race in the US Army. The most likely theme will be: the disproportionate number of blacks in the Army compared with the percentage of blacks in the US. The obstacle posed by race to promotion, the alleged stricter disciplinary measures taken against blacks and chicanos for infractions of the Uniform Code of Military Justice (UCMJ), and the relatively small number of black officers in the Army.

(e) (U) The Soviets will also most certainly use themes derived from the environment peculiar to NATO. One of the most salient features of this environment is the physical isolation of US forces committed to NATO. Soldiers in Europe find themselves on the front lines, 3,000 miles from home, with not only their own safety to worry about, but also that of their dependents. To the right or left there may be a friendly NATO unit, but one that speaks an entirely different language, making coordination difficult and encouraging misunderstanding. Essential supplies such as ammunition, spare parts, and food lie far to the rear. And all around the US troops lurk Soviet-backed front or antimilitary organizations.

(f) (U) These environmental peculiarities will enable the Warsaw pact forces to exploit the loneliness of the US soldier; the logistical dependence of US troops on long supply lines (open to guerrilla attacks); the economic plight, especially for lower-ranking soldiers and their dependents, as a result of the devalued dollar; the language barrier limiting not only the civilian-military interface but also the interface between different NATO armies; and the fate of US dependents, who will be

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left to the mercy of the system once their husbands or wives leave home to go on military alert.

(2) Development of Themes (U).

(a) (U) MPA Research Institutes study and analyze the psychological vulnerabilities of NATO forces and the populaces of Western countries. They collect information on NATO armies, monitor the growth of NATO countries, analyze weaknesses of NATO soldiers, and submit their reports to both the Ministry of Defense and the Central Committee (CC) of the CPSU. Propaganda units develop themes in support of potential unit missions, based on the reports of the MPA Research Institutes.

(b) ~~(C)~~

(b) (1) & (b) (3) per CIA

(3) Wartime Mobilization (U).

~~(C)~~(U) In the event of war, the MPA would immediately take over the national civilian mass media, such as the press, TV, and radio broadcasting stations. This would be done to gain central control of the domestic information service and to quickly establish war propaganda machinery that could be used to support Soviet troops and the civilian sector to reinforce the fighting morale. At the same time these facilities would be used to control propaganda against the enemy and to counter propaganda aimed at Soviet troops in rear areas. Propaganda activities of the civilian mass media would actually be supervised by army or front headquarters, chiefly by political deputies and their staffs. A further point to consider is that the chief editors and their deputies in the civilian mass media would automatically become political and propaganda officers in case of mobilization or war. An example of the totality of the change that will occur in the event of hostilities is that editors running regional newspapers in peacetime will be in charge of military district newspapers in wartime (in accordance with the outlines of the MPA).

(4) Printing Capabilities (U).

(a) ~~(S/NOFORN)~~(U) Little is known about the printing presses of the Soviet Army. Their existence has not been verified below division level, even though "wall newspapers" are published as low as company level. Each front, however, reportedly has a mobile print shop capable of printing up to 500,000 leaflets per day. Similarly, the combined arms (tank) army and the army corps both have mobile printing facilities capable of producing 35,000

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to 40,000 leaflets per day. Available evidence indicates that motorized infantry, tank, and airborne divisions will print their leaflets in division newspaper print shops. One exception to the "not below division" rule has been found-the East German 2nd Propaganda Brigade. This brigade is directly subordinate to the Ministry of Defense.

(b) (U) Even though printing presses have not been identified below division level, there is the capability even at platoon level to produce wall newspapers and combat leaflets. Wall newspapers are unit newspapers (usually produced at company level) that are produced not less than once a month and usually once a week. They are directed at Soviet soldiers and discuss combat training, experiences of soldiers on exercises, and often contain items dealing with problems concerning the observance of regulations or other matters. A combat leaflet is a variety of wall newspaper, usually produced at platoon level. A very operationally oriented product, it is frequently used during tactical exercises, guard duty, firing practice or training flights to single out those who have distinguished themseleves, to stimulate soldiers to cope with the hardships of their mission and to emphasize the value of experience. The combat leaflet is also called a lightning leaflet, because of the rapidity with which it can be produced. These leaflets are developed by soldiers and NCO's and are sometimes illustrated with drawings or caricatures.

(c) (U) The fact that no printing presses have yet been identified below division level in the Soviet ground forces argues that the Soviets are using jelly rolls, small printing kits, or even xerox machines to produce these wall newspapers and lightning leaflets at regimental, company and platoon levels. Obviously, this printing capability could also be used against enemy troops and cannot be dismissed in any assessment of the Soviet threat. For example, in WWII, in one month of fighting on the Karelian Peninsula, 3,000 such leaflets appeared (see Figure 10-6 for comparison of US vs. Soviet capabilities).

(PRINTING PRESSES)

	US	SOVIET
LOCATION	CORPS AND ABOVE	DIVISION AND ABOVE
VEHICLES	2 1/2 (LIGHT) TRAILER (HEAVY)	GAZ-51/RAILROAD CARS/MAZ MODEL
PRINTS/HOUR	LIGHT PRESS 6,000/HR HEAVY PRESS 25-30,000/HR	42,000/HR AT DIVISION LEVEL 500,000/24 HRS AT ARMY LEVEL
COLOR CAPABILITY	YES	YES
MOBILITY	YES	YES

Source: 3/11-30

~~CONFIDENTIAL~~ (u)

Figure 10-6. (U) Soviet vs. US PSYOP Equipment

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(d) ~~(S/NOFORN)~~ (u) The Soviets use several means to distribute the leaflets manufactured by their printing units. The most frequently used tactical methods include artillery tubes; helicopters, rocket vehicles and tactical aircraft; propaganda packets distributed by parachute; and propaganda balloons (see Figure 10-7 for comparison of Soviet vs. US delivery means in Europe).

	US	SOVIET
ARTILLERY	N/A	YES
BALLOONS	N/A	YES
MULTIPLE ROCKET LAUNCHER	N/A	YES
AIRCRAFT	YES	YES
HELICOPTERS	YES	YES

Note: Soviets have "Prepacks" of leaflets. The US does not.

Source: 3/11-31

~~CONFIDENTIAL~~ (u)

Figure 10-7. Leaflet Dissemination Means in Europe

(5) Loudspeakers (U).

(a) ~~(S/NOFORN)~~ (u) The Soviets possess loudspeakers that are far superior to US models, particularly in range. They are located at both army and division levels. At army level, loudspeakers are mounted on helicopters, tracked vehicles, and jeeps. At division level they are mounted on tracked vehicles and jeeps only.

(b) ~~(C)~~ (u) Up until 1970, the primary loudspeaker at division level was the OZS-62, with an effective range of 800 meters. Presently, divisions are equipped with loudspeakers (nomenclature unknown) that are audible up to 5 or 6 kilometers. They are mounted on BRDM-2s, the GAZ-69, P-3 jeeps, and BTR-60Ps. Some reports estimate the range of Soviet loudspeakers to be up to 15 kilometers. The East Germans have encountered problems in mounting a loudspeaker that is 100 cm high and 80 cm wide on the P-3 jeep. Specifically, when raised to a vertical position, the loudspeaker makes the jeep top heavy and there have been incidents of this type of jeep turning over. It is not known if the Soviets have experienced similar problems.

(c) ~~(C)~~ (u) Foreign Science and Technology Center (FSTC) has been able to identify another type of Soviet loudspeaker, the GU-65. The loudspeaker has a 50-ohm resistance and is used at the end of a telephone line. The radio that has been used with this loudspeaker is the 105-D. No other information is available on this loudspeaker. See Figure 10-8 for comparison of US vs. Soviet loudspeaker capabilities).

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(LOUDSPEAKERS)

	US	SOVIET
RANGE	1 KM	4-15 KM
PROTECTION	N/A	ARMOR/CBR
VEHICLE(S)	JEEP/HELICOPTER	BTR-60P/BRDM-2 JEEP (GAZ-69)/ HELICOPTER
BACKPACK CAPABILITY	YES	YES

Source: 3/11-33

~~CONFIDENTIAL~~ (u)

Figure 10-8. (U) Soviet vs. US PSYOP Equipment

(6) Radios (U).

~~(S/NOFORN)~~(u) A mobile radio transmitter for the dissemination of news and propaganda is organic to each Soviet front. Additionally, both the combined arms (tank) army and the army corps are known to have agitation sections which are equipped with both large and small radio broadcast sections and facilities. Finally, although this is presently unconfirmed, there may be small radio broadcast facilities within selected divisional units. No detailed information is available concerning power, range or frequency of any of these facilities.

(7) Examples of Operations Today (U).

(a) ~~(C)~~ b1

b1

(b) ~~(C)~~(u) The unit maintained a file on NATO units and important personalities, intended as background material for the broadcast of propaganda themes, and continuously maintained and updated this files (even photos of NATO unit commanders were included). Every day a member of this unit was assigned to scan foreign newspapers for information of a military, political, and socioeconomic nature. Articles appearing to be of value were translated or summarized. Foreign TV and radio programs were also monitored. A Sony video tape recorder and several standard tape

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recorders were used to record selected programs. Three target areas were marked on a map in their situation room: the location of NATO units, NATO training areas, and the location of areas in the Federal Republic of Germany (FRG) with a "heavy concentration" of resettlers. All translated and summarized material was sent to the section chief, who decided if the material should be filed as potentially useful.

(c) ~~(S/NOFORN)~~ b1

b1

(d) ~~(S/NOFORN)~~ (u) These propaganda messages were of three types. One purported to be from the soldier's parents, citing financial troubles arising from their son's absence and describing the benefits of desertion. These messages asserted that the children of rich parents were at home making even more money while the children of poor parents were dying at the front or, at best, faced returning to unemployment at home.

(e) ~~(S/NOFORN)~~ (u) A second type of message was aimed at the parents and dependents of the soldier. Purporting to be from the soldier himself, the message described a wretched life filled with mud, hunger, and lice at the front. Personal details were added to make the message seem authentic.

(f) ~~(S/NOFORN)~~ (u) The third type of message was prepared to be broadcast or distributed in pamphlets at the front, calling on US troops to surrender. The script or text stated that the US had violated international treaties by occupying Soviet territory and that, since they were surrounded, those surrendering would be treated in accord with the Geneva Convention and would soon be returned home (American songs from old, battered records were also used). From these examples, it is apparent that the Soviets are becoming more and more specific in their selection of target audiences and message content.

(g) ~~(C)~~ b1

b1

(8) Use of Rumors and the Science of Psychology (U).

(a) ~~(S)~~ (u) The Soviets are prepared to employ two additional

operational techniques, both of which add another dimension to their threat. The first is the use of rumors and troop information. US interrogators of Soviet POWs in wartime must be made aware that Soviet troops are often deliberately misinformed about an upcoming mission. Thus, by misinforming their own troops, the Soviets hope to deceive US interrogators who piece together stories from several unsuspecting Soviet soldiers.

(b) ~~(S)~~(U) The second operational technique which warrants careful attention is recent developments in Soviet psychology. The Soviets are conducting highly scientific and sophisticated research in the behavioral sciences and have been doing so for the past 10 to 15 years. A great deal of effort is also being expended to build upon and apply Western discoveries and expertise in telepathic communication and psychokinesis.

~~(S)~~(U) According to an excellent DIA report on Soviet psychology by Major Valentine W. Rirman, Jr., and LTC Eugene H. Galluscio, the most significant goals of Soviet research in the behavioral sciences in the military sphere are to: (1) improve their man-machine interfaces; (2) find more effective ways to mold, influence, and control the vast military forces politically at their disposal; and (3) most importantly, find quick and easy ways to demoralize, influence, or debilitate the enemy. If the Soviets can scientifically find ways to achieve this latter goal, then the current PSYOP measures (leaflet, loudspeaker, and radio) will not become obsolete but will fall in importance alongside scientific measures that will yield nearly 100 percent success. An effort is underway to chemically or psychophysically control behavior in a nondebilitating and nondetectable manner as well.

(d) ~~(S)~~(U) The Soviets are also evaluating forms of physical stimulation (such as visible light intensities and frequencies and ionizing and nonionizing electromagnetic (EMR) fields) that may have deleterious effects on behavior (such as changes in cognitive functioning, psychomotor activity, seizure activity, or chromosonal abnormalities). Electromagnetic fields, not detectable without special equipment, can be focused and directed over moderately long distances (100-500 meters) and can be produced with portable equipment. This could lead to the development of an offensive weapon, the effects of which are easily confused with those of a NBC attack and against which the individual soldier will have no defense.

(9) The Organizational Structure of a Division (U).

(a) (U) The typical Organizational Structure of a Division is as shown below:

~~Political and Propaganda Department of a Division~~

OIC:	Colonel
1st Deputy:	Lieutenant Colonel
Propaganda Officer:	Major
Party Affairs:	Major
Cultural Affairs:	Captain

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Special Propaganda:	Lieutenant
Komsomol Affairs:	Lieutenant
Komsomol Assistant:	1 soldier
Drivers:	4 soldiers
Agitation:	Unknown
Equipment:	Same as for an army HQs except that no loudspeakers for helicopters exist at division level.

(U) The Propaganda Department at the Military District level is subordinate to the Political Department but is considered independent. At army and division HQs, the Propaganda Department reportedly does not have the authority to act independently of the Political Department.

~~(S)~~(U) In wartime, Soviet Political and Propaganda Departments would generally include the following functional subsections:

- o group for organization and instruction.
- o group for propaganda and agitation.
- o group for enemy propaganda (military and civilian).
- o group for personnel.
- o group for Komsomol work.
- o group for morale.

~~(C)~~(U) These sections would also include specialists from local reserve units (who are identified in activation/contingency plans). Most PSYOP vehicles and equipment require 48 hours for mobilization. The examples that follow illustrate two types of Warsaw Pact Propaganda Units.

(10) Polish Army Organization (U).

(a) ~~(C)~~(U) For the conduct of PSYOP at division level in the Polish Army, the Propaganda Unit, a subsection of the Political Section, typically consists of two officers, a warrant officer and two NCOs in peacetime. Personnel and technical support is obtained from the Political Section, if needed.

~~(C)~~(U) In the event of war, the Propaganda Unit is expanded into a company size unit. Mobilization, as with the Soviet Army, includes the callup of reservists and will take about 48 hours. The propaganda company is divided in the following way in wartime: (1) technical support section, consisting of a photography shop and print shop (plus draftsman); (2) a linguistic support section, composed of 20-25 linguists (who translate documents, interrogate POWs and prepare leaflets and loudspeaker missions); (3) an analysis section, which analyzes the work of the linguistic section and prepare themes from their analysis; (4) an audio-visual section, which shows films to friendly troops and POWs; (5) a loudspeaker section, consisting of several different types of loudspeakers; (6) a leaflet section, consisting of armored vehicles with launching devices for propaganda rockets;

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and, finally, (7) a broadcasting section, which has organic "low power" mobile transmitters. Figure 10-9 shows the organization of the divisional propaganda unit of the Polish 12th MRD.

(11) East German Army Organization (U).

~~(C)~~ (U) The East German Army organization for Psychological Warfare (PSYWAR) differs significantly from the organization in the rest of the Warsaw Pact. Its capabilities are concentrated in the 2d Propaganda Brigade located in Strausberg. This unit consists of a signal company (one officer, eight NCOs, 24 EM), a loudspeaker company (two officers, 24 NCOs, 25 EM) and a printing company (two officers, 12 NCOs and 18 EM divided into six platoons). The printing company also has a propaganda poster section (one NCO, 4 EM) attached. The peacetime strength of this brigade is about 250 men (including HQ and supply personnel) with a wartime strength of 600 to 800 personnel. The organizational chart of the 2d Propaganda Brigade appears in Figure 10-10.

(12) East German Loudspeaker, Printing, Leaflet and Radio Equipment Transporters (U).

(a) ~~(C)~~ (U) The East Germans have centralized their PSYOP/PSYWAR resources in a propaganda brigade located at Strausberg as discussed in the foregoing section. The equipment breakdown of this brigade is listed below.

(b) ~~(C)~~ (U) Loudspeaker Company: The East Germany loudspeaker company is composed of one GAZ-69 command vehicle, 10 P-3 jeeps with a loudspeaker bank of 30 loudspeakers (3 rows of 10 speakers mounted on the rear and facing to the rear of the jeep); one BTR-60P with a loudspeaker bank; and 10 LO-1800 propaganda van vehicles with a loudspeaker bank (six speakers in two rows of three mounted behind the drivers cabin).

(c) ~~(C)~~ (U) Printing Company: The printing company is composed of one GAZ-69 command vehicle, six Tatra-138-NT prime movers housing a printing plant and one ASD-20 generator. The Tatra-mounted plant includes automatic typesetters with paper tape programing, offset printing presses and electrostatic copying equipment. Also included in the printing company is a visual propaganda poster section which is equipped with one W-50 box body vehicle.

(d) (U) Propaganda Van: The East Germans also have a new propaganda van, the RKE-75 that is used to spread propaganda and agitation material to friendly troops. It undoubtedly can be transformed to accommodate enemy PSYOP in wartime conditions.

9. Future Trends and Projections (U).

(U) Continuity has been a basic feature of Soviet foreign policy in the post-Stalin years. There is no indication that a major change is likely under the present party leadership. The basic features and techniques that

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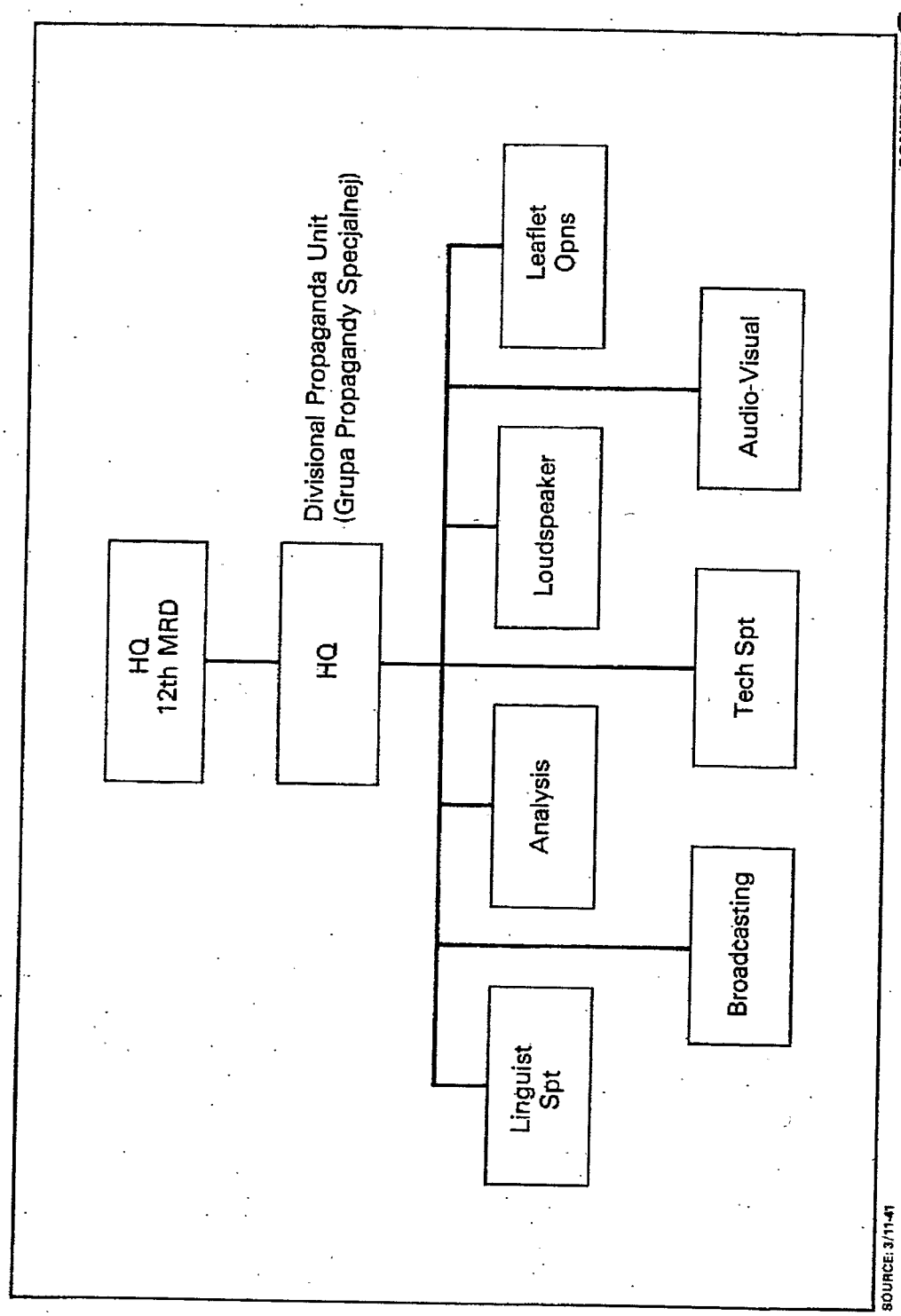

Figure 10-9 (U) Projected Wartime Organization of the Propaganda Unit of the 12th Motorized Rifle Division in Szczecin (5325N-1435E)

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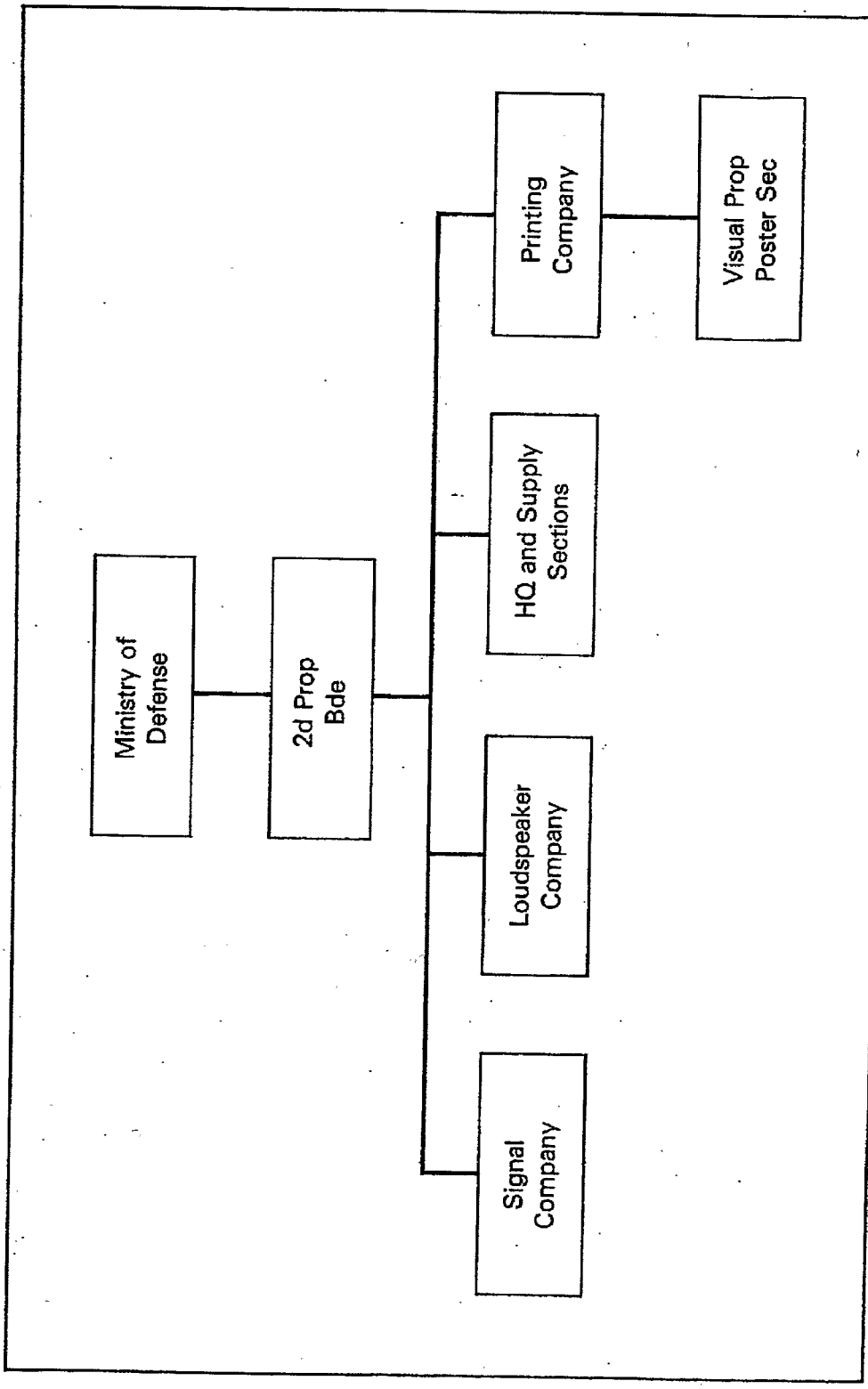

Figure 10-10. (U) Organizational Chart, 2d Propaganda Brigade, Strausberg (5235N-1353E) (VU2426)

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have characterized Soviet foreign propaganda in the past are likely to remain the same in the future, but refinements along the following lines are possible:

- o Trends toward greater technical sophistication will continue.
- o Strategic use of propaganda probably will not diminish.
- o Tactical shifts of Communist ideology will become more pronounced as US-Soviet relations ebb and flow.
- o Willingness to work with non-Communist political parties will increase.
- o International fronts will increasingly be supplemented by ad hoc and local fronts, including religious, environmentalist, and other single issue groups.
- o Increased focus on activities of multinational and transnational corporations to exploit the real or imagined economic grievances of the Third World.
- o A larger role for proxies and surrogates.
- o In the near term, Soviet propaganda will focus greater attention on disarmament, arms control, and "peace" themes.
- o In the far term, particularly the year 2000, given the Soviets steady expansion of their PSYOPS capabilities, their ability to fight on the battlefield provides a formidable threat to US and NATO allies.

10. Conclusions (U).

(U) Given the advanced age of the present membership of the Soviet Politburo, a change in the composition of that body is certain in the foreseeable future. It is not believed, however, that personnel changes will cause a major realignment in basic Soviet foreign policy objectives. The conservative nature of the Soviet system also suggests that the fundamental organizational outlines of the Soviet foreign policy apparatus (including its intelligence arm) will remain unaltered. Consequently, propaganda is likely to remain one of the major instruments of Soviet foreign policy implementation.

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~~(c)~~ (U) The totality of the Soviet strategic and tactical PSYOP effort raises critical issues for American decisionmakers and military planners. In an era marked by quantitative and qualitiative upgrading of Soviet PSYOP capabilities, US efforts to counteract Soviet gains in this field remain piecemeal and ad hoc at best. The Soviet strategic PSYOP capability has now reached a point where it can justify Soviet military intervention in areas like Czechoslovakia and Afghanistan; block the deployment of US weapons such as the reduced blast/enhanced-radiation warhead; respond to PSYOP targets of opportunity on a global basis such as those in Iran and El Salvador; and create a negative environment for US activities while they are still in the planning stages, i.e., the Rapid Deployment Force. The tactical dimensions of the Soviet PSYOP threat are of no less importance to the US field commander. The quality of Soviet tactical PSYOP equipment is markedly superior to the equipment used by US PSYOP units. In addition to extensive stockpiles of prepared leaflets, the Soviets also possess a greater flexibility to distribute the leaflets than do US forces in Europe.

~~(c)~~ (U) We should not attribute more to Soviet propaganda than it really does accomplish, but we should recognize that the Soviet Union does make effective use of what in actuality is a relatively low-cost and low-casualty weapon system. The noncommunist world as yet has no comparably effective countermeasure.

11. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

a. (U) By the nature of its regime and its Marxist-Leninist philosophical basis, the Soviet Union indulges continually in aggressive political action and propaganda against Western Capitalist countries. The machinery for this kind of activity has existed almost since the inception of the Soviet regime. The Soviet government has tried and will continue to try to generate hostility against, and to undermine from within, the governments of NATO. Within the Marxist view this is not only desirable, it is an imperative. Thus the Soviets are highly practiced in the art of disruptive propaganda and they are alert, aggressive, and long experienced in its application.

b. (U) Future Soviet efforts are likely to become more sophisticated and more insidious in the effort to mold opinion and reduce opposition to Soviet objectives during peacetime and prior to a conflict. Since the initiative in any conflict almost certainly would be with the Soviets, they can be expected to conduct propaganda campaigns to undermine morale and the will to resist in NATO's armed forces and civil population. They can be expected to exploit to the maximum Communist and Communist Front organizations in the free world to induce changes in popular opinion, reduce morale, create confusion and fear in general to carry out activities that support Soviet military objectives. The advantage of the initiative will be as important in the field of political organization and propaganda as it is in military operations.

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CHAPTER 11

POLITICAL CONTINUITY IN WAR (U)

HIGHLIGHTS

1. Unifying Effect on Government and Population (U).

(S/~~NOFORN~~/WNINTEL) Soviet plans for leadership protection in wartime emphasize functional continuity of command and management. Soviet wartime plans, designed to control the general war effort, focus attention on the strategic direction of the armed forces and on the management of the State apparatus and national economy which support military requirements. The Soviets have developed an extensive network of hardened command posts and relocation complexes for armed forces command entities and for civilian management entities at national, republic, and oblast levels. The military sites are generally single-purpose, dedicated, and permanently staffed, possessing distinctive control bunkers and, in most cases, buried antennas. On the other hand, civilian entities--such as economic ministries--use dual-purpose facilities, which in peacetime provide recreational, health, or other services but are modified to serve as relocation/C^3 complexes in wartime. b1 Military utilization of such facilities has the potential for expanding and dispersing the number of available command posts. They also provide the surface accommodation and support facilities needed in a poststrike environment, particularly during protracted nuclear conflict. This practice can also conceal the actual wartime functions of dual-purpose sites.

(U) The reinforced security posture in wartime will minimize opportunities for organized opposition or eventual subversion. The expected threat from the capitalist enemies will also revive the patriotic spirit and will motivate the entire population into fighting to defend Mother Russia.(6/vii)

2. Line of Political Succession (U).

(U) One of the problems inherent in Soviet political succession is the lack of a permanently established hierarchy in the highest organizations and offices of leadership. The General Secretary's powers are neither fixed by statute nor fixed by precedent and no reliable means for orderly transfer of powers has been specified. However, the dominance of the Communist Party of the Soviet Union (CPSU) should be sufficient to insure continued leadership. The concept of developed socialism has a great impact on the modernization and nationalization of the party's leadership style. As long as the CPSU is solid and ruthless, maintaining its hold on the nomination of all government officials (nomenklatura), dissidence will not represent a threat to the Soviet State. The dual line of control represented by the Government hierarchy and the Party apparatus will also guarantee the internal security of the system. Under wartime emergency conditions, with maximum security measures taking effect, the succession problems will be

smoothed out, the overriding consideration being the security of the nation. The mass of the Russian population will be ready again to accept any sacrifices to safeguard the integrity of Mother Russia.

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CHAPTER 11

POLITICAL CONTINUITY IN WAR (U)

SECTION I. UNIFYING EFFECT ON GOVERNMENT AND POPULATION (U)

1. General (U).

a. (U) For centuries, the Czars dominated Russian political and economic activity with a centrally controlled bureaucracy and police force. The revolution of 1917 brought the elite of the Communist Party to power but the practice of bureaucratization and centralization remained. The Communist Party has set up elaborate control mechanisms in the form of the party apparat (bureaucracy) which monitors many aspects of Soviet society, including the military. Under this type of system, strict allegiance to the party line is and has been a prerequisite to success. Soviet management techniques involve highly centralized direction with overlapping monitoring and control mechanisms to ensure task completion. The Communist Party of the Soviet Union, developed as an organization to seize power, functions as an organization to hold power and is supported by an ideology that there is always "a scientifically correct" answer to all problems, which the Party can determine. The holistic view of command, control, and communications (C^3) which pervades the Soviet military is a logical outgrowth of the Party's desire to control everything.(10/9)

b. ~~(S)~~ (u)Current Soviet military organization reflects this concern with centralized control. During World War II, Stalin consolidated military control in his small personal staff (the Stavka), and sent emissaries out to field commands to ensure that their actions conformed to his direction. The Soviets may re-establish the Stavka in the event of a major war. In peacetime, the Soviet General Staff exerts tight control over both administration and operations. The Party tightly controls the military, but since top military figures also hold high Party positions the effect is that of an interlocking directorate. Soviet military management reflects a society in which decisions and policy are seldom challenged from below and in which individual initiative is encouraged only as a means of better carrying out the order of higher authorities. While initiative at lower levels in the system appears to be stifled, the unquestioned responses to authority provide an atmosphere in which high level leadership is able to make major changes in policy or doctrine with little resistance from the bureaucracy. This contributes to an undeniable unifying effect on both the government and the population.(10/10)

c. ~~(S)~~ (u)Soviet experiences in World War II and their preoccupation with the history of warfare influence considerably the way the Soviets think about command and control. In the early days of World War II, command decision failures contributed significantly to the loss of huge armies that still possessed the hardware to fight. Over a million men and their equipment were lost in the general breakdown of the command system. This experience has given the Soviets a clearer perception of the importance of

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disruption of command to the outcome of the battle and an understanding of the level of success inherent to the protection of the C^3 function.(10/10)

2. Concern for Military Command (U).

a. (U) The Soviet military has developed a much more rigorous approach to the study of military affairs than has the US. Military Science is a respected, "scientific" field in which academic degrees are awarded and the more talented recipients are considered scholars. The emphasis on logical ("dialectical") study of military science appears to have resulted in scholarly and broad analyses of war where the overall role of C^3 received considerable attention.

b. ~~(S)~~(U)To the Soviets, troop control is the entire command process and is considered as if it were "a major sector of military affairs." It includes information inputs and processing, staff structures and procedures, the decision process, leadership, readiness, the control of forces, and communications links. Further, technological advances in information processing and transfer have been cited by Soviet writers as part of a major revolution in military affairs. The adoption of automation and cybernetics to streamline troop control is a high priority task in the Soviet military and is a logical outgrowth of their mechanistic step by step approach to military affairs. The Soviets have attempted to use analytical techniques, including mathematical modeling, to assess the troop control function. The Soviets place great emphasis on studying and understanding the overall function of commanding and controlling forces in combat.(10/11)

3. Political Control of the Soviet Armed Forces (U).

a. (U) Political controls have been an integral part of the Soviet armed forces since their inception. Presently, the Main Political Directorate of the Soviet Army and Navy (MPD) accomplishes this function through a hierarchy of Communist Party organs. These bodies exercise political control down to the company level in the field. Although the placement of political officers in the military has been a source of friction between the military officer and his political counterpart (zampolit), a mutual dependence between the two seems to have alleviated this problem. The respective responsibilities of the two officials for the technical proficiency and political reliability of a unit are seen as mutually reinforcing. As a further incentive, the party has demonstrated consistently that it will not accept diminution of the political officer's role and that professional advancement for a military officer is dependent on recognition of this relationship.

b. ~~(S)~~ (U)CPSU indoctrination methods have come under increasing official criticism for failing to prevent the growth of disciplinary problems in the armed forces. The MPD seems unable to devise imaginative new ways to inculcate ideology and continues to fall back principally upon massive doses of Marxist-Leninist medicine. As a result, young soldiers are frequently anesthetized to ideological matters. Despite the question-

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able effectiveness of political indoctrination of the armed forces in peacetime, we believe that the average Soviet soldier will fight in the event of war. A combination of motives--patriotism, ideological conviction, and simple fear of punishment for failing to perform--is expected to make him willing to face combat for his country. The MPD will continue to exploit these motives.

c. ~~(S)~~(U) There has been a gradual decrease in the percentage of CPSU members in the armed forces. This is primarily attributed to a series of decrees passed during the 1960s and 1970s that effectively tightened party admission policies. The decline in military representation in the party, however, will probably have little actual effect on the military's influence or role in policymaking.(7/1)

d. (U) The Main Political Directorate of the Soviet Army and Navy (MPD) extends from the Defense Ministry in Moscow where the MPD functions with the "rights of a department of the Communist Party Central Committee" to the company level in the field. It provides the civilian political leadership with a tested means of explaining its policies to troops and of receiving political feedback from all command levels.

e. The MPD missions are as follows:

- Directing the activities of its subordinate political control organs as well as the party and Young Communist League (Komsomol) organizations in the armed forces.
- Verifying the performance of the political control organs and military party organizations to ensure that party, state, and defense ministry orders are carried out.
- Participating in the selection, assignment, and political evaluation of military and political officers.
- Supervising the content and ideological direction of the military press, including the central military newspapers, journals, and publishing houses.
- Supplying the troops with political, educational, and propaganda materials and equipment.
- Reviewing the needs, attitudes, and well-being of Defense Ministry personnel, including its civilian employees.

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- Recording and maintaining statistics on the numbers of Communist Party and Komsomol members in the armed forces (currently over 90 percent of the Soviet military).

f. ~~(S)~~(U) In wartime, the MPD, probably heavily reinforced from the ranks of the civilian party apparatus, would be expected to intensify its indoctrination and verification functions. In addition, MPD representatives would be charged with practicing "special propaganda" (psychological warfare) techniques in an effort to undermine the enemy's will to fight. Officers of the MPD simulate their combat role in Soviet exercises during peacetime.(7/3)

g. MPD Organization (U).

(1) (U) The headquarters of the MPD is organized into five directorates: the Directorate for Organizational-Party Work, the Directorate for Agitation and Propaganda, the Directorate for Mass Cultural Work, the Directorate for Personnel, and the Directorate for Military Press (see Figure 11-1). The directorate heads comprise the core of the MPD's decisionmaking buro (bureau), headed by MPD Chief Army General A. A. Yepishev. The buro also includes Yepishev's first deputy and deputy, the chiefs of the political directorates of the five forces (ground, strategic rocket, naval, air, and air defense) and the editor of the newspaper Krasnaya Zvezda (Red Star). An elected party commission, whose membership is approved by the Central Committee, considers appeals to decisions on party membership and disciplinary matters made by lower level party commissions.

(2) (U) At the next lower military echelon, political directorates operate in the headquarters of the military districts, fleets, and groups of forces abroad. In lower echelon headquarters and institutions such as military academies, the MPD is represented by a political department.

(3) (U) The Political officer at the regimental level has a small staff, while the deputy commander for political affairs (the zampolit) at the battalion and lower levels has no staff but receives ad hoc off-duty assistance from Komsomol party members.(7/6)

h. Relations With the Central Committee Apparatus (U).

(1) (U) According to the official Soviet description, the Main Political Directorate operates "with the rights of" a Central Committee department, serving the Secretariat of the CPSU and the Politburo. As head of this "department," Yepishev would operate as a party functionary coordinating the implementation of the top leadership's policy and government activity in his substantive area. Of the other Central Committee departments, the Administrative Organs Department (AOD) maintains the most visible link with the armed forces. This department supervises the nomenklatura of the armed forces. It serves as a focal point in the

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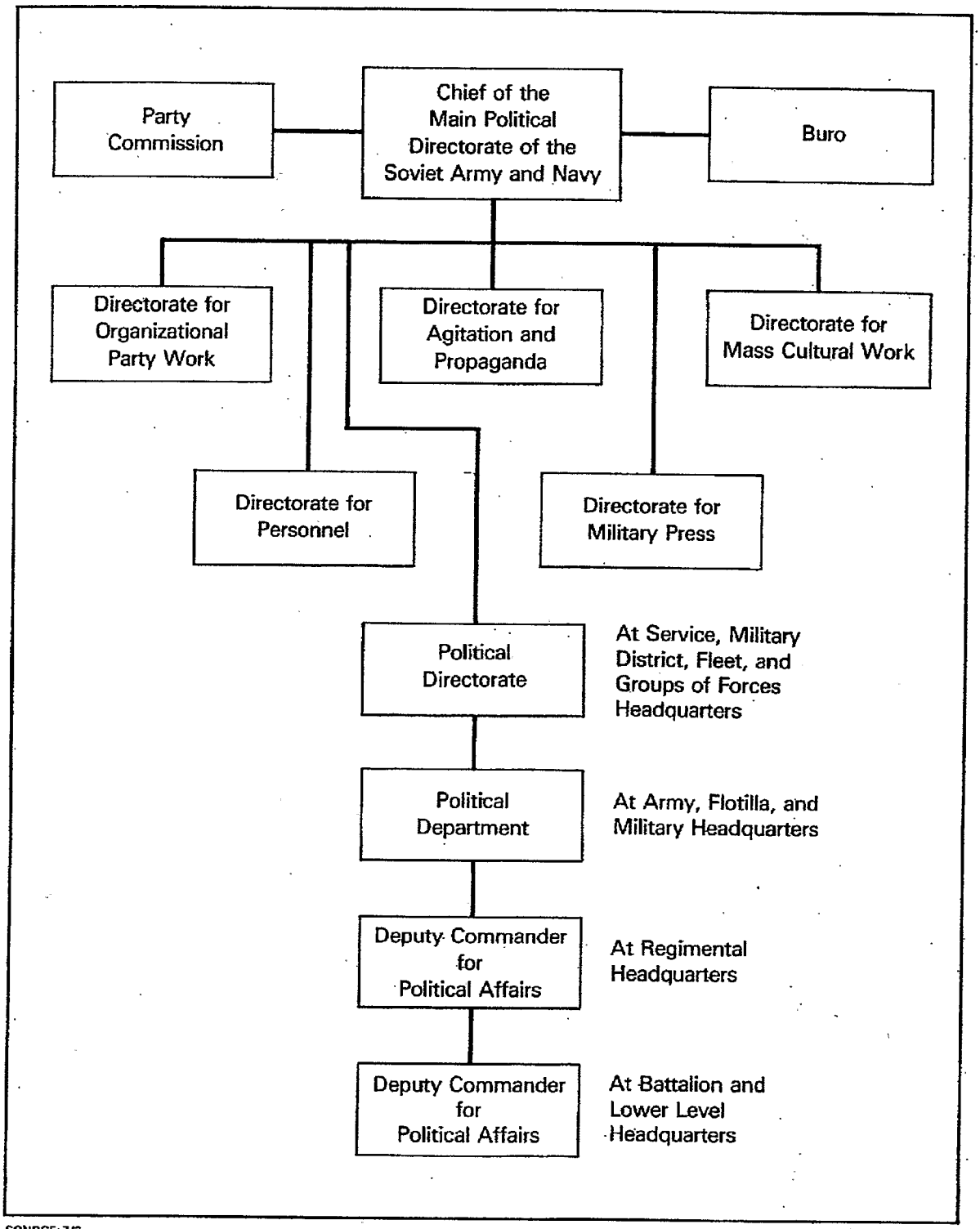

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Figure 11-1. (U) Organization of the Main Political Directorate of the Soviet Army and Navy (MPD)

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Central Committee apparatus for coordinating and administering party personnel policies for the armed forces with those of the Committee of State Security (KGB), the Ministry of Internal Affairs (MVD), and the paramilitary All-Union Voluntary Society for the Promotion of the Army, Aviation, and the Navy (DOSAAF). Bureaucratically, the relationship between the AOD and the MPD appears ostensibly equal, but Yepishev holds a higher military rank than MAJ GEN N. I. Savinkin, the head of the AOD. Yepishev also appears higher on protocol listings than does Savinkin. The pattern of alternating assignments between the staff of the AOD and senior positions with troop units would suggest that the AOD is subordinate to the MPD.

(2) ~~(C/NF)~~ b1

b1

i. Military-Political Relations at the Troop Level (U).

(1) (U) In the past, some Western analysts have concluded that the political officers compete with the professional soldier in the Soviet armed forces, demanding precious training time to conduct political indoctrination. The professional soldier felt that time spent on political indoctrination detracted from the development of military skills and, therefore, decreased combat effectiveness.

(2) (U) The present interaction of Soviet political and military institutions, however, suggests that interdependence is now accepted by both political and military officers. Current military leaders have been subject to continuous political indoctrination throughout their careers. This indoctrination has stressed the positive aspects of the entire political system. A major example is unrelenting emphasis of the role of the party and its political officers in the Soviet victory in World War II.

(3) (U) Military officers are taught, and many probably believe, that the success of their own units' career will be possible only with the support of the apparatus. Moreover, both civilian authorities and military officers have long recognized the dangers of institutional conflicts, both to the party and to the country.(7/5)

j. One-Man Command (U).

(U) Soviet emphasis on one-man command, individual accountability, and control reflects a longstanding abhorrence of diffused group leadership

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and its effect on lower level military decisionmaking. For units at what the Soviets consider the tactical level (corps and below), one-man command is the most important operating principle. This principle, apparently unanimously supported throughout both the party and the military, implies that the commander is responsible for all aspects of his command--including the morale, discipline, readiness, and combat activity of his troops.(7/5)

(U) The duties of the unit commander and his deputy for political affairs, the zampolit, are described in Soviet disciplinary regulations and field manuals for tactical units in similar terms and are directed toward one main goal--creating an effective military unit. The commander has ultimate responsibility for the performance of his unit measured against this goal, while the zampolit plays a monitoring, supportive, and inspirational role. Both men are expected to root out complacency, carelessness, and conceit--all considered to be inimical to combat readiness and efficiency.(7/5)

4. Survivability and Continuity of the Government (U).

a. ~~(S/NF)~~ (U) The Soviets believe a future war will place a premium on strict centralization of political-military control and unified political, military, and economic management. The pace of military action will demand rapid decisions. The complexity of military requirements and the expected unparalleled disruptions and dislocations will place great strains on coordination of military, economic, and life support activities. The high probability of a coalition war requires that the Soviet administrative apparatus be able to integrate the assets and activities of coalition partners to maximize the war effort. The Soviets attempt to meet these objects through the following:

- o requiring extensive peacetime cooperation between administrative elements with related wartime responsibilities.
- o requiring as much standardization of government and military structure and procedure among Warsaw Pact allies as possible and coordinating military policy through Warsaw Pact channels and economic policy through the Council for Mutual Economic Assistance (CMEA).
- o instituting procedures and physical preparations for continuity and protection of leadership from the national to the oblast level in both the Party and State.

Moreover, it would be necessary for the Soviets' partners to mobilize their own resources as rapidly as possible to avoid hindering any united efforts.

b. ~~(S/NF)~~ (U) Although the Soviets maintain large standing forces in

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high preparedness conditions, large-scale mobilization is required to wage general war. Military mobilization policy is founded on:

- o universal military conscription and maintenance of large personnel reserves with predesignated call-up assignments.
- o well-maintained stocks of weapons and other military equipment in reduced strength units.
- o large, prepositioned stocks of ammunition, POL, and other consumables able to sustain operations for several months.
- o planned takeover of civilian assets to fulfill logistics requirements.

5. Economic Readiness and Survivability (U).

a. ~~(S/NF)~~(u) The Soviet economy is expected to support military operations for the duration of war while sustaining life support for the civilian population. The Soviets maintain a large defense industrial base to support peacetime requirements of their standing armed forces and they expect defense industry to be able to expand weapon output to higher wartime levels within a matter of weeks. Certain producers of civilian goods are expected to convert to weapons production, but most are expected to reorient their product mix and increase supply to weapons plants of subsystems, components, and materials. Civil defense measures figure prominently in war economy plans because of the expectation of extensive destruction and disruption of economic facilities. The industrial civil defense plans--calling for protection of facilities and the workforce--are designed to make it possible to implement the wartime production assignments in mobilization plans.(11/I-12)

b. ~~(S/NF)~~(u) Major features of economic mobilization policy are:

- o maintaining substantial excess capacity in defense industry plants, and production tooling and equipment designed to facilitate production expansion and modification of output mix.
- o maintaining large strategic stockpiles of materials and components at plants and regional warehouses.
- o establishing cooperative relationships--for worker training and transfer of tooling--between defense plants and civilian plants earmarked for conversion to military production.

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- o easing technical standards and quality control to concentrate on large-scale production of rugged, standard military items.

- o developing and exercising plans for rapid evacuation and dispersal of the workforce, relocation of certain economic installations from urban areas believed to be likely targets, and relocation of ministry and major plant management.

- o developing post-attack recovery capability.

Industrial mobilization plans are intended to be fully coordinated with military mobilization plans. Certain key industrial personnel are to be "reserved" and protected from call-up. Anticipating substantial disruption and dislocation, Soviet policy calls for large stockpiles combined with maximum wartime reliance on local sources of supply, including protected utilities. Using these sources, the Soviets expect key defense plants to continue operations in partial isolation for a period of several months after mobilization is ordered. Inherent uncertainties, such as the survival of transport, availability of raw materials and components, and regional morale, of course, will crucially affect mobilization potential after hostilities begin.

c. Population Readiness and Survivability (U).

~~(S/NF)~~ (U) Soviet policy calls for both physical and ideological preparation of the population. Civil defense programs encompass protection of the population (the leadership, the workforce of key economic installations, and the general population in that order of priority); facilitating the continuity of economic activity in wartime; and enhancing the capability for recovery from the effects of war. Major features of these civil defense programs are:

- o relocation of leadership elements to exurban command posts.

- o sheltering in urban areas for protection of the crisis workforce and protection against surprise attack.

- o dispersal of the essential workforce to close-in areas from which they can commute to the city in shifts in order to continue to work in pre- and post-attack periods.

- o sheltering of the urban population against surprise attack, and evacuation to exurban locations of that segment of the population that is not part of the essential workforce.

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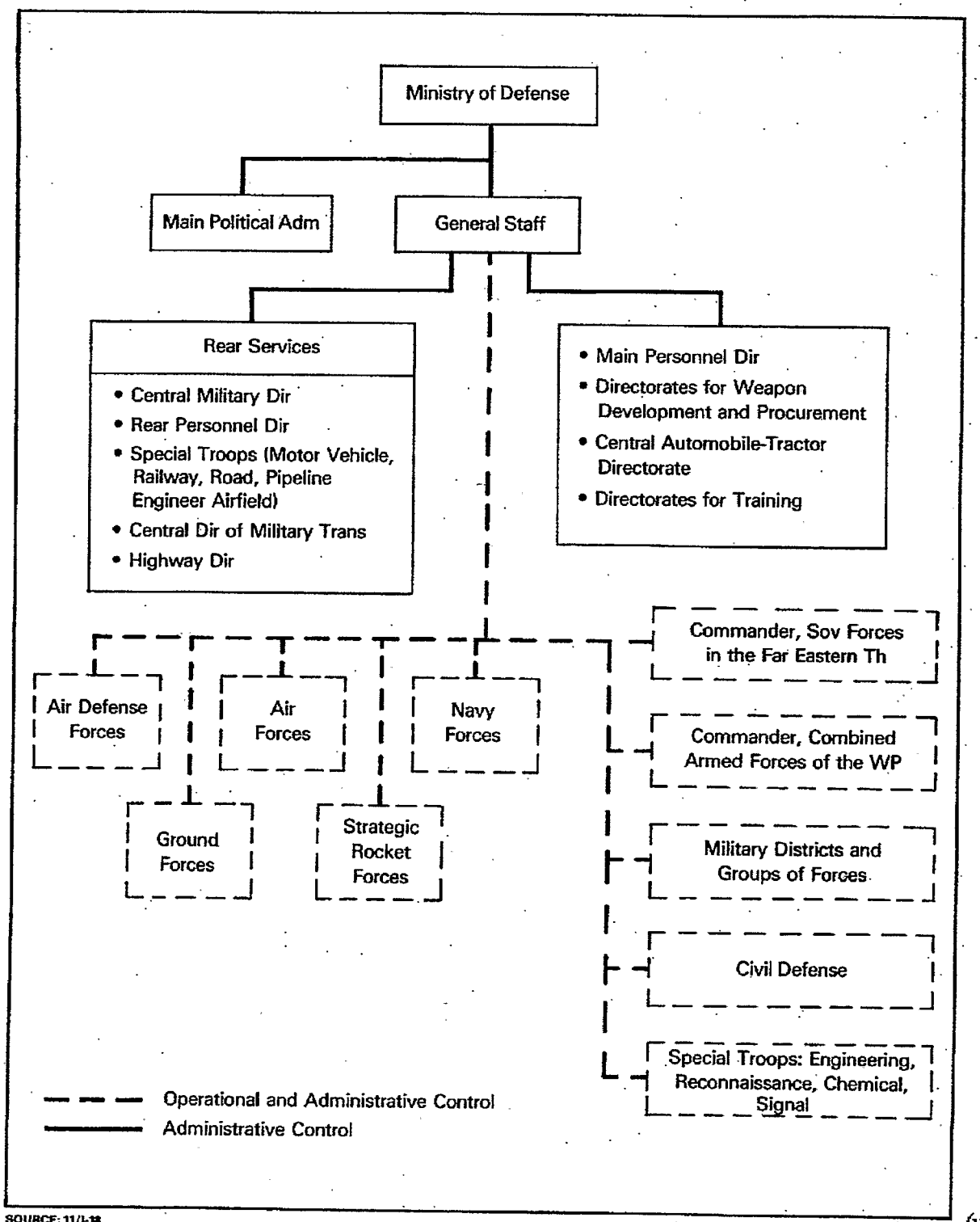
To ensure implementation of these objectives, civil defense policy calls for extensive training and periodic exercises. However, public apathy and bureaucratic difficulties have resulted in uneven implementation of stated goals. Creating a reliable, resilient, and motivated populace is an important element of formal civil defense training, but it also permeates general political and military indoctrination.(11/I-14)

6. Peacetime Preparations: The Administrative Apparatus, Planning and Reserves (U).

a. ~~(S/NF)~~(U) Mobilization planning and preparation are integral elements of peacetime political, military, and economic management. Mobilization and civil defense plans are closely coordinated to provide the direction for bringing the Soviet Union to a wartime posture. Reserves of personnel, equipment, materiel, and production capacity augment peacetime assets to provide this capability.

b. ~~(S/NF)~~ The decisions to prepare for and implement mobilization are taken by the Communist Party Politburo, chaired by the General Secretary, in conjunction with the General Staff (see Figure 11-2). We believe the Defense Council, also chaired by the General Secretary, probably formulates mobilization policy for consideration and approval by the Politburo and Central Committee. The Supreme Soviet has the formal constitutional authority to declare war, martial law, and partial or general mobilization. The Council of Ministers, as the highest executive and administrative body of the Soviet government, is responsible for implementing mobilization preparations. National level government agencies with major responsibilities are:

- o the Ministry of Defense, and particularly its General Staff and service components.
- o the State Planning Committee (Gosplan).
- o the Military-Industrial Commission (VPK).
- o the State Committee for Material Reserves.
- o the State Committee for Material-Technical Supply.
- o the Committee for State Security (KGB).
- o the Ministry of Internal Affairs (MVD).
- o industrial ministries, and particularly the nine defense industrial ministries.
- o support and service ministries in the areas of transportation and communications..



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~~SECRET/NOFORN~~ (U)

Figure 11-2. (U) Ministry of Defense Elements with Key Mobilization Responsibilities

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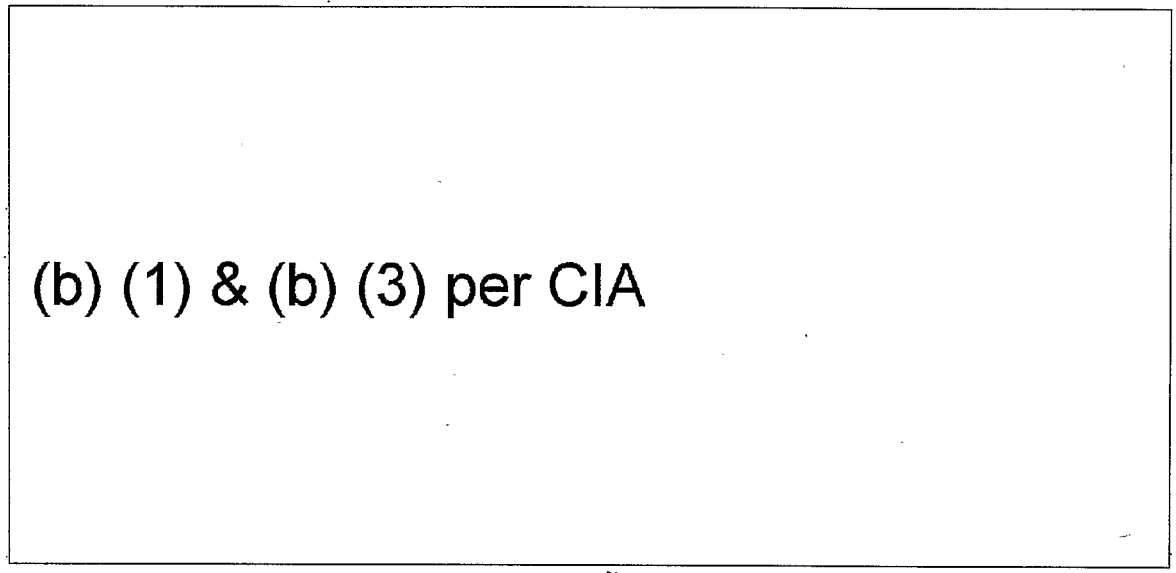
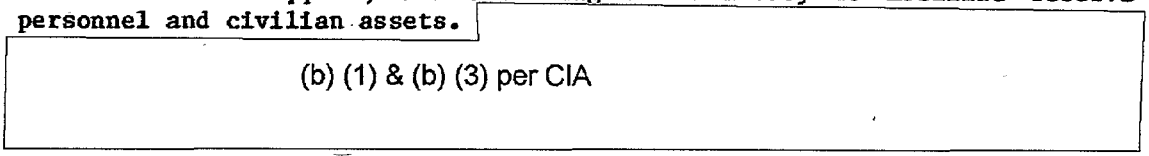


c. (S/NF) The Soviet Union is organized administratively into republics, regions (oblasts and krays), and municipalities. Government officials at these levels, aided by party counterparts, are responsible for maintaining local order and control, managing local industry and services to ensure life support, and assisting the military to mobilize reserve personnel and civilian assets.



(S/NF)(U) The Soviet Union also is organized into 16 military districts, many of which are geographically congruent with political-administrative regions. Other ministry of Defense elements oversee development, procurement, and distribution of weapons, equipment, and materiel. Those elements which support all military services are part of the Ministry's central apparatus. One examples is the Main Directorate for Electronic (5th GUMO).

d. Territorial Levels (U).

(1) Military districts (U).

(S)(U) Since the mid-60s, the military districts have gradually and continually evolved as the primary instrument developed by the Soviet leadership for the management of the national territory under conditions of nuclear war. Expansion of the military districts' wartime management responsibilities began with the civil defense structure in the 1960 timeframe and, as this was strengthened in the early 70s, it was followed by measures such as the development of closer coordination under military district control of civil defense staffs and military commissariats. It is now evident that as the field forces present in the military districts

depart, are subordinated to theater control, or become part of the VGK reserve a military district command will continue to function.

(2) Union-Republics (U).

(S) The wartime functions of some union-republics are unclear because of the plans for transition to military district control. In the case of the RSFSR and the Ukrainian SSR, for example, there are several military districts on the territory of a single republic (three in the case of the Ukraine, eight for the RSFSR). In these cases, it would appear that deputy commanders for civil defense of the military districts exert command directly over oblasts (see below) without going through republic staffs. In other military districts, there is no problem since military district boundaries are contiguous with boundaries of union republics found in the districts (true for Baltic, Belorussian, Central Asian, Transcaucasus, and Turkestan MDs). Another factor in considering the wartime functions of union-republics involves those union republic and republic ministries whose subordinate entities play vital civil defense roles. This is particularly true of the construction ministries at republic level. Thus, the degree of a union-republic's wartime management responsibilities is likely to have a direct impact on the size and scope of union-republic relocation/C^3 facilities.

(3) Oblasts (U).

~~(S)~~(U) In wartime the oblast represents the primary command entity of civil defense below the military district level.(4/4)

(4) Other Territorial Entities (U).

~~(S)~~(U) Territorial entities are those whose areas of responsibility do not coincide with those of either republics or oblasts. They include the railroads, elements of the unified power grid, territorial directorates of the intercity cable and radio-relay system, and so forth.

(5) Local Levels (U).

~~(S)~~(U) This level comprises the cities, city rayons, rural rayons below the level of the oblast and installations at local levels in the industrial and service sectors which are subordinate to higher echelons ranging from all-union ministries through republic to the oblast. These entities represent the lowest levels of the nationwide, war management system and maintain or have access to hardened protective structures in urban areas and also relocation/C^3 facilities in the countryside. Given the peripatetic leadership style of Soviet officials at all levels, the existence of these facilities becomes an important factor in maintaining continuity.(4/2)

7. The Problem of Coordination (U).

a. (U) Successful mobilization depends on careful coordination of

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interdependent agency responsibilities and plan directives. It also depends on maintaining sufficient flexibility to adjust to unanticipated military developments and disruption of the home front. Those problems are especially acute in the Soviet system, where the government takes on responsibility for centrally planning economic and social affairs and is unaccustomed to maintaining slack capacity. We do not know how effectively the Soviets have accomodated and reconciled mobilization interdependencies and uncertainties. The Soviets clearly recognize the problems and formulate elaborate directives to effect planning cooperation and maintenance of large reserves. In peacetime, however, cooperation is sometimes superficial and takes account only of the requirements of major partners. Obtaining, on time, the correct quantity and mix of personnel and supplies is one of the major problems facing military commanders and civilian managers. Undoubtedly, the Soviets would experience more severe disruption during a massive mobilization than they experience in peacetime. We cannot evaluate the degree of disruption, but we can point to critical interdependencies that are likely to create problems for mobilization planners:

- o the impact of military and security agency call-up of personnel on an economy plagued by labor shortages.

- o the impact of military takeover of civilian transport assets on an inefficiently managed transportation system.

- o the need to scrutinize materials and components in state reserves to ensure they correspond with changing weapon production requirements, and to ensure the appropriate allocation of components between state reserves for production and military reserves for maintenance and repair.

- o ensuring compatibility between the survival objectives of industrial civil defense plans and the production objectives of industrial mobilization plans.

- o expecting regional authorities, accustomed to obeying central directives, to operate autonomously yet in general concert with national needs under conditions of severe stress--possible caused by command disruptions, physical destruction, population dislocations and transportation interruptions after the beginning of combat.

b. ~~(c)~~ (u) More generally, establishing an entirely new network of wartime producer and customer relationships, even with large reserves, is a formidable task. Peacetime Soviet planning benefits greatly from the fact that it requires only marginal change from one plan period to the next.

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Consequently, the planning deficiencies that flourish even in a peacetime environment cannot inspire much confidence in the ability of Soviet institutions to shift smoothly to entirely new relationships under wartime conditions.(11/I-31)

8. Transition to Wartime Operations (U).

a. ~~(S/NF)~~(u)With the approach or onset of war the Soviets will further centralize political and military leadership, but will not undertake massive government or military reorganization. The Soviets have undertaken extensive preparations to make it unnecessary. They believe that those best equipped to manage in war are those who become intimately familiar with their wartime responsibilities in peace, partly through exercises calculated to test and improve the transition machinery. Relationships between government agencies and the military and among government agencies will alter to reflect wartime responsibilities. The Ministry of Defense will not assume command of the Soviet economy or internal security, but will intensify cooperation with Gosplan, the KGB, and the MVD to better serve military requirements. The civil defense command structure will coordinate the economy's fulfillment of military requirements in general war with substantial disruption to the homefront. The Rear Services will assimilate only those civilian assets--in transport, communications, and construction--required to service directly military operations and will be augmented by civil defense forces as required. Similarily, there will be rearrangement in the mix of directives the Soviets use to manage their economy and society, with greater emphasis placed on frequent, highly specific instructions to managers that limit their flexibility. None of these developments would signal a change in the fundamental character of the Soviet "command" system.(11/I-32)

b. ~~(C)~~(u)In a period of protracted international tension with no indication of imminent nuclear attack, Soviet leaders at all levels probably would operate from their present offices even though mobilization might have started and many field forces had proceeded to alert areas. In the event of a surprise nuclear attack, they would rely on primary command posts situated in nearby hardened bunkers. During the period of tension, operational groups (the essential cadre required to activate and operate a command post) would be sent to alternate exurban command facilities to ensure the readiness of the facilities should it be necessary to shift operational control to those sites.

(1) ~~(C)~~ From this posture, the Soviets could accelerate movement to alternate sites. If it appeared that nuclear strikes were likely, the Soviets probably would disperse their leadership as much as possible, using to the maximum extent all available exurban relocation facilities.

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(2) ~~(C)~~ (u)During an attack, available command posts would be utilized by the leadership elements assigned to each. While there is limited information on how command posts allocated to some military entities

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would operate, it is not applicable across the board. It does suggest, however, that only a portion of leadership cadres and supporting staff would occupy the bunkers at a given time. Off-duty personnel or those not involved in command post operations, presumably would occupy personnel shelters or, in many cases, available buildings which have been given some radiation protection.(4/4)

c. ~~(S/NF)~~(u) We believe the Soviets would create a wartime command structure at senior levels similar to that which prevailed in the Second World War. The Soviets were dissatisfied with how long the transition required, but once it was accomplished leaders were able to closely monitor and control major military and civilian operations. The Soviets have expressed the intent to do the same again—with comprehensive elaboration of mobilization and civil defense plans to improve the transition—and have created peacetime structures that would facilitate establishment of wartime command.

d. ~~(S/NF)~~(u) An organ like the State Defense Committee would formulate all state policy and direct all war operations. Current members of the Defense Council probably would form the nucleus of the Committee and, thereby, consolidate wartime political, military, economic, and security leadership. Other officials undertaking critical wartime functions probably would be added. Candidates for membership are Politburo members and party secretaries (e.g. Kirilenko), the chairman of Gosplan, the chairman of the VPK, the Minister for Internal Affairs, and ministers of critical defense industrial ministries. The party General Secretary would chair the Committee. Directives and orders of the Committee would carry the force of law and would take precedence over party or other government directions. Apart from general war management, the committee probably would take a flexible and direct approach to anticipating and resolving problems. Ad hoc committees chaired by Committee members probably would be created to deal with ongoing issues. Committee members or staff could be dispatched to oversee regions or critical ministries or plants. Ad hoc committees or designated representatives would have complete authority over all affairs under their jurisdiction.(11/I-33)

9. Leadership Protection (U).

a. ~~(C)~~(u) Soviet wartime plans, designed to control the overall war effort, focus attention on two major underlying objectives: (1) strategic direction of the armed forces and (2) management of the state apparatus and national economy in support of military requirements. This program has produced a unified system of command capable of exerting centralized direction, while at the same time permitting that degree of decentralized function which might be required by the impact of nuclear war. Implementation of these plans depends heavily on an extensive network of exurban command posts and relocation complexes. These facilities would protect leadership cadres and provide the technical means for them to exercise command and management responsibilities in the face of nuclear attacks that may occur in many areas of the country either simultaneously or spaced over time.11/IV-1

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b. ~~(S)~~(U) Variations in types of relocation complexes and in utilization patterns will occur because of differences in responsibilities and the kinds of conflict scenarios that might emerge in a nuclear war. Nevertheless, military and civilian components will require relocation facilities which can:

- o Accomodate some portion of their personnel during an extended "threatening period".
- o Permit them to exercise their assigned functions under conditions of nuclear attack.
- o Afford them working space and accomodations should destruction of urban areas and the resulting high levels of radioactive contamination make resumption of normal work/residence patterns difficult.

c. Objectives and Key Elements. (U).

(b) (1) & (b) (3) per CIA

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(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

h. ~~(C)~~ (u) We are unable to judge longer term prospects for the continuing effectiveness of the leadership or other post-nuclear-attack capabilities. The Soviets themselves are probably uncertain about whether the present program would ensure continuity of government and communist party control over the longer term. The continuity of Soviet government beyond the period immediately following a nuclear attack would depend on factors which are largely unknowable, such as the effectiveness of the military in post-attack recovery operations, leadership succession, the impact of ethnic separatism, and the overall progress in recovery and reconstitution. (11/IV-5)

10. Conclusions (U).

a. ~~(S/NF)~~ (u) The Soviets believe their command system enables them to mobilize and move forces quickly to meet the onerous requirements of future war. They believe that their system is well-adapted for reaching consensus on the decision to mobilize and for rapidly implementing that decision.

b. (U) The pains taken by the Soviets to insure the survival of their hierarchy in wartime through the construction of numerous dual-purpose command centers demonstrates that they are planning to run the country even under the worst combat conditions.

11. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

~~(S)~~ (u) The synergistic character of the Soviet military command structure provides an atmosphere in which high level leadership is able to make changes in policy or doctrine with little resistance from the bureaucracy. This impacts favorably on the Soviets ability and willingness to fight in a general war both now and in the year 2000.

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SECTION II. LINE OF POLITICAL SUCCESSION (U)

1. General (U).

a. (U) As a leading world power the Soviet Union has extended its influence wherever possible while avoiding direct military confrontation with the West. While Soviet leaders continue to adhere to communist ideology, it appears that power politics has become, at least temporarily, a more important factor. The men who run the Soviet Union have grown up under the system, owe their position to the system, and are convinced that the entire world will be communist eventually.

b. (U) Every aspect of Soviet society is dominated by the Communist Party of the Soviet Union (CPSU) and the CPSU us dominated by its Politburo. The 13 members of the Politburo wield absolute control over the destinies of the country's 241 million citizens. The Rules of the Communist Party of the Soviet Union, as revised in 1961 and amended in 1966, stated that the Party had become "the part of the Soviet people as a whole" yet, in fact, membership remained relatively small and the elitist principles set forth by Lenin still apply. The role and influence of the Party are all pervasive, however, and Party members were found in leadership positions throughout the structure of the Government, in the economy, and of society in general.

c. (U) The Party controls the citizenry by maintaining social and professinal organizations to which most people belong. These organizations included youth groups, athletic societies, trade unions, and cultural societies. All of these organizations are permeated by Party activists who provide the means by which the Party maintains contact with the masses and through which it provides approved political education and leadership. (12/419)

d. (U) The most important organizations were the youth groups because of their potential of molding younger generations along desired lines. The youth organizations also provided an important source for the recruitment of future Party members and potential political leaders. The collective leadership that succeeded Khrushchev tightened the reins on society to a limited extent.

e. (U) The Party leadership has not formulated a long-range course of action but has moved cautiously, the only apparent goal being the maintenance of political stability and economic progress. Thus, they have allowed experimentation in the fields of economic planning and administration, while maintaining a more or less dogmatic approach in social and cultural affairs.

2. Structure of the CPSU (U).

a. (U) The formal structure of the Soviet government constitutes an administrative framework within which the Communist Party of the Soviet Union (CPSU), which is not designated by the constitution as a ruling

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body, exercises complete control. The Communist leadership exercises this rigid control through the party structure itself, through the political police, and through the armed forces. The CPSU maintains a monopoly of power over the political system and the organization of the Government is designed to further that purpose. Although the constitution does refer to various administrative powers that the branches of the Government are allowed to exercise, it makes no mention of the measures the Party enacts, either alone or in conjunction with the state organs, to determine the course that the Government will follow. The real rulers of the Soviet Union are the members of the Central Committee of the Party, especially its Politburo. The government and the CPSU are interlocked through personalities of the Party who are found in all the crucial posts.(12/377)

(U) The Constitution of 1936 describes the Soviet Union as a federal state, but the country has most of the characteristics of a unitary state with a highly centralized government. The governmental structure is based on a pyramid of elected councils, known as soviets, which--since the Bolsheviks came to power--have served as the governing bodies at various levels beginning with the village. These subdivisions are formally assigned many powers of self-government, but in practice they function mainly to put into effect the decisions of the Central Government which are channeled downward through a structure dominated by a political elite composed of professional government officials and CPSU leaders.

(U) The CPSU is a highly centralized, hierarchical organization. The All-Union Party Congress, which consists of representatives elected from each of the union-republic party congresses, is designated as the supreme organ by Party statutes; however, in practice it has very little power, if any at all. Because of its size it is too cumbersome to function as a decisionmaking body.

(U) The Central Committee, elected by the All-Union Congress to take over its functions between sessions, is the body in which the political elite is located. In and of itself, however, the Central Committee shares little of the decisionmaking power. It meets too infrequently and has too many members to do more than ratify decisions made by the Politburo.(12/420)

(U) The Central Committee unanimously elects the Politburo and Secretariat, in which the real power is vested. This process is more one of ratification than election, however, because the slate of officers is dictated by the top leaders themselves. The Politburo is the actual decisionmaking body and has jurisdiction encompassing virtually every aspect of life in the Soviet Union.

b. (U) The Secretariat wields a tremendous amount of political power by virtue of its control over the selection and appointment of key government and Party personnel, as well as the personnel of all mass organizations, such as the trade unions and the youth organizations. This power includes the selection of candidates for elections for posts in the government or other organizations, even on the local level. The Secretariat is also charged with the responsibility of "the verification of the fulfillment of

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Party decisions". In essence, this gives the Secretariat supervisory powers over the Party, government, and all other organizations.

c. (U) Below the All-Union Congress level, each union republic has its own Party organization, except the Russian Soviet Federated Socialist Republic, which shares the CPSU organization. At the bottom of the Party hierarchy there are about 460,000 primary Party organizations. These organizations, held to be the "basis of the Party," are formed in factories, on collective farms, in offices, in army units, in schools and universities, and "wherever there are not less than three Party members." The Party meeting, which corresponds to the Party Congress at the highest level, convenes at least once a month.(12/421)

3. CPSU Operation (U).

a. (U) The CPSU operates according to the principles of "democratic centralism" first articulated by Lenin. The Party statutes specify these principles as: "election of all leading Party bodies, from the lowest to the highest; periodical reports of Party bodies to their Party organizations and to higher bodies; strict Party discipline and subordination of the minority to the majority; the decisions of higher bodies are obligatory for lower bodies." Theoretically, these principles allow a great deal of democracy. They imply discussion at all levels until a decision is taken by the majority, at which point discussion ceases and all members are obliged to abide by the decision reached. In practice, only the fourth principle, that is centralism, is operative. Decisions are made by a small circle of people at the top of the Party hierarchy and handed down as binding rules for all Party members.

b. (U) There is a facade of democracy in the operation of the Party: the lower levels do elect the higher levels. These elections, however, are actually controlled by the highest bodies of the Party. The Secretariat determines who will be nominated and only one name appears on the ballot for each office. Rank-and-file members usually have only the choice of voting for the designated candidates; although they may register opposition by not voting, this alternative is rarely used because of fear of negative repercussions by the Party leaders. The high organizations do issue periodic reports of their activities to lower level organizations. These are in the nature of directives, however, and cannot be criticized or rejected.

c. (U) The Soviet Constitution describes the Party as "the vanguard of the working people in their struggle to build a communist society and it is the leading core of all organizations of the working people, both government and non-government." According to Party statutes, the CPSU "is the highest form of sociopolitical organization and is the leading and guiding force of Soviet Society. It directs the great creative activity of the Soviet people and imparts an organized, planned, and scientifically-based character to their struggle to achieve the ultimate goal, the victory of Communism."

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among the population.

c. (U) Although there are Party members from all social strata and occupational fields, their proportions within the Party do not correspond to those within the total population. The proportion of peasantry in the Party is much lower than their proportion in Soviet society, whereas the percentage of Party members from the intelligentsia is probably twice as large as, if not larger than, the percentage of intelligentsia within the entire population.

d. (U) Political socialization is a conscious, systematic effort by the CPSU leaders, designed to mold the values and attitudes of the population to actively support their policies and goals. The general goal intended for the mass of the people was to instill loyalty and devotion to the state and its principles. Traditional values and attitudes had to be liquidated and new ones fostered that would facilitate the development of a Communist society. The function of developing the political skills and attitudes necessary for the maintenance of the system is directed specifically to a minority of the population, that is, members of the Komsomols and the CPSU, from which future leaders will be recruited.(12/427)

5. Political Succession (U).

a. (U) The present Soviet leadership may feel that all it wants to do is to enjoy power quietly and not take further risks. The question that arises is what will be the attitude of the younger generation, which must eventually--long though the wait may seem to be--come to the top. There is nothing specifically Soviet in the fact that even if politicians are capable of learning from their own experience, generations without that experience go ahead to repeat the errors of their predecessors. "Young people with no memory of the terrible years would be capable of anything. Even when the terror machine is only idling, as today, it continues to function in essentially the same manner as before. At any moment, after laying dormant for a time it could start up again at full speed" (Ndezhda Mandelshtam).

(U) Crises would come through unforeseen catastrophes with which their methods, and indeed their personalities, are not fitted to cope. Triumph abroad is the traditional recourse of a tyranny inefficient at home. Nor has "backwardness" prevented many a militarily competent barbarian nation from overwhelming superior civilizations. The Soviet system is doubtless strong enough to cope with separate crises. However, several may coincide. If in a time of crisis there are not clear political ideas at the summit and no reform plan or self-confidence sufficient to carry out a reform, given the paralysis of the middle class, the country may find itself in a desperate situation. Strongest reason for anticipating change is the seemingly irreversible trend toward economic slowdown. Since 1970, there has been a weakening of performance indicators. Soviet growth has depended much more on enlarged inputs of labor and capital than on innovation and productivity and the labor force, because of decreased birth rates, cannot be much expanded. The productivity of capital invest-

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ment has been steadily declining. A succession represents uncertainty and likelihood of change because there is no regularized way of selecting the General Secretary and no definition of his power. A new leader, unless backed by force, will almost surely be in a weakened position. At the same time, he will probably be called upon to deal with a host of problems. Such crises are likely to involve turning points in the further development of Soviet institutions, not necessarily dangers sufficient to destroy them. But the difficulties confronting the Soviet regime in the years ahead should not be discounted.

b. (U) Vulnerable points are to be found in institutions engaged in decisionmaking as well as in institutions engaged in implementing decisions. In the first place, the ordering of the highest organs and offices of leadership has not been fixed but has varied according to circumstances. As a result, the relative authority of the highest party and government organs has repeatedly been a subject of contention, as has the relative authority of the highest bodies within the party. The Politburo is the decisive legislative and executive organ (its policies being formally confirmed by the Central Committee), but the Politburo has found it difficult to operate as a collegial body and to maintain even a rough equality in the powers of its members. In particular, the great potentialities of the office of the General Secretary have enabled incumbents to abrogate much of the Politburo's powers. The result has been a considerable fluctuation in the relative power of the Politburo and the General Secretary and substantial tension between them.

(U) Since the powers of the General Secretary are neither specified in a statute nor fixed by precedent, no reliable means for the orderly transfer of these powers has yet been devised. There are no established political means of removing an unsatisfactory General Secretary (though conspiracy may be a poor substitute); there are no established rules for choosing the successor; there is no way of ensuring that a new incumbent will inherit his predecessor's powers. Typically, there has been a double crisis of succession: the first occurs when the incumbent is replaced and a second arises from the new General Secretary's attempts to assume the powers of his predecessors; powers that he believes are necessary--and may be so in fact--to provide stable and effective leadership. In such crises, the political police and the armed forces have played significant roles at several critical junctures (e.g., in 1953, 1957, and 1964) and may do so again, possibly with disruptive consequences.

c. (U) In assessing the stability of Soviet institutions, the initial focus must be on the leading organs, for if the leadership is not seriously weakened the odds are that it will be able to cope with the political and social challenges that it will face. The stability of the leadership is uncertain, however, because the institutionalization of supreme authority has not progressed enough to establish a stable balance between the personal power of the General Secretary and the collective authority of the top organs: the Secretariat, the Politburo, and the Central Committee.

(U) The Central Committee is too unwieldy to serve as a truly

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deliberative body and for many years it has not done much more than confer status on its members and provide important channels of information to them. Because of its size, it is subject to manipulation by the Senior Secretary. In recent years it has assembled twice a year for plenary sessions lasting a day or two, usually to hear Brezhnev report on his foreign policy activities or criticize the economy.

(U) Brezhnev's limited ability to choose the members of the Central Committee lessened his capacity to achieve mastery over the Politburo. Nevertheless, he strongly influenced the composition of the Politburo by adding followers and allies of varying dependability and by purging potential rivals and others with independent views.(13/180)

6. The Role of the Politburo (U).

a. (U) The Politburo remains central to the working of the system. There the key institutions and information channels come together so that major problems can be dealt with and national policies established. According to the Soviet leaders, the Politburo meets regularly and is consulted on all important questions. The Politburo's integrity as a deliberative body is questionable, however, for several reasons. First, it is big and unwieldy. There are 13 full members, as against the customary 10 or 11 at times when the Politburo has been most decisive, and several members are not in a position to participate effectively in its work. Three of the thirteen have posts outside Moscow and have had specialized careers which probably limit their capacity to judge the full range of issues coming before the Politburo. Of the eight alternate members of the Politburo, three work outside Moscow and are not regularly available for its meetings.

(U) Despite these deficiencies in the Politburo's capacity to act as a deliberative body, there can be no question that the Politburo as it currently functions restricts the General Secretary's ability to act independently. To this very limited degree, then, Brezhnev furthered the institutionalization of the Politburo.

(U) A weakening of Politburo leadership would have major political consequences. It would probably reduce the leadership's capacity to reform institutions and resolve serious political and social problems that have already been too-long deferred; it could lead to a widening of the political arena by activating institutional interest groups in the economic bureaucracy, the scientific establishment, and the creative intelligentsia. The latter development, while it cannot be discounted, may be the lesser danger to the leadership. Despite the expectations of many observers, interest groups in the USSR, other than the military, have displayed neither a strong inclination to engage in higher Soviet politics nor great effectiveness when they have attempted to do so. Unless the divisions in the leadership become considerably deeper, the party apparatus will probably be able to maintain its control over the other institutions and to limit their participation in higher Soviet politics.

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7. Problems of Rule That Must Soon Be Faced (U).

a. (U) In the next few years the leadership will have to deal with institutional defects and adverse social developments that have emerged prominently during the past decade. The overriding problem, in view of the regime's long-established priorities, is the progressive reduction in the rate of growth of the economy. This has been caused in large part by factors that will continue to operate: a decline in the growth rate of investment; a long-term decline in the output obtained from given increments of capital; increased costs of raw materials; and a declining rate of growth in the size of the labor force. The problem of the labor force will worsen over the next few years until a point is reached where increases in production must come entirely from increases in labor productivity. In the past, these increases have tended to lag behind planned rates of growth. A partial solution might be sought in institutional reform, by improving the administrative apparatus that directs the country's economic enterprises, which has long been a source of serious dissatisfaction to the leadership. But unsuccessful attempts during the past third of a century suggest that no administrative solution to the problem of reduced economic growth is readily available.

b. (U) If economic growth continues to decline in the next decade, as expected, the Soviet leaders may confront difficult choices such as further reducing the growth rate of investment, which could accelerate the decline; reducing the rate of increase in consumption, which might adversely affect labor productivity; or sharply reducing the rate of increase in defense spending, which could slow to some extent the decline in economic growth at the possible cost of antagonizing the military establishment and, thereby, aggravating the leadership's political problems. The basic choice, between accepting a reduced rate of economic growth or a reduced rate of growth in defense spending, has long-term implications for Soviet foreign policy. The first might lessen the USSR's capacity to deal with world problems a decade or more hence; the second choice might require the USSR to moderate its foreign policy in the years immediately ahead so as not to provoke the US into a new and costly round in the arms race.

(U) Major inefficiencies in the regime's bureaucracies have been a serious problem from the beginning, but the disease and its consequences appear to have worsened substantially in the past decade. To remedy the disaffection and uncertainty, the post-Khrushchev leadership gave official virtually ensured tenure, except in cases of gross incompetence or serious misfeasance. This inclusion in the "nomenklature" (pool of officials) at the higher levels has tended to confer a vested right to occupy positions that entail high salaries as well as numerous perquisites and privileges. As a result, opportunities for the rapid advancement of able and ambitious young officials have declined and discipline, previously a key strength of the regime's institutions, has suffered. Signs of a weakening of discipline have appeared not only in the work force, in local administration, and in the economic ministries, but also in the army and in the party apparat itself.(13/185)

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c. (U) The party apparatus, the key institution of the regime as it is currently constituted, appears to be suffering from substantial ills. The apparat's lack of responsiveness to commands has received concentrated attention from the party's leading bodies. Party officials are becoming more openly cynical and increasingly less committed to the official ideology. Rejuvenation of the apparat would probably present opportunities as well as dangers. It may facilitate an improvement in the technical and personal qualifications of its members; but, carried too far, this could undermine the apparat's coherence to the Soviet political system as a whole.

(U) The major ethnic minorities and the republics they inhabit will continue to be a source of concern to the leadership. The acute nationalities problem that existed at the time of Stalin's death, however, was ameliorated by Khrushchev who brought ethnic Ukrainians into the central leadership. As long as the Slavic peoples of the USSR are not in conflict, the nationality question is likely to be manageable since the Slavic leaders, if united, probably can cope with the remaining quarter of the Soviet population.

(U) The problem of dissidence, particularly of demands that the regime respect its nominal guarantees of civil rights, may be intensified if the scientific and creative intelligentsia become more assertive during the Brezhnev succession.

8. Alternative Contingencies for Soviet Institutions (U).

a. (U) The problems of institutional development and policy resolution enumerated here clearly pose a serious challenge to the leadership in the next few years. If the challenge is not effectively met, the resources available to the Soviet leadership for the pursuit of its goals may be seriously reduced.

(U) The regime's institutions will probably persist without substantial modification for the next several years, possibly for the next decade. There are, however, two distinct ways in which basic changes might come about: inadvertently, as the result of a weakening of the top leadership, leading to a widening of the political arena and increased participation by various groups in the making of high policy; or deliberately, if a strong personal leader were to emerge with a broad program for reform and the will to carry it through.

b. (U) The first contingency, a serious weakening of the top leadership's cohesion and a reciprocal enhancement of the regime's key vulnerabilities, might occur if arrangements for the succession to Brezhnev are not made in advance. Any successor leadership will have to confront the falling rates of economic growth and an emerging crisis, an entrenched bureaucratic machine whose internal discipline may be failing, some domestic agitation for greater ethnic, religious, and personal freedom, and most likely, disturbances in Eastern Europe. A weakened and divided leadership would find it difficult to deal with these refractory problems, yet unable

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to ignore them, and might be further weakened as a result. A crisis of such proportions might call into question the sovereignty of the party apparatus over other interest groups. The leaders of institutional interest groups might then take courage and form alliances aimed at weakening the party apparat's control over them and assert joint claims to an institutional autonomy and to participation in higher Soviet politics.

c. (U) This would probably lead to a reduction in the leadership's capacity to pursue a unified grand strategy embracing foreign and defense policy. The stability of such a modified institutional order is hard to predict. If it proved ineffective in pursuing the regime's ends it could lead, in turn, to the restoration of strong personal rule.

d. (U) The regime that emerges from the Brezhnev succession is likely to have the following features:

- o Continued hegemony of the party apparatus over other institutions.
- o Persistence of the present mode of leadership, with authority concentrated in a Politburo whose members have markedly unequal powers and which is subject to manipulation by the General Secretary of the Central Committee.
- o Inability of the successor leadership to deal effectively with the regime's fundamental problems.
- o A reduced growth rate of the economy, although one that might still provide the resources needed to compete with the West, especially if the West is weakened by a failure to resolve its own economic problems.(13/189)

9. Conclusions (U).

a. (U) A succession represents uncertainty and likelihood of change because there is no regularized way of selecting the General Secretary and no definition of his power. Attempts may be made to restrict the office and render it innocuous and, consequently, incapable with unforeseeable results on the system. On the other hand, an influential group or agency might seek to force its own choice of General Secretary on the Politburo, especially if this were divided.

(U) A Soviet succession has a secondary crisis when the leader undertakes to consolidate his personal power. Any younger man will feel the need to raise himself--not over his former equals but over a corps of senior figures accustomed to superiority over him.

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(U) The role of the military has little to do with the international situation; it has enlarged under detente as in times of greater tension--a typical manifestation is the great expansion of military and paramilitary training for school children in the last decade. The standing which the Soviet military has already attained is attested by the fact that in relatively quiet international situation it receives, according to most accepted estimates, 12 to 13 percent of the national product, more than double the percentage in America and much higher than in any non-Communist industrial country except Israel. How can the economy support Soviet defense expenditures without cutting into civilian consumption or reducing investments, with greater long-term costs remains the question.

(U) The increased role of the military corresponds to the decrease of elan in the party and to the replacement of Communist transformational ideology by an ethos of nationalism, Communism, and militarism rolled together. The military will be called upon to protect the Soviet order as unifier, Russifier, stabilizer, and guardian. Although there seems to be no question of the military entirely displacing the party, which is needed as mobilizer and organizer of society, the military can be expected to move forward so far as the party shows incompetence. But it is to be noted that military dominance is characteristic of the politics not of the advanced industrial states but of the Third World.

(U) If militarist-nationalist elements gain more authority in the fading of revolutionism, the keeping of order will have priority, and defensive xenophobic attitudes will take the place of the social-revolutionary vocation. The system needs to uphold the antithesis to an evil outside world and if this can be done only in a semi-fascistic manner, it will probably be so done. Economic progress will be sacrificed to political needs, in this view, and Russia may become (if it is not already) the most conservative of major powers. The prime desiderata would be order at home and strength in the world.(13/276)

e. (U) A much harder-line state is unlikely (barring major violence on the world scene) because the Soviet state maintains about as tough a posture as it can without excessive costs. Relaxations, such as there have been have come about not because of leaders' love of liberty or distaste for exercising power or the compulsions of countervailing institutions, but from practical necessity and the need for better results.

(U) Movement toward more or less liberalization, a certain relaxation of the party reins, more attention to the standard of living, some increased latitude for cultural and intellectual expression, and so forth, would be influenced by desire for economic development, by the need for rationality of an industrial society with a declining commitment to proletarian social transformation, or any other mobilizing cause. An important question for this development is the attitude of the totally post-revolutionary generation that must one day take the reins. Conquest expects them to be quite as ruthless as their fathers, but they are hardly likely to be possessed by the same compulsions. As pointed out by Amalrik, the present generation of leaders came from the poor and uneducated classes

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predominantly, and are hence anti-Semitic and anti-intellectual. The new leaders will have been born to an easy existence and educated as middle to upper class; one may expect at least a certain softening of attitudes.

(U) The upper and middle classes are, moreover, undoubtedly subject to some degree of Westernization, exposure to attitudes and values, limited though it may be, of the more pluralistic societies. Soviet leaders like foreign clothing and cars and probably listen to foreign radio. To what extent they feel the need to measure themselves by more liberal and humane standards we do not know, but comparisons for the Soviets are increasingly external. The greater the relative success of the Western world and the more disappointing the results of the Soviet experiment, the more attractive the values of the former. These two directions are not mutually exclusive, of course; elements of both may be combined, or the Soviet state may fluctuate somewhat, as it has in the past, and change may be difficult to define. A new leadership might seek popularity by liberalization or harden policies to enlist military backing, only to swing in the contrary direction when it felt itself more secure. Moreover, much depends on events and climate on the world stage, from a possible military showdown with the Western world to such placidity as to make it difficult to maintain ideological tensions.(13/277)

f. (U) In the event of a major war, the entire CPSU apparatus and the internal security forces (KGB, MVD) will be mobilized to the maximum of their capability to prevent any attempts at organized opposition to the regime. Furthermore, by exploiting the theme of "defending Mother Russia against capitalist attackers," the current Soviet regime will be able to crystalize Russian patriotic feelings to the same extent as in WWII. Political succession or transition in wartime will probably be easier than at any other time. During national crises, the Russian Soviet political system will forget petty squabbles to concentrate on the emergency at hand. The scope of Soviet preparations to insure continuity of party-state management in wartime demonstrates that the political leadership has elaborated effective plans to ensure a smooth transition between peace and war. Even a succession could take place during that transition when most of the leadership is being militarized.

10. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

(U) The problem of political continuity will not to any great degree adversely influence the Soviets' ability to fight now or in the year 2000. The lack of a permanently established means for the orderly transfer of powers has never been an obstacle to a succession (smooth or not so smooth). The harnessing of all political propaganda, disinformation, security, counterintelligence, countersubversive responsibilities under one single authority, the KGB, insures an undefeatable capability for system survival. The KGB does not have to fight the battle of the budget to justify expenditures since one of its main responsibilities is to defend the Politburo and the entire Soviet higher hierarchy.

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(U) By manipulating the "nomenklatura" to appoint only those selected for their devotion to the Party, the CPSU institutes a bureaucracy whose destiny is intertwined with its own. The pains taken by the Soviets to insure the survival of their hierarchy in wartime through the construction of numerous "dual purpose" command centers demonstrate that they are planning to run the country even under the worst combat conditions.

(U) As long as the communist apparat maintains its control over the population, very little can be accomplished in the way of organized subversion or open opposition. In critically dangerous periods, like a succession or a military contingency, the security measures will be reinforced throughout the country to prevent any surprise action and to protect the smooth running of the political and administrative machinery.

(U) In time of war, the only concern of the Soviets will be to defeat the enemy. The same Soviet propaganda which has to counteract Western influences in peacetime, when information flows more freely, will probably work equally well, if not better, in wartime when total censorship and isolation from the outside world will be enforced.

(U) By appealing to the nation's patriotic feelings, the Soviet leadership will be able to impose more restrictions and more hardships under the justification that they are necessary for Russia's survival. The only possible way to remove the CPSU hold on the system would be as a result of a military occupation by a foreign power which could replace the entire security and party parallel infrastructures.

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CHAPTER 12

DEFENSE OF THE HOMEFRONT (U)

HIGHLIGHTS

~~(S)~~ (U) There are currently about 1,000 occupied SA-1, -2, -3, -5, and -10 sites and 450 unoccupied SA-2 and -3 sites throughout the Soviet Union, with approximately 12,000 launchers arrayed for optimum defense of the Soviet homefront against the threat posed by air-breathing delivery systems - i.e., aircraft, cruise missiles, and short range attack missiles (SRAM). Future defense against these air-breathing threat systems will be enhanced by the progressive fielding of the SA-10 system.

~~(S)~~ (U) To assist in the defense of the homeland against the threat posed by air-breathing delivery systems, the Soviets have over 1,200 all-weather jet fighters. Only 3 percent now possess a look-down, shoot-down capability, but we estimate that 50 percent will have a look-down, shoot-down capability by 1990.

~~(S)~~ (U) Many of the 317,000 personnel in the Soviet defensive missiles (ABM/SAM) forces and 89,900 personnel in their Aviation and Air Defense Forces are stationed in the Moscow area. These forces operate the massive defense network of ABM, SAM, and interceptor aircraft that protects the more-than-800 targets in and around Moscow.

~~(S)~~ (U) The Soviets have, in the Moscow area, the world's only operational ABM system. This system is currently being upgraded by the addition of at least one new type of interceptor and a major new radar facility. The upgraded system is expected to be capable of intercepting, one-on-one, all current types of US re-entry systems.

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CHAPTER 12

DEFENSE OF THE HOMEFRONT (U)

1. Introduction (U).

a. (U) The previous chapters of this volume have underscored the importance of the homefront to the Soviet concept of war and preparation for war. As early as the mid-1920s, M. B. Frunze, then Commissar of War, wrote a sweeping policy essay, "Front and Rear in War of the Future". In this work, Frunze pointed out that because of advances in aviation, chemical weapons, and motorization, rear areas deep in the Soviet interior would no longer be secure from attack, especially aerial attack. Thus, the traditional understanding of the "front" as the combat zone, as distinguished from the homefront as the safe area, was obsolete. Additionally, Frunze viewed the homefront as the "rear" for front operations. For him, the homefront, with its industrial and agricultural base, must be viewed as the supply base for the Soviet military force. The economy had to be structured primarily to produce guns, not butter.

b. (U) In the 1920s, the Soviet Union had just survived the ravages of World War I and the widespread destruction of the Civil War. The industrial-economic base was shattered and had to be rebuilt, and the men responsible for rebuilding it believed in Frunze's concept of the "front" and "rear" as one. As a result, these leaders reconstructed the Soviet economic base primarily to serve the rebuilding of the Soviet defense forces.

c. (U) In summing up the importance of the rear, Frunze provided the following guidance to the new Soviet leaders:

> "The significance of the rear, i.e. the preparation of the economic and state apparatus, presents the most serious task for the workers of civil institutions--in the sense of accounting for the demands of future war and the adaptation of production to meet them--and for workers of the military department, the task of establishing the tightest relations with appropriate civil institutions."

Thus, he called for the new Soviet Union to become a modern military-industrial state.

d. (U) The implications, of this concept which Frunze spelled out and the new leaders followed, were enormous for the organization of the entire state and economy, in peacetime as well as in war. Although these implications are covered in detail in previous chapters, they are again listed here in summary:

- The stated need for the capability of rapid

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transition to war required "militarization" of the work of the entire civil apparatus, even in peacetime.

- o Training for military manpower had to proceed on a universal basis supported by both civil and military school systems.
- o The motorization and transport sectors of the economy had to be developed, primarily to support military requirements.
- o All of industry and most of the rest of the economy had to be capable of mobilization for war in days and weeks.

e. (U) Therefore, in the Soviet mind, the homefront has a definite military character and is a major component of military strategy. It follows then that the Soviet General Staff would go to extensive lengths to protect the "rear" area, this military supply base. In fact, the Soviets have established both an offensive and a defensive capability to protect the homeland. (The Soviet offensive capability consisting of its land-based ICBMs and its submarine-based SLBMs, is not a concern of this study and is not discussed.) The defensive capability for protection of the rear has both passive and active components. The passive component of the Soviet civil defense system consists primarily of dispersing and hardening industry and dispersing, evacuating, and sheltering the population. A detailed discussion of civil defense is contained in Chapter 7.

f. ~~(S)~~(U)The active component of the Soviet system to protect the "rear" is the subject of this chapter. The weapons of this active defense include anti-ballistic missiles (ABMs), surface-to-air missiles (SAMs), and interceptor aircraft. Soviet strategic defense technology has progressed to the point where their modern systems can seriously challenge US offensive forces. As deployment of the SA-10 grows, a significant portion of the high-value-target base within the USSR can be defended against current US aerodynamic weapon systems. In addition, the ongoing upgrade to the Moscow ABM system will increase protection of that important target even against ballistic missile attack. The magnitude of this active defense effort is underscored by its personnel allocation: over 650,000 people are required to man and control the strategic defense systems.

2. ABMs and Air Defense Systems (U).

(U) The primary weapons that make up the active defense system, and their chief characteristics, are presented below, and how these weapons are integrated into the defense system and the effect of that integration on the survivability of high-value targets is discussed.

a. ~~(S/NOFORN/WNINTEL)~~ (U)The Soviets have the only active ABM system in the world, deployed in the Moscow area. This system, known as the

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Moscow ABM or ABM-1B system, first became operational in 1968. When fully operational, the system included the DOG HOUSE and CAT HOUSE battle management radars and four missile sites, each approximately 15 km from the center of the city. Each missile site had two target-tracking radars (TRY ADD A), four interceptor tracking and guidance radars (TRY ADD B/C), and 16 GALOSH missile launchers. Early warning support was provided by HEN HOUSE radars at six locations. In 1979, upgrading of the Moscow ABM defenses began. Eight launchers were removed from each missile site, leaving a total of 32 active. Silo launchers for a modified GALOSH are being constructed at two of the missile sites. Significant new construction is underway elsewhere. A large new radar is being build near Pushkin, approximately 45 km north of Moscow. At least three, and probably four, new missile sites with silos are also under construction. One of these is one kilometer from the Pushkin radar, while the others are closer to Moscow. It is expected that these sites will house a smaller, Sprint class, interceptor. The Soviets are also testing an ABM system (ABM-X-3) that appears to be suitable for rapid, widespread deployment. Although there is no evidence that the Soviets intend to deploy the ABM-X-3 system in the near term, its existence raises a threat to US forces. A significant national deployment could be accomplished in two to four years. Table 12-1 lists the performance characteristics of the ABM-1B.

Table 12-1. (U) ABM-1B Performance Characteristics

Maximum Operational Range	About 550 kms
Maximum Effective Altitude	About 370 kms
Minimum Effective Altitude	30 kms
Accuracy	90-120 m at max effective range
Guidance	Command
Maximum Velocity	About 3,810 m/s

Source: (4/III D-19) ~~SECRET/NOFORN~~ (u)

b. ~~(S)~~(u) The SA-1 (GUILD) is a surface-to-air missile first noted to be operational in 1954. The SA-1 is currently deployed only around Moscow, in two concentric rings. One ring is 46 kms from the center of the city, while the second ring is about 80 kms from the center. These two rings include 56 sites and approximately 3,300 launchers. It is estimated that no more than 25 percent of these launchers are kept on site. Most of the sites remain active, however, and with a few days warning all active sites can be loaded with missiles. Table 12-2 lists the performance characteristics of the SA-1.

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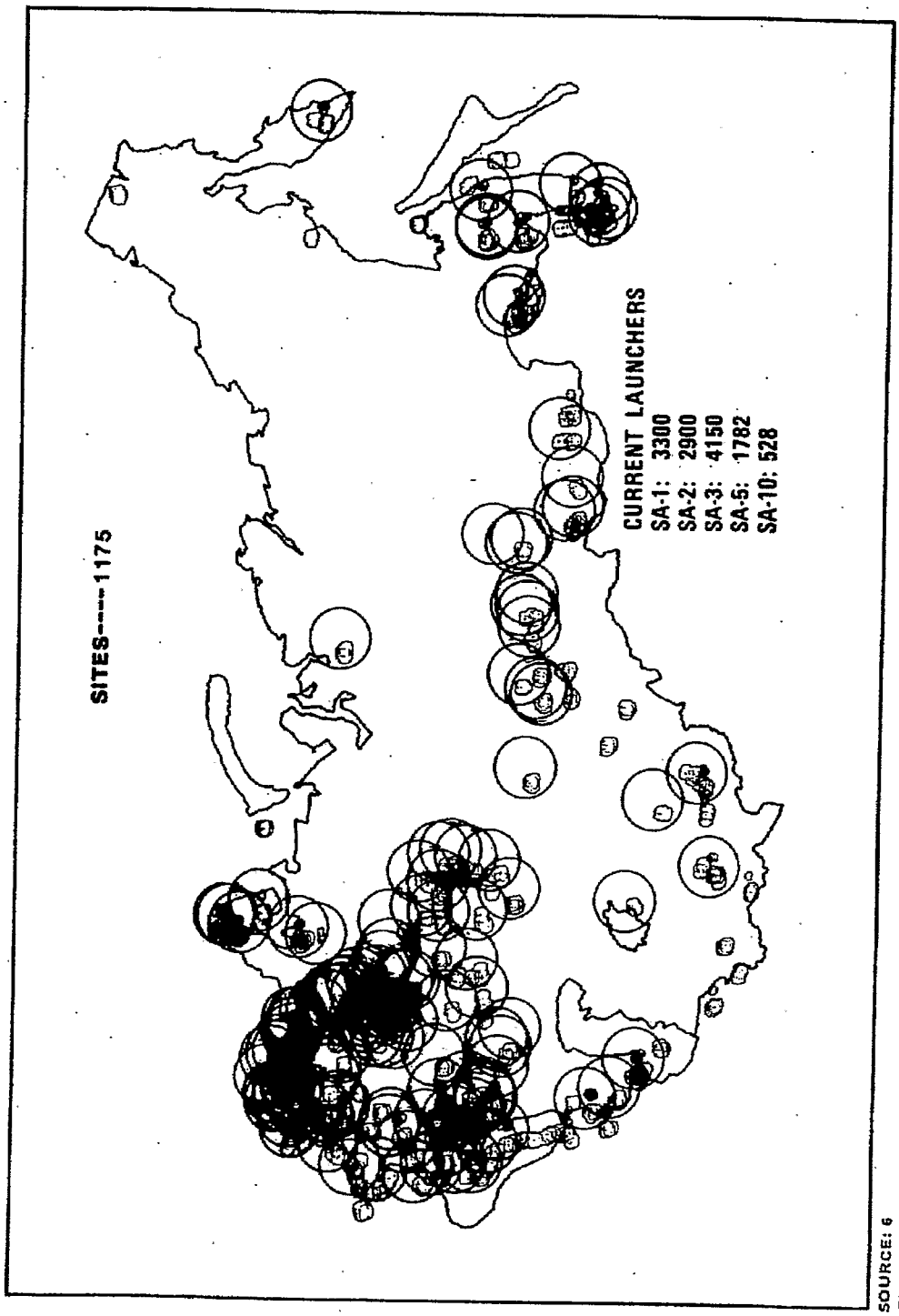

Figure 12-6. (U) Soviet Strategic SAM Deployment

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6. How This Influences Their Ability to Fight Now and in the Year 2000 (U).

a. (S) (U) The Soviets will undoubtedly continue to improve their ABM and air defense systems. Technical and scientific advances will be used to enhance the present deployment. Additionally, SAMs will probably be added to some areas they now perceive to be too lightly defended. However, the most critical question is whether the Soviets intend to significantly increase the numbers of ABMs and SAMs deployed and the numbers of deployment sites.

b. (U) The ABM expansion question is now a subject of debate in the intelligence community. Thus far, the Soviets have adhered to the 1972 ABM Treaty as modified in 1974, which limited both the USSR and the US to one ABM site.

c. (S/NOFORN)

(b) (1) & (b) (3) per CIA

Although it is possible that they could "break out" from the constraints of the old ABM treaty to quickly defend larger numbers of high value areas, it is considered unlikely that they will do so in the near future. Our present estimate is that, although continuing to develop ABMs, Soviet leaders will abide by the single-area-deployment limitation of the 1972 agreement. By doing so, they can assure that constraints on United States ABM programs will continue. The reverse, however, an expansion of ABM areas, might cause the US to deploy its own ABM system, eventually erasing the lead the Soviets now hold.

d. (S/NOFORN) (U) The other area of concern is the future deployment of SA-10s. The SA-10 provides credible defense against low altitude bombers, cruise missiles, and short-range attack missiles. Additionally, SA-10 mobility complicates avoidance and/or suppression tactics by attack aircraft. Thus, the Soviets will probably continue to deploy SA-10s. Present estimates indicate that expansion of SA-10 coverage to approximately 65 locations, covering less than 2 percent of the USSR's overall land area, will provide protection to approximately 70 percent of the USSR's overall target value.

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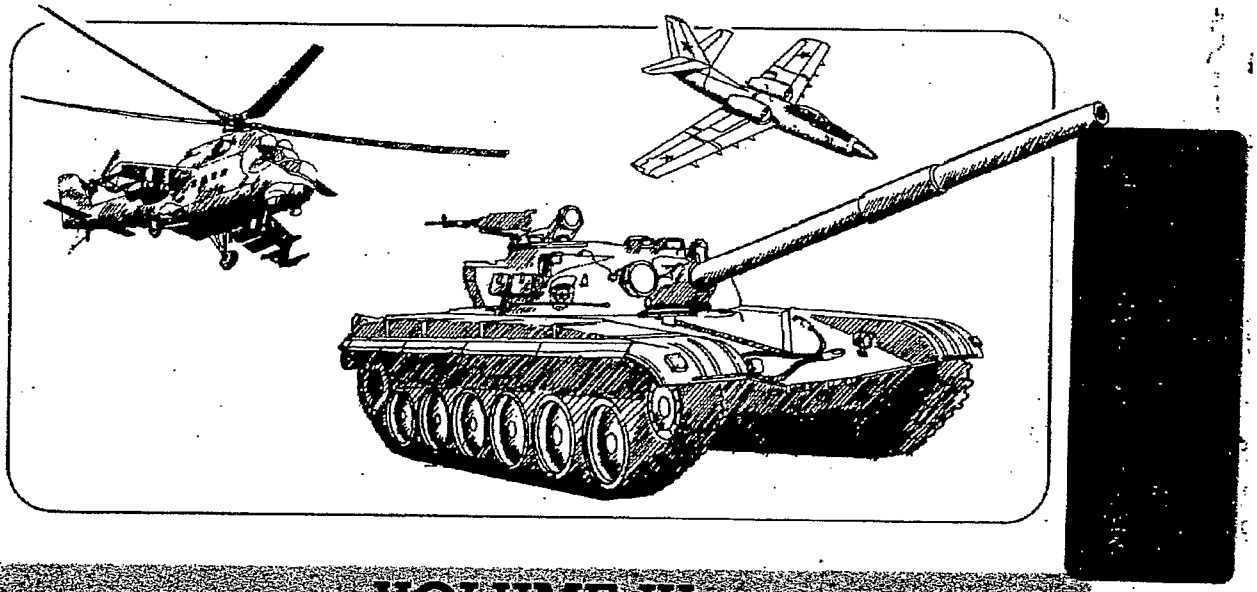

VOLUME IV

Soviet Ground Force Weapon Research, Development, and Acquisition: Process Outputs and Operational Impact (U)

Prepared by:
FOREIGN SCIENCE AND TECHNOLOGY CENTER

1 NOVEMBER 1982

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The Soviet Battlefield Development Plan
(SBDP)

VOLUME IV

Soviet Ground Force Weapon Research, Development, and Acquisition: Process Outputs and Operational Impact (U)

AUTHORS

b6

DATE OF PUBLICATION
1 November 1982

Information Cutoff Date
August 1982

This product was prepared by the Foreign Science and Technology Center, US Army Materiel Development and Readiness Command, with contributions from the Missile Intelligence Agency and the Central Intelligence Agency. It has been reviewed and approved by the Assistant Chief of Staff for Intelligence, Department of the Army.

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DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE
WASHINGTON, DC 20310

REPLY TO ATTENTION OF
DAMI-FIR

1 November 1982

SUBJECT: Soviet Battlefield Development Plan (SBDP)

SEE DISTRIBUTION

1. The volume you are now reading is only one part of a multi-volume effort titled the Soviet Battlefield Development Plan (SBDP). The SBDP is an attempt to provide an integrated and comprehensive analysis of Soviet military thinking, doctrine, and combined arms force development for the present and the future, extending out to the turn of the century. Thus, it should allow Army doctrine and combat developers to have a long-range view of the competition they face, so that they may design U.S. Army doctrine and forces in a dynamic perspective. Thereby they can exploit Soviet doctrine and force modernization to give the U.S. Army advantages in equipment, weapons, training, and tactics.

2. The SBDP is a forecast of Soviet force development for "combined arms" operations in land warfare as we believe the Soviet General Staff intends. It is, therefore, not primarily a prediction but rather more an attempt to understand the Soviet General Staff's vision of the next two decades for planning and programming. It is an attempt to provide a Soviet view, not a U.S. mirror image. The Soviet General Staff does not have an "Air Land Battle" doctrine. It has a "combined arms" doctrine of warfare under the conditions of both conventional weapons and weapons of mass destruction. While there is much in common between the two doctrines, the differences are far more important to understand.

3. The basic assumption for the SBDP is the probable Soviet assumption that there will be no significant adverse changes in the present international order which will cause major alterations in the Soviet development strategy for combined arms forces. The SBDP does take into account economic and demographic constraints that are reasonably predictable by Soviet planners. Further, it also tries to anticipate the impact of new technologies on force development.

4. Since combined arms operations in Europe are clearly the central issue for Soviet planners, the equipment, organizational, and operational forecasts contained in the SBDP relate primarily to Soviet forces in the European theater. However, since these planners must also worry about the Far East, Southwest Asia, and power projection to non-contiguous regions, these non-European concerns are also treated but to a lesser degree.

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5. Because Soviet combined arms doctrine is not conceptually restricted to the theater of operations but also concerns the "rear," that is, the entire continental USSR as a mobilization and production base, the SBDP deals with this aspect of force planning. Preparation of the "rear" for both nuclear and non-nuclear conflict is seen by the General Staff as the sine qua non and the first step in an all combined arms force development.

6. The SBDP consists of eight volumes and an Executive Summary. These eight volumes are organized to provide an interpretive framework within which to integrate and analyze the large quantity of intelligence information we have on Soviet ground forces.

7. The following provides a brief overview of this interpretive framework:

a. Volume I explores the ideological and historical heritage which shapes the perspectives of Soviet military planners.

b. Volume II flows logically from Volume I showing how ideology and history combine in the Soviet militarization of the homeland, i.e., the preparation of the "rear" for war.

c. Volume III presents an "order of battle" listing of, and forecast for, the ground force structure which has resulted from the ideological and historical factors reviewed in the two preceding volumes.

d. Volume IV discusses the equipment used by the forces described in Volume III and forecasts developments in these weapons out to the year 2000.

e. Volume V discusses the present organization and operations of the ground forces and also presents long-range forecasts in these areas.

f. Volume VI reviews high level command and control trends for these forces and looks at how the Soviets intend to increase their force projection capability over the next two decades.

g. Volume VII is a study of Soviet exercises and what they might infer about actual war missions.

h. Finally, Volume VIII is an attempt to compare Soviet missions with their present capabilities. Such an analysis gives us a stronger sense of the requirements the General Staff probably sees for building forces over the coming decades.

8. Although the ACSI coordinated the SBDP and designed its structure, all the major Army intelligence production organizations provided the analysis. ITAC, FSTC, MIA, and MIIA were the primary Army contributors. b3 per DIA

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9. Naturally, such a comprehensive undertaking inevitably has inadequacies and contentious conclusions in its first variant. Work on the next version is already under way, and it is directed toward refinements, filling gaps, and improving the analytical forecasts. You can help us in this effort by using the SBDP in your daily work, then answering and mailing the questionnaire which follows this letter.

10. We are developing the SBDP as a tool to assist both intelligence producers and consumers in accomplishing their tasks more efficiently and effectively. We hope you find this and future editions of the SBDP to be of such assistance.

WILLIAM E. ODOM
Major General, USA
ACofS for Intelligence

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SBDP EVALUATION QUESTIONNAIRE

1. The information requested below will help the office of the ACSI develop the SBDP in a way which is most useful to the consumer. If possible, do not detach this questionnaire. We request you photocopy it, leaving the original in the volume for other users. If the spaces provided for answers are not sufficient, please type your comments on additional sheets and attach them to this questionnaire form. We request all classified responses be sent through the proper channels.

2. Please provide your name, rank or position, unit, and a short job description. This information will help us determine the specific way in which you are using the SBDP.

a. NAME _____

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e. VOLUME YOU ARE EVALUATING _____

3. Total concept and structure: Do the eight volumes of the SBDP provide the necessary framework for effective integration and interpretation of available information? What improvements would you suggest to the overall organization or concept of the SBDP?

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4. Volume structure: Is this volume well organized? Does its method of presentation facilitate comprehension? Is the subject matter provided in the right degree of detail for your use? What improvements would you suggest in these areas?

a. ORGANIZATION: _____

b. PRESENTATION: _____

c. DETAIL: _____

5. Volume substance: Do you find the overall analysis and forecasts to be sound? How would you correct or improve them?

6. These questions are "wide-scope" by design. If you have other, more specific comments you wish to make concerning the SBDP please include them in your response. Send all responses to: HQDA (DAMI-FIR)
ATTN: SBDP Project Officer
WASH DC 20310

7. Thanks for your contribution in developing the SBDP.

VOLUME IV

HIGHLIGHTS

(U) The Soviets have established an effective weapon acquisition process that enables them to introduce into the inventory large numbers of qualitatively improved ground force systems. The effectiveness of this process is due to the following reasons. Most Soviet development programs are carried out on a controlled-risk, continuing basis that yields a regular output of developed systems capable of being rapidly procured and manufactured in large numbers. The overall process exhibits characteristics of long-term stability, continuity, regularity, and adequate support for all stages of the process. No radical change in the style or output level of this development process is projected. Some partial shift may occur, however, in the mix of design choices (toward a greater degree of change in designs). Such shifts may result from reaction to NATO initiatives, removal of prior manufacturing constraints (by transfer of Western technology), or as selected "new-in-principle" weapon systems complete development and begin to enter the inventory.

(U) Soviet ground force tactical doctrine provides a unifying framework, a strong demand pull, and stable direction for weapon development activities. When viewed in a structured doctrinal context, ground force developments reveal a balanced, coherent pattern.

(U) Soviet equipment is designed for rapid offensive penetration on the conventional, nuclear, chemical, or biological battlefield. The acquisition process operates to supply the full range of functional capabilities (combat and support) requried to implement that doctrinal concept. The balance and thoroughness of such preparation can best be appreciated by looking at the extensive developments in support areas such as that of engineer and mobility equipment.

(U) Because of their large investment in the tank and institutional commitment to it, the Soviet Army is likely to remain committed to an armored force operating offensively and penetrating rapidly with operational adaptations and material improvements added to maintain the viability of that commitment. Individual responses to NATO weapon developments, such as precision-guided weapons, will be formulated within this framework of tactical doctrine, as will new conventional and high-technology responses.

(U)

~~(C)~~ The largest, and most probable, portion of the Soviet equipment threat will come from the cumulative impact of numerous step-by-step advances in conventional technology applied within the basic doctrinal framework. While exotic or "new-in-principle" systems are less probable and may not be fielded in large numbers until the late 1980s or 1990s, they are expected. Likely candidates include a nonnuclear electromagnetic-pulse weapon, a low-energy laser weapon for destruction or degradation of vision/sensor devices, and a high-energy laser weapon.

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(U) To date, Soviet design strategy and acquisition strategy have compensated for an uneven technological base. A major strategy for overcoming this unevenness has been technology import. This is a Russian strategy that goes back to Peter the Great. It will continue on a planned and systematic basis. Successful acquisition of Western technology can alleviate major constraints on the Soviet weapon acquisition process.

(U)

~~(C)~~ The Soviets are attempting major improvements. The command-and-control system is being automated to improve its responsiveness under the fast-changing conditions of modern combat. Chemical, biological, and radiological protection, which is excellent in an offensive situation where advance warning is possible, is vulnerable to surprise in a defensive role. This is due to clothing that is burdensome to wear and cannot be put on quickly. At present, the Soviets are unable to intercept spread-spectrum communications. Anecdotal reports strongly indicate that, while food and water supply doctrine and equipment seem adequate, delivery is not. This seems to be a training and unit performance problem that is unlikely to be corrected.

(U) The impressive rate of modernization of Soviet ground force materiel observed over the last 20 years is expected to continue for the next 20 years. This projection is based on an improved understanding of the key features and critical variables of the Soviet acquisition process and on evaluation of its leading indicators (e.g., developmental projects in the pipeline, capital construction trends).

(U) Volume IV focuses on Soviet equipment and the weapon acquisition processes that produces that equipment. It looks at the historical patterns of Soviet equipment development, production, and deployment. When these patterns are analyzed in conjunction with production levels, insight is gained into the scope, capacity, and regularity of the Soviet weapon acquisition process. Volume IV also presents rather detailed discussions of Soviet weapon systems, both current and projected (through the year 2000). All systems are discussed within the context of Soviet tactical doctrine.

(U) Readers of Volume IV should note that its perspective differs significantly from that of the other seven volumes. Forecasts made in this volume are based only on the best-equipped units in the Soviet Army. Equipment likely to be found in other units is not addressed. These units will be equipped with systems that are less capable and less expensive than those found in the best-equipped Soviet units; often these systems are already in inventory.

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EXECUTIVE SUMMARY (U)

(U)
~~(C)~~ The Soviet weapon acquisition process is guided by a pragmatic strategy that is stable and that takes into account the strengths and weaknesses of the Soviet economic and industrial system. This system is based on a centrally planned economy and does not have the inherent drive towards developing new technologies found in market economies. Soviet design philosophy prefers to avoid the risk involved in developing new technologies and instead to field adequately performing systems in the numbers required by Soviet doctrine. This design philosophy and acquisition process have been institutionalized and embodied in national standards, which carry the force of law. Soviet doctrine for war is the primary consideration of weapon designers, who do not adopt new technologies unless they fit within the overall context of this doctrine. If the advantage to be gained from adopting a new technology is judged significant, the Soviet central planning authority is able to commit immense resources to its development. The Soviets also have a large program to acquire new foreign technologies and to use them in military hardware.

(U) There are several quantitative measurements of the output of the acquisition process. These include:

- Time lines depicting the developmental history of different weapon systems
- Production rates for weapon systems
- Inventory trends showing deployment patterns and rates
- Procurement budget trends
- Trends in weapon effectiveness index scores for each class of weapons

Analysis of these measurements shows that there are regular patterns in the development of Soviet weapons and that these patterns help in forecasting. There are two difficulties, however. First, the patterns are complex in that they reflect the cumulative effect of numerous development programs having varying development cycles and deployment rates. There are inconsistencies and incompatibilities in the data. This volume presents the best data currently available and discusses actions underway to improve both the quantity and quality of forecasts provided in future editions of The Soviet Battlefield Development Plan (SBDP).

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(u)
~~(C)~~ Soviet ground force tactical doctrine provides the unifying framework and a stable direction for weapon development activities. A central premise of this doctrine is the need for a strong combined-arms attack to penetrate and overwhelm opposing forces. The doctrine calls for highly mobile, armor-heavy maneuver forces supported by massive artillery fire and air strikes. The possibility of nuclear war is always a central consideration in Soviet plans, even those for conventional combat. For purposes of analyzing ground force weapon programs and forecasting equipment, Soviet tactical doctrine is examined in terms of the six major functions that a combined-arms force must perform: (1) reconnaissance and surveillance, (2) maneuver, (3) firepower and target disruption, (4) force protection, (5) logistical and engineer support, and (6) command and control.

(u)
~~(S/NOFORN)~~ The Soviets define reconnaissance as "information about the location, disposition, number, armament, combat preparedness, character of activities, and intentions of the enemy in the interests of combat." The Soviets can collect reconnaissance by satellite, aircraft, long-range patrol, signal intelligence (SIGINT) systems, radars, electro-optical systems, and chemical, biological, and radiological (CBR) detection devices. Reconnaissance targeting priorities, which are closely tied to firepower targeting priorities, are: (1) nuclear delivery means, (2) nuclear weapon supply, (3) command-and-control centers, (4) air defense installations, (5) supply and logistical strongholds, and (6) troop concentrations. While the Soviets do not now perform tactical reconnaissance from space, this can be expected after 1990. Aerial reconnaissance uses tactical aircraft and drones, which employ photography, electronic intelligence (ELINT) systems, real-time data links via television, and side-looking airborne radar. Future reconnaissance systems will include an airborne warning and control system and a follow-on fighter bomber, with high-definition film and a real-time data link for multisensor imagery, including high-resolution forward-looking infrared radar. The Soviets also use special-purpose forces (Spetznaz) both for sabotage and for behind-the-lines reconnaissance. The SIGINT systems now in use provide extremely accurate direction finding (DF) as well as ELINT analysis. At division level, at least four new systems will allow the Soviets to intercept and DF frequencies between 1.5 MHz and 9.5 GHz and to monitor radio nets within about 30 km, radars up to 60 km away, and aircraft-associated communications up to 400 km away. Radar reconnaissance provides the capability to establish an electronic order of battle but in doing so has given up some of its precision DF capabilities. At present the Soviets do not have adequate electronic support measures against NATO spread-spectrum communications, radar, or other noncommunications equipment. New second-generation systems appearing in the early 1980s will be product improved to address this deficiency. Owing to the highly reactive nature of electronic warfare, the Soviets are expected to delay introduction of third-generation SIGINT systems until after NATO forces field electronic systems that cannot be effectively intercepted by second-generation systems. Third-generation systems are not expected until the 1990s.

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(u)

~~(S/RELCANUKAUS)~~ Soviet battlefield surveillance radars provide reconnaissance to Soviet artillery. BIG FRED has a maximum unambiguous range of 60 km (estimated) and a range of 30 km (estimated) against a 1-m^2 target. SMALL FRED is used for target detection and fire adjustment. It is mounted on a BMP-M1975, which also has several passive electro-optical systems, including low-light-level television. SMALL FRED has a maximum unambiguous range of 20 km (estimated) and an estimated range of 15 km against a 1-m^2 target. BIG and SMALL FRED are likely to have follow-ons in the 1990s that have added electronic counter-countermeasure features and significantly improved azimuth and range accuracies and resolutions. Three manpack radars are used for surveillance of moving ground targets, including vehicles out to 10 km. The use of integrated circuits in these radars will improve their performance and decrease their size and weight. The Soviets lack an effective countermortar/counterbattery (CM/CB) radar, but they should introduce one around 1990. If phased-array radar techniques are available, the CM/CB radar will use them.

(u)

~~(S)~~ Electro-optical equipment available includes laser rangefinders, active-infrared image intensifiers, and low-light-level television. In the laser rangefinders, which are used in aircraft as well as on ground equipment, ruby lasers are being replaced by neodymium lasers. In the 1990s carbon dioxide lasers may be introduced. This move toward the far-infrared portion of the spectrum will improve atmospheric penetration. Current research and development activities are leading to passive devices of better resolution and sensitivity as well as to lower weight and power consumption, largely through the use of microelectronics. Thermal imaging systems that are manportable and can recognize a 2.3x2.3-mm (3°C) target at ranges of around 3 km are expected in the late 1980s. Recognition ranges of 5 to 7 km are likely to be costly and impractical.

(u)

~~(C)~~ CBR reconnaissance is conducted by specially trained units, which are integrated into all Soviet units from front down to regiment. Lower level units do not have organic chemical units but have extra-duty teams trained by the chemical personnel. The Soviets have two amphibious armored CBR reconnaissance vehicles that can mark contaminated terrain for following troops. These vehicles are being augmented with improved alarms, detectors, and computational systems. Raman and long-path infrared systems will probably be introduced in the late 1980s to improve the detection capabilities of these vehicles.

(u)

~~(S)~~ The second combined-arms function, maneuver, is a key factor contributing to the high rate of advance (50 to 80 km/day) envisioned by Soviet tactical doctrine. Maneuver is viewed as movement of a force into a favorable position from which an attack can be launched. Maneuver units are formed around armored vehicles. Other vehicles have mobility features that enable them to keep pace with the armored systems. CBR protective features

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are an important aspect of this mobility because they enable all units to continue to move and to fight under CBR conditions. Night-vision devices and land navigation systems help operations in bad weather and under conditions or poor visibility. Lastly, the Soviets are known to be experimenting with psychotropic drugs as a means of enabling their troops to continue offensive action around the clock.

(u)

~~(S/RELUK)~~ Although the T-62 is the major tank threat presently deployed opposite US troops, it will soon be replaced by the T-64 and T-72 tanks, which are already being deployed. The next Soviet tank (NST) is in the final stages of development and it is expected to be followed by the future Soviet tank (FST) in the 1990s. The T-64 tank, developed in the early to mid 1960s and produced at the Kharkov Tank Factory, is not a product-improved T-62 but a new tank. The T-64 is deployed with front-line units in Group Soviet Forces Germany. It has a new, extremely high-velocity, 125-mm smoothbore gun; advanced armor that offers improved protection against radiation and shaped charges; a new engine; and new suspension. It is still in production along with the T-72. The T-72, which was developed in the late 1960s and early 1970s and which is produced in Nizhniy Tagil, exists in several versions and has been exported. Its automotive components and suspension components are different from those of the T-64; it is deployed in units located behind those equipped with the T-64. The NST will weigh approximately 42 tonnes, may have a gas turbine engine, is likely to have a ballistic computer that accepts nonstandard data, and is likely to have more advanced armor developed in response to Western threats. Soviet armor research, particularly in laminates, will be reflected in the FST. This tank will feature a product-improved 125-mm smoothbore gun, and its fire-control system will benefit from Soviet advances in microelectronics. A number of alternative developments appear to be under consideration for the FST. A better antiaircraft weapon or a turret-mounted surface-to-air missile is possible. A number of advance design concepts under study in the West are also being examined by the Soviets. Lowering the tank's silhouette by going to a turretless tank increases frontal armor protection while reducing the tank's visibility as a target. Certain immediate Soviet responses to top-attack munitions are expected. Integral and add-on armor will be designed to defeat small, unguided bomblets. Combined-arms tactics and new technology weapons (such as radio frequency weapons) may be used to defeat these systems prior to their use on Soviet tanks. In the area of tank ammunition, kinetic penetrators, already formidable, can be improved by moving from monobloc steel to sheathed tungsten or depleted uranium. High-explosive antitank ammunition can be improved by technology already found in smaller shaped-charge warheads, including the use of HMX explosive.

(u)

~~(S/NOFORN)~~ There are two recent developments in infantry fighting vehicles (IFV) and armored infantry combat vehicles. In early 1981 a BMP variant appeared that had a high-velocity 30-mm automatic gun. This gun is

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estimated to fire at a cyclic rate of less than 400 rd/min and to be effective against IFV and the side armor of some tanks. This vehicle is expected to play an assault or fire-support/suppression role. The second development, the BTR-70, is a wheeled armored personnel carrier, which replaces the under-powered BTR-60PB. Ammunition for the BMP and the airborne version, BMD, has been upgraded significantly, giving the 73-mm round an estimated 30% increase in penetration. The Soviets have used the BMP and the MT-LB lightly armored artillery tractor as the basis for a wide variety of reconnaissance, support, and command-and-control vehicles.

(u)
~~(S/NOFORN)~~ Soviet maneuver forces will also have helicopter support. The Mi-24 (HIND D), and its product improvement, HIND E, a heavily armed attack helicopter, evolved as dual-role aircraft: ground attack and assault. Armed and equipped to attack tanks and personnel as well as to carry troops for assault operations, the Mi-24 has also been equipped for air defense against helicopters and other low-speed aircraft. The Ka-27 (HELIX) is a naval helicopter that can be used for amphibious assault. In 1983 the Soviets are expected to field a new ground-attack helicopter, the Mi-28. This is a two-seat attack helicopter; it has no provisions for cargo or passengers. It will closely resemble the US AH-64. Other projects underway at the Mil Design Bureau include the Mi-30 and Mi-32 tilt-rotor aircraft, which may be used in an assault role if they are fielded.

(u)
~~(C)~~ Soviet maneuver units include the world's largest and most mobile airborne force. This force is equipped for low-altitude (100-meter) jumps and for high airspeed (216 knot) jumps at higher altitudes. Through the use of various combinations of parachutes, retrorockets, and platforms, the Soviets can drop combat vehicles as heavy as the self-propelled (SP) assault gun ASU-85 (14.4 tonnes).

(u)
~~(C)~~ Small arms, integral to all maneuver units, have undergone significant new developments: (1) a replacement of the relatively low-velocity 7.62-mm round by the high-velocity 5.42-mm round has given the Soviet rifleman an effective range equivalent to his US counterpart; (2) the 30-mm AGS-17 automatic grenade launcher provides a means of suppressing dismounted infantry weapons, particularly antitank systems; and (3) the penetration of Soviet antitank rounds has been significantly increased (up to 30%).

(u)
~~(S)~~ The application of firepower, the third combined-arms function discussed in this volume of the SBDP, has been very carefully analyzed by the Soviets. They have established "operational norms" that specify how much fire will be used in a given situation and given time. Firepower will be used to destroy or disrupt enemy means of control, to destroy enemy tactical nuclear weapons, and to support advancing maneuver units by destroying enemy antiarmor weapons and neutralizing enemy artillery. Firepower is not the

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only means of disruption or destruction. Electronic warfare assets are closely integrated with firepower, and tactical aircraft and chemical and biological agents are also available for use.

(u)
~~(S/NOFORN)~~ Soviet artillery is closely related to reconnaissance and has its own reconnaissance equipment. The PRP-3 is an amphibious, full-tracked CBR-protected variant of the BMP. It has electro-optical equipment in addition to the SMALL FRED ground surveillance radar. With the PRP-3 a combined-arms army can confidently detect movement in the forward area out to a depth of 10 km. The BIG FRED ground surveillance radar is located behind SMALL FRED where it can observe critical sectors. Improvements to both systems are expected, particularly in electronic counter-countermeasures.

(u)
~~(S/NOFORN)~~ At present there is no effective CM/CB radar. One is expected in the late 1980s, and it may use phased arrays; any problems with this technology may delay it to the 1990s. A range of 15 km vs. mortars and 30 km vs. artillery is expected.

~~RD~~ (u)
~~(S/NOFORN)~~ An automated artillery fire-control system is available now, but it still relies on manual input of data from artillery observers. By the late 1980s a completely automated system should be fielded. There are nine new artillery systems projected for the 1986-2000 period. These are:

- A towed 122-mm howitzer in the mid 1980s
- A towed 152-mm howitzer in the mid 1980s
- A SP 122-mm howitzer in the late 1980s
- A SP 152-mm howitzer in the early 1990s
- A SP 152-mm gun in the late 1990s
- A SP 120-mm mortar in the mid 1980s
- A 150- to 180-mm divisional multiple rocket launcher (MRL) in the late 1980s
- A 122-mm regimental MRL in the early 1990s
- A 240-mm MRL in the late 1990s

There are also new developments in ammunition. These will upgrade existing artillery. Proximity fuzes have been deployed and both solid-state circuitry and IR sensors will be incorporated in future fuzes. By the mid 1980s

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electronic time fuzes for improved conventional munitions and nuclear munitions will be available. b3 Per DOE Flechette rounds with up to 20 times the lethal area of HE-FRAG are now deployed. Heavier flechettes, capable of penetrating 1/2 inch of aluminum armor, could be placed in a 203-mm projectile. The Soviets have markedly increased production of HMX, an explosive that will improve the performance of all volume-constrained projectiles.

(S/NOFORN) The Soviets have chemical agents available and have developed tactical doctrine for their use. Nonpersistent chemical agents would be used to attack targets along the axis of advance. These will produce casualties yet minimize danger to advancing Soviet forces. Persistent agents would be used against critical targets deep in the enemy rear. b1

(u)
(S) One new-in-principle system could be available in the late 1980s. This is a radio frequency weapon that uses an intense burst of nonnuclear electromagnetic radiation to destroy or degrade electronics in target systems. Potential targets include radars, communication networks, fire-control centers, ordnance fuzing, launch control facilities, and automotive engines.

(u)
(S) The firepower function is also fulfilled by ground-attack aircraft. Soviet ground-attack aircraft such as the MiG-27 (FLOGGER D) can fly missions on area targets at night and under adverse weather conditions. Laser target designators are estimated to be available for use with tactical air-to-surface missiles. A follow-on fighter bomber-projected-I (FB-P-I) is projected for initial operational capability (IOC) in 1987. In addition to unguided rockets and free-fall bombs, it will carry precision-guided munitions and anti-radiation missiles.

(u)
(S/NOFORN) Tactical ballistic missiles came into the Soviet inventory after World War II with the help of German V-2 technology. Nuclear, chemical, high explosive, and improved conventional munition warheads can be delivered at ranges from 120 to 900 km and with circular errors probable down to 50 meters. The next major improvement in tactical ballistic missiles will be the deployment of division-, army-, and front-level systems with terminal guidance.

(u)
(S/NOFORN) Nuclear warhead development will emphasize ease in handling and selectability. Greater ease in handling will speed preparation of warheads for the attack, and selectability will give Soviet commanders more flexibility in targeting. b3 Per DOE

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(u)
~~(S)~~ The Soviets can use communications jamming to disrupt enemy control. Front- and army-level units have vast organic resources of jammers operating in high frequency against strategic communications, very high frequency against tactical frequency-modulated radio links, and ultrahigh frequency against air-to-ground communications. Follow-on versions of existing jammers feature solid-state components and increased automation. These systems all exhibit a very close relationship to predecessor models and are responsive to enemy developments in communications equipment.

(U) The fourth major combined-arms function is force protection, or protection of the combined-arms team against enemy air attack, enemy tanks, CBR threats, and antitank systems.

(u)
~~(S/NOFORN)~~ Air defense includes surface-to-air missiles (SAM), antiaircraft artillery, electronic warfare systems, and tactical aircraft. In missiles the Soviets have a long-standing and prolific program for tactical SAM systems.

(u)
~~(S)~~ The Soviets have deployed at least 12 air defense missile systems. Long-range tactical SAM systems are attached to field armies, medium-range tactical systems to divisions, and lower range systems to lower echelons. In the midterm, modifications are expected for the SA-8 follow-on, the SA-11, the SA-X-12, the SA-13, the SA-14, and the antitank ballistic missile. A carbon dioxide laser for air defense may also be introduced. While the Soviet tactical air defense network is formidable and evolving to take advantage of technological opportunities, it will be taxed by the wide array of blue systems now under development.

(u)
~~(S/NOFORN)~~ At present the ZSU-23-4 is the primary antiaircraft artillery system. Its follow-on is expected to be a SP Quad 30-mm system with a 4000-meter range and a radar operating between 30 and 40 GHz near 100 kW with a receiver noise of <5 dB. This system, tentatively identified as the ZSU-X, will probably use a modified T-72 tank chassis. Its follow-on, the ZSU-Y, could achieve initial operational capability in the 1990s if a new antiaircraft artillery gun is fielded at all. This system will incorporate the advanced data processing systems inherent in Soviet advances in microelectronics.

(u)
~~(S)~~ The mission of an air defense jamming battalion is to protect front-held resources from airborne radar reconnaissance and radar-aided bombing. An additional mission is to protect the march of subordinate armies. The jamming range of this battalion is 100 to 200 km; it can protect three or four large-area targets or six to eight intermediate size targets.

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(u) ~~(S/NOFORN)~~ Two new air defense aircraft are coming into service to complement the FISHBED (MiG-21), FLOGGER (MiG-23) fighter aircraft, and HIND D (Mi-24) helicopters in their air defense role. The first, arbitrarily designated the New Mikoyan Fighter, should reach IOC in 1984. It is armed with an internal gun, a new air-to-air missile, and a lookdown, shootdown radar. The second aircraft, the New Sukhoy Fighter, is also expected in 1984. Although it should initially be used as an interceptor in Strategic Air Defense forces, it may eventually be deployed with frontal aviation as an air-superiority fighter and ground-attack aircraft.

(u) ~~(S/NOFORN/WNINTEL)~~ To defend against enemy tanks requires concentrations of large numbers of antitank weapons in firetraps. These include antitank guns, antitank guided missiles, infantry antitank systems, and mines. As armor technology has advanced, so have the warheads used on antitank systems: they now provide markedly increased penetration. In addition to the towed 100-mm antitank gun MT-12, which can penetrate about 400 mm of rolled homogeneous armor and has a normal maximum combat engagement range of 2500 meters, there is also an 85-mm towed antitank gun, probably in limited production. This system will be capable of defeating infantry fighting vehicles and the side armor of modern tanks. Guidance systems of antitank guided missiles have progressed from manual guidance through semiactive to laser semiactive homing. Laser-beam-riding missiles and fire-and-forget missiles are expected in the late 1980s and early 1990s. There are two new infantry antitank weapons. The RPG-16 is a shoulder-controlled, muzzle-loading antitank grenade launcher, which fires a 58.3-mm projectile to an effective range of 600 meters. It has a dedicated gunner. The RPG-18 is a 64-mm system similar to the US light armored weapon.

(u) ~~(S)~~ The Soviets have devoted the world's largest effort to protecting their forces from chemical and biological warfare agents. Protective clothing is available as are integral collective protection systems on nearly all combat and combat-support vehicles, including electronic warfare systems, engineer equipment, and field kitchens. Decontamination systems such as the TMS-65 effectively decontaminate up to 20 vehicles per hour.

(u) ~~(S/NOFORN)~~ The Soviets have adopted some sophisticated approaches to protection against surveillance and target acquisition. Since the 1960s, they have been vigorously developing an aerosol that could absorb sufficient infrared radiation to defeat or seriously degrade US precision-guided munitions. This capability could be expanded into the microwave region of the electromagnetic spectrum. The use of aerosols is dependent on local weather. High winds, rain, snow, or other conditions may preclude their use. Radar-absorbing paints and coatings may also be available to degrade active millimeter-wave guided weapons of future fire-and-forget top-attack weapons.

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(u)
~~(C)~~ The rapid offensive penetration that is central to Soviet tactical doctrine depends in a very large part on engineer support. An examination of developments in engineer and logistics equipment quickly leads to an appreciation of the thoroughness of Soviet battlefield developments. Engineer operations contribute to the mobility of maneuver units, counter enemy mobility, and increase the survivability of Soviet units. Logistic support is geared to providing ammunition, fuel, food, and water to advancing maneuver units.

(u)
~~(S)~~ Engineer mobility systems are geared to supporting an advance of 30 to 50 km a day using conventional weapons and an advance of 50 to 80 km using nuclear weapons. River-crossing doctrine calls for assault from the line of march with little or no prior preparation. Bridges are available for dry and wet gaps as well as for railroads. A second-generation ribbon bridge will be fielded in the early 1980s as an amphibious bridge or ferry system. Other new assault bridges based on the T-72 or later model tank chassis are also expected. Route-clearing equipment includes a specifically designed bulldozer, the IMR armored engineer tractor, and a follow-on based on the T-64 or T-72 tank chassis. These and future models will closely match existing tanks and be able to operate in a CBR environment. Minefields are breached by several means. A new system, mounted on the MT-LB tracked armored artillery tractor, can launch rocket-projected line charges. A fuel-air explosive could be available in the late 1980s.

(u)
~~(S)~~ The two main areas of countermobility support are mine warfare and barrier construction. The Soviets have an excellent tracked armored minelayer and the BM-27(S) MRL, which is believed capable of remote minelaying. The barrier that can be constructed most rapidly is the antitank ditch. The just deployed MDK-3 ditching machine is mounted on a lengthened and extensively modified T-64 chassis. Its reported capability is 400 m^3/h over sandy loam.

(u)
~~(S/NOFORN)~~ Engineer survivability systems provide additional protection from conventional, nuclear, and CBR attacks through rapid digging in and through camouflage, concealment, and deception (CCD). Soviet equipment for rapid digging in is both available and productive. One MDK-2M ditching machine, for example, can prepare complete emplacements for six tanks in 1 hour. One PZM ditching machine can excavate 210 meters of communication or fire trench in 1 hour. CCD doctrine calls for use of natural cover, night, decoys, strong troop and radio discipline, disinformation, and obscurants. Camouflage paints and obscurants are operating in the visible and infrared portions of the spectrum. Extension into radar camouflage is expected by the late 1980s. In the 1990s rapid color change through spray application of paints and the capability to defeat thermal sensors and radar are expected.

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(u)
~~(C)~~ Water and food supply are also tailored to rapid offensive action in a CBR environment. The Soviets have mobile water reconnaissance, drilling, purification, desalination, and storage equipment. Under normal field conditions the normal requirement for a division is 150 000 liters for drinking and 675 000 liters for sanitation and laundry. This can be reduced markedly in combat. Soviet doctrine prescribes providing, whenever possible, three hot meals a day--even in a fast-moving and mobile situation. Soviet food supply equipment is well prepared for operation in a CBR environment. While water and food supply equipment and practice seem adequate, anecdotal reports indicate that actual performance is not.

(u)
~~(C)~~ Fuel supply is a potential problem for a fast-moving mechanized force. For construction of pipelines, the Soviets have automated pipelaying machines including a tracked version for greater mobility over adverse terrain.

(u)
~~(S)~~ Today the Warsaw Pact countries have a greater selection of trucks with specific characteristics for military than any other group of countries. The Soviets have almost completed the development of a fourth generation of trucks. The final models of this generation will be introduced by 1990. These will undergo product improvement during the late 1980s and 1990s. Possible technological options include automotive gas turbines in the 200 kW and up power range, and automatic transmissions.

(u)
~~(C)~~ Logistic support can also be supplied by heavy lift helicopters. The HALO A (Mi-26) has a maximum takeoff weight of 56 000 kg and a payload of 20 000 kg. Two new projects, the Mi-30 and Mi-32, appear to be tilt-rotor aircraft that might be used in a medium lift logistics role.

(u)
~~(S)~~ The last major combined-arms function is command, control, and communication (C^3). Soviet C^3 doctrine developed in the context of Russian terrain and experience. Two environmental features of the European USSR are important. First, the extreme size and, second, the extreme flatness of the area led to a particular force structure. Large armies and the ability to maneuver them over great distances and to concentrate them against the threat became important. This led to a highly centralized command structure to receive reconnaissance information, make decisions, and communicate them to maneuver, firepower, force protection, and support units. The Soviets are working to improve the responsiveness of their command, control, and communications systems through automation. The Soviets also make extensive use of land navigation systems and mapping to aid in solving command-and-control problems.

(u)
~~(S)~~ Automation of command and control has been underway since the 1960s. The following Soviet objectives have been set to reduce the time required for command decisionmaking:

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Echelon	Time for	
	Manual staff work	Automated support
Front	6 hours	1 hour
Army	4 hours	40 minutes
Division	100 minutes	20 minutes

These objectives support the overall goal of a rapid offensive penetration under nuclear or nonnuclear conditions. They have made steady progress toward development of an automated command system, but at present they do not have a complete, integrated field-deployed system to support all echelons of command. A complete system will not be fielded before the late 1980s.

(u) ~~(C)~~ At least 30 Soviet vehicle models have some kind of gyroscopic navigation system. Over 101 000 tactical vehicles are believed to be so equipped. The systems, particularly the full system with map plotter, enable timely maneuver on an obscured battlefield without radio communication and are inherently immune to electronic warfare measures. The Soviets are improving the accuracy and reducing the warm-up times of current systems. Ring laser gyroscopes may be introduced in the late 1980s; they would provide improved accuracy and reliability and would reduce warm-up time to a fraction of a second.

(u) ~~(C)~~ Soviet combat maps are high quality and can be prepared or updated in volume in the field. They incorporate a wealth of military geographic information that is entirely absent from US maps. Much of the information needed for maneuver, such as soil trafficability, line of sight, degree of slope, and size of trees is found on a single map. The Soviets are automating map production and by 1985 will have completed original large- and medium-scale mapping of priority target areas. For the 1990s the most significant aspect of topographic support will be the automation of terrain analysis data. This will be dependent on Soviet advances in computers and electronics.

(U) Several technologies are important to more than one weapon system and are discussed separately. Many of these technologies are assessed in other documents. This volume gives a summary assessment of computers, microelectronics, lasers, and the transfer of technology into the Soviet Union.

(u) ~~(S/NOFORN)~~ The Soviet Union trails the United States in computer technology by 5 to 8 years. The Soviets have set up cooperative computer development projects with other Warsaw Pact countries. One such project developed the Ryad I and Ryad II computer systems, which are equivalent to

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the IBM 360 and 370 series computers. A Ryad III series is currently in design with some models set for production in the mid-1980s. The M10, apparently in production, achieves a maximum operating speed of 5 million operations per second (MOPS). The Elbrus-1, nearing production, will achieve 10 to 12 MOPS and the Elbrus-2 reportedly will be 10 times faster than that. These machines can be used in a number of applications, including cryptanalysis, air defense, and signal processing. Soviet objectives for ground applications include digital computers for tanks, antiaircraft artillery, and the HIND helicopter. The Soviets do have an automated artillery fire direction computer at battalion level. Future trends include computerized digital communications and automation from battery through artillery regiment/brigade level.

(u)

~~(S)~~ Since 1976 the Soviets have made remarkable progress in microelectronics. By 1980 the US lead in applied military microelectronics had been reduced to 2 to 3 years. The Soviets are meeting their goals for the relatively low volume of devices needed for military applications. This success is almost entirely due to technology transfer from the West.

(u)

~~(S)~~ The Soviets are developing both low- and high-energy laser systems. Low-energy systems may be deployed by 1985 and would permanently damage optical sensors used on US surveillance, target acquisition, and night-observation equipment. The high-energy laser may be available by 1990 for use against helicopters and low-flying aircraft. This weapon would cause structural damage to aircraft within 2 km and sensor damage within 10 km. Military laser communications systems should be tested by 1985. The ring laser gyroscope has been extensively researched and almost surely will be deployed in land vehicles by 1990. Laser detection of chemical agents at ranges out to 1 km is likely by 1990. Soviet laser designators are believed to be in the inventory, most likely for the AS-10 air-to-surface missile. Beam-riding missiles, similar to the Swedish RBS-70, will probably be available by 1990. Laser rangefinders, available now, will operate in the far-infrared region to improve atmospheric penetration.

(u)

~~(C)~~ Technology transfer is a major goal in Soviet R&D planning. It is a part of 5- and 10-year plans and is accomplished by a variety of legal and illegal means. There is evidence of transferred technology being systematically worked into Soviet military systems.

(U) A graphical summary and overview of forecasted Soviet equipment in the six functional areas will be found in the insert at the end of this study.

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LIST OF ABBREVIATIONS (U)

AAA	antiaircraft artillery
AAFCS	automated artillery fire-control system
AAM	air-to-air missile
AC	hydrogen cyanide
ACRV	armored command and reconnaissance vehicle
ACS	automated command support
AI	airborne intercept
AP	armor piercing
APC	armored personnel carrier
APDS	armor-piercing, discarding sabot
ARM	antiradiation missile
ASU	automated control and management system
ASW	antisubmarine warfare
ATGM	antitank guided missile
ATV	armored tracked vehicle
AWACS	airborne warning and control system
CBR	chemical, biological, or radiological
C^2	command and control
C^3	command, control, and communications
CCD	camouflage, concealment, and deception
CE	chemical energy
CEMA	Council for Mutual Economic Assistance
CM/CB	countermortar/counterbattery
CO	carbon monoxide
CO_2	carbon dioxide
CW	continuous wave
DF	direction finding
DIPP	Defense Intelligence Projections for Planning
DSE	direct-sequences encoding
ECC	Eurasian Communist countries
ECCM	electronic counter-countermeasure
ECM	electronic countermeasure
EDL	electric discharge laser
ELINT	electronic intelligence
EMP	electromagnetic pulse
EMTR	Emba Missile Test Range
EO	electro-optical
ERP	effective radiated power
ERRB	enhanced-radiation, reduced-blast
ESM	electronic support measure
EW	electronic warfare
FAMP	Foreign Army Materiel Production
FDC	fire direction center
FEBA	forward edge of the battle area
FH	frequency hopping

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FLIR	forward-looking infrared
FRAG-HE	fragmentation high explosive
FST	future Soviet tank
GAZ	Gorkiy Motor Vehicle Plant
GB	sarin
GCI	ground-control intercept
GD	thickened soman
GSF	ground support fighter
GSFG	Group Soviet Forces Germany
H	mustard
HEAT-FS	high-explosive, antitank, fin-stabilized
HEL	high-energy laser
hf	high frequency
HVAPFSDS	hypervelocity, armor-piercing, fin-stabilized, discarding sabot
IC	integrated circuit
ICM	improved conventional munition
IFV	infantry fighting vehicle
INS	inertial navigation system
IOC	initial operational capability
IR	infrared
IRSTS	infrared search-and-track system
ITAC	Intelligence Threat Analysis Center
KE	kinetic energy
L	lewisite
LAMM	Land Armaments and Manpower Model
LIDAR	light detection and ranging
LLLTV	low-light-level television
LOC	line of communication
LOG CAPP	(Warsaw Pact) Logistics Capabilities and Projections
LOPAIR	long-path infrared
LRF	laser rangefinder
LSI	large-scale integration
MO	Ministry of Defense
MOPS	million operations per second
MRL	multiple rocket launcher
MTI	moving target indicator
NATO	North Atlantic Treaty Organization
NST	next Soviet tank
PD	pulse duration
POL	petroleum, oils, and lubricants
PPI	pulse position indicator
PRF	pulse repetition frequency
PHOTINT	photographic intelligence
R&D	research and development
RAM	random-access memory
RAM-D	reliability, availability, maintainability, and durability

REC	radioelectronic combat
rf	radio frequency
RHA	rolled homogeneous armor
SACLOS	semiautomatic command to line of sight
SAM	surface-to-air missile
SBDP	Soviet Battlefield Development Plan
SCAM	Strategic Cost Analysis Model
SEPA	Soviet Extended Planning Annex
SIGINT	signal intelligence
SLAR	side-looking airborne radar
SLJ	sweep, lock, and jam
SP	self propelled
SRBM	short-range ballistic missile
SS	spread spectrum
STANO	surveillance, target acquisition, and night observation
TASM	tactical air-to-surface missile
TEL	transporter-erector-launcher
TELAR	transporter-erector-launcher and radar
TH	time hopping
TOA	time of arrival
TTZ	tactical-technical assignment
TV	television
uhf	ultrahigh frequency
vhf	very high frequency
VPK	Military-Industrial Commission
VTA	Military Transport Aviation
WEI	Weapons Effectiveness Index
WPC	Warsaw Pact countries
WUV	Weighted Unit Value
YeSKD	Unified System of Design Documentation
YeSTPP	Unified System of Technological Preparation for Production

CHAPTER 1

SOVIET GROUND FORCE WEAPONS ACQUISITION PROCESS FEATURES (U)

1. Introduction (U).

a. Purpose (U).

(U) The purpose of this volume of the Soviet Battlefield Development Plan (SBDP) is to define the major patterns of the Soviet ground force weapon research and development (R&D) process and relate the output of that process to operational impact. The latter goal will be addressed by describing developed equipment within a framework of functional capabilities that collectively provide the means to satisfy the overall goals of Soviet tactical doctrine.

b. Premises (U).

(u) ~~(C)~~ Subsequent analysis is based upon the following premises.

(u) ~~(C)~~ (1) The Soviets have developed a weapon acquisition process that regularly develops and fields in large numbers a balanced mix of required weapon systems. This process is guided by a pragmatic acquisition strategy (developed and refined over a long period of time) and implemented by a network of performers, with stable functional assignments, pursuing a relatively uniform set of design engineering practices.

(u) ~~(C)~~ (2) Soviet tactical doctrine is the primary driving force behind and the integrating framework for past and projected weapon development programs. When these programs are viewed in the appropriate operational framework, a coherent pattern of developmental activities emerges.

(u) ~~(C)~~ (3) In recent years, our understanding of this acquisition process has improved considerably. In addition, the process is so massive and has such momentum or inertia that radical short-term changes are unlikely

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to occur. Therefore, general patterns can be defined and used as the basis for projections into the future.

c. Outline (U).

(U) This document is organized as follows:

- Chapter 1 describes the key features of the Soviet R&D process, i.e., those factors that determine the type and quantity of ground force weapons created by that process.
- Chapter 2 summarizes trends in the overall output of Soviet ground force R&D.
- Chapter 3 develops the theme that Soviet ground force tactical doctrine provides an integrating framework by which past and projected weapon developments may be interpreted. Paragraph 3 of that chapter presents a graphical display of a set of functional capabilities that collectively provide the means to satisfy the goals of Soviet tactical doctrine. This network will be used as the framework, or operational context, for the subsequent discussion of the contribution of specific system classes.
- Chapters 4 through 9 expand upon specific branches of the functional capabilities network. Each of these chapters opens with an overview comment and a graphical network depicting one function and its supporting means. Concise descriptions of the contributions (past and projected) are provided by specific system classes. The logic flow of the system discussions is generally as follows: place in tactical doctrine and specific role; current system capabilities; gaps between existing capabilities and operational requirements; technology trends and probable design options; projected systems and operational impacts. Major system attributes such as range and height (approximately 10 to 20 per system) will be discussed.
- Chapter 10 treats the expected impact on the battlefield of selected critical technology areas.

2. Key Features of the Acquisition Process (U).

a. Overview (U).

(U) Recent comparative assessments of ground force fielded equipment indicate that the Soviets have retained the quantitative lead and have gained the qualitative lead in most fielded equipment areas. This advantage can not be

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explained as resulting from a superior Soviet technological base as several recent technology appraisal efforts have concluded that the United States leads the Soviet Union in most areas of technology. Nor can the rapid fielding of qualitatively improved systems be explained as resulting from appreciably shorter developmental cycles. Soviet development times are difficult to measure (because of incomplete data), but approximations of specific Soviet weapon development times indicate no significant reduction in development periods. One must look at the basic features of the Soviet acquisition process for an adequate explanation. When the Soviet ground force weapon acquisition process is viewed as a total goal-seeking system and in a broad, historical context, the following key features can be observed:

(1) (u) ~~(C)~~ A relatively large number of development programs are being carried out continuously with a high level of regularity of output.

(2) (u) ~~(C)~~ A uniform set of design engineering practices have evolved that contribute to this regularity of output and build upon Soviet strengths while compensating for weaknesses.

(3) (u) ~~(C)~~ The Soviet military R&D process is noteworthy for its continuity of programs, stability of funding and direction, longevity of key actors, singlemindedness of purpose, and concentration of scarce resources on limited objectives.

(4) (u) ~~(C)~~ Soviet deployment strategy stresses rapid deployment of large quantities of adequate weapon systems tailored to doctrinal needs. This deployment strategy is facilitated by the large defense industrial base maintained in a high state of readiness and capacity by the Soviet centrally planned, command economy.

(5) (u) ~~(C)~~ Defense is afforded the highest national spending priority.

(6) (u) ~~(C)~~ The acquisition process reflects a long-term strategy, begun in World War II, that has been institutionalized in a series of national standards and management practices. It is a disciplined process with concentrated authority provided for design and development decisions.

(7) (u) ~~(C)~~ The necessary support (funding, personnel, priorities, facilities, etc.) has been provided on a stable, steadily growing basis. The magnitude of the ground force development and production effort is considerably larger than that of comparable US programs.

(8) (u) ~~(C)~~ The acquisition process has benefitted from a steadily expanding defense budget, a large portion of which is available for modernization because the Soviets control competing accounts (personnel and operations and maintenance). The most recent dollar cost comparison of US and Soviet ground force weapon procurement (1970-1979) indicates the United

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States would have had to increase its procurement funding three to four times to duplicate the Soviet procurement levels. Soviet unit procurement cost levels and growth rates are kept relatively low by their design approach, which is described later. Because of their larger procurement budget and lower unit procurement costs, the Soviets can procure larger numbers of weapons.

(9) (u) ~~(C)~~ The Soviet military functions as a strong, knowledgeable customer for developmental systems because of high-level support for defense programs and the use of a military representative system, which provides very capable military managers for all life-cycle stages of weapon development and production.

(10) (u) ~~(C)~~ Soviet design choices are influenced by attitudes that differ from those of the United States regarding technology and new product development (i.e., Soviet developments do not maximize technology as a central value), military doctrine that creates a strong demand (particularly in the land combat area) for large numbers and shock effects, lack of competitive pressures for developmental program assignments, pressure from strong but knowledgeable customers, and strong pressures against failure (i.e., attainable goals are set and therefore risk is minimized).

(11) (u) ~~(C)~~ The process is hampered by the general inefficiency of the Soviet political-economic system, by an uneven technological base that provides fewer options for the designer, and by many manufacturing or supply constraints.

b. Weapon Decisionmaking Patterns (U).

(u) ~~(C)~~ In general, the Soviet weapon acquisition process is a priority area characterized by major, continuing, high-level involvement in the key decision steps. Several institutions at a level higher than the Ministry of Defense (MO) and the developing ministries--e.g., the Defense Council and the Military-Industrial Commission (VPK)--maintain a continuing interest in the successful development of required weapon systems. In the early developmental stages the Soviet decisionmaking process appears to provide the concentrated authority and flexibility desired in an uncertain R&D environment. Basic differences in the US and USSR politico-economic systems account for the differing weapon acquisition process. When faced with a policymaking or resource-allocation problem, authoritarian, centrally planned Communist governments tend to concentrate authority in one man or a committee, whereas pluralistic, market-oriented governments tend to diffuse authority; to establish procedures requiring interaction among many interested groups, each possessing a veto power; and to set up a system of many checks and balances. The basic requirement for a Soviet weapon development program is approved at high government levels, at which time it acquires the status of an approved national goal. Authority for the detailed decisionmaking for the subsequent R&D program is then largely delegated to the parties most immediately

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involved--the military customer and the developer (subject to high-level approval at key decision points). The formal mechanism for the user-developer interaction during these stages is the Expert Commission (or its equivalent), which is chaired by the chief designer from the responsible defense industry ministry, with participation by representatives of the customer and by the VPK. The military customer's participation is through military representatives (Mil Reps) from the appropriate main technical directorate. Mil Reps are technically trained military officers who spend their entire careers in the acquisition of weapon systems. The customer representatives, the chief designer, and the component designers operate as a committee to make the necessary tradeoffs as knowledge is gained through uncertainty-reducing tasks (experimental prototyping, limited production runs, etc.) in the early development stages. When a satisfactory design concept is achieved, a design freeze is imposed providing stability of direction for the remainder of the project. Upon completion of a weapon development project, a portion of the design team may be assigned to that weapon system to generate product improvements throughout its life cycle. New development programs are generally begun immediately with the same participants, policies, and procedures. The VPK mediates and expedites individual development projects and also coordinates all defense industrial programs. There is no Soviet equivalent to the US annual, multilevel, budget-review process whereby each development program competes for scarce resources. There is also no Soviet equivalent to the considerable number of US agencies charged with review of developmental programs (e.g., Office of Management and Budget, Congressional committees, Government Accounting Office). The Soviet weapon acquisition process is carried out in the context of the 5-year planning process and the centrally planned allocation of state-owned resources, which yields the mix of continuity, stability, and purposefulness described previously.

c. Influence of Political-Economic System (U).

(U) Many differences between the US and Soviet weapon modernization process (and its results) can be largely explained by the strengths and weaknesses of their respective political-economic systems--i.e., the pluralistic, market-oriented US system and the totalitarian, centrally planned system of the USSR, which stresses state ownership of the means of production, centralized bureaucratic management of the economy, and priority allocation of resources based on political and ideological criteria. A considerable degree of inefficiency is found throughout the Soviet economic system, e.g., in agriculture, consumer goods, nonrail transportation, and light industry. Labor productivity is estimated to be 30% to 50% of that of the United States. Because of their inferior quality, obsolete style, and poor design, Soviet manufactured goods are generally unable to compete in world markets. Shortages prevail in most civilian product areas. The glaring contrast between the effectiveness and innovativeness of the Soviet defense sector and those of the nondefense sector is the result of the following benefits enjoyed by the former: priority in the allocation of resources and supplies; relief from central planning constraints; mission-oriented activity with technical goals and task management;

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customer (military) sovereignty; and competition [with the United States and its North Atlantic Treaty Organization (NATO) allies]. In the "economic activity" conducted in the nondefense or industrial sector, the reasons for limited innovation have been well documented.

(1) (U) The Soviets do not have the equivalent of the US economic infrastructure, which is provided by a large, competitive, profit-motivated, commercial industry and involves a complex, dynamic intertwining of many supporting industries and institutions with a strong demand for innovation. Instead, the stable (but less versatile and flexible) Soviet industrial system provides fewer technological options and imposes many constraints upon the designer (particularly in the high technology areas). The USSR has historically lacked an indigenous capacity for technological innovation and has relied to a large extent on imported Western technological processes to update its industrial base. In the USSR's centrally planned and administered economy, there is no self-sustaining mechanism for fostering technological progress. New production technologies and new products have to be introduced by deliberate actions of administrative bodies, and obsolete technologies and products have to be taken out of use or production in the same manner.

(2) (U) In the absence of a market system, development and dissemination of innovations in the USSR are carried out by a centralized bureaucracy, which has created barriers to innovation. These include the rigidity of the centrally determined "plan"; the lack of incentives (goals are primarily quantity-oriented, and the limited incentives for innovations do not adequately compensate for the added risk involved); limited control by managers of both supplies and end-product usage; fixed functional responsibilities that provide no "ease of entry to market" whereby innovative producers might displace obsolescent products and producers; centrally fixed prices that are based on industry-wide costs; and lack of the managerial skills necessary to use technology efficiently.

3. Technological Capabilities and Strategies (U).

a. Impact of an Uneven Technological Base (U).

(u)
~~(C)~~ The systemic barriers to indigenous technologial innovation result in a very uneven technological base, which provides few technological options to the military designer, creates many technological constraints, and encourages a propensity to stay with proven technology and areas of strength unless compelling reasons force the use of higher risk, unproven technology. The extent of such constraints varies considerably, being minor in some areas but significant in others. The degree of variation depends upon the priority of the area and its basic characteristics (i.e., its nature, whether it is stable or dynamic, and whether it is technology-intensive). In some technology areas that provide essential support to defense and economic growth, concentrated efforts have resulted in relatively impressive rates of innovation (e.g., in nondestructive testing and numerically controlled machine tools). Heavy

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industries have performed moderately well in generating indigenous innovation (e.g., in their use of metal purification/working techniques, and of mechanical engineering). Other "high-technology" industrial areas (e.g., chemicals, computers, and advanced microelectronic manufacturing) have been almost completely dependent upon imported technology for critical innovations. The resulting effect on the Soviet economy is one of unevenness and glaring contrasts--peaks of technological excellence amid large valleys of technological backwardness. The major contribution of Western technology to Soviet economic growth and to defense capabilities (both directly and indirectly, the latter by providing basic manufacturing and technology inputs and by allowing priority concentration of indigenous innovative efforts upon limited defense objectives) is well documented.

b. Effects of the "Priority System" (U).

(u)
~~(C)~~ The positive side of a "priority" system is that most essential military technology areas have received priority attention for a number of years with the intent of minimizing constraints. The degree of success in reducing or eliminating such constraints is apparently proportional to the following factors: (1) the magnitude and timing of priority concentration of science and technology resources; (2) the extent to which the military technology is self-contained, i.e., not highly dependent upon other areas of the economy, particularly the nondefense sector; (3) the nature of the supporting technologies, e.g., traditional metal and mechanical industries (in which the technology lag is relatively small) or "high-technology" areas such as chemicals and microelectronics manufacturing (in which the technology lag is quite large); and (4) the size of the "science" component in the military project. In a number of militarily essential technologies, heavy concentration of resources has allowed the Soviets to achieve positions of strength; however, secondary technologies in nonpriority areas may continue to constrain design choices.

c. Conversion of Technology Into Fielded Systems (U).

(U) The uneven Soviet technology base should not be assessed in isolation. The technology base of any country represents potential that may or may not be translated into fielded capability or may be compensated for by other components of the technology conversion process. Technological innovation can be viewed as moving through the following stages:

- Technology A--the theoretical aspects understood
- Technology B--feasibility demonstrated in the laboratory
- Technology C--engineering design and test of fully configured prototypes achieved

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- Technology D--engineering of production items demonstrated. Production is implemented at an industrial complex with associated fabrication, quality control, and supply factors available.

- Final production

- Introduction into inventory

- Proliferation to other uses

The Soviet lag in indigenous technological innovation is most pronounced in the Technology D stage, i.e., the stage when the manufacturing feasibility has been sufficiently assured that the technology can be incorporated in the next design cycle with an acceptable level of risk. Gaps of 2 to 10 years have been noted in this stage when compared with equivalent US technology for militarily relevant technology areas. This manufacturing technology lag is at least partly offset (and in some cases wholly offset) by the Soviets' demonstrated effectiveness in exploiting available technology, i.e., in choosing, designing, and producing systems that work, are of reasonable cost, and can be assimilated rapidly into the inventory.* The Soviets are making extraordinary efforts to identify and then minimize manufacturing constraints in critical technology areas by improving the rate of indigenous innovation and the acquisition of appropriate Western technology. The latter approach represents the quickest way in which a Technology D capability can be acquired and incorporated in subsequent design cycles.

d. Resulting Technological Strategy (U).

(U) Countervailing pressures exist, with the armed forces and the political leadership generating demands for technological innovation, while the defense industry negotiates for moderation of such demands so that they do not involve high risk by exceeding the technological and manufacturing capabilities available. In such an environment there are pressures to be conservative in approach and to minimize risks while maximizing customer satisfaction. Strong, stable design teams are maintained, however, and under the above pressures creative design focuses upon making the best possible use of what is available: e.g., to assemble an innovative combination of proven components in a manner that yields an improved, overall capability; to seek pragmatic solutions to design problems; to capitalize upon areas of strength while minimizing the effects of technological constraints. This strategy is, in turn, supported by continuing efforts to eliminate those constraints and to reduce uncertainty by design and operational experimentation.

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*(U) Although large absolute numbers of new systems are produced, total replacement of the inventory is a lengthy process because of the very large size of that inventory. Volume III of the SBDP discusses the equipment allocation patterns to Soviet geographic regions and units.

4. Soviet Design Practices (U).

a. Apparent Design Strategy (U).

(u) ~~(C)~~ Recent case studies of historical Soviet weapon design choices revealed the same dominant characteristics in diverse weapon designs. Moderate-risk designs are sought, with emphasis on the use of off-the-shelf or demonstrated technology, standardization at the device level, and manufacturability within Soviet capabilities. Functional simplicity is sought to facilitate mass production and ease of operational use/maintenance, but overall system complexity will be accepted if mission performance requires it. "Adequacy" is accepted in both mission performance and mission reliability. The Soviets "design and build" for function; the logic they appear to follow is that performance or reliability beyond the minimum required may lead to time delays, to higher costs, and ultimately to smaller numbers fielded. A frequently quoted proverb in the Soviet Union is "Better is the Enemy of Good Enough." When possible, the system is designed so that limited technical skills are required for operation (however, extensive training of operators may be required). Numerous examples of design ingenuity have been found: for example, ingenious combinations of proven components and low-technology solutions substituted for higher-risk, advanced-technology approaches [minivacuum tubes vs. microelectronics; pneumatic control devices vs. hydraulic controls for surface-to-air missiles (SAM); analog or hybrid computers in lieu of digital computers]. Compensations are also made for qualitative deficiencies by production in quantity, use of relatively narrow missions, and use of redundant systems. A good example of the latter approach is in the air defense area, where the Soviets have fielded many overlapping gun and SAM systems. This design approach has resulted in an equal or better total operational capability in many areas in spite of the constraints of an inferior, uneven technology base and the many inefficiencies of the Soviet system. The main strengths of the Soviet threat lie in numbers. Increasingly, however, the threat is also taking the form of one-on-one comparability—or superiority—for fielded systems, particularly for ground force systems. A more detailed summary of Soviet design practices follows.

(1) (u) ~~(C)~~ Foreign technological developments are continuously monitored. Soviet military R&D has demonstrated an excellent capability both to react to and incorporate foreign technological advances. Direct dependency upon copying of foreign weaopn designs has diminished in recent years because of the maturing of the Soviet design base in most militarily important areas; however, considerable imitation or incorporation of foreign technology remains.

(2) (u) ~~(C)~~ Independent development of components and related technology is maintained.

(3) (u) ~~(C)~~ When an initial system is developed, proven off-the-shelf components are used wherever practical. The system is put into the field as soon as possible, and upgrading modifications are added later.

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(u)
(4) ~~(C)~~ Systems already fielded are improved by an evolutionary design process; i.e., the degree of change (and risk) is limited by changing only one or a few components at a time. Changes are based on the incorporation of foreign advances or the results of Soviet component R&D proven in prototypes.

(u)
(5) ~~(C)~~ Deficiencies and/or potential improvements are identified through threat analysis, experience gained in field exercises and in feedback from conflicts (e.g., the Mideast wars), and operations research analyses.

(u)
(6) ~~(C)~~ Proven designs become the basis for a family of systems showing considerable design inheritance and commonality between generations (e.g., the T-34 to T-62 family). Commonality of components and devices is also found among systems performing quite diverse missions.

(u)
(7) ~~(C)~~ Extensive training is needed to obtain best results from, and to extend the life of, older systems. Doctrinal changes may also be made to extend the life of older systems.

(u)
(8) ~~(C)~~ Experimental prototypes are constructed and extensively tested, a practice that provides a basis for comparison between incrementally improved systems and potentially new systems. Soviet tank development programs can be used to illustrate this factor. A series of tank designs has been created building upon a consistent set of general design principles. Improved technical options are continually generated by a set of scientific research institutes and component design bureaus with stable functional assignments and funding. Overall tank design options are regularly evaluated by several dedicated design bureaus. From the time the T-64 was introduced to the present, approximately 20 experimental prototypes were produced in quantities up to 200 units for field evaluation.

(u)
(9) ~~(C)~~ A "new" system (as opposed to an evolutionary improvement) will be fielded whenever it is determined that the growth potential of the basic design (for the prior family) has been exhausted and that incremental changes can no longer meet the need. Although the degree of change is increased considerably, developmental risk will be minimized by incorporation of proven components to the greatest degree possible and through increased experimentation with prototypes and limited production runs. This new system will generally become the basis for a new family. This system will be upgraded incrementally and will also spin off a number of variants designed for differing missions.

(u)
(10) ~~(C)~~ A hierarchy of preferred actions can be detected. When faced with a need, Soviet ground force planners choose the first of the following sequence of actions that will satisfy the need:

- Use training or doctrinal changes to extend the life of the existing system(s)

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- Product-improve the system or systems already fielded
- Introduce a "new" system based on the use of off-the-shelf technology in most subsystems
- Introduce a new system using very sophisticated, higher risk technology in most subsystems (this action is relatively rare)

(11) (u) ~~(C)~~ Design choices generally follow a pragmatic, step-by-step learning and decisionmaking process in reducing the uncertainties inherent in the R&D and threat environment. The selection process goes on continuously in a controlled manner. New components compete with old, and selection criteria (e.g., as in national standards) specifically include and emphasize the benefits of product improvements and common components. As noted previously, good conditions have been established for design decisionmaking.

(12) (u) ~~(C)~~ This cycle is repeated continuously, resulting in deceptively moderate but steady modernization or qualitative improvement of the Soviet ground forces. At any one time a variety of approaches may be in use for upgrading an overall mission area capability. In time the cumulative effect of these numerous steady changes (when supported by adequate R&D and procurement budgets) can yield a fielded army that has both quantity and acceptable quality while avoiding large developmental risks and that places moderate demands upon the technology base and manufacturing capabilities.

b. Resulting Spectrum of Design Choices (U).

(u) ~~(C)~~ Examination of Soviet weapon developments fielded over the past 20 years reveals the following mix of design choices:

- Product improvements or modification within the same generation—through changes in later production runs or retrofits
- Evolutionary improvements within successive generations performing the same mission
- Use of common components or base articles for diverse missions—as seen in the many BMP (infantry fighting vehicle) or MRLB (armor artillery tractor) variants
- Insertion of high-technology components into the evolutionary process—as in the placement of an advanced battlefield surveillance radar on a proven chassis
- First-generation systems, responding to a change in doctrine or threat, assembled largely from existing technology and then product-improved in successive generations—as was the case with the self-propelled (SP) artillery systems or the HIND attack helicopter

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- Transitional systems reflecting the change to a new family after the growth potential of the previous family has been exhausted--as in the transition from the T-34 to T-62 family to the T-64/T-72 family

- Nonevolutionary, conventional systems (basically new systems) responding to a challenging threat or unique technological opportunity--this is generally an exceptional case

- "New-in-principle" weapon system developments reflecting priority concentration of scientific resources--output from ongoing experimental efforts of this type will begin to be added to the above mix of ground force weapon developments in the 1980s and 1990s

c. Design Policy Implementation Through National Standards (U).

(u) ~~(c)~~ Standardization is a key and dominant aspect of the centrally organized and operated Soviet economy. A series of R&D management standards have been developed that regulate procedures and policies for the development of all new products, civilian and defense, throughout the Soviet Union. These R&D management standards, in effect, are government procurement regulations with the force of law. Instead of governing relations between private industry and government, as in the United States, they apply to interactions among various government agencies which perform roles of customer, developer, and manufacturer. The three major R&D management standards will be described next. The first systematizes the design process, the second shapes the system design to the manufacturing capability, and the third articulates the basic design policies.

(1) (U) Publication of the first group of R&D management standards, the Unified System of Design Documentation (Soviet acronym YeSKD), began in 1968; YeSKD was scheduled for implementation in 1971. The YeSKD contains a uniform set of rules governing the preparation, handling, storage, and duplication of design drawings, operating instructions, repair manuals, and other documentation. It also defines and establishes formal product-development stages that are clearly separate from theoretical and experimental scientific research, reflecting the de facto technology freeze that occurs when a design organization is tasked to initiate a development program. Other significant policies in the YeSKD call for broad use of standard, off-the-shelf, and common components and assurance of producibility, maintainability, and ease of operation. Later systems of standards established procedures whereby these policies could be implemented.

(2) (U) The Unified System of Technological Preparation for Production (YeSTPP), introduced in 1975, governs management of production preparation systems. It provides for coordination between designers and

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production engineers at each formal YeSKD stage, with modification of designs to ensure producibility. Calculations to estimate such factors as manhours required for manufacture, use of materials, weight, use of previously developed model manufacturing processes, and standardization and commonality of components are required, beginning about midway through the development cycle. Some evaluation of producibility begins when formal tasking is first received by a design organization.

(3) ~~(C/WNINTEL)~~ Another system of standards, Unification of Articles, applies specifically to design practice. Implemented in 1980, these standards epitomize the Soviet military design philosophy evident in military equipment since the preparations for World War II began. The standards call for observance of the following basic practices:

- Development of families of articles sharing a common design
- Use of off-the-shelf components in new product development and in modernization of existing products
- Development of new components for common use
- Limitation of the variety of the parts, components, and materials from which a designer may choose

(4) ~~(C)~~ (u) The base article concept is central to Soviet design practice. Weapon systems frequently fall in to identifiable families whose members all stem from one base article. Development can be analyzed as proceeding in two directions: modernization that improves capabilities within a given mission area and modification that adapts the system to other tactical missions. Soviet tracked and wheeled vehicle systems cluster around a series of base articles representing steps in the payload capabilities and other attributes, e.g., mobility features and protection levels.

5. Assessment of Process Effectiveness and Forecast (U).

a. Assessment (U).

(U) The overall result of the above acquisition process is an impressive modernization rate derived from many, mostly moderate changes that collectively provide significant qualitative upgrading. They stress rapid fielding of adequate equipment followed quickly by product improvement. This pattern is relatively uniform and continues to be observed in recently fielded systems. In summary, the Soviets are able to rapidly introduce large numbers of

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qualitatively improved ground force systems for the following reasons. They carry out more developmental programs on a controlled risk, continuing basis yielding a regular output of developed systems capable of being rapidly procured and manufactured in large numbers. The overall process exhibits characteristics of long-term stability, continuity, regularity, and adequate support for all stages of the process.

b. Forecast (U).

(u)
~~(C)~~ The Soviet ground force weapon acquisition process, like Soviet weapons, changes incrementally. To date there are no indications of major changes in causal factors and no appreciable apparent dissatisfaction with results. The basic design strategy has been reiterated as recently as 1980 in the Unification of Articles standard. Examination of leading R&D resource indicators indicate a sustained input of investment and developmental efforts and no decrease in output, i.e., in the number of programs in the development pipeline. Therefore, no radical change in development process style or output level is projected. The estimate is made that the distribution of design choices will continue to be skewed toward the moderate-risk portion of the design strategy spectrum; i.e., the largest proportion of ground force developmental programs will continue to reflect the evolutionary approach, with a steady stream of new technology being introduced in a controlled manner. Manufacturing techniques will continue to be a major constraint upon Soviet systems design; this constraint will be countered by ingenious designs, use of substitute technolgies, or priority efforts to acquire and assimilate critical Western manufacturing technologies. Deviations from the standard development approach will occur in specific cases: (1) where projected US, and other NATO country, weapons pose a severe threat that cannot be fully countered by the standard approach or (2) when critical manufacturing constraints, which have constrained prior design choices, are removed or (3) as a "new-in-principle" system (e.g., directed-energy weapon) begins to enter the inventory. To identify how this mix of standard and nonstandard development choices will be allocated to particular battlefield missions, one must look at specific operational areas to evaluate operational ends and deficiencies and available technological means. This will be done in subsequent chapters.

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CHAPTER 2

SUMMARY ASSESSMENT OF THE OUTPUT OF THE ACQUISITION PROCESS (U)

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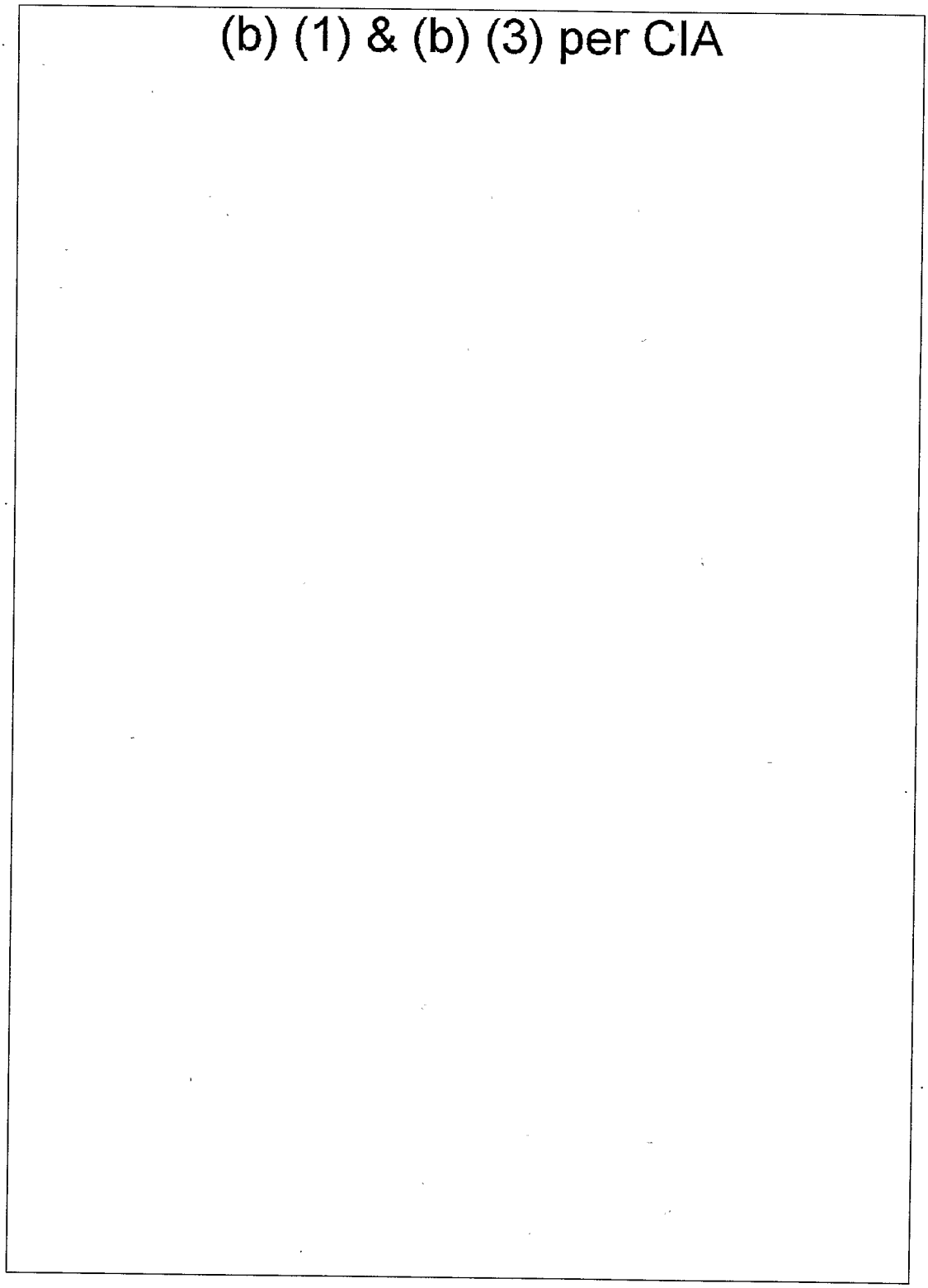
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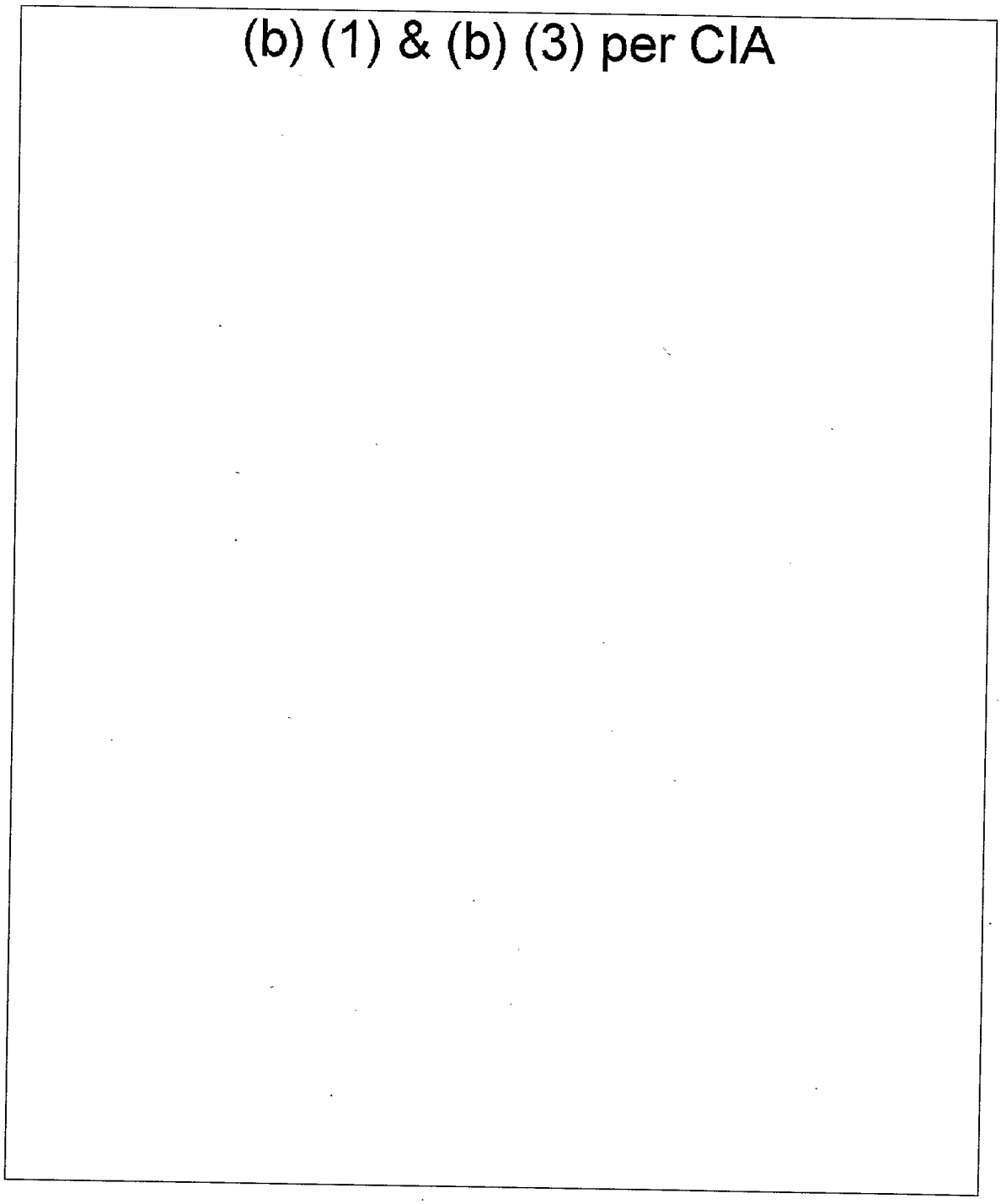
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CHAPTER 3

SOVIET GROUND FORCE DOCTRINE AND TACTICS: DRIVING FORCE AND INTEGRATING FRAMEWORK FOR WEAPON DEVELOPMENTS (U)

1. Introduction (U).

(U) Soviet ground force tactical doctrine provides a unifying framework, a strong demand pull, and stable direction for weapon development activities. This doctrine has evolved over a 50-year period with continual upgrading and adaptation to changing threats or conditions. There are formal administrative mechanisms for the military to conduct doctrinal debates over the shape and nature of future wars and to translate the conclusions of this debate into military hardware. Prior ground force developments reveal a coherent pattern when viewed in this doctrinal context.

2. General Goals of Soviet Doctrine and Tactics (U).

a. (U) Soviet tactical doctrine is strongly influenced by the following considerations:

- NATO is the primary adversary; its main threat is nuclear firepower.
- The initial stages of a nuclear war will be critical and probably decisive. Therefore, one must organize and equip now to survive and to gain quick victory.
- Present power competitions between NATO and the Soviet Union will continue, making a capable armed force a necessity.

b. (U) ~~(S)~~ The Soviets believe that success can be achieved only by the combined efforts of all components of the armed forces. Soviet forces do not rely on any single weapon and emphasize the impossibility of waging warfare successfully without well-organized coordination among air, ground, air defense, strategic rocket, and naval forces. They have organized their forces for combat flexibility, and this flexibility extends to their tactical concepts as well. In an effort to devise tactical principles that fulfill the requirements of the nuclear battlefield, the Soviets have developed a modern, highly mobile, and well-balanced fighting force. Although the predominant theory of Soviet tactical doctrine is that decisive results are achieved only through offensive action, the Soviets do recognize the defense

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as a necessary form of combat. At times, it is profitably adopted to gain time while the capability to begin or resume offensive action is developed. It can also be used to economize forces in an area in which immediate decisive action is not being sought in order to concentrate combat power in another sector.

3. Soviet Tactical Doctrine (U).

a. (U) (S) Successful Soviet military operations depend on the integrated combat employment of all service branches. From the Soviet perspective, "combined-arms combat" is both a concept and an operational method. It is more than merely task-organizing units for combat or cross attaching or reinforcing them. Combined-arms combat is an interactional process of various combat elements and weapon systems that confronts the enemy simultaneously with a variety of weapon systems and forces to which he must react. The proper combination of forces and weapons, together with their timed employment, should create an overall synergistic effect that each weapon and force would be individually incapable of producing. The emphasis in combined-arms combat is not only on the weapon systems and units but also on tempo, timing, weapon density, and relationship among forces. Because the elements of the Soviet force are both complementary and supplementary, they can contribute to the success of combined-arms combat when taken in their totality. The Soviets believe that a future land war in Europe will be characterized by extensive maneuvering of forces; rapid, sharp changes in the situation; and in-depth action across a broad front at high rates of speed. A balanced combined-arms organization is mandatory for success in this type of warfare.

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4. Network of Functional Requirements Supporting the Tactical Doctrine (U).

(U) Soviet tactical doctrine, which has been shaped by the memory of the Nazi blitzkrieg invasion in World War II, serves as a central organizing force in Army planning. This study employs a network to graphically display Soviet tactical doctrine within the six combined-arms functions shown in Figure 3-1. These functions are chosen to display the tasks that a combined-arms force must perform in order to achieve the basic goal of winning the war quickly through offensive action on enemy territory. For each function certain requirements must be met in order to perform the function. The Soviet R&D process operates in response to a military document called tactical-technical assignment (TTZ). Equipment is designed to meet the performance requirements specified in the TTZ. The summary network shown in Figure 3-1 will be discussed in greater detail in the following chapters, with each chapter expanding upon a branch of the network. At the end of the study a single detailed network is included to provide a graphical overview and summary of the overall study. Technologies that have an impact on more than one functional area will be treated in a separate chapter. The requirements listed on this chart are based on analytical judgment informed by examination of Soviet military writings, intelligence reports, and hardware design. They are intended:

- To indicate the role each system is intended to play
- To present hardware descriptions within a meaningful operational context
- To act as a springboard to more precise statements in lengthier and more rigorous documents

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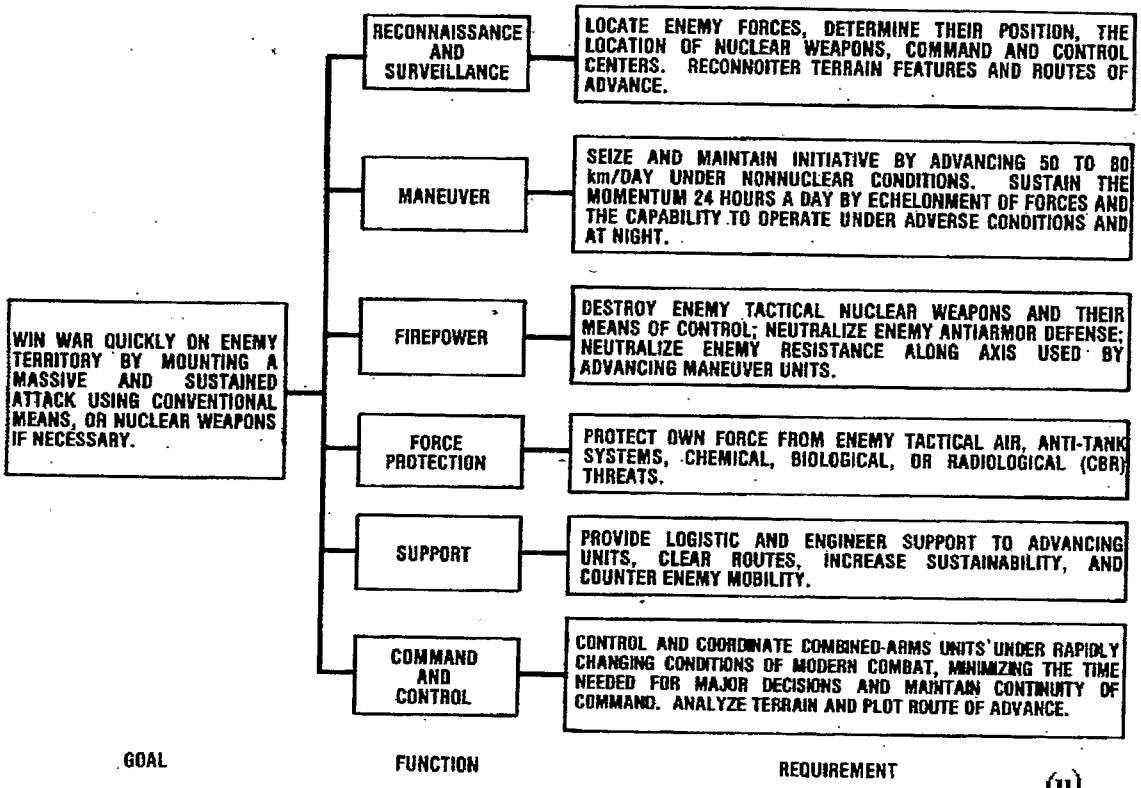

(u)
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Figure 3-1. (U) Functions of Combined-Arms Action

5. Spectrum of Reactivity Patterns (U).

a. Operational Needs and Technical Means (U).

(U) The basic principles and goals of Soviet ground force tactical doctrine represent idealized goals that require continuing development efforts to more closely achieve the mix of requisite technical means to satisfy those goals. Recent studies of reactivity patterns for the five Soviet services revealed that Soviet ground force tactical doctrine plays a unique and dominant role in driving weapon developments.

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b. Reactivity Patterns (U).

(u)
~~(C)~~ When a large number of Soviet ground force development programs are viewed in this structured operational context (i.e., the functional network), they can be arrayed over a spectrum reflecting the nature of the stimuli that initiated the development as follows:

- At one end of the spectrum are those developments responding primarily to the internal dynamics/needs of the tactical doctrine. Examples include bridging and gap-crossing equipment; improved command, control, and communications (C^3); expedient petroleum, oil, and lubricant (POL) systems; balanced mobility; and night-vision devices.

- In the center of the spectrum are those systems that are largely driven by doctrinal requirements but that also reflect continuing improvements to remain competitive with or superior to opponent systems. Examples include mobile fire support, mobile air defense, armored combat vehicles, and radioelectronic combat (REC) systems.

- At the other end of the spectrum are those developments that are highly reactive to external threats, i.e., that provide counters to critical threats that could make obsolete the basic Soviet ground force tactical doctrine. Examples include antitank guided missile (ATGM) countermeasures, counters to top-attack antitank weapons, and combined-arms tactics.

6. Generalized Forecast of Doctrinal and Materiel Trends (U).

(u)
~~(C)~~ The major source of change from the present to the year 2000 will reflect continued upgrading of current capabilities within the basic doctrinal framework. This is the dominant pattern presented in subsequent chapters, which describe specific operational needs and materiel projections. This pattern generally reflects the fact that (1) the Soviets have a well-developed doctrine, which provides a set of idealized standards against which improved technical means are continually sought, (2) they have a large inventory of weapons and therefore a relatively long replacement time, and (3) there is considerable inertia (military, political, and industrial) in the system. Although most changes will be "upgrading," they will be supplemented by a small number of "new-in-principle" systems, which will be complementary to the whole, i.e., radio frequency (rf) weapons may augment the already formidable REC capability and ground-based laser weapons may add an enhanced capability to the force protection function. Lastly, extraordinary efforts can be expected as the Soviets seek to counter or to adapt to critical external treats. The following chapters will define the specific patterns detected and projected in each of the six functional areas listed previously.

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CHAPTER 4

RECONNAISSANCE AND SURVEILLANCE SYSTEMS (U)

1. Introduction (U).

(U) ~~(S)~~ The Soviets define reconnaissance as "information about the location, disposition, composition, number, armament, combat preparedness, character of activities, and intentions of the enemy in the interest of combat." Soviet fronts, divisions, and regiments have separate units whose only mission is reconnaissance; they do not ordinarily engage in combat. They use a variety of means—space, aerial, long-range patrol, signal intelligence (SIGINT), radars, electro-optical (EO) systems, and CBR detecting—to acquire information for advancing maneuver units. Reconnaissance targeting priorities are closely tied to targeting priorities for firepower systems. These are:

- Nuclear delivery means such as artillery, rockets, and missiles
- Nuclear weapon supply and storage depots
- Command-and-control (C^2) centers
- Air defense installations
- Supply and logistical strongholds
- Troop concentrations

As a whole, Soviet reconnaissance is a well-integrated system capable of providing ground forces with the intelligence necessary to accomplish their mission. Its strength derives from numbers of systems, deliberately programmed duplication of reconnaissance means, and close integration with other combat arms. Weaknesses do, however, exist. These include:

- The lack of SIGINT systems that are effective against spread-spectrum signals
- The apparent lack of an effective countermortar/counterbattery (CM/CB) radar
- Slower and less sensitive sensor systems

It is also doubtful that the large volume of reconnaissance data generated can be handled by Soviet command and control in a completely satisfactory fashion. These weaknesses derive, for the most part, from the uneven Soviet

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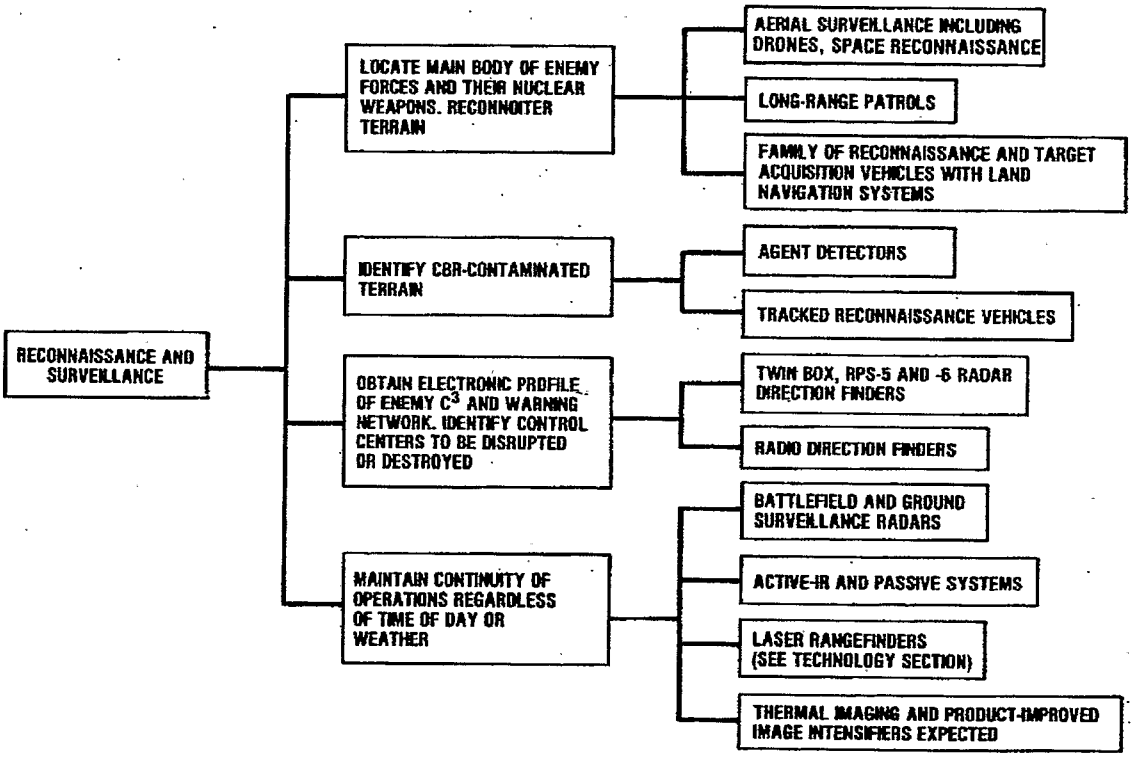
technology base--particularly in the microelectronics area--and will be partially corrected in future systems. Figure 4-1 shows the relationships among requirements and reconnaissance and surveillance systems.



(~~SECRET~~) (u)

Figure 4-1. (U) Functional Network for Reconnaissance and Surveillance

2. Space and Aerial Reconnaissance Systems (U).

a. Space Reconnaissance Systems (U).

(u)
(~~S~~) The Soviet Union collects information on worldwide activities by using photographic and electronic sensors carried on reconnaissance and surveillance systems. It has a large integrated effective program of Earth coverage from space platforms. Some Soviet vehicles are dedicated to political and economic applications such as weather and Earth resources, but the main thrust of Soviet efforts is towards strategic, economic, and technical intelligence gathering. RORSAT and EORSAT are two systems that are probably used for tactical targeting of US ships; other systems have little tactical application. There is currently no information to indicate that the Soviets are using these spaceborne assets against tactical ground targets, but employment against these targets is expected within 5 to 10 years.

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b. Aerial Reconnaissance Systems: 1980-1985 (U).

(U) Aerial reconnaissance is normally controlled at front level, but specific missions may be allocated to army or division headquarters in support of a particular operation. Aerial reconnaissance assets include a variety of sensors such as visual, photographic, SIGINT, and battlefield television (TV). Short-range tactical missions are usually flown by pairs of aircraft in support of division or army operations. Two of the primary advantages of aerial reconnaissance are an increased detection range and the ability of the aircraft to cover a large section of the battlefield.

(1) BREWER (U).

(u) ~~(S/NOFORN)~~ BREWER D aircraft are widely used for photographic and electronic reconnaissance; and some are newly equipped with side-looking airborne radar (SLAR), TV, and a real-time video down-link transmitter. The TV system provides fairly clear images of woods, fields, and towns from an altitude of 5500 meters. The SLAR is estimated to have a resolution of 17 meters in range and azimuth.

(2) FOXBAT (U).

(u) ~~(S/NOFORN)~~ The FOXBAT B is used for high-altitude photographic and electronic reconnaissance; the FOXBAT D conducts SLAR missions. The FOXBAT operates at speeds up to Mach 2.35 (1350 kn or 2500 km/h) and at altitudes of 20 000 meters. Under such conditions, it is estimated that the systems could effectively collect intelligence on a 20-km-wide swath on each side of the aircraft, with a 40-km slant range. The estimated SLAR resolution of 17 meters would be sufficient to discern buildings, supply depots, tanks or groups of tanks, roads, and convoys. The FOXBAT SLAR can reportedly perform tactical reconnaissance in fog, cloud cover, and light rain. Both FOXBAT B and D can deliver nuclear weapons in addition to conducting reconnaissance missions. Although no intent to assign this mission to FOXBAT has yet been confirmed, such an assignment is considered inevitable.

(3) FISHBED (U).

(u) ~~(S/NOFORN)~~ FISHBED H aircraft are widely used in photographic and electronic reconnaissance roles; and some are now equipped with a TV system having a data link for real-time, air-to-ground transmission. The TV system is believed to be capable of identifying significant tactical targets. The FISHBED H can also conduct both ground attack and adverse-weather counterair operations.

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(4) FITTER (U).

(u) ~~(S)~~ FITTER H appears to be a tactical reconnaissance aircraft designed to replace the FISHBED H. A multifunction reconnaissance pod larger than those on the FISHBED H has been observed on the FITTER H. Preliminary assessments indicate that this pod has both day and night photography as well as electronic intelligence (ELINT) capabilities. It may also have a real-time data link via TV. The FITTER H is assessed to have more accurate all-weather navigation capability than FISHBED H and is known to carry an electronic countermeasure (ECM) pod. The FITTER H is also believed to have a ground-attack capability at least equal to that of the FITTER D and is estimated to carry the infrared (IR) ATOLL and/or APHID air-to-air missiles (AAM) for self-defense.

(5) COOT (U).

(u) ~~(S/NOFORN)~~ Two Il-18 (COOT A) transport aircraft are deployed in East Germany for SIGINT and SLAR reconnaissance. The J-band (10-20 GHz) SLAR reportedly has a resolution of 30 meters and may be used in conjunction with the SIGINT systems.

(6) FENCER, reconnaissance variant (U).

(u) ~~(S/NOFORN)~~ A reconnaissance variant of the Su-24 (FENCER) reached initial operational capability (IOC) and began deployment in 1981. Aircraft performance is expected to be comparable to that of the FENCER A. The capabilities of this variant are expected to include photography, ELINT, SLAR, TV, and millimeter-wave radar. The requirement for this platform is predicated on the perceived need for a longer range pre- and post-strike reconnaissance and bomb damage assessment aircraft to support FENCER A operations.

(7) DR-3 (U).

(u) ~~(S)~~ DR-3 is a subsonic drone, which can conduct 60% photo and TV missions. It is estimated to be approximately 7 meters long and to have a wingspan of 2.4 meters. It is believed to have a radius of action of 125 km. The photo-reconnaissance package is estimated to consist of four AFA-39 framing and one strip or panoramic camera, or an alternate package with TV downlink enabling real-time TV operations.

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c. Aerial Reconnaissance Systems: 1986-1990 (U).

(1) Airborne warning and control system (AWACS) (U).

(u) ~~(S/NOFORN/WNINTEL)~~ An AWACS is expected to be deployed in the 1980s, and there is a better than even chance that some of these systems will support or possibly be deployed with frontal aviation in the late 1980s. The AWACS will be a modified Il-76 (CANDID), equipped with a rotodome. An AWACS so deployed could provide continuous target track data over a wide area to an integrated ground-based air defense system. Continuous, low-altitude, target-tracking coverage would provide for an enhanced environment for wide-area ground control intercept (GCI). Wide-area GCI, when combined with a fighter look-down/shoot-down capability, can provide a significant frontal aviation low-altitude aircraft intercept capability.

(2) Follow-on fighter-bomber, reconnaissance variant (FB-PR-I) (U).

(u) ~~(S/NOFORN)~~ The production and deployment of a reconnaissance variant of the follow-on fighter-bomber is based upon a perceived long-term requirement for an extended-range reconnaissance aircraft to supplement and eventually replace some of the existing aircraft in frontal aviation reconnaissance squadrons. A late-1980s IOC is considered reasonable. Two variants are anticipated. One would likely contain aerial reconnaissance cameras with a new, high-definition film. The second would be equipped with high-resolution forward-looking infrared (FLIR) and SLAR sensors. A high-rate data link to a ground processing station is also projected to provide near-real-time multisensor imagery.

(3) Drones (U).

(u) ~~(S)~~ DR-3 is expected to be used into the 1990s, and mission capabilities will undoubtedly increase. Electronic warfare (EW) capabilities are anticipated into the future. It is also thought that the TV system will incorporate some sort of image intensifier for low-light-level operations.

3. Long-Range Reconnaissance Patrols (Spetsnaz) (U).

a. Background (U).

(u) ~~(S)~~ Spetsnaz, or Special-Purpose Forces for Reconnaissance and Sabotage, form an important but often overlooked part of the Soviet reconnaissance mission. Their role and function will be discussed in Volume V of the SBDP. For the most part, Spetsnaz use standard equipment available to motorized

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rifle units. There is some special equipment for operating behind NATO lines, however, that merits a short discussion. This includes training equipment, deception equipment, special-purpose weapons, and communications equipment.

b. Equipment (U).

(u) ~~(S)~~ Spetsnaz teams have the same priority for reconnaissance targets as do other units. They have the equipment necessary to train against these targets, which include mock-ups of nuclear delivery means, nuclear storage installations, and other objectives. NATO equipment, including trucks and other vehicles, are available for training Spetsnaz teams. Deception equipment, such as NATO military uniforms, will enable the Spetsnaz units to carry out their reconnaissance and sabotage missions with a greater degree of security and effectiveness. Special-purpose weapons include highly effective silencers for small arms, automatic acoustic trigger devices for SA-7 antiaircraft missiles for use around airports, several types of claymore mines, beacons for guiding Soviet aircraft to selected targets, incendiaries, and underwater demolition materiel. Communications equipment includes radios in the field that can retransmit by satellite to reduce the possibility of interference and can operate in the burst mode to reduce the possibility of being located by NATO direction-finding (DF) equipment.

4. SIGINT (U).

a. Place in Tactical Doctrine (U).

(1) Relation to REC (U).

(u) ~~(S)~~ Soviet SIGINT is used in support of REC doctrine. REC aims at systematically disrupting vital enemy electronic control at critical times in a battle through the integrated use of firepower, jamming, and deception. It roughly equates to the Western doctrine of C^3 countermeasures. The Soviets intend to attack enemy electronic control based on the degree of threat posed by the target to Soviet forces. Nuclear weapons and associated control systems will receive the highest priority. Soviet REC will be concentrated in the areas the Soviets consider vital during a battle and will be used to support major military operations.

(2) Responsibilities of echelons (U).

(u) ~~(S)~~ Every echelon of command from front to division can perform SIGINT operations. During wartime, Soviet fronts will have organic SIGINT resources

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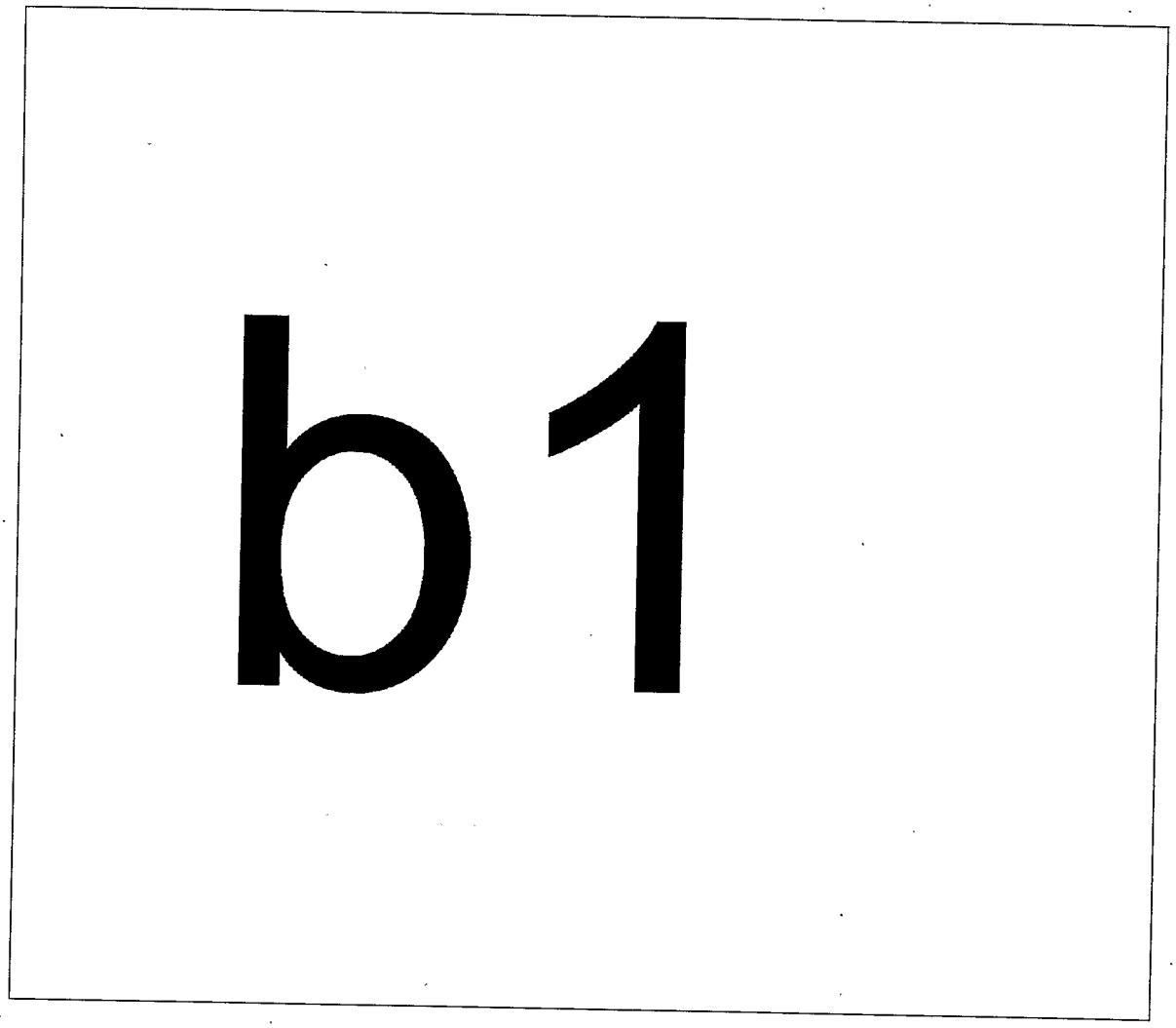
of regimental or brigade size to collect information from enemy control points as deep as 1000 km beyond the front lines. At army level the Soviets will collect information as deep as 200 to 500 km from the front lines. Division-level SIGINT systems provide information to the Soviet division commander on targets no more than 100 km from the front lines. Most of the division-level targets are tactical and include specific enemy artillery or surveillance radars, command posts, artillery control systems, or communication centers.

b. Systems: 1980-1985 (U).



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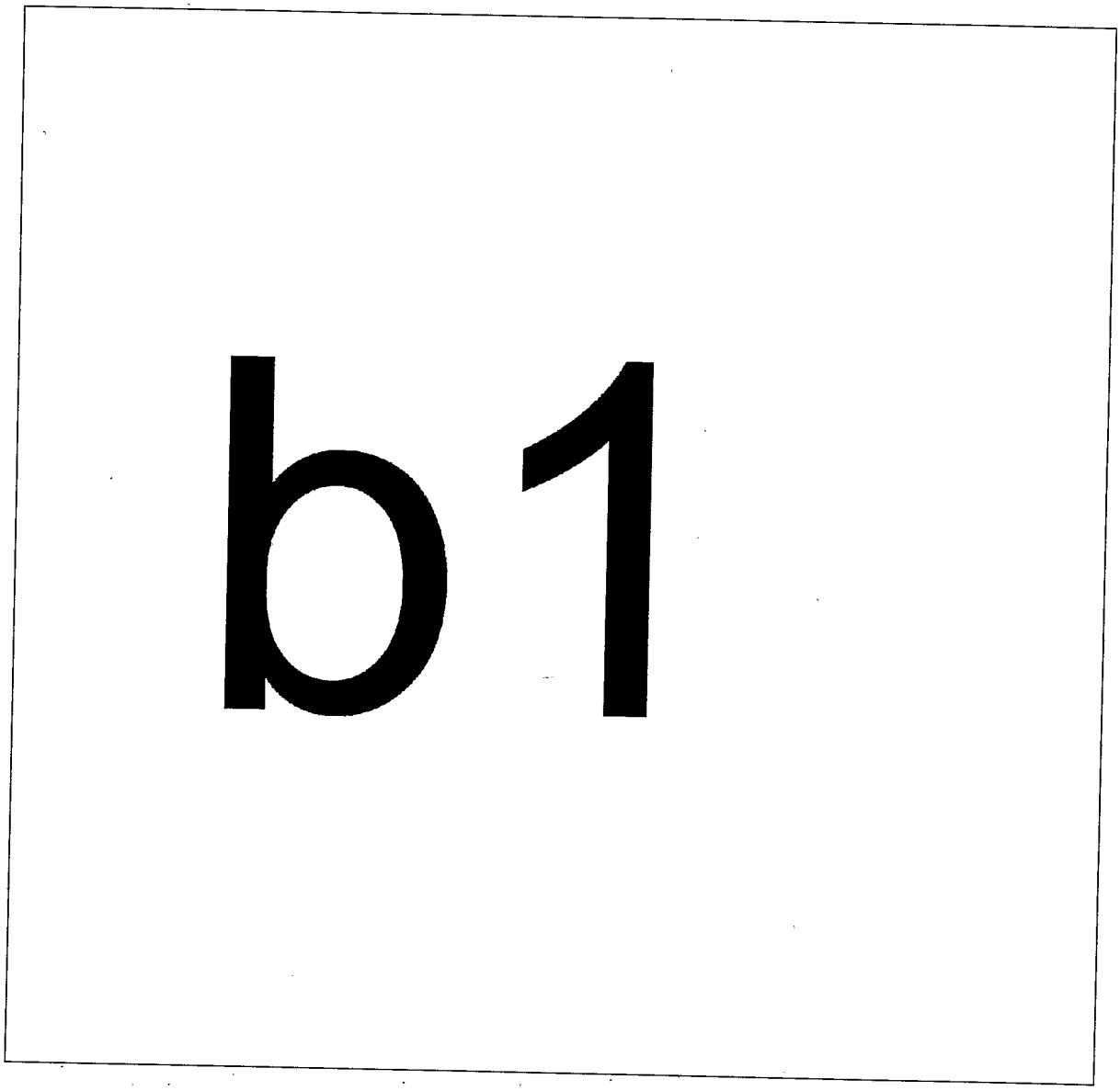

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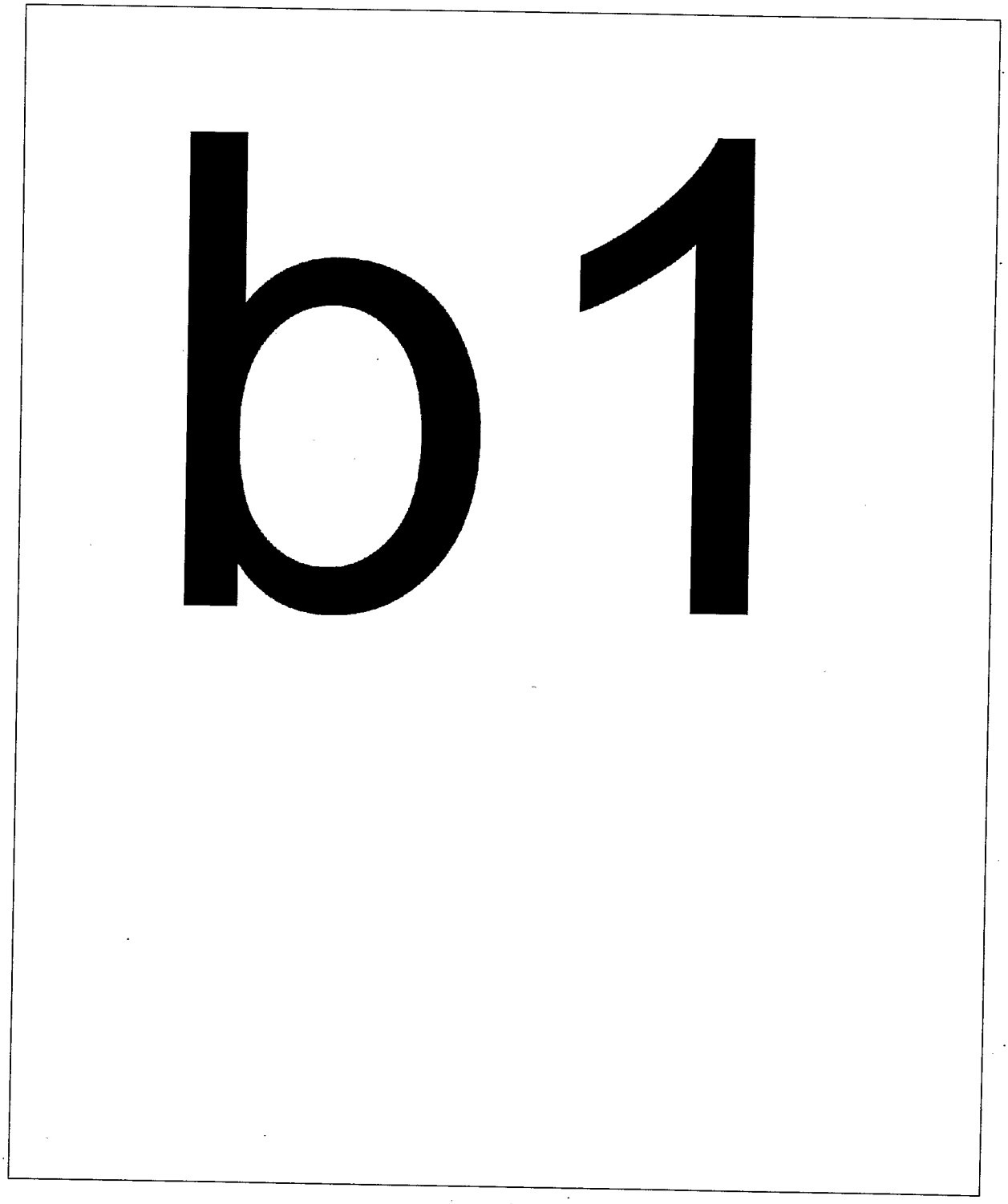
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5. Battlefield Surveillance Radars (U).

a. Systems: 1980-1985 (U).

(1) BIG FRED (U).

(a) (u) (S) BIG FRED is a K-band (20-40 GHz) battlefield surveillance radar whose most likely role is the acquisition of artillery intelligence. It is mounted on a modified, amphibious MT-LB, an armored tracked artillery tractor. During combat, it may be sited by Chief, Rocket Troops and Artillery, where it can best observe critical sectors and detect long-range movement. Targets thus acquired may subsequently be engaged by artillery or recorded for later action. The MT-LB is lightly armored in comparison to the BMP vehicle and is, therefore, not intended to go as far forward as the modified BMP vehicle (BMP-M1975) with the SMALL FRED radar mounted on it.

(b) (S) It is thought that BIG FRED is a replacement for the SNAR-6, in which case it may be the SNAR-10, which has been referenced on several occasions. b1 b1 b1 BIG FRED has been seen with GSFG and in the garrison area of an East German artillery regiment of a motorized rifle division.

(c) (u) (S) BIG FRED radar has probable superior azimuth and range accuracies and resolution in comparison to the older SNAR-2A radar (PORK TROUGH-1), which operates in I-band (8-10 GHz). When compared to the SNAR-6 (PORK TROUGH-2), the J-band battlefield surveillance radar, BIG FRED has better azimuth accuracy and resolution because of a much narrower beam width, and, probably, improved range accuracy. Its range resolution, however, is comparable to SNAR-6 because of similar pulse lengths. If a 60-kW transmitter tube is assumed for the BIG FRED radar, its range would be superior to the assessed ranges of SNAR-2A and SNAR-6. Being a K-band radar like SMALL FRED, BIG FRED also will have its range reduced by rain attenuation, rain backscatter, and dense foliage.

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(u)
(b) (S) The PSNR-1 is transported and operated by a three-man crew, operates in the I-band, and can detect targets up to 10 km away. Two means of detection are provided: aural (earphones) and visual (small A-scope display). The MTI is available only in the aural display. Proper use of both displays in conjunction with each other provides very effective detection capabilities, despite the unsophisticated design of this radar. Scanning is manual except for an automatic range gate function that sweeps through either 500 or 1000 meters at either of two rates.

(c) (S) The system characteristics for the Soviet PSNR-1 (signal b1 are as follows:

b1	
Rf agility	None
b1	
PRF agility	None
b1	
Scan	Manual slewing (exploitation)
Antenna type	Aluminum, cut paraboloid with Cutler-type feed (exploitation)
Antenna gain	29 dB (exploitation)
Transmitter type	Magnetron (exploitation)
Transmitter power	150 W (exploitation)
Receiver	Superheterodyne with manual or automatic frequency control (exploitation)
Displays	A-scope, digital range readout in meters, a range dial in kilometers and earphones (exploitation)
Other features	None
Range	10 km (range display limited) 3.6 km (walking man) 7.1 km (jeep) 6.2 km (helicopter) 10 km* (2-1/2 ton truck or APC) *Display limited

(b) (1) & (b) (3) per CIA

(4) PSNR-2 (Garpun) (U).

(u)
(a) (C) The PSNR-2 is a follow-on to the Soviet PSNR-1 manpack radar and is very similar to it in appearance and operation. It is transportable by three persons and can be set up and made operational quickly. The radar is a slightly improved PSNR-1, so it is assumed to be a replacement for the PSNR-1; however, at present it is known to be in use by Soviet borderguard troops. PSNR-2 was discovered in 1977.

(u)
(b) (~~S~~) No data on the parameters of the signal associated with the PSNR-2 are available at this time, but it is possible that the signal is very similar to B403Z, the signal from the PSNR-1. Performance parameters of the PSNR-2 are very similar to those of the PSNR-1. The major improvement to the PSNR-2 over the PSNR-1 is the addition of an automatic azimuth scan.

(u)
(c) (~~S~~) The system characteristics of the PSNR-2 may be as follows:

Rf	I-band (8 to 10 GHz)
Rf agility	None
PRF	4000 pps
PRF agility	None
PD	0.2 to 0.4 μs
Scan	Manual, automatic scan any desired sector
Antenna type	Cut-paraboloid
Antenna gain	28 to 30 dB
Transmitter type	Magnetron
Transmitter power	150 to 200 W
Receiver	Superheterodyne with manual or automatic frequency control
Displays	A-scope, digital range readout in meters, a range dial in kilometers, and earphones
Other features	None
Range	10 km (range display limited) 3 km (personnel) 10 km (jeep-sized vehicles)

(5) PSNR-3 (Kredo) (U).

(u)
(~~C~~) The PSNR-3 may possibly be the official nomenclature of the Soviet radar nicknamed Kredo. The Kredo is a replacement for the PSNR-2 and is in use by some Soviet border-guard troops. Although most parameters of the Kredo are unknown, it is known to have automatic azimuth scan plus MTI available on the visual display.

(6) TALL MIKE (U).

(u)
(a) (~~S~~) TALL MIKE is a probable battlefield surveillance radar associated with the modified BMP, known as the BMP M1976-2, and utilized as a reconnaissance vehicle. TALL MIKE may be an improved version of the previously known manpack radars PSNR-1 and PSNR-2. The PSNR-1 has been sighted near the BMP M1976, another reconnaissance vehicle, indicating

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that at least some BMP M1976 vehicles carry a PSNR-1 onboard. Use of the PSNR-1 would significantly increase the reconnaissance capabilities of the system, but at the expense of mobility, since the radar would have to be off-loaded, set up, dismounted, and reloaded into the vehicle each time it was used. Thus, it appears that the Soviets decided to mount a radar, TALL MIKE, directly onto the vehicle so that it could be rapidly raised, used, and retracted and the desired high mobility could be maintained.

(b) (u) ~~(S)~~ In comparison to other battlefield surveillance radars used for target acquisition and direction of artillery fire, TALL MIKE may be relatively unsophisticated and limited in capabilities but superior to the PSNR-1 in range and detection capabilities. TALL MIKE probably has greater transmitter output power, improved azimuth resolution and accuracy, better MTI both in the display and with earphones, and several electronic counter-countermeasure (ECCM) capabilities, possibly including polarization diversity. The prime reason for polarization diversity, however, would be the capability to switch from linear to circular polarization during atmospheric disturbances (rain, snow, etc.) to improve detection.

(c) (u) ~~(S)~~ The system characteristics for TALL MIKE may be as follows:

Rf	I-band (8 to 10 GHz), with 9.5 to 10.0 GHz the most likely range (J-band is also a possibility)
Rf agility	Rf switching capability to a second frequency within designated band to evade jamming and interference
PRF	4000 pps (nominal)
PRF agility	None
PD	0.2 to 0.4 μs
Scan	Manual slewing 0° to 360° in azimuth, automatic sector scan over preset angle
Antenna type	Parabolic reflector
Antenna gain	30 to 40 dB
Transmitter type	Magnetron
Transmitter power	2 to 4 kW
Receiver	Low noise superheterodyne
Displays	B-scope, digital range and azimuth readout, earphones
Other features	Polarization diversity, improved MTI (over PSNR-1), including both scope and earphones capability
Range	10 to 20 km (depending on target)

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b. Systems: 1986-1990 (U).

(1) (u) ~~(S)~~ PSNR-X is an arbitrary designation assigned to the next radar in the PSNR-1 through PSNR-3 series. Since the PSNR-1 battlefield surveillance radar (manpack) has been deployed, other models have been developed with additional features, apparently for Soviet border troops. The PSNR-2 has an automatic sector scan, whereas a radar known as the Kredo (possibly the PSNR-3) has this feature plus MTI available on the visual display. Follow-on radars to these known features, in the years 1986 through 1990, will have these capabilities plus improved MTI (better clutter reduction), probably higher frequency (J-band), polarization diversity to improve reception during inclement weather or reduce deliberate or unintentional interference, selectable PRF agility, low-noise receivers, introduction of some integrated circuitry, and possibly higher power with greater range. In addition, the trend of mounting the manpack-type radars on armored vehicles such as TALL MIKE is expected to continue. This provides some protection for surveillance personnel, eliminating the requirement for soldiers to expose themselves on the battlefield. There will be a continuing need, however, to mount some models on a tripod for use by Soviet border troops.

(2) (u) ~~(S)~~ The system characteristics may be as follows:

Rf	J-band (10 to 20 GHz), with most likely frequency in the range 14 to 18 GHz
Rf agility	Random selectable transmitter frequencies
PRF	6000 to 8000 pps
PRF agility	Selectable PRF
PD	0.01 to 0.1 μs
Scan	Circular, automatic selectable scan rate and sector width
Antenna type	Parabolic antenna
Antenna gain	40 to 45 dB
Transmitter type	Magnetron
Transmitter power	2 to 4 kW
Receiver	Low-noise (less than 5 dB) superheterodyne
Displays	B-scope, digital readout on azimuth and range, digital readout on longitude and latitude, earphones, and possible loudspeaker for automatic detection of intrusion operations (using MTI)

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Other features	Improved MTI, polarization diversity, introduction of some integrated circuitry
Range	10 to 20 km

c. Systems: 1991-2000 (U).

(1) BIG and SMALL FRED follow-ons (U).

(a) (u) ~~(S)~~ The next generation of battlefield surveillance radars may be mounted on tanks in addition to the tracked vehicles currently utilized such as for SMALL FRED and BIG FRED radars. A frequency increase to at least the 70- to 100-GHz range (preferably 90-100 GHz) is anticipated. The antennas will be conventional-type dishes or rectangular troughs, but with less probability of planar phased arrays. The radar will be smaller, possibly utilizing integrated circuit (IC) technology, and will require less power and cooling requirements, thereby providing more space and power for other surveillance devices or armaments carried onboard. Because of the dense electromagnetic environment at the FEBA, more ECCM features will be used and will contribute significantly to the detection of enemy ground equipment. The narrow beam widths and short pulse widths, at these frequencies, can significantly improve azimuth and range accuracies and resolutions over much lower frequency radars used for target surveillance.

(b) (u) ~~(S)~~ The system characteristics may be as follows:

Rf	M-band, 60 to 100 GHz (preferably 90-100 GHz)
Rf agility	Random sequence of selectable transmitter frequencies, and 7- to 10-GHz tuning range
PRF	Selectable 6000 to 20 000 pps, providing unambiguous range of 7.5 to 25 km
PRF agility	Random or programmed PRF agility
PD	Selectable 0.01 to 0.1 μs
Scan	Circular, selectable sector scan rate and sector width
Antenna type	Parabolic dish or rectangular trough
Antenna gain	50 to 60 dB
Transmitter type	Magnetron or gyratron
Transmitter power	25 kW peak
Receiver	Low noise input, less than 5 dB, with rf preselectors
Displays	Offset PPI, B-scope
Other features	MTI, polarization diversity
Range	10 to 20 km

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(2) PSNR-Y (U).

(u)
(a) ~~(S)~~ Improvements over the equipment fielded during the decade 1980 to 1990 can be expected for battlefield surveillance, manpack-type radars during the time frame 1991 to 2000. Equipment will use integrated circuitry wherever possible to minimize power consumption and to diminish the equipment weight. The frequency may be further increased to the K-band region (20 to 40 GHz), with the most likely range being 35 to 40 GHz. Magnetrons will continue to be used with the same power range (2 to 4 kW). The increased frequency plus shorter pulse widths will provide better azimuth and range accuracy and resolution than previous equipment operating in the I- or J-band. The MTI capability will be improved by the use of digital techniques. Frequency diversity and polarization diversity will continue to be used for ECCM purposes and, in the case of the latter diversity, also for better range during inclement weather. Radars will be mounted primarily on armored vehicles for better troop protection (like TALL MIKE), and will also be tripod mounted for use by Soviet border guards.

(u)
(b) ~~(S)~~ The system characteristics may be as follows:

Rf	K-band (20 to 40 GHz), with 35 to 40 GHz most likely range
Rf agility	Selectable transmitter frequencies
PRF	8000 to 10 000 pps
PRF agility	Selectable PRF ranges
PD	0.005 to 0.05 μs
Scan	Circular, selectable sector scan rate and sector width
Antenna type	Parabolic dish or cut-parabolic dish
Antenna gain	45 to 50 dB
Transmitter type	Magnetron
Transmitter power	2 to 4 kW
Receiver	Low noise (less than 5 dB) superheterodyne
Displays	B-scope, digital readouts, earphones
Other features	Digital MTI, polarization diversity (linear and circular), integrated circuitry
Range	10 to 20 km

6. Countermortar/Counterbattery Radars: 1991-2000 (U).

a. Date of Fielding (U).

(u)
~~(S)~~ A new generation CM/CB radar to replace the older SMALL YAWN may be seen in the late 1980s or early 1990s. SMALL YAWN represents technology of the

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1950s, and a newer version may not have been produced because of the generally disappointing performance (and cost effectiveness) of a radar utilized for these requirements. A product improvement may simply have been foregone until phased-array techniques become available in the late 1980s or the 1990s. These considerations are based upon US experiences with the MPQ-4 and MPQ-10, especially when designated as an artillery locator. Consequently, the United States developed two separate phased-array radars, one for mortar locating (AN/TPQ-36) and the other for artillery locating (AN/TPQ-37). Any Soviet follow-on to the SMALL YAWN radar will undoubtedly utilize phased-array techniques, may consist of two separate radars (as the United States has done), and will probably be mounted on a self-propelled tracked vehicle (unlike the US models, which are towed by a prime mover).

b. Phased-Array Radar in the 1990s (U).

(U)
~~(S)~~ A phased-array radar, by electronic scanning techniques, permits more rapid movement of a narrow antenna beam through space than previous conventional parabolic reflector radars, which rely on mechanical movement. A multilevel raster scan will permit multitarget recognition and tracking, which allow the radar to detect and locate several weapons firing simultaneously from different positions. The system will provide sufficient track data on the first detected round to locate the weapon. Phased-array design, combined with more sensitive receiver techniques and sophisticated ECCM devices, makes feasible the detection of mortar or artillery shells at the FEBA in a dense electromagnetic environment. In the past, Soviet lack of progress in use of phased-array technology, particularly for tactical purposes, may have contributed significantly to the lack of a SMALL YAWN successor. In addition to the aforementioned general characteristics expected of a new Soviet CM/CB radar, other anticipated specific design features are:

Rf	8 to 10 GHz
Rf agility	Frequency agility for ECCM
PRF	Selectable 3000 to 10 000 pps
PRF agility	Random or programmed PRF agility
PD	Selectable 0.1 to 1.0 μs with pulse compression
Scan	Multilevel raster scan
Receiver	Low noise (less than 5 dB) superheterodyne
Antenna type	Planar phase array
Antenna gain	40 to 45 dB
Transmitter type	Magnetron or gyratron
Transmitter power	100 to 250 kW peak
Displays	B-scope, digital readouts

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Other ECCM techniques	Sidelobe cancellation, MTI, constant false alarm rate, instantaneous automatic gain control, fast-time constant, random scanning pattern, polarization diversity
Displays	B-scope, digital readouts
Range	15 to 50 km

7. Laser Rangefinders (U).

a. (u) ~~(C)~~ The Soviets began deployment of laser rangefinders (LRF) in the 1970 period with a tripod-mounted unit for forward observers and command observation posts. The Soviets also fielded LRF in armored command and reconnaissance vehicles, helicopters, and tanks in the 1970s. Earlier LRF were based on ruby lasers, and later LRF, on neodymium lasers. Reliability is reportedly a problem. Very little information is available to confirm estimates of technical characteristics (Table 4-2). The Soviet equipment probably uses discrete electronics and mechanical Q-switching. This equipment has been fielded in a timely fashion and should provide adequate military performance.

b. (u) ~~(C)~~ These LRF provide very accurate range in a minimum time. LRF do not require the operator training and experience that was necessary with stereoscopic and coincidence devices. Response times of weapon systems and observers are reduced. LRF can be used to quickly update position data by resection. They are also used to supplement radar range or, in an ECM environment, act as an ECCM. The fielding of LRF by the Soviets is thus seen to have a broad operational impact in improved target acquisition, fire control, and fire adjustment. (A forecast of LRF systems is found in Chapter 10, paragraph 3b.)

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Table 4-2. (U) Estimated Characteristics of Known or Postulated Soviet Laser Rangefinders*

Nomenclature	Associated weapon or system	Application	Range (km)	Laser
DAK-1 DAK-2	Artillery forward observer	Target determination	8	Ruby
Model ?	Radar reconnaissance vehicle	Target determination and fire adjustment for artillery	8	Ruby or neodymium
Model ?	Artillery reconnaissance and command vehicle	do	8	Ruby
Model ?	Tank (older)	Fire control	6	Ruby
Model ?	Tank (new)	do	6	Neodymium
Model ?	Helicopter	do	5	Neodymium
KTD-1		Topographic survey	10	Ruby

~~(CONFIDENTIAL)~~ (U)

*(U) Additional data can be found in DST-1740S-005-81-VOL 2-CHG 1.

8. Electro-Optical Sensors (U).

a. Systems: 1980-1985 (U).

(1) Active infrared (IR) (U).

(u)

(a) ~~(C)~~ Since the mid-1950s, the Soviets have invested heavily in active near-IR imaging systems to enable their ground forces to fight at night. Various systems were developed for sighting rifles, machineguns, tank guns, antitank guns, and antitank grenade launchers. Some surveillance and night-driving systems have also been fielded. The rifle, machinegun, antitank, and individual surveillance devices are probably

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obsolete and replaced by intensifiers. The tank gun sights, tank and armored personnel carriers (APC) surveillance devices, and the driving viewers continue to be used and will be in the field through 1990.

(u)

(b) ~~(C)~~ Qualitatively, US and Soviet technical capabilities in deployed active near-IR equipment are about equal. Soviet image-converter tubes have performance equivalent to that of US tubes, and their lifetime is probably better. The Soviets also have a two-stage tube with higher sensitivity. The optical quality of the Soviet devices is adequate but inferior to that of US equipment. US tank systems have longer ranges because of the higher power xenon searchlights. Soviet tanks are observed to have the lower power tungsten searchlights, although xenon searchlights are reportedly being produced.

(u)

(c) ~~(C)~~ Quantitatively, the Soviets have a larger number of tanks and armored vehicles, all fitted with this IR equipment. Even though the United States has produced intensifiers and is beginning to produce thermal systems, most US tanks are still equipped with active-IR equipment. All these devices can detect US LRF and laser designators. Table 4-3 provides some equipment characteristics.

(2) Image intensifiers (U).

(u)

(a) ~~(C)~~ The Soviets began fielding intensifiers (starlight scopes) in about 1966. They developed a number of different systems for general surveillance, for sights on individual and crew-served weapons, for infantry combat vehicles, and for tanks. The Soviets have fielded a follow-on generation of individual weapon sights.

(u)

(b) ~~(C)~~ The intensifiers exhibited several shortcomings when compared with their US counterparts. Effective ranges at all light levels were generally less than, although sometimes equal to, US performance. The search effectiveness of the Soviet sights was about half that of comparable US performance because the effective field of view is reduced by not using fiber-optic interstage coupling. Except for the infantry combat vehicle sight, the Soviet sights have fixed-focus eyepieces and require operators with good vision. The power supplies are large and add to overall system weight. The sights are estimated to be extremely reliable but are judged to have poor maintainability. The Soviet S-20 photocathodes are about equal to those of the United States. The refractive optics used have inferior color correction, but filters used to enhance contrast can probably minimize this deficiency. The Soviet illuminated projected reticle was superior to the US-etched black-line reticle. The US first-generation intensifiers have optically and electronically superior characteristics and level of technology. The Soviet sights, however, provide adequate field performance and are well matched to the associated weapon system.

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Table 4-3. (U) Known and Estimated Characteristics of Soviet Active-IR Equipment*

Nomenclature	Associated weapon or system	Application	Range (m)	Field-of-view (°)	Magnification
NSP-2	Rifle, light machinegun, and grenade launcher	Infantry weapon fire control	200	8	1X
PPN-2	Light and heavy machinegun	Fire control	250	9.5	5.6X
TPN-1 series	Tank	do	800-1000	6.2	5X
APN3-7	Artillery and antitank gun	do	1100	6	6X
Model ?	Handheld	Surveillance	150	9.8	5.4X
TKN-1 series	Tanks, APC, and other armored vehicles	Surveillance and target acquisition	300	11.9	3.37X
TKN-3 series	do	do	500	8	4X
TVN-2 series	do	Driving	60	34	1X
PNV-57	Truck and artillery tractor	do	65	32	1X

*(U) Additional details are published in DST-1740S-005-81-VOL 2-CHG 1.

(u)
~~(CONFIDENTIAL)~~

(u)
(c) ~~(C)~~ A product-improved infantry weapon sight has been fielded since at least 1975 and perhaps as early as 1973. Previously a specific sight was designed for each weapon. This newer sight is a universal sight to fit rifles, machineguns, grenade launchers, etc. Only the reticle is weapon specific, greatly simplifying production, logistics, and maintenance. Intensifier gunner's periscopes are available for tanks, but the older IR sights are still used for training to reduce costs. Table 4-4 provides a summary of some characteristics.

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Table 4-4. (U) Known and Estimated Characteristics of Soviet Image-Intensifier Equipment

Nomenclature	Associated weapon or system	Application	Range (m)	Field-of-view (°)	Magnification
NSP-3	Rifle and light machinegun	Infantry weapon fire control	300	6.5	2.6X
PPN-3	Heavy machinegun	Fire control	400	5	4X
PGN-1	Antitank grenade launcher	Fire control	400	6	3X
PGN-9	Recoilless gun	Fire control	900	5	4X
NSPU	Rifle, light machinegun, antitank grenade launcher	Fire control	500	6	4X
1PN21	Antitank gun	Fire control	2000	5	7X
1PN22 series	Infantry combat vehicle	Fire control	800	6	6.6X
Model ?	Tank	Fire control	1500	5	7X
NNP-20 series	Tripod mounted	Surveillance and target acquisition	2000	5	4.6X
Model ?	Handheld binocular	Surveillance and target acquisition	400	5	3X

*(U) Additional details can be found in DST-1740S-005-81-VOL 2-CHG 1.

(u)
(~~CONFIDENTIAL~~)

(d) (u) ~~(C)~~ The operational impact of intensifier equipment has been to overcome the major disadvantage of IR devices: the active searchlight that can be readily detected by the enemy. The weapons can now operate passively for maximum surprise at minimum risk. This equipment, product improvements, and second- and third-generation devices will continue to be used through 2000.

(e) (u) ~~(C)~~ The Soviets are not known to have fielded second-generation intensifiers. They have advertised a domestic tube available since at least 1978 that has a microchannel plate, fiber-optic input and output plates, an S-20 photocathode, and good light gain; however, the resolution is about half of that of comparable US tubes. The Soviets are

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probably producing second-generation intensifiers for military equipment; these intensifiers are estimated to be technically inferior to US devices but adequate for their intended purpose. These second-generation sights will provide improved operational capabilities in the battlefield environment.

(3) Television (U).

(U) ~~(C)~~ The Soviets have had LLLTV since at least 1968. Military applications are not confirmed but are highly probable. Artillery-associated surveillance and control/reconnaissance vehicles fielded in the early 1970s almost certainly have LLLTV sensors to assist in target identification and location and for fire adjustment. A LLLTV is probably also available on combat attack helicopters for weapon fire control. Characteristics are unavailable. Although thermal systems may be fielded, continued use of new or improved LLLTV through 2000 is expected because of their technical/operational simplicity and lower cost. The daylight TV currently used on SAM and antiaircraft artillery (AAA) radars could be upgraded to a LLLTV capability at any time. The operational impact of LLLTV has been to enhance twilight and night target-acquisition and weapon-delivery capability.

b. Systems: 1986-1990 (U).

(1) Infrared (U).

(U) ~~(S)~~ Current R&D on detector materials will lead to more sensitive detectors. The improved microelectronics fabrication expected in the early 1980s should lead to new solid-state devices.

(2) Television (U).

(U) ~~(S)~~ Developments in TV power supplies and microcircuits should increase the use of battlefield TV. Low-light-level systems will be deployed for reconnaissance and surveillance. Airborne real-time TV in drones is expected.

(3) Thermal imaging systems (TIS) (U).

(U) ~~(S)~~ TIS will continue to be fielded. A manportable TIS for artillery forward observers and a manportable ATGM may appear in the late 1980s. A tank gunner's TIS sight is probably (70%) expected. TIS for ATGM and helicopter gunners is a virtual certainty (95%). The longer range fire-and-forget ATGM will reduce requirements for pointing resolution but will increase the required range for target recognition. Recognition ranges of 5 to 7 km are costly and impractical. Either lower ranges or alternative sighting subsystems such as millimeter-wave imagers are more likely. These TIS will operate in the 8- to 14-μm region and have the following estimated characteristics [2.3x2.3-meter (3°C) target, 50% recognition with visibility of 23 km]:

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- Manportable and ATGM vehicle: 1/5-mrad resolution, 14-cm optics, 3-km range
- Tank gunner: 1/5-mrad resolution, 11-cm optics, and 2.5-km range
- Helicopter ATGM gunner: 1/7-mrad resolution, 25-cm optics, and 4-km range
- A 120-element mercury cadmium telluride (HgCdTe) detector array

c. Systems: 1991-2000 (U).

(u) ~~(S)~~ More sophisticated fire-control systems using TIS will be available in much larger numbers in the 1990s. Second-generation TIS will begin to replace the scanned linear HgCdTe arrays. These systems will probably use staring arrays of sensors and CCD image-processing electronics on the focal plane.

9. CBR Reconnaissance (U).

a. Integral to All Formations (U).

(u) ~~(S)~~ Chemical, biological, and radiological (CBR) reconnaissance is generally performed by specially trained chemical troops, which are integrated into all Soviet formations from the wartime front down to the tactical regiment. However, lower echelon units that do not have organic chemical troops form extra-duty teams of "chemical observer-signallers" who are trained by the chemical troops. These reconnaissance personnel are issued a wide variety of chemical and radiological detectors and alarms. Many of these items can be carried by dismounted troops or can be mounted on wheeled or tracked vehicles to detect, survey, and mark contaminated areas.

b. Systems: 1980-1985 (U).

(1) (u) ~~(C)~~ A modified version of the amphibious armored reconnaissance vehicle, the BRDM-2rkh, is devoted primarily to CBR reconnaissance operations. This vehicle is equipped with chemical and radiological alarms, a collective protection system, and two automatic marking flag dispensers, which are mounted on the rear of the vehicle. When the type and degree of contamination are determined, interior vehicle controls allow the operator to electronically fire a warning flag into the ground. In this manner, a contaminated area can be quickly marked by the crew of the BRDM-2rkh vehicle without their having to dismount.

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(u) (2) ~~(S)~~ The ATV M-1979/4 is the Soviet second-generation CBR reconnaissance vehicle. This fully tracked vehicle has the MT-LB armored artillery tractor chassis, which allows additional space within the vehicle for state-of-the-art chemical-agent alarm, detector, and computational systems, and possibly for an automatic terrain navigation system that would continuously display the grid coordinate position of the vehicle.

(u) (3) ~~(C/NOFORN)~~ In the 1981-1985 period, the ATV M-1979/4 reconnaissance vehicle will enter full production and will replace or augment the BRDM-2rkh vehicles already in the Soviet inventory. Field tests of remote Raman and long-path infrared (LOPAIR) spectroscopic devices that can detect a chemical-agent cloud before it reaches ground level will be conducted.

c. Systems: 1986-1990 (U).

(u) ~~(C/NOFORN)~~ In the 1986-1990 period, the LOPAIR device will be fielded, while the Raman device will enter the advanced development stage.

d. Systems: 1991-2000 (U).

(u) ~~(C/NOFORN)~~ In the 1991-2000 period, the remote Raman system will be ready for standardization, and a decision will then be made to use it as the sole remote detector or to use it to complement the more sensitive LOPAIR system.

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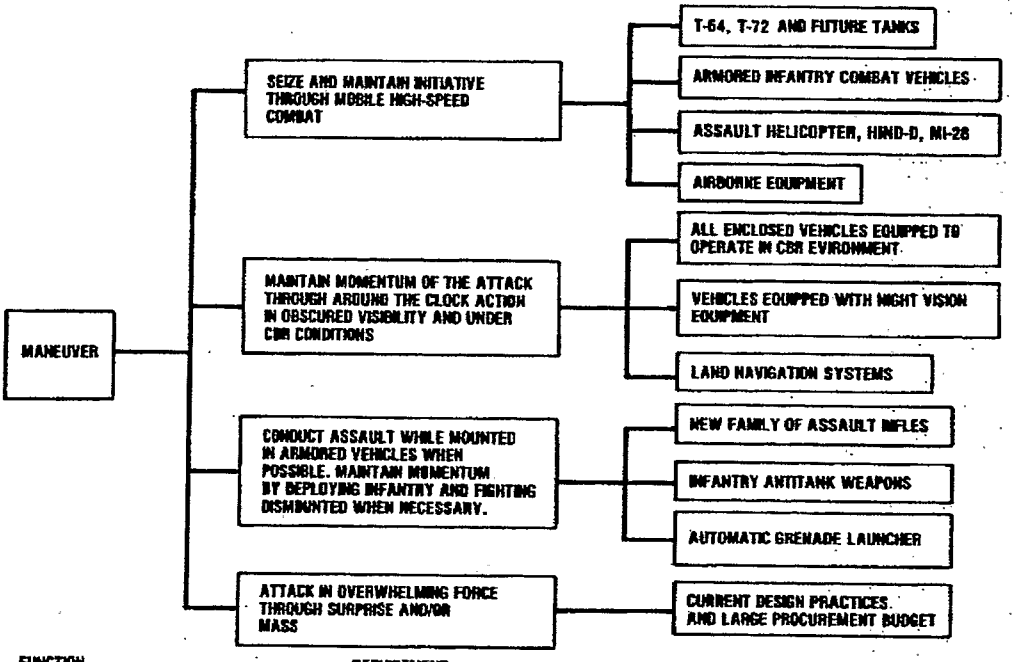
CHAPTER 5

MANEUVER SYSTEMS (U)

1. Introduction (U).

(U) ~~(C)~~ To the Soviets, maneuver is the key factor contributing to the high rate of advance (50 to 80 km/day under nonnuclear conditions) that is central to their tactical doctrine. Maneuver is viewed as movement of a force into a favorable position (in relation to the enemy) from which an attack can be launched. The maneuver units are formed around armored vehicles, the infantry combat vehicle, and the HIND helicopter in its assault role. These vehicles have several features that enable them to maintain the desired rapid rate of advance: All are highly mobile; many are amphibious; all fully enclosed fighting and support vehicles have collective protection systems that enable them to continue moving and fighting in a CBR environment; and many are provided with night-vision equipment and land navigation systems that allow them to maneuver on a battlefield obscured by smoke, fog, dust, or darkness. Figure 5-1 gives a functional network for maneuver systems.



(U) ~~(CONFIDENTIAL)~~

Figure 5-1. (U) Functional Network for Maneuver Systems

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2. Tanks (U).

a. Tactical Considerations (U).

(u) (1) ~~(S)~~ "Ground operations are successful only when we are equipped with high quality tanks and a number of other combat vehicles that answer modern requirements" (Major General Sergeyev of Engineer Technical Services, April 1961). According to Soviet tactical doctrine, the tank has been, and remains, the number one vehicle for assault and round-the-clock offensive operations. To accomplish this mission, the modern tank possesses powerful weapons and reliable defense against the most diverse means of destruction. The tank can confidently be operated over any terrain, at any time of the day or night, and can be transported by selected cargo aircraft.

(u) (2) ~~(S)~~ Armored troops, the main striking force of the ground forces, make up that branch of service that is best able to conduct a battle with success under hostile fire and immediately after nuclear weapon strikes. Modern Soviet medium tanks are distinguished not only by an optimum combination of fire power, maneuverability, and armor protection, but also by the ability to maintain aimed fire while on the move (and at night) and by a CBR protection system.

b. Systems: 1980-1990 (U).

(u) ~~(S/RELUK)~~ The main concern through 1990 will be with the T-64, T-72 (and their respective variants), and the next Soviet tank (NST), previously referred to as the T-80. Tank characteristics are summarized in Table 5-1 (located after para 2c of this Chapter).

(1) T-64 tank (U).

(u) ~~(S/RELUK)~~ Developed in the early to mid-1960s, the T-64 tank is produced at the Kharkov Tank Factory. It is currently used only in Soviet units in East Germany, Hungary, and the USSR. Variants of the T-64 reportedly include the T-64, T-64A, T-64B, and T-64K.

(a) (U) The T-64 is shorter and lower than the T-62 and uses small road wheels on the suspension system. It is assessed to have a 38-tonne combat weight.

(u) (b) ~~(S/RELUK)~~ Firepower has historically been accorded the priority over mobility and protection by designers of Soviet tanks. The Soviets have emphasized use of extremely high-velocity projectiles, particularly since the introduction of smoothbore guns. The T-64A main

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armament is the model 2A26 125-mm smoothbore gun, which has a reported barrel life (Soviet criteria) of 600 to 800 rounds. Three types of ammunition continue in use: hyper-velocity, armor-piercing, fin-stabilized, discarding-sabot, (HVAPFSDS); high-explosive, antitank, fin-stabilized (HEAT-FS); and high-explosive fragmentation (HE-FRAG). The T-64A basic load is 39 rounds. The Soviet recommended mix is 14 HVAPFSDS, 5 HEAT-FS, and 20 HE-FRAG. However, the mix will vary with mission and threat. The T-64B, a gun/missile launcher variant, reportedly has been produced in limited quantities: no specific data are known about this vehicle.

(u)

(c) ~~(S/RELUK)~~ The T-64 is equipped with an optical range-finder that provides range information to a mechanical ballistic computer. An autoloader is utilized for the main gun once the gunner has selected the ammunition type to be used in firing. Twenty-eight rounds are believed to be stowed in the ammunition carousel, which fits into the hull below the turret ring. Recycle time for the loading process is reportedly 3 to 10 seconds, depending on the location of the next round in the carousel.

(u)

(d) ~~(S/RELUK)~~ The T-64 turret is fabricated by casting a body and welding in the roof that contains the commander and gunner hatches. The thickness of the turret at the coaxial machinegun aperture has been reported as approximately 400 mm. However, engineering analysis indicates that frontal thickness may reach 500 mm in selected areas. It is most unlikely that these dimensions are provided by homogeneous steel. Reports indicate that enhanced protection was attained by placing filler material in a cavity on either side of the main armament. When considering total armor thickness, a 40- to 70-mm-thick antiradiation liner must be added as it covers the entire inside of the turret and could markedly reduce spall.

(u)

(e) ~~(S/NOFORN)~~ Soviet liner development had the twin goals of spall suppression and protection against residual radiation from a contaminated battlefield. The enhanced-radiation warheads may alter liner designs in the future to counter prompt radiation as well.

(u)

(f) ~~(S/RELUK)~~ Reports and observations indicate a maximum road speed for the T-64 of 80 to 85 km/h. It is believed to be equipped with an exhaust turbocharged, 5-cylinder, 10-piston, horizontally opposed, liquid-cooled diesel engine of 515-525 kW (700-750 hp) at 2800 r/min. This engine has a limited multifuel capability.

(u)

(g) ~~(S/RELUK)~~ The cruising range of the T-64 is estimated to be 500 km on the integral fuel and 650 km with the two 200-liter fuel drums that can be attached on the rear of the back decks.

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(2) T-72 tank (U).

(u)

(a) ~~(S/RELUK)~~ The T-72 tank, developed in the late 1960s and early 1970s, is produced at Nizhniy Tagil. It has been identified in operational units inside the USSR and in small numbers of most Warsaw Pact nations. Export versions are produced and can be found in a number of Middle East client states and in India. The T-72's firepower, armor, and automatic characteristics, which differ from those of the T-64A, will be addressed. Several versions of the T-72 are known to exist, including the T-72, T-72M, and T-72K. The data considered have been provided by numerous intelligence sources; most of it concerns the T-72M, which has been exported. The extent and nature of the differences between domestic and exported T-72 are unknown but probably are restricted to areas such as fire control, armor protection, CBR protection, and ammunition. (Data derived from the exported T-72M will be so identified in the text.)

(u)

(b) ~~(S/RELUK)~~ The T-72 weighs 41 tonnes. The difference in weight between the T-64 and T-72 is attributable to differences in automotive and suspension components and possible changes in armor. The T-72 is also 600 mm longer than the T-64.

(u)

(c) ~~(S/RELUK)~~ The T-72 main armament is the same 125-mm gun used on the T-64A described earlier. T-72 export ammunition is the same as that used with the T-64. The T-72 basic load is 39 rounds with 22 of these immediately available in the automatic loader.

(u)

(d) ~~(S/RELUK)~~ Fire control on the exported T-72M consists of an optical split-image/coincidence rangefinder, ammunition selector, automatic cassette loader, and stabilized sights. The rangefinder on the domestic T-72M is like that of the T-64. Most of the exported versions, however, have one of the earlier systems with a "delta D" (a device for compensating the distance travelled by the firing tank since the ranging).

(u)

(e) ~~(S/RELUK)~~ Ballistic computers on the Soviet T-72 are the same as on the T-64. The T-72M has a simple mechanical-type ballistic computer linking the "delta D" to the gunner's fire-control optics.

(u)

(f) ~~(S/RELUK)~~ The T-72's autoloader is a carousel-type like that of the T-64, but the similarity ends there. The T-72's autoloader holds 22 rounds stored totally beneath the floor of the fighting compartment. The recycle time is 8 to 10 seconds, depending on the position of the next round to be fired in the carousel, giving it the capability to fire 6 to 8 rd/min.

(u)

(g) ~~(S/RELUK)~~ The T-72 was assessed to have armor protection similar to that of the T-64. The increased weight of the T-72 is partially

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the result of its increased length and differences in automotive and suspension components. Some adjustments in the design of the protection can be expected due to the 10-year difference in design of the T-64 and T-72. The exported T-72, according to the Soviets, has reduced protection consisting of a steel-glass plastic-steel upper glacis and a fully cast all-steel turret. The design of the glacis provides protection against 105-mm munitions fielded prior to 1980, at ranges of 500 meters or greater: specifically, for kinetic-energy (KE) rounds, 350 mm; for chemical-energy (CE) rounds, 450 mm. The turret is fully cast. If its protection through the frontal arc is matched to the CE performance of the glacis, it will be approximately 450 mm. There is a possibility that the present domestic turret casting is similar to the one exported. The protection levels, however, may differ because of possible use of fillers in the Soviet version.

(u)

(h) ~~(S/RELUK)~~ Maximum road speed for the T-72 is 60 km/h. There is no known difference between the mobility of the domestic and exported versions. The model V-46 engine is a V-12, multifuel, supercharged version of the old T-55 engine. Operation on fuels other than diesel is limited to 100 hours for the life of the engine. The 780 hp is provided by diesel fuel and is reduced on aviation fuels and gasoline. There are four internal fuel tanks and five external ones, which provide a total of approximately 1200 liters. On diesel fuel, the road range on internal tanks is 450 km; with two auxiliary 200-liter fuel drums on the rear, a range of 600 km is possible.

(3) NST (U).

(u)

(a) ~~(S/RELUK)~~ The nomenclature of the NST when fielded is not known. Few data are available concerning the weight of the new tank. It is assessed to weigh approximately 42 tonnes. It is possible that a different gun will be used on the NST, but most evidence indicates that a 125-mm smoothbore gun will be retained. Anticipated improvements to the 125-mm gun include changes in manufacture, the capability to cope with higher chamber pressures, and improved barrel life. Other options reported include a 14.5-mm machinegun for turret-roof armament.

(u)

(b) ~~(S/RELUK)~~ One of the major areas of potential improvement is fire control. Reports indicate sights and controls may be provided for both the commander and gunner. This would be the first time that Soviet tank commanders have had the ability to aim and fire the gun. An improved stabilization system, a new ballistic computer, and a passive night-firing capability may also be provided. An automatic loader will be used, thus continuing the three-man crew. It is assessed that the ballistic computer will have provisions for the gunner to input nonstandard data such as meteorological conditions and propellant temperatures.

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(u)

(c) ~~(S/RELUK)~~ Although other aspects of the new tanks appear to be evolutionary improvements over the T-64 and T-72, the greater area for change is the design of the armor. The Soviets are likely to emphasize the use of more advanced protection systems to maintain their advantage in light of the development of the West of advanced penetrators and an improved anti-tank capability. Although not expected, these changes may be seen in the fielding of some tanks with fabricated, angular turrets, which will allow better use of both metallic and nonmetallic materials.

(u)

(d) ~~(S/RELUK)~~ The powerplants most frequently reported for the new tanks produce between 736 and 882 kW (1000 and 1200 hp). There are two programs in competition. The tank at Kharkov is believed to have a diesel engine; the one at Leningrad, a turbine engine. It is not clear which design will be chosen. Soviet operational requirements for fuel conservation and snorkeling may preclude Soviet acceptance of a gas-turbine engine. Use of the turbine engine may well require the Soviets to go to a fully automatic transmission, a move they have avoided in the past. A variable-height suspension system is frequently reported. If accepted, it will probably be hydropneumatic.

c. Systems: 1991-2000 (U).

(u)

~~(C/RELUK)~~ From 1991 through 2000, the FST is projected to have the firepower, armor protection, and automotive characteristics described in the following paragraphs.

(u)

(1) ~~(S/RELUK)~~ In light of Soviet design considerations, it is assessed that the weight of the FST will not exceed 45 tonnes.

(u)

(2) ~~(S/RELUK)~~ The 125-mm smoothbore gun will probably be retained as the main armament on the FST. It will not necessarily be the same 125-mm gun that is found on the NST or earlier systems. The first 125-mm gun was the 2A26 in about 1970; it was superseded by the 2A46 in about 1979. Changes in materials or manufacturing techniques may provide the FST's gun better capability to cope with higher chamber pressures or improved tube life. These types of improvements are expected to continue. It is likely that a coaxial and turret-roof machinegun will be retained.

(u)

(3) ~~(S/RELUK)~~ The FST is expected to have an integrated fire-control system with a possible LRF, ballistic computer, automatic loader, ammunition selector, and stabilization. Night observation will possibly be provided by passive night systems. Like the NST, the FST may feature dual fire-control optics for both the tank commander and gunner.

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(u)

(4) ~~(S/RELUK)~~ An updated version of the ammunition selector found on the T-64A and probably on the NST will be used. It will provide both the gunner and commander with information relative to ammunition types available, the number of each, and their location. With nearly 25 years of experience with automatic loaders by 1990, the Soviets are most likely to continue its use in the FST.

(u)

(5) ~~(S/RELUK)~~ While it is unknown what armor protection levels the Soviets might require on the FST, it is reasonable to assume that the frontal armor would be tested against their own KE tank round and their primary ATGM of the same time frame. Viewed from 1982, the most likely candidate technology would appear to be laminates. The Soviets, by 1990, will have used laminates in fielded tanks for 25 years. During this period they have had the opportunity to improve their capability through development of alternative materials and may have solved all of the problems of confinement. It is a logical extension of their present efforts and is currently a technological area where they are believed to be far in advance of Western nations. Soviet response to top-attack munitions is also expected.

(u)

(6) ~~(S/RELUK)~~ The engine of the FST should show an increase in power to approximately 1100 kW (1500 hp). For a 45-tonne vehicle, this increase in horsepower would provide a horsepower-to-tonne ratio of approximately 33:1. Certainly this ratio is possible by the 1990s, but the utility of ratios this high has not yet been demonstrated. Whether they select a diesel or turbine engine may depend on what is seen in the NST. They have spent many years developing a turbine for use in a tank but have yet to field one in a production system. The Soviets may also want to reduce the thermal signature and to add a snorkeling capability as a result of the turbine engine.

(u)

(7) ~~(S/RELUK)~~ Live, bushed tracks will probably be retained on the FST with a variety of options available for suspension. The major consideration will be the stability of the tank under load traveling cross country. The suspension could be hydraulic, mechanical spring, or perhaps hydropneumatic; variable height is another possibility. The cruising range will be set to make it compatible with other battlefield systems of the time frame. The Soviets have shown satisfaction in the range between 500 and 600 km.

(u)

(8) ~~(S/RELUK)~~ Over the past 15 years, Soviet tank development has demonstrated a standard for excellence both in the quality of the equipment and in the demonstrated ability of the Soviets to field them in large quantities. The Soviets will be reluctant to relinquish their lead in this field and will develop and produce a tank for the 1990s that, by their assessment, will be a match for any tank fielded by the West during this time frame.

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Table 5-1. (U) Tank Characteristics*

Characteristics	T-64A (postulated)	T-72M	NST (T-80) (projected)
Physical Data			
Weight--combat loaded	38 t	41 t	42 t
Length:			
Overall with gun	9.225 m	9.530 m	---
Overall without gun	6.540 m	6.910 m	7.0 m
Gun tube	6.300 m	6.300 m (est)	---
Gun tube forward of mantlet	4.500 m	4.470 m	---
Ground contact	4.242 m	4.470 m	---
Width:			
Overall	3.415 m	3.460 m	3.5 m
Center-to-center of tracks	2.740 m	2.890 m	Unknown
Track	0.530 m	0.570 m	0.5 m
Height:			
Overall to top of tank commander's cupola	2.170 m	2.190 m	2.2-2.3 m
Ground clearance	490 mm (est)	470 mm	Variable
Ground pressure	81.4 kPa (0.83 kg/cm^2)	83.4 kPa (0.83 kg/cm^2)	83.0 kPa (0.83 kg/cm^2)
Hull--armor type	Rolled homogeneous, probable laminate upper glacis	Rolled homogeneous, probable laminate upper glacis	Advanced armor or laminate
Skirting standoff	Yes: plates--4 rotating, 2 fixed on some variants	Yes: plates--4 rotating, 2 fixed	Yes
Turret--armor type	Cast, probably cored composite in frontal arc	Cast	Advanced armor or laminate
CBR protection	Probable gas particulate/collective on some models overpressurization/ with liner	Gas particulate/overpressurization with liner	Collective CBR, liner
Range devices	Optical, TPD2-49 coincidence range-finding sight; some models may be equipped with a laser	---	Electro-optical or possible laser with ballistic computer
Range-finding sight	---	TPD2-49 combination optical rangefinder and mechanical computer; some models may be equipped with a laser	
Stabilization	Yes, two-plane	Model 2Eh28M two-plane gyro stabilizer	Two-plane
Armament:			
Main--caliber	125 mm, smoothbore, Model 2A46	125 mm, smoothbore, Model 2A46	125 mm, smoothbore, probably Model 2A46
Auxiliary	12.7 mm; 7.62 mm (coaxial)	12.7 mm; 7.62 mm (coaxial)	7.62 mm (coaxial), 12.7 mm dual-purpose (probable)
Main armament--ammunition quantity	39 rd (est)	39 rd	40 rd

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Table 5-1. (U) Tank Characteristics* (Continued)

Characteristics	T-64A (Postulated)	T-72M	NST (T-80) (Projected)
Crew number	3	3	3
Engine:			
Type	5-cylinder, 10-piston, limited multifuel	V-12 multifuel	High-performance diesel (possible gas turbine)
Power	515 kW @ 4000 r/min** output shaft speed	575 kW @ 2000 r/min	736 to 883 kW
Location	Rear of turret	Rear	Rear
Cooling system type	Liquid	Liquid	Liquid
Transmission	2--mechanical/hydraulic assist, 7 forward--1 reverse gears	2--mechanical/hydraulic assist; 7 forward--1 reverse gears	Mechanical/hydraulic assist (automatic transmission if gas turbine engine is used)
Final drive location	Integral to transmission	Integral to transmission	Rear
Suspension system type	Torsion bar	Torsion bar	Unknown, possible variable height
Road wheels--number	6 dual, all metal	6 dual, rubber rimmed	---
Support rollers--number	4 single	3 single	---
Track type	Liva dual-pin with removable center guide	Liva single-pin with/center guide--Model RMSh	Unknown
Shock absorbers	3 each side (linear)	3 each side (rotary vane damper)	Unknown
Night-vision (devices/types):			
Driver	IR--active projector; also TVNE-4PA passive image intensification	IR projector (FG-125), active periscope (TNPD-168B) or active/passive periscope (TVNE-4PA)	Passive devices
Commander	IR--active projector; also TKN-3B day/night sight	IR projector (Ou-3GRM), day/night periscopic sight (TKN-3)	Passive devices
Gunner	IR--active projector, TPN-1-49-23 night sight	IR projector (L2AG), active periscope night sight (TPN-1-49-23)	Passive devices
General Data			
Radio set	R123 (probable)	R123	Unknown
Performance--maximum:			
Speed road	80-85 km/h	---	---
Speed	---	---	---
Cross country	35-45 km/h	60 km/h	70 km/h
Cruising range--road	500-600 km	---	---
Cruising range	---	500 km	---
Cross country	225-360 km	---	450 km
With auxiliary tanks (390L) road	600-700 km	---	---

(SECRET) (U)

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Table 5-1. (U) Tank Characteristics* (Continued)

Characteristics	T-64A (Postulated)	T-72M	NST (T-80) (Projected)
Cross country	315-450 km	---	---
With auxiliary tank (390L)	---	650 km	650 km
Turning radius-minimum	2.53 m	---	---
Gradeability	30°	---	---
Fording:			
Unprepared	1.0 m	1.2 m	1.4 m
With snorkel	5.0 m	5.0 m	5.0 m
Gradeability	---	30°	---
Trench-crossing	2.85 m	2.8 m	---
Vertical step	0.8 m	0.85 m	---

*This table is SECRET in its entirety because of compilation of data.
**Estimates of engine power as installed in 522-559 kW @ 2000 r/min.

~~(SECRET)~~ (U)

d. Other Possible Developmental Paths (U).

(1) Introduction (U).

(u) ~~(S/RELUK)~~ Soviet tank development is a dynamic process that will continue to change with changed Soviet perceptions. The tank will continue to be developed in the context of its place on the battlefield as a key element in the combined-arms team. The Soviets are aware of the technological areas in which they excel and will attempt to maintain and increase their lead over the West in those area; at the same time they will monitor Western developments for new threats.

(2) Air defense (U).

(u) ~~(C/RELUK)~~ It is conceivable that the Soviets will improve the tank's capability to withstand aircraft assault by providing it with a larger turret-mounted automatic weapon or a ground-to-air missile. The missile option is considered least likely because of space and training requirements. It is far more likely that tanks will continue to rely primarily on the extensive Soviet tactical air defense system for protection.

(3) Advanced designs (U).

(u) ~~(S/RELUK)~~ A number of advanced tank designs under study in the West are being examined by the Soviets. One features a turretless tank with a fixed gun and the crew protected in the hull. Another has a reduced silhouette turret with the crew in the hull. Desired levels of protection and weight constraints may force the Soviets to select approaches of this nature. The turretless tank makes the system almost invisible as a target, with only its gun appearing above the mask of the terrain. This design also allows concentration of the armor protection in the front and on top. The reduced silhouette turret design reduces the frontal area of the tank, making difficult its detection on the battlefield and reducing the probability of a hit on the turret. The savings in armor resulting from the sharp reduction in turret dimensions could be used to increase the firepower, increase the armor protection of the hull, or improve the tank's mobility. The Soviets are most likely to design the FST in light of their current doctrinal perceptions and design considerations.

(4) Response to top-attack munitions (U).

(u) ~~(S/RELUK)~~ Soviet response to top-attack munitions is expected. This response will take several forms, including suppression of the delivery systems, attack on the guidance system by jammers, and additional protection. Protection in the form of integral and add-on armor will probably be designed

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to defeat small, nonguided, multiple-attack weapons, such as the top-attack bomblet. The goal will be maximum protection of selected areas with the minimum weight penalty rather than uniform protection over the entire top of the tank. Rf weapons might be used to destroy or disrupt electronics. Paints that absorb in the millimeter-wave or IR region might successfully degrade the sensor systems of top-attack munitions.

e. Armored Support Equipment (U).

(u) ~~(C/RELGAUK)~~ Tank chassis have been used for a variety of functions other than that for which they were primarily designed. Their inherent armor protection and automotive characteristics make them ideal for adaptation to various combat support roles; modified chassis have been used by the WPC for combat bridge layers (e.g., MTU-20, BLG-60), combat engineer vehicles (e.g., the IMR), and recovery vehicles (e.g., the T-55T, VT-55). Indications are that this trend is being continued with the newer generations of tanks (T-64, T-72, and possibly the NST). As increasing numbers of the newer tanks enter the active inventories, their increased mobility and protection (and the need to reduce repair-parts requirements) will make their chassis increasingly attractive as replacement chassis for the older combat support vehicles.

f. Ammunition (U).

(1) Trends (U).

(u) ~~(S/RELUK)~~ Separated ammunition of the type used for the T-64A/T-72 tank will probably be retained for the 125-mm gun of the FST. However, improvements in ammunition are anticipated and may result in changes to the gun.

(a) HVAPFSDS (U).

(u) ~~(S/RELUK)~~ KE penetrator improvements may include the use of high-technology, monobloc, long-rod penetrators that could improve performance. At least six tank-fired, hypervelocity, improved-KE penetrators have been introduced since 1961. This trend will continue, with the goal of this accelerated program being higher hit probability and increased kill capability. The Soviets can move from monobloc steel and sheathed tungsten KE penetrators to monobloc tungsten and high-technology sheathed depleted-uranium penetrators in the future. It is likely that they will attempt to increase penetration while staying with the current design, which includes the ring sabot, unless developments in the West force them to go to the higher risk technology of sheathed depleted-uranium penetrators.

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(b) HEAT-FS (U).

(u) ~~(S RELUK)~~ CE improvements may include material changes in the liner, wave shaper, and explosive to improve penetration. The HEAT-FS round's effective range could be increased over that of the T-64A round with improved propellants. Improved fuzing would make the round more versatile and/or reliable. Improvements in HEAT ammunition will include the technology that is now incorporated in several recent shaped-charge warheads such as those on the 57-mm aircraft rocket; the PG-9S HEAT projectile for BMP, BMD, and SPG-9; and those for the PG-16 reloadable and the PG-18 light antitank weapon launchers. This technology includes pressed HMX explosive instead of the traditional RDX/wax for higher brisance, a redesigned wave shaper for better jet formation, and smaller angle liners for increased depth of penetration. Coupled with improved fuzing, these features should primarily enhance current HEAT performance. There is some evidence of precursor work in Soviet 76-mm HEAT applications, but US testing has shown it to be effective only in clearing the path for the main jet through the fuze body, saving approximately 10% of the main jet. Application of precursor techniques to 125-mm HEAT rounds may render them able to defeat advanced NATO armors.

(c) FRAG-HE (U).

(u) ~~(S/RELUK)~~ Improvements in controlled fragmentation and a more effective bursting charge are two means of improving the HE-FRAG round. Improved propellants, of course, would increase accuracy at shorter ranges and increase the maximum range.

(2) ATGM (U).

(u) ~~(S/RELUK)~~ Reports continue to surface concerning an antitank missile fired from a medium tank. It is postulated that this gun-launched ATGM represents either the culmination of, or a follow-on to, an apparent tank destroyer development program. This system is projected to incorporate laser beam rider guidance. The missile, which would be launched from a medium tank chassis, would be the primary armament, with conventional tank ammunition as secondary armament. The missile is projected to fly at an average velocity of 300 m/s to a maximum range of 4000 meters. To accommodate launch through the gun tube, a diameter of 125 mm is postulated; this would necessitate a warhead incorporating the latest near-term shaped-charge technology in order to penetrate 800 to 900 mm of rolled homogeneous armor (RHA). Table 5-2 summarizes information about Soviet 125-mm tank ammunition.

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Table 5-2. (U) Soviet 125-mm Tank Ammunition

Complete round nomenclature	Complete round wt (kg)	Projectile					Propellant		Packing			Notes at end of chart
		Wt (kg)	Lgth (cm)	Material	Filler		Wt (kg)	Type	Wt (kg)	No. of rds	Type	
					Wt (kg)	Type						
C/R 125-mm separated HVAPFSDS-T Model VBM-3; w/proj Model BM-9, aux prop chge BM-10, & main chge Zh-40	19.5	5.67	51.8	Mono-lithic steel	None	NA	9.98 both chges	SB est	49	1	Wood box & steel or paper cans	1,2
C/R 125-mm separated HVAPFSDS-T Model VBM-6; w/proj Model BM-12, aux prop chge BM-13, & main chge Zh-40	19.5	5.67	54.6	Jacketed sub-projectile w/core of unk material	NA	NA	9.98 both chges	SB est	49	1	Wood box & steel or paper cans	1
C/R 125-mm separated HEAT-FS Model VBK-7; w/proj Model BK-12M, fuze PIBD* Model I-238 & main chge Zh-40	28 est	19 est	68 est	Steel body w/ shaped charge	2 est	RDX and wax	5.885	SB est	64 est	1	Wood box & steel or paper cans	
C/R 125-mm separated HEAT-FS Model VBK-10; w/proj Model BK-14M, fuze PIBD Model I-238 & main chge Zh-40	28.45	19.02	67.7	Steel body w/ shaped charge	2 est	Pressed HMX	5.885	SB est	64 est	1	Wood box & steel or paper cans	3
C/R 125-mm separated FRAG-HE Model VOF-22; w/proj Model OF-19, fuze PD Model V-429E, & main chge Zh-40	32.5	23	67.5 est	Steel body w/ high explosive	3.148	TNT	5.885	SB est	68	1	Wood box & steel or paper cans	

NOTES: 1. Subprojectile flight weight is 3.615 kg.
2. Subprojectile is monobloc steel.
3. Nose fuse V-15 PC and base fuse V-15 DU found on export models.
*PIBD = point initiating, base detonating.

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3. Infantry Fighting Vehicles and Armored Infantry Combat Vehicles (U).

a. Systems: 1980-1985 (U).

(1) BMP (U).

(u) (a) ~~(S)~~ The BMP infantry fighting vehicle (IFV), introduced in 1967, has undergone continuous product improvement. It is the basis of a family of vehicles that presently include at least five or six distinct variants not associated with the infantry combat role. For the BMP, the Soviet designer regards firepower, mobility, and protection as the main considerations, with firepower being dominant and mobility and protection almost equal to each other in importance.

(u) (b) ~~(C)~~ The 73-mm gun, Model 2A28, and the AT-3 (SAGGER) ATGM are ideal main armament for the BMP because of their terminal effectiveness. Both systems are designed for an antitank role and are complementary. The main gun is used out to a range of 1300 meters; the ATGM is used for ranges between 500 and 3000 meters.

(u) (c) ~~(C)~~ The BMP and possibly the BMD are the only combat vehicles in the Soviet inventory known to be currently equipped with a passive night fire-control optic. The day/night sight is used by the gunner to aim the 73-mm gun and coaxial machinegun. It is also used to guide the SAGGER during daylight. Tests indicate that this image-intensification sight can, on an average night, detect, recognize, and identify the M60 tank at 1800, 850, and 475 meters, respectively.

(u) (d) ~~(C)~~ The automatic loader was incorporated to reduce the number of personnel in the turret rather than to increase the rate of fire over a manual system. This provision resulted in a small turret that reduced both the silhouette and vulnerability of the vehicle.

(u) (e) ~~(C)~~ The firing-port weapons were designed to provide suppressive fire to the flanks of the vehicle during assaults on fortified positions. Each member of the squad has a firing port with a heated viewing glass (for defroster), a unity periscope, a fume extractor, and a firing-port weapon. All the squad weapons are also used in the dismounted role.

(u) (f) ~~(C)~~ The BMP is required to accompany the Soviet medium tank and is designed around similar mobility parameters. The additional requirement for the BMP to be amphibious without preparation determines many of its mobility characteristics. For the volume and size of a BMP-type vehicle, 14 tonnes is the weight limit to ensure buoyancy with adequate freeboard. The sprocket-to-gross-power ratio for the BMP is probably among the best in the world. The mobility of the vehicle contributes significantly to its survivability; the gunner is trained to fire from the short halt, which is consistent with the Soviet idea that a moving BMP presents a difficult target.

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(u) (g) ~~(C)~~ The 14-tonne weight limit on the BMP design requires austere armor protection. The BMP is designed for 60° frontal-arc protection against 12.7-mm armor-piercing (AP) projectiles, little protection against mines, and minimal protection against artillery. The Soviets have used mostly high-hardness steel rather than aluminum on the BMP because it provides superior performance against 12.7-mm AP projectiles. The only use of aluminum armor is in the engine access cover (hull front upper plate). The use of 6 mm of the same steel for the roof does not provide the level of protection that is desired in the West. Increased artillery protection appears to have been sacrificed for vehicle mobility.

(u) (h) ~~(C)~~ Recently, BMP-1 assigned to GSFG have been observed with six smoke grenade projectors mounted in a bracket on the top rear of the turret. BMP-1 in the USSR have also been observed with this bracket, but not the projector pods. The projectors appear similar to those used on the T-64 medium tank. No data on their operation or effectiveness are available.

(u) (i) ~~(S)~~ The BMP is an excellent example of Soviet military R&D. After its introduction, subsystems were improved when such modifications would enhance overall combat effectiveness. This conservative philosophy allows design improvement without technological risk. The overall BMP design--a low-silhouette, front-mounted powerpack, center-mounted main armament with the squad in the rear--is not expected to change. Improvements in the main armament and protection are expected, but the requirements for a vehicle that is inherently amphibious without preparation and with a low silhouette and collective CBR protection, will limit the combat weight, armor envelop, and powerpack design. The Soviets presently have and probably will always have the world's largest inventory of IFV. They also have had 14 years of experience in the integration of IFV with tanks. While technological advancement--e.g., improved ATGM and artillery-delivered flechette munitions--may alter the doctrine and tactics of the tank/BMP interaction, the BMP's adaptability makes it a significant part of the Soviet combined-arms concept, and this is not expected to change in the future.

(2) BMP M1981 (U).

(u) ~~(C)~~ In early 1981, a BMP variant observed in Afghanistan (BMP M1981) appeared to have a new turret-mounted weapon system. This weapon has been assessed to be a high-velocity 30-mm automatic gun. This gun has a double-baffled muzzle brake and is possibly gas operated. The lack of observable barrel support, necessary to limit excessive barrel whip and unacceptable round dispersion, will probably limit the gun's cyclic rate of fire to less than 400 rd/min. The gun will be effective against IFV and the side armor of some tanks. No other data are currently available on this gun. Observable vehicle differences include:

- The automatic gun appears to be mounted in a two-man turret similar to those seen on earlier BMP variants (e.g., M1975 and M1976).

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- A firing port similar to the forward (PKM) firing port on the basic BMP-1 has been added to the left hull side, slightly to the rear of the driver's compartment.

This is the only BMP variant that can possibly fit into the infantry assault or fire-support/suppression role. However, it is unlikely that this vehicle carries the standard Soviet infantry rifle squad as do the BMP-1 and BMP-2.

(3) BMD (U).

(U) The BMD was first seen in the USSR in 1970. This amphibious airborne combat vehicle, which looks like a miniature version of the BMP-1, weighs approximately 7.5 tonnes, the lightest tracked combat vehicle in the Soviet Army.

(a) (U) The main armament system appears to be identical to that of the BMP, consisting of a 73-mm smoothbore gun with 40 rounds, three AT-3 (SAGGER) missiles, and a PKT coaxial machinegun. The BMD has one less missile than the BMP, and the main gun is loaded automatically, as it is on the BMP. Additionally, secondary armament includes two 7.62-mm PKT, bow-mounted machineguns slaved to and aimed by moving the TNPO-220 periscope sight mounted in the hull roof.

(b) (U) The BMD engine is a detuned (not tuned for maximum power) V-6 diesel engine, mounted longitudinally. The vehicle's power-to-mass ratio is estimated to be approximately 32:1, which is among the highest ratios to date for any combat vehicle fielded anywhere in the world. The cruising range is estimated to be 300 km, with reported speeds on level terrain of 60 km/h. Amphibious operation involves dual water-jet propellers, which enable the BMD to attain water speeds of over 10 km/h.

(c) (U) The suspension is a variable hydropneumatic spring system that can also adjust to ground clearance from 100 to 450 mm. This system is not used to increase cross-country speeds. The suspension is raised during airdropping to obtain a hull defilade condition and to reduce drag during movement in water.

(d) (U) The BMD carries internally a crew of two and an airborne infantry section of five. The vehicle is fitted with a directional gyrocompass, a full collective-protection CBR system, an exhaust smoke system, a central fire-fighting system, and the PAZ radiological protective system.

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(e) (U) The Soviets can airdrop the BMD without a platform of any type, using a retrorocket system. This allows the BMD vehicle to be driven onto the aircraft, where the suspension is adjusted so that the vehicle is resting on a conveyor rail in the aircraft. The BMD is extracted by an extractor parachute; when the vehicle is clear of the aircraft, the single main chute is deployed. The retrorocket system reduces the vertical speed so that the vehicle suspension can absorb the landing shock. The BMD is available for action immediately on landing.

(f) (U) The BMD exhibits many functions that were previously not available to the airborne forces, combining the light tank, reconnaissance, troop-carrier, antitank, and infantry support functions into one lightly armored, mobile, amphibious, and airdroppable vehicle. Thus, among presently fielded armored fighting vehicles, the BMD is unique.

(g) (u) ~~(S)~~ No current evidence indicates that the Soviets are working on a follow-on vehicle to the BMD. Although there are four known variants of the BMD, the unique function and capabilities of the present vehicle are expected to satisfy Soviet requirements at least until 1985. By about 1985, improvements in design on the BMP follow-on vehicle will be incorporated into the BMD armament system and armor protection. These improvements will include an improved 73-mm gun or a supplemental 20- to 30-mm automatic gun or grenade launcher on some vehicles and increases in the armor protection to 30 to 35 mm of equivalent protection for the hull front.

(4) BTR-60PB/BTR-70 (U).

(a) (u) ~~(C-RELCAUKAS)~~ The BTR-60PB and BTR-70 are 8x8 wheeled APC found exclusively in motorized rifle divisions. A replacement for the BTR-60PB has been anticipated for some time. Numerous sources have referred to a new APC identified by various numerical designators, the most common of which is the "BTR-70." In 1978, an 8x8 APC was identified for the first time in a Soviet newspaper photograph. This vehicle, while similar in many respects to the BTR-60PB, was distinctly different. Since that initial sighting, the BTR-70 has been deployed in increasing numbers to Soviet forces in the USSR and GSFG.

(b) (u) ~~(C-RELCAUKAS)~~ The BTR-70, apparently a product of the Gorkiy Motor Vehicle Plant (GAZ), appears to be similar in design to its predecessor. The same 8x8 wheeled design has been retained, along with the rear-mounted engines, a centrally-mounted armament and squad compartment, and frontal commander and driver positions.

(c) (u) ~~(C)~~ The main armament appears to be the same 14.5-mm KPVT and 7.62-mm PKT coaxial machinegun system used on the BTR-60PB. No apparent special AAA capability has been noted, such as those seen on the Romanian TAB-71/72 or Polish OT-64C APC.

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(d) (u) ~~(C)~~ The BTR-70 appears to be longer than the BTR-60PB (7.85 meters long and 2.80 meters wide). This probably results from engine compartment changes.

(e) (u) ~~(C)~~ The engine compartment area is raised, and exhaust mufflers have been repositioned. The fitting of twin V-8 gasoline engines, as in the Romanian TAB-72, is probable. The muffler covers appear to be of a design that could provide a reduced IR signature. The significant result of these power-train changes could be to greatly increase the mobility of the BTR-70. The BTR-60PB was underpowered for its weight, and this increase will allow the BTR-70 to be more mobile and better able to perform its mission in those motorized rifle divisions being equipped with newer and more mobile tanks.

(f) (u) ~~(C)~~ The wave deflector has been repositioned to the upper glacis. The hull obliquities and plates have been generally reshaped, but armor thicknesses are not expected to vary much from those of the BTR-60PB. The driver's night-vision equipment appears similar to that of the BTR-60PB although only one IR projector is present. Three firing ports are evenly spaced along the upper half of the hull sides, between the turret and the engine air intakes. These firing ports appear to be of a possible BMP design, which will allow the infantry passengers to fire their weapons without disrupting the CBR protection of the vehicle. One periscopic sight per side is located above the central firing port.

(g) (u) ~~(C)~~ The upper side personnel hatches present on the BTR-60PB are not provided on the BTR-70. Two roof hatches have been retained and are echeloned across the roof between the turret and the engine air intakes. What appears to be new personnel hatches have been added, one per side, between the second and third axles. These hatches are hinged on their forward edge so that, when opened, the hatch covers serve as shields between the front of the vehicle and the exiting or entering personnel, thus providing limited ballistic protection from frontal fires. A bar-type step is attached to the lower edge of the hull immediately below the hatch to assist personnel entering and exiting.

(h) (u) ~~(C)~~ The BTR-70 has a probable collective CBR system, which appears externally similar to the system being installed on modernized BRDM-2. A single water-jet exhaust port is centrally located on the rear of the vehicle to provide propulsion/steering in an amphibious operation.

(i) (u) ~~(C)~~ In line with Soviet R&D norms, the BTR-70 appears to be a product-improved BTR-60PB as opposed to a totally redesigned or new family-type vehicle. It is not anticipated that a replacement vehicle for the BTR-70 will appear or be fielded before 1995.

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b. Systems: 1986-1990 (U).

(u) ~~(C)~~ Presently, very little intelligence exists on any follow-on vehicle to the BMP. Numerous sources indicate that a product-improved BMP-1 with some improvements in firepower and protection has been issued to troops (BMP-2). A major change in the overall configuration is doubtful even with the fielding of IFV with 20- to 30-mm automatic guns in the 1980s. Although there are six BMP variants, based on the basic BMP chassis and powerpack, they appear to be designed for purposes other than the infantry assault roles.

c. Ammunition for ICV (U).

(u) ~~(C)~~ A new 73-mm round, Model PG-15, has been introduced for the BMP and BMD. It consists of a fin-stabilized, rocket-assisted, shaped-charge projectile with a point-initiating, base-detonating, piezo-electric fuze and a short cartridge case. Preliminary radiographic analysis of the projectile revealed several internal design improvements over its predecessors—the PG-7M and the PG-9. These improvements include a new shaped-charge liner having a narrower cone angle and a longer extension tube; a new wave shaper, which is a spherical segment rather than a truncated cone; and an HMX explosive filler instead of the RDX normally used. Together, these improvements were assessed to offer increased terminal effects against armored targets. An unrefined assessment went as high as 430 mm of penetration against RHA targets. This assessment of a 30% increase in penetration over that of the PG-7M and PG warheads may be somewhat high, but this cannot be ascertained until a Ballistic Research Laboratory assessment is completed.

4. General-Purpose Vehicle Families (U).

a. Introduction (U).

(U) During the last 6 years, the Soviets have created many special-purpose armored vehicles. In most cases, these vehicles have been variants of three basic vehicle designs, i.e., the BMP, BMD, and MT-LB. In the vast majority of cases, these variants are product improvements designed to fulfill a combat support role.

b. MT-LB (U).

(1) (u) ~~(C)~~ The MT-LB is a lightly armored, general-purpose, amphibious tractor transporter produced in the Soviet Union. First sighted in 1970, it has been deployed throughout the WPC and probably also in the Middle East. Because of its excellent cross-country capabilities over snow and marsh, the MT-LB is often used in lieu of the BMP as a tracked personnel carrier. The basic vehicle (the MT-L) was first developed for geological research in the Far North. The MT-LB hull is made of welded steel plates.

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(2) (U) In addition to its two-man crew (driver and commander/gunner), the MT-LB can carry either 10 personnel when used as an APC or 6 to 10 personnel when used as an artillery tractor.

(3) (U) ~~(C)~~ The vehicle is divided into four compartments. From front to rear are the transmission-drive compartment, the crew compartment, the engine compartment, and the passenger compartment. Both the engine and drive train are partitioned by sound and thermal-insulated bulkheads. Located on the front of the vehicle behind the transmission-access hatch are two windshields with armored covers that hinge upward. A small searchlight is mounted between these windshields. On the forward right edge of the roof of the vehicle is a truncated, conical turret, which has a 360° rotation and mounts what is probably a 7.62-mm PKT machinegun. To the left of this turret and centered on the forward edge of the roof is a personnel hatch, which provides access to the crew compartment. Two forward-opening troop-access hatches are located side by side behind the engine-access hatch. The rear of the vehicle is vertical, with two troop-access doors. There are four elliptical firing ports, one on each of the lower bevelled sides of the personnel compartment and one on each of the rear doors.

(4) (U) ~~(C)~~ Propulsion through the water is provided by the vehicle's tracks. Hinged vanes, which swing down over the rear of the track, and removable track shrouds, which are attached to forward hull sides and cover the front one-third of the track, aid in amphibious operations. A hinged wave deflector is mounted flush with the lower front glacis.

(5) (U) ~~(C)~~ The MT-LB is powered by the YaMZ-238 V-8 diesel engine, which is rated at 176 kW at 2100 r/min. This same engine is used in both civilian and military trucks, making parts more readily available. The single-pin, steel, rubber-bushed track employs no support rollers. Normal track life is 2800 to 3000 km, while the track pin's life is 1800 to 2000 km. When the vehicle is operating on soft soils, one track shoe is removed after 200 km of operations. The composition and thickness of the armor is unknown. The material probably is homogeneous steel of a composition similar to that used on the BMP.

(6) (U) ~~(C)~~ In actuality, the MT-LB is itself a variant, being an armored version of the MT-L. The Soviets have apparently been very satisfied with this chassis, as they have used it in a variety of roles. More than 15 separate and distinct roles have been identified, the basic vehicle (MT-LB) having two. Without any apparent vehicular modification, it functions both as an APC and as an artillery prime mover. Other identified variants are as follows:

- (U) MT-LBV (U). This MT-LB has extra-wide tracks with an "aggressive" grouser to facilitate oversnow and swamp operations.

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- (u) ~~(C)~~ 122-mm SP howitzer M1974 (U). The basic MT-LB chassis has been lengthened by one road wheel per side, and a lightly armored rotatable cab with a 122-mm howitzer has been added onto the rear half of the chassis. This variant has retained the amphibious characteristics of the basic vehicle.
- (u) ~~(C)~~ Amphibious armored command and reconnaissance vehicle (ACRV) (U). This seven-wheel variant itself has four variants, depending on specific function. All four variants are used in Soviet artillery units as an armored fire-direction center, command-and-control, and target-acquisition vehicles. Other changes include removal of the front turret, addition of a variety of communications equipment, a computer, and target-acquisition devices.
- (u) ~~(C)~~ MT-LB with radar (U). This variant is a transporter for BIG FRED, probably used for ground surveillance. The major change has been the addition of a rotatable cab with roof-mounted radar to the top rear half of the chassis.
- (u) ~~(C)~~ Armored tracked mineclearer M1979 (U). This seven-wheel variant is employed by Soviet engineer units. Using a rocket-propelled explosive charge, the M1979 clears an 8x100-meter path through a minefield. The turret-shaped device on the top rear of the chassis contains the rockets and explosive line charge.
- (u) ~~(C)~~ MT-LB M1979 (U). This East German variant appears to be engineer related, but its exact role is currently unknown.
- (u) ~~(C)~~ SA-13 SAM TEL vehicle (U). A rotatable guidance cab, launcher rails, and associated radar have been added to the top rear half of the chassis.
- (u) ~~(C)~~ MT-LB M1979-2 (U). This East German variant appears to be engineer and motor transport related and may be a maintenance support vehicle.
- (u) ~~(C)~~ Armored tracked vehicle (ATV) M1979-3 (U). This seven-wheel MT-LB variant's function is not known. The smooth roof lines seen under canvas covers indicates that all turrets, boxes, and cabs previously seen on this vehicle and its variants are absent. This variant may be simply a 122-mm SP howitzer that, for reasons unknown, has had its rotatable cab and howitzer removed.

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- (u) ~~(C)~~ ATV M1979-4 (U). This possible MT-LB variant appears to have a CBR reconnaissance role. It has undergone extensive automotive modification and chassis redesign. It appears to have retained the MT-LB track and suspension system, but the chassis and placement of its automotive components have been greatly altered. The vehicle's distinguishing features are a single set of marking flags (KZO) mounted in their dispenser at the right rear of the hull roof.
- (u) ~~(C)~~ MT-LB variant with unidentified launcher (U). This MT-LB variant may be the chassis for an aerial-mine launcher or a multiple-round rocket launcher. Its actual weapon and role have not been identified. Twenty tubes can be fitted. Except for the launcher frame added to the rear of the hull roof, no other changes to the chassis have been noted.

(7) (U) With a payload capacity of 2000 kg and excellent mobility characteristics, the MT-LB is an excellent multiterrain transporter suitable for modification to fit a variety of roles.

c. BMP Family (U).

(u) ~~(S)~~ Basically an IFV, the BMP has been discussed as a combat vehicle in paragraph 2. The present power train of the BMP is well-designed, has a good kilowatt-to-tonne ratio, is compact, and has a low silhouette. The power train efficiency, i.e., sprocket-to-gross power, is excellent because power train losses are minimal. A manual transmission is used with a dry clutch; no cooling fans are used. The only belt-driven accessory is an air compressor. Any increase in armor weight over 14 tonnes will increase both power and cooling requirements, which, in turn, will increase the envelope size. The low silhouette of the BMP increases its survivability on the battlefield, an advantage the Soviets have gained by sacrificing more armor protection. The survivability of the BMP chassis and powerpack, along with the available space in the rear of the vehicle, has provided an adequate basis for a family of vehicles. The six distinct variants seen to date (with the GSFG) have roles other than that of the IFV.

(1) BMP M1974 (U).

(u) ~~(S)~~ Seen initially in December 1974, the BMP M1974 was the first-observed command variant (possibly designated "BMP-SH" by the Soviets). While seldom seen, this vehicle is thought to be the motorized rifle battalion commander's (and possibly the company commander's) vehicle. All features of the vehicle appear identical to those of the BMP-1 except for the following modifications:

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(u)
- ~~(C)~~ The forward three unity periscopes and firing ports on the right side have been removed.

(u)
- ~~(C)~~ The left rear unity periscope has been removed; it is assumed that the firing port has also been removed.

(u)
- ~~(C)~~ The additional radio antenna mount is located on the right rear of the vehicle, protruding slightly over the track shroud.

(u)
- ~~(C)~~ The fume extractor vents on the right and left sides of the individual weapon firing ports have been removed.

(u)
- ~~(C)~~ An additional periscope is mounted at the driver's position.

(2) BMP M1975 (U).

(u)
~~(S/NOFORN)~~ First recognized in January 1975, this vehicle probably has the Soviet designation "PRP-3" and has been seen with 122- and 152-mm SP artillery. It has ground-surveillance radar (SMALL FRED), which can perform general surveillance, target-acquisition, and night-observation (STANO) functions and direct the fires of the associated SP artillery. Compared to the BMP-1, this vehicle has the following changes:

(u)
- ~~(C)~~ The original BMP turret and weapon system have been replaced with a larger two-man turret. The forward edge of the turret is farther toward the rear than the original turret, and the four rear decks have also been removed.

(u)
- ~~(C)~~ The hull top deck, starting at the engine cooling radiators and rearward, is completely new, with the edges near the sponson being chamfered.

(u)
- ~~(C)~~ All firing ports, unity periscopes, and exhaust scavaging ports have been removed from the hull sponson.

(u)
- ~~(C)~~ The CBR air intake has been repositioned behind and to the right of the turret.

(u)
- ~~(C)~~ A hatch has been positioned to the left rear of the new turret as well as a launcher tube (probably used to fire illumination rockets). A 7.62-mm machinegun is placed at the turret front in lieu of the 75-mm gun and AT-3 (SAGGER).

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(3) BMP M1976 (U).

(u) ~~(C)~~ First observed in April 1976, the BMP M1976 is used with the standard BMP in the reconnaissance role. Probably called "BMP-R" by the Soviets, it appears to have a command role and may be a command link between forward reconnaissance vehicles and higher echelon units. The BMP M1976 is based on the BMP M1975 with the same two-man turret, but the original 73-mm gun and coaxial 7.62-mm machinegun have been installed along with various new passive devices. The vehicle also has a six-man crew, providing an additional postulated reconnaissance role. Modifications to this variant include:

- (u) ~~(C)~~ Crew hatches have been redesigned and a large, spring-mounted antenna is attached at the rear of the vehicle.
- (u) ~~(C)~~ The turret has two large periscope heads. The left periscope is almost certainly a 1PN22M1 day/night viewer with a laser rangefinder, probably an image intensifier but possibly a thermal imaging system.
- (u) ~~(C)~~ A second antenna (whip) is mounted on the turret. The two-man turret allows the commander to occupy the turret, where he probably also operates one of the radios. The commander's former position is now occupied by the main radio operator with radio gear placed to his left. The second position in the turret is occupied by the loader, who probably has to load manually because of the probable elimination of the automatic loader with this design. The AT-3 (SAGGER) launch rail and turret loading hatch have been removed from this vehicle.

(4) BMP M1976-2 (U).

(u) ~~(S)~~ First observed in October 1978, the variant is an apparent modification of the BMP M1976 reconnaissance vehicle. The basic hull and turret appears to be identical to the standard BMP M1976 but a radar, designated TALL MIKE, has been mounted on the rear of the turret. This variant may eventually replace the earlier BMP M1976, and one or both variants will replace the PT-76 amphibious tank in reconnaissance units.

(5) BMP M1978 (U).

(u) ~~(C)~~ This variant was first seen in March 1978. Its role appears to involve command-and-control functions; it is subordinate to regiment and lower. Hull and automotive and suspension systems are identical to those of the BMP-1 except as follows:

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- (u) ~~(C)~~ All firing ports, associated periscopes, and fume-removal equipment have been removed as well as the two rear deck hatches. (A dismountable generator and two stowage boxes have been placed in this position.)
- (u) ~~(C)~~ The turret appears to have been welded to the hull deck. The cylindrical storage tube associated with antenna components is mounted on the right rear deck, and two whip-type antenna mounts are visible on the rear deck.
- (u) ~~(C)~~ All aspects of the original main armament, including the turret ventilator, have been removed, indicating a noncombat role.
- (u) ~~(C)~~ An apparent covered opening and a clamp for the elevated mast are located on the superstructure forward of the turret hatch and appear to accept the antenna mast when elevated; the antenna mast may fit to the belly of the vehicle, particularly if the superstructure cannot rotate. The exposed antenna mast would then bear a close resemblance to the 10-meter antenna mast seen on the standard BTR-60PA command-and-control vehicles.

d. BRDM-2 Family (U).

(1) (u) ~~(C)~~ The BRDM-2 amphibious armored reconnaissance vehicle is a 4x4 wheeled vehicle which first appeared in 1966. It differs from the basic BRDM in three primary areas: the chassis of the BRDM-2 is approximately 381 mm longer, a 140-hp rear-mounted engine replaced the 90-hp front-mounted engine of the BRDM, and midway on the vehicle a turret has been added mounting the 14.5-mm KPVT and 7.62-mm PKT machineguns.

(2) (u) ~~(C)~~ Auxiliary wheels were installed to improve mobility and reduce vehicle ground clearance, which hinders movement over certain types of terrain. This vehicle has proven highly useful to the Soviets. In addition to its role as a reconnaissance vehicle, it has been produced in a large number of variants to serve as transporter/launchers for three known versions of ATGM, chemical reconnaissance vehicles, low-level SAM system carriers, and in 1980, a BRDM reconnaissance variant was observed mounting the AGS-17 30-mm automatic grenade launcher. The vehicle has also been seen in a command version with an apparent external generator mounted on the roof. The turret is removed for these modifications except for the chemical reconnaissance vehicle.

(3) (U) It is probable that this reliable, wheeled, amphibious vehicle will continue to produce a number of variants as is the Soviet practice when a vehicle has proven itself in a particular role.

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5. Assault Helicopters (U).

a. Impact of Tactical Doctrine (U).

(U) ~~(C)~~ The concept of the HIND evolved during the late 1960s when the Soviets were faced with a large number of military aviation requirements as a result of their aging tactical aviation inventory. HIND was developed in response to these requirements largely to fulfill two major roles: an escort for heliborne combat assault or airmobile operations and continuous support of armor and mechanized infantry forces at the front lines as part of a combined-arms team. The Soviets chose an evolutional development program with HIND A as the first fielded new system to be followed by the improved variants HIND D and HIND E. There is evidence of changes both in tactical doctrine and use of assault helicopters. In addition to the typical running fire attack profile, HIND also have engaged in hover ambush exercises and been employed in reconnaissance, patrol, and interdiction roles. The colocation of HIND with air defense units also suggests a low-altitude air-to-air intercept role.

b. Systems: 1980-1985 (U).

(1) HIND D (U).

(U) ~~(S)~~ HIND D, a heavily armed attack helicopter, is currently deployed in large numbers in Soviet aviation units. The HIND D is a production modification of the original HIND A that became operational in 1972. The major distinguishing features are in the nose section, forward of the engine intakes, where the entire cockpit area has been redesigned and armored and where an impressive turreted nose gun and chin-mounted fire-control blister have been added. A relatively few HIND A remain in service, but most have been reconfigured into the HIND D. The HIND D can carry up to 2160 kg of various armament, principally in the form of bombs. It is normally armed, however, with a mix of weapons weighing 1480 kg and including the following:

- Four-barrel 12.7-mm Gatling gun---4000 rd maximum
- Four 32-shot 57-mm rocket pods---128 rd
- Four semiautomatic command-to-line of sight (SACLOS) (rf) ATGM

The turreted 12.7-mm Gatling gun is gas operated and delivers in excess of 4000 rd/min at effective ranges of up to 1000 meters. Standard 57-mm aircraft rockets with various warheads are also carried for use against

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ground personnel and all but the most heavily armored equipment. HIND D is equipped with four rail-mounted AT-2C (SWATTER C) ATGM. This missile flies at subsonic speeds and employs SACLOS guidance via radio command link to a maximum effective range of 4000 meters. The missile velocity is approximately 150 m/s, and the time of flight to target at 4000 meters is 27 seconds.

(2) HIND E and product improvements (U).

(a) (u) ~~(C)~~ HIND E, a variant of HIND D, first appeared with GSFG in 1978. It is equipped with the new AT-6 (SPIRAL) ATGM and an improved weapon fire-control system. A larger fixed guidance pod is mounted on the left of the nose in place of the SWATTER ATGM rf guidance pod used on HIND D. HIND E also is equipped with engine-inlet particle separators to prevent damage from foreign objects. (The same system is being fitted to HIND D.)

(b) (u) ~~(S)~~ The HIND E is essentially the same as HIND D in most other respects, including the nose gun and rockets. The new AT-6 (SPIRAL) is a tube-launched supersonic ATGM, which is believed to employ a SACLOS guidance system using a radio command link to a maximum effective range of 5000 meters. The missile can penetrate 600 to 700 mm of armor and is assessed to travel supersonically at an average speed of 500 m/s. Its time of flight over a 5000-meter range is approximately 10 seconds. HIND E, like the HIND D, can carry up to four 250-kg general-purpose bombs, two 500-kg bombs, or various chemical bombs and incendiaries.

(c) (u) ~~(S/NOFORN)~~ HIND reportedly has an automated navigation and attack system that provides the capability to fly a complete attack mission to a predetermined set of target coordinates, including the final attack profile, under full autopilot control. The entire system, which includes a Doppler system, navigation and fire-control computers, data sensors, stabilized optics, LRF, and improved autopilot, technically enables HIND to perform close air support against tanks and similar targets, combat assault, interdiction, and air-to-air combat against helicopters or other low-speed aircraft. These systems enable HIND to operate from unprepared staging sites in the forward area under conditions of adverse weather and degraded visibility sufficient to preclude operations by fixed-wing fighters and fighter bombers. HIND D and E are being upgraded to reduce vulnerability and improve its effectiveness in delivering ordnance. There is evidence that HIND E is being equipped with engine-exhaust suppressors to reduce the engine exhaust IR signature as a countermeasure against IR homing missiles. HIND E is also believed to incorporate a newer, more reliable LRF and may also have LLLTV or night-vision equipment to permit operations at night and during adverse weather. Additionally, it is most likely equipped with an improved fire-control computer and upgraded avionics.

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(u)

(d) ~~(S/NOFORN)~~ Some HIND E have been modified by removing the Gatling gun from the nose and replacing it with a twin-barrel cannon mounted in a fixed pod on the forward right side of the cockpit. The gun appears to be a variant of the 23-mm twin-barrel cannon used on some FLOGGER aircraft. The heavier ammunition used with this system should make HIND more effective against lightly armored vehicles, fortified positions, and aerial targets.

(u)

(e) ~~(S/NOFORN)~~ Product improvements to HIND through 1985 will focus largely on improved weapons and fire-control systems plus modifications to reduce its vulnerability. Expected improvements include a new LRF and a possible laser designator system, thermal imaging system, upgraded electro-optics, and more advanced avionics systems. Future HIND may also be fitted with additional guns, a nose-mounted cannon, and AAM. Mission capabilities of the HIND D and E are summarized in Table 5-3.

(3) HIP (U).

(u)

(a) ~~(C)~~ The HIP (Mi-8) is the workhorse of the Soviet helicopter fleet. Over 8000 have been produced since its IOC in 1966. Numerous modifications applied to the basic HIP enable it to perform a variety of roles and missions, including close air support. The HIP E, for example, is the world's most heavily armed helicopter with a 12.7-mm nose gun, six 32-shot, 57-mm rocket pods, and four SWATTER ATGM rails.

(u)

(b) ~~(C)~~ Four additional variants of the HIP have been identified during 1980-1982: HIP G, H, J, and K. The HIP G is an electronically configured variant of the HIP C, assessed to be used for command and control and/or for communications-relay duties. The extent of the communications equipment in this aircraft is evident by the number of the antenna arrays found on the helicopter. The HIP G is expected to replace the HIP D, which has been the standard airborne command post at division level. The HIP G is a production version, whereas the HIP D was a field modification.

(u)

(c) ~~(C)~~ The HIP H (Mi-17) appears to be a standard Mi-8 helicopter upgraded by adding the more powerful TV3-117 engines (also used on the HIND) and an auxiliary power unit and by converting the tail rotor from a tractor type to a puller type (right side to left side). This model could be used in any role or mission that has been applied to the basic HIP (Mi-8T). Using the TV3-117 engine in this HIP (total power 2800 kW) gives it better cruising speed, service ceiling, useful load, hover ceilings, and rate of climb.

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Table 5-3. (U) HIND D and E Mission Capabilities

Mission capability	HIND D			HIND E		
Maximum takeoff weight (kg)		11 500			11 500	
Useful load (fuel/payload) (kg) ...		3 950			3 950	
Payload (w/normal fuel) (kg)		2 400			2 400	
Loading options	Normal	Maximum armament	Maximum internal fuel	Normal	Maximum armament	Maximum internal fuel
Auxiliary fuel tanks (kg)	0	0	130	0	0	130
Fuel (kg)	1550	1550	2980	1550	1550	2980
Armament (kg)	1480	2160	840	1480	2160	840
Cargo/troops (kg/No.)	920/9	240/2	0/0	920/9	240/2	0/0
Range (nmi)	240	240	500	240	240	500
Radius (nmi)	120	120	250	120	250	120
Cruise speed (kn)		150			150	
Maximum speed (kn)		165			165	
Service ceiling (m)		2500			2500	
No. powerplants		2			2	
IOC		(turbine) 1976			(turbine) 1978	
Standard armament	4 32-shot, 57-mm, folding-fin, aerial rocket pods 4 improved AT-2C (SWATTER) ATGM (HIND D) or 4 AT-6 (SPIRAL) ATGM (HIND E) 12.7-mm, 4-barrel Gatling gun with up to 4000 rounds					
Alternate armament	4 250-kg bombs Possible 23-mm automatic cannon with 200+ rounds 2 500-kg bombs 2-4 AAM* 4 air-to-surface missiles* 4 special-purpose bombs/dispensers (unconfirmed)					
*Estimated capability.						

(u)
~~(CONFIDENTIAL)~~

(d) (u) ~~(C)~~ The HIP J is a modified HIP C equipped with two square antennas on each side of the fuselage and a data-link antenna on the bottom of the fuselage. This variant is assessed to be a SIGINT helicopter and to operate in conjunction with the jammer variant, the HIP K.

(e) (u) ~~(C)~~ The HIP K has a large array of six crossed-dipole antennas on each side of the rear clamshell doors and six air intakes for

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probable cooling attached to the bottom of fuselage. Located on both sides of the fuselage at mid station is a large fairing that houses an unknown object. No Doppler antenna is mounted on this helicopter.

(f) (u) ~~(C)~~ All these new variants of the basic HIP enhance Soviet military operations in and near the battlefield, either by improving performance of the airframe or by making it a special-purpose airborne carrier of electronic or SIGINT equipment. Table 5-4 summarizes some performance features of these helicopters.

Table 5-4. (U) Performance Summary for HIP Variants

Characteristics	HIP G	HIP H	HIP J/K
Takeoff weight (kg)	10 811	13 000	12 000
Operational empty weight (kg) ...	7 354	7 543	7 000
Useful load (kg)	3 457	5 457	5 000
Payload (kg)	2 000	4 000	3 500
Range (nmi)	215	250	200
Speed (kn)	130	135	125

NOTE: Figures are maximum and do not reflect any particular mission.
~~(CONFIDENTIAL)~~ (u)

(4) HELIX (U).

(a) (u) ~~(C)~~ In response to operational requirements for a ship-compatible helicopter with more capability than that of the Ka-25 (HORMONE) helicopter, the Kamov Design Bureau has developed the Ka-27, a new helicopter for the Soviet Navy. Although this helicopter, whose ASCC name is HELIX, is a naval system, it also has an amphibious assault role, which makes it a threat to NATO ground force commanders.

(b) (u) ~~(C)~~ Probably developed under the direction of S. Mikheyev, the chief design engineer for the Kamov Design Bureau, the HELIX is a completely redesigned and upgraded version of the Ka-25. The types of improvements assessed for the HELIX are similar to the improvements assessed for the Mi-26 (HALO), the new heavy-lift helicopter produced by the Mil

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Design Bureau under the direction of Tishchenko. Although the two helicopters have dissimilar rotor systems and belong to different weight classes, the improvements in technology illustrate that the Soviets are capitalizing on the advances in helicopter technology that have occurred in the last two decades to produce substantially improved military helicopters. Kamov designs, in particular, have been conservative, and production of different helicopters has been widely spaced in time; hence, the HELIX represents a significant new design solution to more stringent military requirements as well as an example of new applied technology to Kamov helicopters.

(u)

(c) ~~(S/WNINTEL/RELCAUKAS)~~ The HELIX development began in the early 1970s with Ka-25 testing and prototype construction of the HELIX. By 1980, the HELIX reached production status and IOC. Two variants of the HELIX have been observed. The first variant, which is in production, is probably slated to replace the HORMONE with a better antisubmarine warfare (ASW) capability, although the variant may be able to fulfill other roles, such as antiship, over-the-horizon targeting, utility, and rescue. The second variant, believed to be in the final stages of development, is expected to have an amphibious assault/fire support mission.

(u)

(d) ~~(C)~~ The HELIX is assessed to have a markedly improved useful load and increased gross weight compared to those of the Ka-25. Rotor system features appear to be optimized compared to those of the Ka-25. The solidity of the rotor has been increased to handle the improved performance and increased gross weight that have been assessed. The propulsion system is probably a new design with higher power and lower specific fuel consumption than those of the Ka-25. The net result is improved range, speed, and load-carrying capacity. Subsystems are expected to be dramatically improved in integration of sensors and flight-control systems and in fire control or tactical navigation systems.

(u)

(e) ~~(C)~~ An amphibious assault variant represents the development of a new mission and capability for Soviet naval helicopter systems. The EO subsystems indicate that the Soviets have chosen the helicopter, in part, to deliver or target precision guided weapons. If this variant enters production, it will reach IOC in 1982. In general, the HELIX is expected to provide the Soviets with a much improved ship-compatible helicopter system, which can be flexibly used for a number of roles. Several variants are expected by the mid-1980s. Preliminary estimates for the amphibious assault/fire support variant are shown below:

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Gross weight	8800 kg
Empty weight	5280 kg
Useful load:	
Fuel load	1740 kg
Pay load	1520 kg
Maximum range	325 nm
Maximum speed (at continuous power)	140 kn
Velocity (not to exceed)	162 kn
Crew	Pilot, co-pilot, crew chief (optional)
Possible mission-related weights (not in order of priority):	
A. 8 troops (90 kg each)	720 kg
Combat gear	180 kg
Precision-guided weapons	530 kg
B. Weapons and cargo	1520 kg
C. 14 troops (90 kg each)	1260 kg
Combat gear	260 kg
Significant subsystems expected	Navigation complex (AFCS, Doppler NS, auto hover) Fire-control system for precision-guided weapons
Significant capability	All-weather operations capable (similar to HIND) Ship-compatible with Soviet combatants and merchants capable of handling Ka-25

(5) Mi-28 (u) ~~(C)~~.

(a) (u) ~~(C)~~ The Soviet Mil Design Bureau is developing a totally new ground attack helicopter designated the Mi-28. Design of this aircraft began in 1977, and in 1980 there were two prototypes at the Mil Prototype Helicopter Plant at Lyubertsy. Unidentified problems resulted in a delay in flight testing; IOC is now estimated as 1983.

(b) (u) ~~(C)~~ The Mi-28 has been described as a two-seat attack helicopter with no provisions for cargo or passengers. The fuselage has a turboshaft engine (rated at 883 kW) on each side opposite the main rotor transmission. The drive system reportedly includes a nose-mounted gearbox in the inlet of each engine. The gearbox utilizes conical gearing to reorient the drive path rearward into the main transmission. Wings are attached below the engine pods to offload the main rotor and provide hard points for mounting external weapons.

(c) (u) ~~(C)~~ The Mi-28 appears to be a copy of the US AH-64. The following statement is attributed to G. P. Smirnov, who in 1977 was Chief of the Transmission Department in the Mil Design Bureau: "We are not designing a new helicopter but are copying the US design." The copy will not be exact, but the resemblance will be unmistakable.

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(u)
(d) ~~(C)~~ The Mi-28 may augment, but definitely will not replace, the Mi-24 (HIND). Since the Mi-28 will be smaller than the Mi-24 and will resemble the US AH-64, it probably will incorporate more advanced weapons and fire-control systems than are found in currently fielded equipment. In addition to its expected ground-attack, antiarmor role, this helicopter is expected to have an air-to-air/antihelicopter capability.

c. Systems: 1986-1990 (U).

(u)
(1) ~~(C)~~ Highly improved variants of HIND will be operational in the period 1986-1990. These variants will feature advanced avionics, fire-control, and target-acquisition systems designed to provide HIND with a long-range standoff capability (>10 km) against ground and air targets. Among new weapons HIND will be able to deliver are an advanced fire-and-forget type air-to-ground missile, and one or more tactical AAM with various guidance options.

(u)
(2) ~~(C)~~ Also during this period, the Soviets are very likely to deploy one or more of the following in an assault role: variants of the Mi-28; the W-3, a Polish development; the Mi-30, and the Mi-32 (now under development). The Mi-28, now under development, will be able to deliver advanced fire-and-forget air-to-ground missiles as well as tactical AAM. The other aircraft, which will be used for troop transport, will be equipped with defensive weapons such as 20- to 23-mm machineguns and air-to-ground rockets for assault missions. About the only thing that is known about the Mi-30 and Mi-32 projects is that they are underway.

d. Systems: 1991-2000 (U).

(u)
~~(C)~~ During the 1990s, the Soviets are very likely to deploy assault-type craft that can hover and operate at the low speeds of current helicopters but fly faster than current speeds. The Soviets will be interested primarily in speeds greater than 300 knots. If the current efforts in the Mi-30 and Mi-32 projects are successful, these aircraft and improved variants of them can be expected to be used for assault roles. Should the Mi-30 and Mi-32 projects not be successful, one or more helicopters configured similar to those under past or current consideration by the United States, i.e., an ABC helicopter, a compound helicopter, and a slowed/stopped rotor with auxiliary propulsion, can be expected. A stowed rotor configuration for increased speed is another possibility. The types of aircraft built during this time period will be highly dependent on US efforts and the Soviet perception of the US threat.

6. CBR Equipment Features Related to Maneuver (U).

(u)
~~(C)~~ Soviet tactical doctrine requires that all items support the objective of a 50- to 80-km/day advance. This advance is to be sustained at night, in bad weather, and under CBR conditions. Therefore, nearly all systems that are fully enclosed have collective protection systems. This includes tanks,

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the BMP, communication vans, air-defense systems, and engineer equipment. These collective protective systems allow crews to operate without wearing protective suits or even masks. The ability of maneuver units to sustain offensive action under CBR conditions is assured.

7. Airborne Equipment (U).

a. Place in Tactical Doctrine (U).

(U) Presently, the Soviet Union has the world's largest, most mobile airborne force. In addition to its size and rapid-deployment capability, this force also has the world's largest inventory of airdroppable combat vehicles. The Soviet airborne force consists of seven divisions, each with approximately 8000 troops. In the event of a major mobilization, the Soviet airborne troops would be transported primarily by aircraft provided by the Military Transport Aviation (VTA), a component of the Soviet Air Force. It is currently estimated that the VTA can transport and airdrop, under combat conditions, the assault elements of two airborne divisions, along with some of the division's heavy equipment and transport vehicles. Airborne troops are normally assigned any of three basic missions: strategic, operational (in support of front), and tactical (in support of division). In addition, the Soviets report that small airborne units can be used for special-purpose missions, probably of a "Special Forces" nature. In recent years the Soviets have created 9 or 10 air assault brigades assigned to the front commander. This armored force can be airdropped or delivered by a combination of aircraft and helicopter. The front commander will use these forces for operational, tactical, and raiding missions.

b. Systems in the 1980s (U).

(1) Parachutes (U).

(U) Most personnel parachutes currently used by the Soviet airborne forces are of excellent design and high quality. Much of the technology employed in the development of Soviet training and operational parachutes is derived from experience gained with sport parachutes. Canopies are usually of the conventional circular design, highly maneuverable, stable, and reliable. Almost all of these parachutes can be deployed in both single (immediate opening) and multistage (delayed opening) stabilized configurations. Jumps from a 100-meter altitude have become a matter of routine. At higher altitudes, the multistage system allows for exits at very high airspeeds (up to 216 knots). The Soviet cargo parachute systems are designed for aircraft drop speeds exceeding 200 knots, whereas the US systems are limited to less than 150 knots. The basic difference lies in the fact that most Soviet systems utilize the multistage deployment, as compared with the US reefed canopy and bag deployment of canopy and suspension-line systems. The largest known Soviet cargo parachute is approximately 30 meters in diameter. For conventional heavy drops, the Soviets use small stabilizing parachutes (one for each canopy) attached to the main parachute risers near the load. This feature permits dropping at higher speeds than US systems.

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(2) Retrorockets (U).

(U) During the mid-1960s the Soviets enhanced their heavy-drop capability with the development of a parachute retrorocket system, designated the PRS-3500. This system is designed to slow the descent of heavy cargo, just before ground impact, with the ignition of a cluster of approximately six small rockets. The PRS-3500, which is connected to the parachute risers well above the payload to avoid possible damage to the cargo, is ignited by an electrical charge triggered by ground sensing probes attached to the payload. In addition to slowing the descent rate of the cargo, the PRS-3500 also reduces the number of cargo parachutes normally required when airdropping by conventional means, depending on the size of the canopy.

(3) Platforms (U).

(U) Heavy-drop platforms used by the Soviets are of the load-bearing or stressed type, constructed entirely of metal. Load-bearing platforms are those on which parachute suspension systems are attached to the platform rather than to the equipment. When used for conventional drops, the Soviet platforms are usually fitted with six airbags for controlling the dissipation of ground-impact energy. The use of airbags inherently reduces the stability of an airdrop load during the critical moment of ground impact, particularly when the load has an appreciable horizontal ground velocity. To compensate for this vulnerability, antitoppling arms, also known as outriggers, are installed at each corner of the platform to prevent the load from overturning. Soviet heavy-drop platforms are also fitted with removable swiveling dual wheels mounted in pairs at the rear of the platform and singly on the center front. Larger wheels are mounted one on each side of the platform, near the rear. These wheels exhibit a unique auxiliary feature not found on US platforms in that they obviously facilitate manhandling and movement of unloaded platforms about the rigging area and over the ground for transportation of rigged loads to the aircraft for loading. The Soviet airdrop equipment lends itself to simple rigging procedures in the field. Since the energy dissipaters (airbags) are below the platforms, vehicles can be driven into place on the platform, eliminating the need for a crane. Derigging of the equipment from the platform is also greatly simplified.

(4) Organic firepower (U).

(U) The principal organic firepower for the Soviet airborne division is provided by two SP assault guns: the ASU-57 (which weighs 4 tonnes) and the ASU-85 (which weighs approximately 14.4 tonnes). The Soviets also have an amphibious airborne combat vehicle, the BMD, which weighs about 7.5 tonnes. Although they have been routinely airdropping the ASU-57 and BMD with the retrorocket system for some time, it was not until the ZAPAD-81 exercise in 1981 that the airdrop of an ASU-85 was confirmed. The heavy assault gun was supported by six main chutes and dropped on a conventional heavy-drop platform with what appeared to be cardboard shock dissipaters situated

beneath. (This conventional drop of the assault gun may point to a specific weight limitation of the PRS-3500, presently believed to be approximately 10 tonnes.) The ASU-85 will probably be replaced by a newer SP system with an improved gun.

(5) Dispersal reduction (U).

(U) The biggest problem facing all airborne forces is the dispersal of troops and equipment within the drop zone. The Soviets have pioneered several unique techniques to help reduce the dispersal of troops and equipment in the drop zone. The first system is an automatic paratroop ejection device, which consists of a conveyor seat system that automatically ejects four sticks of paratroopers simultaneously from the (Il-76) (CANDID) aircraft. This ejection system can handle approximately 125 paratroopers seated in canvas seats divided into four separate rows. Two sticks are ejected from the starboard and port access doors in the front section of the aircraft, and two are ejected from the rear cargo door. The second system, a cabin-type container mounted on a heavy-drop platform, can be used to drop approximately a dozen troops.

c. Systems in the 1990s (U).

(U) During the decade of the 1990s, the Soviets will probably expand their heavy equipment drop capability. Based on their success with the present retrorocket system, they probably will develop a more powerful system to airdrop heavier loads (such as the ASU-85), which subsequently will provide the airborne assault troops with increased firepower, armor, and maneuverability on the ground. The Soviets will continue to develop stronger types of synthetic materials such as nylon for parachute construction, and they can be expected to duplicate some free world airdrop techniques as standard procedure (e.g., the US low-altitude parachute extraction system).

8. Small Arms (U).

a. Place in Tactical Doctrine and Role (U).

(1) Assault tactics (U).

(U)
~~(C)~~ During offensive operations, emphasis is given to the maintenance of momentum with the aid of fire support and mounted mobility. Motorized rifle troops may remain mounted in the assault and are trained to fire their small arms through weapon ports. Alternatively they may assault on foot, dismounting as or before their vehicles come within effective range of surviving antitank weapons. Dismounted assaults are carried out in line by squads, platoons, and companies with direct fire support from tanks and BMP-mounted weapons. Direct fire support may be enhanced by dismounted PK machineguns, while BTR-equipped units may bring forward AGS-17 grenade

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launchers and SPG-9 antitank guns to positions denied to armored vehicles. During the assault, Soviet troops are trained to fire their small arms, although rate of fire, rather than individual accuracy, is likely to be their main contribution to fire effect.

(2) Dismounted tactics (U).

(u) ~~(C)~~ Little training is given in dismounted tactics, and assaulting troops are expected rapidly to close up to the enemy position, engaging in hand-to-hand combat using grenades and bayonets in addition to their small arms. If held up, they will attempt to hold their ground, identify enemy strong points, and destroy or neutralize them by all available means before continuing the assault. Motorized rifle troops dismount from their vehicles lightly equipped and without sufficient ammunition for a protracted fire fight, unless resupplied from their vehicles.

(3) Defensive tactics (U).

(u) ~~(C)~~ In defense, Soviet motorized rifle troops are trained to use their weapons from fieldworks. Concentrations of fire from a maximum number of weapons at maximum range are used to gain the maximum fire effect against an advancing enemy. Squad vehicles are sited within or close to squad positions to gain additional firepower and make available the full scale of onboard ammunition.

(4) Surprise (U).

(u) ~~(C)~~ Despite the limited training given in dismounted tactics, after contact, Soviet doctrine and training practice recognizes the value of surprise in both offensive and defensive operations. Dismounted motorized rifle or airborne troops may be infiltrated or inserted with a view to mounting surprise assaults or establishing blocking positions. In defense, initial surprise may be sought by ambush tactics. However, dismounted operations are invariably carried out in the context of the combined-arms concept and with a view to resuming mounted offensive operations.

b. Systems: 1980-1985 (U).

(u) ~~(C)~~ The Soviet small-arms inventory has recently been modernized, and it is doubtful that any serious shortcomings are perceived. No important new systems are expected to be fielded in the period through 1985. Vehicle-mounted applications of AGS-17 automatic grenade launchers are likely to be seen in increased numbers, together with HEAT and other projectiles.

(1) 5.45-mm assault rifle and squad machinegun (U).

(U) The replacement of the relatively low-velocity 7.62-mm (short) round by the high-velocity 5.45-mm round in the mid-1970s for use in assault rifles

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(AK) and squad machineguns (RPK) have given the previously outranged Soviet rifleman an effective range equivalent to that of his US counterpart. The AK-74, RPK-74, and the folding-stock versions AKS-74 and RPKS-74 are product-improved versions of the earlier AK-47, AKM series engineered to accept the new cartridge. Changes other than those demanded by the changed cartridge are, with one exception, minor and include a redesigned cartridge extractor, antirattle springs in the stocks and forearm, and a large muzzle brake. The muzzle brake protects the firer from the overpressure produced by the high-velocity round and reduces recoil and dispersion even in the automatic mode. The muzzle brake demonstrates a major advance in small-arms design.

(2) PKM machinegun (U).

(U) The 1970-vintage PKM machinegun is one of the best and most reliable weapons of its type. Production engineered to make maximum use of available stamping and precision-casting technologies, it is the lightest machinegun of its class. It is available in bipod-mounted (PKM), tripod-mounted (PKMS), and vehicle-mounted (PKT) configurations. Remarkably, the ammunition for the PK series machinegun is the rimmed 7.62x54R cartridge first introduced into Russian imperial service in 1891. (This example epitomizes Soviet design philosophy!)

(3) Sniper rifle (U).

(U) Other current Soviet small arms include the semiautomatic Dragunov sniper's rifle (SVD), which fires the rimmed 7.62x54R cartridge. It is fitted with the PSO-1 telescope and has a maximum effective range of 1300 meters in the hands of a skilled sniper. Various 9-mm pistols and machine pistols are issued to certain officers and soldiers, including those armed with shoulder-fired antitank weapons and some machinegunners. However, only the Makarov pistol is still in production. The AK-74 and the SVD are fitted with a standard bayonet, which incorporates a wire-cutting device.

(4) Grenade launcher (U).

(u)
~~(C)~~ The 30-mm AGS-17 automatic grenade launcher was first fielded in 1974. It fires HE-FRAG projectiles to a maximum range of 1730 meters. The rounds, which are fired in bursts, project lethal fragments to an approximate radius of 10 meters from the point of impact. The weapon can be used in both high-angle and low-angle modes. Although it was designed as a crew-portable weapon to be fired from a ground-mounted tripod, it has been seen externally mounted on certain BRDM reconnaissance vehicles and BTR-60 APC. Its primary mission is believed to be the suppression of dismounted infantry weapons, particularly antitank weapons.

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c. Systems: 1986-2000 (U).

(u) ~~(C)~~ During the period 1986-1990 product improvements will continue. Although caseless weapon systems are unlikely to be fielded, the Soviets will have developed caseless ammunition to the stage that a practical caseless weapon system can be manufactured and fielded. The decision to field such a system, however, will be conditioned by the level of reliability achieved and by the success of comparable Western systems. Laser and particle-beam replacements for small arms suitable for field use will not be realizable within this time frame. Table 5-5 gives some characteristics of major Soviet small arms.

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Table 5-5. (U) Selected Characteristics of Major Soviet Small Arms

Characteristics	Assault rifles				SVD sniper rifle	Squad light machineguns			General-purpose machinegun		AGS-17 grenade launcher
	SKS	AK-47	AKM	AK-74		RPD	RPK	RPS-74	PK	PKM	
IOC	1946	1947	1954	1974	1962	1945	1955	1974	1965	1970	1974
Caliber (mm)	7.62	7.62	7.62	5.45	7.62	7.62	7.62	5.45	7.62	7.62	30
Cartridge case (mm)	39	39	39	39.5	54R[3]	39	39	39.5	54R[3]	54R[3]	28.5
Length (mm)	1020	870	880	937	1225	1036	1040	1065	1161	1161	800
Weight (kg), empty	3.85	4.3	3.3	3.4	4.3	7.4	5.0	4.6	9.0	8.5	17
Magazine cap (rd)	10	30	30	30?	10	100	40 or 75	40	50[4]	50[4]	29
Automatic fire	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Rate of fire, cyclic (rd/min)	NA	600	600	600	NA	700	600	600	650	650	300-350
Rate of fire, practical (rd/min)	35-40	100[1]	100[1]	100[1]	30	150	150	150	250	250	
Effective range (m)	400	300[2]	300[2]	400	800	800	800	500	1000	1000	1200

1. Fully automatic. Semiautomatic rate of fire is 40 rd/min.
2. Firing semiautomatically. In fully automatic mode, effective range is 200 m.
3. Rimmed cartridge case.
4. Capacity of attached belt containers. PK and PKM can also be fed from nonattachable 250-rd containers.

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CHAPTER 6

FIREPOWER AND TARGET DISRUPTION (U)

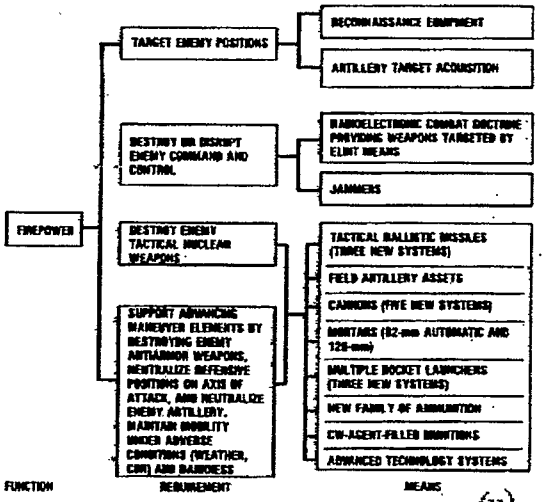
1. Introduction (U).

a. Role of Firepower (U).

(U) General Vozenko has defined firepower as one of the important tasks of the Soviet armed forces. The Soviets have devoted considerable attention to this task. Between 1972 and 1981 the Soviets fielded 14 new artillery and artillery-related systems. These systems are developed in the context of some very carefully analyzed "operational norms," which specify how much fire will be delivered in a certain situation and in a given time. Firepower is used to destroy or disrupt enemy means of control, to destroy enemy tactical nuclear weapons, and to support advancing maneuver units by destroying enemy antiarmor weapons and neutralizing enemy artillery. In addition to artillery, this Chapter considers aircraft, chemical and biological weapons, nuclear warheads, and directed-energy weapons.

b. Relation to REC (U).

(U) ~~(C)~~ In Soviet doctrine for electronic warfare, termed radioelectronic combat (REC), electronic systems are closely integrated with firepower assets. Radio reconnaissance locates and identifies enemy command posts and transmitters. Once this is done, priority command posts can be attached by firepower or neutralized by jamming. Therefore, this Chapter discusses jammers as an additional means of target disruption. Figure 6-1 shows the relationships among firepower requirements and fielded systems.



(U) ~~(SECRET/NOFORN)~~

Figure 6-1. (U) Functional Network for Firepower Systems

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2. Artillery Target Acquisition (U).

a. Systems: 1980-1985 (U).

(1) PRP-3 mobile artillery reconnaissance post (C/RELCAUKAS).

(u) ~~(S/RELCAUKAS)~~ The PRP-3, an amphibious, full-tracked, lightly armored, CBR-protected variant of the BMP (BMP-1975), mounts the following target-acquisition and ground-surveillance equipment:

- Ground surveillance radar (SMALL FRED)
- Observation telescope-LRF combination
- Probable low-light-level vidicon
- Land-navigation system
- 87-mm single-tube rocket launcher (or mortar) for firing illumination projectiles

Providing all-weather target acquisition, the PRP-3 preferably would routinely use the passive devices, with the radar being used only during periods of poor visibility. The SMALL FRED radar has a range of 20 km, with 3 to 5 km being the normal operating range for target tracking and artillery fire adjustment. Accuracy is 3 to 5 meters in range and 0.06° to 0.1° (1.1 to 1.8 mil) in azimuth. The radar is vulnerable to detection and location by hostile radar DF apparatuses. The system is air transportable by An-12 (CUB) and An-22 (COCK) aircraft and the Mi-26 (HALO) helicopter. The PRP-3, estimated to have a crew of four, is issued to 122- and 152-mm SP and towed howitzer battalions, to the target-acquisition elements of artillery regiments and brigades, and to the front target-acquisition battalion. A type Soviet combined-arms army* would probably have a minimum density of 20+ PRP-3

(u) *~~(C)~~ A type combined-arms army of four divisions advancing on a major axis with three motorized rifle divisions on line and the tank division in trail (or reserve) is assumed to extend across a 40-km sector.

(u) ~~(S)~~ Weapon and equipment density is computed on the basis of artillery organic to each of the motorized rifle divisions (mortars in the motorized rifle battalion; howitzers in the motorized rifle regiment and tank regiment; howitzers, MRL, and FROG at division level) plus the artillery regiment only of the tank division and the army's artillery brigade and MRL regiment. A slice of the front-level artillery reinforces the army: i.e., one brigade equivalent of cannon [two battalions of 152-mm SP howitzers, M-1973, and two battalions of 152-mm SP guns, M-1977 ~~(C/RELCAUKAS)~~](u) and one battalion of 220-mm MRL BM-27 (S).

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systems, or approximately one system per every 2 km of a 40-km sector. With this density of surveillance systems, any movement by hostile forces and equipment in the forward area to a depth of 10 km has a high probability of being detected unless the movement is in defilade or dense concealment. The system characteristics of SMALL FRED are given in Chapter 4, paragraph 5.

(2) Ground surveillance radar (BIG FRED) (u) ~~(C/RELCAUKAS)~~.

(u) ~~(S/RELCAUKAS)~~ The BIG FRED radar is mounted on a lightly armor-protected MT-LB chassis, which is full tracked, amphibious, and probably CBR protected. BIG FRED has an estimated range of 40 to 45 km, with an accuracy of 3 to 7 meters in range and 0.056° (1 mil) in azimuth. The radar is vulnerable to detection and location by hostile radar DF apparatuses. The system is air transportable by Il-76 (CANDID) and An-22 (COCK) aircraft and the Mi-26 (HALO) helicopter. BIG FRED probably will not be found as far forward as the PRP-3. Acquired targets may be passed to a PRP-3 as they come into range, and the PRP-3 tracks the target and observes the fall of shot during adjustment and fire for effect. BIG FRED may be sited where it can best observe critical sectors, providing long-range movement detection capability. It is presently issued within the GSFG on the basis of one per artillery regiment (division level), artillery brigade (army and front) plus an unknown quantity (one or two) to the front target-acquisition battalion. A type combined-arms army would probably have a density of six or seven BIG FRED systems in a 40-km-wide sector. System characteristics of BIG FRED are given in Chapter 4, paragraph 5.

(3) PZK sound-ranging system (U).

(u) ~~(S)~~ The PZK is a self-contained mobile sound-ranging system that can be deployed and operational in about 1 hour (as opposed to 6 to 12 hours for the current US sound-ranging system). Each of six microphones is carried in a separate UAZ-452 van, three of which are the UAZ-452T versions with gyroscopic navigation and survey equipment. The sound central (recording and computing station) is contained in a GAZ-66 BBV. A meteorological post is also contained in a GAZ-66 BBV and located near the central station. R-108 radios (probably R-108D's) and/or wire are used to connect the sound posts to the central station. The advanced post is also in a UAZ-452 with radio and/or wire communications. The system still uses the basic, although improved, carbon microphones and ink-paper recorder. The maximum ranges of the PZK against various targets are probably as follows:

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155-mm and larger cannon	20-25 km
105-mm cannon	12-15 km
81-mm mortar	8 km
Registration of friendly artillery ...	8-12 km

Under normal conditions with the proper meteorological corrections, the accuracy of the system can be 1% of the range and 4 mils (Soviet) in azimuth. The system can function in moderate rain but high winds, severe inclement weather, and adverse terrain hamper operations and increase error rates. There is one sound-ranging platoon in the target-acquisition battery of artillery regiments at division level and of brigades at army level. The artillery division at front level probably has a total of five sound-ranging platoons. A type combined-arms army plus the equivalent of an artillery brigade from front would probably have six or seven PZK available in a 40-km-wide sector or one for each 6 to 7 km, thus providing a capability for overlapping sound-ranging coverage of the entire sector.

b. Systems: 1986-1990 (U).

(1) Improved mobile artillery reconnaissance post (U).

(u) ~~(C)~~ An improvement to the PRP-3 system will probably include:

- The basic SMALL FRED radar with better receiver sensitivity, upgraded ECCM capabilities, and possibly digital MTI
- An improved low-light-level vidicon
- An improved land navigation system
- A data link with the automated fire-control system
- Improved amphibious and CBR capabilities

This system will permit a more unrestricted use of the ground surveillance radar. Using the digital data link, acquired targets can be fired upon in 50% to 60% less time than for manual transmission of data. Density of deployment should increase to about 36 systems per 40-km front.

(2) Follow-on ground surveillance radar (U).

(u) ~~(C)~~ This system will afford better armor protection, an improved collective CBR protection system, and an improved amphibious capability. It may be configured in both a wheeled version and a full-tracked version, both armored. It will mount state-of-the-art surveillance radar and land navigation equipment. General characteristics are given in Chapter 4, paragraph 5d.

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(3) Improved sound-ranging system (U).

(U) ~~(C)~~ The current PZK system could be improved by partial or full automation of the derivation of target location by eliminating the ink-strip recorder and utilizing electronic time-difference measuring circuits and/or by using a minicomputer to calculate the target coordinates. Once the microphone coordinates and meteorological corrections have been inserted into the program, the system could be fully automatic. A fully automatic system will produce target coordinates in 30 to 45 seconds and will have a digital data link with the AAFCS.

c. Systems: 1991-2000 (U).

(1) Follow-on artillery mobile reconnaissance post (U).

(U) ~~(S)~~ This system will be mounted on a new tracked vehicle having better armor protection and an improved collective CBR protection system. It will employ state-of-the-art land navigation and optical and rangefinding equipment as well as a thermal imaging system. The system will probably also appear in a wheeled (armored) version to be deployed to towed artillery battalions, thus increasing density in a type combined-arms army to 40+ systems, or one per kilometer of a 40-km-wide sector. General characteristics are given in Chapter 4, paragraph 5d.

(2) CM/CB radar (U).

(U) ~~(S)~~ This CM/CB system will probably be configured in both a wheeled (armored) and a full-tracked version. It will be amphibious with improved armor protection and state-of-the-art land navigation and CBR protection. It probably will have a range of 15 km vs. mortars, 30 km vs. artillery, and 50 km vs. MRL targets. Probable accuracy will be 50 meters or less for mortar targets, 100 meters or less for artillery targets, and 200 meters or less for rockets. It will have a phased-array antenna, a one-round acquisition capability, and multiple target acquisition. Phased-array design, combined with more sensitive receiver techniques and sophisticated ECCM devices, will permit the detection of projectiles, whether mortar or artillery shells, to become feasible at the FEBA in a dense electromagnetic environment. A digital data link with the automated fire-control system will be provided. This CM/CB radar system will probably be issued on the basis of two per army artillery brigade, one per divisional artillery regiment, one per front-level artillery brigade, and two to the target-acquisition battalion at front. The system is

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likely to be fielded in the late 1980s with a possibility of slipping to the 1990s. Predicted characteristics of this radar are given in Chapter 4, paragraph 6.

(3) Follow-on sound-ranging system (U).

(u) ~~(C)~~ During this time frame the Soviets will probably field a full-tracked, amphibious, armor-protected vehicle with state-of-the-art CBR protection and land navigation systems to house the components of the sound-ranging system. The sound-ranging system will have self-locating microphones that can be fired from artillery weapons or dropped by aircraft into hostile territory, thus extending the range.

3. Artillery Fire Detection and Fire Control (U).

a. 1980-1985: Automated Artillery Fire-Control System (U).

(u) ~~(S/WNINTEL/RELCANUKAUS)~~ In the current Soviet AAFCS, target information is passed orally from command observation posts to the artillery battalion FDC by wire or radio. The battalion FDC is in an armored command-and-reconnaissance vehicle (ACRV Type 3) or a GAZ-66 BBV, depending on the mobility characteristics of the supported maneuver force. Both vehicles house a digital computer. Data input to the battalion computer is manual. The computer is equipped with a digital data link to transmit fire commands to a display unit in the battery FDC. There is no evidence of a digital data link from the battery FDC to individual weapons nor from the battalion FDC upward to the artillery regiment. There is also no evidence of digital computers for fire direction at the regimental or battery levels. This AAFCS digital data link is vulnerable to ECM.

b. 1986-1990: Completely Automated Artillery Fire-Control System (U).

(u) ~~(C)~~ This system should provide the Soviets with computerized digital communications and automated processing of normal fire support functions. These include fire planning, conduct of fire, target data, target analysis (HE, nuclear, and chemical), fallout prediction, survey computations, and derivation of meteorological effects. The system will probably be integrated from battery through artillery regiment/brigade level. It will also interface with all target-acquisition means and receive data by digital transmission from meteorological stations.

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c. 1991-2000: Improved Completely Automated Artillery Fire-Control System (U).

(u)
(C) The improved system should incorporate an ECCM capability, include battery-level computers, and be able to interface with all other artillery systems fielded during this time frame.

4. Cannon Systems (U).

a. Towed Systems: 1980-1985 (U).

(1) 122-mm howitzer D-30 (U).

(S) The trifurcate trailed D-30 howitzer fires the 21.76-kg OF-462 HE-FRAG projectile to a maximum range of 15 300 meters. Maximum prescribed rate of fire is 6 rd in the first minute. The D-30 can be emplaced or displaced by its six-man crew (plus driver) in from 1.5 to 2.5 minutes, depending on the crew and the terrain. It has been towed at more than 80 km/h over secondary roads without exhibiting instability. In fact, the D-30 surpasses all towed US weapons in roadability characteristics by a considerable margin. The D-30 is air transportable together with the URAL-375 prime mover in the Il-76 (CANDID) and the An-22 (COCK) aircraft and the Mi-26 (HALO) helicopter. The D-30 is the direct-support weapon for those motorized rifle regiments equipped with the BTR-60 IFV and, currently, for the tank regiment as well. A type Soviet combined-arms army would probably have a minimum of about 216 D-30 howitzers. Examples of typical ammunition expenditure rates for this system firing OF-462 HE-FRAG are 320 rd on a dug-in radar station at a range of 10 km; 480 rd on an 8-inch SP battery at 15 km; and 20 rd/ha on troops in the open at a range of 10 km. b1

b1

(2) 152-mm howitzer D-20 (U).

(u)
(S) Deployed for more than 25 years, the D-20 fires the OF-540 43.56-kg HE-FRAG projectile to a maximum range of 17 230 meters. The prescribed rate of fire is 4 rd in the first minute. The Soviet M1954 AT-S medium-tracked artillery tractor and the ZIL-135 truck are the prime movers normally associated with the D-20. The D-20 can be emplaced or displaced by a 10-man

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crew (plus driver) in less than 5 minutes. It is estimated to be air transportable (without prime mover) by the An-8 (CAMP), the An-12 (CUB), and the An-22 (COCK) aircraft as well as by the Mi-6 (HOOK) and Mi-10 (HARK) helicopters. The Soviet artillery regiment/brigade at army level could contain one to three battalions of 152-mm D-20 howitzers. A type combined-arms army would probably have from 36 to 72 D-20 howitzers. Examples of typical ammunition expenditure rates for this system are 285 rd on a 155-mm SP battery at a range of 10 km; 60 rd on a tactical air control center in the open at 10 km; and 135 rd/ha on troops and weapons under cover at a range of 15 km.

(3) 130-mm field gun M-46 (U).

(u)
~~(S)~~ This system represents the Soviet post-World War II requirement for extended range and greater precision for artillery weapons, particularly those used in the counterbattery role. The M-46 fires the 33.4-kg OF-482M HE-FRAG projectile to a maximum range of 27 490 meters. Prescribed initial rate of fire is 5 rd in the first minute. The Soviet medium-tracked artillery tractor ATS-59 and the ZIL-135 8x8 truck are the prime movers. The gun is designed to achieve a permissible travelling speed of 50 km/h on hard-surfaced roads and 10 to 20 km/h on unimproved roads. The M-46 requires less than 4 minutes to emplace or displace under average terrain and weather conditions when its full crew of eight men (including driver) is employed. Although 25% less precise at 20 km than the US 175-mm gun, the 18-gun M-46 battalion delivers virtually 2 times (1.48 vs. 0.73 tonnes) more projectile weight within the target area than does the 12-gun US battalion. The M-46's higher rate of fire is one factor. The system is estimated to be air transportable (without prime mover) by the An-12 (CUB), Il-76 (CANDID), and An-22 (COCK) aircraft and by the Mi-26 (HALO) helicopter. The artillery regiment/brigade at army level presently includes two battalions of 130-mm M-46 guns (some units having 8 guns per battery). The artillery division at front level may have one or two brigades each of four battalions of M-46's. A type combined-arms army would probably have from 54 to 72 M-46's on a 40-km front. Examples of typical ammunition expenditure rates for this system are 260 rd on a 155-mm SP battery at a range of 10 km; 230 rd on an 8-in. howitzer battery at 15 km; and 360 rd on a LANCE battery or launcher at a range of 20 km.

(4) 152-mm field gun M1976 (u) ~~(S/WNINTEL/RELCAUKAS)~~.

(u)
~~(S/WNINTEL/RELCAUKAS)~~ The 152-mm field gun M1976 probably utilizes essentially the same cannon assembly that is mounted on the 152-mm SP gun M1977. The carriage of the M1976 is dual-axled, and its split trails are relatively

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short. No limber has been observed for support of the trail ends. A firing jack probably provides for three-point suspension and facilitates large shifts in deflection. An auxiliary propulsion unit may be mounted on or beneath the platform of the bottom carriage. This would materially decrease emplacement or displacement time, facilitate short (approximately 1 to 2 km) displacements to avoid counterfire, and provide a power source for powered ammunition handling, jacking, traverse, and elevation mechanisms. The range of this gun is assessed to be 27+ km with ballistics identical to those of the 152-mm M1977 SP gun. Initial rate of fire is assessed to be 5 rd/min, weight to be 10 tonnes, and crew size to be seven men. The system (less prime mover) is air transportable by the An-12 (CUB), Il-76 (CANDID), and An-22 (COCK) aircraft and by the Mi-26 (HALO) helicopter. The M1976 is assessed to be primarily a counterfire system and a replacement for the 130-mm M-46 at army and front level. To date, 16 or more battalions have been deployed within the USSR.

b. Towed Systems: 1986-1990 (U).

(1) 122-mm howitzer D-30 (U).

(u) ~~(C)~~ The Soviets will continue to employ a mix of SP and towed cannon in this time frame. The mobility, stability, precision, range, maximum prescribed rate of fire, and reliability, availability, maintainability, and durability (RAM-D) characteristics of the D-30 all combine to result in an easily operable, very facile, towed weapon system that excellently fulfills the requirements for an artillery piece performing the direct-support role (including the delivery of direct fire). The D-30 was previously discussed in paragraph 4a.

(2) 122-mm howitzer M1987 (u) ~~(C)~~.

(u) ~~(C)~~ Beginning in 1987, a newly developed 122-mm howitzer will probably start replacing the D-30. This weapon system is predicted to have a range of 19 000 meters, with conventional projectiles and 23 000 meters with extended-range projectiles. Rate of fire is estimated to be 10 rd/min. The prime mover will probably be the URAL-4320 truck or MT-LB artillery tractor. On-road speed will be 60 km/h. With a crew of five, emplacement and displacement time should be less than 2 minutes.

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(3) Follow-on 152-mm howitzer M1987 (U).

(u) ~~(C)~~ This system will probably be a trifurcate trailed howitzer with a 152-mm cannon similar to that of the D-20. A weapon of this type should satisfy an obvious Soviet perceived requirement for a follow-on to the obsolescent 152-mm D-1 towed howitzer, which is organic to the artillery regiments of divisions (mostly Category II and III units) that probably will not receive the 152-mm SP howitzer M1973. Such a system could also replace the D-20 howitzers and ML-20 gun howitzers that presently are deployed to army- and front-level artillery brigades. The D-20-type cannon assembly of this follow-on howitzer provides for a 39% increase in range over that of the D-1; the D-30-type carriage provides increased firing stability, 360° traverse with a rapid slew feature, and increased on- and off-road mobility.

(u)
(4) 152-mm field gun M1976 ~~(S/WNINTEL/RELCAUKAS)~~.

(U) See discussion of this system in paragraph 4a(4) above.

c. Towed Systems: 1991-2000 (U).

(u) ~~(C)~~ No new towed cannon systems are forecast for this time frame. However, fielded systems will continue to be modified with product improvements based on the existing state-of-the-art in fire-control instruments, recoil mechanisms, ammunition handling and loading devices, on-carriage computerized data displays, and auxiliary propulsion.

d. Self-Propelled Systems: 1980-1985 (U).

(1) 122-mm SP howitzer M1974 (U).

(u) ~~(S)~~ The 122-mm SP howitzer M1974 is an amphibious, CBR-protected, direct-support system with powered ammunition handling and loading mechanisms. Its cannon is similar in appearance and identical in ballistic performance to that of the D-30 towed howitzer. This weapon has a range of 15 300 meters with the OF-462 projectile, an initial rate of fire of 5 rd/min, and an onboard crew of four. Emplacement and displacement time is 0.25 to 0.75 minute. It is air transportable by Il-76 (CANDID) and An-22 (COCK) aircraft and by the Mi-26 (HALO) helicopter. The 122-mm SP howitzer exhibits considerable improvements in mobility, reaction time, burst rate of fire, crew size, crew protection against fragments, barrier-crossing capability, and CBR protection, as well as powered loading and laying devices that

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enhance crew performance during extended and/or mobile operations. The amphibious capability of the M1974 obviously enhances its ability for rendering continuous fire support in highly mobile operations (e.g., exploitation, pursuit, or retirement). The M1974 is deployed in battalion strength to BMP-equipped motorized rifle regiments. Tank regiments, in time, also will be equipped with this system. A type combined-arms army presently has 72 M1974's. When issue to tank regiments is complete, this number will be 138. Examples of typical ammunition expenditure rates on various targets are the same as for the D-30 howitzer.

(2) 152-mm SP howitzer M1973 (U).

(u)
~~(S)~~ This 152-mm SP howitzer supports highly mobile Soviet maneuver units. This general-support type, most probably CBR-protected, howitzer mounts a cannon that is similar in appearance and ballistic performance to that of the D-20 towed howitzer, firing on the same type targets with the equivalent ammunition expenditure. The M1973's initial rate of fire is 4 rd/min, and when firing the OF-540 projectile, it attains a range of 17 230 meters. The onboard crew is four men. The chassis is a modified SA-4 (GANEF) transporter-erector-launcher (TEL). The M1973 is not amphibious. It is air transportable by the Il-76 (CANDID) and An-22 (COCK) aircraft. This howitzer is deployed to divisional artillery regiments and to some brigades in front level artillery divisions. The artillery with a type combined-arms army in 1981 probably had 90 M1973's. Upon completion of issue of two battalions to the tank division and expansion of front-level batteries from 6 to 8 guns, 138 M1974's should be with the type army.

(u)
(3) 152-mm SP gun M1977 ~~(C/RELGAUKAS)~~.

(u)
~~(S/NOFORN/WNINTEL)~~ The chassis of this open-mount system is a variant of the GANEF-TEL chassis of the 152-mm SP howitzer M1973. This SP system, assessed as being one of two 152-mm gun replacements for the 130-mm towed M-46 field gun, is estimated to have a 27+-km range, a 6-rd/min initial rate of fire, and a 30-tonne weight; to carry 25 rounds onboard; and to have a six-man crew. It is air transportable by the the Il-76 (CANDID) and the An-22 (COCK) aircraft. A type combined-arms army ultimately should receive 36 of these systems, not including such reinforcement as may be afforded by front, on a 40-km front to engage in counterfire missions. With larger caliber projectiles (152 vs. 130 mm), typical ammunition expenditure rates on various targets are somewhat lower than for the M-46 field gun. As of August 1981, two six-gun batteries of M1977's had been deployed to GSFG.

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(4) 203-mm SP gun M1975 (u) ~~(C/RELCAUKAS)~~.

(u) ~~(S/NOFORN/WNINTEL)~~ The 203-mm SP gun M1975 is a newly designed cannon mounted on the proven GANEF TEL chassis. This 203-mm gun, with a range in excess of 30 000 meters and a maximum rate of fire of 2 rd/min, is an open-mount system, as is the US 8-in. M110A2. The M1975 is estimated to weigh over 29 tonnes, to have a seven-man crew, and to carry six rounds onboard. It is air transportable by the An-22 (COCK) aircraft. This nuclear-capable 203-mm SP gun is being deployed to high-powered (i.e., nuclear-capable) artillery brigades to replace the towed 203-mm B-4 howitzer (two battalions of 12 guns per brigade). In addition to its nuclear (and possible ICM) capability, this system, using a concrete-piercing projectile, should be a good "bunker-buster." The Soviets probably consider that this capability may become most useful in any area of operations containing prepared defensive positions. Moreover, the M1975 has a 67+% greater range than the B-4 system that it is replacing (30 000+ vs. 18 0000 meters). In war at least one, probably two, high-powered brigades should be allocated to a front.

e. Self-Propelled Systems: 1986-1990 (U).

(1) 122-mm SP howitzer M1988 (u) ~~(C)~~.

(u) ~~(C)~~ This system will have improved ammunition handling mechanisms and fire control over that of the 122-mm SP howitzer M1974 and, probably, a better amphibious capability. It should have a one-third improvement in reaction time plus increased precision. It should have a range of about 19 000 meters with conventional projectiles and 23 000 meters with extended-range projectiles. Density of employment and typical targets attacked will be the same as for the M1974, which the M1988 will replace.

(2) Other SP cannon systems (U).

(u) ~~(C/RELCAUKAS)~~ No other new SP cannon systems are forecast for this time frame. The 152-mm M1973 howitzer, the 152-mm M1977 gun, and the 203-mm M1975 gun will remain in service, but will continue to be product improved consistent with the existing state-of-the-art and the cost effectiveness of such improvements.

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f. Self-Propelled Systems: 1991-2000 (U).

(1) 152-mm SP howitzer M1991 (u) ~~(C)~~.

(u) ~~(C)~~ The M1991 will be a general-support artillery system with the same type cannon (tube, breech, muzzle brake) as the 152-mm towed howitzer M1987. It should have a maximum range of 23 000 meters with conventional projectiles and 30 000 meters with extended-range projectiles. Rate of fire will be 8 rd/min with improved precision over that of the M1973 SP, which it will replace. Emplacement and displacement time will be less than 1 minute. Density of employment and typical targets attacked will be the same as for the M1973.

(2) 152-mm SP gun M2000 (u) ~~(C)~~.

(u) ~~(C)~~ Deployment of this general-support artillery weapon will begin in about the year 2000 with a production rate of approximately 300 per year. Road speed will be 60 km/h. Rate of fire will be 8 rd/min. Maximum range will approximate 32 000 meters. A terminally guided projectile will be available. It will have greater accuracy than the 130-mm field gun M-46 (M-46 data multiplied by a factor of 0.7) and somewhat less reaction time than the 152-mm SP howitzer M1973. Emplacement and displacement time will be less than 2 minutes. The weapon will be deployed to army and front for employment at army and division level to attack artillery and other deep targets (e.g., command posts, artillery units, units in reserve, communication centers). Density will probably be one or more brigades (4 battalions) at front (artillery division) and two battalions at army level.

(3) Other SP cannon systems (U).

(u) ~~(C/RELCANUKAS)~~ The Soviets will continue to employ the 122-mm SP howitzer M1988 and the 203-mm SP gun M1975. These systems will be modified based on the state-of-the-art existing in this time frame vs. the cost effectiveness of such improvements.

g. Summary of Characteristics (U).

(U) Table 6-1 summarizes the characteristics of known and projected cannon systems.

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Table 6-1. (U) Characteristics of Known and Projected Cannon Systems

Characteristics	Current through 1986						
	85-mm AT gun	100-mm AT gun MT-12	122-mm towed howitzer D-30	122-mm SP howitzer M1974	130-mm towed gun M-46	152-mm towed howitzer D-20	152-mm SP howitzer M1973
Max range in indirect fire (m)	15 000	18 000	15 300	15 300	27 490	17 230	17 230
Effective range in direct fire (m)	1000	2000	950	950	1250-1450	800	800
Rate of fire:							
Initial (rd/min)	8-12	10	6	5	5	4	4
Sustained (rd/30 min)	90	70		66	70	65	52
Emplacement/displacement time (min)	<1/<1	<3/<3	<2.5/<2.5	<1/<1	<4/<4	<5/<5	<1/<1
Extent of automation	None	None	None	Mechanical assisted ammo handling & loading	None	None	Mechanical ammo handling & loading
Total traverse (°)	50	54	360	360 powered	50	58	360 powered
Elevation (°)	-7 to +35	-10 to +20	-7 to +70	-4 to +70	-2.5 to +45	-5 to +63	-5 to +60
System wt (tonnes)	1.3	2.8	3.2	16.0	8.45	5.9	27
Principal prime mover/ chassis	GAZ-66 MT-LB	URAL-375D MT-LB	URAL-375 AT-L	Modified MT-LB	ZIL-135 AT-S	ZIL-135 AT-S	Modified SA-4 GANEF TEL
Cruising range (km)	875/500	750/500	250	500	520	520	500
Max speed:							
On-road (km/h)	Towed 35	60	60	70	50	65	70
Off-road (km/h)	Portee 60	25		35	20	20	30
Onboard/vehicle ammunition (rd)	40 on prime mover	40 on prime mover	40 on prime mover	40 onboard	40 on prime mover	35 on prime mover	47 onboard
Wt HE projectile (kg)	9.5	12.8	21.76	21.76	33.4	43.56	43.56
Air transportability	Fixed and rotary wing	Fixed and rotary wing	Fixed and rotary wing	Fixed and rotary wing	Fixed and rotary wing	Fixed and rotary wing	Fixed wing only
Crew protection	None	6-mm winged shields	4.5-mm 3-piece shield	Lt armor, collective CBR	4-mm 2-piece shields	Lt 3-piece shield	Lt armor, collective CBR
Crew size	5	7 w/driver	8 w/driver	4	8 w/driver	11 w/driver	4

*C/RELCAUKAS, **S/WNINTEL/RELCAUKAS, ***C/RELCAUKASFR (U)

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			1987–1990			1991–2000	
152-mm towed gun M1976**	152-mm SP gun M1977***	205-mm SP gun M1975*	122-mm towed howitzer M1987	122-mm SP howitzer M1988	152-mm towed howitzer M1987	152-mm SP howitzer M1991	152-mm SP gun M2000
27 000+**	27 000+***	30 000+***	19 000	19 000	23 000	23 000	32 000
1500**	1500**	NA	2000	2000	1500	1000	1500
5**	6***	2*	10	10	8	8	8
30**	30***	30*					
<4**/<4	<2/<2***	<2/<2*	<2/<2	<1/<1	<2/<2	<1/<1	<2/<2
Mechanical ammo handling & loading**	Mechanical ammo handling & loading***	Mechanical ammo handling & loading*	None	Full mechanical ammo handling & loading	Mechanical assisted ammo handling & loading	Full automated ammo handling & loading	Full automated ammo handling & loading
60**	40***	40*	360	360	360	360	90
-5 to +50**	-5 to +50***	-5 to +50*		-40 to +70	-5 to +65	-5 to +60	-5 to +50
10**	30***	31*	3.9	18	7	30	29
ZIL-135** AT-S	Modified SA-4 GANEL TEL***	Modified SA-4 GANEF TEL*	URAL-4320	Modified MT-LB	ZIL-135 AT-S	Modified SA-4 GANEF TEL	Modified SA-4 GANEF TEL
520**	500***	500*	500	500	500	500	500
60**	25***	25*	60	70	60	60	60
20**							
30 on prime mover**	25 onboard***	20 onboard*	40	45	30	45	25
47**	47***	106*	22	22	43.56	43.56	60
Fixed and rotary wing**	Fixed wing only***	Fixed wing only*	Fixed and rotary wing	Fixed and rotary wing	Fixed and rotary wing	Fixed wing	Fixed wing
4-to 6-mm shields**	Lt armor, collective CBR when traveling***	Lt armor, collective CBR when traveling***	Light shields	Light armor, collective CBR	4- to 6-mm shields	Lt armor, collective CBR	Lt armor, collective CBR
7**	6***	5*	5	4	7	4	4

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5. Mortar Systems (U).

a. Systems: 1980-1985 (U).

(1) 82-mm automatic mortar (Vasilek) (U).

(u) ~~(S/NOFORN/WNINTEL)~~ An 82-mm automatic mortar, Vasilek, has been fielded. This split-trailed, automatic "mortar" system has been observed to be a portee-type system, i.e., transported in the cargo bed of a GAZ-66 truck. The cyclic rate of fire is 80 to 120 rd/min. Ammunition, contained in clips of 4 or 5 rd, is breech loaded. Maximum range is about 5000 meters. This weapon has been assessed as a maneuver regiment asset (a platoon of four pieces assigned to regimental headquarters). Recently, however, a platoon of Vasilek has been observed in maneuver battalions in Afghanistan. It is probable that a typical Soviet combined-arms army would have a minimum of some 30 Vasilek platoons (3 to 4 weapons/platoon) per 40 km of front, or a density of one platoon per 1.3 km of front.

(2) 82-mm light mortar (portable and APC mounted) (u) ~~(S/NOFORN/WNINTEL)~~.

(u) ~~(S/NOFORN/WNINTEL)~~ The Soviets have deployed a new 82-mm light mortar. One version of it is a manportable, ground-mounted system; the second is basically the same mortar mounted in an amphibious APC (most likely BMP or MT-LB). Both systems will fire a 3.2-kg projectile to a maximum range of 4400 to 5000 meters. Deployment of this mortar will most likely be a platoon of two mortars to each rifle company--the portable version to mountain and airborne and the vehicle version to the motorized rifle company. These weapons are not artillery and are manned by infantry and armor personnel.

(3) 120-mm mortar M-43 (U).

(u) ~~(C)~~ This towed 275-kg mortar fires a 15.8-kg projectile to a range of 5700 meters. Maximum rate of fire is 15 rd/min. The Soviet motorized rifle battalions have a battery of 6 mortars that equate to a battalion equivalent of 18 mortars per motorized rifle regiment. These 120-mm mortars are employed as field artillery and manned by artillerymen. A type combined-arms army probably would have a minimum of 180 mortars on a 40-km front, a density of one battery (six mortars) for every 1.3 km of front.

(4) 240-mm SP mortar M1975 (u) ~~(S/RELCAUKAS)~~.

(u) ~~(S/RELCAUKAS)~~ The 240-mm SP mortar M1975 is open-mounted on a variant of the GANEF (SA-4) TEL chassis. The mortar tube appears to be very similar to the

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tube used on the obsolescent towed 240-mm mortar that it is replacing. Its 9700-meter maximum range may have been increased to about 12 000 meters through the use of rocket-assist or base-bleed projectile technology. Maximum rate of fire is 1 rd/min. This nuclear-capable 240-mm SP mortar is being deployed to high-powered artillery brigades (2 battalions of 12 mortars each). The primary role in conventional warfare is likely to be destruction of heavily constructed urban structures that have been occupied as strong points.

b. Systems: 1986-1990 (U).

(1) 120-mm mortar (SP and portee) (U).

(u) ~~(S/NOFORN/WNINTEL)~~ The Soviets will deploy a new 120-mm portable mortar and, probably, a 120-mm SP mortar to non-Soviet WPC in the mid-1980s. The 120-mm portable version will replace the older 120-mm mortars M1938 and M1943 in mountain-rifle and airborne infantry battalions. The SP version will be deployed to motorized rifle battalions. These mortars will have a range of 6000 to 7000 meters, a rate of fire of 10 rd/min, and a crew of six. Deployment density should be the same as for the M-43.

(2) Other mortar systems (U).

(u) ~~(S/NOFORN/WNINTEL)~~ No new mortar systems are forecast for this time frame. The Vasilek and the new 82- and 120-mm mortars will be standard in Category I divisions. The 240-mm SP mortar should be provided with improved ammunition during this period.

c. Systems: 1991-2000 (U).

(u) ~~(S)~~ With the possible exception of a SP 160-mm mortar, no new mortar systems are expected to be introduced during this term. Wider distribution of midterm projected mortars is anticipated. There will be some minor modifications to these weapons, but significant changes will be confined to improved ammunition. New concepts based on projected future requirements should enter R&D during this period.

d. Summary of Characteristics (U).

(U) Table 6-2 summarizes the characteristics of known and projected mortar systems.

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Table 6-2. (U) Characteristics of Known and Projected Mortar Systems

Characteristics	Current through 1985			1986-1990	
	82-mm auto mortar Vasilek	120-mm mortar M1943	260-mm SP mortar M1975*	120-mm mortar portee	120-mm SP mortar
Max range in indirect fire (m)	5000	5700	9200*	7000 RAP 8500	7000 8500
Rate of fire: Initial (rd/min) Sustained (rd/30 min)	Cyclic rate of 80-120 rd/min*	9 50	1* 30*	10	10
Emplacement/displacement time (min)	<4/<5	<3/<1	<2/<1*	<4/<5	<2/<2
Extent of automation	None	None	Mechanical ammo handling & loading*	None	Full mechanical ammo handling & loading
Total traverse (°)		6	80*	360	360
Elevation (°)	+45 to +80	+45 to +80	+45 to +80*	+45 to +85	+45 to +85
System wt (tonnes)		521 kg	25*	200 kg	12.8
Principal prime mover/chassis	GAZ-66	ZIL-151 BTR-152	Modified SA-6 GANEF TEL*	GAZ-66 MT-LB	MT-LB BTR-60
Cruising range (km)	875	650/780	500*	500	500
Max speed: On-road (km/h) Off-road (km/h)	90	60 25	65* 30*		70
Onboard/vehicle ammunition (rd)		60	20 onboard*	60 on prime mover	60
Wt HE projectile (kg)	30*	16.5	140*		
Air transportability	Fixed and rotary wing	Fixed and rotary wing	Fixed wing only*	Fixed and rotary wing	Fixed and rotary wing
Crew protection	4- to 6-mm shields	None	Lt armor, collective CBR when traveling*	None	Lt armor, collective CBR
Crew size		6	3*	6	5

~~*C/REL CAUKAS~~ (u)

(u)
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6. Multiple Rocket Launchers (U).

a. Systems: 1980-1985 (U).

(1) 122-mm MRL BM-21 (U).

(u) ~~(S)~~ The 122-mm 40-tube MB-21 launcher is currently deployed to divisions, armies, and fronts. Having a 20 380-meter range, this launcher fires controlled fragmentation, incendiary, and chemical warheads. This system is air transportable by the Il-76 (CANDID) and An-22 (COCK) aircraft and by the Mi-26 (HALO) helicopter. The launcher can discharge a 40-rd ripple in 20 seconds, and a battalion delivers 720 rockets in one 20-second ripple. Typically, this weapon delivers 440 rockets on a 155-mm SP battery; 270 rockets on LANCE and 85 rockets/ha on dug-in troops. A type Soviet combined-arms army will have the equivalent of 7 battalions (4 divisional plus 3 army) or 126 BM-21 MRL on a 40-km front, or a density of one battery for every 2 km of front.

(2) 122-mm airborne MRL M1975 (u) ~~(C)~~.

(u) ~~(S/RELCAUKAS)~~ This launcher is being assigned to airborne divisions and separate airborne brigades in batteries of six launchers each. The launcher is believed to fire the same 122-mm rocket as the regimental MRL, from 12 launch tubes mounted on the GAZ-66 truck. The system utilizes manually operated traversing and elevating mechanisms to save weight. With a 15 000-meter range, it fires the 9M28 rockets in 6 seconds. Warheads available include fragmentation, incendiary, and probably chemical.

(3) 122-mm regimental MRL M1977 (u) ~~(S)~~.

(u) ~~(S/WNINTEL/RELCAUKAS)~~ The regimental MRL M1977 (u) ~~(S)~~ is mounted on a suitably modified ZIL-131 cargo truck. The 36 tubes are arranged in four tiers; the two lower tiers have 8 tubes each. This launcher utilizes the same rockets as does the airborne launcher and has a probable range of 15 000 meters. A full salvo of 36 rockets can be launched in about 18 seconds. Several types of organizations have been observed:

- Motorized rifle regiments with a battalion of 3 six-gun batteries (total of 18 guns) plus a six-launcher MRL battery

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- Motorized rifle regiments with a battalion of 2 six-gun batteries (total of 12 guns) plus a six-launcher MRL battery
- Tank regiment with 2 six-gun batteries (total of 12 guns). (It is probable that the tank regiment will also receive a six-launcher battery within the near term.)

It is believed highly probable that the tank regiment will have a composite battalion of 12 cannon and 6 MRL. It is probable that a motorized rifle regiment's artillery battalion may be either composite or all gun, depending upon the theater of operations.

(4) 220-mm MRL BM-27 (S).

(S/~~WNINTEL/RELUK~~) The 220-mm MRL BM-27 (S) is a 16-tube system arranged in three tiers; the two lower tiers contain 6 tubes each, and the top tier contains 4 tubes. This launcher is mounted on the ZIL-135 8x8 truck. A ripple of 16 rockets can be fired in about 30 seconds; reload time is 12 to 15 minutes. The maximum range of the almost 5-meter-long rocket is predicted to be 40 000 meters. A firing section consists of one launcher and two ZIL-135 reload vehicles, each carrying 16 rockets (8 rockets are positioned on either side of a rocket-handling mechanism). This system is known to deliver improved fragmentation and ICM (both antipersonnel/antilight materiel warheads and minelet warheads). It is probable that ICM-type warheads containing incendiary bomblets also are available. ICM-type chemical bomblets possibly may be available. b1

Eventually, all front-level MRL brigades, and probably army-level MRL regiments, should receive the BM-27 system.

b. Systems: 1986-1990 (U).

(1) 150- to 180-mm divisional MRL (U).

(u) ~~(S/NOFORN/WNINTEL)~~ A replacement for the more than 20-year-old 122-mm MRL BM-21 is expected in this time frame. The URAL-4320, 5-tonne, 6x6 truck that recently was deployed to GSFG is a possible chassis for this postulated replacement. Assuming it is desirable (1) that the new system be capable of delivering the same family of ICM submunitions that presently are available

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to the 220-mm BM-27 system, (2) that a single ripple from one of the new launchers should approximate the total warhead weight and produce about the same terminal effects on the target as are available from one BM-27, and (3) that maximum range should fall between the 20 000-meter range of the BM-21 and the 40 000-meter range of the BM-27, the follow-on to the BM-21 could evidence the following characteristics:

Caliber	180 mm
Maximum range	30 000 m
Number of tubes	28
Rocket weight	130 kg
System weight	14 tonnes

(2) Other MRL systems (U).

(u) ~~(S/WNINTEL/RELCAUKAS)~~ No other new MRL systems are forecast for this time frame. The 122-mm airborne MRL, the 122-mm regimental MRL, and the 220-mm BM-27 MRL (S) will continue in use, but will continue to be modified with product improvements based on the existing state-of-the-art of the time frame. These improvements probably would include enhanced firepower, improved precision, and reduced operational (emplacement/displacement and reload) times. In this time frame, MRL systems will be able to interface with the AAFCS.

c. Systems: 1991-2000 (U).

(1) 122-mm regimental MRL M1991 (u) ~~(C)~~.

(u) ~~(C)~~ Beginning in 1991, the current regimental MRL will probably be replaced by one having a caliber of 110 to 130 mm; 122 mm, a standard Soviet caliber, may be retained. The maximum range of these rockets probably will not exceed about 20 000 meters. At least six of these MRL will be assigned to units that are comparable to current maneuver regiments. This launcher, with or without modification, may be assigned to airborne units to replace the current airborne 122-mm weapons.

(2) 240-mm MRL M2000 (u) ~~(C)~~.

(u) ~~(S)~~ This weapon will provide general support to motorized rifle divisions and tank division elements. It will be mounted on an unarmored truck follow-on to the ZIL-135. Range will probably be 45 000 meters; rate of fire, one rocket per 2 seconds, with a reload time of 8 minutes. With a crew of

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four men, it will have an emplacement time of 3 minutes and a displacement time of 1 minute. Available warheads will include ICM (bomblets); antipersonnel/antilight materiel, chemical, scatterable mines, and incendiary. Initial density will probably be 72 per front MRL brigade.

(3) Other MRL systems (U).

(u) (u)
~~(S)~~ The 122-mm regimental MRL M1991 ~~(C)~~, the 180(?)-mm divisional MRL, and probably the 220-mm BM-27 MRL(u)~~(S)~~ (at army level) will continue in use. All systems fielded in this time frame will receive rapid, accurate artillery survey information. Accuracy of fire will also be enhanced by near real-time measurements of meteorological conditions and propellant temperature. All MRL systems will operate under a completely automated fire-control system that will continue to engage area-type targets. Targets and ammunition expenditure will be determined by the controlling authority and levied on the fire units. Dispersion in range will be less than 1% of the range fired, and dispersion in deflection will be less than 10 mils.

d. Summary of Characteristics (U).

(U) Table 6-3 summarizes the characteristics of known and projected MRL systems.

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Table 6-3. (U) Characteristics of Known and Projected MRL Systems

Characteristics	Current through 1985				1986-1991		1992-2000
	122-mm airborne MRL M1975	122-mm regimental MRL M1977	122-mm MRL BM-21	220-mm MRL BM-27	122-mm regimental MRL M1991	180-mm MRL M1981	240-mm MRL M2000
No. of launch tubes/ tiers	12/2	36/4	40/4	16/3	36/4	28/4	15/3
Max range in indirect fire (m)	15 000	15 000	20 380	40 000	20 000	30 000	45 000
Rate of fire: Initial salvo (s)	6	18	20	30	18	28	30
Load & fire 2d salvo (min)	6-8	10-12	12	20	10-12	10-12	8
Emplacement/displacement time (min)	<3/<3	<3/<3	<4/<2	<5/<3	<3/<1	<3/<1	<3/<1
System wt (tonnes)	4.8	10	13.3	22.7	7.2	7.2	19
On-vehicle ammo (No. of rockets):							
In launcher	12	36	40	16	36	28	15
In reloader	None	None	None	32	None	None	30
Chassis	GAZ-66	ZIL-1313	URAL-375	ZIL-135	URAL-4320 or follow-on	URAL-4320 or follow-on	ZIL-135 or follow-on
Stabilization	Two mechanical jacks	Two mechanical jacks	Two mechanical jacks	Two mechanical jacks	Mechanical jacks	Mechanical jacks	Mechanical jacks
Cruising range (km)	875	850	750	520	750	750	500
Max speed:							
On-road (km/h)	90	80	86	75	80	80	85
Off-road (km/h)	20	20	20	15	20	20	15
Wt HE warhead (kg)	35	35	19.4	90-100	35	75	120
Air transportability	Fixed and rotary wing	Fixed and rotary wing	Fixed and rotary wing	Fixed and rotary wing	Fixed and rotary wing	Fixed and rotary wing	Fixed and rotary wing
Crew protection	None	None	None	Collective CBR	Collective CBR	Collective CBR	Collective CBR

(u)

~~(SECRET/NOFORN)~~

7. Artillery Ammunition (U).

a. Current Through 1985 (U).

(1) Fuzing (U).

(u)
~~(S)~~ The Soviets have deployed a proximity fuze that has two height-of-burst options. They probably also possess a precise mechanical-time fuze suitable for ICM delivery. During the near term, ongoing Soviet research in solid-state circuitry and IR sensors will permit them to produce more effective proximity fuzing. (By the midterm, they are expected to develop and deploy electronic time fuzes for use with their ICM and nuclear munitions.) Ammunition options for cannon, MRL, and mortar systems are given in Table 6-3.

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Table 6-4. (U) Ammunition Options for Current and Projected Cannon, MRL, and Mortar Systems

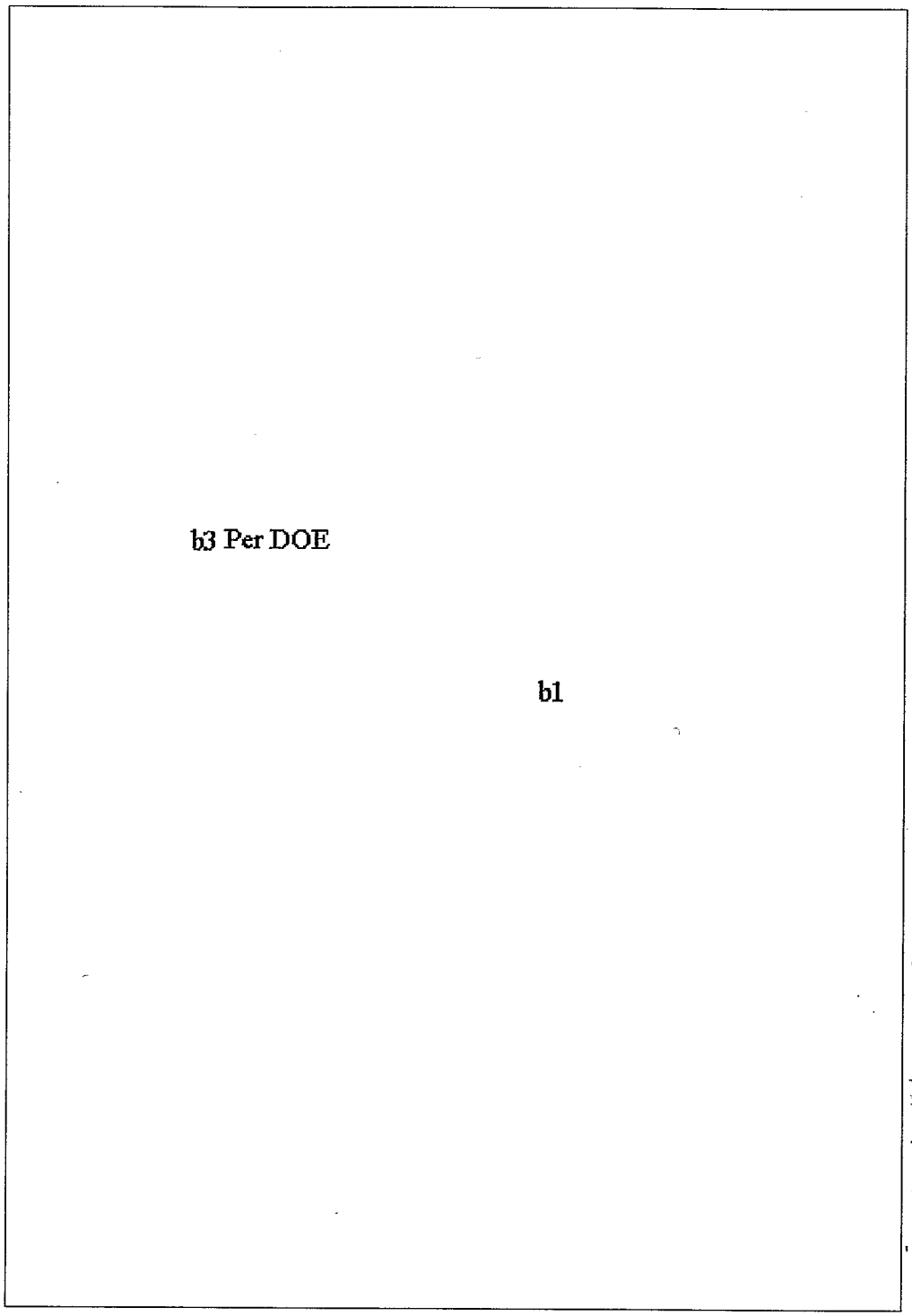

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Table 6-4. (U) Ammunition Options for Current and Projected Cannon, MRL, and Mortar Systems (Continued)

b3 Per DOE

b1

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(2) Projectiles (U).

(a) Nuclear (U).

~~RD~~
(S/~~NOFORN~~) b3 Per DOE b1

b3 Per DOE

b1

(b) Extended range (U).

(u)
~~(S)~~ The Soviets will probably design a 152-mm full-bore, hollow-bore projectile approximately 5.5 calibers long. Prior to 1985, they are expected to deploy external-burning or base-bleed projectiles for use in 122-mm and larger cannon systems.

(c) Flechette (U).

~~(S)~~ A new kind of Soviet projectile, the flechette-filled shrapnel, has a lethal area 20 times greater than that of HE-FRAG projectiles of similar caliber, as well as giving them the ability to attack mounted in their BMP under a rain of flechettes sufficient to disable all defenders not under cover. Shrapnel is a type of projectile that expels preformed fragments forward in a cone rather than blowing jagged chunky fragments to the side, as does the HE-FRAG round. Soviet flechettes, boosted 100 m/s at ejection and ejected from shells fired at high charge and low angle of elevation, are hardly slowed by woven body armor and will defeat both the M1 helmet and the new Kevlar helmet. Heavier flechettes (14 grams or so) would penetrate the 1/2-inch aluminum top armor of M113 and M109 SP, although it would take a 203-mm projectile to carry a worthwhile number--about 2000. Since flechettes are preformed, they can be toxin treated to make any wound quickly lethal or can be b1 configured to contain explosive or chemical agent.

(d) Cast iron (U).

(u)
~~(C)~~ To eliminate range restrictions when firing cast-iron projectiles, the Soviets will replace their older fragmentation projectiles with high-fragmentation steel. Extended-range projectiles will also be fabricated from high-fragmentation steel.

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(e) HE (U).

(u) ~~(S)~~ Field artillery projectiles introduced during the near term are expected to demonstrate greater effectiveness than earlier Soviet munitions and to compare very favorably with corollary Western items.

(f) ICM (U).

(u) ~~(S)~~ The 203-mm M1975 may have a dual-purpose ICM projectile; a 152-mm round may also be under development. The Soviets are not expected to provide ICM carriers for calibers less than 152 mm because of their desire to defeat materiel targets.

(g) Electromagnetic pulse (EMP) (U).

(u) ~~(S)~~ The Soviets are expected to have the capability to introduce a field artillery projectile with an EMP intended to damage solid-state electronic devices within about 300 meters of the round when the EMP event is initiated. The device would be powered by an explosive generator and would likely be mounted in a 203-mm carrier projectile. It would be employed to disrupt seriously or destroy proximate battlefield electronic devices, including communications and computers.

(h) Armor-defeating ammunition (U).

(u) ~~(S)~~ The Soviets will retain an armor-defeating capability for all field artillery howitzer systems of 152 mm and less caliber throughout the near term. KE penetrators introduced during this period are expected to be equipped with follow-through mechanisms such as metal slugs and zirconium or incendiary compositions.

(3) Propellants (U).

(a) (u) ~~(C)~~ No changes are anticipated in either propellant granulation or the use of cartridge cases for howitzers, gun-howitzers, and guns in calibers of 152 mm or smaller. Wear-reducing additives will continue to be included in full charges provided for guns. The Soviets may extend the cased propellant philosophy to the newer 152- and 203-mm SP guns, which are entering service. The case may be partically consumable or plastic with a base obturator and sealed in the same moistureproof manner as brass cases.

(b) (u) ~~(C)~~ Triple-base propellant formulations may be introduced because their low flame temperatures reduce signatures and minimize bore erosion. The initiation of Soviet production of triple-base propellant depends largely on Soviet assessment of the advantages of increased tube life versus the use of lower energy propellants.

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(c) (u) ~~(C)~~ The Soviets will concentrate on the development and introduction of rubber-base composite propellants to boost the performance of small operational rocket systems.

b. 1986-1990 (U).

(1) Fuzing (U).

(u) ~~(C)~~ Remotely settable electronic time fuzes are expected to come into use with MRL during the latter part of the midterm period.

(2) Cannon-launched guided projectiles (CLGP) (U).

(u) ~~(S/NOFORN)~~ Evidence indicates that 152-mm laser-guided projectiles are being tested by the Soviets. They may also be considering the 203-mm caliber for a CLGP. If the Soviets decide to produce this ammunition, it will appear in the inventory in the early midterm. Soviet target requirements for a CLGP are thought to be primarily point targets such as firefinder-type radar, FDC, command-and-control installations, and communications facilities but probably not highly mobile targets such as armored vehicles.

(3) Extended-range subcaliber (U).

(u) ~~(C)~~ In the early part of the midterm, subcaliber projectiles that are long (9 to 10 calibers) and fitted with full bore fins will begin to appear. This projectile could have terminal guidance to enhance its effectiveness.

(4) Armor defeating (U).

(u) ~~(C)~~ Beginning early in the midterm, the Soviets will face the threat of an increasing number of tanks with advanced armor arrays. Although the design approaches the Soviets will adopt to counteract this armor are unknown, there is no doubt that they are working on the problem. One solution they are expected to explore for howitzer and gun-howitzer munitions is a short (reduced L/D) armor-piercing discarding-sabot (APDS) tungsten alloy or staballoy penetrator, which would be the heaviest penetrator at the lowest velocity that will still penetrate the new types of armor. In-flight velocity can be maintained for respectable grazing range distances by employing rocket assist. The Soviets can be expected to apply their considerable experience with rocket-assisted ammunition for infantry weapons to the development of KE projectiles. For example, a 122-mm KE projectile weighing 12 kg could achieve a muzzle velocity of 1210 m/s using existing D-30 propellants and including 2 kg of rocket propellant to sustain that velocity. Such a round would have a 1-kg sabot, and the penetrator would weigh about 9 kg.

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(5) ICM (U).

(u) ~~(S)~~ Continuing Soviet development of ICM is expected to result in designs of increased lethality, possibly including overdriven shaped charges with incendiary follow through. The overdriven charge makes a more uniform hole in the armor and increases injection efficiency of an incendiary agent. Another potential design is a shaped-charge tandem bomblet capable of penetrating special armor materials.

(6) Explosives (U).

(u) ~~(S/NOFORN/WNINTEL)~~ The Soviets have significantly increased their production capacity for TNT, RDX, and HMX. All volume-constrained warheads can greatly benefit from HMX. Shaped-charge rounds can be increased in effectiveness by approximately 20%. The Western-developed Bachmann production process for HMX now used by the Soviets has increased their production eightfold over previous processes. This increased production plus new installations should enable the Soviets to produce sufficient HMX for any reasonably sized arsenal of high-performance warheads.

c. 1991-2000 (U).

(1) Terminally guided projectiles (U).

(u) ~~(C)~~ Terminally guided, passive, millimeter-wave heavy artillery projectiles designed as special-purpose munitions to make precision attacks on highly important targets may appear during this period. These projectiles may be filled with an 80/20 HMX/plastic bonded polymer. Terminally guided anti-materiel and/or dual-purpose submunitions will be in R&D phase during the early 1990s and, depending on the success achieved, could enter the inventory during the period as options in air-delivered weapons, short-range ballistic missiles (SRBM), and larger caliber MRL and artillery systems designed to provide long-range attack or area denial.

(2) Increased armor penetration (U).

(u) ~~(C)~~ The Soviets are expected to strive for increased behind-armor effects for their munitions by using tandem and follow-through mechanisms, such as slugs or zirconium and triethyl aluminum incendiary compositions, to penetrate the armor and flame the interior of the vehicle.

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(3) Liquid propellants (U).

(u) (C) Liquid propellants for cannon artillery are expected to appear in the 1990s. The low flame temperatures, which decrease tube wear, should appeal to the Soviets; however, many problems (e.g., ignition, metering, and mixing) remain to be solved.

(4) ICM (U).

(u) (C) Although the exact nature of the ICM bomblet expected to emerge from Soviet design bureaus in the early 1990s is not known, it is assessed to be a heat-seeking version of the incendiary follow-through type mentioned earlier. Based on a postulated engineering design and considerations of Soviet approaches, a plate-charge bomblet could be employed with the same guidance-seeker system. The basic scheme for guiding it toward a heat source is to use a parachute for nonrotating directional orientation, to have an IR detector on each quadrant, and to direct the bomblet toward the heat source by slipping the parachute. Four coated plastic mirrors at the lower end of the bomblet focus IR from their respective quadrants onto four IR detectors, which are molded into a housing, along with a simple integrated comparison circuit. If a quadrant shows higher heat, the comparison circuit will send a signal (powered by a small reserve battery in the control housing at the top of the bomblet) up the tube to a silicon control rectifier, which will "turn on" to connect the battery to the appropriate squib that controls the parachute risers.

(5) HEAT (U).

(U) HEAT rounds are discussed in Chapter 5, paragraph 2f.

8. Chemical and Biological Weapons (U).

a. Place in Tactical Doctrine (U).

(u) (C) Chemical weapons form an important part of Soviet tactical doctrine. From the words and actions of Soviet military officials, it is apparent that they consider the use of chemical weapons in any future war a likely possibility.

b. Choice of Chemical Agents (U).

(b) (1) & (b) (3) per CIA

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(b) (1) & (b) (3) per CIA

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(b) (1) & (b) (3) per CIA

c. Biological Weapons (U).

(b) (1) & (b) (3) per CIA

d. Smoke (U).

(u) (C) The Soviets stress the use of smoke in both offensive and defensive operational tactics. Most armored vehicles are equipped with thermal smoke generators. In addition, the latest models are also being fitted with smoke grenade launchers.

e. Developments: 1980-1985 (U).

(u) (S/NOFORN) In the 1980-1985 period, the Soviets will continue to support a strong chemical warfare R&D program. A search for new agents will continue, with greater emphasis placed on compounds like GD that produce casualties that are difficult to treat. Various combinations of agent mixtures will receive increased attention. Development of chemical warheads for the medium-caliber MRL, the M1977 MRL, and the SS-21 missile will begin.

f. Developments: 1986-1990 (U).

(b) (1) & (b) (3) per CIA

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(b) (1) & (b) (3) per CIA

9. Radio Frequency Weapons (U).

a. (u) ~~(S)~~ Rf weapons have potential in a variety of ground applications. Such a weapon would use an intense burst of electromagnetic radiation to destroy or degrade electronics in target systems. Potential targets include radars, communication networks, fire-control centers, ordnance fuzing, launch control facilities, and automotive engines. To permanently destroy electronics in a target system would require a large burst of energy. An example of such damage would be high-voltage-induced junction failure in an IC. Temporary degradation might occur from changes in the memory core of a computer, or from overloading a sensor.

b. (u) ~~(S)~~ Electromagnetic energy may enter the target system through readily available paths such as antennas, waveguides, or sensor windows. Other paths include air vents and cracks in shielding. Internal wiring conducts the energy to critical electronic components.

c. (u) ~~(S)~~ The energy levels required for component damage are extremely low: i.e., microwave diode burnout occurs at less than 10^{-6} J. By comparison, 1 kg of chemical explosive yields 10^{6} J. The actual energy that has to be delivered to the target system depends on the coupling efficiency of its entry paths. A susceptible system might be attacked from a range of tens of kilometers. A hard system might be unaffected at a very close range.

d. (u) ~~(S)~~ As part of their fusion power generation program, the Soviets have developed rf generators of sufficient power to function as rf weapons. These rf generators are small enough to be mounted on a tracked vehicle such as the BMP or on a truck. At present, the Soviets justify these devices as being for civilian applications. Both the technology and the hardware for weapon application could be available to the Soviets by the mid- to late 1980s.

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e. (U) Rf weapons could also be delivered in artillery projectiles as discusses in paragraph 7.

10. Laser Weapons (U).

a. (u) (S) The Soviets have significantly increased the size of their high-energy laser (HEL) program in the past several years, both in personnel and facilities. The Soviet laser program includes work in all HEL areas of significance to the development of laser weapons. Senior Soviet experts in such areas as propellants, combustion, fluid dynamics, and materials are moving into laser R&D and contributing their expertise to developing weapon systems.

b. (u) (S) The Soviet laser device technology indicates that they currently can develop carbon dioxide (CO_2) electric discharge lasers (EDL) with outputs in the megawatt class that could be deployed on ground-based platforms. In the early 1980s, they are also expected to be able to deploy ground-based prototype HEL beam weapons using carbon monoxide (CO) EDL or deuterium fluoride chemical lasers.

(b) (1) & (b) (3) per CIA

11. Frontal Aviation, Ground-Attack Systems (U).

a. Systems: 1980-1985 (U).

(1) FITTER (U).

(u) (S/NOFORN) FITTER A and B are being phased out. Both FITTER C and FITTER D are single-seat, single-engine, variable-geometry-wing fighter-bombers. FITTER C has a maximum bomb load of 3500 kg and can carry rockets and the command-guided AS-7 and AS-9 antiradiation tactical air-to-surface missile (TASM). It is armed with two 30-mm cannons and can also carry four 23-mm gun pods. The FITTER D, the current production model, has more advanced avionics, providing it with an improved adverse-weather and night-attack capability against area targets. The FITTER D has a maximum bomb load of 4000 kg. It can carry the same armament as the FITTER C and, in addition, can carry the AS-10 guided, semiactive homing TASM. FITTER C and D aircraft can be armed

with IR homing A-2D (ATOLL) and AA-8 (APHID) missiles if required for self-defense. The Soviets began to deploy a new FITTER variant (designated FITTER H) to field artillery ground-attack units in 1980. The FITTER H (fighter bomber) is probably very similar, if not identical, to the FITTER H (reconnaissance). When compared to the FITTER D, the new FITTER variant probably has improved avionics subsystems. Range and payload estimates for the FITTER H fighter-bomber are assessed to be the same as for FITTER D and FITTER H (reconnaissance).

(2) FLOGGER (U).

(u) ~~(S)~~ The MiG-27 (FLOGGER D/J) are ground-attack variants of the MiG-23 (FLOGGER) counterair series. The MiG-27 is a single-seat, single-engine, variable-geometry-wing fighter-bomber. FLOGGER D avionics enable it to fly ground-attack missions on area targets at night and under adverse weather conditions. FLOGGER D has a maximum payload of 4500 kg and can carry bombs, rockets, and the AS-7 and AS-10 TASM. Armed with a 23-mm Gatling gun, it also has been noted carrying 23- or 30-mm gun pods, reflecting Soviet interest in strafing during ground attacks. It probably has an internal jamming capability against terminal threat radars. It also is expected to carry APHID AAM for self-defense. The recently identified "J" variant of the MiG-27 probably incorporates improved aerodynamics and avionics and a laser target designator/rangefinder compatible for use with the AS-10 TASM and laser-guided bombs.

(3) FENCER (U).

(u) ~~(S/NOFORN)~~ The Su-24 (FENCER A) is a two-seat, twin-engine, variable-geometry-wing fighter-bomber which was specifically designed for the ground-attack role. It is believed to have a navigation/attack radar with a terrain avoidance capability, which enables it to bomb targets with approximate point target accuracy under all-weather conditions at altitudes down to 300 meters. The FENCER A has a 23-mm Gatling gun and a maximum bomb load of 7000 kg. It can carry rockets, bombs, and the AS-7, AS-9, and AS-10 TASM, and probably the ATOLL or APHID AAM for self-defense. An inflight refueling capability is expected for the FENCER by 1982, affording it a vastly improved range and enhancing its flexibility.

(4) Ground support fighter (GSF) (U).

(u) ~~(S/NOFORN/WNINTEL)~~ The Su-25 (RAM-J) GSF (believed to have become operational in 1981) is a subsonic aircraft that will be best suited for attacking ground

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targets in the battle area under visual conditions. The expected avionics complement (comparable to those of FLOGGER D and FITTER D), however, will provide it with adverse-weather ground-attack capability against area targets. The GSF will have the primary mission of close air support and will be able to operate from highway strips or from prepared sod fields. It will probably be equipped with a 30-mm twin-barrel gun and have a maximum external payload of 4500 kg: 4000 kg of cluster, incendiary, fuel-air explosive, or guided bombs; rockets (57-, 80-, 240-, or 330-mm) and/or ASM plus 2 ATOLL or APHID AAM mounted on an estimated 12 pylons. The GSF will be compatible with EO and antiradiation TASM as well as with other conventional/chemical air-launched munitions. Its avionics kit includes a heads-up display, a weapon-release computer, and an LRF. A nighttime and all-weather variant of the GSF is expected by 1985.

b. Systems: 1986-1990 (U).

(u) ~~(S)~~ In the mid- to late 1980s a continuing Soviet requirement for a fighter-bomber capable of low-altitude penetrations is projected. Such an aircraft would initially replace aging FITTER C and D and FLOGGER D in the force and may eventually begin replacing FENCER A. It is highly likely the Soviets will develop a follow-on fighter-bomber (fighter-bomber-projected-I) (FB-P-I) for deployment in 1987. If so, the Soviets should be initiating the development program for such an aircraft now, and evidence should become available in the early 1980s. The airframe of the modified (2-seat) FOXBAT could be adapted for this purpose. The Soviet FB-P-I is projected to be designed for low-altitude penetration, deep-strike interdiction missions. It will probably have a minimum of two crewmembers, two engines (possibly turbo fans), and a wide variety of armament. While it will be able to carry unguided rockets, free-fall bombs and guns, it will undoubtedly rely heavily on precision-guided munitions to accomplish its mission. TASM and bombs employing laser and TV guidance are projected for this aircraft. Additionally, antiradiation-homing missiles (ARM) will probably be used to suppress enemy radar sites. The Soviets may also develop a cruise missile for use on this aircraft. The FB-P-I is postulated to have a low-altitude radius greater than that of FENCER A, more accurate navigation systems [including a bomb/navigation radar and inertial navigation system (INS)], a terrain-following capability, and improved target acquisition. It will likely have an ECM suite that will permit self-screening jamming and penetrations without EW escort aircraft.

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12. Tactical Ballistic Missiles (U).

a. Introduction (U).

(u)
(S) The Soviets began building SRBM after World War II, initially helped by German V-2 technology. Since then, they have developed and fielded nine systems. Early missiles used liquid propellants and radio inertial guidance; they were transported on tracked vehicles. Later the tracked vehicles were replaced with wheeled TEL, and guidance systems became all inertial. In 1964 testing began on the first solid-propellant system. Since then, improvements have continued to be made in propulsion, guidance, and TEL. Current and projected missile characteristics and trends are shown in Tables 6-7 and 6-8 and Figure 6-2.

Table 6-7. (U) Current and Projected Tactical Ballistic Missiles

b1 per DIA

(SECRET/NOFORN/WNINTEL)

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Table 6-8. (U) Tactical Ballistic Missile Capabilities

b1 Per DIA
b3 Per DOE

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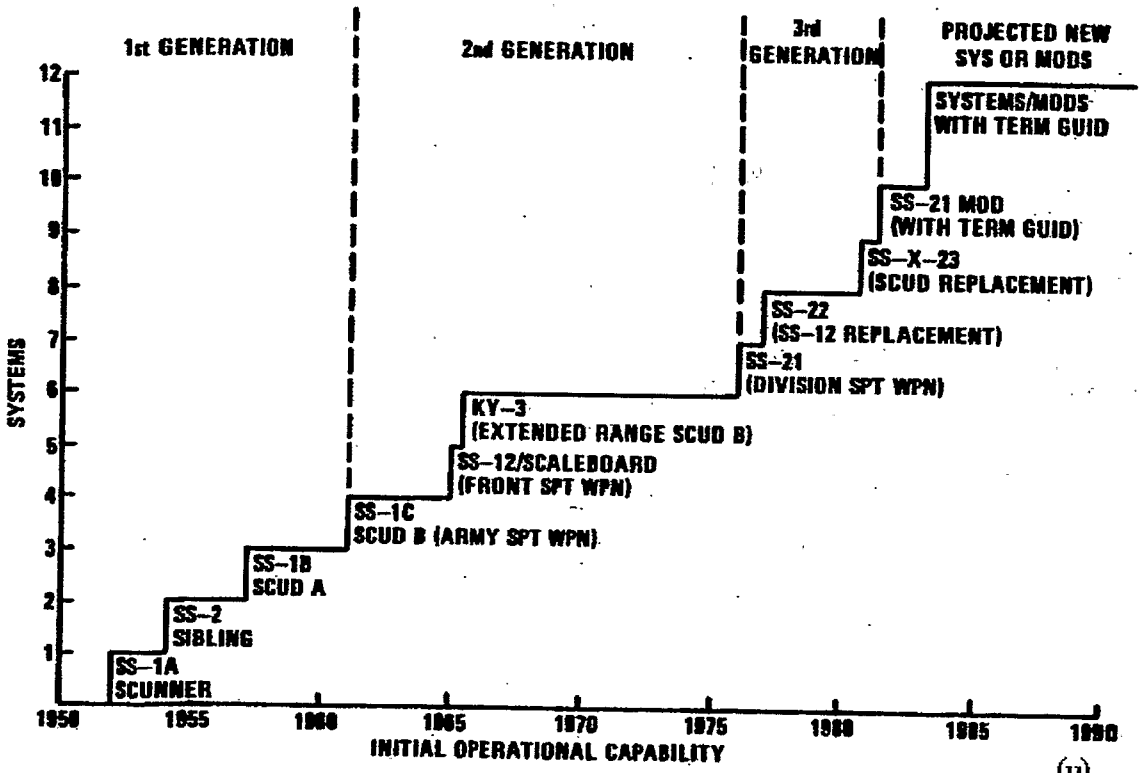

(U)
(SECRET)

Figure 6-2. (U) Projected SRBM

b. Systems: 1982-1985 (U).

(1) Division level (U).

b1 per DIA

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0707

b1 per DIA b3 Per DOE

(b) (U) (S) The projected SS-21 MOD A will be the same size as the basic SS-21 but may require additional ground support equipment. The use of terminal guidance will reduce the CEP to 50 meters for the MOD A; the CEP of the basic SS-21 is 250 meters. This improvement in accuracy will allow for more effective use of HE and lower yield nuclear warheads. The MOD A and the basic system will have similar trajectories, range-payload capabilities; and warhead options. However, more emphasis will be placed on HE, ICM, and low-yield warhead options in the MOD A. The new system will also use the new three-axle TEL and be highly mobile.

(2) Army level (U).

b1 per DIA

b3 Per DOE

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~~DISSEMINATION. SECTION 144b, ATOMIC~~
~~ENERGY ACT, 1954.~~

b1 per DIA

b3 Per DOE

(3) Front level (U).

b1 per DIA

b3 Per DOE

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b1 per DIA

b3 Per DOE

c. Systems: 1990-2000 (U).

(1) Division level (U).

b1 per DIA

b3 Per DOE

(2) Army level (U).

b1 per DIA

b3 Per DOE

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b1 per DIA

b3 Per DOE

13. Trends in Nuclear Warhead Development: 1982-2000 (U).

b1 per DIA

b3 Per DOE

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14. Target Disruption by Communications Jamming (U).

a. Tactical Doctrine and Role (U).

(u) ~~(S)~~ Communications jamming is one of the methods the Soviets plan to use to systematically disrupt vital enemy electronic control at critical times during a battle. Both front- and army-level units have vast organic resources of jammers in order to fulfill their role in the REC doctrine. Although division-level units do not have organic jamming resources, jammers may be allocated to operate in divisional sectors under the operational control of army. The Soviet jamming capabilities include high frequency (hf) jamming for the disruption of strategic links: very high frequency (vhf) jamming for the disruption of tactical FM radio nets; ultrahigh frequency (uhf) jamming for the disruption of air-to-ground communication links; and a heliborne radio relay jamming.

b. Hf Jamming--Current Systems (U).

(1) R-325M (U).

(u) ~~(S)~~ The R-325M is the only Soviet hf jammer assigned the front credited with skywave jamming coverage. The Soviets credit the system with an effective jamming range of 1000 km and a harassment range of 3000 km. The system has a setup time of 1.5 to 3 hours depending on crew proficiency, although one source claimed that one system had been set up in 27 minutes during the Czechoslovak invasion.

(2) C^2 of R-325 jammers by R-380 (U).

(u) ~~(S/NOFORN/WNINTEL)~~ The R-380 is a self-contained, 12-vehicle set for C^2 of hf jamming operations. The Soviets use a single R-380 to control the entire assets of a general-support communications jamming battalion. It is capable of intercept, remote control of 4 or 5 R-359 hf DF and remote control of 12 R-325M jammers. The system consists of a central control vehicle, three intercept and analysis vehicles, three jammer control vehicles, three separately deployed remote-control vehicles for controlling the jammers, and two power-supply vehicles to provide common power for the elements of the R-380 that deploy together. The central control vehicle, intercept and analysis vehicles, jammer-control vehicles, and power-supply vehicles are deployed together and have been observed in this deployment each time the entire battalion was observed to have deployed. All vehicles within the R-380 control deployment are linked to the central control vehicle via intercom and telephone lines. Vhf radio is provided for some systems while on the move.

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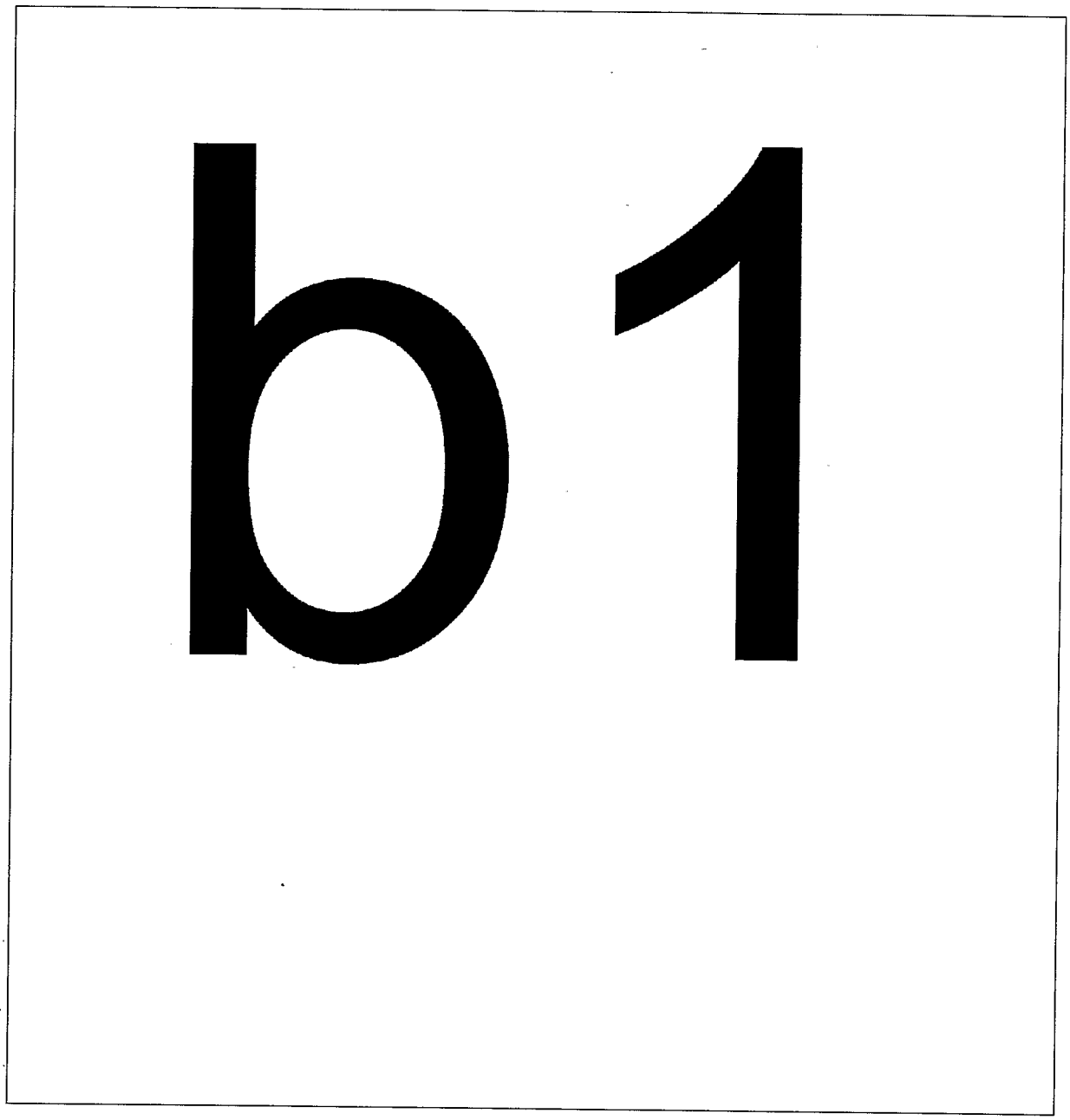

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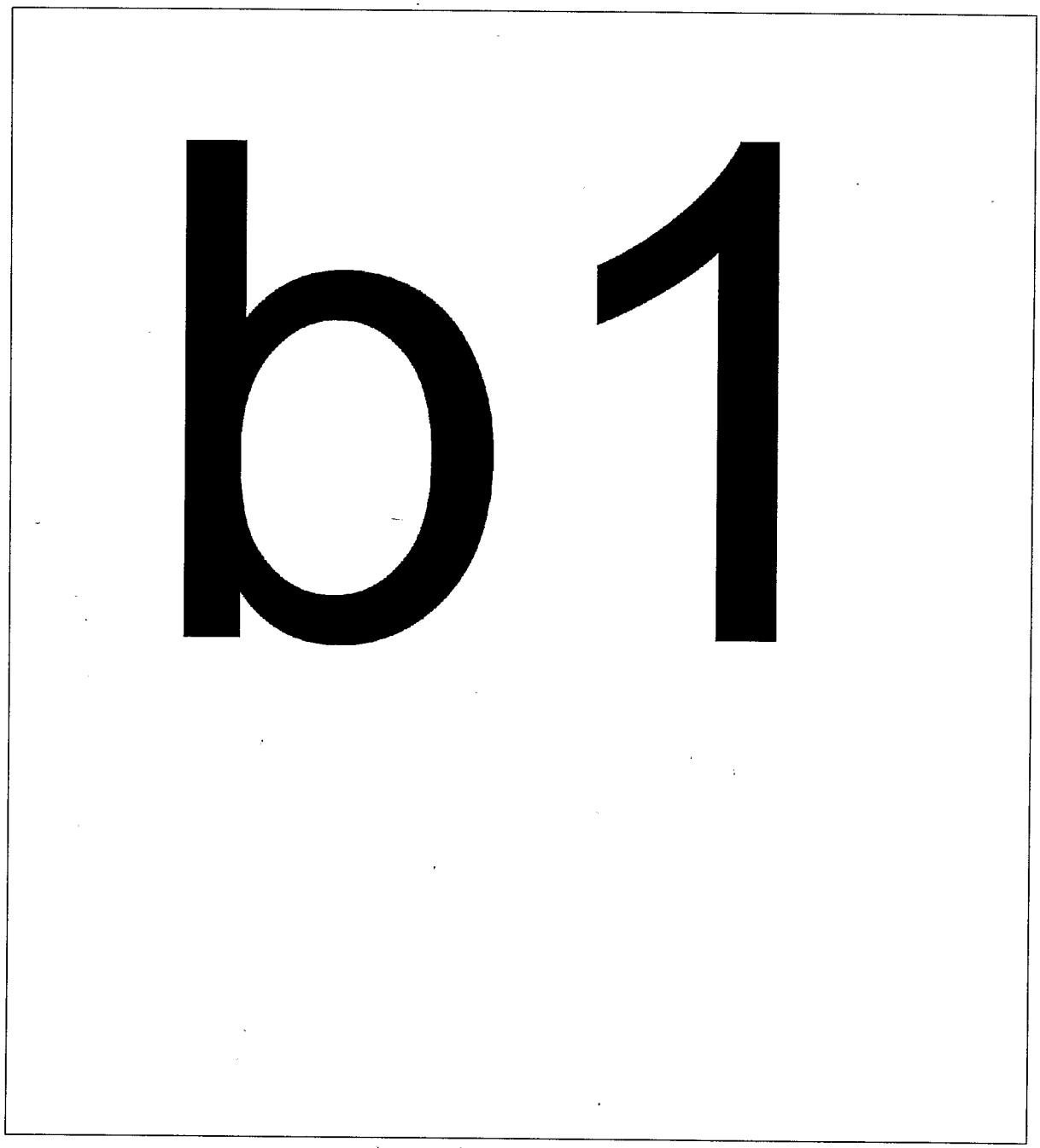

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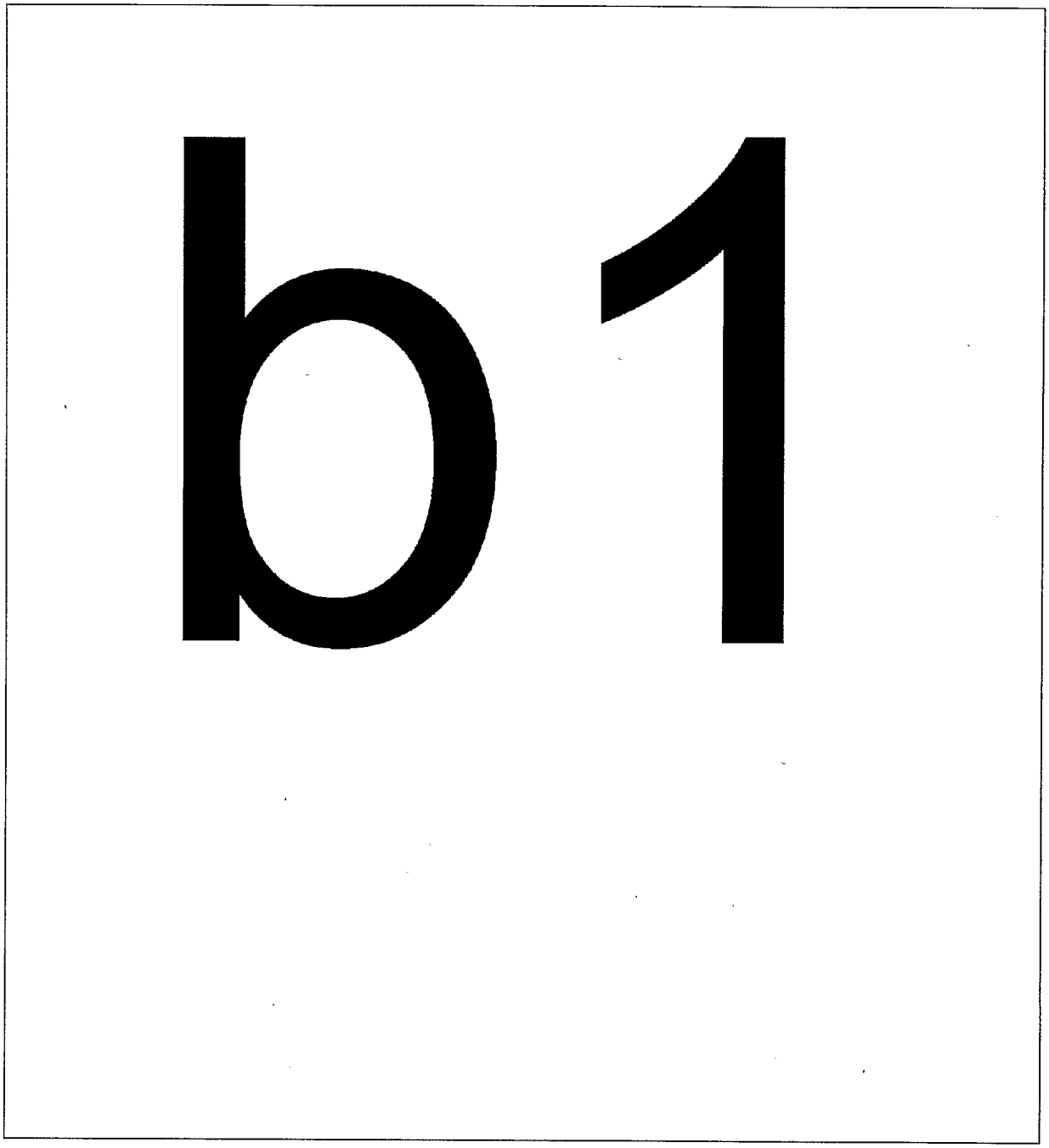

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CHAPTER 7

FORCE PROTECTION SYSTEMS (U)

I. INTRODUCTION (U)

(u)
~~(C)~~ Force protection is a combined-arms function comprising four basic tasks: (1) protection from enemy air attacks, (2) protection from enemy tanks, (3) protection from CBR threats, and (4) protection from enemy antitank systems. In The Scientific Revolution and Military Affairs, General Vozneko discusses the first two of these tasks. He says that for air defense it is necessary that land force have equipment that "makes it possible for them to successfully combat airborne targets and provide constant cover for the units and subunits of their own troops and rear against air attack." These units also have "effective weapons for countering enemy tanks in close combat." CBR protection is included in all units, and tanks are protected by a number of means—among them by the design of the tank itself and by artillery attacks on the enemy antitank weapons. Smokes, aerosols, and camouflage are used to degrade the effectiveness of NATO precision-guided munitions. The relationships among force protection systems are shown in figure 7-1.

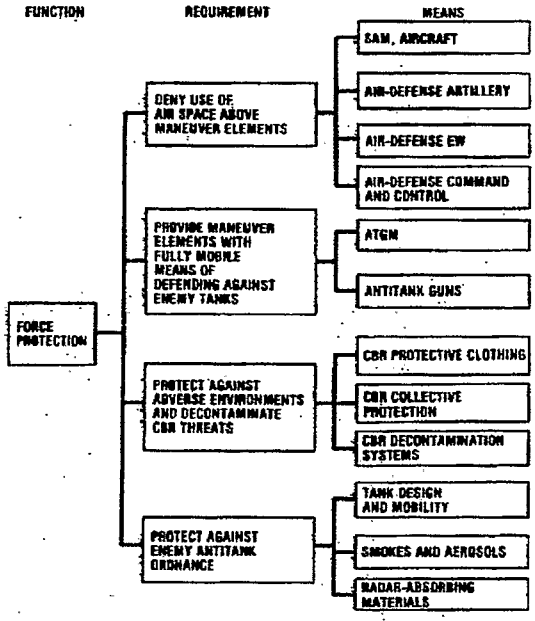

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Figure 7-1. (U) Functional Network for Force Protection Systems

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1. Responsiveness (U).

(u)
~~(C)~~ Fielded Soviet ground-based tactical air defense systems constitute a formidable defense network, which includes large numbers of equipment with redundant capabilities, pitted against the operational Blue Threat. The Blue Threat is evolving and includes air- and ground-launched cruise missiles, antiradiation missiles, precision-guided munitions, high-performance aircraft, and increasingly sophisticated ECM, which will severely tax existing Soviet tactical air defense. Established Soviet policy and doctrine require a Soviet response to this evolving threat.

2. Assumptions (U).

(u)
~~(C)~~ Soviet doctrine, weapon development cycle times, and historical perspectives were used to estimate when new systems or modifications would reach IOC. Threat-imposed requirements and technology projections were then used to project the nature of these developments. It has been assumed that the Soviet weapon system acquisition process will remain essentially unchanged, that technological advances, if any, will occur in incremental steps, and that normal intelligence processes will reveal such breakthroughs.

II. INTEGRATED AIR DEFENSE SYSTEMS (U)

3. Introduction (U).

a. (U) Soviet weapon development philosophy since World War II appears to have been driven primarily by requirements, with technology playing a supporting role. Soviet decisionmakers have a clear understanding of the concept of integrated defense and are able to think and plan in those terms. For example, they are adept at designing and fielding a system to combat a specific threat rather than, as US decisionmakers tend to do, designing multipurpose systems or requiring complex systems to fill roles for which they were not designed. Individual Soviet systems, while usually less sophisticated than their US counterparts, form a synergistic combination that provide considerable offensive and defensive flexibility and complicate the Blue planner's task. Because of increased US attention to defense at the policy level, in the next decade the Soviet planner may be frustrated since he will probably perceive trends that will signal the erosion of Soviet quantitative and, in some cases, qualitative superiority.

(u)
b. ~~(S)~~ A review of the fielded Soviet ground-based tactical air defense systems reveals a formidable defense network that includes large numbers of equipment with redundant capabilities against the fielded Blue threat. This threat, which is constantly evolving, includes air- and ground-launched cruise missiles, ARM, precision-guided munitions, high-performance aircraft, and increasingly sophisticated ECM, which will severely tax existing Soviet tactical air defense.

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(u)
c. (S) The Soviets have deployed at least 12 air defense missile systems as well as numerous AAA systems. Based on Soviet doctrine, long-range tactical SAM systems are attached to the field armies, medium-range tactical systems are attached to army divisions, and the shorter range systems are organic to the lower echelons. Thus, each maneuver unit has its own means of air defense. Systems developed in the 1950s and early 1960s give ample evidence of the Soviet commitment to doctrinal requirements. The Soviets can be expected to continue to upgrade and modernize their air defense forces within the framework of current doctrine and on a schedule that is consistent with previous modification programs and weapon development cycle times.

4. Surface-to-Air Missiles (U).

a. Introduction (U).

(u)
(S) As shown in Figure 7-2, the Soviets have a long-standing prolific development program for tactical SAM systems. The current inventory provides an extensive network of tactical SAM coverage (Fig 7-3). The Soviets are continuing to improve these systems to meet a changing threat, to correct deficiencies, and to take advantage of new technology. The currently available systems, along with modifications and new systems projected for the next 20 years, are shown in Table 7-1. Characteristics of these systems are listed in Table 7-2 and described in the following paragraphs.

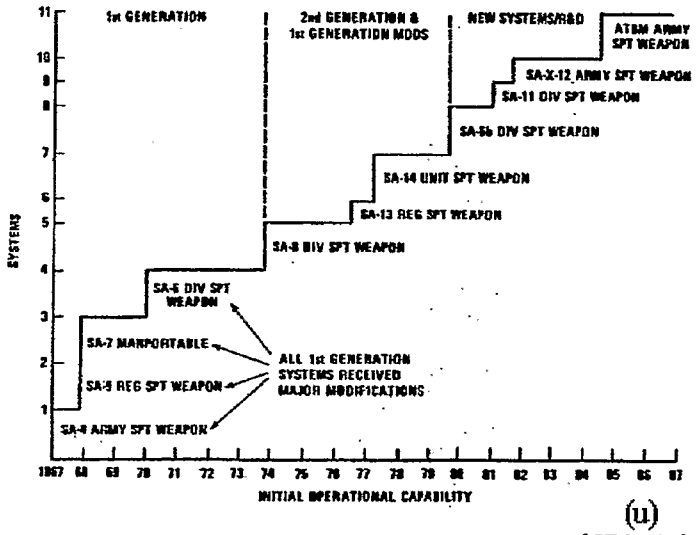

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Figure 7-2. (U) Projected Tactical Air Defense Deployment Through 1985

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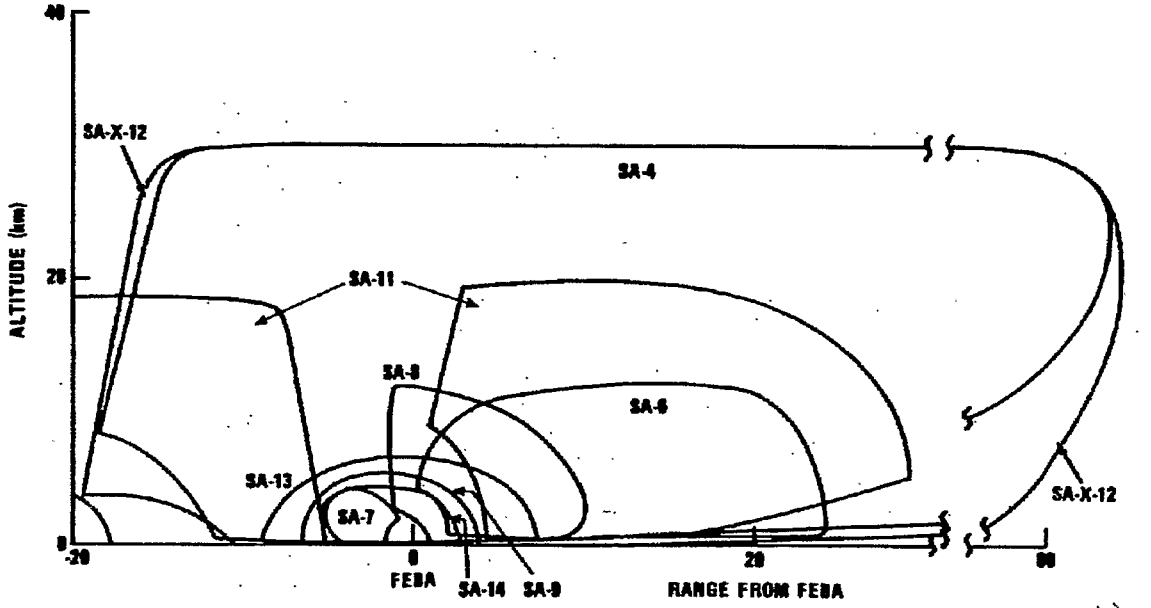

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Figure 7-3. (U) Tactical SAM Coverage

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Table 7-1. (U) Current and Projected Tactical Air Defense Systems

Current (1982)	Near term (1982-1985)	Midterm (1986-1990)	Far term (1991-2000)
Company/battalion:			
SA-7 (A&B)	————	--------	
SA-14	————	SA-14 MOD	--------
			SA-14 FO
Regiment:			
SA-9 (A&B)	--------		
SA-13	————	SA-13 MOD	--------

		————	SA-13 FO
Division:			
SA-6 (A&B)	SA-6 MOD	————	--------
SA-8 (A&B)	SA-8 FO	--------	
		SA-8 FO MOD	————
	SA-11	SA-11 MOD	————
			SA-11 FO
		CO_2 laser	HEL
Army/Front:			
SA-4 (A&B)	SA-4 MOD	————	--------
	SA-X-12	SA-X-12 MOD	————
			SA-X-12 FO
	ATBM	ATBM MOD	

Note: -------- indicates phase out
———— indicates continuing in service

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Table 7-2. (U) Soviet SAM Performance

System	Max range (km)	Max alt (km)	CEP	Warhead	Sensor	Remarks
Company/ battalion:						
SA-7A	3.7	3.0		HE	IR	Tail chase only
SA-7B	5.0	4.5		HE	IR	Tail chase only
SA-14	4.2-6.0 TC 3.0 HO	5.2		HE	IR	Head-on capability
SA-14 FO	4.5/6.5	Unk	Unk	HE	IR	Head-on capability
Regiment:						
SA-9A	5.5	5.0	Unk	HE	2-color IR	
SA-9B	6.5	6.0	Unk	HE	2-color IR	Passive two color
SA-13	7-7.5	5.0-6.0	1-2	HE	EO homing	EO homing
SA-13 FO	10	7.5	2	HE	Unk	Proportional navigation
Division:						
SA-6	24	10-12	4	HE	Homing	Semiactive homing
SA-6B	24	14-15	4	HE	Homing	Semiactive homing
SA-8A	12	15	5	HE		Rf command guided
SA-8 FO	16	17	Unk	HE	Unk	Rf command guided
SA-11	30	15-16	4	HE	Semi-active homing	
SA-11 FO	40	18-20	4	HE	Unk	Proportional navigation
HEL	12	--	Unk	CO_2	--	Lethality range dependent
HEL	3-20	--	Unk	Chem	--	Lethality range dependent

~~(SECRET)~~ (u)

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Table 7-2. (U) Soviet SAM Performance (Continued)

System	Max range (km)	Max alt (km)	CEP	Warhead	Sensor	Remarks
Army/ Front:						
SA-4A	80-100	25	21	HE	Homing	Command guided
SA-4B	50	25	25	HE	Homing	Command guided
SA-X-12	>50	30	Unk	HE	Unk	Command guided
SA-X-12 FO	100	Unk	Unk	Unk	Millimeter wave seeker	Semiactive terminal homing
ATBM	30	45-50	Unk	HE	Unk	Command guided

~~(SECRET)~~ (u)

b. Systems: 1980-1985 (U).

(1) SA-4 system (U).

(a) (U) The SA-4 is a mobile, medium-high-altitude, long-range SAM organic to the front and army levels. Designed and developed as a replacement for the SA-2 medium-range system, it provides effective air defense against high-performance tactical aircraft. There are currently two versions of the system: SA-4A and SA-4B. The former uses the GANEF missile with command plus terminal homing guidance only.

(b) (u) ~~(S)~~ SA-4 combat units are organized into three echelons: brigade, battalion, and battery. The brigade, the largest formation, is directly subordinate to the Field Army Air Defense Staff during tactical operations. It is composed of brigade headquarters, a technical support battalions, and three SA-4 missile battalions. Each missile battalion is organized into three missile firing batteries. A battery is composed of three TEL units.

(c) (u) ~~(S)~~ Brigade headquarters exercises overall C^2 of the air defense operations of the brigade; coordinates with adjacent, subordinate, and higher echelons; and monitors the air situation broadcasts produced at front and army levels. Brigade headquarters contains two LONG TRACK early-warning/target-acquisition radars (one in reserve), one THIN SKIN height finder radar, a communications truck, and a command vehicle.

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(u)
(d) ~~(S)~~ Each of the three battalion headquarters has one LONG TRACK radar, communications vehicles, and a command vehicle. An SA-4 firing battery has one PAT HAND target-tracking radar and one command vehicle. There are three TEL per battery with two GANEF missiles per TEL. In addition there are from one to three resupply vehicles or transloaders. An AAA battery of ZSU-23 guns provides local air defense protection of the SA-4 firing battery, battalion, and brigade headquarters.

(u)
(e) ~~(S/NOFORN)~~ After deployment, brigade headquarters issues readiness conditions and provides early-warning data to the battalions and batteries. Target acquisition and assignment to batteries may involve any of three operational sequences. In the first sequence, the battalion LONG TRACK acquisition radar is not activated, and target acquisition occurs at the brigade, which assigns targets to the battalion, which is turn assigns targets to the batteries. In the second sequence, the battalion LONG TRACK radar is activated, but initial target acquisition and assignment to battalion are performed at the brigade. The battalion reacquires the target with its LONG TRACK radar before assigning targets to the batteries. In the third sequence, the battalion LONG TRACK radar is activated and performs the initial target acquisition and assignment to the batteries independently of the brigade. This sequence may occur against pop-up targets or during an autonomous operation by the battalion. After target coordinates are received by the battery, the PAT HAND target-tracking/missile-guidance radar is slowed to the target coordinates. The PAT HAND simultaneously tracks the target and guides the missile to the intercept point. The SA-4A system can use command guidance all the way to intercept for intercepts less than 50 km in range or can switch to the terminal homing mode for intercepts from 50 to 80 or 100 km. The SA-4B system uses command guidance only and is limited in range to 50 km.

(u)
(f) ~~(S)~~ Minor modifications may be made to the SA-4 in 1982-1986. Possible modifications include improved ECCM, improved radar signal processing, and improved EO tracking. The SA-X-12 will begin replacing or augmenting the SA-8 in 1982-1986.

(2) SA-6 system (U).

(u)
(a) ~~(S)~~ The SA-6 is a mobile SAM dedicated to division-level air defense against maneuverable, high-speed, low- to medium-altitude aircraft and has limited capability against helicopters.

(u)
(b) ~~(S)~~ The SA-6 system is organized into regiments, which are assigned to divisions or armies. The system will be used in conjunction with the SA-4 and SA-8 SAM. In particular, each combat division will have organic to it either an SA-6 or SA-8 regiment, while selected armies may have an organic SA-6 regiment plus one SA-4 brigade allocated to each army.

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(u) (c) (S) SA-6 batteries will perform leap-frog maneuvers to maintain continuous air defense. For offensive operations, the setback from the FEBA maintained by the lead firing batteries is 2 to 5 km. For defensive operations, the lead firing batteries are placed 5 to 15 km behind the FEBA. In the Middle East, SA-6 batteries were interspersed with destroyed vehicles and equipment in order to obscure visual signatures and reduce the probability of detection.

(u) (d) (S/NOFORN) The SA-6 system uses the GAINFUL missile as the interceptor and the STRAIGHT FLUSH radar for target acquisition, tracking, and illumination. Three-rail TEL vehicles transport and launch the GAINFUL missiles. Other equipment associated with the system are the missile transloader and the GAV-1 (ZIL-157) at the battery level, and various acquisition radars (LONG TRACK, THIN SKIN, SPOON REST, and FLAT FACE) and command vehicles at the regimental level.

(u) (e) (S/NOFORN/WNINTEL) The original GAINFUL semiactive homing missile (IOC 1970) has had at least one modification to enter production. The modified GAINFUL achieved IOC in 1977 and incorporates significant improvements to all systems. The modified GAINFUL is thought to have been acquired by Warsaw Pact National Forces and also to have entered general export. The extent of its deployment throughout Soviet air defense forces is unknown.

(f) (S/NOFORN/WNINTEL) Three versions of the STRAIGHT FLUSH radar b1 Additionally, two battery deployment signatures for the SA-6 have been identified. The first signature, termed the SA-6A site, involves the deployment of the STRAIGHT FLUSH radar, four three-rail TEL, two missile transloaders, and a GAV-1 (ZIL-157) vehicle. This deployment provides the capability to engage only one target. The second signature, termed the SA-6B site, includes all of the SA-6A site elements except for the replacement of one of the TEL by a single three-rail transporter-erector-launcher and radar (TELAR). The TELAR offers integral target track and illuminator functions, can designate a TEL itself, and provides for the simultaneous engagement of two targets by a battery. The SA-6B site signature has been observed to date only within the Soviet Union, and the extent of its deployment is unknown. It is possible that Warsaw Pact forces will acquire the TELAR and deploy SA-6B sites as early as 1985.

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(3) SA-7 system (U).

(a) (U) The SA-7 weapon is composed of a heat-seeking missile, launch tube, gripstock, and battery. The weapon is manportable, shoulder-fired, air defense guided missile system designed to defend against low-altitude, slow- to medium-speed aircraft. The missile itself is designated the GRAIL. The SA-7 system is used primarily in maneuver battalions, but it is also found in air defense teams at all echelons.

(u)
(b) ~~(C)~~ Transport mobility, flexible usage, and simple operation and maintainability are the key attributes of the SA-7 system. The small size and rugged construction of this system permit its rapid deployment and effective utilization near the FEBA, thereby minimizing vulnerability to engagement damage.

(c) (U) The weapon is composed of two basic elements: the launcher and the missile. The launcher is designed for assisting the operator in acquiring the target, for prelaunch missile conditioning, and for missile firing. The IR (heat-seeking) missile is semisealed within the launch tube for environmental protection and is completely self contained after launch. The missile is launched from the disposable launch tube in which it was shipped. Although many features, physical and operational, are quite similar to those of other shoulder-fired weapon systems, the main distinguishing features of the SA-7 are the separable gripstock and the visual acquisition indicator.

(u)
(d) ~~(S)~~ Many national armies and insurgent groups use the SA-7 because it is highly portable, it is relatively cheap compared to other air defense weapons, and it is simple to use. Also it does not require any extensive support effort. Consequently, it could be used effectively even by poorly equipped forces. It was first used in combat in Southeast Asia in 1969. An improved version, the SA-7B, first appeared in 1972.

(4) SA-8 system (U).

(u)
(a) ~~(S)~~ The mission of the SA-8 mobile amphibious SAM system is to provide continuous air defense of combat divisions against high-speed low- to medium-altitude tactical aircraft, as well as low-flying helicopters. IOC was reached in 1974, and deployment to Soviet ground army divisions is continuing in the USSR and East Germany.

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(u)
(b) ~~(S)~~ The SA-8 regiment is integrated into the overall division air defense network, with SA-8 firing batteries directly supporting combat regiments. Regimental headquarters will maintain direct communication with firing batteries for transmission of target data and for control of the battery air defense operations. The overall C^2 of the SA-8 regiment lies with the division's air defense C^2.

(u)
(c) ~~(S)~~ The SA-8 regiment consists of a headquarters and service battery, a technical battery, and five SA-8 firing batteries. The headquarters provides early-warning and target-acquisition data to the SA-8 firing batteries and overall control of air defense operations. The headquarters consists of one LONG TRACK and one FLAT FACE and/or SPOON REST early-warning and target-acquisition radars, a THIN SKIN height-finder radar, and a C^2 vehicle. Each of the five firing batteries contains four SA-8 fire units, one BTR-60PA command vehicle, and one or two resupply vehicles. The SA-8 fire unit, mounted on a six-wheeled vehicle, includes the LAND ROLL radars and the GECKO interceptors.

(u)
(d) ~~(C)~~ Two versions of the SA-8 fire unit have been identified: the SA-8A and the SA-8B. The most notable difference between them is the missile launcher. The SA-8A fire unit uses four launch rails, whereas the SA-8B fire unit uses two launch racks, each supporting three missile canisters.

(u)
(e) ~~(S)~~ The sensors associated with the LAND ROLL system include one surveillance radar, one target-tracking radar, an EO target-tracking system, two missile-tracking radars, and two missile-capture systems.

(u)
(f) ~~(S)~~ The SA-8 fire unit can operate autonomously by combining the target-acquisition, target-tracking, missile-tracking, missile-launch, and command-guidance functions into a single vehicle. This vehicle can cross rivers without bridging. This autonomy assures establishment of an air defense at a bridgehead even if other members of its battery are destroyed. All the regiment's primary vehicles (SA-8 fire unit, BTR-60PA, trucks) can travel at high speeds and cross country. All components of the regiment appear to be transportable by either rail or Soviet heavy air-transport aircraft.

(u)
(g) ~~(S)~~ The target engagement sequence is as follows. After deployment, regiment headquarters issues readiness conditions and provides early-warning data to the batteries. Target assignments are determined at headquarters, which may assign up to four targets to the battery commander,

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who in turn selects the fire units for engagement (centralized mode); or assignments can be made directly to the fire units by the regiment commander (skip-echelon mode). In either mode, communications links are required to transmit target data, commands, and operational status data among the regiment elements. It is possible that digital data links exist between the regiment and the batteries and between the battery and the SA-8 fire units.

(u)
(h) ~~(S/NOFORN/WNINTEL)~~ The SA-8 follow-on system will probably have all components mounted on a single vehicle. Included among the components will be a new (but as yet undefined) surveillance radar and fire-control systems, and launchers for four to six missile canisters.

(u)
(i) ~~(S)~~ Expected improvements or modifications to the SA-8 follow-on system are an LRF and all digital processing radars and missiles. During the midterm or even as late as the far term, the system may be mounted on a tracked vehicle for better mobility on the battlefields. Improvements in TV EO tracking are expected, as is the addition of auto-track to the system. Another possible modification to the guidance system is a strapdown inertial guidance system to direct the missile to an intercept window, at which point the terminal homing would initiate control.

(5) SA-9 system (U).

(u)
(a) ~~(S)~~ The SA-9 missile system is a mobile, short-range, low-altitude, tactical air defense system, which is effective against helicopters and subsonic fixed-wing aircraft. The system uses a variant of the GASKIN missile as the interceptor and a modified BRDM-2 APC as the TEL. Other system-level components include a GAZ-66 resupply vehicle and a BTR-60PA command vehicle.

(u)
(b) ~~(C)~~ The SA-9 missile system is a passive EO homing system. It is a member of the family of tactical air defense systems that support Soviet ground forces. Organized into batteries with the ZSU-23-4, the system is organic to the motorized rifle and tank regiments and is deployed throughout the Soviet Union and other Warsaw Pact nations.

(u)
(c) ~~(S)~~ The SA-9 was deployed in 1968 and began using a modified missile in the early 1970s. The two missile models, designated GASKIN and GASKIN MOD 1, are functionally and operationally the same design, with the primary differences being improvements in quality or reliability and in missile performance. Both missile variants are about 183 cm long and 12 cm in diameter. Aerodynamically the GASKIN exhibits a canard-tail configuration, with both the canard and tail surfaces mounted, in line, in a cruciform arrangement. The canards have a delta planform and provide the control forces for missile maneuvers.

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(u)
(d) ~~(C)~~ The seeker is a passive two-color sensor, which can acquire and track incoming and receding targets. Against targets with low IR emissions, the system uses a negative contrast technique for tracking. This mode uses a detector operating in or near the visible spectrum and senses the blockage of background energy by the target. An IR mode using uncooled lead sulfide at 2 to 3 μm becomes the primary tracking mode when IR emissions from the target are strong. Generally, the missile will initially acquire and track with the contrast mode and initiate the IR mode only during the terminal phase of flight. Since the IR radiation is inversely proportional to the range squared, the missile should encounter sufficient radiation as it approaches the target to activate the IR mode for precision guidance near endgame. Two electronic channels process the signals from the detectors, and comparative logic selects the stronger signal to drive the EO gyro and control system. Upon activation of the seeker, the EO system goes into a mechanical scan mode, automatically searching for and locking onto targets. This characteristic reduces the alignment requirements for the gunner and allows him to acquire and track targets and to launch the missile while the vehicle is moving. The two missile variants are expected to have seekers with very similar characteristics. The GASKIN MOD 1 may use more solid-state circuitry resulting in less packaging volume and better reliability.

(u)
(e) ~~(C)~~ The control system uses the proportional navigation guidance law to effect target intercepts. Missile response to target line-of-sight rate is obtained from two pair of canards driven by a hot gas servo. Canard deflection is proportional to the line-of-sight rate and can be up to a maximum response of 15°.

(u)
(f) ~~(C)~~ The fuze is an active EO proximity system. A modulated light source emits energy in a shaped beam approximately broadside to the missile. Targets reflect this energy, which is then sensed by an array of detectors causing initiation of the warhead. Activation range depends upon target reflectivity characteristics and can vary between 4 and 10 meters.

(u)
(g) ~~(C)~~ The warhead is a HE-FRAG type with a total mass of about 6 kg. The GASKIN probably uses an RDX/TNT composition, while the GASKIN MOD 1 may use a more stable HMX compound that provides a higher fragment velocity.

(u)
(h) ~~(C)~~ The propulsion system is a boost-sustain solid-propellant configuration similar to the propulsion system of the SA-7. The GASKIN motor provides an average vacuum thrust of 9.34 kN for 2 seconds (boost phase), followed by an 8-second duration thrust level of 1.73 kN

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rotatable antenna and feed assembly. The TELAR has a mast-mounted antenna that may be related to missile guidance functions such as PATRIOT's track-via-missile guidance mode.

(u)
(c) ~~(S/WNINTEL)~~ The following operational scheme and system configuration are postulated. The vehicle-mounted phased-array radar serves as the fire-control or engagement radar for the SA-X-12 fire unit. This component serves as a target tracker and assigns a target to a four-canister TELAR for engagement. The antenna on the TELAR must provide guidance for the SA-X-12 interceptor. The acquisition could be linked to multiple fire units and not normally dedicated to a single fire unit, possibly similar to the LONG TRACK/THIN SKIN radars of the SA-4 missile system. The C^2 structure for the SA-X-12 system is assumed to be similar to that of the SA-4 system.

(8) SA-13 system (U).

(u)
(a) ~~(S)~~ The SA-13 missile system is a new Soviet regimental support air defense weapon, which appears to be replacing the SA-9 in the antiaircraft missile and artillery batteries. Referred to by the Soviets as STRELA-10, it is a highly mobile, EO homing missile system with all the components necessary for engagements contained in a single vehicle. As an apparent replacement for the SA-9 system, the SA-13 will defend against low-altitude penetration and close air support aircraft. The system can use the SA-9 missile as well as its own SA-13 round.

(u)
(b) ~~(C)~~ The SA-13 is a highly mobile system consisting of an array of four canisterized missiles, a missile carriage/launcher assembly, and a fire-control system integrated into the Soviet MT-LB chassis. Four missile canisters are mounted abreast in pairs on the carriage/launcher superstructure of the turret. Aside from the chassis, two features that readily distinguish the system from the SA-9 are a circular dish antenna between the two canister pairs and a rectangular-shaped platform/box above the right inboard missile canister.

(u)
(c) ~~(C)~~ The configuration of the SA-13 missile system suggests that it is more complex than the SA-9. It should be the beneficiary of 10 years of technological advances and have corrected deficiencies of the SA-9. The improvements and design approach to the basic target requirements, however, are not intuitively obvious from the analysis of the fire-control system. Therefore, the choice of guidance concepts must be an engineering judgment influenced by traditional Soviet practices and tempered with technological feasibility.

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(u)
(d) ~~(S)~~ Considering all factors, the most likely SA-13 guidance system is a passive two-color EO homer with proportional navigation. Soviet designation of the SA-13 system as Strela-10 suggests that the system may be a product of the same design bureau that developed the SA-9 (Strela-1) and the SA-7 (Strela-2). The Strela designation for missiles has previously implied an EO homing system. This position is also supported by the apparent hemispherical configuration of the canister nose. The possibility that a rangefinding mode has been integrated with the EO system cannot be totally refuted, but because of the technological complexity that would require and because of the lack of Soviet precedent, it is unlikely.

(u)
(e) ~~(S)~~ As an EO homer, the SA-13 missile would operate in the ultraviolet and mid-IR regions of the electromagnetic spectrum. This would represent an evolution of the SA-9 two-color concept using a contrast mode for the acquisition and initial tracking of incoming targets and the IR mode for terminal guidance. Against receding targets, the IR mode may be employed from launch to target engagement. The IR system probably operates in the 3- to 5-μm band by employing a cooled indium antimonide detector. Coupled with a large collecting optical system, this detector will allow effective operation of the missile at night or during conditions of poor target contrast. The seeker will have two processing channels, which may use comparative logic to reduce vulnerability to flares.

(u)
(f) ~~(S)~~ The gunner will manually aim the missiles and evaluate seeker lock on; however, at night or in poor visibility, the radar will provide acquisition and limited track information to align the missile. Another role of the radar will be to acquire low-altitude targets visibly masked by trees or vegetation. Range information from the radar will be used to evaluate launch boundaries.

(u)
(g) ~~(S/NOFORN)~~ The SA-13 was initially deployed within the Soviet Union in 1977. Deployment with Soviet forces to Afghanistan and East Germany was noted in 1980. A fairly high infusion of SA-13 systems is continuing in East Germany, and presently at least five divisions have regiments equipped with SA-13's. There have been no mixed SA-13/SA-9 batteries identified.

(u)
(h) ~~(S/NOFORN)~~ The SA-13 is being integrated into the anti-aircraft missile and artillery batteries within both the tank and motorized rifle regiments. These batteries are composed of two platoons: four SA-9 fire units and four ZSU-23-4 fire units. The SA-13 platoon of four fire units may be added to the existing forces, but more probably it will replace

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the SA-9's. As with the SA-9's, the SA-13 platoon uses the BTR-60PA for a command station. This unit will be subordinate to the battery commander in another BTR-60PA.

(9) SA-14 system (U).

(u) (a) ~~(S)~~ The SA-14 is a shoulder-fired, heat-seeking SAM designed to counter low-altitude helicopters and fixed-wing aircraft. The fire unit is manportable, easily concealed, and used predominantly in a short-range, low-altitude tactical air defense role. The system has head-on capability. The launcher has at least two launch options, including an automatic launch mode. A C^2 interface with target early-warning and identification, friend or foe systems makes the SA-14 an integral part of the total tactical air defense structure. The SA-14 is used primarily in maneuver battalions, but it is also found in air defense teams at all echelons.

(u) (b) ~~(S)~~ The SA-14 is expected to have sufficient kinematic capability to intercept aircraft in the 300 m/s class or less. This, coupled with a cooled detector operation in the 3- to 5-μm band, will provide an intercept capability well beyond that of the SA-7.

(u) (c) ~~(S)~~ The SA-14 is an inevitable result of a steadily advancing Soviet technology combined with valuable experience the Soviets gained from using the SA-7 in actual combat in Southeast Asia and the Middle East. The SA-7 demonstrated deficiencies in its acquisition and tracking capability. Improvements in US IR countermeasures reduced its effectiveness. The SA-7 had only marginal kinematic capability for intercept of fighter aircraft; this compounded the rear aspect limitation of the system.

(u) (d) ~~(S)~~ In addition, the seeker of the SA-14 probably has inherent IR counter-countermeasures such as automatic gain control hold or track-loop interrupt.

(10) ATBM (U).

(u) ~~(S)~~ Between 1982 and 1985 the Soviets will field a variant of the SA-X-12 to protect the army/front from the LANCE medium-range ballistic missile, PERSHING-2 corps-support weapon system threat. This missile is assessed to be a two-canister TELAR similar to the SA-X-12, and it is believed to carry a nuclear warhead.

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c. Systems: 1986-1990 (U).

(1) SA-8 follow-on MOD missile system (U).

(u) ~~(S)~~ Expected improvements or modifications to the SA-8 follow-on missile system are the addition of an LRF and the use of all digital processing in the radars and missiles. During this period, or possibly in the far term, the system will be mounted on a tracked vehicle of great battlefield mobility. Improvements in the TV EO system will provide nighttime and all-weather tracking; automatic track could be added to the EO track mode during the midterm. One possible modification to the guidance system is a strapdown inertial guidance system that would function during the early portion of the flight to a specific location. At that point, the terminal guidance mode would be initiated, which could be either rf homing or, in the event of active jamming, IR homing. The strapdown inertial guidance system could be updated by means of an rf uplink to insure that the missile reaches the proper point in space for terminal homing to begin.

(2) SA-11 missile system MOD (U).

(u) ~~(S/NOFORN/WNINTEL)~~ The target tracking radar on the SA-11 TELAR is likely to be improved. Modifications to this system are likely to include changing the signal processing from analog to digital and replacing the mechanical antenna system with a phased-array antenna for faster target acquisition and, possibly, multitarget engagement from a single TELAR. Modifications to the missile propulsion system are likely to increase the burn time to about 20 seconds, resulting in a missile velocity in the Mach 3.8 range. The seeker will also be modified to improve its operation in the presence of ECM and to engage small radar cross-section targets in clutter.

(3) SA-X-12 missile system MOD (U).

(u) ~~(S/WNINTEL)~~ The SA-X-12 will probably attain IOC in the early 1980s, with modification or upgrading beginning in the midterm. Test programs have not been extensive enough thus far to anticipate what deficiencies the system has or to permit projections of modifications or upgrades. There are no parameters available.

(4) SA-13 missile system MOD (U).

(u) ~~(S)~~ Improvements to the SA-13 during the midterm will probably relate to the seeker. Electronic digital processing will enhance its ECCM capabilities and improve overall missile accuracy. Dual-mode seekers operating in the rf spectrum simultaneously with the IR sensor will probably be integrated into the basic missile airframe.

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(5) SA-14 missile system MOD (U).

(u) ~~(S)~~ Initial modifications to the SA-14 missile system, which began in the near term, should continue. Likely improvements include a higher energy propulsion system, a larger warhead, a proximity fuze, and dual-color seeker operation. Since the technology to support these modifications exists now, these improvements will probably be implemented during the midterm.

(6) Tactical air defense laser weapon (CO_2) (U).

(a) (u) ~~(S/NOFORN/WNINTEL)~~ The Soviets are known to be heavily committed to HEL R&D, and substantial efforts are being expended for military purposes. In particular, the Soviets appear to be involved in prototype development and testing of a mobile tactical HEL weapon. Although there are practical limitations to the projected system's effectiveness imposed by terrain, weather, and battlefield tactics, the integration of such a weapon into the Soviet air defense structure is a possibility. Laser weapons will be discussed in Chapter 10.

(b) (u) ~~(S/NOFORN/WNINTEL)~~ Specifically, the projected tactical laser appears tailored for an antisensor role; it could be capable of permanently damaging a variety of EO devices out to approximately 12 km and be sufficiently powerful to severely damage the structure of an aircraft at close range (2 km). The laser will have only limited capability against precision-guided munitions in flight, helicopters, tactical support aircraft or cruise missiles. The system is expected to achieve IOC between 1988 and 1990.

(c) (u) ~~(S/NOFORN)~~ The Soviet tactical HEL weapon may be organized and integrated into the Soviet ground/air defense structure at the division level, with perhaps four batteries deployed forward as required to support operations. Optical augmentation may be employed to detect threat optics with handover to high-resolution TV or imaging IR for track, aimpoint selection, and hot-spot track.

(d) (u) ~~(S/NOFORN/WNINTEL)~~ Weight and volume scaling laws for a CO_2 EDL indicate that a single vehicle in the ZSU-23-4 class could accommodate up to a 300-kW (average power) device. With an output efficiency for this laser estimated at 18%, its pulsed power supply would have to generate approximately 1.7 MW in average power for durations equivalent to the lase time per shot. The laser is though to produce 8 to 9 kJ/pulse at a rate of 35 Hz. The final transmission aperature and pointer/tracker jitter are projected to be 50 cm and 5 to 15 μm radians, respectively.

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(u)

(e) ~~(S/NOFORN/WNINTEL)~~ The system will have a high thermal signature, which will hinder cover operation by thermally identifying the weapon to threat surveillance. The weapon will not be able to fire on the move because of beam jitter problems. Inclement weather will attenuate beam propagation, reducing the engagement ranges normally serviced by the laser. First-order countermeasures such as smoke, aerosols, target masking, optical and sensor hardening, canopy flashblinding suppression, laser jamming, and material barriers, and hardening will degrade system lethality. The HEL weapon will be vulnerable to artillery, antitank, and direct-fire weapons.

d. Systems: 1991-2000 (U).

(1) SA-11 follow-on system (U).

(u)

(a) ~~(S/NOFORN/WNINTEL)~~ The SA-11 follow-on is a new, mobile tactical SAM system postulated to replace eventually the SA-6 and SA-11 weapon systems in the Soviet tactical integrated low- to medium-altitude air defense system mission or role. That role may be summarized as follows:

- Is part of the front force-on-force area air defense system
- Fills coverage gaps in front/army long-range, high- to medium-altitude protection caused by fluid battle scene or terrain conditions in the division area
- Protects against medium- and low-altitude aircraft
- Provides priority support to division headquarters and the surface-to-surface missile battalion

(u)

(b) ~~(S/NOFORN/WNINTEL)~~ The SA-11 follow-on is a division support weapon system that will probably be organized in a regiment within the division. Each regiment will be divided into five batteries. Each battery will consist of an early-warning/acquisition radar, four interceptors per TELAR, a C^2 vehicle, several transloaders, plus additional support equipment. All four of the primary vehicles operate on tracked chassis.

(u)

(c) ~~(S/NOFORN/WNINTEL)~~ Intelligence information on the present SA-11 configuration and operational performance is limited at this time, and SA-11 deficiencies are not known. It is projected, however, that the US/NATO long-range artillery and standoff weapons such as Maverick will require the Soviets to deploy their divisional assets farther from the FEBA

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(30-40 km). To provide the equivalent forward air defense coverage (10-15 km beyond FEBA), the SA-11 follow-on system will need to have a longer maximum engagement range. Therefore, this system is expected to have an increased engagement envelope to support the additional forward coverage. These changes or modifications will be associated primarily with the SA-11 follow-on interceptors and are expected to be implemented in the mid-1990s.

(2) SA-X-12 MOD follow-on (U).

(u)
~~(S)~~ The role and mission for the SA-X-12 follow-on will be the same as those projected for the SA-X-12 system, except that the follow-on system will engage both aircraft and ballistic targets. The organizational structure for this system will also be like that of the SA-X-12 system. Analysis indicates deficiencies presently exist that prohibit high-confidence kill of medium-range ballistic missiles. However, certain modifications could be made by the mid-1990s that would significantly increase the system's odds of successfully engaging medium-range ballistic missiles. With these modifications, the SA-X-12 follow-on could defend against short- or medium-range (600-km) tactical ballistic missiles, including the PERSHING Ia, corps support weapon system and LANCE.

(3) SA-13 follow-on system (U).

(u)
~~(S)~~ The SA-13 follow-on, which uses a laser-beam-riding missile air defense system, is postulated as a possible replacement for the SA-9 and SA-13 systems in the 1990s. Its primary mission would remain the protection of tanks, vehicles, and other assets of the regiment to which the system is attached. To increase its survivability, the SA-13 follow-on will utilize EO systems for search, acquisition, and track and will be mounted on a tank chassis. At least six ready-to-fire missiles in canisters will be carried by each vehicle. Each vehicle is a fire unit since it can conduct all aspects of the engagement by itself. The following SA-13 follow-on equipment would be integrated into a tracked vehicle manner by three or four personnel:

- Six missiles in canisters on trainable launcher
- Six missiles in canisters stored inside for reload
- Stabilized gimbaled platform for EO equipment
- FLIR tracker
- EO TV camera

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- CO_2 laser for guidance beam
- Nd:YAG LRF
- Digital fire-control computer
- Display consoles
- Communications and data-link receivers
- Ancillary equipment
- Navigation and location system
- Vehicle equipped for CBR operations

The missile will have a larger warhead than the present SA-13 missile for greater lethality agains the armored attack helicopter and close support aircraft.

(4) SA-14 follow-on system (U).

(U)
~~(S)~~ The SA-14 follow-on system will be a natural evolution of the SA-7 and SA-14 systems. It will be a shoulder-fired, heat-seeking SAM designed to counter evolving low-altitude helicopters and fixed-wing aircraft. This unit, like its predecessors, will be manportable, easily concealed, and used for short-range, low-altitude tactical air defense. This system is expected to reach IOC in about 1990 and to have the following characteristics:

Range	4.5/6.5 km
Velocity	600 m/s
Maneuverability	17-19 G's
Mass	11 kg
Dimensions	1.5 m long; 7 cm in diameter
Warhead	1.4 kg
Guidance	IR homing
Seeker	Two-color (1.0-2.7/4-5 μm)

For certain missions, it is postulated that the Soviets will mount multiple SA-14 follow-on launch tubes on a light armored vehicle, thereby providing

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the capability to fire on the move like the SA-7 and SA-14 systems. Deployment, organization, and system operation of this system are expected to be the same as those of the present SA-7's and SA-14's. Tactical laser systems usable for air defense are discussed in Chapter 10, paragraph 3b.

(b) (1) & (b) (3) per CIA

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(b) (1) & (b) (3) per CIA

5. Air Defense Artillery (U).

a. Place in Tactical Doctrine and Role (U).

(1) ~~(S)~~ AAA has long been an important part of Soviet air defense. b1

b1

(2) (U) ~~(C)~~ The need for a mobile AAA system was made evident during the Great Patriotic War by German aerial attacks on troops and armored vehicles. This need led to the design, in the late 1950s, of the ZSU-23-4. Its primary mission is to protect tank and motorized rifle units in column or in battle formation. It has the mobility, all-weather characteristics, and radiological protection necessary to fulfill this role, although not completely.

(3) (U) ~~(C)~~ In the Soviet Armed Forces, the ZSU-23-4 is usually attached to tank and motorized rifle regiments. Normally the system is deployed in composite batteries consisting of four ZSU-23-4's, four SA-9's or SA-13's, three armored C^2 vehicles, and numerous vehicles for ammunition and supply. A platoon of ZSU-23-4's fights as an integrated unit, especially in the forward battle area. Available information indicates that the ZSU-23-4's are typically employed within 500 meters of the advance elements of the supported unit.

b. Systems: 1980-1985 (U).

(1) (U) ~~(C)~~ While there are still several systems in the Soviet inventory, the primary threat from leading-edge units is the ZSU-23-4. The ZSU-23-4 was designed to engage attacking aerial targets at heights of 0 to 1500 meters, at slant ranges from 200 to 2500 meters, and at target speeds up to 450 m/s (875 kn). The system can also be used to engage moving and stationary ground targets at ranges up to 2000 meters. According to Soviet sources, the ZSU-23-4 weapon system is most efficient against aerial targets flying at heights between 500 and 1000 meters.

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(u) (2) ~~(C)~~ Each ZSU-23-4 is equipped with an integrated fire-control system, which consists of a combined 1RL33-series search, acquisition, and tracking radar (GUN DISH); a 1A7 electromechanical analog fire-control computer, and a three-plane fire-control stabilization subsystem, which permits engagement of aerial targets while the vehicle is traveling at speeds up to 35 km/h over normal roads and at speeds from 5 to 10 km/h cross country. A land navigation subsystem continuously and automatically generates the present-position ground coordinates of the vehicle and the grid bearing of its fore and aft axis. This permits the correlation of local warning data and results in more accurate C^2 by the battery commander. One such device, the TNA-3, has an accuracy of 0.9% of the distance traveled, and coordinates can be read to within 1.0 meter. An overpressurization and filtration system reduces radiological contaminants but does not protect against chemical and biological agents so the crew must wear protective clothing.

(u) (3) ~~(C)~~ The ZSU-23-4 has several impressive measures of effectiveness. The Soviets state that well-trained crews should be able to place 80% of the projectiles fired within a circle of 10-mil radius, with 50% being within a circle of 5-mil radius. There is sufficient ammunition onboard to engage 10 targets and by expending 100 rounds the estimated probability of hit is 55%. Testing has tended to confirm these statements. Helicopters flying straight and level without countermeasures will be hit 75% to 100% of the time. This figure drops to 50% for high-performance aircraft under similar conditions.

(u) (4) ~~(C)~~ Testing has also demonstrated that reaction times, from line-of-sight to engagement, are highly dependent on the situation and range between 12 and 21 seconds for helicopters. Limited data for high-performance aircraft revealed a reaction time of approximately 16.7 seconds. According to Soviet doctrine, target switching requires 35 to 40 seconds. Suddenly appearing targets within 2500 meters would be engaged with the optical sights in 2 to 3 seconds.

(u) (5) ~~(C)~~ Performance tests yielded results of 5 mils, i.e., static dispersion is approximately 5 mils, tracking errors are 5.5 mils, and gun pointing errors are about 5 mils at crossover where they tend to increase to around 10 mils.

(u) (6) ~~(S/NOFORN)~~ Numerous ECCM are available for use on the ZSU-23-4. Fully 17 years after fielding, the United States is beginning to circumvent these techniques. Individual aircraft survivability against the ZSU-23-4 will depend in large measure upon maneuvering while employing countermeasure techniques, with emphasis on the former.

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(7) (u) ~~(C)~~ The ZSU-23-4 does, however, have shortcomings. Maintenance is a time-consuming task requiring 1000 man-hours per vehicle per year. In order to accomplish this, a maintenance section consisting of two officers and eight technicians is assigned to each battery. Over 1650 line items of repair parts are carried by the battery, and great emphasis is placed on maintenance and training. The vehicle is marginally powered. Its gas turbine is used in rough terrain to supply adequate electrical power to the turret but the turbine should not be operated during rainy or snowy weather.

(8) (u) ~~(S)~~ In a CBR environment with the nuclear protection system in operation, the ZSU-23-4 should be operated with the radar turned off and optics only to prevent overheating of the electronics. Although the system will still function, its effectiveness will be degraded. The number of hours of continuous operation for various components such as the radar and weapons drive group is limited. This deficiency may be partially compensated for by rotating standdown time between weapon systems of the battery. Finally, the ZSU-23-4 is very lightly armored, protecting against only .30 caliber and smaller projectiles. The radar is particularly vulnerable.

(9) (u) ~~(S)~~ From a system point of view, the ZSU-23-4 has a relatively short tactical antiaircraft range (2500 meters), linear computer only, and lengthy reaction times. Although the ZSU-23-4 has been modified extensively—three times to become the ZSU-23-4V, -4V1, and -4M—general performance has not been improved significantly. Obviously such refinements cannot continue indefinitely and so the ZSU-X, a replacement for the ZSU-23-4, is expected soon. Performance characteristics of the ZSU-23-4 and its projected replacement are given in Table 7-3. Radar characteristics are given in Table 7-4.

Table 7-3. (U) Performance Characteristics of ZSU-23-4 and ZSU-X

Performance characteristic	ZSU-23-4	ZSU-X
IOC date	1965	1982-83
Tactical AA range (m)	2500	4000
Caliber (mm)	23	30-40
Rate of fire (rd/min)	3400-4000	4000-6000
Vehicle weight (t)	20.5	30-35
Maximum target speed (m/s)	450	450-500
Ammunition load (rd)	2000	1500-2000
Crew	4	4
Time of flight	5.5 s to 2500 min	6.2 s to 4000 min
Length (mm)	6491	6500-7000
Width (mm)	3081	3000-3500
Height w/o radar (mm)	2724	2500-3000
Engine	In-line 6	V-12 diesel
Speed (km/h)	50	60
Cruising range (km)	300	450
Radar	See Table 7-4	See Table 7-4

~~(SECRET)~~ (u)

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Table 7-4. (U) Performance Characteristics of Antiaircraft Artillery Radars

Performance characteristic	ZSU-23-4	ZSU-X
Rf (GHz)	13.6 to 16.7	30-40 (K-band)
Rf agility	Switch to "wartime" frequency	Pulse-to-pulse frequency agility or a random sequence of selectable transmitter frequencies for ECCM
PRF (pps)	1500-8696	Selectable 3000 to 10 000, providing unambiguous range of 15 to 50 km
PRF agility ...	Wobbulated over specified range within limits of 1558 to 7133 pps at rate of 130 to 409 Hz	Random or programmed
PD (μs)	0.06 to 0.80	Selectable 0.1 to 1.0, with pulse compression
Scan	Circular at 6 or 18 s/r (most probable), hor. bidirectional section at 2.7 to 11.1 s/scan, vertical unidirectional sector at 22 to 23 Hz, conical at 23 to 24 Hz or 60 to 69 Hz	(1) Circular, sector, conical if a parabolic dish is used (2) Multilevel raster scan and circular if a phased array is used
Antenna type ..	Cassegrainian with twistflector and transflector	Parabolic dish or phased array
Antenna gain (dB)	40	45 to 55
Transmitter type	Magnetron	Magnetron or gyratron
Transmitter power (kW) ..	90 to 120	50 to 100
Receiver	Superheterodyne, balanced crystal mixer	Low noise receiver (less than 5 dB) with rf preselectors

(~~SECRET~~) (U)

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Table 7-4. (U) Performance Characteristics of Antiaircraft Artillery Radars (Continued)

Performance characteristic	ZSU-23-4	ZSU-X
Displays	Combination PPI/E-type scope, A/R scope	Combination PPI/E-type scope and A/R scope
Other features	MTI, chaff compensation, range gated angle video, aided rate tracking in angle for optional tracking	Digital MTI, polarization diversity, scan-with-compensation (if conventional dish antenna), IC technology in the computer, receiver, and transmitter (or, at least, solid-state technology-transistors will be incorporated).

~~(SECRET)~~ (U)

(u)
(10) ~~(S)~~ Considering previous developments in this area and the Soviet propensity for using off-the-shelf items, two currently deployed gun systems seem likely candidates for modification; both are derived from naval systems—the ADMG-630 and the AK-230. A new radar system, which will operate between 30 and 40 GHz near 100 kW with a receiver noise of <5 dB, is projected. This could be two separate radars, one for search/acquisition and a second for tracking, both mounted on the same chassis. ECCM will be expanded to include range MTI and AM compensation. Both technologies are presently available to the Soviets and have been utilized in newer radar systems. Other sensors that may be utilized include an IR and/or TV device. The basic chassis for the ZSU-X will more than likely be a modified T-72 tank chassis. Although no radical new ammunition developments are expected, projectile time of flight will require significant upgrading from that presently fielded.

(u)
(11) ~~(C)~~ If the Soviets are able to introduce even a modest amount of solid-state circuit technology, many of the power consumption and heat buildup problems will be reduced. This will mean that the ZSU-X will be able to fire-on-the-move in rough terrain and to use its radar while buttoned up for CBR protection.

(u)
(12) ~~(C)~~ The ZSU-X should replace the ZSU-23-4 on a one-for-one-basis in a combined battery with SA-9's or SA-13's. This battery may include a FLAT FACE or similar radar located at the regimental level. This structure will reduce battery reaction time to 10 to 14 seconds.

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c. Systems: 1986-2000 (U).

(1) (U) ~~(C)~~ The ZSU-X follow-on (ZSU-Y) may be fielded in the late 1990s. The timing of introduction of medium-scale integration (MSI) or large-scale integration (LSI) circuit technology is critical to the projections that follow. If this circuit production technology is available very early, these capabilities could be available for the ZSU-X or its product improvements. Otherwise, it will be available for the ZSU-Y, if fielded. If the Soviets choose to incorporate this technology into the fire-control computer system (either a hybrid or totally digital system), it could lead to a number of improvements over the present system, including the following:

- The capability to predict nonlinear target flight paths and variable speeds
- The capability to better engage multiple targets
- The capability to much more easily implement fire-control or tracking modes
- Much greater continuous operation time than the electromechanical system because of reduced heat generation
- Greater automation of the fire-control system, reducing crew burden and size

(2) (U) ~~(C)~~ The incorporation of solid-state devices (e.g., MSI, LSI, and discrete microwave devices) in the radar system (or systems) of the ZSU-Y could provide a number of improvements. A digital signal processing system could then be produced and low-noise receiver front-end components and amplifiers could be incorporated. Coupled with improved antenna gains, etc., these systems would result in greater sensitivity, lower heat buildup, and increased reliability of the radar. The ZSU-Y could be expected to have the following improved capabilities:

- Increased acquisition range for targets with small radar cross sections and/or low altitudes (e.g., cruise missiles)
- Ability to operate radar while nuclear protection system is operating
- Much greater flexibility in dealing with ECM
- "Quiet" radar techniques
- Digital MTI capability (a full MTI capability could be obtained without the use of solid-state components)

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(u)
(3) ~~(C)~~ The inclusion of LSI components in the communications system could facilitate the use of SS communications and data links between units. The advantages of SS communication lie in the security it affords the content of message and the location of the transmitter. Data links between systems would not only provide early warning data but also could greatly enhance the ability of ZSU batteries to engage multiple targets over a much larger geographical area than now possible. Such a system would work by relaying target data acquired by one unit to a command vehicle (or to other units) where battle management decisions could be made (possibly by computer).

(u)
(4) ~~(S)~~ Product improvements to be expected in the radar for the basic ZSU-X is the replacement of discrete, transistorized circuitry with integrated circuit (IC) (if not already accomplished in the basic ZSU-X radar), including also the system computer. In addition, the radar transmitters can be expected to incorporate magnetrons (or gyratrons) that provide shorter pulse widths and correspondingly better target resolution and accuracy. Since the introduction of digital MTI is postulated for the ZSU-X, experience with this capability will lead to improving the digital techniques for MTI in a product-improved ZSU-X.

(u)
(5) ~~(S)~~ If the ZSU-X is configured with a conventional dish (or two antennas--a dish for target tracking and a trough-type antenna for target acquisition), then a legitimate follow-on to the ZSU-X (not a product improvement or a slightly different model of the basic design) would be a phased-array radar. This could be expected in the late 1990s or early next century. A phased-array radar design for an AAA system would require a complete re-engineering and not a small modification here and there throughout the radar system.

6. Air Defense Jamming (U).

b1

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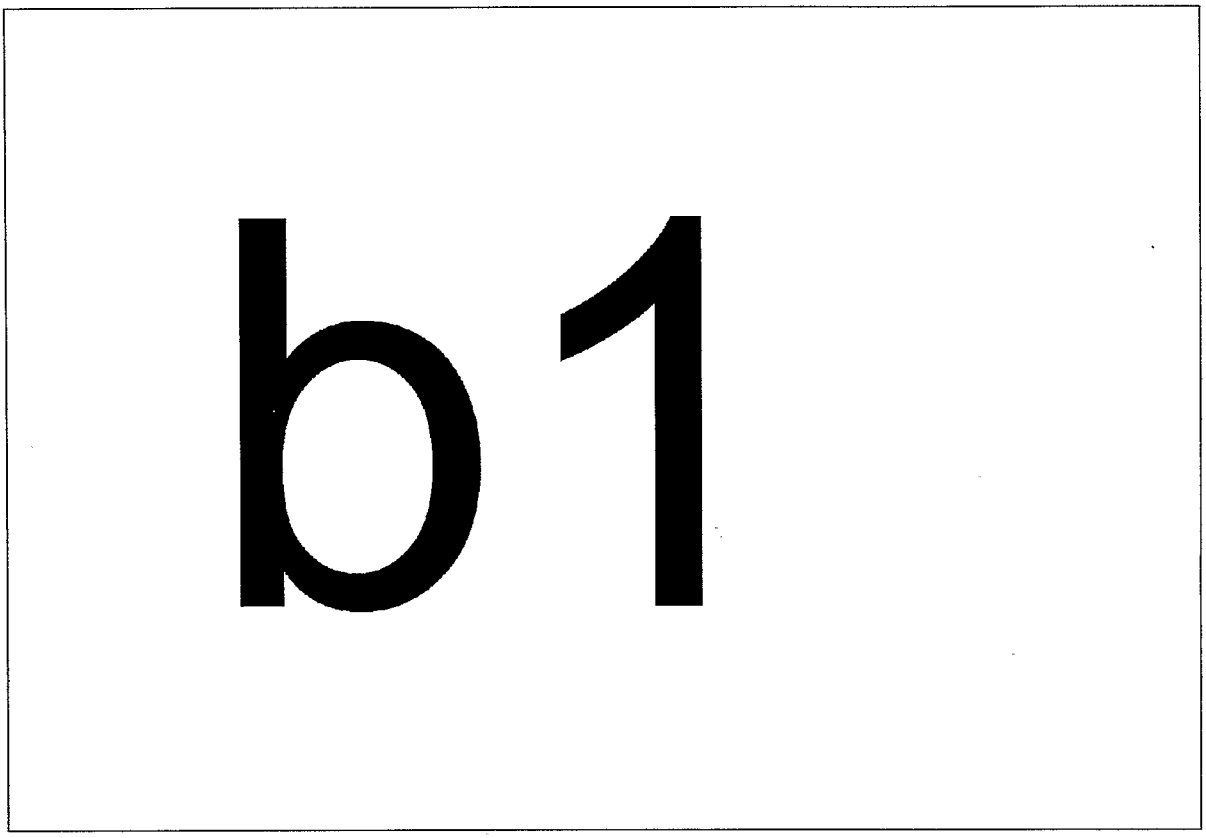

7. Air Defense Aircraft: 1980–1985 (U).

a. FISHBED (U).

(U) ~~(S/NOFORN)~~ The FISHBED fighter series has a primary counterair mission and a secondary ground-attack role. FISHBED C and E are clear-weather fighters that remain only in non-Soviet air forces. They are armed with a 30-mm gun and can carry two ATOLL AAM, 57- or 240-mm rockets, or two 500-kg bombs. FISHBED D and F (MiG-21) are all-weather fighters assigned to both counterair and ground-attack regiments. They can carry a centerline 23-mm gun pod and two ATOLL (IR) or ALKALI (beam-rider) AAM, 57- or 240-mm rockets, two 500-kg bombs, or two AS-7 KERRY (beam-rider variant) TASM. FISHBED J, K, L, and N are improved all-weather fighters armed with a 23-mm gun; they can carry four ATOLL AAM, various rockets, or various bombs weighing up to 500 kg each. The FISHBED J export version can carry four AS-7 (beam-rider variant) TASM. FISHBED L and N can carry eight APHID AAM. FISHBED aircraft are expected to be retired from Soviet combat units by 1989 and replaced by the new Mikoyan fighter when it begins deployment in 1984.

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b. Helicopters (U).

(u) ~~(S)~~ In addition to fixed-wing aircraft the Soviets may use helicopters in an air-to-air role. The HIND D has been seen in air defense units, and the Mi-28 may also be used. These systems were discussed in Chapter 4, paragraph 5.

c. FLOGGER (U).

(u) ~~(S/NOFORN)~~ Deployment of MiG-23 (FLOGGER B) terminated in 1979 with the initiation of production of the FLOGGER G. FLOGGER G has several improvements, among them an improved airborne-intercept radar, an advanced IR search-and-track system (IRSTS), and a heads-up display. Although primarily counterair fighters, FLOGGER B and G have secondary ground-attack roles. FLOGGER B and G avionics include a multimode radar with a ground mapping capability, which enables these aircraft to attack area targets during the night and under adverse weather conditions. They are armed with a twin-barrel GSh-23 cannon and have a 2500-kg maximum payload, which comprises bombs, rockets, and the AS-7 (command-guided variant) TASM. AAM armament includes the AA-2d (Improved ATOLL), the AA-7 (APEX), and the AA-8 (APHID). The AA-7 employed on the G model may have improved propulsion and seeker capabilities over those of the B. Rather than a true look-down/shoot-down capability, the FLOGGER G is assessed to have only a depressed-angle capability; however, the airborne-intercept radar (HIGH LARK 2) has improved range and ECCM capabilities over its predecessor. Improvements to the radar are expected in the near future that will allow a full look-down/shoot-down capability.

d. New Mikoyan Fighter (U).

(u) ~~(S/NOFORN/WNINTEL)~~ The Soviets are developing a new, high-performance, maneuverable, lightweight fighter in a category between that of the US F-15 and F-16. Arbitrarily designated the New Mikoyan Fighter, it is projected to reach IOC around 1984. It is expected to be designed for close-in air-to-air combat with the intent to achieve and maintain air superiority. It is expected to be armed with an internal gun (probably the twin-barrel 23-mm GSh-23) and to carry AA-7 (APEX) and AA-8 (APHID) AAM or the new AA-XP-1. This aircraft is expected to incorporate a full look-down/shoot-down pulse-Doppler airborne-intercept radar, enabling it to engage targets flying at low altitudes and in heavy ground clutter. This aircraft will be deployed to frontal aviation for counterair missions, but it is expected to have a secondary ground-attack capability (four 500-kg bombs). Operations from highways or sod fields are expected. The new Mikoyan is expected to replace the aging FISHBED series and some FLOGGER B's.

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e. New Sukhoy Fighter (U).

(u)
~~(S/NOFORN/WNINTEL)~~ The Soviets have started flight testing a new large fighter referred to as the New Sukhoy Fighter. It too is expected to reach IOC around 1984. Similar in size to the US F-15, this aircraft probably was designed as an interceptor, but its comparatively large size and ample wing area could indicate other roles. While its most likely role initially is as an interceptor in the PVO (Strategic Air Defense) forces, it could well be deployed in frontal aviation as an air superiority fighter and possibly as a ground-attack aircraft. It is expected to incorporate a pulse-Doppler, look-down/shoot-down, airborne-intercept radar for use with AA-XP-II missiles, allowing pilots to distinguish and engage low-flying targets in main beam radar clutter. It is also expected to be armed with a fuselage-mounted GSh-23 gun and up to eight AAM, including an improved AA-7 and/or the AA-8, as well as the AA-XP-II. Like FLOGGER B and G, the new Sukhoy is also expected to have a secondary ground-attack role (eight 250-kg bombs).

III. SOVIET INTEGRATED ANTITANK CAPABILITIES (U)

8. Introduction (U).

a. (U) The Battle of Kursk during the Great Patriotic War matured Soviet antitank defensive philosophy. Antitank defense is conducted in depth with a variety of weapons. The integration of systems has proven very effective in combat as both the Wehrmacht and the Israeli Defense Force can attest.

b. (U) Soviet antitank weapon developmental history discloses several dominant design philosophies. Weapons must be easy to manufacture and simple to operate, especially under extreme conditions in the field. Tank guns should incorporate commonality of parts with other cannon systems, particularly tank cannon systems. Weapon systems must be able to deliver a high volume of lethal fire on the tank targets with minimal exposure to the crew. System mobility is more important than armor protection. The system must be easy to emplace and able to disengage and relocate quickly.

c. (U) Several factors appear to be driving the Soviet R&D community to develop "antiarmor penetrators." The quantum leaps in armor technology have resulted in unique problems for KE penetrators, which may perform adequately against advanced armor but be defeated against RHA. Likewise, CE warheads may perform quite well against RHA, but be ineffective against advanced armor. A mix of heavier guns and more lethal ATGM would be a logical Soviet response, consistent with their maxim: Better is the enemy of Good Enough.

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d. (U) The ability of NATO gunners to bring effective counterfire against ATGM systems has threatened the survivability of ATGM launch platforms, especially during missile flight. A "fire-and-forget" system is an obvious goal, one which is supported by Soviet research efforts.

e. (U) The organizational level of employment and time phasing of new antitank systems is depicted by Table 7-5. The integrated antitank system capabilities are shown in Table 7-6.

Table 7-5. (U) Current and Projected Antitank Systems

Current (1982)	Near term (1982-1985)	Midterm (1986-1990)	Far term (1991-2002)
Company/battalion:			
AT-3 (SAGGER)	———		
AT-4 (SPIGOT)	———	———	———
		AT-7/?	———
			AT-4 FO (TVMP)
		Rapira-3 (85 mm)	———
SPG-9	———	———	
RPG-16	———	———	———
RPG-18	———	———	
Regiment:			
AT-3C (SAGGER C)	———	———	
AT-5 (SPANDREL)	———	———	———
		AT-5 FO (IIR)	———
Division:			
AT-3C (SAGGER C)	———		
AT-2C (SWATTER C)	———		
AT-5 (SPANDREL)	———	———	———
		AT-5 FO (IIR)	———
AT-6 (SPIRAL)	———	———	———
			AT-6 FO (LSAH)
		Gun launched (LBR)	———
T-12/T-12M (antitank gun)	———	———	
TM62 mine	———	———	
TM72 mine	———	———	———

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Table 7-5. (U) Current and Projected Antitank Systems (Continued)

Current (1982)	Near term (1982-1985)	Midterm (1986-1990)	Far term (1991-2002)
Army/front:			
AT-5 (SPANDREL)	————	————	--------
		AT-5 FO (IIR)	————
	Gun launched (LBR)	————	--------
T-12/T-12M (anti-tank gun)	————	--------	
AT-3C (SAGGER C)	--------		
AT-2C (SWATTER C)	--------		
AT-6 (SPIRAL)	————	————	--------
	AT-6 FO (LSAH)	————	--------
			FHM (MM)
TM-62 mine	————	--------	
TM-72 mine	————	————	--------

———— indicates continuing in service
-------- indicates phasing out
TVMP = television manportable
IIR = imaging infrared
LSAH = laser semiactive homing
LBR = laser beam rider
FHM = future heliborne missile

~~(SECRET/NOFORN)~~ (U)

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Table 7-6. (U) Antitank System Capabilities

Designation	Soviet nickname	Combat range (m)	Penetration (mm RHA)*	Organ levels**	Remarks
ATGM					
AT-2A (SWATTER A)	Flanga	2500	550	----	Obsolescent
AT-2B (SWATTER B)	Flanga	3500	550	----	Obsolescent
AT-2C (SWATTER C)	N/A	4000	550	All	Exported
AT-3A (SAGGER A)	Malyutka	3000	410	----	Obsolescent
AT-3C (SAGGER C)	Malyutka-P	3000	410	All	Exported
AT-4 (SPIGOT)	Fagot	2000	400-500	C/B	WP only
AT-5 (SPANDREL)	N/A	4000	500-600	R, D	Soviet only
AT-6 (SPIRAL)	N/A	5000	600-700	D, F/A	Soviet only
AT-7***	N/A	1000	500-600	C/B	Special units
AT-6 FO (LSAH)	Unknown	6000	750-950	D, F/A	
Gun launched	T64B/T72MV	4000	800-900	F/A	
AT-4 FO (TVMP)	Unknown	2000	875-1025	C/B	
AT-5 FO (IIR)	Unknown	4500	1000-1200	R, D	
FHM	Unknown	7000	1025-1250	D, F/A	
Antitank guns					
T12/T12M		2000	295/400	D, F/A	100-mm gun
Unknown		1500	Unknown	C/B	85-mm gun
Infantry antitank weapons					
RPG-16	Unknown	800	335	C/B	Repl RPG-7
RPG-18	Unknown	200	Unknown	C/B	Repl antitank grenades
SPG-9	Unknown	1000	335	C/B	73-mm recoilless launcher
Antitank mines					
TM-62	Unknown	N/A	Unknown	All	
TM-72	Unknown	N/A	Unknown	All	

*All penetration data are in millimeters of RHA at 0° obliquity
**Organization levels:
---- indicates system is being replaced in Warsaw Pact countries but may be found either in third world or low category units
C/B indicates company- and/or battalion-level system
R indicates regimental-level system
D indicates divisional-level system
F/A indicates front- or army-level system
***No name has yet been assigned to the AT-7 because it has not been observed

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9. Antitank Guns (U).

a. Tactical Doctrine (U).

(u) ~~(C)~~ Soviet antitank doctrine provides that in both offensive and defensive combat the maneuver echelon commander organizes an "antitank reserve." Although the core of this reserve is the echelon antitank gun unit, the reserve could also include ATGM, field artillery, tanks, and engineers, i.e., a combined-arms effort. Attacking hostile tanks can expect to be opposed by antitank artillery from army and front level, plus more and more field artillery units emplaced in direct-fire positions to a considerable depth, plus minefields and/or obstacles intended to channelize the attacking armor onto "killing grounds." These anticipated "killing grounds" are surrounded by preselected and sometimes preprepared direct-fire positions for antitank guns and field artillery weapons. Thus the penetrating tanks are exposed to high-velocity, armor-penetrating direct fire from the flanks and rear as well as from the front. (It should be noted that the best antitank gun within Warsaw Pact forces, and probably worldwide, is the Soviet 100-mm antitank gun MT-12.) If necessary, the coup de grace to the hostile tank penetration would be administered by a counterattack with tanks from the antitank reserve.

b. Systems: 1980-1985 (U).

(1) 85-mm AT gun (U).

(u) ~~(S/NOFORN/WNINTEL)~~ This maneuver battalion-level system is probably already in limited production. It is a comparatively long-barreled cannon mounted on a lightweight, split-trailed carriage. Its ballistic performance is assessed to be similar to that of the 85-mm D-44 and SD-44 field guns. This level of performance generally limits any improved terminal effects to those obtainable from improved KE and CE projectiles. Expected improvements in performance are not likely to enable the system to defeat the frontal armor of late model tanks. Nevertheless, this weapon probably can defeat the side armor of modern tanks, and it certainly can defeat the rear armor. Given the Soviet philosophy of the employment of antitank guns, these limited antitank capabilities are not to be taken lightly. This weapon has the assured capability of destroying any and all types of IFV and of engaging ATGM and other point targets with direct fire. A battery of these weapons are expected to be deployed to motorized rifle battalions. Although this weapon will probably be towed, it may have an auxiliary propulsion system. The gun will weigh about 1300 kg and have a rate of fire of 12 rd/min. The HEAT

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projectile should penetrate 300 mm of RHA; the KE projectile should penetrate 200 mm of RHA at 1000 meters. The system, with prime mover, should be air transportable by an An-12 (CUB), the Il-76 (CANDID), and the An-22 (COCK) aircraft and by the Mi-26 (HALO) helicopter. A type Soviet combined-arms army might have 120 of these antitank guns per 40 km of front (30 four-gun batteries).

(2) 100-mm AT gun MT-12 (U).

(u) ~~(S/NOFORN/WNINTEL)~~ The MT-12 is an extensively modified T-12, including a new cannon system. The MT-12 was fielded in the early 1970s during the Soviets' extensive modernization program. It can fire HE-FRAG and APDS rounds to a normal maximum combat engagement range of about 2500 meters. The MT-12 can fire its HE-FRAG round to 18 000 meters at its maximum elevation of 20°. Its maximum effective range against an M60A1 tank is 2000 meters (50% probability of a first-round hit with APDS). The HEAT round can penetrate about 400 mm of RHA. Maximum rate of fire is reportedly 14 rd/min; precisely aimed fire, probably 10 rd/min. The MT-12 can be emplaced or displaced by a six-man crew, plus driver, in approximately 3 minutes. It is air transportable, with the URAL-375 prime mover, by the Il-76 (CANDID) and An-22 (COCK) aircraft and by the Mi-26 (HALO) helicopter. This antitank gun is carried in the table of organization and equipment of the three six-gun firing batteries assigned to the antitank battalion of the Soviet motorized rifle division. A type combined-arms army would probably field four antitank battalions (72 guns) per 40 km of front. In some antitank battalions a gun battery is being replaced with an ATGM battery of nine launchers. An army having this arrangement would have 48 guns and 36 ATGM launchers.

c. Systems: 1986-1990 (U).

(u) ~~(S)~~ No new antitank systems are forecast for this time frame. The 85-mm antitank gun will continue in use although a gunner's thermal imaging system will probably be introduced into antitank units to enhance their capabilities. Squeeze-bore technology may be reintroduced to increase the muzzle velocity of antitank guns.

d. Systems: 1991-2000 (U).

(u) ~~(C/RELCAUKAS)~~ No new towed antitank systems are forecast for this time frame. The 85-mm antitank gun will continue in use.

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10. Antitank Guided Missiles (U).

a. Introduction (U).

(1) (U) ~~(C)~~ Since the Soviets perceive the tank to be essential to the successful conduct of tactical warfare, they have long recognized the importance of ATGM in assuring superiority of their tank forces on the conventional battlefield. In fact, the Soviets were pioneers in the field of ATGM development and have subsequently maintained an active R&D program, which enables them to respond effectively to perceived threats. Their program generally parallels that of the free world, yielding systems that are tactically and technologically comparable to counterpart free world systems. Their design philosophy is conservative, calling for the extensive use of proven components, judicious application of exploited foreign technology, and continuous improvement of fielded systems. This concept has fostered the development of an ATGM arsenal second to none in the world.

(2) (U) ~~(C)~~ The Soviets have demonstrated the capability to incrementally improve the performance of their fielded systems by modifications and, when warranted, the new systems have showed quantum improvements in performance. The strike range, accuracy, and lethality of Soviet ATGM have greatly increased during the past decade. Soviet development programs have also taken into consideration flexibility and survivability. Gunner/system exposure time to counterfire has been dramatically reduced by decreasing missile flight times. Efforts to further decrease system vulnerability by improving armor protection of ground launch vehicles are also evident.

(3) (U) ~~(C)~~ The Soviets are aware that R&D efforts in warhead technology must be emphasized to gain an advantage over increased armor protection. A number of techniques are available to improve the lethality of future ATGM warheads; these range from relatively simple approaches such as improved manufacturing techniques to more complex solutions calling for a change in warhead component design. Although the specific technique(s) that Soviet designers will employ is not known, the designers should be able to achieve penetrations 7 to 8 times the warhead charge diameter in the near term and 9 to 10+ times the charge diameter in the mid or far terms.

b. Systems: 1980-1985 (U).

(U) Characteristics of current and near-term ATGM systems are summarized in Tables 7-7 through 7-9.

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Table 7-7. (U) Company- and Battalion-Level ATGM System Characteristics

Characteristics	AT-3A manpack (SAGGER)	AT-3A BMP (SAGGER)	AT-4 (SPIGOT)
Soviet name	Malyutka	Malyutka	Fagot
IOC	1961	1867	1973-1975
Guidance	Manual	Manual	SACLOS
Min range (m)	500	500	70
Max range (m)	3000	3000	2000
Penetration (mm RHA)	410	410	400-500
Hit probability	0.80	0.80	>0.90
Rate of fire (rd/min)	1	1	3

SACLOS = semiautomatic command to line of sight
~~(SECRET)~~ (u)

Table 7-8 (U) Regiment- and Division-Level ATGM System Characteristics

Characteristics	AT-2C (SWATTER)	AT-3C (SAGGER)	AT-5 (SPANDREL)
Soviet name	?	Malyutka-P	?
IOC	1968-1970	1968-1970	1974-1975
Guidance	SACLOS	SACLOS	SACLOS
Min range (m)	300	300	100
Max range (m)	4000	3000	4000
Penetration (mm RHA)	550	410	500-600
Hit probability	>0.90	>0.90	>0.90
Rate of fire (rd/min) ...	2 to 3	2	3

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Table 7-9. (U) Front- and Army-Level ATGM Systems

Characteristics	AT-2C (SWATTER C)	AT-3C (SAGGER C)	AT-5 (SPANDREL)	AT-6 (SPIRAL)	AT-7 ?	AT-PROJ-1 (LSAH)	AT-PROJ-3 (gun launched)
Soviet name ...	?	Malyutka-P	?	?	?	?	T64B/Kobra
IOC	1968-1970	1968-1970	1974-1975	1974-1976	1979-1980	1980-1985	1980-1984
Guidance	SACLOS	SACLOS	SACLOS	SACLOS	SACLOS	LSAH	LBR
Min range (m)	300	300	100	500	50	100	100
Max range (m)	4000	3000	4000	5000	1000	6000	4000
Penetration (mm RHA)	550	410	500-600	600-700	500-600	750-950	800-900
Hit probability	0.90	0.90	0.90	0.90	0.90	0.95	0.95
Rate of fire (rd/min)	2 to 3	2	3	3	1	4	5

LSAH = laser semiactive homing; SACLOS = semiautomatic command to line of sight; LBR = laser beam rider
~~(SECRET/NOFORN)~~ (U)

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(1) AT-2 (SWATTER) (U).

(u)
(a) ~~(C)~~ Two manually controlled variants of the AT-2 have been deployed by the Soviets. The AT-2A was probably in the Soviet inventory as early as 1960. The AT-2B was first seen in 1967. Both are referred to by the Russian name "Falanga" (Phalanx). The only observable differences between the A and B variants are in the nose and propulsion sections where modifications resulted in less drag, softer boost acceleration, and increased range capability for the SWATTER B. The B variant is slightly heavier, weighing 29 kg as opposed to 27 kg for the A variant. The AT-2B was improved by incorporating a SACLOS guidance concept, which greatly increased the missile's effectiveness—especially when employed on helicopter platforms. This version is called the AT-2C.

(u)
(b) ~~(S)~~ The AT-2A and B employ a manual, command-to-line-of-sight guidance system, with a radio command link to transmit the gunner's correction commands to the missile. Several carrier frequencies center around 9.1 GHz, and 10 pulse-position-modulation codes are available.

(u)
(c) ~~(C)~~ The AT-2 is employed in both the ground vehicle and helicopter modes. Launch platforms include the BRDM-1 and BRDM-2 armored combat vehicles, and the Mi-24 (HIND A and D) and the Mi-8 (HIP E) helicopters.

(u)
(d) ~~(C)~~ The AT-2A is considered obsolete, but the AT-2B is probably still operational in some Warsaw Pact forces. Recent information suggests that either the AT-2B or C is currently being deployed with some non-Soviet Warsaw Pact forces.

(u)
(e) ~~(C)~~ With the exception of maximum range, the general technical and performance characteristics of the SWATTER A, B, and C missile are similar. The SWATTER A has a maximum range of 2500 meters; the SWATTER B and C, 3500 meters. The missiles are assessed as having an average velocity of 150 m/s, and the warhead can penetrate about 550 mm of RHA at 0° obliquity.

(u)
(f) ~~(C)~~ Hit probability under ideal conditions is assessed as 0.85. Being manually controlled, the system has a minimum range limitation of about 500 meters. The use of SACLOS guidance should increase the hit probability to about 0.90 and may allow engagement of targets as close as 300 meters. Computer simulations indicate that the propulsion system can deliver the missile to a range in excess of 4000 meters. This fact, coupled with the inherent accuracy of the SACLOS guidance scheme, should make the system effective out to this range. Potential improvement to the warhead could yield penetrations of 600 to 700 mm of RHA.

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(g) (u) ~~(C)~~ The primary limitations of the AT-2A and B are those inherent in all manually controlled systems: poor minimum range, low velocity, limited accuracy, and extensive gunner training requirements. The conventional countermeasures of counterfire, camouflage, and smokescreening can be effective against this system, and because a radio command link is used, the possibility exists for the use of ECM.

(h) (u) ~~(C)~~ System limitations of the AT-2C would be similar to those of the AT-2B. Probably the most effective countermeasure would be the use of aerosols and counterfire. Rf countermeasures probably would be effective only when used in a perimeter role. Wide-angle, high-intensity, pulsed, noncoherent sources would also be useful as would an HEL. Relatively low laser powers can destroy the goniometer and other EO target-acquisition detector surfaces.

(2) AT-3 (SAGGER) (U).

(a) (u) ~~(C)~~ The third ATGM system developed by the Soviets is the AT-3A. This missile carries the Soviet designator 9M14M and is known by the Russian nickname "Malyutka" (Little Baby). Probably operational as early as 1961, this system has been exploited in the United States, and the results of the exploitation program are reported in DIA report ST-CR-20-316-73, dated June 1974.

(b) (u) ~~(C)~~ The AT-3A is a crew-portable or vehicle-launched, manually guided system with a wire command link. Several launchers are available for the AT-3A, which appears to be adaptable to almost any vehicle with relative ease. The most prevalent launch vehicles are the BRDM-1, BRDM-2, BMP, and BMD. Off-vehicle equipment is available that permits operation of the launcher from a distance of up to 80 meters. The BMP and BMD vehicles each carry missiles that are launched from a single rail mounted on top of the 73-mm gun. At the motorized rifle battalion level, the SAGGER A is deployed in a crew backpack version. The AT-3A is also mounted on the Yugoslav M-1980 infantry combat vehicle, the Polish Mi-2 (HOPLITE) helicopter, and the Czechoslovak OT-64 combat vehicle.

(c) (u) ~~(C)~~ This system has been widely exported to other Warsaw Pact and Third World countries. Although currently being replaced in all employment modes, the AT-3 (SAGGER) has been the primary ATGM system of the Warsaw Pact forces for many years and is expected to remain in the field for several years to come. In the late 1960s, the Soviets began deploying their first semiautomatic ATGM system, the AT-3C (SAGGER). Nicknamed "Malyutka-P" by the Soviets, this system is a variant of the AT-3A.

(d) (u) ~~(C)~~ The SAGGER C is almost identical to the SAGGER A in physical characteristics. The only significant modification to the missile has been the addition of a second tracking flare. The two flares on the SAGGER C are somewhat longer than the single flare of the SAGGER A. The

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modification consisted of a change in the tracking flares and the addition of an IR tracker to the launch vehicle. The Soviets also improved the penetration capability of the SAGGER C shaped-charge warhead. Improvements may also include the use of a precision copper cone liner and a possible pyrophoric follow-through device. With these improvements the warhead could perhaps penetrate 500 to 600 mm of RHA at 0° obliquity.

(u) ~~(C)~~ (e) Other than its employment on the Mi-8 (HIP F), the AT-3 is believed to be deployed only on a modified BRDM-2 vehicle. This system is expected to be replaced by newer systems in Soviet units, but it is widely deployed with non-Soviet Pact forces and will probably be their primary vehicle-mounted system for the next 5 to 10 years.

(u) ~~(C)~~ (f) Through stringent gunner selection requirements and an extensive gunner training program, the SAGGER A can achieve a hit probability of about 0.80 under ideal conditions. Under quasi-combat conditions, this hit probability is degraded to about 0.55. The minimum range, or dead zone, of this system is around 500 meters. It has a maximum range of 3000 meters and an average velocity of 120 m/s. Performance characteristics of the AT-3C are identical to those of the AT-3A except for hit probability and minimum range. Hit probability should increase to greater than 0.90, and the minimum range should decrease to about 300 meters because the semiautomatic system can bring the missile under control sooner than the manual system. The shaped-charge warhead can penetrate 410 mm of RHA at 0° obliquity.

(u) ~~(C)~~ (g) Conventional countermeasure methods to distract the gunner, such as evasive maneuvers and counterfire, are much less effective against the semiautomatic system because the gunner is required only to track the target; he is not required to track or guide the missile. The system is vulnerable to any action taken that denies the gunner visual contact with the target, such as camouflage or smokescreening. Smokescreening is also effective in attenuating the IR tracking link between the missile flare and the IR tracker. It is believed that the IR tracker used with the AT-3C is similar to those of the French HARPON and the French/West German HOT and MILAN ATGM systems, which are known to be susceptible to IR countermeasures such as tungsten searchlights and battlefield illumination flares. If the technical characteristic postulations of the AT-3C are correct, it would also be vulnerable to relatively simple IR countermeasures.

(3) AT-4 (SPIGOT) (U).

(u) ~~(S/NOFORN)~~ (a) The SPIGOT, referred to by the Soviets as the Fagot (Russian for "bassoon"), is one of a new family of ATGM introduced in the mid-1970s to replace the earlier Soviet ATGM. The AT-4 is currently

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being introduced throughout the Warsaw Pact as a replacement for the AT-3 in the manportable role. In the near future the SPIGOT will probably be employed with the SPANDREL on the BRDM-2 and may replace the SAGGER A on BMP or BMD-type vehicles. The system consists of a launch tube, a missile weighing about 13.5 kg, and a tripod-mounted launch-control console weighing 26 kg.

(u)

(b) ~~(C)~~ The AT-4 is a SACLOS system employing an IR missile tracker and a wire command link. An average velocity of 186 m/s is attained by the missile, which can be used to engage targets at ranges of 70 to 2000 meters. An average hit probability of greater than 0.90 and a reliability of about 95% is common for a system of this type. Estimated warhead penetration is 400 to 500 mm of RHA at 0° obliquity. While armored vehicles are considered the primary targets, launch crews are also trained to engage helicopters.

(u)

(c) ~~(C)~~ The AT-4, with its semiautomatic guidance, is not as susceptible to the conventional countermeasures of counterfire and evasive maneuvers as earlier systems, but it is vulnerable to any action taken to interrupt the gunner's line-of-sight to the target, such as smokescreening, terrain masking, or camouflage. As with the AT-3C, smokescreening will also be effective against the AT-4 by attenuating the IR guidance link, and the system would be vulnerable to IR countermeasures such as flares or tungsten searchlights employed on or near the target vehicle.

(u)

(d) ~~(C)~~ Although the range capability of the SPIGOT is 70 to 2000 meters, it is reportedly most effective at ranges of 800 to 1600 meters. Thus, there is probably some accuracy degradation at ranges less than 800 meters and more than 1600 meters; the extent of degradation is unknown.

(4) AT-5 (SPANDREL) (U).

(u)

(a) ~~(C)~~ The AT-5 is the vehicle-mounted member of the current family of SACLOS, tube-launched ATGM systems. Deployment of the AT-5 was probably initiated within the Soviet Union in 1974 or 1975 and to GSFG shortly thereafter. The AT-5 consists of five rounds attached to a pedestal launcher mounted on the BRDM-2 vehicle. In a noncombat mode or during road march, the entire launcher is retracted into the vehicle, significantly lowering its detection signature. Although this system has not yet been observed on any launch platform other than the BRDM-2, its assessed characteristics make it attractive for employment in other modes. Adaption of this system to heliborne platforms and to tank-destroyer-type ground vehicles seems a distinct possibility.

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(b) (u) ~~(C)~~ The AT-5, which is believed to be technologically similar to the AT-4, is assessed to be semiautomatically guided, employing an IR missile tracker and a wire command link. The system is estimated to have a range of 100 to 4000 meters and an average velocity of 250-300 m/s. A system of this type would be expected to achieve an average hit probability of greater than 0.90, with an approximate 95% reliability factor. Warhead penetration is assessed to be from 500 to 600 mm of RHA at 0° obliquity.

(c) (u) ~~(C)~~ Since less gunner participation is required for this system than for the earlier manually guided missiles, gunner training requirements are significantly reduced and hit probability is improved. Due to the relatively short flight time and improved guidance technique, conventional countermeasures such as evasive maneuvers and counterfire to distract the gunner will be minimally effective. This system is vulnerable to any action taken to deny the gunner visual access to the target, and the system may be susceptible to IR countermeasures such as flares, high-intensity searchlights, or electrically modulated IR sources.

(5) AT-6 (SPIRAL) (U).

(a) (u) ~~(C)~~ The AT-6, believed to be the third member of the current family of operational second-generation ATGM, was first observed in September 1978 at the Gaddow-Rossow training range in East Germany. Like the SPIGOT and SPANDREL, this missile is stored and launched from a tube. This system was observed on the Mi-24 (HIND E) heliborne platform and is expected to eventually replace the AT-2C in this role with Soviet forces. This modernization is estimated to be completed in the near term. It is estimated that this system became operational in the 1974-1976 time frame and to date has only been deployed with the Soviet forces.

(b) (u) ~~(C)~~ The AT-6 is believed to be technologically similar to the AT-4 and AT-5 and as such probability employs a similar SACLOS guidance scheme but with an rf, rather than wire, command link. It is expected to have a range of 500 to 5000 meters, a supersonic velocity of about 500 m/s, and a penetration of 600 to 700 mm of RHA at 0° obliquity. Hit probability is expected to be greater than 0.90 under ideal conditions with a 95% reliability.

(c) (u) ~~(C)~~ As with any SACLOS system, denying the gunner visual access to the target would defeat the system. The system would be susceptible to area defense rf countermeasures and point defense EO countermeasures, including ground- and air-based laser countermeasures. Presently, Soviet ATGM EO acquisition and tracking systems are assessed to be highly vulnerable to relatively low power lasers.

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(6) AT-7 (?) (U).

(u)
(a) ~~(S/NOFORN)~~ The Soviets have recently begun to introduce a fourth member of their new family of second-generation, tube-launched ATGM systems, the AT-7. With a total system weight of only about 16 kg, the AT-7 represents the first truly manportable system to be designed by the Soviets. The total system comprises the missile in a launch tube and a bipod/tripod launcher incorporating the gunner's sight, IR tracker, and guidance electronics. It is expected to complement the existing RPG-type weapons and the AT-4; however, current deployment is assessed to be only with specialized units--especially, airborne and air assault units.

(u)
(b) ~~(S/NOFORN)~~ AT-7 is most likely technologically similar to the AT-4 and AT-5 and employs the same guidance scheme--semiautomatic with an IR missile tracker and a wire commmand link. It should have a 0.90 hit probability with an estimated warhead penetration of 500 to 600 mm of RHA at 0° obliquity. The missile would have a range of about 50 to 1000 meters and an average velocity of 190 m/s. Like the AT-4 and AT-5, this system is vulnerable to any action that would deny the gunner visual access to the target and would be susceptible to IR countermeasures. The 5.3-second flight time to maximum range would drastically limit evasive countermeasure maneuvers by the target vehicle.

(7) AT-PROJ-1 laser semiactive homing ATGM system (U).

(u)
(a) ~~(S/NOFORN)~~ The Soviets are believed to be developing a laser-designated semiactive homing ATGM system similar in concept to the US Hellfire. This system would be the ATGM member of a family of precision-guided weapons, which includes the recently deployed AS-10 air-to-surface missile and probably laser-guided bombs. Due to the generic nature of the semiactive laser guidance concept, AS-10 system technology is directly applicable to ATGM guidance, and deployment of the laser-guided ATGM system is projected for the near term. This system--referred to in a report as AT-PROJ-1--would likely be deployed as a complementary weapon to the current AT-6 (SPIRAL). Employment on a variant of the Mi-24 (HIND) helicopter or a follow-on assault helicopter would be expected, and the system could also be used on ground vehicles.

(u)
(b) ~~(S/NOFORN)~~ The AT-PROJ-1 is expected to incorporate both a direct-fire mode, in which the laser target designator is colocated with the missile on the launch platform, and an indirect fire mode, in which the target is illuminated by a remote designator (forward observer, ground vehicle, or aircraft physically separated from the launch platform). Maximum ranges in the direct-fire mode would be at least 5000 meters and in the indirect-fire mode, 6000 meters or more. At a range of 6000 meters the

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projected average velocity of 508 m/s results in a flight time of 11.8 seconds. The standoff capability and velocity of this missile, along with the maneuverability of the launching helicopter, would significantly enhance the survivability of the launch platform. The accuracy of the projected guidance system would provide a hit probability of greater than 0.90 under ideal conditions. Because of the reduced vulnerability of the launch platform, hit probability degradation under combat conditions would be minimal. System reliability should be in excess of 95%. Considering the development time frame of the AT-PROJ-1, the shaped-charge warhead is expected to employ improved conventional technology and to be able to penetrate 750 to 950 mm of RHA at 0° obliquity.

(8) AT-PROJ-3 gun-launched ATGM (U).

(u)
(a) ~~(S/NOFORN)~~ Projected for deployment in the near term is a tank-gun-launched ATGM system that will represent either the culmination of the apparent development program or be a follow-on to the reported T-64B (Kobra) system. This sytem will employ a 4000-meter-range, 125-mm-diameter, laser-beam-rider ATGM (AT-PROJ-3), which could be used on a variant of a new medium tank. The ATGM is expected to be the primary armament, but both HEAT and HE tank ammunition would also be available. (The term Kobra, when associated with ATGM or tanks, especially the T-64, is classified ~~SECRET/NOFORN.~~) (u)

(u)
(b) ~~(S/NOFORN)~~ The projected system would most likely be produced and deployed in limited numbers and employed primarily as a defensive weapon, possibly in reserve antitank battalions held at division or army level. Some evidence indicates Soviet perception of the desirability of such an antitank system in this role to counter intense enemy tank activity. With the standoff capability provided by the 4000-meter range, the inherent accuracy of the missile, and the high mobility and armor protection of the launch vehicle, this system will enhance the offensive capability of armored units.

(u)
(c) ~~(S/NOFORN)~~ The Kobra system is expected to have an effective range of 100 to 4000 meters with a probable optimum range of 300 to 3500 meters. Hit probability throughout the optimum range will be on the order of 0.90 or greater under ideal conditions, with degradation to perhaps 0.85 outside this range. An average missile velocity of 300 m/s equates to a 13.3-second flight to maximum range.

(u)
(d) ~~(S/NOFORN)~~ Although the gun-launched system would be a highly effective antiarmor weapon, certain limitations do accompany this type of system. Laser-beam-rider guidance requires the launching vehicle to direct an encoded laser beam at the target and to center this beam on the

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target throughout the flight of the missile. Detection and location of the launch vehicle by the target vehicle, for the purpose of countermeasure activity, are then possible. Laser-beam-rider guidance is, however, relatively invulnerable to EO countermeasures since the optical sensors are located on the rear of the missile. Detection of the laser beam could be used to initiate smokescreening systems or to alert the vehicle to return fire. Smokescreening systems would serve to deny the gunner target visibility and to attenuate the laser guidance beam.

c. Systems: 1986-1990 (U).

(U) The characteristics of the two systems projected for the 1986-1990 time frame are summarized in Table 7-10 below:

Table 7-10. (U) Midterm Projected Systems

Characteristics	AT-PROJ-4 (TVMP)	AT-PROJ-5 (FAF)
Soviet name	?	?
IOC	1986-89	1986-89
Guidance	TV-FAF	IIR-FAF
Min range (m)	100	100
Max range (m)	2000	4500
Penetration (mm RHA)	875-1025	1000-1200
Hit probability	0.90	0.95
Rate of fire (rd/min)	3	12

TVMP = television manportable
FAF = fire-and-forget
IIR = imaging infrared
~~(SECRET)~~ (U)

(1) AT-PROJ-4 (TV manportable) (U).

(a) (U) ~~(C)~~ The AT-PROJ-4 is projected to be a fully automatic (fire-and-forget) tube-launched, manportable ATGM system. The gunner will be required only to point the missile at the target, wait for indication of seeker acquisition, and then press the fire button. As soon as the missile

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is launched, it provides its own target tracking and guidance, allowing the gunner to move to a new position or to fire a second round. The projected system is a crew-served weapon with one crewmember carrying the launch console and one or more other crewmembers carrying reload rounds. One man could handle the launcher and a missile over short distances. Such a system will greatly enhance the battlefield commander's flexibility and the individual gunner's survivability.

(b) (u) ~~(C)~~ The AT-PROJ-4 will have a maximum range of 2000 meters and a hit probability of 0.95 and be able to penetrate all Western medium tanks fielded in the midterm. The average missile velocity will be 330 m/s with a flight time of 6 seconds. The system will be able to acquire tank-size targets at 2000 meters under daylight and starlight conditions and probably will be less effective under lower ambient light conditions (e.g., overcast, starlight). However, because of the relatively short wavelength of operation, this system will be degraded by rain, fog, smoke, haze, dust, or other obscurants.

(2) AT-PROJ-5 (U).

(a) (u) ~~(C)~~ The AT-PROJ-5 is projected to be a fully automatic (fire-and-forget), tube launched, ground-vehicle-mounted ATGM. The primary platform for this missile is likely to be a follow-on to the BRDM-2 vehicle and/or possibly a tracked armored vehicle. As with the AT-PROJ-4, the operator need only lock onto the target and fire the missile, after which he will be free to leave or to fire another round. Thus, platform survivability will be greatly enhanced, and the system should have a relatively high rate of fire compared to other ATGM systems.

(b) (u) ~~(C)~~ The AT-PROJ-5 is expected to have a maximum range of 4500 meters, an average velocity of 280 m/s, and an RHA penetration of 1000 to 1200 mm. It will be effective against all fielded armor in the midterm. Hit probability greater than 0.90 and reliability greater than 95% are expected. The system is expected to have a day/night capability and not to be degraded by haze or most commonly employed smokes. However, sufficient concentrations of white phosphorus, dust, and carbon-nickel-fiber aerosols should defeat the system.

d. Systems: 1991-2000 (U).

(U) The characteristics for the one system projected for the post-1990 time frame are summarized in Table 7-11 below.

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Table 7-11. (U) Far-Term Projected Systems

Characteristics	AT-PROJ-6/millimeter-wave seeker fire-and-forget
Soviet name	?
IOC	1990-2002
Guidance	Automatic millimeter-wave seeker
Min range (m)	100
Max range (m)	7000-10 000
Penetration (mm RHA)	1050-1225
Hit probability	0.95
Rate of fire (rd/min)	12

~~(CONFIDENTIAL)~~ (U)

(1) AT-PROJ-6 (U).

(a) (U) ~~(C)~~ The projected AT-PROJ-6 is a tube-launched, supersonic, millimeter-wave, terminal-homing ATGM system. In the indirect fire mode, the missile is command guided via a millimeter rf command link into a spatial acquisition envelope for subsequent millimeter radar search-acquisition-tracking for target lock-on and homing. In the direct fire mode, the millimeter-wave rf seeker locks on the target prior to launch for "fire-and-forget" capability. The millimeter-wave sensor is representative of near-term, solid-state, radar state-of-the-art hardware and may be designed to be interchangeable with an imaging IR, TV, or laser seeker, depending upon mission requirements. The launch platform could carry a mix of such missiles to maximize its operational flexibility. The AT-PROJ-6 is projected to be employed primarily in the heliborne role, but its use on ground vehicles would be feasible. It would likely be fielded as a complementary weapon to modified near-term and midterm systems.

(b) (U) ~~(C)~~ The AT-PROJ-6 is expected to have an average velocity of 450 m/s and a maximum range, in the direct mode, of 7 km. In the indirect mode, a range of 10 km is projected. Hit probability is expected to be greater than 0.90, and the precision shaped-charge warhead is expected to be able to defeat all fielded far-term armor. System reliability in excess of 95% is expected.

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(u)
(c) ~~(C)~~ This system would be limited by certain natural and synthetic aerosols and obscurants. Natural attenuators include rain, fog, and battlefield dust, of which battlefield dust will probably be the most effective. Synthetic substances include smokes that use fine metallic fibers suspended in a cloud of conventional obscurants. Other limitations would be the inherent difficulty in detecting targets from long ranges and, hence, inability to define the acquisition envelope into which the missile must be flown. Typically, the indirect mode would require the platform to work in conjunction with a forward observer to define the general target location. In this mode, the operator would be controlling the missile via an rf command link. Given the frequency and coding of this link, a possibly jamming device would be constructed. As with other ATGM systems, one of the best countermeasures would be the use of proper tactics (e.g., maximizing the use of cover and concealment) in conjunction with a balanced mix of weapon systems with overlapping suppressive-fire coverage.

11. Infantry Antitank Weapons (U).

a. Tactical Doctrine (U).

(u)
(1) ~~(C)~~ Soviet infantry antitank weapons complement the antitank assets of specialist antitank units. Soviet doctrine and training practice indicate that they will be deployed well forward in all types of operations, including the dismounted assault. The existence side by side at squad level of both the RPG-16 with its dedicated gunner and a variable number of RPG-18 add-on weapons poses a serious antitank threat at short range. The antitank hand grenade is an additional threat at very close quarters, particularly in built-up areas.

(u)
(2) ~~(C)~~ The Soviets appear to have accepted size and weight limitations on infantry antitank weapons, which limit their effectiveness against main battle tanks to the less heavily protected sides, rear, deck, and belly. However, these weapons are effective against currently fielded light armored vehicles. Characteristics of infantry antitank weapons are given in Table 7-12.

b. Systems: 1980-1985 (U).

(1) RPG-16 (U).

(u)
~~(C)~~ The principal Soviet infantry antitank weapon is the RPG-16, which has been fielded in airborne infantry and motorized rifle battalions since the mid-1970s. It is a shoulder-controlled, muzzle-loading antitank grenade launcher, which projects a 58.3-mm RAP with a HEAT warhead. An RPG-16 is carried by a dedicated gunner in each squad. Its effective range against moving tanks is estimated as 600 meters.

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Table 7-12. (U) Selected Characteristics of Soviet Infantry Antitank Weapons

Characteristics	RPG-2 grenade launcher	RPG-7 grenade launcher	RPG-16 grenade launcher	RPG-18 grenade launcher	Soviet SPG-9 recoil-less gun
IOC	1949	1962	1975	1975	1968
Caliber, mm	40/80*	40/85*	58.3	64	73
Weight, unloaded, kg	3.4	7.9	10.3	—	47.5
Round weight, kg	1.8	2.25	?	2.7**	2.6
Effective range, m, moving target	100	300	600	135	1000
Penetration, mm	175	330	300-350	300-350	335
Type of sight	Iron	Iron & optical	Optical	Iron	Optical
Firing mechanism	Percus-sion	Percus-sion	Electri-cal	Percus-sion	Electri-cal

*First numeral is weapon bore caliber, second numeral is out-of-bore projectile caliber.
**Includes disposable launcher. Projectile weighs 1.4 kg.
~~(CONFIDENTIAL)~~ (u)

(2) SPG-9 (U).

(u)
~~(C)~~ BTR-equipped motorized rifle battalions are equipped with the 73-mm, smoothbore, breech-loaded, antitank gun SPG-9. The gun is fired from a tripod although an airborne version (SPG-90) is fitted with wheels. Its range against moving targets is estimated at 1000 meters. The round fired by SPG-9 is essentially the same as is fired from the 73-mm gun on the BMP and BMD, except for a different primary propellant charge. Of interest is the recent introduction of a single-stage 73-mm antipersonnel round for the BMP and BMD gun. A comparable SPG-9 round is likely to exist.

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(3) RPG-18 and RKG-3M (U).

(u) ~~(C)~~ Supplementary infantry antitank weapons include both the RPG-18 single-shot disposable rocket launcher and the RKG-3M antitank hand grenade. The RPG-18 is a 64-mm single-stage rocket launcher sighted up to 200 meters. It closely resembles the US M-72 LAW. The RKG-3M antitank hand grenade has a range of about 20 meters. A parachute aligns the shaped charge to attack the upper surface of the target. The use of an HMX charge and other available technologies could enhance the effectiveness of this system.

(4) Ammunition (U).

(u) ~~(C)~~ Soviet infantry antitank ammunition design and production have followed a typically evolutionary process. Available improvements have been introduced both as mid-life modifications to existing systems and in successor systems. Both modified and successor systems have been introduced in a timely way to appropriate to the perceived tank threat. The two-stage RAP seen in the RPG-16 system has been developed through at least four major systems since the RPG-2, which was first fielded in 1949. (The design flexibility demonstrated by the choice of a single-stage rocket projectile for RPG-18 should not, however, go unnoticed.) The warheads for these systems have evolved similarly. The latest warheads for the RPG-16 and RPG-18 systems make use of developed wave shaper and cone geometries with an HMX fill. They appear to optimized against homogeneous armor.

c. Systems: 1986-1990 (U).

(u) ~~(C)~~ In the late 1980s, the RPG-16 and RPG-18 are likely to remain the most significant infantry antitank weapons, although some degree of mid-life modification is likely. The role of the SPG-9 gun is likely to be questioned in view of its small margin of superiority over the RPG-16. Possibilities are retention in a partly antipersonnel role to assist with the suppression of infantry antitank weapons, phasing out, or replacement by a large-caliber weapon capable of defeating the frontal armor of main battle tanks.

d. Systems: 1991-2000 (U).

(u) ~~(C)~~ During the 1990s, replacement weapon systems for RPG-16 and RPG-18 are expected to appear. Changes are likely to include warheads optimized to meet the perceived threat, which may require increased calibers. The theory and much of the technology for such changes are already available. Modifications to the warhead could include bimetallic cone construction and changed cone-wall taper and standoff distance to defeat special armors. More energetic propellants to achieve increased range and accuracy may have become

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available. Significant changes found in follow-on systems will probably have been seen earlier in individual modifications to existing items.

12. Mine Warfare (U).

a. Tactical Doctrine (U).

(U) The Soviets use mines on both offense and defense. In the offense they are used to protect the open flanks of advancing elements and to consolidate strong points. In the defense, antipersonnel mines are used to inflict casualties, slow the attack, and canalize troops into selected killing zones. Antipersonnel minefields will contain 2000 mines per kilometer of front, and a minimum of 5% will be trip-wire activated. Antitank minefields will contain 750 to 1000 mines per kilometer of front. Using this density, the Soviets expect a hit probability of 70%.

b. Systems: 1980-1985 (U).

(1) TM-62 antitank mine (U).

(u) ~~(C)~~ The TM-62 antitank mine comes in four tactical variants and an inert training variant:

- TM-62M--metal cased round
- TM-62P--plastic-cased round
- TM-62B--caseless round
- TM-62D--rectangular wooden-cased round

The explosive mass is assessed to be 7 kg. The fuze requires a 200-kg pressure to activate it. The TM-62 mine is assessed as being equivalent to the British Mark 7 mine.

(2) TM-72 antitank mine (U).

(u) ~~(C/NOFORN/WNINTEL)~~ The TM-72 is an electrically detonated antitank mine that weighs 8.8 kg, about half of which is probably explosive. It comes in four tactical variants: metal, plastic, and wooden cased and caseless. The TM-72 mine can be emplaced by the GMZ automatic minelayer, the PMR-60 minelayer, or helicopter. It may be implaced or laid on the surface.

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13. CBR Protection and Decontamination (U).

a. Protection: 1980-1985 (U).

(1) (u) ~~(C)~~ The Soviet Union's ability to protect its troops against chemical and biological warfare agents is the best in the world. Soviet troops are currently supplied with the Model ShM protective mask, which effectively protects against all standard chemical agents and all known biological warfare agents. In addition to the mask, the Soviet soldier is issued a protective suit, groundsheet, gloves, and boots. He is also supplied with an individual decontamination packet and a medical kit.

(2) (u) ~~(C)~~ The Soviets have also fielded a wide array of vehicles with integral collective protection systems, which allow the crew and passengers to pass through a contaminated area without wearing the protective suit or even the mask. Most, if not all, of the combat and combat-support vehicles used by the Soviets have some kind of collective protection system. Some combat companies are issued portable kits for the construction of dugout shelters with collective protection to be used as communications centers, aid stations, and rest areas.

(3) (u) ~~(C)~~ Soviet protective clothing is made of butyl-rubber-coated fabric, which is not air permeable is therefore very warm to wear. Soviet planners, however, do not anticipate that the soldier will wear the suit for very long at a time. Soviet doctrine calls for troops to remain inside vehicles with collective protection as much as possible when fighting in a CBR environment. Only when the troops are required to dismount are they ordered to button up in their protective gear. Once the troops are actually contaminated with CBR agents, the extensive inventory of decontamination equipment available to Soviet Army units is used to decontaminate the clothing quickly; it can then be reused.

(4) (U) To avoid requiring troops to don the protective ensemble unnecessarily, Soviet commanders at all levels will require good information on the location and type of contamination in their areas of operation. If the Soviets used CBR weapons offensively, friendly units could be alerted to those areas targeted for attack, and chemical reconnaissance units could be dispatched. Because Soviet commanders are reluctant to order their troops into a high protective posture unless they feel CBR use is imminent, a surprise enemy chemical or biological attack could produce devastating casualties on the unprotected Soviet units. This suggests that Soviet protective gear is meant, for the most part, for offensive operations.

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(u) (5) ~~(C/NOFORN)~~ During the early 1980s, chin- or cheek-mounted canister masks, possibly equipped with voicemitters, will be issued to troops as the ShM mask wear out.

b. Protection: 1986-2000 (U).

(u) ~~(C/NOFORN)~~ In the late 1980s, an all-purpose, air-permeable, chemically impregnated protective suit may be standardized and fielded. Such a suit would reduce troop vulnerability to a surprise CBR attack. Over the entire 1981-2000 period, all new tanks, SP guns, and other combat vehicles will be equipped with collective protection systems at the time of manufacture.

c. Decontamination: 1980-1985 (U).

(u) (1) ~~(S/NOFORN/WNINTEL)~~ Partial decontamination of weapons and vehicles normally is accomplished by the individual or crew responsible for them, using the special decontamination sets that are part of the basic load of all pieces of equipment. Complete decontamination of personnel, equipment, and terrain after a chemical or biological agent attack is the responsibility of the affected unit's organic chemical troops using specially designed decontamination equipment, much of which is unique to the Warsaw Pact forces. For example, the ACV-3U set of four vehicles is used to decontaminate uniforms, shoes, tents, and similar items in the field by subjecting them to hot steam of a steam-ammonia mixture and then air drying them. In 16 hours of continuous operation of the AGV-3U set, more than 700 summer-weight uniforms contaminated with the agent VX can be decontaminated.

(u) (2) ~~(C/NOFORN)~~ Another impressive example of Soviet decontamination technology is the TMS-65 vehicle, which consists of a VK-1A turbojet engine hydraulically mounted on the rear of a flatbed truck. The hot exhaust from the jet engine is directed onto tanks, armored personnel carriers, trucks, and other vehicles contaminated with chemical and biological agents. Water or decontamination solutions can be fed into the jet stream or the heat from the exhaust alone can be used to decontaminate the vehicle. A pair of TMS-65 vehicles can decontaminate 20 to 30 vehicles an hour.

(u) (3) ~~(S/NOFORN/WNINTEL)~~ More than 8000 decontamination vehicles have been fielded with the Soviet ground forces, with an additional sizable, but undetermined number, assigned to the Soviet Air Force, Navy, and Civil Defense organizations. The Defense Intelligence Agency estimates that the Soviet Union alone has produced over 12 000 of these vehicles.

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d. Decontamination: 1986-1990 (U).

(u) ~~(S)~~ In the 1986-1990 period, Soviet decontamination techniques and procedures, which are already superior to those of any other nation, will continue to be improved. A universal decontaminant requiring minimal quantities of water diluent and no water washdown will be developed to provide decontamination under hot and dry desert conditions as well as in cold arctic climates. Chemical-agent-resistant paints and other protective coatings will be developed for combat and combat-support vehicles and equipment.

14. Smokes and Aerosols (U).

a. (u) ~~(S/NOFORN/WNINTEL)~~ For many years the Soviets have shown considerable interest in the use of paints or coatings, smokes, and aerosols to attenuate electromagnetic radiation in not only the visible, but also the IR and microwave regions of the electromagnetic spectrum. Since the late 1960s, the Soviets have been developing an aerosol that could absorb sufficient IR radiation to defeat or seriously degrade US precision-guided munitions. Guidance systems that may be affected include LRF, laser designators, and FLIR systems. The aerosol program has advanced enough that by 1982 the Soviets could field IR-absorbing aerosols disseminated via the grenade launcher device first seen on T-64 tanks with GSFG.

b. (u) ~~(S/NOFORN/WNINTEL)~~ Presently the Soviets are studying aerosols composed of electrically conductive organic and inorganic materials with the electrical and magnetic properties that enable them to absorb microwave radiation. These materials can also absorb visible and IR wavelengths. The major advantage over conventional smokes is that a much lower cloud density will provide militarily significant absorption. These aerosols could be an effective countermeasure to future fire-and-forget, top-attack antiarmor weapons that operate in the mid- and far-IR or the millimeter wavelength regions. Such an aerosol may be deployed by 1990.

c. (u) ~~(C)~~ In addition to using smokes and aerosols as obscurants, the Soviets have been developing and fielding "toxic smokes." These aerosols are a mixture of a neutral smoke and an irritant chemical agent such as adamsite (DM), o-chlorobenzalamalononitrile (CS), or chloropicrin (PS). The smoke portion of the mixture is meant to obscure the target area in the conventional sense, while the irritant agent degrades the performance of enemy personnel in one of two ways. If the troops attacked do not wear the protective mask, tearing, skin irritation, vomiting, and other symptoms of the irritant agent will seriously hamper their ability to carry out their mission. If they do don the mask, the mask will degrade their performance.

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Hence, on the integrated battlefield, Soviet toxic smoke will severly test the adversary's ability to operate effectively in the protective mask.

d. (u) ~~(S/NOFORN/WNINTEL)~~ The Soviets are masters of aerosol dissemination and have developed a wide array of small- and large-scale disseminators for the military; they can deliver the needed aerosol concentrations to degrade Western precision-guided munitions. There is little doubt that the Soviets have a program to develop and test new aerosols. They have probably developed both the equipment and the procedures to test aerosols to degrade IR and radar systems in the field. They probably have developed aerosols to defeat IR and are attempting to develop aerosols to defeat radar.

e. (u) ~~(C/NOFORN)~~ Aerosols are not a cure-all countermeasure; their use is dependent upon local meteorological conditions. High winds, rain, snow, etc., preclude the efficient use of aerosols. The Soviets may then rely on whatever active jamming techniques are available.

15. Radar-Absorbing Materials (U).

a. (u) ~~(S/NOFORN)~~ The Soviets have studied numerous types of radar-absorbing materials since the early 1950s. These materials include, but are not limited to, paints and other coatings, camouflage netting and multilayered materials, and aerosols. Because Soviet tactical doctrine places particular emphasis on fighting on the move, the Soviets will probably emphasize the use of paints in the form of coatings and aerosols as the most cost-effective radar-absorbing material for any particular situation.

b. (u) ~~(S/NOFORN)~~ Since 1974, the Soviets have attempted to obtain from the Japanese the technology behind their microwave-absorbing ferrite-based paints. By 1977 a Soviet patent was issued to Soviet researchers on ferrite-based paints similar to the Japanese paints. The radar-absorbing quality of ferrite paint is based on constitutive electrical and magnetic properties of the paint and the thickness of the paint film. It has been determined that such a paint could be used to degrade the active millimeter-wave guidance of future fire-and-forget, top-attack antiarmor weapons. Colored pigments can also be added to these ferrite paints without seriously affecting their radar-absorbing character. Vehicles can then be camouflaged by using the appropriately colored ferrite paints. Presently, there is no evidence that the Soviets have fielded ground force vehicles painted with ferrite paints. Soviet camouflage doctrine, however, emphasizes that radar camouflage must also be effective against normal optical reconnaissance techniques or, at the very least, must not enhance the optical signature of the camouflaged (painted) equipment. Since the Soviets are known to be able to produce large

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quantities of radar-absorbing ferrite paints, it is probable that Soviet ground vehicles that are primary targets for US fire-and-forget, top-attack antiarmor weapons will be painted with these ferrite paints by the late 1980s.

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CHAPTER 8

ENGINEER AND LOGISTIC SUPPORT (U)

I. INTRODUCTION (U)

1. Engineer Support (U).

(U) Soviet developments in engineer mobility, countermobility, and survivability and in the systems that supply food, fuel, and ammunition provide convincing evidence of thorough preparation for the rapid offensive penetration. The maneuver units—although they are impressively equipped, protected, and supported by firepower—are nonetheless part of a combined-arms team. Without engineer units to provide gap crossing, route clearing, and countermine warfare these units would find their advance slowed or stopped. Countermobility—through mines and barrier construction—is important in the defense but is also used to protect exposed flanks in offensive actions. Survivability through rapid digging in is important both for the defense and for protection against anticipated nuclear strikes. Camouflage and deception are used to enhance the surprise and shock impact of offensive action. Figure 8-1 shows the functional relationships among engineer systems.

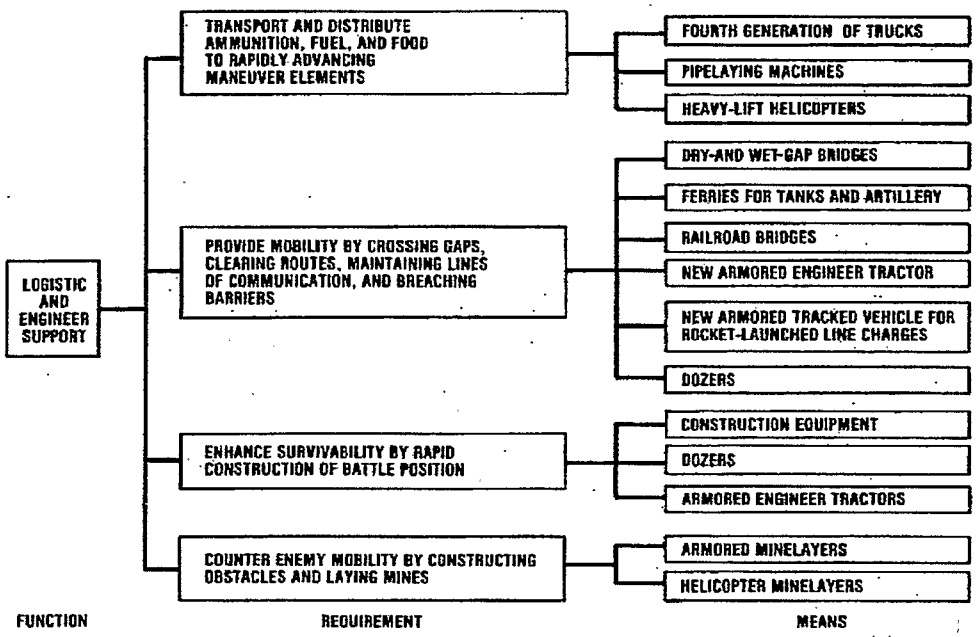

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Figure 8-1. (U) Functional Network for Logistic and Engineer Support Systems

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2. Logistic Support (U).

(U) Water, fuel, food, ammunition, and other supplies are necessary to sustain the offensive operation. The equipment provided will support the objective of a rapid advance. In addition to specialized equipment, the fourth generation of trucks and new heavy lift helicopters such as the Mi-26 will aid the advance.

II. ENGINEER MOBILITY SYSTEMS (U)

3. Introduction (U).

a. Doctrine (U).

(U) Soviet battle doctrine calls for an advance of 30 to 50 km a day using conventional weapons and an advance of 50 to 80 km a day using nuclear weapons. Soviet forces are well equipped to provide the engineer combat support necessary to implement this doctrine.

b. Engineer Mobility Support (U).

(U) The three primary areas of engineer mobility support in the Soviet forces are bridging, route clearing, and countermine warfare.

4. Bridging (U).

a. Doctrine (U).

(U) Soviet doctrine for river-crossing operations calls for assaulting the river line from the march with little or no prior preparation. Simultaneous crossings are initiated at multiple points along a broad front by combined-arms teams of mechanized infantry, tank, and artillery units equipped with amphibious crossing equipment and supported by engineers. The attacker uses the swimming and deep-fording capabilities of vehicles and the rapid assembly of bridges and ferries to cross the water obstacle. This tactic is intended to overwhelm enemy defenses and permit continuation of the advance on the enemy side of the river. According to doctrine, crossings are to be made at night whenever possible. Daylight crossings are masked by the extensive use of smoke. Typically, a Soviet crossing operation is phased into assault crossing, ferry crossing, and bridge crossing. Techniques vary depending on the mission, availability of crossing equipment, and the characteristics of the crossing sites.

b. Equipment (U).

(1) Gap crossing (U).

(u)
(a) ~~(C)~~ For the crossing of dry gaps and shallow wet gaps, the TMM truck-mounted scissor bridge is used. This multispan, trestle-supported, steel-treadway bridge is mounted on and launched from a KrAZ-255B truck. A four-span set, 42 meters long, with a 60-tonne capacity, can be erected by a 12-man crew in 30 minutes.

(u)
(b) ~~(S)~~ Short dry gaps and tank ditches can be readily crossed with the MTU-20 cantilever-launched bridge. This bridge, mounted on and launched from a T-55 tank chassis, has an effective span length of 18 meters and a carrying capacity of 50 tonnes; it can be emplaced by a two-man crew in 5 to 10 minutes. An updated version of this bridge mounted on the T-72 tank chassis has been reliably reported.

(c) (U) Initial support of tanks, artillery, and other required equipment is provided by the GSP ferry and the PTS tracked amphibious vehicle towing the PKP trailer. The GSP is self-propelled, has a capacity of 50 tonnes, and is unsinkable because the pontons are filled with plastic foam. The PTS/PKP system utilizes the PTS tracked amphibious vehicle that tows the PKP floating trailer. This system can transport one artillery weapon, crew, and ammunition in one crossing.

(d) (U) Major wet gaps are crossed with the PMP heavy float bridge. This folding ponton bridge can be assembled at rates up to 20 m/min by experienced crews. One bridge set can span a 227-meter gap and can carry a 60-tonne load. One half set is organic to the engineer battalion of both the tank and motorized rifle divisions.

(u)
(e) ~~(C)~~ A new amphibious ribbon bridge system has been fielded, which is intended to improve Soviet river-crossing capability by its improved mobility. Pontons unfold from a high-mobility chassis to form floating bridge or ferry components 12 meters long by 8 meters wide. Each floating component is self-propelled on land and in the water. A bridge formed from this system can support tanks. Individual floating components can also probably be used as self-propelled rafts and ferries.

(2) Railroad bridges (U).

(U) A line-of-communications (LOC) bridge, designated REM-500, has recently been developed by the Soviets for railroad bridge construction. The Soviets already have in their inventory the NZhM-56 floating road and railroad bridge, which was designed specifically for construction over deep and wide rivers. In a major conflict, all major railroad bridges would automatically become critical targets for enemy action. To replace a damaged or destroyed railroad bridge by the conventional method normally requires several days or even weeks. With the availability of the REM-500 and NZhM-56, this replacement work can be completed in hours. In addition, substantial quantities of

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LOC bridging (including the REM-500 and NZhM-56) exist for rapid repair of permanent and semipermanent bridges in rear areas.

c. Forecast (U).

(1) Near term (1980-1985) (U).

(u) ~~(C)~~ A second-generation ribbon bridge will be fielded as an amphibious bridge/ferry system. A heavier tracked amphibious carrier with a 20-tonne capacity may complement, then replace the current PTS amphibious carrier. A multispan tank-launched assault bridge on the T-72 chassis will probably be developed. Helicopter-emplaced short-gap bridging will appear, and an improved truck-mounted scissors bridge will appear to replace the current TMM.

(2) Midterm (1986-1990) (U).

(u) ~~(C)~~ New ribbon bridges will replace the current PMP models, an attempt to render the several Warsaw Pact ribbon bridge designs compatible with one another (PMP, PP-64, PR-71). Improved river reconnaissance capabilities will aid in deep fording for tanks.

(3) Far term (1991-2000) (U).

(u) ~~(C)~~ Development of a 30- to 50-meter tank-launched bridge on the NST chassis can be expected in the 1990s. In addition, improved LOC bridging, including a floating railroad ribbon bridge, should be available. The Soviet goal of 5-minute erection time for 60-meter dry-gap and 300-meter wet-gap bridges may be realized.

5. Route Clearing (U).

a. Doctrine (U).

(U) Soviet battle doctrine calls for keeping up the tempo of the march; to facilitiate implementation of this doctrine, route clearers are employed up to 2 hours ahead of the main body during a tactical march. Route clearers are used to fill craters, remove obstacles and debris, and clear snow. They must be able to operate in a nuclear-contaminated environment and be able to clear obstacles resulting from a nuclear blast (e.g., fallen trees and boulders).

b. Equipment (U).

(1) (U) The PKT dozer was specifically developed to be used as a route clearer. This machine consists of a hinged blade mounted on the rear of a four-wheel, all-wheel-drive tractor. The blade can be positioned as a straight blade for bulldozing, as an angle blade for angle dozing, and as a

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V-blade for snow plowing. All of these position changes are hydraulically controlled from the cab. The PKT dozer was designed to operate at temperatures as low as -40°C and has a road speed of 45 km/h.

(2) (U) The IMR armored engineer tractor consists of a hydraulically operated, hinged blade mounted on the front of a T-55A tank chassis and a telescoping crane mounted on the turret ring. An armored cupola is attached to the side of the crane assembly for the crane operator. The IMR tractor crew uses the hinged blade to fill craters and move obstacles. Certain obstacles, such as logs, that cannot be moved by the blade are moved by the crane with its unique grab. No member of the crew is exposed during any of these operations. A bucket on the left side of the tractor chassis, it is believed, can be remotely attached to the crane boom so that its use does not require any member of the crew to be exposed to attach it. When attached in this fashion, the bucket will function in a manner similar to the well-known US Gradall hydraulic shovel; it is used for the preparation of river-crossing sites. This tractor is protected from nuclear fallout by an overpressure system and a dust-particle filter. The interior has a radiation-attenuation liner for operation in a nuclear environment. To insure that a new vehicle will retain the mobility of newer tanks in the Soviet inventory, development of an IMR-type package mounted on either a T-64 or a T-72 chassis is expected.

c. Forecast (U).

(1) Near term (1980-1985) (U).

(u) ~~(C)~~ The IMR armored engineer tractor will be mounted on either the T-64 or the T-72 tank chassis. The PKT will have an overpressure system and a dust-particle filter to enable it to operate in a nuclear-contaminated environment for a limited period of time.

(2) Midterm (1986-1990) (U).

(u) ~~(C)~~ As Soviet tanks and other armored vehicles improve in design and mobility, so will route clearers in order to be able to clear routes ahead of these vehicles. Most route clearers will be mounted on armored carriers and will be protected against nuclear fallout and radiation.

(3) Far term (1991-2000) (U).

(u) ~~(C)~~ All route clearers will be designed to operate in a CBR environment. Mobility, both on- and off-road, will be equal to that of all Soviet tanks and other armored vehicles. Soviet divisions will be equipped with many more route clearers than they currently have.

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6. Countermine Warfare (U).

a. Doctrine (U).

(U) When mines are encountered in an offensive operation, several means of breaching these minefields are available to the Soviet Army. Included in this inventory of equipment are mine rollers, mine plows, and explosive line charges. Mines are employed in the offense to protect open flanks of advancing elements and to consolidate strong points.

b. Equipment (U).

(U) ~~(S)~~ The Soviets are concerned with the problems they expect to encounter when opposing forces use scatter mines; consequently, they have devoted considerable effort to enhancing their minefield-breaching capabilities. Two pieces of equipment used in this role are the mine roller and mine plow. The UR-67 rocket-projected line charge carried on the BTR-50PK tracked vehicle features two 100-meter lengths of explosive hose and four rocket motors that can be randomly selected to give a standoff distance of up to 550 meters from the edge of the minefield. The total length of the explosive charge is 100 meters; the charge will clear a path 6 to 8 meters wide over the 100-meter length. A new and similar system mounted on the MT-LB tracked armored artillery tractor chassis has entered service. This system, tentatively designated mine clearer M1979, upgrades the mobility of the UR-67, provides greater crew protection, and has performance characteristics equal to those of the UR-67.

c. Forecast (U).

(1) Near term (1980-1985) (U).

(U) ~~(C)~~ Soviet armed forces will continue to product-improve their conventional mine-clearing equipment, as evidenced by the new M1979 mine clearer. As improvements are made, older items will gradually be phased out of the inventory. Since Soviet hand-held and vehicle-mounted mine detection equipment has not been improved in recent years, this area is expected to receive attention during this forecast period. The proliferation of nonmetallic mines suggests that research may concentrate on the development of a "universal" (metallic and nonmetallic) mine detector.

(2) Midterm (1986-1990) (U).

(U) ~~(C)~~ If found viable, a fuel-air explosive mine-clearing system could be developed and produced during this time frame. If Soviet mobility is threatened by influence mines, it is reasonable to assume that countermine efforts will be attempted. These efforts may produce a device that will simulate the signature (magnetic, sonic, vibration, etc.) required for detection.

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(3) Far term (1991-2000) (U).

(u) ~~(C)~~ The Soviets will keep abreast of developments of mine fuzes and will field equipment capable of countering any advances made in this area. To counter the threat posed by land mines requires only neutralization of the initiating device.

III. ENGINEER COUNTERMOBILITY SYSTEMS (U)

7. Introduction (U).

a. Doctrine (U).

(U) In the event the Soviet Army must revert to a defensive posture, personnel and equipment are available, well forward, in quantity to construct defensive positions that will include defensive minefields, antitank ditches, and personnel shelters. In addition, the capability to rapidly interdict routes of approach into these defensive positions is evident in the Soviet Army.

b. Engineer Countermobility Support (U).

(U) The two main areas of engineer countermobility support in the Soviet forces are mine warfare and barrier construction.

8. Mine Warfare (U).

a. Doctrine (U).

(U) The Soviets use mines on both offense and defense. Mines are used in the offense to protect the open flanks of advancing elements and to consolidate strong points. In the defense, antipersonnel mines are used to inflict casualties, slow the attack, and canalize troops into selected killing zones. Antipersonnel minefields will contain 2000 mines per kilometer of front, and a minimum of 5% will be trip-wire activated. Antitank minefields will contain 750 to 1000 mines per kilometer of front. Using this density, the Soviets expect a hit probability of 70%.

b. Equipment (U).

(1) Mine planters (U).

(u) (a) ~~(S)~~ In the area of mechanical mine planters, the armored tracked mine planter GMZ represents the latest version. The vehicle's

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capacity is 208 heavy antitank mines. It can emplace a 1-km row of mines at 4- or 5.5-meter intervals in approximately 8 minutes, average soil conditions prevailing.

(b) (u) ~~(S)~~ Another mine-laying device used by the Soviets is a modified Mi-8 HIP helicopter. The HIP trails a mine-laying chute from the cargo compartment, rearward toward the tail boom. In consonance with Soviet doctrine, the helicopter will probably be used to surface lay antitank mines rapidly along the exposed flanks of attacking columns, thereby serving in a countermobility role. This system is assessed as having a load capacity of 200 heavy antitank mines since volume and lift capacity fall within the helicopter's operational capabilities. When used in this role, the HIP will be extremely vulnerable to fire from all types of weapons since it must fly at slow speed and low altitudes.

(2) Minelayer (U).

(u) ~~(S/NOFORN/WNINTEL)~~ The 220-mm MRL BM-27(S) is believed to be capable of remote minelaying. The complete system required to implement this capability is expected to be introduced into the Soviet ground forces shortly. The BM-27(S) will also probably be armed with antitank mines. If the scatterable mine payload weight is the same as that of the ICM bomblets, each mine should weigh approximately 2.5 kg and the warhead could contain 23 mines. Mines of this weight may have a plate charge for underside attack of armored vehicles.

c. Forecast (U).

(1) Near term (1980-1985) (U).

(u) ~~(C)~~ Continued product improvement of existing mines and fuzes combined with R&D on mine delivery means will reduce the amount of effort required for mine warfare techniques.

(2) Midterm (1986-1990) (U).

(u) ~~(S)~~ A new mine and fuze combination delivery by aircraft, rocket, and/or tubed artillery is expected. These mines will feature more sophisticated fuzing and a more lethal attack and kill mechanism.

(3) Far term (1991-2000) (U).

(u) ~~(C)~~ Controlled minefields that will enable Soviet forces to arm and disarm emplaced mines at will should become an option for the Soviet Army. To reduce the logistics burden, conventional mines may be replaced by homing

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mines (smart weapons) that should accomplish more effectively the mission of the midterm systems.

9. Barrier Construction (U).

a. Doctrine (U).

(U) The most rapid barrier that can be constructed in a combat area is an antitank ditch. Antitank ditches will be used in conjunction with natural and manmade obstacles. These ditches will be sited to block logical avenues of approach into a selected defensive area.

b. Equipment (U).

(1) (u) ~~(C)~~ A second-generation Soviet military ditching machine, the MDK-3, recently appeared in GSFG mounted on a lengthened and extensively modified T-64 tank chassis. Although the running gear and apparently the automotive components of the T-64 tank have been used, the vehicle's hull appears to be considerably lighter than that of the T-64 tank. Since this machine is organic to and travels with the maneuver elements, it was necessary to mount it on a chassis that could maintain the high road speeds of the new Soviet tanks and other armored vehicles; the T-64 tank chassis provides this mobility. The chassis contains seven road wheels per side (rather than the six found on the T-64 tank); the additional wheels provide better weight distribution for lower ground pressure. Use of the T-64 chassis also offers the crew added protection and results in commonality of running gear and engine parts between tanks and engineer equipment.

(2) (u) ~~(C)~~ The MDK-3, like the MDK-2M, uses a rotary cutting head containing cutting blades that shear off the soil and deliver it to a drum-type chute for discharge. The most significant difference in excavating techniques between the two machines is that the MDK-3 excavates while moving in reverse, whereas the MDK-2M excavates while moving forward. Photoanalysis reveals that by having the cutting blades totally exposed for excavating, the MDK-3 can excavate, in one pass, to a depth almost equal to the diameter of the cutting head--for this machine, about 3 meters. By comparison, the MDK-2M excavates to a depth of 0.8 meter in one pass. Reported ditching capacity is over 400 m^3/h in sandy loam.

(3) (u) ~~(C)~~ The MDK-3's full-width cab is mounted on the front of the chassis; final production models reportedly will have armored cabs that are protected against NBC contamination. The armor will be 25 to 30 mm thick, and the special yellow glass in the cab will be of the same thickness. A front-mounted bulldozer blade is used to level the bottom of the ditch and to move the soil as required. The blade teeth are used to break up frozen soil before excavating.

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IV. ENGINEER SURVIVABILITY SYSTEMS (U)

10. Introduction (U).

a. Doctrine (U).

(U) To ensure that Soviet troops survive under all conditions of armed combat, equipment and techniques are standard throughout their army. Attenuating liners and filters for protection against nuclear and chemical warfare are common in all new Soviet military vehicles. Individual protection in the form of masks and protective clothing are issued. The principle of digging shelters and utilizing camouflage is practiced and is a part of Soviet tactics for survival. Adequate water supply equipment for locating water and treating contaminated water is available in sufficient quantities to ensure no water shortages from forward to rear echelons.

b. Engineer Survivability Support (U).

(U) The three primary areas of engineer survivability support in the Soviet forces are rapid digging in; camouflage, concealment, and deception (CCD); and water supply.

11. Rapid Digging In (U).

a. Doctrine (U).

(U) The Soviets place heavy emphasis on rapid digging in and are equipped with high-speed ditching machines to implement this doctrine. In the event that the Soviet Army must revert to a defensive posture or, particularly if a nuclear strike is anticipated, Soviet doctrine calls for rapidly digging in troops, equipment, supplies, tanks, guns, and command posts. To ensure that the ditching equipment is readily available, the ditching machines are organic to the motorized rifle and tank divisions and travel with the first echelons of attacking forces.

b. Equipment (U).

(1) Ditching machines (U).

(a) (U) The previously described MDK-2M ditching machine is used when large excavations are hastily required. It has a productive capability of about 380 m^3/h in sandy clay. This means one MDK-2M can prepare complete emplacements for 6 tanks in 1 hour or emplace 12 in hull defilade in 1 hour. Since eight of these machines are available in a division, each division can prepare complete emplacements for 48 tanks in 1 hour or emplace 96 in hull defilade in 1 hour.

(b) (U) The PZM series of ditching machines consist of a PZM-1 model, which is used for excavation in unfrozen soil, and a PZM-2 model, which is used for either frozen or unfrozen soil excavation. Both were developed specifically for military use.

(c) (u) ~~(C)~~ The PZM-1 ditching machine consists of a bulldozer blade mounted on the front of the T-150K wheel-type tractor and a ladder-type multibucket trenching component mounted on the rear. It is equipped with filtration vents and an overpressure system for operating in a CBR environment. This machine can excavate a narrow trench, 0.8 meter wide, by using conventional digging techniques, or a wide trench, 3.5 meters wide, by swinging the boom from side to side. Depth is about 1.5 meters.

(d) (u) ~~(C)~~ The PZM-2 ditching machine differs from the PZM-1 in that its trenching component uses a bucketless working element that consists of scraping shovels and cutters. These enable the PZM-2 to excavate in either frozen or unfrozen soil. This machine also can excavate either a narrow or a wide trench. Productive capacities of these machines are about 250 m^3/h in unfrozen soil. One PZM can prepare complete emplacements for 4 tanks in 1 hour or emplace 8 in hull defilade in 1 hour. Since 12 of these machines are available in a division, each division can prepare complete emplacements for 48 tanks in 1 hour or emplace 96 in hull defilade in 1 hour. The United States has no ditching machine that can excavate a trench this wide and in this manner.

(e) (u) ~~(C)~~ The PZM series of ditching machines are also used to prepare communication or fire trenches. One PZM can excavate about 210 meters of trench in 1 hour; therefore, the 12 machines available in each division can produce about 2520 meters of trench in 1 hour.

(2) Self-entrenching device (U).

(U) Because the Soviets are so concerned with using the earth for protection, they have equipped their T-64 and T-72 medium tanks with a new type of blade. It is an integral part of the tank and is attached to the belly of the tank between the tracks. Although not as efficient as a normal bulldozer blade, it will provide a means of moving earth to place a tank in hull defilade when other engineer equipment is not available. When in the raised position, the blade will not interfere with the tank's visibility or maneuverability. The blade has only two positions and must be raised or lowered manually.

c. Forecast (U).

(1) Near term (1980-1985) (U).

(u) ~~(C)~~ Soviet entrenching equipment will have higher digging capacities and greater road mobility. Some machines will be mounted on armored chassis.

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(2) Midterm (1986-1990) (U).

(u)
~~(C)~~ All entrenching equipment will be mounted on armored chassis and will be able to maintain road speeds equal to those of all Soviet combat vehicles. Most other equipment will be equipped with self-entrenching devices, thus reducing the digging-in requirements for engineer units.

12. Camouflage, Concealment, and Deception (U).

a. Doctrine (U).

(1) (U) Soviet CCD doctrine calls for the use of any of a variety of measures to deceive an enemy in peace or war. These measures include camouflage (both natural and artificial), light and sound masking or simulation, obscurants (including smoke, aerosols, and chaff), decoys (including radar reflectors and thermal simulators), false electromagnetic emitters, security measures, disinformation, and dispersion of troops and equipment. Natural camouflage includes terrain and weather masking. Artificial camouflage includes nets, tarps, special paints (IR-reflective, radar-absorptive, etc.), and paint patterns. Enforcement of troop camouflage discipline and the use of natural and expedient materials has received the greatest training emphasis. Relying on their World War II experience, the Soviets require the preparation of a deception plan as an integral part of every operation plan.

(2) (U) Some of the techniques required by Soviet doctrine are as follows: In strong defensive areas and in the area of a main attack, every effort will be made to conceal any buildup of forces or military presence. This effort will include strong troop discipline and the use of natural cover and concealment, the use of decoys and deceptive actions, employment of local towns and manmade cover, movement at night or during periods of low visibility, restrictions on radio and vehicle traffic, and transmission of misinformation. Where appropriate, obscurants, antireconnaissance weapon fire, and other active methods will be used to prevent enemy observation.

(3) (U) In secondary defensive areas and in the sector of a diversionary attack, every effort can be expected to indicate a strong defense or preparation for an attack. In these areas, extensive use will be made of decoy weapons, positions, bridges, ferries, and anything else to convince an enemy that a strong force is present. Decoys will be camouflaged, but not too well, perhaps using faded nets and inadequate garnishing. False vehicle tracks will be made with specially supplied vehicles or handtools. Decoys will have the proper animation and will be moved after each enemy observation. Fires will be lit at night and extinguished during an enemy attack. Decoy field kitchens will emit characteristic smoke and aromas during the day, and special weapons will fire on enemy reconnaissance devices. Roving guns will fire registration rounds, and explosives will simulate other artillery firing.

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(4) (U) When the movement of armor or missiles is being simulated, officers in tank corps uniforms will precede the "march" to arrange for improving roads and strengthening bridges and to place markers for fords to bypass weak bridges. They will also disseminate misinformation to the local population and, in general, try to give every impression that large armor units are coming.

(5) (U) Obscurants will be used to camouflage the movement and combat operations of friendly units, and in rear areas to conceal military installations, transportation facilities, and industrial enterprises. Modern obscurants that are effective in the visual IR and radar region of the electromagnetic spectrum can greatly reduce the effectiveness of enemy artillery, aircraft, and ATGM.

(6) (U) Camouflage discipline is enforced by special staff officers and is checked from the air by periodic overflights to detect errors. There is growing evidence of an intent to use prefabricated decoys on a large scale. Many decoys are also to be constructed from natural and other readily available materials, and standardized drawings and plans are provided in Soviet Army engineer textbooks.

b. Equipment (U).

(1) Camouflage nets (U).

(U) Camouflage nets consisting of a frame and cover are used by Warsaw Pact ground forces to conceal equipment, movement, military structures, and other signs of activity. The most recently issued Soviet camouflage net is the MKT series. The MKT nets measure 12x18 meters and consist of 12 standard interchangeable pieces, each measuring 3x6 meters. The dimensions make it possible to construct geometrically uneven and varied covers. MKT nets are carried on or in tanks, infantry combat vehicles, prime movers, trucks, and other similar military vehicles. A set requires 5 to 10 minutes to erect during the day and up to twice that long at night. Three versions of the MKT nets are produced: MKT-L (summer, reversible), MKT-T (summer, nonreversible), and MKT-S (winter).

(2) Obscurants (U).

(U) The Soviets employed smokescreens extensively during World War II and remain convinced of their effectiveness. Although they continue to stress the use of traditional smoke to blind, conceal, and deceive, they are aware of other obscurants, including aerosols and chaff. Obscurants can be used to protect troops from thermal radiation, lessen the effectiveness of ATGM and laser-guided munitions, and interfere with IR, TV, night-vision, and radar reconnaissance instruments. A few combat vehicles, such as the T-54 tank and the ASU-58 assault gun, may carry externally mounted smoke barrels. All new armored vehicles, however, have smoke-generating systems incorporated into

their design. These vehicles can create smokescreens by injecting raw diesel fuel onto their engine exhaust manifolds, causing vaporization of the fuel. The vaporized fuel is forced through the exhaust outlet, resulting in the release of a thick smoke. The TMS-65 decontamination vehicle with its jet-engine exhaust is being used by the Soviets to create large-scale smokescreens.

(3) Decoys (U).

(U) In support of their camouflage and deception mission, Soviet engineers are expected to construct decoy positions and features, such as false access roads, vehicle track and tire patterns, and decoy equipment. With the support of other personnel, the engineers will animate these positions to the extent of operating field kitchens at normal messing hours. The Soviets employed decoy equipment extensively during World War II with great success and have continued to develop and deploy such equipment. Decoy models may be made to represent almost any object, but those most likely to be encountered are armored vehicles, missiles, trucks, aircraft, artillery, and strong points. Entire installations may be constructed to appear active. Use is made of sophisticated inflatable prefabricated models as well as local material when constructing decoy equipment.

c. Forecast (U).

(1) General (U).

(U) The Soviets have met the free world's current rapidly expanding reconnaissance and sensor technological threat with determination and realism. They intend to continue to emphasize the principle of concentration of troops and weapons without compromising security. They are expected to use large-scale deception, including disinformation and mobilization of their civilian populace under the guidance of experienced war veterans, to establish and maintain large-scale sophisticated decoy positions and installations. They are expected to make every effort to distort and degrade the electromagnetic signatures of their equipment and dispositions in order to confuse their future combat enemy just as successfully as they confused the then technologically sophisticated German Army in World War II.

(2) Near term (1980-1985) (U).

(u)
~~(C)~~ The Soviets are expected to have completed the camouflage pattern painting of all tactical vehicles and equipment in the near term. New paints will be integrated into the pattern scheme as they become available; this includes IR-reflective paints that simulate the surrounding vegetation. The Soviet selection of patterns is expected to become standardized during this time frame as they seek to optimize the desired camouflage blending effects. Camouflaged uniforms will be issued to all Soviet tactical units rather than only to reconnaissance and special operations units. An increasing number of tents and vehicle tarps with IR treatment will be fielded.

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(3) Midterm (1986-1990) (U).

(u) ~~(S/NOFORN/WNINTEL)~~ By the late 1980s, the Soviets are expected to possess broadband paints that will absorb sufficient IR radiation from 0.9 to 15 μm to defeat or degrade devices used for reconnaissance observation, ranging, and weapon guidance systems. The Soviets are also expected to deploy broadband aerosol munitions during this period. Unlike conventional smokes they will defeat or degrade any system operating in the ultraviolet, visual, IR, and radar regions. These aerosols will achieve a higher level of absorption using much lower concentrations than is now possible.

(4) Far term (1991-2000) (U).

(u) ~~(S)~~ Newer synthetic nets that provide for rapid field color changes through the simple spray application of sensitizing chemicals will be fielded in the 1990s. These nets will also be able to defeat thermal sensors. The radar-scattering properties of these nets will be greatly improved over those of conventional nets. Broadband paints will be applied to Soviet equipment in new patterns that will enhance their unique properties for defeating or confusing sensor systems. Soviet tactical vehicles and equipment will very nearly become "invisible" to battlefield reconnaissance devices. New methods of recognition and identification between friendly tank and weapons crews will be fielded to prevent friendly casualties and loss of command and control.

V. SUPPLY OF WATER AND FOOD (U)

13. Field Water Supply (U).

a. Doctrine (U).

(u) (1) ~~(C)~~ Soviet ground-force units from regimental level up have a water filtration and/or purification capability. Water supply is organized for subunits in all combat areas, regardless of availability of local resources. This procedure is based on the recognition that use of nuclear weapons could contaminate open bodies of water. In order to supply units with necessary water, water supply points are created near each battalion's food supply point. If this is impractical, water is dispensed from a central water distribution point. The regimental chief engineer is responsible for establishing these water supply points, which are then maintained by personnel of the using subunits. These dispersal points generally consist of storage tanks of rubberized material, which are covered to protect the water from contamination. In the defense, separate company water points may be established.

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(2) (U) The Soviets assume that the enemy is capable of large-scale deliberate or consequential contamination of the water sources. Therefore, water supply is important not only in arid regions and regions of little water, but also in regions with abundant water sources. For this reason, the Soviet water supply elements remain organized for all combat operations, both on the march and during periods of consolidation and area disposition.

(3) (U) An engineer battalion, organic to each motorized rifle division and tank division, is responsible for field water supply. Specifically, water supply and distribution are performed by the special task platoon of the technical company, engineer battalion. The chain of authority runs through the engineer battalion to the Commander of the motorized rifle division or tank division.

(4) (U) Under normal field conditions, the Soviet minimum essential drinking water requirements are 10 liters per man per day, and the sanitary requirement is 45 liters per man per day. Therefore, in order to satisfy this requirement at division level, approximately 150 000 liters of water per day must be supplied for drinking purposes, and approximately 675 000 liters per day must be supplied for sanitary and laundry purposes. In arid regions or other regions lacking abundant water, and in extreme combat conditions, the minimum essential water requirement is reduced to 2.5 to 4.0 liters per man per day for drinking purposes, and the sanitary requirement may be reduced even more drastically. At the division level, this would require at least 37 500 to 60 000 liters per day.

(5) (U) Soviet doctrine stresses the use of existing water networks and surface water. The use of these sources, if available, is encouraged because it simplifies the supply procedure. If, however, these sources are unavailable or impractical, the Soviets feel that they are fully prepared to drill for water.

(6) (U) Water supply planning for troops on the march depends on the availability and quality of water. Water is supplied at a rate of 75% of the daily requirement during night halts and 25% at major stops during the day. If major stops are not envisioned or if there is no source available at the next stop, water is transported from previous distribution or supply points.

b. Equipment (U).

(1) ~~(C)~~ (u) For tactical water reconnaissance, the Soviets have developed a mobile station, Model PSPV-B, for rapid search and discovery of underground water sources. The station is designed to obtain accurate

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information of water found at a maximum depth of 300 meters. The PSPV-B has onboard instruments capable of determining water-level depth, capacity, mineralization, flow rate, and flow direction; filtration coefficients can also be calculated. A six-man crew operates the station and can determine the necessary information in 2 to 3 hours.

(2) (U) Two popular items in the water drilling inventory are the portable MsChak-15 and the UDV-20. These auger-type power drills, operated by two men, can extract water at a depth of 15 meters in 1 to 3 hours. The devices have a special tip for breaking rock and a built-in filter and pump, which enable the newly drilled well to become productive immediately upon completion of the drilling operation. The MsChak-15 can extract ground water at a rate of 1.3 to 1.5 m^3/h, and the UDV-20 can extract it at a rate of 1.8 to 2.0 m^3/h.

(3) (u) ~~(C)~~ The 1BA-3 drill unit is mounted on a MAZ-500 truck. Under normal conditions and in normal ground, the drill can reportedly drill 18 m/h and, in rocky conditions, 3 m/h. The maximum depth capability of the drilling unit is 500 meters. The drilling unit URB-3 is mounted on a MAZ-200 truck and has the same drilling capabilities as the 1BA-3 except that its maximum depth capability is 300 meters. The PBU drilling unit is mounted on a ZIL-157 truck and can drill to a maximum depth of 30 meters. Reportedly the PBU can be prepared for operation in 1.5 hours, whereas the URB-3 and 1BA-3 require nearly an entire day. Another drill in the Soviet military inventory is the URB-500, which is mounted on a MAZ-501 truck. It is used for drilling test holes up to 2000 meters in depth and 400 mm in diameter.

(4) (U) The Soviets have a variety of equipment for purifying water from both ground and surface water sources. The modernized automatic filtration station MAFS-1 can supply up to 2000 m^3/h and requires a five-man crew and driver for its operation. Water is pumped from the source to rubberized fabric tanks where coagulation and sedimentation take place. It is then pumped to the MAFS-1 unit where it is filtered, decontaminated by activated carbon and/or ion exchange, chlorinated, dechlorinated if necessary, and then stored in rubberized fabric tanks for distribution. The MAFS-3 truck-mounted filtration station can purify naturally, chemically, and radioactively contaminated water through conventional and "special" purification methods. The purification processes include sedimentation, coagulation, chlorination, filtration, and the "special" processing of which little is known. These processes are aided by chemical dosing. Production rates are 7000 to 8000 L/h.

(5) (u) ~~(C)~~ One item of military desalination equipment is the mobile OPS. Mounted on a KRaZ-255B truck, the OPS is used in combination with a trailer-mounted 75-kW diesel generator. The unit utilizes a two-stage (evaporation and condensation) distillation system. The equipment, which can produce approximately 2 m^3 of potable water per hour, must be cleaned every 200 hours when treating seawater and every 400 hours for ordinary water. Three men can prepare the OPS for operation in 1.5 to 2 hours.

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(6) (U) Soviet military R&D has produced a new field water purification unit, the VFS-2.5, which will replace or at least supplement the current MAFS-3 unit. In the new unit, raw water is successfully subjected to chlorination, coagulation and flocculation, sedimentation, suspension filtration through an anthracite coal bed, disinfection by irradiation, and adsorption by activated charcoal granules. According to the Soviets, operation and maintenance procedures are simple, and major recharging of the coal and charcoal beds is required only after 100 to 150 hours of operation. This is the first known military usage of ultraviolet radiation as a bactericide. Its effectiveness is directly dependent upon the time and depth of exposure. Depth of exposure is controlled by the configuration of the housing around each lamp unit, and time of exposure is controlled by the flow rate, which is regulated by an inline flow meter. By using ultraviolet radiation in lieu of heat at this stage, the power requirement is less, no cooling is required, and the results are immediate.

c. Forecast (U).

(1) Near term (1980-1985) (U).

(u) ~~(C)~~ The Soviets have the wherewithal to desalinate water by electrodialysis, as evidenced by the work conducted on farms in the Caspian Sea area. Thus far, however, there is no evidence of any of this type of technology in the military water supply inventory. A membrane-type unit can be expected in the near- to mid-term forecast period.

(2) Midterm (1986-1990) (U).

(u) ~~(C)~~ To improve battlefield mobility of water supply equipment, some countries have sought to decrease the size and weight of the equipment. Containerization has been explored in some instances. The Soviets, on the other hand, appear satisfied to have their equipment truck or trailer mounted and have increased the lift capability of their transport aircraft. This has resulted in increased mobility in the air and on the ground. During the mid-term, this concept is not expected to change.

(3) Far term (1991-2000) (U).

(u) ~~(C)~~ Extensive use is made of hydrogeological maps in the Soviet Union. This will continue in the 1990s, and the mapping will improve with the advancement of technology--for example, the use of missiles and satellites in remote sensing of water sources.

14. Food Supply (U).

(u) ~~(C)~~ The Soviet Union in its doctrine and equipment fielded has amply demonstrated its appreciation of the role of the individual soldier in the success of its ground forces on the battlefield. For example, Soviet

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doctrine prescribes, wherever possible, three hot meals a day—even in a fast-moving mobile situation. Mobile kitchens and bakeries are designed to provide simple, but nutritious hot meals to advancing troops. Much of this equipment protects personnel from CBR contamination or is designed for easy decontamination. Soviet ground forces are better prepared for operations in a CBR environment than those of any other major military force in the world. Hot food and pragmatically designed food service equipment should contribute to the strength, vigor, and morale of the soldier, but in fact human failure often results in doctrine being ignored and equipment poorly utilized. The Soviet Army's food supply is rife with theft, food service regulations are most often not enforced, and cook training is poor. The army has had to divert manpower to kitchen farming activities. The army's actual feeding of the combat soldier is not expected to improve until the attitude of the officer corps toward the conscript changes and the food supply of the USSR improves.

VI. SUPPLY OF FUEL (U)

(u)
~~(C)~~ The appearance of automated pipelaying vehicles in the Soviet forces has minimized fuel supply as an obstacle to tactical mobility. Use of a mechanized pipelaying machine has increased the rate of construction of tactical POL pipelines by two to three times over that achieved using strictly manual procedures. This machine exists in two versions: wheeled and tracked. Several recent sightings of the pipelaying vehicle indicate that the wheeled version is definitely different from the tracked version. It appears that the trailer pulled by the wheeled prime mover lays 100-mm-diameter pipe only, whereas the trailer pulled by the tracked prime mover lays 150-mm-diameter pipe. Use of the wheeled prime mover, with its improved on-road mobility, will expedite the construction of tactical pipeline in the rearsupply areas. Use of the tracked prime mover will provide the pipelaying capability over adverse terrain to those areas that are further forward. Both of these systems will increase the Soviet pipeline construction capability to operate in virtually any type of terrain.

VII. SURFACE TRANSPORT (U)

15. Introduction (U).

(u)
~~(S)~~ Today, the WPC enjoy a far greater selection of trucks with specific characteristics for military use than any other group of countries in the world. The Soviet Union is the major contributor to this advantage. Clear superiority is enjoyed for two wheeled transport vehicle groups: army general logistic ground-support trucks and mobile ballistic missile systems.

a. General Logistic Ground-Support Trucks (U).

(u)
~~(S)~~ The currently fielded general logistic ground-support truck fleet consists of rear-area, low-mobility trucks and tactical-area, heightened-mobility trucks. In 1981 the Soviet Army general logistic ground transport

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fleet was estimated to contain approximately 900 000 trucks. Trucks are the primary transport means for both general- and special-purpose army cargo. Trucks in the Soviet Army general-purpose logistic fleet have 50% to 70% interchangeability of parts between most comparable models. Trucks from both fleets operate well on the road, and the heightened-mobility truck fleet has off-road performance almost equal to that of tracked vehicles. This off-road performance is considered better than that of most military truck fleets. Mobility, efficiency, and durability were stressed in the development of this fleet.

b. Mobile Ballistic Missile Systems (U).

(u)
~~(C)~~ Mobile ballistic missile systems have been developed to a high level by the Soviets, who are world leaders in the design and production of this type of truck. In the 1960s and early 1970s, the Soviets fielded mobile missile systems on four-axle automotive platforms (trucks) with a 20-tonne off-road payload capacity. In the late 1970s, the Soviets developed an even larger six-axle platform, the SS-20 TEL, which can transport over 40 tonnes of missile system. It is the best missile transporter available today.

16. Systems: 1980-1985 (U).

(U) The final planning and development of a new Soviet truck fleet (fourth generation since World War II) for the 1980s is almost complete. Some new models have already been placed in service. Listed below are the vehicles that are expected to enter initial military service in the 1980 to 1985 time frame. All models are general-purpose tactical trucks except those marked TEL.

Factory-Model Number	Payload (tonnes)
LuAZ-967 M	0.25
URAL-4320	5.0
KamAZ-4310	5.0
SA-8 (TEL)	5.0
KrAZ-260	8.0
MAZ-? 8x8 (SS-22 TEL)	18.0
MAZ-? 12x12 (SS-20 TEL)	40.0

17. Systems: 1986-1990 (U).

(U) The final new models for the fourth generation of Soviet trucks will be introduced during this time period. Not all model numbers are currently known; however, estimates are made wherever possible.

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Factory-Model Number	Payload (tonnes)
UAZ-? 4x4	0.6
UAZ-? 4x4	1.0
GAZ-43?	2.0
ZIL-132	3.5
ZIL-? 8x8	8.0 to 10.0

18. Systems: 1991-2000 (U).

a. (U) During the 1990s the Soviet fourth-generation fleet, which was introduced in the 1980s, will be product-improved once. Some prototypes will be introduced in the last 5 years of the period, but only one or two completely new models will be introduced to military service.

b. (u) ~~(S)~~ New follow-on missile systems will be introduced during this time period. These will include new automotive transporters.

19. New Technical Options (U).

(u) ~~(C)~~ New technological options for the Soviets include componentry already developed in the West but currently not available to them. Examples include:

- Automotive gas-turbine engines in the 200 kW and up power range
- Automatic transmissions for all sizes of vehicles
- More parts made of lightweight materiels

Two areas in which the Soviets lead the West and in which additional advances can be expected are:

- Off-road tire technology, with tire pressure variances between 50 and 1000 kPa possible
- Production of amphibious wheeled load carriers with payload capacities from 0.25 to 20 tonnes

VIII. HEAVY-LIFT HELICOPTERS (U)

20. Systems: 1980-1985 (U).

a. HALO A (U).

(1) (U) At the 1981 Paris Air Show, the Soviets exhibited their latest, and the world's heaviest, heavy-lift helicopter, the HALO A (Mi-26). Its maximum take-off weight is 56 000 kg with a payload of 20 000 kg. The

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Mi-26 is another Soviet product resulting from the pragmatic design philosophy of a conservative approach using available technology. Several high-technology design features were avoided in order to assure a successful product, e.g., elastomeric bearings and composite main rotor blades. A titanium main rotor hub and a fiberglass tail rotor, however, are used. Although shown as a civilian helicopter, the Mi-26 will be used for military purposes as a replacement for the aging Mi-6 (HOOK), which has been in service since 1960.

(2) (U) Avionics technology advances include an automatic hover system and a Doppler radar-driven moving-map display. There is also a dual-mode weather and navigation radar. The Mi-26 is powered by a pair of D-136 turboshaft engines rated at 8385 kW each. The new main transmission, which has an impressive power-to-weight ratio, is rated at 14 710 kW. The Mi-26 has a dual hydraulically operated boost system for cyclic, collective, and rudder controls, with redundant autopilot and stability augmentation system inputs. The cargo area is 3.2 meters wide by 3.15 meters high by 15 meters long with 20 jump seats along each side as displayed by the Soviets at the Paris Air Show. However, utilizing standard Soviet troop seats, the Mi-26 has a capacity of 100+ seats.

(3) (u) ~~(C)~~ The HALO A is optimized for internal transportation of equipment and/or troops with its massive 143 m^3 of internal capacity. The helicopter presently can transport up to 20 000 kg of cargo, and there is a good possibility that that capacity will increase within the next few years with improved rotor blades. In order to facilitate a load of that quantity of equipment, the HALO A is equipped with an overhead rail-crane system. This system consists of two-rails (I-beams) with a cradle between the rails. Electric hoists are used to move the cradle and pick up the loads. The system can move up to 5000 kg at one time.

(4) (u) ~~(C)~~ HALO A is also equipped with a closed-circuit television system for monitoring the loading and unloading of equipment in the cargo compartment and for observing internal and external loads during flight. Three cameras are installed: one viewing the cargo compartment, one viewing the external cargo hook, and one viewing the main landing gear. The camera monitoring the landing gear is probably used during kneeling operations.

(5) (u) ~~(C)~~ A unique feature of the HALO A is the overpressure system for the cockpit, which enables it to operate in a CBR environment.

b. HOOK (U).

(u) ~~(C)~~ The HOOK will continue to operate as a functional front-line helicopter through at least 1990 until sufficient HALO A's are produced to replace those HOOKs in the independent transport regiments. Some HOOKs will be utilized in special-purpose roles for probably the next 15 years: i.e., airborne command post, ECM, and fuel tankers.

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c. Performance Summary (U).

(U) Table 8-1 summarizes the performance parameters of the two Soviet heavy-lift helicopters.

Table 8-1. (U) Performance Summary for Soviet Heavy-Lift Helicopters

Characteristics	HOOK (Mi-6)	HALO A (Mi-26)
Troop capacity	65	100+
Takeoff weight (kg)	42 500	56 000
Operational empty weight (kg)	28 000	28 000
Useful load (kg)	14 500	28 000
Fuel weight (kg)	2 500	8 000
Payload (kg)	12 000	20 000
Range (nmi)	112	450
Speed (kn)	160	159

NOTE: Figures are maximum and do not reflect any particular mission.
~~(CONFIDENTIAL)~~ (U)

21. Systems: 1986-1990 (U).

(U) ~~(C)~~ There is insufficient information available to accurately predict the status of the Mi-30 and Mi-32 projects. It is believed within the Soviet technological capability to build such aircraft in the 1980s. The increase in speed, range, and endurance of tilt-rotor aircraft over those of contemporary helicopter designs is a motivating factor for building such aircraft since existing helicopters can satisfy the troop capacities previously mentioned for the Mi-30 and Mi-32 designs. The Mi-32 could replace the HIP family of medium-lift helicopters. Its future will depend on the progress made by the Mi-30.

22. Systems: 1991-2000 (U).

(U) ~~(C)~~ During the 1990s, the HALO A will satisfy most Soviet heavy-lift requirements. Should a requirement for a helicopter with a payload on the order of 40 000 kg ever come into being, a lateral twin-rotor helicopter similar to the HOMER (Mi-12) is expected to appear. The HALO A transmission was designed to be easily modified for incorporation of additional gearing and synchronizing shafting for such a future requirement.

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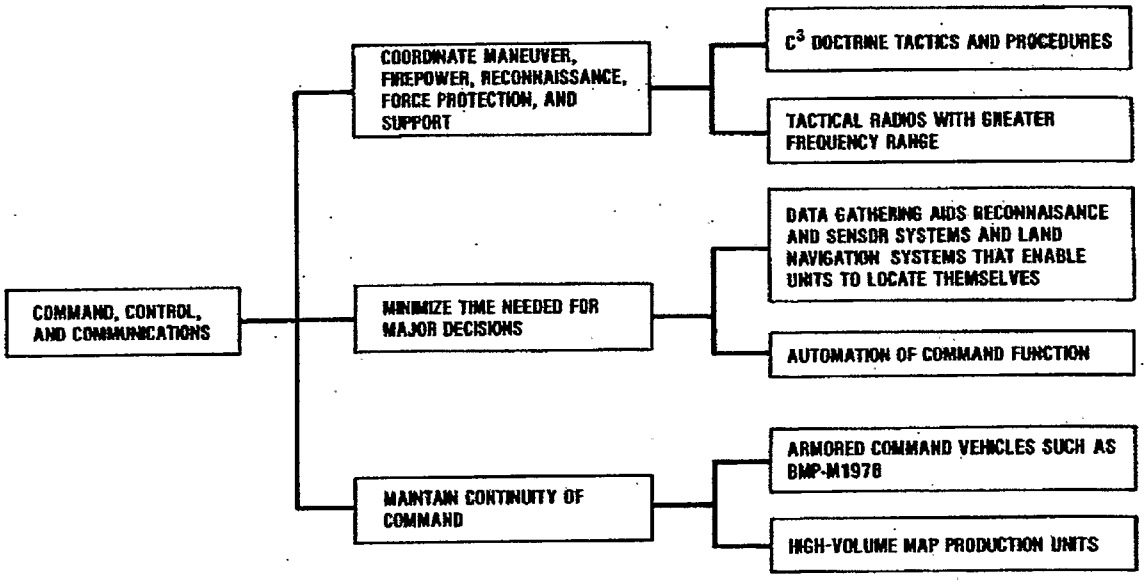
CHAPTER 9

COMMAND, CONTROL, AND COMMUNICATIONS (U)

I. INTRODUCTION (U)

1. Influence of Terrain and History (U).

(U) Soviet C^3 doctrine developed in the context of Russian terrain and experience. Two environmental features of the European USSR are important: the extreme size and flatness. These led to a particular force structure. Large armies and the ability to maneuver them over great distances and to concentrate them against the threat became important. This led to a highly centralized command structure to receive reconnaissance information, make decisions, and communicate them to maneuver, firepower, for protection, and support units. Whether the Soviets could handle the volume of information generated by reconniassance units was a question raised in Chapter 4. The Soviets have been working to improve the responsiveness of their C^3 system through automation. This chapter focuses on Soviet efforts to improve the centralization and responsiveness of their C^3 system and does not give an item by item forecast. Figure 9-1 shows the relationships among C^3 requirements and means of meeting them.



(u)
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Figure 9-1. (U) Functional Network for Command and Control Systems

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2. Related Systems (U).

(U) ~~(C)~~ Two major systems found throughout the Soviet Army ease the C^2 problem. These are the land navigation systems found in nearly every major combat vehicle and the system for producing and delivering highly accurate maps to combat commanders. The land navigation systems enable the Soviets to maneuver on a chaotic battlefield accurately and under radio silence. With its ability to overprint new reconnaissance information on existing maps, the Soviet mapping system affords the combat commander an important means of communication.

II. COMMAND, CONTROL, AND COMMUNICATIONS SYSTEMS (U)

3. Tactical Doctrine (U).

a. Requirements (U).

(U) ~~(C)~~ Modern ground forces tactical doctrine requires a commander to plan, command, and control a large and complex commitment of maneuver, weapons, reconnaissance, force protection, and support units. The Soviets have a well-organized and technically adequate C^3 system. It is designed to establish and maintain command and control under both peace and wartime conditions, whether forces are in garrison status or deployed in the field. Communications doctrine stresses system reliability, speed, security, survivability, and flexibility to meet specific needs of the command and situation. Soviet methods to achieve continuous and effective C^3 are based on adequate equipment, communications, redundancy, flexibility, facility, survivability, and continuous training.

b. Control by Tactical Commander (U).

(U) The tactical commander exercises complete authority over his unit and is responsible for its actions. The commander is assisted in his principal function--decisionmaking--by officers of a command group and staff. Subordinate unit commanders provide combat and support resources.

4. Description of System (U).

a. Interconnected Command Posts (U).

(U) ~~(C)~~ C^2 is exercised through a system of command posts, which are interconnected by redundant communications means. Physically, the command posts may be nuclear-survivable bunkers, semifixed temporary buildings or tents, command vehicles, groupings of trucks and vans, or combinations of these.

b. Alternate Modes of Communication (U).

(U) ~~(S)~~ Alternate modes of communication are used at most echelons of command. Landline and multichannel radio systems are the primary means of communications at front and army levels, with single-channel radio used as an

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alternate mode. Tropospheric scatter and satellite communications are being tested at these levels. Single-channel AM hf and FM vhf radio and multichannel vhf and uhf radio communications are used at division level and regimental headquarters. Battalions and lower echelons use hf and vhf radio, with landline being used in static situations. Ground force mobile communication capabilities are extended through radio/wire integration by interconnecting mobile radio communications with fixed military and civil networks.

c. Compensation for Lower Technological Level (U).

(u) ~~(C)~~ Soviet communication equipment does not incorporate the highest level of technological development. To compensate for this, their doctrine and practices require that users adopt rigid communication discipline and adhere to operating procedures that adjust to lower system capability than that demanded by US commanders.

5. Automation (U).

a. Need (U).

(u) ~~(S)~~ Soviet military planners and high-ranking military commanders long have been convinced that major improvements to the C^3 system and to combat operation of tactical ground forces will be made through development of automated command support (ACS). The Soviets have been directing a major effort since the 1960s to develop and field an ACS system. From the beginning, they have envisaged a Warsaw Pact-wide system to support the ground force commander's needs for both decisionmaking and troop control. Soviet and Warsaw Pact system planners have set comparative time reduction goals for command decisionmaking as follows:

Echelon	Manual staff work	Automated support
Front	6 hours	1 hour
Army	4 hours	40 min
Division	100 min	20 min

b. Planning and Phases of Development (U).

(u) (1) ~~(S)~~ Warsaw Pact system planning and development cover two major phases and time periods. First-phase efforts during most of the 1960s were devoted to determination of military requirements, development of conceptual system models, identification of system interconnections, establishment of programming languages, and definition of hardware specifications. Developmental work assignments were made by the Soviets to various WPC.

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production and are patterned after the IBM 370 computer series. Enhanced features of Ryad II computers over the first series include virtual memory, greater processing speed, increased memory capacity, and improved input-output channels. A Ryad III series is currently in the planning stages with production of some models set for the mid-1980s. This series will probably be based on IBM machines that have been developed after the 370 series. Ryad III computers would probably be replacing earlier Ryad machines in military applications by the late-1980s and would be utilized well into the 1990s. (Computers are discussed in more detail in Chapter 10.)

(3) Minicomputers (U).

(u) ~~(S)~~ The same commission that oversees the Ryad Project has been undertaking a joint project to develop the SM minicomputer family. Among the SM models known to be in production are the SM-1, SM-2, SM-3, and SM-4. The SM-1 and SM-2 appear to be based on early Hewlett-Packard HP-2100 minicomputers and the SM-3 and SM-4 on early Digital Equipment Corporation PDP-11 architecture. Minicomputers would have a size and power advantage where computational assistance is required at the lower echelons, thus complementing the Ryad series of larger mainframes at higher echelons. The Soviets have been slow in accepting the trend to mini-/microcomputers and distributed processing, but by 1990 the benefits to be gained by such technology should be fully recognized by the Soviets. Mini-/microcomputer technology will have special significance in tactical applications.

6. Communication Trends (U).

a. Integration (U).

(u) ~~(S)~~ The Soviets are expected to continue current efforts to develop an integrated C^3 system for Warsaw Pact forces. Evidence of these efforts is seen in the functioning of the Joint Command of the Warsaw Pact Armed Forces in Moscow; regular multinational Warsaw Pact exercises; a Warsaw Pact-wide program to automate C^3 and the command decisionmaking process; and the continuing use of standardized or compatible C^3 equipment. Integration of radio and wire communications will continue to be emphasized and refined. Standardization of ACV for specific echelons is expected in the near future.

b. Impact of Mobility (U).

(1) (u) ~~(S)~~ Soviet requirements for a reliable, secure, and flexible C^3 system are expected to increase because of the emphasis being placed on tactical battlefield dispersion, mobility, and greater firepower. Tactical C^3 systems will continue to be improved to insure that they are at least as mobile and flexible as the command, combat, and support elements. This includes further deployment of the broader frequency range R-107, R-123, and R-111 radio sets to replace the older R-105-type radio sets. Similarly,

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newer hf single-sideband equipment with wider frequency ranges (such as the R-130, R-140, and R-142) are expected to replace the older hf radio sets and radio stations. Satellite communication terminals will continue to be deployed, possibly down to division level. In general, this equipment will be widely deployed in other WPC but at a slower rate.

(2) (u) ~~(S)~~ In the next few years, ingenuity of operating procedures rather than technical equipment innovations is expected to remain both the fundamental strength and basic limitation of current Soviet communications equipment.

c. Survivability (U).

(u) ~~(S)~~ Survivability of command at all levels is a primary concern of Soviet military planners. A major effort has been underway since the mid-1960s to construct hardened command posts and survivable communications. This program is well advanced from national command authority level downward to front. Some inconclusive evidence indicates that construction of a system of bunkered command posts and survivable communications, possibly down to regimental level, may be underway in Eastern Europe.

d. Reliability (U).

(u) ~~(C)~~ The radio equipment used by the Soviet ground forces is traditionally rugged and reliable. It is designed around classical circuit concepts to take advantage of knowledge concerning past component failure rates and to standardize repair techniques. For the most part, the equipment uses tube-type technology, but transistors are sometimes employed in power supplies and local oscillator circuits. The newer radios are built using a modular construction technique; that is, each section of the radio is individually housed in its own subchassis that plugs into a main circuitboard. This simplifies second-echelon maintenance of the equipment by permitting subsystem substitution with the result that the equipment can be returned to service with minimal delay. First-echelon or operator maintenance of tactical radio sets is severely limited and includes only tube substitutions and the like.

III. LAND NAVIGATION EQUIPMENT (U)

7. Description (U).

(u) ~~(C)~~ At least 30 Soviet vehicle models presently have some kind of gyroscopic navigation system. The total number of vehicles so equipped is believed to exceed 101 000 tactical vehicles--both tracked and wheeled. The installed navigation equipment ranges in complexity from the simple gyroscopic heading references, standard in all medium tanks and infantry combat vehicles, to the full navigation systems with map plotter installed in survey vehicles in tactical missile and artillery units. The equipment models can be grouped into three general classes based on increasing performance capability and

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complexity. Only the third classification (full navigation systems with map plotter) requires full-time attention by an operator (i.e., dedicated crew space). All the Soviet models are basically simple gyroscopic dead-reckoning systems. Being self-contained, they are inherently immune to EW measures and countermeasures and require no space on the radio communications band. By the 1970s the Soviets had fielded improved second-generation systems in all three major classes. Although they are generally adequate for Soviet tactical requirements, they have the following deficiencies:

- They have long gyro warm-up times (5-15 minutes) (vehicle cannot move during this period).
- Accuracy is degraded by time and travel distance (principally due to the gyro).
- Initialization procedures are a nuisance or burdensome requirement.
- Grid and heading must be changed at edges of grid zone--a complex manual procedure.
- Reliability, availability, maintainability, and durability (RAM-D) characteristics are poor in some systems.
- Accuracy of high-accuracy systems is still marginal for survey (1:250 relative error; at least 1:500 desired).

8. Tactical Requirements (U).

(u) (~~C~~) The Soviets appear to have at least four tactical requirements for development of land navigation equipment:

- Accurate, on-time movements of armored forces on an obscured, confused battlefield
- Rapid determination of coordinates of targets for artillery and tactical missiles
- Vehicular survey of launch positions for tactical missile launchers and firing positions for cannon artillery
- Fast, coordinated aerial target selection and assignment by air defense command vehicle to individual gun or missile launch vehicles

Within these four major requirements there are a number of subrequirements for special-purpose tactical needs:

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- Snorkeling operations by tanks
- Position reporting by reconnaissance vehicles
- Travel to presurveyed launch sites by mobile air defense missile launchers and tactical missile TEL
- Rendezvous with resupply vehicles by ZSU-23-4
- Target acquisition by ACRV and artillery radar vehicles (SNAR, ARSOM)
- Plotting ground zero of nuclear bursts in CBR detection vehicles
- Rapid survey of sound-ranging posts
- Initialization of DR-3 tactical drone at launch site
- Self-survey capability for air defense radars by dead-reckoning system to avoid breaking signal security by using the radars to survey by radar resection

This listing is probably only a sampling of such special-purpose requirements.

9. Relationship to Combined-Arms Functions (u) ~~(C)~~.

(u) ~~(C)~~ Of the six mission areas of this study, there are significant numbers of land navigation-equipped vehicles in service in all but the support category:

Reconnaissance and Surveillance

BMP
BMD
BRDM-2
UAZ-452T (PZK sound-ranging, DR-3)
PT-76
BMP-M1976 (2)
PRP-3 (SMALL FRED)
MT-LB M-1975 (BIG FRED)

Maneuver

All medium tanks
All armored infantry combat vehicles (BMP, BMD)

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Firepower

ACRV-1, -2, -3 (with SP artillery)
UAZ-452T (with towed artillery, SCUD, FROG)
GAZ-6GT (with SCUD)

Force Protection

ZSU-23-4
SA-4, -6, -8, -9
BTR-60PA (command)
SA-4 radar vehicle (PAT HAND)
SA-4 radar vehicle (LONG TRACK)

Command and Control

Armored command vehicles (including command tanks)

One support vehicle, the IMR armored engineer tractor, is known to have the same gyroscopic navigation device that is standard in the medium tanks (GPK-59).

10. Present Trends (U).

(u)
~~(C)~~ The second-generation systems incorporate both additional capabilities and newer technology.

Class

1 Heading Reference Gyro

Old Model	New Model	Principal change
GPK-48 (1950s)	GPK-59 (1960s)	GPK-59 has correction for earth rate; usable time increased from 15 minutes (old) to 90+ minutes (new).

2 Position and Heading Reference System

Old Model	New Model	
TNA-2 (1960s)	TNA-3 (1970s)	TNA-3 has display of X and Y distances and azimuth to preselected point. BITE system check. Digital electronic computer (new) replaced analog ball-and-cam resolver mechanical design (old).

3 Position and Heading Reference System with Map Plotter

Old Model	New Model	
Yanton-Trassa (GAZ-69TMG) (1960s)	T-11 (UAZ-452T) (1970s)	Much improved two-gyro directional gyro system. Flatbed plotter (old) replaced by improved drum plotter (new).

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There appears to be some specialization of new systems for mobile air defense vehicles and their command vehicles, but details are not available. The systems in the ACRV, the BMP-M 1976 (2), and the PRP-3 (SMALL FRED) are either unknown or postulated; the most likely candidate system is the T-11 installed in the UAZ-452T.

11. Midterm Trends (U).

(u)

~~(C)~~ Some sort of hybrid system would seem to be desirable as an improvement for the GPK-59's generally in service in medium tanks, the BMP and BMD. The addition of a magnetic heading reference system or simple gyrocompass would simplify the task of initializing and updating these devices at a halt. In the middle category, a TNA-4 model and some special-purpose variants are expected, primarily for armored command vehicles and mobile air defense vehicles. The last category (full systems with map plotter) may have reached their technological design limit, although an interim replacement for the UAZ-452T is expected in the early 1980s, possibly installed in a light tracked vehicle like the GT-SM, which would be better able to keep up with the missile TEL off-road. A new high-accuracy system for survey, which is based on an aircraft inertial system design like the US PADS, is expected to be fielded in the mid-1980s. It will fill the requirement for high-accuracy survey (1:5000 to 1:10 000 relative error compared with 1:250 in the UAZ-452T). One possibility is that the Soviets will redesign all their systems, except the inertial survey system, to use some sort of rate gyro with much shorter warm-up characteristics. A second possible product improvement would be an automatic grid-and-azimuth calculator for converting to the new grid and grid azimuth when crossing into an adjoining grid zone for all the TNA-series (middle category) equipment.

12. Long-Term Projection (U).

(u)

~~(C)~~ By the late 1980s, the Soviets should have available several new technologies that could significantly improve the performance capabilities of their land navigation equipment. Ring laser gyros and, a few years later, fiber-optic ring gyros could reduce gyro warm-up time to a fraction of a second and probably have much improved RAM-D characteristics. Full inertial systems could be built for such high G environments as SP artillery zones. Using microelectronics, the computer could be reduced to a fraction of its present size and given additional subroutines for coordinate transformation and grid zone changes. Microfilm storage of maps could be used to permit quick changes of the map display either by area or scale.

13. Impact (U).

(u)

~~(C)~~ The sheer number and variety of Soviet land navigation equipment are indicative of the priority given to not getting lost on the battlefield. Given the expectable confusion of highly mobile forces maneuvering on a

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battlefield obscured by smoke, bad weather, and nuclear destruction, large numbers of land navigation equipment could give a significant advantage. Presently the Warsaw Pact forces have it; NATO does not.

IV. MAPS (U)

14. Introduction (U).

(u) ~~(C)~~ All of the WPC, as well as the United States and other NATO powers, have made a sustained effort since World War II to provide, during peacetime, the best possible maps in preparation for any possible war. The Soviets have led with what must be the largest mapping program in history. By the late 1970s the USSR had completed mapping of its own territories at all of their basic military map scales (1:25 000; 1:50 000; 1:100 000; 1:200 000). This effort required hundreds of thousands of individually numbered map sheets at different scales.

15. Mobile Mapping Units (U).

(u) ~~(C/NOFORN)~~ In addition to the base plant facilities, an operational Soviet mobile mapping production and logistical support capability was identified in late 1980. Currently these unidentified cartographic units are assigned to district headquarters in each of 16 military districts in the USSR. During wartime, however, these units would be subordinate to the front headquarters formed from the military district. Each unit is commanded by a colonel and consists of a headquarters and three subelements.

16. Updating Existing Maps (U).

(u) ~~(C)~~ Although these cartographic units can prepare new maps, their prime wartime mission is to update existing maps. They can produce up to 2500 maps per hour. The maps to be updated are delivered from the field army or higher echelons. The information needed for the updating is gathered by the Military Topographic Detachment and conveyed to the Mobile Cartographic Unit. These data are obtained by survey, aerial observation, and aerial photography. In fact, the cartographic units would probably be located at or near an airfield with tactical reconnaissance squadrons to benefit from aerial photography. This new information is then superimposed on existing map sheets and printed in Cyrillic, even when foreign maps are used. This implies that captured local maps--or readily available, unclassified NATO maps--could be superimposed with Gauss-Kruger grid for Soviet forward motorized rifle or artillery units. In most cases this tactical map updating would be confined to military information such as enemy defense systems, troop disposition, barriers, and other critical obstacles. The finished maps would be delivered to the users as soon as practicable by units other than the cartographic unit itself. Maps not delivered would be safeguarded by the Map Security Element.

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17. Strengths (U).

a. (u) ~~(C)~~ The Soviet maps are good. The standard Soviet topographic map appears to have a number of advantages over NATO and US maps. It has a far greater symbolic content, particularly for vegetation and the representation of built-up areas (for example, a Soviet military map distinguishes between combustible and noncombustible structures in cities on a block-by-block basis). This is an impressive asset and demonstrates Soviet concern for preparedness to do battle in "urban terrain." Most impressive of all, however, is the wealth of military geographic information--numerical data on bridges, fords, ferries, roads, tunnels, powerlines, dams, and reservoirs--entirely absent from standard US topographic maps. Soviet maps thus incorporate much of the information needed for either trafficability or cross-country movement. The Soviet requirements for military geographic information afford the Soviets the capability to produce special-operations graphics directly from a standard topographical map for any given operational area by simply highlighting detail already shown on the map without any major reliance on supplementary map or documentary sources.

b. (u) ~~(C)~~ These combat graphics highlight such information as line of sight, degree of slope, the size of trees, and other vegetation characteristics that affect off-road mobility, avenues of approach, best fields of fire, defilade, and concealment. By contrast, a NATO commander would have to refer to three or more different series of maps in order to derive the same information.

c. (U) Soviet and US map accuracy requirements are very nearly the same with one exception. Towers, chimneys, steeples, and similar landmark objects useful to an artillery surveyor are plotted with the same accuracy as a geodetic point. These landmarks also provide highly accurate reference points for updating Soviet land navigation systems.

d. (U) Another inherent strength in Soviet topographic support is the use of the 1:100 000 scale map. This map scale is noteworthy not only because it is the most common in the WPC, but because it has proven to be a wise choice in terms of modern combined-arms warfare. A 1:100 000 scale map covers large operational areas but still retains the detail needed for a tactical map.

18. Weaknesses (U).

a. (u) ~~(C)~~ Conversely, Soviet topographic doctrine manifests some intrinsic weaknesses. The most obvious and blatant are the strict limitations imposed on the usage of the Soviet maps. The Soviets consider their topographic maps primary intelligence documents and classify them SECRET or higher. This curtails dissemination to all combat echelons; for instance, maps are not issued to commanders below company level and maps cannot even be stored in a battalion-sized unit. They are only stored in a unit that

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contains headquarters staff personnel such as regiment or division level. Not surprisingly, there is some evidence that Soviet soldiers, and even many officers, are very poor at map reading. Given the Soviet penchant for exercising control from as high a level as possible, this may seriously hinder the Soviet capability to move and sustain an attack.

b. (U) Another seeming disadvantage is the lack of a legend on Soviet maps. Although training maps carry a legend for use by conscripts, Soviet tactical maps do not. Topogeodetic officers, field commanders, and other map users are obliged to recognize the large numbers of geographic and military symbols that appear on tactical maps and special-operations graphics.

19. Trends (U).

a. 1981-1985 (U).

(1) (U) Presently, Soviet automation of topography is beginning with administrative control and planning of base plant operations, indexing, and access to map source materials at cartographic production enterprises. But, what is presently being seen is only the first of the new subsystems that may have a profound affect on the means available to Soviet commanders for organizing, planning, communicating movement orders, and responding to the increasingly complex mobile operations of combined-arms combat.

(2) (U) By 1985, it is expected the Soviets will have completed original large- and medium-scale mapping of all of their high-priority target areas in North America and the European NATO countries using their photographic and geodetic satellites.

b. 1986-2000 (U).

(1) (U) The most significant aspect of future Soviet topographic support will be automation of terrain analysis data (for example, bridge capacities, hydrologic data, and line of sight). The Soviets realize that response time will become an important variable in a future conflict; however, there is no digitized terrain data base presently waiting on the shelf for the Soviet field commander, and R&D in tactical topographic support has probably not been a high priority because reasonably accurate maps and special operations graphics are available to the Soviet field commander to meet their present requirements for topographic support in the field. As Soviet computer technology evolves, however, hardware and software designed to retain digitized terrain data on cassettes or chips will probably be fielded by the end of this decade for the retrieval of topographic data for mission-specific maneuvers or weapon systems.

(2) (U) The Soviets tend to look at C^3, topographic support, and reconnaissance as systems that function as a whole, interdependent on each other. Already the Soviets have declared the technical feasibility of

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facsimile transmission of color maps in support of the new C^3 systems. Therefore, improvements in Soviet topographic support are expected to continue well into the 1990s predicated on advances in automation and digitization of topographic data linking the front commander with other elements of the C^3 network (higher echelons) and the topographic assets of base plant operations. Computer-processed map displays and interactive graphics of weather and enemy positions will enhance the command decision-making process to near real time, supporting the Soviet doctrine for a rapid offensive penetration.

CHAPTER 10

TECHNOLOGIES (U)

1. Introduction (U).

(U) This chapter focuses on a few technologies that have an impact on Soviet performance of more than one combined-arms function. Many other technologies are discussed in the other chapters. National Intelligence Estimate 11/12-82, Annex C, gives a concise assessment of a number of technologies not discussed here. These include:

- Structural, organic, composite, metallic, and composite materials
- Signal processing
- Surface acoustic wave devices
- Automation and numerically controlled machines
- Airbreathing propulsion technology
- Energy conversion
- Genetic engineering
- Human factors
- Particle-beam weapons
- Military medicine
- Millimeter-wave technology
- Fiber optics
- Artificial intelligence

The technologies discussed in this chapter are computers, microelectronics, lasers, and technology transfer.

2. Computers (U).

a. Assessment (U).

(u)
~~(C)~~ There is a consensus among Western observers that the United States leads the Soviet Union and other WPC in computer technology, both quantitatively and qualitatively, by 5 to 8 years. The technology gap is most significant in the areas of:

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Pages

10-2 through 10-13

Missing

h. Rangefinders (U).

(1) Introduction (U).

(U) ~~(C)~~ The Soviet Union has deployed LRF to their troops in a variety of applications. LRF work by measuring the time it takes for a pulse of light to travel from the laser to the target and back. Knowledge of the range to a target improves the probability of hitting the target by allowing correction to be made in the aiming.

(2) Current systems (U).

(U) ~~(C/WNINTEL)~~ Soviet artillery units in East Germany have been observed using an LRF designated the DAK-1. Deployment of this rangefinder, which is based on the ruby laser, was begun around 1970. The Soviets have also included an LRF on at least one of their ground-attack aircraft, FLOGGER D. This rangefinder, designated the FON, is based on the Nd:glass laser and initial deployment was around 1975. Some of the tanks in the Soviet forces have LRF as part of their equipment. Older tanks, like the T-54/T-55, have a rangefinder that bolts on to the outside, whereas more modern tanks, like the T-72, have the LRF as an integral part of the gunner's periscope. There have been unsubstantiated reports of LRF on other Soviet equipment, such as the BMP and HIND D helicopter.

(3) Forecast (U).

(U) The older Soviet LRF are based on the ruby laser. These devices will probably be phased out and replaced by LRF based on the neodymium-type laser. Through the 1990s most lasers will be based on neodymium. In the 1990s it is possible that a rangefinder based on the CO_2 laser will be introduced. The far-IR emission from the CO_2 laser penetrates the atmosphere better than the shorter radiation and has less potential to damage the eyes of troops.

5. Technology Transfer (U).

a. Importance (U).

(U) ~~(C/NOFORN/WNINTEL)~~ The thrust of Soviet policy during the 1970s was to make foreign technology acquisition a major goal in R&D policy planning. "The acquisition of Western technology . . . is a very calculated procedure, done with a great deal of selectivity," according to one Soviet economist. The aquisition of Western technology begins with formulating 5- and 10-year scientific plans, which consider the current production capability and scientific gaps as well as delays in ongoing projects. The State Committee

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for Science and Technology, under the jurisdiction of the Council of Ministers, is responsible for identifying foreign technologies that satisfy the requirements of the plans and for introducing the technologies into the production facilities of the ministries.

b. Mechanisms (U).

(U) Various types of mechanisms are used for obtaining foreign technology, including joint ventures with Western countries, reverse engineering, commercial visits, and attendance at trade exhibits, conferences, and symposia. One favored method used for alleviating the hard currency debt and financing the purchase of Western plants and licenses is by negotiating compensation or buy-back agreements. This method has been used extensively in recent years, and it is likely to be a key feature of future negotiations with the Soviets.

c. Chemical Industry Example (U).

(U) ~~(C/NOFORN/WNINTEL)~~ A prime example of technology transfer is seen in the Soviet chemical industry. Since 1970, the Soviets have purchased plants that collectively yield an enormous amount of key chemical production capacities. Major purchases include 30 million t/yr in ammonia plant capacity, 1.3 million t/yr in polyethylene capacity, 1 million t/yr in other polymer capacity, 1.6 million t/yr in aromatics capacity, and 1.5 million t/yr in ethylene oxide capacity, to name some militarily significant materials. Other militarily important disciplines that have been subject to transfer include lasers, computer, computer-aided design, automation, C^3, microelectronics, and electrical and automative engineering.

d. Forecast (U).

(1) (U) ~~(S/NOFORN/WNINTEL)~~ Technology transfer is the major means by which the Soviets will improve their production capacity in existing and to-be-developed technical processes during the next 15 years. The Soviets strive for independence from the West; however, they have little choice but to continue importing Western technology in order to keep pace with the Western world. Embargoes on specific technologies in the past have forced the Soviets to exploit third-country sources, produce copies of previously imported systems, and place increased emphasis on developing their own capabilities. They have also developed a national system for duplicating R&D results by exploiting foreign literature, patents, and scientific exchanges.

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(u)

(2) ~~(S/NOFORN)~~ Acquiring foreign technology is an integral part of the Soviet plan for national development. Technology transfer is planned for and given a high priority at the Council of Ministers level. The process of acquiring foreign technology is well integrated into all levels of the Soviet system. As a result, the Soviets can be expected to make the maximum use of technology transfer as long as the West permits it to happen.

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Figure 10-1. (U) Summary and Overview of Requirements and Current and Forecasted Systems.

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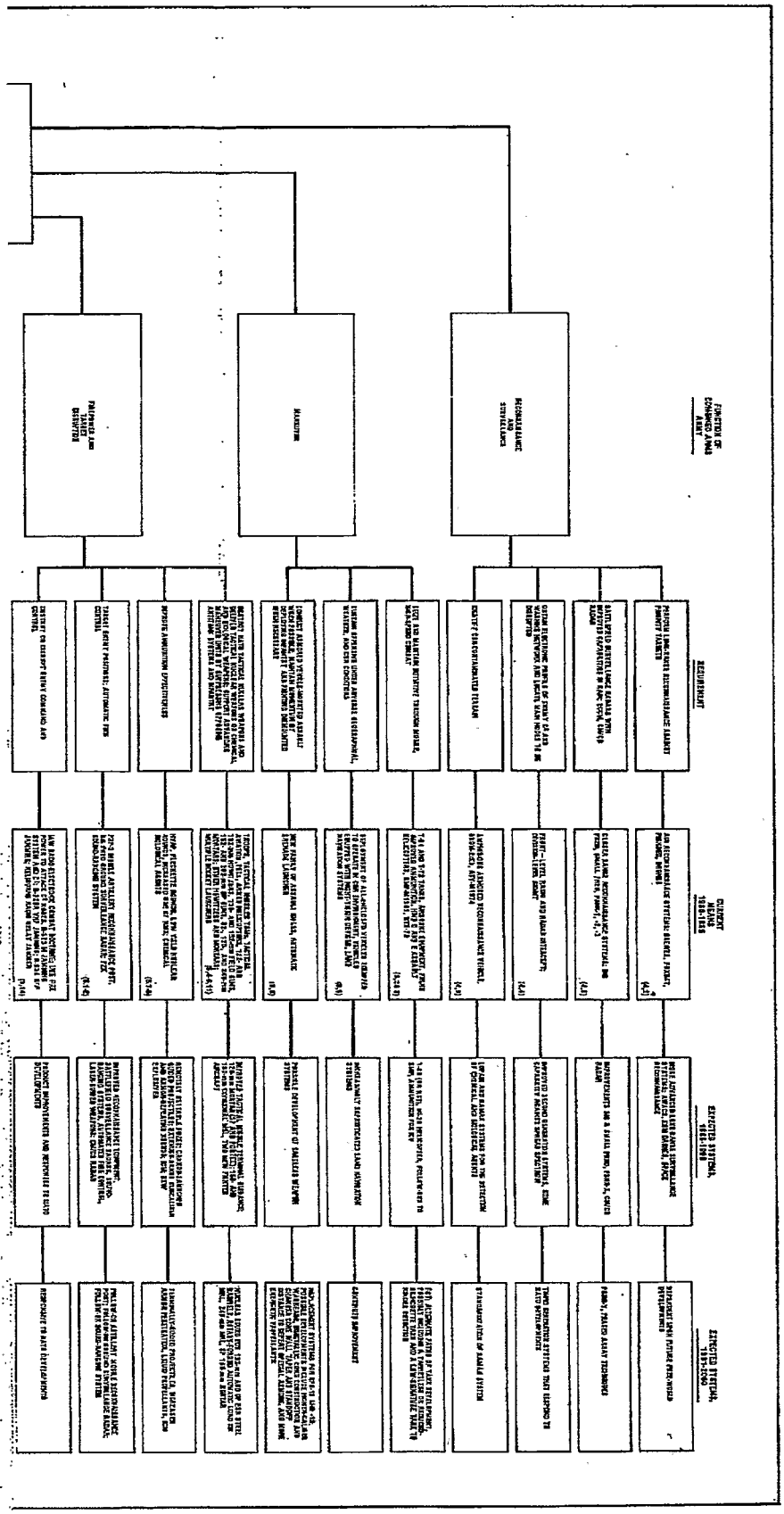

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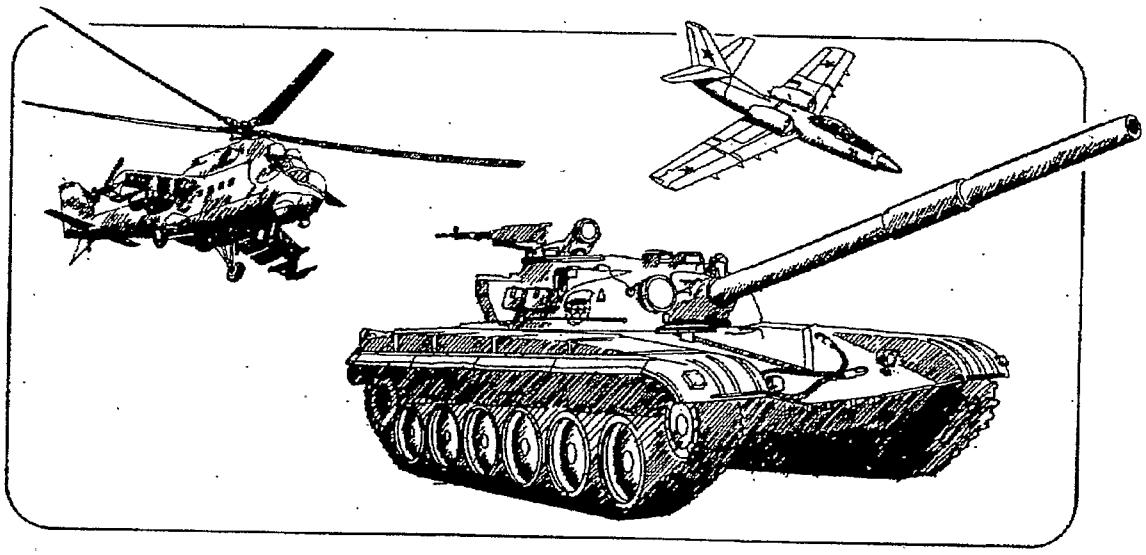
The Soviet Battlefield Development Plan

(SBDP)



VOLUME V

Soviet Ground Force Organizations and Operations (U)

Prepared by:
U.S. ARMY INTELLIGENCE AND THREAT ANALYSIS CENTER

1 NOVEMBER 1982

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The Soviet Battlefield Development Plan

(SBDP)

VOLUME V

Soviet Ground Force Organizations and Operations (U)

AUTHORS

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DATE OF PUBLICATION

1 November 1982

Information Cutoff Date: August 1982

(U) This product was prepared by the US Army Intelligence and Threat Analysis Center (ITAC), US Army Intelligence and Security Command (INSCOM). It has been reviewed and approved by the Assistant Chief of Staff for Intelligence, Department of the Army.

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REPLY TO ATTENTION OF
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1 November 1982

SUBJECT: Soviet Battlefield Development Plan (SBDP)

SEE DISTRIBUTION

1. The volume you are now reading is only one part of a multi-volume effort titled the Soviet Battlefield Development Plan (SBDP). The SBDP is an attempt to provide an integrated and comprehensive analysis of Soviet military thinking, doctrine, and combined arms force development for the present and the future, extending out to the turn of the century. Thus, it should allow Army doctrine and combat developers to have a long-range view of the competition they face, so that they may design U.S. Army doctrine and forces in a dynamic perspective. Thereby they can exploit Soviet doctrine and force modernization to give the U.S. Army advantages in equipment, weapons, training, and tactics.

2. The SBDP is a forecast of Soviet force development for "combined arms" operations in land warfare as we believe the Soviet General Staff intends. It is, therefore, not primarily a prediction but rather more an attempt to understand the Soviet General Staff's vision of the next two decades for planning and programming. It is an attempt to provide a Soviet view, not a U.S. mirror image. The Soviet General Staff does not have an "Air Land Battle" doctrine. It has a "combined arms" doctrine of warfare under the conditions of both conventional weapons and weapons of mass destruction. While there is much in common between the two doctrines, the differences are far more important to understand.

3. The basic assumption for the SBDP is the probable Soviet assumption that there will be no significant adverse changes in the present international order which will cause major alterations in the Soviet development strategy for combined arms forces. The SBDP does take into account economic and demographic constraints that are reasonably predictable by Soviet planners. Further, it also tries to anticipate the impact of new technologies on force development.

4. Since combined arms operations in Europe are clearly the central issue for Soviet planners, the equipment, organizational, and operational forecasts contained in the SBDP relate primarily to Soviet forces in the European theater. However, since these planners must also worry about the Far East, Southwest Asia, and power projection to non-contiguous regions, these non-European concerns are also treated but to a lesser degree.

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5. Because Soviet combined arms doctrine is not conceptually restricted to the theater of operations but also concerns the "rear," that is, the entire continental USSR as a mobilization and production base, the SBDP deals with this aspect of force planning. Preparation of the "rear" for both nuclear and non-nuclear conflict is seen by the General Staff as the sine qua non and the first step in an all combined arms force development.

6. The SBDP consists of eight volumes and an Executive Summary. These eight volumes are organized to provide an interpretive framework within which to integrate and analyze the large quantity of intelligence information we have on Soviet ground forces.

7. The following provides a brief overview of this interpretive framework:

a. Volume I explores the ideological and historical heritage which shapes the perspectives of Soviet military planners.

b. Volume II flows logically from Volume I showing how ideology and history combine in the Soviet militarization of the homeland, i.e., the preparation of the "rear" for war.

c. Volume III presents an "order of battle" listing of, and forecast for, the ground force structure which has resulted from the ideological and historical factors reviewed in the two preceding volumes.

d. Volume IV discusses the equipment used by the forces described in Volume III and forecasts developments in these weapons out to the year 2000.

e. Volume V discusses the present organization and operations of the ground forces and also presents long-range forecasts in these areas.

f. Volume VI reviews high level command and control trends for these forces and looks at how the Soviets intend to increase their force projection capability over the next two decades.

g. Volume VII is a study of Soviet exercises and what they might infer about actual war missions.

h. Finally, Volume VIII is an attempt to compare Soviet missions with their present capabilities. Such an analysis gives us a stronger sense of the requirements the General Staff probably sees for building forces over the coming decades.

8. Although the ACSI coordinated the SBDP and designed its structure, all the major Army intelligence production organizations provided the analysis. ITAC, FSTC, MIA, and MIIA were the primary Army contributors. In addition, b3 per DIA

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SUBJECT: Soviet Battlefield Development Plan (SBDP)

1 November 1982

9. Naturally, such a comprehensive undertaking inevitably has inadequacies and contentious conclusions in its first variant. Work on the next version is already under way, and it is directed toward refinements, filling gaps, and improving the analytical forecasts. You can help us in this effort by using the SBDP in your daily work, then answering and mailing the questionnaire which follows this letter.

10. We are developing the SBDP as a tool to assist both intelligence producers and consumers in accomplishing their tasks more efficiently and effectively. We hope you find this and future editions of the SBDP to be of such assistance.

WILLIAM E. ODOM
Major General, USA
ACofS for Intelligence

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SBDP EVALUATION QUESTIONNAIRE

1. The information requested below will help the office of the ACSI develop the SBDP in a way which is most useful to the consumer. If possible, do not detach this questionnaire. We request you photocopy it, leaving the original in the volume for other users. If the spaces provided for answers are not sufficient, please type your comments on additional sheets and attach them to this questionnaire form. We request all classified responses be sent through the proper channels.

2. Please provide your name, rank or position, unit, and a short job description. This information will help us determine the specific way in which you are using the SBDP.

a. NAME _____

b. RANK (POSITION) _____

c. UNIT _____

d. JOB DESCRIPTION _____

_____

_____

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e. VOLUME YOU ARE EVALUATING _____

3. Total concept and structure: Do the eight volumes of the SBDP provide the necessary framework for effective integration and interpretation of available information? What improvements would you suggest to the overall organization or concept of the SBDP?

a. STRUCTURE: _____

_____

_____

_____

_____

b. CONCEPT: _____

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4. Volume structure: Is this volume well organized? Does its method of presentation facilitate comprehension? Is the subject matter provided in the right degree of detail for your use? What improvements would you suggest in these areas?

a. ORGANIZATION: _____

b. PRESENTATION: _____

c. DETAIL: _____

5. Volume substance: Do you find the overall analysis and forecasts to be sound? How would you correct or improve them?

6. These questions are "wide-scope" by design. If you have other, more specific comments you wish to make concerning the SBDP please include them in your response. Send all responses to: HQDA (DAMI-FIR)
ATTN: SBDP Project Officer
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7. Thanks for your contribution in developing the SBDP.

VOLUME 5

HIGHLIGHTS

(U) Volume V of the Soviet Battlefield Development Plan complements the other seven SBDP volumes by providing an overview of Soviet doctrine, tactics, and organizational development for conducting ground combat operations. The purpose of this volume is to explain why the Soviet Army is organized the way it is and operates the way it does. We have tried to do this by synopsizing the most important aspects of Soviet doctrine and tactics and thereby providing the reader with a representative picture of the basic ground combat capabilities and potential of the Soviet Army. Special emphasis has been placed on expected changes to future organizations and operations due to developments in such interrelated areas as organizations, equipment, doctrine, strategy, operational art, and tactics. We have provided forecasts of how Soviet divisions in 1990 and 2000 might be organized, how they might be equipped, and most importantly, how they might fight on the battlefields of the future. Subsequent editions of Volume V will attempt to improve and expand on forecasts in all of these areas.

(U) The subject matter of Volume V is extensive and diverse. The detail in which each subject area is treated provides a basic introductory level of information; hence the overview nature of the volume. To assist readers who require additional in-depth information, an appropriate bibliography had been provided.

(u) ~~(S/NOFORN)~~ Soviet doctrine and tactics are discussed in the context of a hypothetical Soviet ground offensive against NATO in the Western TVD. It is not anticipated that there will be major changes in their present concept of front and army ground operations against NATO. However, their capabilities to successfully execute the high-speed offensive have been greatly improved by:

- (u) ~~(S)~~ The continuing modernization of their air force and its recent reorganization to improve responsiveness and support.
- (u) ~~(S/NOFORN)~~ The introduction of air assault brigades into the force structure and their incorporation into the overall scheme of maneuver.
- (u) ~~(S/NOFORN/WNINTEL)~~ The introduction of BMPs equipped with 30 mm cannons and a crew of 8, i.e., driver, gunner, commander, and a 5-man fire team. Although the exact role of this vehicle is not yet understood, it appears that it may signify deemphasis of the dismounted role of the infantry squad in favor of increased emphasis on mobility, mobile fire power, and fighting from the vehicle during rapid offensive operations.

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° (u) ~~(S/NOFORN)~~ The increased emphasis on the role of helicopters and the inclusion of helicopters in organic division assets.

° (u) ~~(S/NOFORN)~~ The dramatic increase in the number of air assault brigades, and of the role that these units will play in support of front and army operations. These are considered significant new developments within the Soviet ground forces. The roles of Soviet airborne, air assault, and airmobile assault units continue to be of great interest to the intelligence community.

° (u) ~~(S)~~ The ongoing reorganization of Soviet divisions is described as a significant effort by the Soviets to increase their combined arms capabilities at regimental level.

(u) ~~(S/NOFORN)~~ Perhaps the most ominous development in Soviet ground force offensive operations is the emergence, at army and front level, of operational maneuver groups (OMG) designed to operate as exploitation forces and move deep into the enemy's rear area early in the initial phase of the war. At front level, the OMG would be of army size, while at army level it would be of division size.

(u) ~~(S)~~ Soviet planners continue to place great emphasis on the conduct of strikes deep in the enemy's operational rear using all forces and means necessary. The air forces are being restructured in a way which supports rapid, deep exploitation by ground maneuver formations. The Soviets are also deploying a much more survivable theater nuclear force, with greater accuracy and flexibility.

(u) ~~(S)~~ As a result of these changes, the armed forces are approaching a level of operational, organizational, and technological development that would give military planners the ability to apply force with much greater flexibility, as well as greater confidence in the likelihood of achieving military victory while at the same time reducing the risk of damage to the Soviet homeland.

NOTE: (U) This SBDP volume features extensive cross-referencing to source materials. Source materials are listed in a bibliography at the end of each chapter. Throughout the text these materials are cross-referenced with notations such as (8/132). In this case, the 8 represents the reference document as listed in the chapter bibliography; the 132 represents the page within that reference document.

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ABBREVIATIONS, ACRONYMS, DESIGNATORS (U)

A

AAG	Army artillery group
ACRV	Armored command reconnaissance vehicle
ACV	Armored combat vehicle
ADM	Atomic demolition munition
AICV	Armored infantry combat vehicle
AFAP	Artillery fired atomic projectile
APC	Armored personnel carrier
ARM	Antiradiation missile
ARV	Armored reconnaissnce vehicle
ASC	Armored scout car
ASM	Air-to-surface missile
AT	Antitank
ATGM	Antitank guided missile

B

BMP	Soviet armored infantry combat vehicle
BMP-R	Reconnaissance version of BMP
BRDM	Soviet armored reconnaissance vehicle
BSR	Battlefield surveillance radar
BTR	Soviet armored personnel carrier
BW	Biological warfare

C

C^3	Command, control, and communications
CAA	Combined arms army
CAC	Combined arms combat
CAS	Close air support
CB	Chemical and biological
CBU	Cluster bomb unit
CBW	Chemical and biological warfare
CEP	Circular error probable
CLGP	Cannon launched guided projectile
CRTA	Chief of Rocket Troops and Artillery
CW	Chemical warfare

D

DAG	Division artillery group
DF	Direction finding
DINS	Doppler inertial navigation (guidance) system
DIPP	Defense Intelligence Projectons for Planning
DPICM	Dual purpose improved conventional munitions

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ABBREVIATIONS, ACRONYMS, DESIGNATORS (Cont) (U)

E

ECM	Electronic countermeasures
EMP	Electromagnetic pulse
EMR	Electromagnetic radiation
EOC	European operational capability
ERA	Extended range ammunition
ERP	Effective radiating power
ESM	Electronic support measures

F

FAE	Fuel air explosive
FEBA	Forward edge of the battle area
FLIR	Forward looking infrared
FO	Follow-on
FROG	Free rocket over ground

G

GB	Guided bomb
GOF	Group of Forces
GSF	Ground support fighter

H

HE	High explosive
HEAT	High explosive antitank
HEL	High energy laser

I

ICM	Improved conventional munition
IOC	Initial operational capability
IR	Infrared
ITB	Independent tank battalion

K

kg	Kilogram
KHz	Kilohertz
km	kilometer

L

LEL	Low energy laser
LLLTV	Low-light-level television
LPLWS	Low Power Laser Weapons System

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ABBREVIATIONS, ACRONYMS, DESIGNATORS (Cont) (U)

LRA	Long range aviation
LWIR	Long wave infrared
LOS	Line of sight

M

MANPAD	Manportable air defense
MBR	Multiple bomb rack
MHz	Megahertz
mm	millimeter
MMW	Millimeter wave
MRB	Motorized rifle battalion
MRC	Motorized rifle company
MRD	Motorized rifle division
MRL	Multiple rocket launcher
msl/rkt	Missile/rocket

N

NATO	North Atlantic Treaty Organization
NBC	Nuclear, biological, and chemical
NSWP	Non-Soviet Warsaw Pact

O

OMG	Operational maneuver group

P

PGM	Precision guided munition

R

RAG	Regimental artillery group
RAP	Rocket assisted projectile
R, D	Range, deflection
R&D	Research and development
REC	Radio electronic combat
REW	Radio electronic warfare
RF	Radio frequency
RFP	Radio frequency pulse
RPG	Rocket propelled antitank grenade
RV	Re-entry vehicle

S

SP	Self-propelled
SRF	Strategic rocket forces

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ABBREVIATIONS, ACRONYMS, DESIGNATORS (Cont) (U)

SRBM	Short range ballistic missile
SS	Surface-to-surface
SWP	Soviet-Warsaw Pact

T

t	Metric ton
TD	Tank division
TEL	Transporter, erector, launcher
TELAR	Transporter, erect, launcher and radar
TR	Tank regiment
TOW	Tube launched, optically tracked, wire guided
TVD	Theater of military operations

V

VHF	Very high frequency

W

WP	Warsaw Pact. The term "Warsaw Pact" includes the Soviet Union, Poland, Czechoslovakia, Hungary, East Germany, Romania, and Bulgaria. Therefore, WP forces include both Soviet and non-Soviet forces. When referring specifically to Soviet forces, the term "Soviet WP forces" (SWP) will be used. When referring to the non-Soviet forces in the WP, the term "non-Soviet WP forces" (NSWP) will be used.

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CHAPTER 1

HIGHLIGHTS (U)

(U) Chapter 1 introduces the reader to the basic characteristics of the battlefield on which NATO and Soviet forces would struggle in Western Europe. In an attempt to "paint the picture" of the battlefield, the chapter will:

° (U) Emphasize the Soviet view that the potential future battlefield in Central Europe as a dynamic one on which success or failure may very well depend on their ability to coordinate various combat and support forces (air and ground) in a timely, efficient and complementary manner.

° (U) Highlight the violence and destruction which will characterize any future struggle between NATO and the Warsaw Pact.

° (U) Describe the role of nuclear weapons.

° (U) Include fundamental aspects of Soviet doctrine and tactics.

° (U) Discuss key Soviet concerns including:

° (u) ~~(S)~~ The fact NATO is the Soviets' most sophisticated enemy.

° (u) ~~(S)~~ The main threat posed by NATO is its nuclear arsenal.

° (u) ~~(S)~~ The Soviet's belief that the initial stages of a nuclear war will be critical and probably decisive.

° (u) ~~(S)~~ The Soviets will continue to emphasize the tank as the key offensive component of their ground force combined arms doctrine.

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CHAPTER 1

OVERVIEW OF THE OPERATIONAL ENVIRONMENT (U)

1. Purpose (U).

(U) The purpose of this chapter is to introduce the reader to the basic characteristics of the battlefield on which NATO and Soviet forces would fight in Western Europe. Ideally, the chapter should "paint a picture" or "capture the atmosphere" of that battlefield. Obviously, the intent is not to duplicate the contents of Chapters 2 to 7 but to provide a fundamental frame of reference within which the reader should examine the detailed information in the next six chapters.

2. General (U).

a. (U) Chapters 2 thru 7 of this volume describe the major combat elements with which the Soviets would prosecute a war against NATO in the Western Theater of Military Operations (TVD). For clarity, the elements had to be discussed as distinct entities. The actual conduct of the war, however, will be characterized by interaction and coordination which will attempt to maximize the capabilities of combat, combat support and combat service support units. This orchestration will occur on a lethal battlefield which will include not only the ground, but also the air space above it. The battlefield will have a truly combined arms character as ground elements function in close coordination with air, naval and rocket forces.

(u)

b. ~~(S)~~ No matter how hostilities begin, Warsaw Pact doctrine calls for launching a large scale offensive to destroy NATO forces in the Central Region and seize, at least, the territories of the Federal Republic of Germany, the Benelux nations, and Denmark in a short campaign. In the ground offensive, the Warsaw Pact initially would have favorable force ratios over NATO. They would use tank heavy combined arms forces to attempt to breach NATO's defenses and conduct high speed drives toward major objectives on the Rhine River and beyond.

c. (U) The conflict on the Warsaw Pact-NATO battlefield will be extremely destructive, and will be on a scale never before experienced by armies in combat, both in terms of violence and speed. The reader will find it difficult to imagine the destruction the opposing forces will inflict upon each other and the civilian population through the use of sophisticated weapons whose destructive power has had no equal.

d. (U) The following excerpts from A.A. Sidorenko's, The Offensive, provide a synoptic view of the modern battlefield:

(1) (U) "The goal of the attack--total defeat of the enemy in short periods of time and the seizure of important areas--now is achieved by the destruction of the main enemy groupings and his means of mass

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destruction, primarily nuclear weapons, and also by the powerful fire of other means, the swift attack of tank and motorized rifle troops to a great depth in coordination with aviation and airborne landings, and by their bold movement to the flanks and rear of the enemy. Under conditions of the employment of nuclear weapons, the attack will be characterized by extreme decisiveness, mobility, great spatial scope, high tempos, continuity of conduct day and night, unevenness of development and rapid and abrupt changes in the situations. The enemy's delivery of nuclear attacks with surface bursts and employment of other means of mass destruction can lead to the formation of vast areas of contamination, regions of destruction, and centers of fire, which will require performance of special measures to protect the troops and to cross areas of contamination and other obstacles. The sharp increase in troop combat capabilities has led to an increase in depth of combat missions and attack frontage of podrazdeleniya [sub-unit; Soviet battalion and below]. The grouping of men and weapons in the attack has changed substantially. Podrazdeleniya have received the opportunity to make wide use not only of combat [formations], but also approach march and march formations in the course of an attack, and to attack the enemy and operate in the course of combat on armored personnel carriers [APCs]. Troops attacking in a different way will overcome the enemy's defense, not by "gnawing through" on narrow sectors and a solid front, as was the case in past wars, but simultaneously across a broad front, along axes, from the march, at high tempos, right after nuclear strikes, taking advantage of breaches, intervals, and gaps in the enemy's combat deployment and by wide employment of maneuver. (3/221)

(2) (U) "The content of a combat mission of troops in the offensive consists of the total defeat or completion of defeat of the enemy in a certain zone or on a certain axis of operations, and of the capture of a particular line or region [objective] in the depth of the enemy's disposition which provides favorable conditions for subsequent advance. The enemy with his personnel, weapons, and combat equipment is the primary and chief objective of operations by attacking troops. Conditions for attaining victory are created only with the defeat of the enemy, with the destruction or capture of his personnel, and with the destruction or capture of his combat means. Therefore, the destruction of the enemy grouping to be defeated, or a portion of it, represents the most important and indispensable element of the content of a combat mission. However, this in no way belittles the importance of capturing territory or regions, objectives, lines, points, junctions or lines of communication, etc., which are important in the operational tactical, political, or economic sense. Defeat of the enemy and capture of specific territory comprise a uniform, interrelated process. There is essentially no offensive without capture of territory occupied by the enemy and the forward movement of attacking troops. Therefore, the content of the combat missions is sure to include the capture of specific regions, lines, and sectors of terrain. (3/72)

(3) (U) "The possibilities of such a loss from nuclear weapons is immeasureably greater than that observed with the appearance of a new means of destruction in the past. The sudden launching of nuclear strikes

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may cause panic and confusion in the ranks of the defenders. A portion of the personnel, even if it has not landed in the sphere of immediate destruction, may be stunned, disorganized, and lose its self control. The soldiers who have survived the nuclear strikes will become witnesses to massive losses, destruction, fires, and inundations, will feel the heavy thermal and sound effect and the sudden drops in pressure, may find themselves in the zone of destruction, or being outside of it will constantly think about the dangers of radioactive irradiation. This unseen danger of irradiation and ignorance may cause a sense of alarm, fear, an excited state, and passivity in actions which will lead to reduction in the combat qualities an activity of the personnel. Therefore, it is very important for commanders of all echelons to consider and anticipate not only materiel losses but also the morale and psychological consequences of the influence of nuclear weapons so that, on the one hand, they can exploit their results to the maximum and, on the other hand, can always be ready to weaken its effect on the morale state of the troops." (3/43)

3. Influential Considerations (U).

(u) ~~(S)~~ The following considerations, while certainly not all inclusive, have a major influence on Soviet doctrine and tactics and are expected to remain influential in the near future:

a. (u) ~~(S)~~ The Soviets consider NATO to be its most sophisticated enemy. The main threat posed by NATO is its nuclear firepower.

b. (u) ~~(S)~~ The Soviets believe that the initial stages of a nuclear war will be critical and probably decisive. Therefore, they must organize and equip their forces to survive in such an environment and to gain a quick victory.

c. (u) ~~(S)~~ The Soviets will strive to maintain and improve the present correlation of forces through the continued maintenance and development of an armed force capable of successfully waging a war in Western Europe.

d. (u) ~~(S)~~ The Soviets believe that rapid, effective restoration of their forces following a NATO nuclear strike is absolutely essential and is the key to successfully prosecuting ground combat actions against the enemy.

e. (u) ~~(S)~~ The Soviets will continue to emphasize the tank as the key offensive component of their ground force combined arms doctrine. New NATO antitank weapons will be countered by new Soviet technology designed to neutralize the attacking system, and by changes in Soviet organization and tactics.

f. (U) The continuing urbanization of Western Europe will affect the employment of large tank-heavy forces. The inherent disadvantages of tanks fighting in or maneuvering through urban areas may necessitate a more balanced mix of motorized rifle and tank units.

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g. (u) (S) Overcoming the numerous water obstacles in Western Europe, which will challenge the westward advance of Soviet forces, will continue to require a balanced force of tanks, amphibious vehicles, helicopters and engineer assets.

h. (U) Soviet tactics will be influenced by a number of factors:

(1) (U) The disposition, organization, and strength of the Warsaw Pact forces;

(2) (U) Warsaw Pact equipment readiness and level of unit training;

(3) (U) The composition, organization, strength, and deployment of opposing forces;

(4) (U) The nature of the specific mission assigned;

(5) (U) The terrain; and

(6) (U) The climatic conditions, the season and the time of day.

i. (U) Soviet tactics will primarily reflect operational principles designed for nuclear warfare, but the same principles, with modifications, will also be applied in nonnuclear operations. For protection and exploitation, the Soviets stress surprise, speed, mobility, dispersion, survival and firepower for nuclear as well as nonnuclear warfare.

j. (u) (C) Throughout the coming years, two requirements will largely shape the development of Soviet tactics. They must reduce their susceptibility to NATO nuclear weapons. The Soviets must also develop tactical concepts that assure maximum results from the use of their own nuclear weapons and facilitate a rapid offensive campaign in a nonnuclear environment. Future modifications of tactics will be measured against these two criteria.

4. Doctrine and Tactics (U).

(U) The following general discussion outlines Soviet doctrine and tactics in relation to their concept of war against NATO forces in Central Europe.

a. Combined Arms Concept (U).

(1) General (U).

(u) (S) The Soviets believe success can be achieved only by the combined efforts of all components of the armed forces taking advantage of technological advancements, numerical superiority, and employment of the

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most modern weapon systems. Soviet forces do not rely on any single weapon; they emphasize the impossibility of waging warfare successfully without highly organized coordination among air, ground, air assault, air defense, strategic rocket and naval forces. They have organized their forces for combat flexibility and this flexibility extends to their tactical concepts as well. In an effort to implement tactical principles which fulfill the requirements of the nuclear battlefield, the Soviets have developed a modern, highly mobile and well balanced fighting force. The predominant theory of Soviet tactical doctrine is that decisive results are achieved only through offensive action. However, they do recognize the defense as a necessary form of combat which, at times, is profitably adopted to gain time while developing the capability to begin or resume offensive action or, on order, to concentrate combat power in another sector while economizing forces where an immediate decisive action is not being sought.

(2) Combined Arms Combat (CAC) (U).

(U)
~~(S)~~ Successful Soviet military operations depend on the integrated combat employment of all branches. From the Soviet perspective, combined arms combat (CAC) is both a concept and an operational method. It is more than merely cross attaching, reinforcing or task organizing units for combat. Combined arms combat confronts the enemy simultaneously with a variety of weapons systems and forces to which he must react. The proper combination and timely employment of forces and weapons, should create a synergistic effect which each weapon and force individually would be incapable of producing. The emphasis in CAC is not only on weapons systems and units, but also on speed, timing, weapon density and relationship among forces. Because the elements of the Soviet force are both complementary and supplementary, they are capable of contributing to the success of combined arms combat when taken in their totality. The Soviets believe that a future land war in Europe will be characterized by extensive maneuvering of forces; rapid, sharp changes in the situation; and in-depth action across a broad front at high rates of speed. Balanced combined arms forces are mandatory for success in this type of warfare. Recently, Marshal of the Soviet Union, N.V. Ogarkov, addressed a new concept in Soviet tactical and doctrinal thought. In his book, "Always in Readiness to Defend the Homeland, Marshal Ogarkov states:

> " ... with the establishment of strategic nuclear forces, the top-echelon military leadership has acquired the capability to significantly influence the achievement of strategic and military-political war aims and objectives. As a result, the previous forms of employment of combined units and formations of the different services have in large measure ceased to correspond to present day conditions. In connection with this, one should evidently consider the principal operations in the war of today not front operations but rather a large-scale form of military operations... the theater strategic operation

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(strategicheskuyu operatsiyu). In the course of such an operation each front (fleet) can conduct two or more front operations in succession with brief pauses and even without pauses." (2/25)

On the surface this appears to be a revolutionary change in Soviet military thought, but after close examination of Ogarkov's statement it is merely an evolutionary change in Soviet planning, which is a result of technological breakthroughs and may be implemented over a long period of time. Such a new concept as the one presented by Marshal Ogarkov requires a great deal of study to see if the Soviets will attempt to revamp their command and control structure in an effort to come to grips with the problems of technology and its impact on the modern battlefield.

b. Research and Development (U).

(1) (u) ~~(S)~~ Technology provides the principal influence on tactics. Improvements of weapons systems cause evolutionary change, whereas new technology, such as nuclear or directed energy weapons, could lead to revolutionary change. In the process of modifying tactics to accommodate technological advancements, there may also evolve changes to maneuver formations, organizational structures and unit roles. The rate of introduction of new or enhanced technology into the Soviet Armed Forces occurs at a faster pace than tactical innovation. It is unlikely that major changes in tactics will occur in the near future unless there is a unique technological breakthrough which necessitates a reevaluation of fundamental doctrine. The introduction of new equipment into the Soviet forces or a significant change in the Soviet's perception of the nature of the threat would probably result in modifications in the implementation of their tactics.

(2) (u) ~~(S)~~ Technology has given the Soviets the capability to produce and field systems which support their doctrine and which are capable of operating on an extremely lethal European battlefield in a chemical, biological, and nuclear environment.

5. Nature of the Conflict (U).

(u) ~~(S/NOFORN)~~ Warsaw Pact doctrine envisions the employment of highly mobile, armor-heavy maneuver forces supported by massive artillery fires, rockets, missiles and air strikes. These forces are expected to quickly breach enemy defenses and penetrate deeply into rear areas. Soviet chemical capabilities, offensive and defensive, are unsurpassed. The Warsaw Pact forces are prepared to conduct nuclear and nonnuclear operations. In recent years, there has been an increasing Soviet perception of the possibility of a nonnuclear phase of the war which would escalate to the use of nuclear weapons. Once nuclear war has been initiated, the Soviets plan to execute a massive offensive nuclear strike by their aircraft and tactical, operational tactical, operational and possibly strategic missiles. As soon as possible, this attack would be followed by exploitation operations conducted by major armored, motorized, airborne, air assault, and

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airmobile forces to seize specific targets. Subsequent nuclear strikes will take place on a reduced scale against appropriate targets. Soviet doctrine reflects the belief that nuclear weapons will probably determine the outcome of combat operations.

6. Nuclear Operations (U).

(u) ~~(S/NOFORN)~~ Soviet military doctrine through the 1960s emphasized general nuclear war. In recent years, however, there has been an increasing Soviet perception of the possibility of a nonnuclear conflict or phase with expected escalation to the use of nuclear weapons. Any war in Western Europe has the potential for escalation to the nuclear level at any time. The Soviets and their Warsaw Pact allies are capable of waging war at any level. Initially, a period of nonnuclear conflict with the use of chemical munitions is expected by both sides. During the nonnuclear phase the Warsaw Pact will emphasize the destruction of NATO's nuclear capability in order to reduce NATO's nuclear strike or counterstrike capabilities.

a. (u) ~~(S/NOFORN)~~ Escalation to the tactical nuclear level will result from the perceptions held by both sides. The side which strikes first with nuclear weapons is thought to have the advantage. Furthermore, escalation beyond tactical nuclear systems will probably occur.

b. (u) ~~(S/NOFORN)~~ The initial nuclear strike from the Warsaw Pact can be expected to be coordinated on a theater-wide basis, using nuclear-capable artillery, rockets, missiles and air-delivered weapons. The first nuclear strike from the Warsaw Pact will be massive and targeted against NATO nuclear delivery systems and related command, control, and communications (C^3) and troop concentrations. NATO air defense assets will be attacked as well as lines of communications and even front line troops and their reserves. Within 20-30 minutes of the nuclear strike, airborne or heliborne assault forces will seek to exploit the gap created by the initial strike by seizing key terrain and blocking enemy reinforcements until link-up occurs with major armor and motorized rifle forces en route to seizing specific targets. Subsequent nuclear strikes can be expected but on a reduced scale against appropriate targets.

c. (u) ~~(S/NOFORN)~~ The Warsaw Pact will conduct a nuclear strike on NATO forces if the Warsaw Pact perceives that NATO is preparing to use nuclear weapons; NATO appears to be losing the nonnuclear battle and is preparing to conduct a nuclear strike to prevent defeat; the WP attack is slowed, halted, or repulsed; or NATO initiates the use of nuclear weapons on a small scale.

7. Soviet Perceptions of the Battlefield (U).

a. (U) Chapters 2 to 7 describe the primary combat and support elements which constitute the striking power of the Soviet Army. Obviously, the Soviets must properly employ these various elements to accomplish their doctrinal objectives. They recognize this basic requirement and

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continually emphasize the critical importance of coordinating the various means of combat power in a well planned, but extremely complex, offensive operation. Sidorenko's characterization of the battlefield offers some interesting insights into Soviet perceptions:

(1) (U) "The offensive will take on great spatial size because of the decisiveness of goals. It will be conducted night and day, in any weather, without letup until the enemy is defeated." (3/VII)

(2) (U) "The question of massing forces and means in attack will be solved in a new way. Maneuver with nuclear weapons will assure the achievement of surprise." (3/VII)

(3) (U) "Another important feature will be the . . . dynamic character of the modern offensive. Again, this will be a result of the use of the nuclear weapon." (3/VII)

(4) (U) "Nuclear weapons also will cause the waging of the offensive on broad axes . . . because troops cannot concentrate, under nuclear conditions, for the offensive on a narrow, solid front. They must be dispersed." (3/VIII)

(5) (U) "Because of waging the offensive along different axes, different degrees of defeat of the enemy and of enemy resistance, there will be unevenness of development of the offensive. Even the term 'front-line' will be rejected for 'the line of fighting contact of troops:'" (3/VIII)

(6) (U) "Mutual use of nuclear weapons, high troop mobility, and saturation of the battlefield with tanks will lead to rapid and acute changes of circumstances in the course of the offensive. Another feature of nuclear war will be the conduct of operations in conditions of wide zones of contamination, destructive fires and floods. There will be great expenditures of materiel, massive losses of troops and equipment." (3/VIII)

b. (U) Without going into the detailed discussions of tank, artillery, missile and aviation forces, as provided later in this volume, it would be appropriate to emphasize the significance that these combat elements have in the Soviet view of the battlefield.

(1) Missiles (U).

(U) Proper employment of tactical and operational tactical missiles with nuclear, conventional, and chemical warheads provides the following major advantages:

(a) (U) Destruction of enemy troops and objectives in depth; (3/44)

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(b) (U) Use of nuclear missiles will facilitate the advance of Soviet forces into the operational depth of the enemy and create opportunities for exploitation operations by airborne and tank forces; (3/44)

(c) (U) Approaching enemy reserves may be attacked at great distances by missiles and thereby prevented from reinforcing engaged enemy forces; (3/44)

(d) (U) Properly executed missile strikes result in drastic changes in the tactical situation in very short periods of time. Advantage must be taken of such favorable changes. (3/44)

(2) Tanks (U).

(a) (U) Improvements in armament, fire control, armor protection, mobility, and maneuverability, and increased operating range have made the tank an especially significant, critical element on the battlefield.

(b) (U) In addition to their primary function of being the main shock force of the ground forces, tanks will also perform vital functions during nuclear operations. Sidorenko accurately described the role and value of the tank:

> Thanks to their high combat qualities, they are capable of exploiting the results of the employment of nuclear weapons and other means of destruction most effectively, overcoming the enemy's defense at a high rate, breaking through into his deep rear swiftly, advancing over any terrain including that contaminated with radioactive substances, and inflicting powerful blows on the enemy. Swiftly reaching the areas struck by nuclear bursts, the tank troops will complete the smashing of the opposing enemy forces, seize his vitally important objectives and territory, prevent the enemy's restoration of the combat efficiency of his troops, defeat the employment of his mobilization reserves, and thereby further the rapid attainment of the goals of the offensive. (3/46)

(3) Artillery (U).

(a) (U) Great improvements have been made in the firepower, accuracy, range, rate of fire and maneuverability of artillery systems.

(b) (U) The destructive power of tube and rocket artillery is of critical importance to the success of the ground maneuver elements. Therefore, the proper allocation of artillery assets and the timeliness of

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artillery support are matters of utmost concern to the Soviets. Their entire offensive doctrine for successful operations against NATO, especially in a nonnuclear situation, hinges on the proper use of artillery.

(4) Aviation (U).

(a) (U) A key element of the Soviet ground offensive will be the successful employment of their aviation assets in the air operation as described in Chapter 7, Section III.

(b) (U) Also critical to maintaining anticipated rates of advance and defeating NATO armor are attack helicopters. The Soviets intend to rely heavily on the capabilities of these attack helicopters to support ground forces, not only during the initial penetration of NATO's defenses, but also during exploitation operations. Developing doctrine and tactics to integrate this major combat element into their overall offensive planning is a matter of utmost concern to the Soviets.

(5) Airborne/Air Assault/Airmobile Assault (U).

(U) Chapter 4, Section III and Chapter 7, Section VI detail the capabilities and roles of airborne, air assault and airmobile assault units. The potential that these units have to favorably influence the prosecution of Soviet high speed offensive operations against NATO is significant. The Soviets realize that they must coordinate the employment of their various assets to form a cohesive fighting force. This coordination is especially critical in the employment of airborne, airmobile and air assault forces.

8. Issues of Significant Concern to the Soviets (U).

a. Impact of Research and Development (U).

(U) (S) The perennial Soviet assessment of their existing and future battlefield capabilities is heavily influenced by the fast-paced tempo of research and development, particularly in the Western World. The two most significant developments are the neutron (enhanced radiation) warhead and antitank guided missile (ATGM) improvements. The Soviets are very concerned about the tremendous potential implications of the neutron weapon. They are equally alarmed about Western ATGM developments. The rapid proliferation of increasingly more effective antitank weapons that will destroy tanks, infantry fighting vehicles and other equipment at long ranges has major implications for Soviet tactics.

b. NATO Antitank Capability (U).

(U) (S) The proliferation of NATO ATGMs on the European battlefield and the significant threat it poses to the survival of Soviet tanks could conceivably cause the Soviets to reevaluate their current mix of tank and

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motorized rifle units within the combined arms concept.

c. Restoration of Combat Forces (U).

(U) ~~(S)~~ Restoration of unit combat effectiveness following a NATO nuclear strike is a major concern of the Soviets. The introduction of neutron warheads would heighten that concern.

(1) (U) The following extracts from Soviet military publications emphasize the criticality of restoring combat effectiveness:

(a) (U) "The successful conduct of operations under conditions of a nuclear missile war depends on the combat training and high mobility of troops as well as on security of the personnel. Subunits of all arms of the service will often carry out combat missions under conditions involving mass destruction, flooding of the terrain, fires, contamination of extensive areas, with heavy losses in personnel, armament, and combat materiel. Therefore, the outcome of the battle will also depend on the capability of subunits to survive enemy use of weapons of mass destruction . . . . At the same time this is possible only with the widespread utilization of defensive measures by every fighting man and by subunits as a whole, and with the restoration of the fighting ability of subunits within compressed period of time." (1/56)

(b) (U) " The replacement of losses and materials, technical and medical support have become considerably more complicated in modern combat. If, formerly, losses were made up from replacement podrazdeleniye and primarily during the period of operational pauses; now, seemingly, this must be done directly in the course of combat actions. After the enemy's employment of weapons of mass destruction, in a number of cases it will be necessary to create composite podrazdeleniye from the surviving personnel and armaments which are capable of accomplishing the assigned mission." (2/61)

(U) ~~(S)~~ (2) The Soviets hope to rapidly reassemble their maneuver forces following an enemy nuclear strike which has inflicted massive casualties in a short period of time. They realize that after a nuclear exchange the side which first reassembles and reorganizes its C^3 elements and maneuver elements into a functional fighting force will have a distinct advantage in the prosecution of the battle. As a minimum, the fighting units would need a command and control element and an effective weapons inventory. Ideally, the unit should restore a combined arms force of tanks, motorized rifle elements, antitank weapons and indirect fire systems. The ongoing reorganization of Soviet divisions improves the combined arms operational capabilities of tank regiments. An artillery battalion is being added to tank regiments in tank and motorized rifle divisions, and the BMP company in tank regiments in the tank divisions is being upgraded to a battalion. The reason for the divisional reorganization appears quite clearly to be a desire on the part of the Soviets to enhance their ground force combined arms tactical capabilities by the addition of artillery and motorized rifle assets to divisions - particularly tank divisions.

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Considering the problems inherent in reassembling forces following a NATO nuclear attack, a regiment with combined arms assets may have certain advantages. Admittedly, the current reorganization is not motivated especially by the need to restore combat forces after a nuclear exchange, and there are also traditional combined arms benefits to be gained whether the conflict is nuclear or nonnuclear. However, barring totally catastrophic losses, the mix of weapons systems, the logistic support structure, and the critical command and control elements inherent to the regiment could provide the basic elements needed to reassemble a meaningful force from the remnants of the original regimental assets.

d. Terrain (U).

(U) In their planned westward advance against NATO across the Western TVD, the Soviets will have to successfully negotiate significant water obstacles and will have to maneuver their large armored forces through urbanized areas.

(1) Water Obstacles (U).

(U) Rapidly projecting combat power to the far bank of water obstacles is critical to the maintenance of the overall momentum of the offensive. Recognizing this fact, the Soviets train in river crossing operations and fully appreciate the role of helicopters and heliborne assault forces in supporting such operations.

(2) Urbanization (U).

(S) The ongoing urbanization of the Western TVD should continue unabated. By the year 2000, urban sprawl will probably have reduced the amount of "open maneuver" area available to Soviet forces. Although the modern road network in the Western TVD gives the Soviets excellent avenues of advance for implementing their high speed offensive, most roads are mainly links between urban areas. Urban warfare may be unavoidable. Faced with the inevitability of moving and fighting large armored forces in urban areas, the Soviets must consider the capabilities and vulnerabilities of tanks in such a combat environment. Tanks operating in cities must have motorized rifle support. Combined arms elements are essential to the successful prosecution of urban warfare.

e. Mission Capabilities (U).

(1) (u) ~~(S)~~ The complex nature of the modern battlefield seems to argue against the notion that missions and tasks can always be clearly categorized as tank or motorized rifle. The Soviets fully realize that success on the modern battlefield can only be achieved by combined arms units conducting combined arms combat. Particularly significant is the Soviet emphasis on having a combined arms force which will confront the enemy with a variety of weapon systems, to which he must react. Similarly, the Soviets know that they have to tailor their forces to overcome the threat posed by NATO's variety of weapons. Soviet planners are faced with

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the reality that success in battle will not be possible unless units are properly equipped and organized to deal with diverse threats and can operate effectively in an intense combined arms combat environment.

(2) (u) ~~(S)~~ In those instances where a division would be tasked to conduct exploitation operations, the regiments may have to operate independently on separate axes to seize deep objectives. Tanks, armored personnel carriers (APC), and infantry combat vehicles (ICV) must be properly mixed in order to complement each other's capabilities and be effective in a combat environment characterized by high speed, maneuverability, targets of opportunity, violent combat, and independent actions. In such a volatile situation the regiments could be expected to operate with autonomy for limited periods of time as self-supporting combined arms teams. The current organizations of Soviet tank and motorized rifle regiments clearly reflect the concept of combined arms. From a purely organizational and materiel standpoint, the Soviets seem to have structured formidable regiments. However, the effectiveness of such an organization in a fast moving, volatile combat situation will depend greatly on the initiative, leadership and ingenuity of key leaders, i.e., battalion and company leaders. Battalion commanders with skeletal staffs will be expected to fight their battalions, which, when task-organized and reinforced for combat, will normally consist of tanks, motorized rifle troops, mortars, and antitank weapons. Coordinating the actions of such a combined arms organization will challenge the leadership ability of battalion commanders and demand independent thought and motivation not necessarily characteristic of Soviet society. Instilling commanders with qualities of initiative and creative thinking is a matter of major concern to the Soviets.

f. Attacking NATO's Defense (U).

(u) ~~(S)~~ There are indications that in assessing NATO's defense posture, the Soviets are shifting their emphasis away from the classic breakthrough attack, with its massed concentrations of armored and support forces, to the adoption of a more linear type of attack involving three regiments on line, with the fourth regiment acting as a second-echelon force to be committed at whatever first-echelon regimental axis is most promising. This tactical concept is supported by the ongoing divisional reorganization, which insures that each regiment is a formidable combined arms force. Such regiments could be employed with organic support and with a basic prerogative to react as necessary rather than to await specific instructions from high echelons of command. Command and control will be from front, down through army and division, to regiment and below. Soviet regimental commanders will have sufficient flexibility to influence action at their level, but the overall plan (especially the timetable) will be closely controlled at army level and above.

9. Summary (U).

a. (U) If the Soviet leaders ever make a conscious, deliberate decision to attack NATO in the Western TVD, and thereby risk the initiation of World War III, they will do so with the full realization that the

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survival of their entire political, military, economic and social structure may depend upon the swift, successful completion of combat operations. Moreover, to further emphasize the drastic magnitude of such a decision, it must be reiterated that the Soviets recognize the tremendous destructive power of NATO's and their nuclear arsenals, and have no illusions that nuclear exchanges will necessarily remain limited to only tactical strikes. Mass casualties among combatants and civilians are expected to occur in extremely short periods of time.

b. (U) Having decided to initiate such a perilous course of action, the Soviets can be expected to use every means at their disposal to succeed. It would be unrealistic to expect them to do otherwise. What price the Soviets would consider unacceptable to pay to accomplish their objectives may not necessarily be determinable and, being primarily a political judgment, is outside the purview of this volume. However, it must be assumed that the military doctrine which the Soviets have meticulously formulated to fight NATO will be implemented by the modern, powerful military machine which they have developed. Obviously, at any point during the conflict, political decisions could be made which may affect the implementation of doctrine and override the normal "military solution" to a particular situation. The political aspects of the future conflict have not been included as an ingredient in "painting the picture of the battlefield."

c. (U) From a purely military perspective, in which victory is the key criterion, the following activities are offered as descriptive summarizations of that operational environment which the Soviets plan to create, control and dominate:

(1) (u) ~~(S)~~ As the aggressor, initiating the attack against NATO in the Western TVD, the Soviet Union would begin offensive operations when it was satisfied that adequate forces had been mobilized and that command and control structures were prepared to function effectively. Regardless of the number of days the Soviets alloted themselves to prepare for war, it is only reasonable to assume that they would not initiate hostilities if they did not feel comfortable with the comparison of their forces with NATO's forces.

(2) (u) ~~(S)~~ All major components of the armed forces of the Soviet Union, i.e. Ground Forces, the Navy, the Air Forces, Air Defense Forces and Strategic Rocket Troops, would be prepared for the conflict.

(3) (u) ~~(S)~~ Soviet troops would be politically indoctrinated for the forthcoming offensive.

(4) (u) ~~(S)~~ Non-Soviet Warsaw Pact forces would be brought to levels of readiness acceptable to Soviet planners and would be expected to fight in accordance with the prearranged offensive operational plan.

(5) (u) ~~(S)~~ Prior to "D"-day, "in-place agents" and SPETZNAZ forces would perform assigned missions throughout Western Europe.

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(u)
(6) ~~(S)~~ The "D"-day attack against NATO in the Western TVD would be launched by the northern, central and southern fronts.

(u)
(7) ~~(S)~~ The offensive would be a coordinated massive air and and ground operation which would simultaneously strike NATO defenses in depth and across a broad front. Warsaw Pact ground forces, supported by tactical air, helicopters, and massive artillery fires, would attack from the march on multiple axes in an attempt to overwhelm NATO forces and quickly penetrate their defenses. With the purpose of attacking simultaneously not only into the depths of NATO defenses but also across NATO's extended front, the Soviets would conduct operational maneuver group, air assault, airmobile and airborne operations at various depths forward of the FEBA, and at those times most conducive to supporting their high speed offensive. The commitment of operational maneuver groups would create extremely difficult situations for NATO defenders. OMG's would complicate identification of main attacks, could divert reserves from thickening the defense at the decisive point, and threaten lines of communication (LOC) to forward defending units or planned fallback positions. Soviet radio electronic combat activities would permeate the entire battlefield.

(u)
(8) ~~(S/NOFORN)~~ Soviet planning for the use of nuclear and chemical weapons would be integrated into the overall offensive concept and their actual use should be expected, as required, to ensure that the Soviet offensive succeeds.

(u)
(9) ~~(S)~~ The struggle would be titanic and mass casualties would be considered the norm. Soviet units which had suffered as much as 50% losses would be expected to continue operations.

d. (U) Chapters 2 to 7 discuss the major aspects of Soviet doctrine and tactics and the functions of key combat and combat support elements. Given the formidable nature of their "military machine," the Soviets still face the challenges of creating an environment favorable to their objectives and then successfully operating within that environment. These chapters will only apply to the top twenty divisions in the Western TVD. For a further discussion of other TVD operations see Volume VI.

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CHAPTER 2

HIGHLIGHTS (U)

(u)
~~(S)~~ The Soviets will continue to emphasize the combined arms concept of warfare. This concept is treated at some length in this chapter by the use of excerpts from Mr. John Erickson's article, "Soviet Combined Arms Theory and Practice". Major components of combined arms units are motorized rifle (mechanized infantry), tank, artillery, and aviation units (both fixed-wing and rotary).

(u)
~~(S)~~ Also, Soviet planners will continue to stress the speed and shock of offensive operations as the primary means to insure victory. The Soviets do recognize the defense as a legitimate concept, but it is considered only a temporary break in offensive operations.

(u)
~~(S)~~ The three basic types of offensive operations considered in this study are the meeting engagement, the breakthrough, and the pursuit. The meeting engagement is considered to be the most likely form of offensive engagement.

(u)
~~(S)~~ In the defense, the Soviets will continue to use a frontal security zone which will be located in front of a series of three defensive belts. The first defensive belt is the major defense echelon.

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CHAPTER 2

TACTICS AND DOCTRINE (U)

SECTION I. DOCTRINE FOR EMPLOYMENT OF COMBAT ARMS (U)

1. Combined Arms (U).

a. (U) ~~(S)~~ Successful Soviet military operations depend on the integrated combat employment of all branches. The basic tactical unit for sustained operation is the motorized rifle division. It is an integrated combined arms unit of motorized infantry, tank, and artillery, and aviation (both fixed-wing and rotary. Artillery augments the motorized rifle division's firepower, and the tank forces provide maneuver, massive direct fires and momentum.

b. (U) ~~(S)~~ Soviet units are rarely employed without reinforcements or attachments. Attachments are made as required: i.e., tank units to motorized rifle units, motorized rifle units to tank units. The mission, enemy, terrain, and forces available determine the amount and type of reinforcements or attachments.

c. (U) The following is taken from Mr. John Erickson's text, "Soviet Combined Arms Theory and Practice": "It is very doubtful if the theory and practice of 'combined arms' is fully grasped in Western circles, or, strangely enough, even in the Soviet armed forces, the proclaimed home of the idea in the first place. Inevitably, non-Soviet military men tend to equate 'combined arms' with 'cross-attachment' or cross-reinforcement - adding artillery to armor with combat engineer support and so on, all with the impression (which is by no means misplaced) that this affords flexibility through the battle group or the combat team. Cross-attachment is not unknown in the Soviet forces, as with the reinforced motorized rifle battalion which can be augmented with a variety of support for particular operations, including assault in urban areas: the battalion can be expanded by attaching a company of tanks, more artillery, an additional mortar battery, further anti-air defenses, an ATGM platoon, NBC reconnaissance units and combat engineers, so that thus filled out could number 700 men at least with some thirteen tanks and at least thirty BMP (infantry combat vehicles). Thus reinforced, the MR battalion then goes on to perform its role in a 'combined-arms' context.

d. (U) "This may be a laborious way in which to contrast 'cross-attachment' (cross-reinforcement) with 'combined arms', but it is important to make this distinction from the outset. It also furnishes an avenue to begin the exploration of the Soviet theory and practice of 'combined arms', which has a considerable history behind it as well as presently evolving new forms and applications. We shall have to deal with the concept, the development of the 'combined arms' army and the nature of the 'combined

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arms' operation/battle, the present constituents or elements of 'combined arms' and current force trends. In the process it will be useful to see to what degree Soviet theory and practice is correctly understood and properly adopted by Soviet commanders themselves, for there is reason to suspect that while the formula is widely used there are shortcomings in actual practice.

e. (U) "The term 'combined arms' came into general use in the 1920s during the period of intensive investigation into the experiences of both World War I and the Civil War and not least as part of the effort to develop and implement a unique Soviet/proletarian theory of warfare. Pre-eminent among those theoreticians was M.N. Tukhachevskii who bent his mind to working out the problems associated with composing the infantry and artillery attack into a 'combined arms' pattern: In one of his earlier papers he pointed out the interdependence of infantry with artillery and even while recognizing the crucial role of artillery he insisted that 'artillery interests' must not predominate in formulating and executing the operation. Not much later and in the same context he emphasized the key element in the 'combined arms' concept-vzaimodeistvie, which has been recently translated as 'interworking' (though [it is probably more accurate] to represent this as 'interactional process', for interworking is essentially static and does not really convey the dynamics of the process, hence [the] additive of 'process'). Marshal Tukhachevskii himself summed up this very succinctly: vzaimodeistvie (the interactional process) is the very basis of combined-arms battle.

f. (U) "What we would today recognise as the combined arms principle had already taken on rudimentary shape in the Field Service Regulations of 1929.... and what is of particular interest was the emphasis laid even at that time upon 'troop control' (or 'command and control', in its modern guise). Tukhachevskii once again drew attention to this issue especially in the question of the organization of staff work and the regulation of the central question, the interaction of infantry and artillery. And as the basis of it all was the primacy of the offensive, which was the driving force behind all these doctrinal formulations and theoretical expositions. The next stage marked a qualitative leap in Soviet thinking, namely, the elaboration of the theory and practice of 'operations in depth'... which bonded a number of operational prescriptions - offensive operations, surprise, 'shock power' and the combination of several arms and services to attain decisive operational success to an appreciable depth within the enemy defense. No longer was it simply a question of combining and co-ordinating infantry with artillery but now integrating the new 'motor-mechanised unities' (together with tactical air and the infant airborne troops) with the more traditional arms. The development of Soviet Army mechanised formations and units-equipped with the high-speed... tank, also meant the exploitation to considerable depth was now possible, while aviation assets could intervene on the battlefield and at the time carry the attack to the depth of the enemy position, reaching into the deep rear.

g. (U) "In brief, the first 'combined-arms' concepts connected with the early experiments with operations in depth tended to use the 'inter-

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actional process' in the interests primarily of the [ground forces].... The Draft Field Service Regulations/1941... introduced some variations on [those of 1936,] dividing combat order into the rifle echelons, artillery groups, infantry-support tank groups and reserves (infantry, tank and anti-tank): anti-tank and AA artillery groups were also proposed. The aim was to facilitate interaction and simplify command and control problems.

(1) (U) "In this same pre-war period the principle of interaction/interworking was extended to include more than one Front army by co-ordinating several 'operational-strategic entities', reinforced with tactical air (or naval forces, should geography demand this).

(2) (U) "Pre-war theorizing notwithstanding, the Great Patriotic War brought 'combined arms' and the combined-arms army' into its own, though not before the shattering defeats of 1941 wrought their own havoc.

(3) (U) ..."By 1943 the combined arms army had 'stabilised' with an establishment generally made up of three corps, seven/twelve divisions and four artillery regiments. Throughout 1944 the artillery component was strengthened and a tank regiment made organic to the army (though lack of suitable tanks caused many difficulties). As for operational forms, in the latter period of the war German defences became increasingly deeply echeloned (a development dating largely from 1943 and enduring to 1945) with the result that the Soviet command came to rely in its turn on 'mobile groups' and armored formations as decisive breakthrough instruments.

(4) (U) "The integration of the air effort into a genuinely combined ground-air effort (both in the offensive and for defensive operations) proved to be a complex task, though Soviet analysts contend that the fundamentals of pre-war theory were quite sound. However, the first phase of the war showed up serious practical shortcomings, particularly the lack of effective ground-air communication....

(5) (U) ..."The General Staff in 1943 issued its own [regulations for ground-air interaction, paying particular attention] to the co-ordination of staffs and joint planning, a process given greater substance as Soviet officers gained increasing operational battle experience.

h. (U) "The front commander (usually an infantry officer) decided the form and frame of an operation (or operations), with operational plans developed both by the commanders of the individual combined arms armies (or tank armies) and the air armies, the staffs from ground and air elements working under the general supervision and control of the Front staff, establishing locations, times and targets, specified in turn on special 'interaction planning tables'. The manner in which this air effort was allocated and distributed is shown by wartime records: In 1941-42, 81.3 percent of all ground-attack and bomber sorties involved 'tactical interaction', with 16.7 percent devoted to 'operation interaction' (the predominance resting with close battlefield support), while in 1943 'tactical interaction' accounted for 91 percent of these sorties, 77.8 percent in

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1944 and 87 percent in 1945. Close air support, therefore, was the predominant commitment.

i. (U) "For obvious reasons all arms and services are represented in this 'combined arms' process during the "great Patriotic War', though opinions - Soviet and non-Soviet alike - vary about its general efficacy. There is the view that for all the insistence on the 'combined arms' approach, combined action and interaction was no more pronounced (or effective) than in those armies where the principle was not so heavily emphasised: on the other hand, it can be claimed that 'combined arms' really came into its own during the war (and, to be precise, in the year 1943 when the requisite levels of weapons and equipment were more readily available). There is no doubt that there has been a serious Soviet debate about the validity of the 'combined arms' doctrine: if the doctrinal provisions were correct, what went wrong? The general conclusion seems to be that the 'doctrine' only works when the requisite 'armament norms' have been reached - and it was in 1943 that such 'norms' were being met, at which time 'doctrine' began to work in effective fashion. At the same time this reservoir of theory and practice has been tapped to derive lessons and laws: for example, the tactical aspects of combined arms actions demonstrated the growing importance of the regiment and brigade which formed the core of the attack echelon(s) and also exploitation echelons (so that 'operational success' became in the final resort the sum of separate tactical successes). The same singularity emerged in defensive actions, where once again regiments and brigades in the first echelon had to take the brunt of the enemy blow.

j. (U) "The second point concerns the ever increasing 'densities' involved in the combined arms mix of motorized rifle, armor, artillery, mortars, engineers, and communications equipment - as might be expected: in 1944-45 for breakthrough operations five to seven motorized rifle battalions, 200-250 guns, twenty to thirty tanks, two to four combat engineer companies were concentrated on each kilometer of the attack sector: similar densities were built up for the meeting engagement... and for defensive actions. It was readily comprehensible, therefore, that the Field Service Regulations of 1943.... stipulated that vzaimodeistvie should be geared to the interests of the infantry, executing the main role on the battlefield, but latterly fire became the arbiter of the battlefield both for offensive and defensive operations. The infantry/armor 'team' could not perform its task without powerful and sustained artillery (and air) support to the full depth of the operational assignment. 'For all practical purposes fire... came to exercise complete sway over the battlefield.'

k. (U) "The 'interaction process' was further complicated in two respects: the creation and the diversification of special combat-arms, organised into their own formations (tank and air armies, artillery divisions), demanded interaction not only within a combined arms army but between these several specialist formations (air-artillery, frontal aviation-air defense, air with 'mobile groups' and so on), while the depth of the interactional process expanded to the full depth of the corps or divi-

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sional assignment as opposed to the earlier commitment only to the depth of the immediate tactical objective. If the increased range and performance of weapons added greater depth to the interaction process, the same factors made manoeuvre increasingly significant - both 'manoeuvre with fire power' (manoevre ognem) and 'troop manoeuvre', culminating in the combination of manoeuvre with assault.

1. (U) "Whichever way we inspect these several interpretations of [combined arms war,] the formula emerges in unmistakable fashion: fire, 'shock'/attack, manoeuvre. If there are variations on the emphasis laid on a particular aspect (fire, manoeuvre...), all, however, agree on the significance of control processes to implement interaction - the role of the combined arms commander..., the function of the staff(s), and the integration of planning methods for effective 'operational interaction' (operativnoe vzaimodeistvie).

m. (U) "The wartime experience (World War II) of combined arms formations can be summed up in the following fashion:

> (U) "a combined-arms army operating as [a part of the front entity [under front control] could destroy between three/six enemy divisions and penetrate to a depth of 100-150 km.
>
> (U) "in the early phases of the war, combined-arms army operations were calculated in days, in the later phases by stages or sequences.
>
> (U) "while densities (per km. of front) increased, infantry support tanks were always in short supply.
>
> (U) "the breakthrough method consisted of artillery and air 'neutralization' of enemy defenses on a narrow sector, with surprise - wherever possible - effected by rifle elements supported by tanks: 'operational manoeuvre' could mean a frontal attack launched from a flank in conjunction with neighbouring armies, a frontal attack launched across the whole frontage, flanking manoeuvre and envelopment leading to encirclement of enemy forces.
>
> (U) "artillery was the main resource for the 'fire blow' in breaking the tactical defense zone.
>
> (U) "tactical air supported - 'close air support' combined-arms formations and the 'mobile groups'.

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(U) "in the absence of sufficient infantry support tanks, the 'mobile group(s)' had to be committed to complete the tactical breakthrough (hence the postwar attempt to improve the tank/infantry 'team').

(U) "night operations became increasingly important (40 percent of all attacks in 1944-45, including tank attacks, were launched at night).

(U) "centralisation of command and control (though with some modification at lower levels to maintain speed and continuity of operations, diversification of CPs, above all, savings on/in time), carried over into postwar practice and command organisation.

(U) "if the principles of 'combined arms' had been established by wartime experience, in the postwar period they had to be adapted to new weapons and, above all, the nuclear weapons.

n. (U) "In the post-war period, ...with the advent of Soviet nuclear weaponry, the re-organization and innovations of the latter half of the 1950s meant upheavals in doctrine, armament, and force structures - how to 'combine' nuclear weapons, which might well be used en masse, within the combined-arms concept and how to adapt the combined-arms formation itself to major advances in motorisation and mechanisation?

o. (U) "The first step in rejuvenating and adapting Soviet doctrine was not to repudiate the combined-arms concept: while modern combat can be described as 'nuclear combat' this by no means eliminates the combined arms aspect.... Soviet doctrine made no fundamental shift from the idea that final success could only be achieved by the combined efforts of all forces operating through close and continuous interaction. ...The Soviet command was as concerned as ever with the 'overall blow', directed towards a defined single aim under centralised command and control. Combined-arms combat now embraced all arms and services conducting co-ordinated actions which could be widely diversified by mission, time and place.

p. (U) "In the 1960s Soviet interest in the combined-arms concept appeared to intensify.... Soviet capability developed along the lines of a combined nuclear-conventional force, with the conventional component (organized along combined-arms lines) capable of exploiting the results of a mass initial strike: the nuclear-conventional relationship is one of complementarity, so that 'integration' (and co-ordination) is more concerned with ensuring that each element of the armed forces (Strategic Missile Forces, Ground Forces, Navy...) utilises its particular capability to maximum effect within an overall combined effort. Thus, we have arrived at a form of 'combined "combined-arms"'.

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q. (U) 'Combined-arms' is no mere catchphrase, even though it may be used in that fashion from time to time. Above all, it has not been superseded by nuclear weapons and by 'nuclear combat': quite the contrary, the combined-arms principle and practice now has a heightened relevance: nuclear weapons, while not being 'absolute', are indisputably the main means of delivering the main blow, whereupon the operations of combined-arms units (particularly tanks) are duly co-ordianted with the effects produced by nuclear weapons. Nuclear strikes cannot be considered as some detached and wholly separate act, but are <u>one component</u> of combat: The operations of tank and motor-rifle units/sub-units are closely co-ordinated with nuclear strikes, the whole - nuclear strikes and troop actions - involving 'one uniform and inseparable process' ...and the 'process' utilising each component of available force to its best advantage. Here we come back to that difficult and at times baffling term, <u>vzaimodeistvie</u>: in this context, it is <u>not</u> 'integration' ...but rather complementarity and commonality - for example, the 'combined arms' units act as an 'exploitation echelon' following on the initial nuclear strikes, but both the nuclear arms and conventional forces have the <u>same high priority</u> targets - enemy nuclear means, nuclear depots, main enemy groupings, command and control facilities. Commonality rather than integration also expresses itself... in a 'combined arms' solution should the initial mass nuclear strike fail to attain all its objectives: equally, Soviet doctrine allows for nuclear strikes at <u>any</u> stage of an operation, so that there is not a strict 'nuclear/conventional' dichotomy, for all Soviet forces are operating <u>continuously</u> under what [can be termed] a 'nuclear backdrop'. (The failure to consider these implications of the 'combined-arms' doctrine induced at least two erroneous conclusions about Soviet military policies - that there was a 'tactical revolution' in the making and that improvement in the conventional capability of the Ground Forces somehow implied a 'switch' from a nuclear to a conventional 'strategy'.)

r. (U) "In brief, the Soviet prescription of and for nuclear war envisaged in 1960-61 an 'initial period' of hostilities which would see the total expenditure of nuclear munitions, followed by a second stage of operations not unlike those of the 'Great Patriotic War' save that they would have to be conducted over a nuclear-ravaged battlefield. The nuclear weapon had already been incorporated - at least in theory - into the 'combined arms' doctrine, for it was recognized that nuclear weapons plus increased mobility would impart particular decisiveness to manoeuvre-oriented actions, but at the beginning of the 1960s the problem was establishing the 'fit' between the 'nuclear battle' (the initial strike, with the expenditure of all missile stocks) and the 'conventional' battle which would inevitably follow.

s. (U) "It was not until March 1964 that 'combined arms' operations were put into precise contexts, that is, when nuclear weapons are used and when they are <u>not</u> used, hence the marked and public revival in the concept and form of 'combined arms' operations in the mid-1960s: where nuclear weapons were used from the outset, the combined-arms armies would be employed as an 'exploitation echelon' to maximise the results of these strikes,

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while combined-arms forces could operate initially in a purely conventional mode but with the vital proviso of expected/anticipated nuclear use at some subsequent stage. This is the nub of the matter, the Soviet concept of the nuclear/conventional relationship in terms of the application of combined-arms forces: what must be emphasised is that this is not immediately to be equated with the Western notion of the 'nuclear/conventional' distinction. Put another way, this is to say that what we have witnessed over the past fifteen years or so is the development within the Soviet Ground Forces of a particular Soviet version of 'dual capability' without making the transition process a major obstacle. The secret, if it is that, has been to develop the combined-arms concept to fit a nuclear engagement and also a nonnuclear phase but against a pervasive 'nuclear backdrop': thus, the Soviet command does not have to 'transit' from conventional to nuclear war-fighting modes, since the conventional mode is already fitted to an overall nuclear posture. When Soviet military specialists discuss the battlefield in terms of 'nuclear' and 'conventional' weaponry, this is not an 'either or' proposition but rather and essentially 'both/and'. (The same logic also makes nonsense of the assertion - too frequently made - that the Soviet command is simply preparing to fight World Wide II all over again: this is precisely what they are not preparing to do, even though they have extracted as much valid operational data for 'armament norms' and 'performance norms' as they can.)

(1) (U) "Combined-arms operations within the framework of an initial nuclear strike envisaged exploitation of the nuclear blow, divisions and units deployed in 'nuclear dispersed' style and utilizing the... lead detachment(s)... to advance with all possible speed into the depth of the enemy defenses, with the aim of seizing/neutralising enemy 'nuclear means', command posts and communication links, 'splitting and isolating' the enemy by attacks launched from different directions and across a broad front.

(2) (U) "The build-up of combined arms capability has proceeded along four main lines - manoeuvre fire suppression, organic defence (anti-tank and anti-air) and combat support. Armour, infantry fighting vehicles and reconnaissance vehicles form the core of the manoeuvre element; artillery, MRLs, close air support (including helicopters), mortars, [and] missiles comprise fire suppression; anti-air mobile battlefield systems and anti-tank defence, the organic defense; and logistical support, combat engineers, [and] assault bridging are all part of combat support. While this presents problems of co-ordination, it does also afford considerable flexibility and rapid redistribution of assets, particularly at army and division level.

t. (U) "It presupposes, of course, mutually supporting activities between target acquisition systems and artillery - to take but one instance - with extensive ESM support for target acquisition and electronic support for signals intelligence/ELINT and steerage for jammers, between manoeuvre units, engineering and logistics and organic defense (anti-air/anti-tank). Independent assets at Front and Army level can be assigned as

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the situation demands to echeloned divisions, while the division in turn can either echelon its own assets or re-allocate them - in the case of supporting a breakthrough, or for the exploitation of a breakthrough (reinforcing tanks with additional artillery and combat engineers) or stripping the artillery (or other elements) from echeloned units to support successful axes of advance. For example, divisional artillery holdings can be increased rapidly - by redistribution from second echelon units - from seventy-two artillery pieces to over four hundred.

u. (U) "The accumulation of diversified resources for combined-arms combat over the past decade or so can be seen in the evolution of the MR regiment (which presently is constituted from both BMP-equipped regiments and those with the BTR-60PB): the main improvement has been the increase in artillery (the BMP regiments being furnished with the SP guns, 122-mm) and anti-air defense, as well as improved cargo carrying capacity in both types of regiment, with the BMP-type regiment sowewhat ahead. No doubt the BMP will gradually take over (and the improved BMP), although the admixture of BMP/BTR-60s gives the divisional commander useful latitude in assigning different types of regiment to different operational tasks - as does the mixing of towed with self-propelled artillery.

v. (U) "However, the advent of self-propelled guns has appreciably altered an unfavorable tactical disadvantage suffered by the Soviet Ground Forces, particularly for counter-battery fire and the 'shoot and scoot' principle. Soviet artillery has made some considerable strides over the past decade and there are good grounds for arguing that artillery is the true 'power house' of Soviet offensive capability, suppressive fire designed to destroy NATO fire resources (nuclear battlefield support systems, CPs and fire control centres), the neutralization of anti-tank defenses plus the suppression of enemy artillery and mortars. Round allocation has always been specifically related to intended damage levels - [...annihilation of defenders and their defensive positions] and [...destroying up to 30 percent of defenses and their manpower]. The effectiveness of fire is governed, inevitably, by ammunition fusing, localisation and delivery errors and deployment requirements, including movement for battlefield protection....

w. (U) "It is clear that there is overriding need to integrate fire suppression with the manoeuvre elements and here much Soviet attention has been devoted to the battlefield survivability of MR elements, the BMP, for example. In general terms, the lead elements are intended to penetrate enemy defenses to the greatest possible depth, supported by the artillery of first echelon divisions (augmented in turn by artillery and MRLs drawn from second echelon formations, as well as Front and army assets): this furnishes an availability of some 50-70 manoeuvre units, with mobile battlefield air defence systems for the protection of vehicles, while the risk of massing manoeuvre units is diminished by so concentrating only for the shortest possible period of time and also by the fire suppression directed against NATO's 'nuclear means.'" (5)

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2. Motorized Rifle Troops (U).

a. (u) ~~(S)~~ The motorized rifle troops are considered by the Soviets to be the basic and most versatile arm of its armed forces. Doctrine considers motorized rifle troops to be capable of employment under any condition of climate or terrain and at any time.

b. (u) ~~(S)~~ The Soviets do not feel that nuclear warfare has diminished the significance of the infantry's role. This arm is completely motorized to achieve mobility, and has simultaneously improved its firepower and communications capabilities.

c. (u) ~~(S)~~ Contrary to popular belief, the Soviets do not employ the motorized rifle troops in "human sea" tactics. Motorized rifle units are seldom employed without strong artillery, tank, and engineer support.

d. (u) ~~(S)~~ Critical missions for the motorized rifle troops of the combined arms team are seizing and consolidating terrain in the offense and defending this terrain in the defense. (1/6-7)

3. Tank Units (U).

a. (u) ~~(S)~~ Tanks are employed at all echelons, from platoons and companies in direct support of the motorized rifle troops up to formations such as the Tank Army.

b. (u) ~~(S)~~ Exploitation is the principal role of Soviet tanks. In the offense, tanks are often employed in mass, to seize deep objectives. Tank units attempt to seize such objectives before the enemy is able to reorganize for the defense or counterattack.

c. (u) ~~(S)~~ In the defense, the majority of a unit's tanks are held in reserve to be utilized in counterattacks to destroy enemy penetrations and resume the offense.

d. (u) ~~(S)~~ Tanks may be used in both direct and indirect fire roles. However, with further introduction of smooth-bore main armament the indirect fire concept will disappear.

4. Artillery (U).

a. (u) ~~(S)~~ Artillery is a major component of combined arms combat and is employed at all tactical echelons. Employed in large numbers, with few exceptions all Soviet offensives include an extensive artillery preparation.

b. (u) ~~(S)~~ Soviet artillery support is characterized by a tendency to saturate areas with massive barrages intended to insure that all likely targets are covered. Soviet artillery employs the concept of "fire strike", which is a severe and intense bombardment by all artillery weapons to defeat the enemy with the minimal use of ground troops. Direct fire is extensively used on targets of opportunity, fortifications, and to support tank and

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motorized rifle attacks. Soviet artillery doctrine has recently changed to reflect "a mobility of firepower", which equates to the ability to mass and shift fires by improved techniques and technology and thereby to reduce the need to physically mass artillery pieces.

(u)
c. ~~(S)~~ In the offense, artillery frequently covers the advance by continuously laying a heavy volume of fire in front of the assaulting echelons. In the defense, the enemy is taken under fire at extreme ranges and is held under increasingly heavy volumes of fire as he approaches the defensive belts.

(u)
d. ~~(S)~~ For the most part, the Soviets employ air defense artillery in its intended role, but will at times use it in an infantry support and antitank role (Direct Fire).

(u)
e. ~~(S)~~ The Soviets consider antitank artillery/missiles as the most efficient means to combat tanks. Antitank artillery is employed as field artillery when no immediate tank threat exists. Normally, a portion of Soviet antitank weapons are held in reserve for repelling unexpected tank attacks. (1/7-8)

5. Echelons and Reserves (U).

(u)
a. ~~(C)~~ The Soviet commander normally employs his forces in echelons, both in the offense and defense. Each tactical echelon down to battalion determines from the situation the number of echelons required for a particular operation. Each echelon is then given a mission which will assist in accomplishing the overall unit mission.

(u)
b. ~~(C)~~ In the offense, two echelons are normal. As a unit attacks in echelons, each with a preplanned scheme of maneuver and objective, the offensive appears to the defender to be a series of attacking waves. One echelon, with most subordinate units on line and a combined arms reserve, may be used when the enemy is very weak, the area of operations wide, and nuclear weapons allocations are plentiful. Unlike the second echelon, the combined arms reserve's commitment is keyed to the development of the battle.

(u)
c. ~~(C)~~ In the defense, two echelons are normal. The Soviet commander defends in one echelon only when the front is extremely wide, insufficient forces are available, enemy attack is considered weak, or as the terrain so dictates. Similarly, he defends in three echelons when the following conditions exist: very narrow defense front, sufficient available forces, and against a strong attacking force. These echelons in the defense appear to the attacker as a series of defensive belts in depth.

(u)
d. ~~(C)~~ In addition to echelonment, the Soviet commander normally retains a reserve, except at the company level. The reserve may consist of motorized rifle or tank units and reserves of artillery (antitank, and air defense), engineers, chemical troops and other type units as required

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by the tactical situation. The size of the reserve varies considerably depending on how the commander evaluates the threat, but the reserve is normally relatively small, corresponding to a platoon at battalion level, a company at regiment, a battalion at division, and a regiment at army; at front a motorized rifle or tank division may be held in reserve. In the offense, the commander may withhold a tank unit as a reserve force and not preplan its commitment as part of the second echelon, in which case it can be considered to be his exploitation force. The reserve is considered the commander's contingency force, which he uses to replace destroyed units, to repel counterattacks, to provide local security against airborne/heliborne and partisan operations, and to act as an exploitation force to influence the outcome of the operation.

e. (u) ~~(C)~~ In the defense, tank units are not normally considered a part of the second echelon, and usually constitute the counterattack force. (1/8-9)

6. Soviet Tactical Principles (U).

a. Offense (U).

(1) (u) ~~(C)~~ Decisive victory is achieved by offensive action only.

(2) (u) ~~(C)~~ Speed and shock effect are preferred over fire and maneuver as a means of developing combat power. All motorized rifle and tanks units are considered as part of a maneuver force, with less emphasis on the concept of having to establish a "base of fire."

(3) (u) ~~(C)~~ Heavy losses and the isolation of units in the assault is expected as the norm.

(4) (u) ~~(C)~~ Flank security is best obtained by an aggressive advance.

(5) (u) ~~(C)~~ Flame and electronic countermeasures are always employed to support offensive action. Chemical, biological, and nuclear operations are employed to the maximum once release is obtained.

(6) (u) ~~(C)~~ The proper use of nuclear weapons is considered to be decisive.

b. Defense (U).

(1) (u) ~~(S)~~ The defense is initiated only to gain time or to economize in one area to provide forces for another area. The Soviets emphasize the temporary nature of any defense posture and the constant need to seize the initiative and switch over to the offense.

(2) (u) ~~(S)~~ Defensive operations are characterized by a stubborn defense of prepared positions across the enemy's axis of advance combined with strong counterattacks. Their purpose is to hold terrain and destroy attacking enemy forces.

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(u)
(3) ~~(S)~~ A planned anti-tank defense is basic to the Soviet defense concept. Anti-tank fires provide the basis for defensive fires. Every possible means of anti-tank protection is used, including obstacles and mobile anti-tank task groups as it is the Soviet belief that if the tank element of an attacking force can be stopped, the attack has been defeated.

(u)
(4) ~~(S)~~ Soviet defensive doctrine stresses the need to avoid establishing any set pattern and calls for changing the pattern of defensive employment as often as possible. In general, however, the defense is organized into a series of defensive belts, which are a combination of fixed defensive positions in the forward area and mobile counter-attack forces in the rear. Great emphasis is placed on, when feasible, elaborate trench systems, heavy fortifications, and the extensive employment of obstacles. While engaged units defend their assigned sectors, adjacent units may be employed against the flanks of the attacking enemy.

(u)
(5) ~~(S)~~ Enemy penetrations are first met with local counter-attacks. If these are unsuccessful, the defending units attempt to delay and canalize the enemy into preselected killing zones where he will be subjected to all available fires and counterattack by strong tank elements.

c. Mass (U).

(u)
~~(C)~~ The Soviet commander achieves mass in decisive areas by rapid concentration of men, materiel, and firepower. His ability to mass conventional fires and nuclear weapons in the forward battle area is supplemented by large-yield nuclear fires for the attack of deep targets. The concentration of assault units and supporting arms usually is made under cover of darkness or reduced visibility by moving rapidly from march columns. This concentration is maintained only for the minimum necessary time and large-scale concentrations of men and materiel are avoided in nuclear conditions.

d. Dispersion (U).

(u)
~~(C)~~ When not concentrated for a specific tactical mission, units are dispersed to the maximum extent possible consistent with the terrain and antiticipated employment. Battalion assembly areas, for example, are separated by a minimum of two kilometers whenever possible.

e. Surprise (U).

(u)
~~(S)~~ Surprise is sought at all times to paralyze the enemy's will to resist and deprive him of the ability to react effectively. Surprise is achieved by:

(u)
(1) ~~(S)~~ Strict security measures.

(u)
(2) ~~(S)~~ Concealment and rapid concentration of forces at the

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decisive points.

(3) (u) ~~(S)~~ Use of airborne and airlanded forces.

(4) (u) ~~(S)~~ Sudden employment of mass fires, nuclear and/or non-nuclear, immediately followed by rapid offensive action.

(5) (u) ~~(S)~~ Exploitation of unfavorable weather and terrain.

(6) (u) ~~(S)~~ Application of new combat methods.

(7) (u) ~~(S)~~ Detailed tactical cover and deception measures.

(8) (u) ~~(S)~~ Rapid introduction of large tank forces into battle.

(9) (u) ~~(S)~~ Infiltration tactics.

(10) (u) ~~(S)~~ Extensive use of electronic warfare. (1/9-12)

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SECTION II. THE OFFENSE

1. Types of Offensive Action (U).

(U) The Soviets perceive of three major types of offensive action: the meeting engagement, which includes advance to contact; the breakthrough; and the pursuit.

2. Meeting Engagement (U).

(U)
a. ~~(C)~~ The meeting engagement is perceived as the most common offensive action on the nuclear battlefield. In the nuclear environment, combat zones extend over vast areas and often opposing forces will clash throughout the depth of the zone.

(U)
b. ~~(C)~~ The principal difference between the meeting engagement and other types of offensive action is that in the former at least one of the combatants meets the enemy in an unexpected manner, or both forces enter into violent contact with little or no advance warning. Due to the fluid nature of the combat action and the resulting confused situation, the Soviets believe that speed of reaction is vital and the commander who can regain the initiative first will have a decisive advantage over his opponent.

(u)
c. ~~(C)~~ The meeting engagement is characterized by rapid changes in the situation, fluid operations on a wide front, and fast changes in combat formations. Success in a meeting engagement is achieved by speedy and aggressive action and the coordinated use of all arms despite the lack of detailed knowledge of enemy dispositions. The goal is to disorganize and divide the enemy, and destroy the divided forces. This may be accomplished by a smaller force if it acts aggressively and launches a coordinated attack faster than the opposing larger force. When employing this method of operation against overextended defenses or unprepared positions, the Soviets will deploy from the march column and attack without halting in the belief that it is advantageous to immediately strike an enemy who has had no time to prepare adequately.

3. The Breakthrough (U).

(u)
~~(C)~~ When the enemy has established either a hasty or deliberate defense line, the Soviets generally place primary emphasis on breaking through in order to carry the battle to the enemy rear, rather than seizing and consolidating terrain objectives. The basic organizational concept for breakthrough operations provides for two echelons of attack forces. The assault will not necessarily be directed to the seizure of key defensive terrain, instead, attacking units will attempt to push through weakly defended or unoccupied areas to create gaps that will permit the exploitation forces to strike deep into the enemy's rear. The capture of strong points and key terrain is left to succeeding echelons. Once the breakthrough is accomplished, subsequent actions are the encirclement and

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destruction of the penetrated enemy defenses by a series of meeting engagements.

4. Pursuit (U).

a. (u) ~~(c)~~ The Soviets consider pursuit as an offensive operation designed to complete the destruction of the enemy. Rather than following a retreating enemy, pursuing units move along routes parallel to the enemy's retreat, attempt to outdistance portions of the enemy force and to cut the withdrawing columns into segments and destroy them. Priority for nuclear and chemical fires, when employed, are enemy concentrations, defiles, and possible enemy defense areas. Airborne or airlanded forces may be used to seize critical terrain and block or slow down the enemy's withdrawal.

b. (u) ~~(c)~~ Planning for the pursuit is started before the attack. Plans include consideration of possible routes for withdrawal, determination of schemes of maneuver best suited to the situation, composition of pursuit forces, and allocation of nuclear weapons and delivery systems.

c. (u) ~~(c)~~ The pursuit is initiated at the first opportunity by regiments and higher units. The pursuit is terminated only on orders by army or higher commanders. Normally, orders to terminate pursuit are issued when the enemy has been completely destroyed, when pursuing elements have outdistanced their logistical support or are overextended and in danger of being cut off, or when the enemy has succeeded in establishing a strong defensive position. When the pursuit ends, units are regrouped and redeployed for the next operation. Artillery, air, tank, and transportation units are brought back under centralized control.

5. Basic Manuevers (U).

(u) ~~(c)~~ The Soviets employ two basic offensive maneuvers with supporting attacks: the envelopment and the penetration. Variations of the envelopment are the single and double envelopment. The penetration is characterized by a strong single thrust by a breakthrough force; variations are the multiple penetration and the pincer. The multiple penetration and the pincer movement are normally used at army and front levels. Nuclear fires are planned to facilitate all maneuvers.

a. Single Envelopment (U).

(u) ~~(c)~~ The single envelopment (see Figure 1) is used when there is an opportunity to pin hostile forces against an obstacle. This maneuver permits concentration of effort in one direction, thus helping to insure combat superiority over the enemy in the decisive area. Soviet doctrine differs from US doctrine (in which the main attack normally is directed at a decisive objective) in that the attacking units will attempt to push through weakly defended or unoccupied areas to create gaps that will permit the exploitation forces to strike deep into the enemy rear. As depicted in Figure 1, the supporting attack would be developed by succeeding eche-

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lons to exploit a break in the defenses and, through subsequent action, encircle and destroy the enemy.

b. Double Envelopment (U).

(u) ~~(C)~~ The Soviets believe that use of the double envelopment maneuver (see Figure 2) is the most decisive and effective way to encircle and destroy the enemy. It is used when enjoying a preponderance of force and there is little risk of defeat in detail.

c. Penetration (U).

(u) ~~(C)~~ Penetrations (see Figure 3) are conducted through overextended enemy positions in order to destroy enemy reserves. This maneuver will divide continuity of enemy defenses and allow the enemy's defeat in detail. The penetration is conducted by positioning the bulk of available combat power on a narrow front. One or more supporting attacks will be conducted for the purpose of deception, thus limiting the enemy's opportunities to maneuver.

d. Multiple Penetration (U).

(u) ~~(C)~~ When double envelopment is not possible, multiple penetration (see Figure 4) may be used if sufficient combat power is still available. This maneuver consists of a series of penetrations to the depth of the enemy's corps reserves with subsequent encirclement and destruction of the separated enemy forces. Large forces are required and the availability of large numbers of nuclear weapons facilitates this maneuver.

e. Pincers (U).

(u) ~~(C)~~ When faced with an enemy whose flanks appear to be unassailable, the Soviet commander may resort to the pincers maneuver (see Figure 5). This consists of two penetrations made to create assailable interior flanks. Mobile forces attack through the gaps created by the initial penetrations, make a deep penetration to include corps reserves, and then meet at the rear of the enemy to engage possible enemy reinforcements. Other forces, forming the inner pincers, divide and destroy the encircled enemy forces. The encircled enemy forces may be compressed into lucrative targets for low-yield nuclear weapons. (6/13-19)

f. (U) Figures 6 and 7 depict parameters of Soviet offensive operations.

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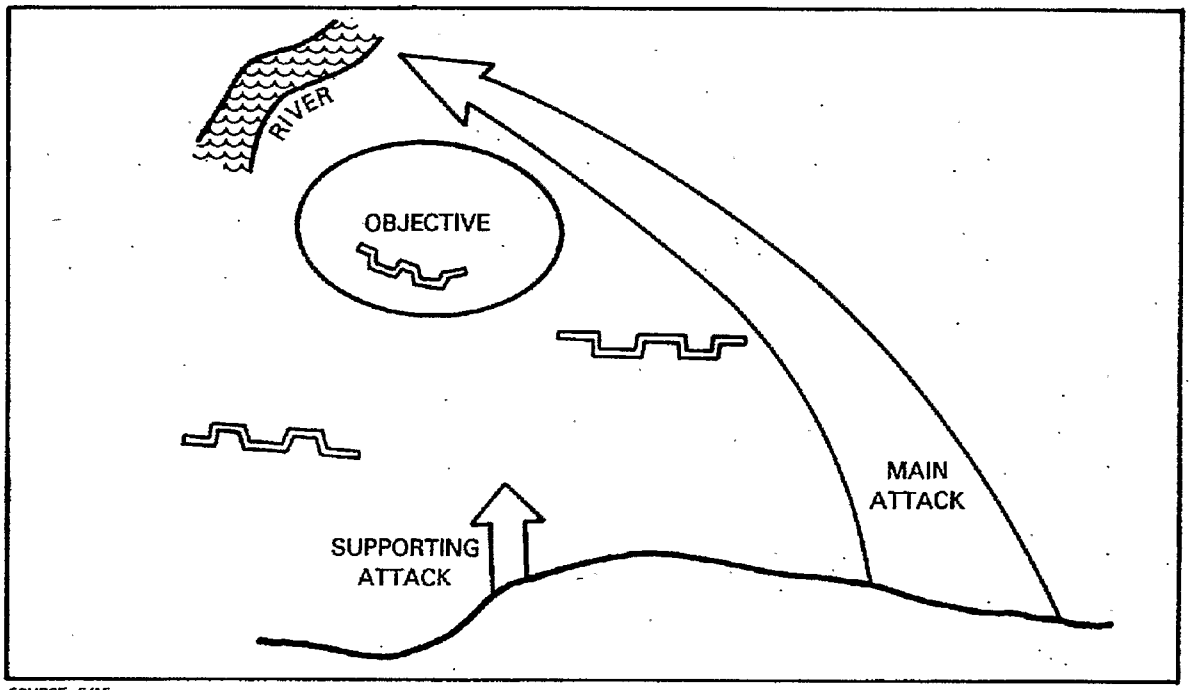

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Figure 1. (U) Single Envelopment

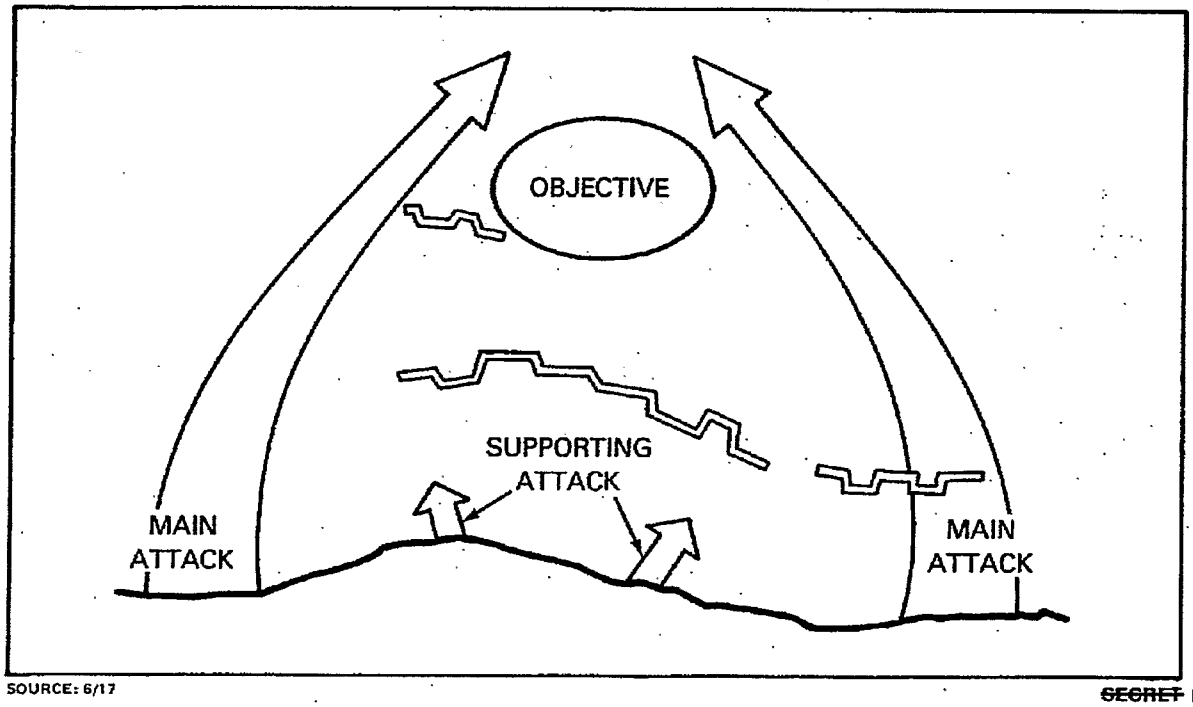

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Figure 2. (U) Double Envelopment

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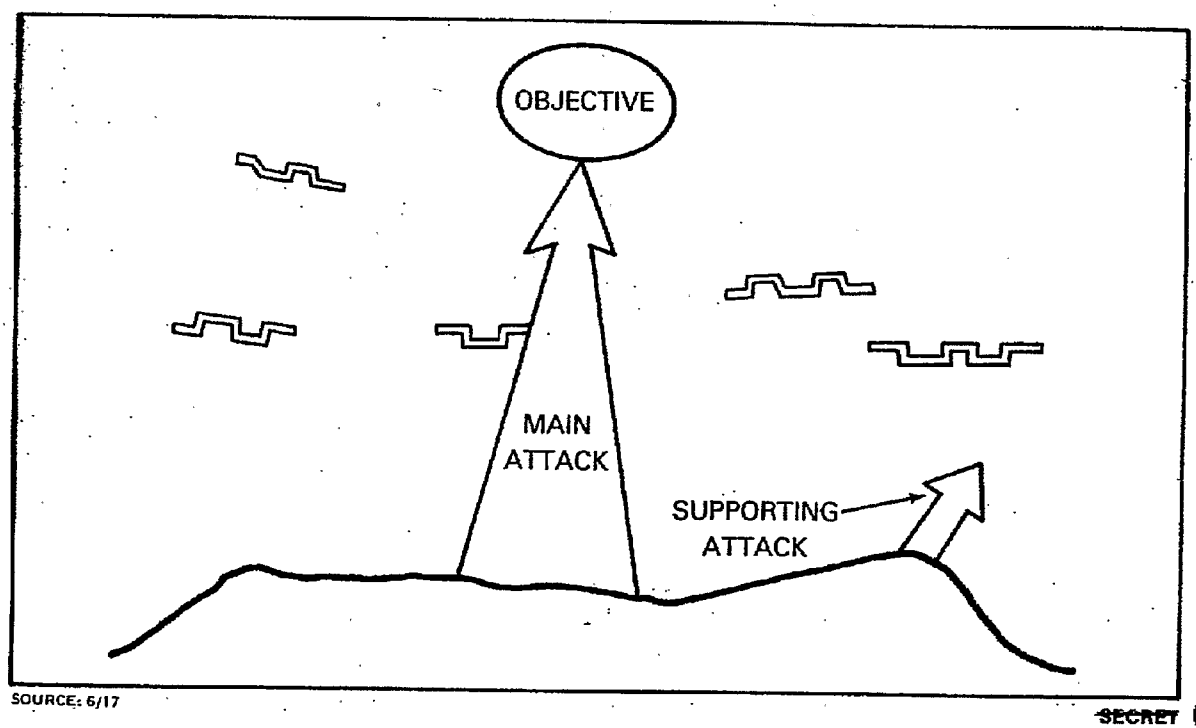

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Figure 3. (U) Penetration

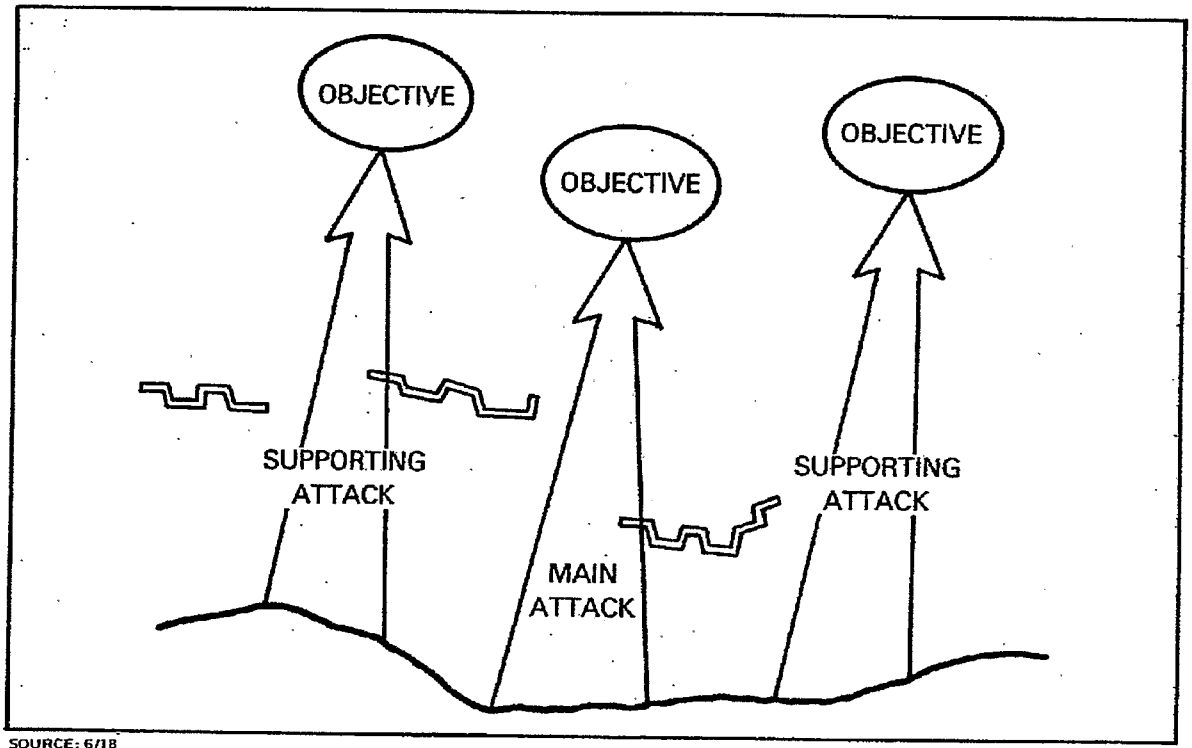

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Figure 4. (U) Multiple Penetration

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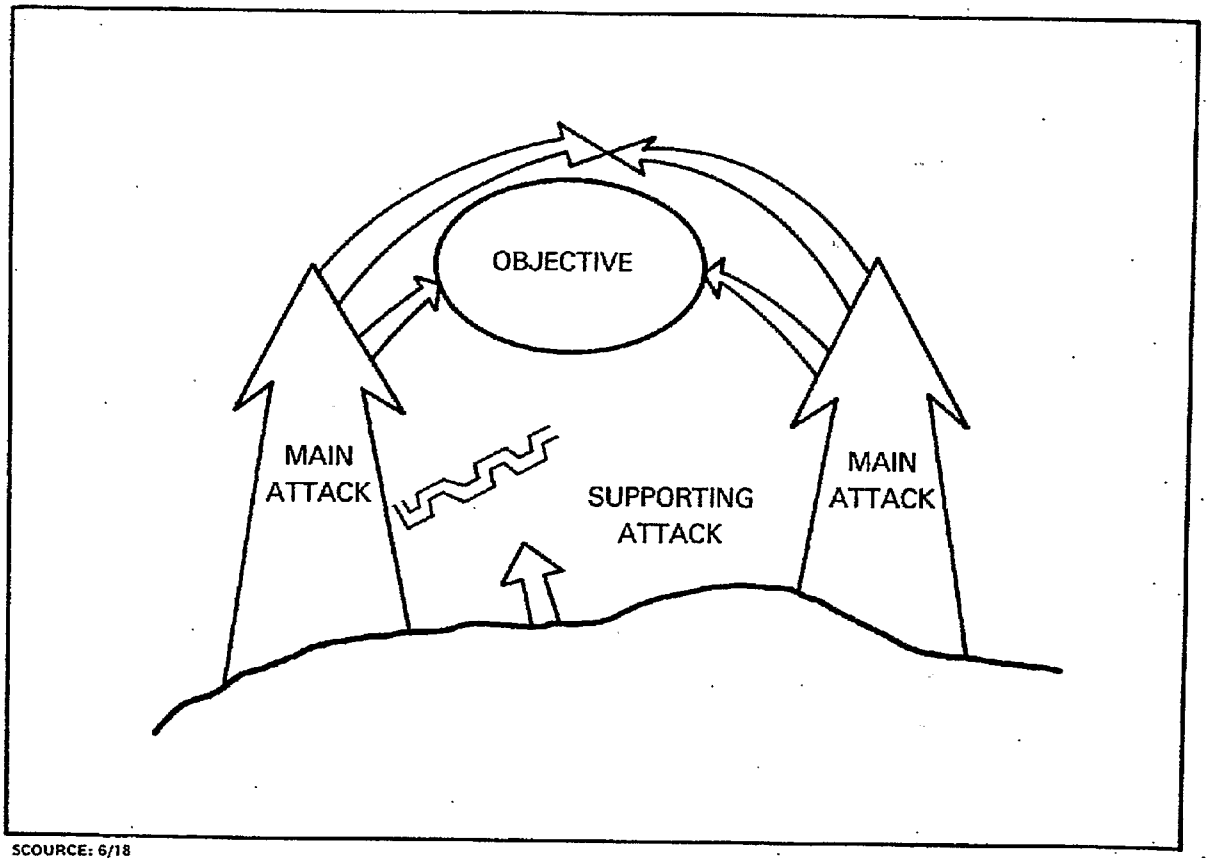

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Figure 5. (U) Pincers

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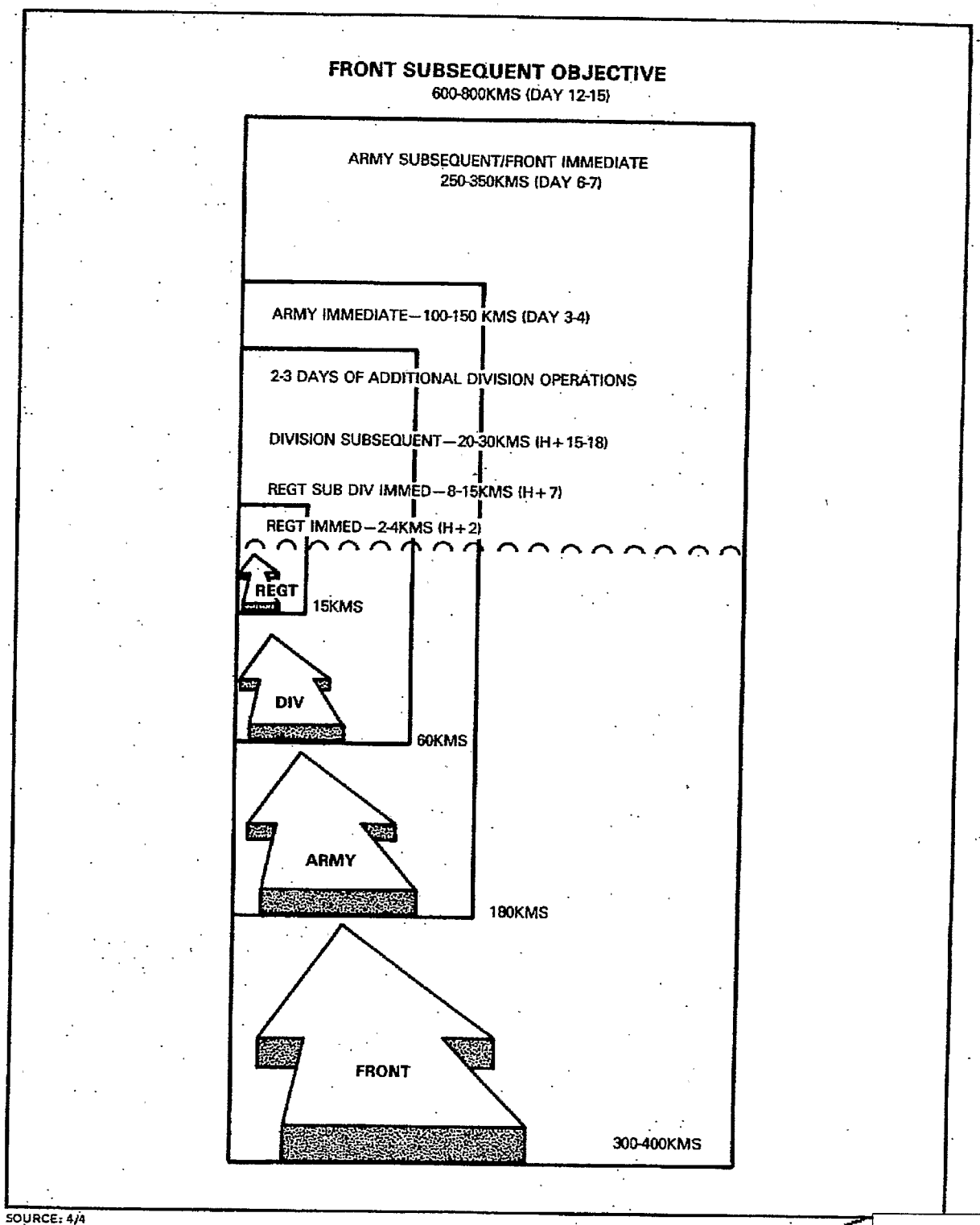

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Figure 7. (U) Offensive Parameters

SECTION III. THE DEFENSE (U)

1. Planning the Defense (U).

(u) ~~(C)~~ The front normally prescribes the general location of the forward edge of the main defense belt and the limits of the combined arms or tank army zone of defense. The army designates the more important areas in the main defense belt that are to be defended, prescribes the anti-tank defense through the depth of the area, and establishes the counter-attack plan. The army also plans for possible withdrawal of forces from forward positions in the main defense belt when close-in nuclear fires are employed. Division commanders select the exact trace of the forward edge of the main defense belt. Division defense plans include the organization of the defense, allocation and use of artillery, anti-tank defense, use of air support, counter-attack by division forces, and priorities for the preparation of defensive emplacements.

2. Organization of the Defense (U).

a. (u) ~~(C)~~ The defense is organized in successive belts designed to provide depth to the defended area. Normally, those consist of a security zone, a main defense belt, a second defense belt, and a third defense belt.

b. (u) ~~(C)~~ Each defense belt consists of a series of mutually supported, self-sufficient battalion defense areas designed to be manned by motorized rifle battalions with artillery, mortar, and tank support. A large mobile reserve is held in assembly areas for each defense belt.

c. (u) ~~(C)~~ Obstacle belts are constructed forward of and within defense positions of each belt to hinder the enemy advance, to canalize him, or cause him to mass to present a lucrative nuclear or chemical target.

d. (u) ~~(C)~~ In the organization of the defense, emphasis is placed on protection of troops and materiel from the effects of nuclear fires. In selecting defensive areas, a major consideration is given to terrain features offering the best cover and concealment.

3. Security Zone (U).

a. (u) ~~(C)~~ The purpose of the security zone is to halt the enemy or to delay him by forcing him to deploy before reaching the main defense belt.

b. (u) ~~(C)~~ The security zone extends forward of the main defense belt. It is at least deep enough to prevent the enemy from delivering fire on the main and second defense belts with divisional weapons. Usually it is 20-30 kilometers deep, but it may be twice that depth if space and troops are available and delaying action can be employed.

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c. (u) ~~(C)~~ The security zone is established and manned by the combined arms army. The second echelon motorized rifle units, and the tank reserves of the combined arms army, reinforced with artillery and engineer support, establish and man delaying positions. These are the most forward positions of the security zone.

(1) (u) ~~(C)~~ Delaying forces are disposed on a frontage up to four times as wide as their normal frontage for area defense. This means that there is an average of one Soviet battalion every 8-12 kilometers along the delaying positions. Terrain and enemy are considerations which will vary this pattern. These forces are known as the contact and delay, or security force of the combined arms army and they normally are the only forces available to delay the enemy or to cover the preparation and occupation of the defense belts by the motorized rifle division.

(2) (u) ~~(C)~~ In deploying his forces in delaying positions, most of the combat power is placed in the first echelon, with tank reserves being retained primarily to assist in the disengagement of the first echelon force.

4. Main Defense Belt (U).

(u) ~~(C)~~ This belt is the backbone of the defense. It takes advantage of natural defensive terrain that affords the maximum protection and defense against enemy target acquisition and nuclear attack, preferably behind a natural obstacle. Within this belt are those forces necessary to conduct the defense, including tank, artillery, anti-tank, and air defense units; the division reserves; and the division main and alternate command posts.

5. Second Defense Belt (U).

a. (u) ~~(C)~~ The second defense belt is up to 10 kilometers deep and is located 8-10 kilometers to the rear of the main defense belt, and usually consists of prepared but unoccupied defense positions. If the enemy penetrates the main defense belt, this belt is intended to contain the enemy until counterattacks from the third defense belt can be launched. The second defense belt is established and defended by army second echelon motorized rifle divisions and reserves, to include tank divisions, which deploy to assembly areas in the second defense belt after completing their missions in the security zone.

b. (u) ~~(C)~~ The army's main and alternate command posts, some artillery, and portions of the army's reserves are located in the second defense belt.

6. Third Defense Belt (U).

a. (u) ~~(C)~~ 8-10 kilometers to the rear of the Second Defense Belt is the third defense belt, which is approximately 10 kilometers deep. Located in or near this belt are the army's reserve, usually a reinforced regiment from a first echelon division, and the front's second echelon forces,

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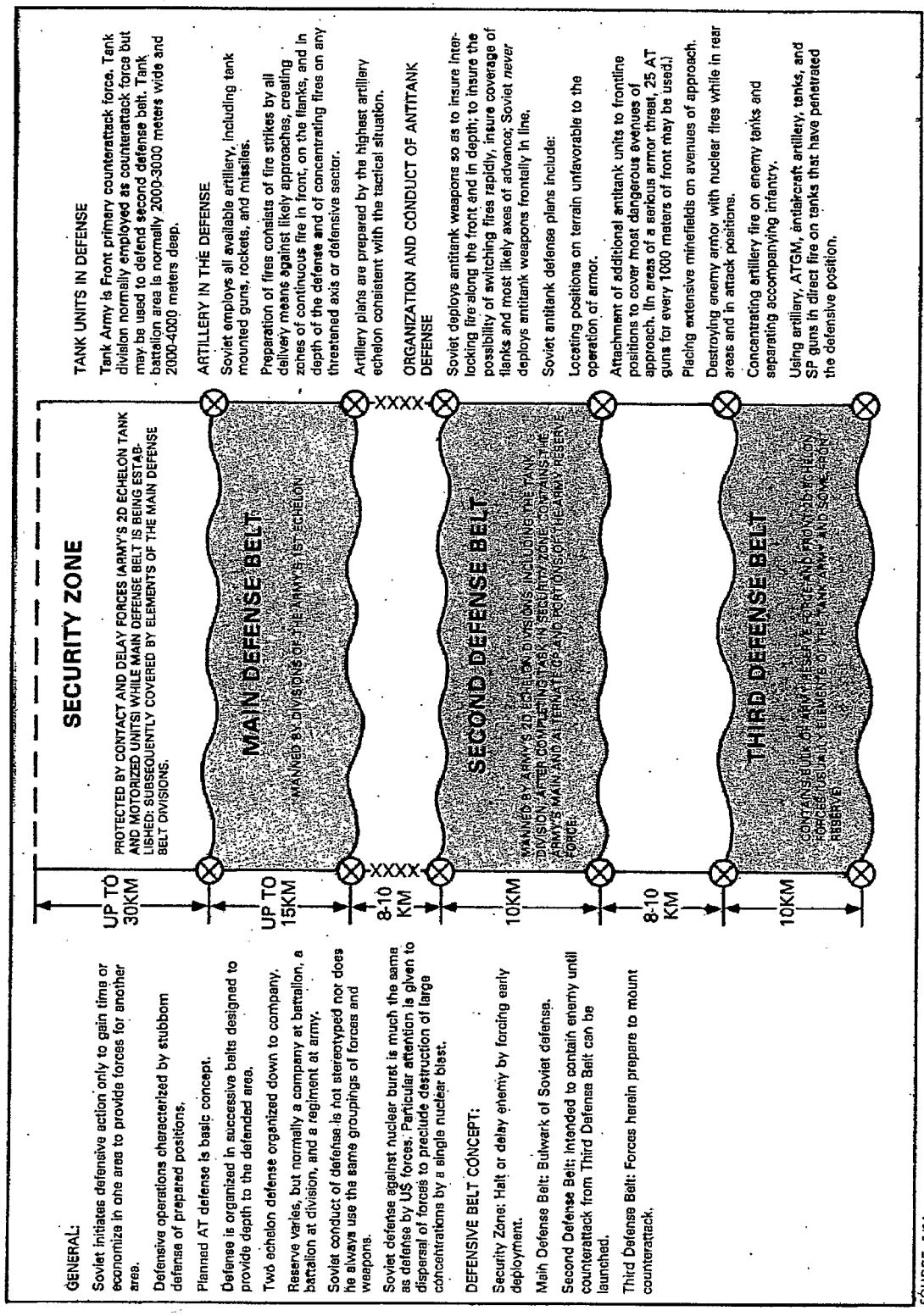

Figure 8. (U) Schematic Representation of Soviet Defense Belt Concept

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usually consisting of elements of a tank army. Reserves available for front counteroffensives are launched from the area of the third defense belt. (1/19-21)

b. (U) Figure 8 depicts Soviet Defensive Belt Concepts.

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CHAPTER 3

HIGHLIGHTS (U)

Front (U)

(U) In wartime, the largest Soviet operational commands are fronts. The front is both an administrative and an operational echelon, incorporating air and ground forces and, when appropriate, naval forces. Fronts do not exist in peacetime. They are activated in wartime, from forces within the peacetime Military Districts and Groups of Forces, for specific strategic operations within a Theater of Military Operations. A front may operate alone or in concert with other fronts and forces to achieve the goals of a strategic operation. Today, increasing emphasis is being placed on the theater strategic operation--i.e., the ability to conduct two or more front operations in quick succession, with only brief intervening pauses or none at all. The results of such strategic offensive operations could be expected to exert significant political and military influence on the course of the war.

Army (U)

(U) The army is the largest peacetime combined arms formation; it has a permanent staff structure and a complement of non-divisional combat support and combat service support elements, giving it the level of control and ground-based support needed for its divisions during its participation in a front operation. When its divisions are actively engaged in front combat operations, the army's combat support elements will be supplemented with front assets. There are two types of armies: the combined arms army and tank army. The tank army has a preponderence of tank divisions while the combined arms army normally has a preponderance of motorized rifle divisions.

Front and Army Organizational Development (U)

(u)
~~(S)~~ Over the past 15 years, the USSR has acquired a broader range of military options through sustained dedication of resources to an extensive program of "organizational development."

(u)
~~(S/NOFORN/WNINTEL)~~ Recent structural changes in Soviet ground maneuver formations are designed to enhance their capability to execute deep fire and maneuver operations. The single most significant change has been the reintroduction of a special high-speed, tank-heavy exploitation echelon, called an "operational maneuver group" (OMG), into the combat organization of the front and army. The introduction of air assault brigades at front level and of air assault battalions at army level also increases the Soviet deep threat to NATO rear areas.

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(u)
~~(S)~~ As a result of this reorganization and modernization, attacking divisions of the Soviet front will consist of numerous mobile regimental combat teams reinforced by masses of long-range area and counterbattery artillery weapons and will be accompanied by highly mobile antitank systems mounted on armored vehicles and attack helicopters. Thus equipped and organized, the front is expected to be able to apply considerable pressure on a broad front while simultaneously conducting deep enveloping operations on the ground and from the air.

(u)
~~(S)~~ These changes in organization and in concepts of operational employment of the armed forces do not represent a revolutionary shift in Soviet military thought. They are the products of evolutionary changes in Soviet strategy and operational art made possible by improvements in technology. These changes are entirely consistent with the long-standing Soviet doctrinal goal of ensuring security through preparedness to conduct offensive operations at the lowest risk to the Soviet homeland.

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CHAPTER 3

FRONT AND ARMY OPERATIONS (U)

SECTION I. FRONT AND ARMY OFFENSIVE OPERATIONS (U)

1. Background (U).

a. (U) The history of wars and the art of warfare persuasively attest to the fact that changes in military affairs are dictated by changes, first and foremost, in weapons and military equipment. "Advances in technology," wrote F. Engels, "if they became applicable and in fact were applied in military affairs, immediately -- almost forcibly, and often against the will of military command authorities -- have produced changes and even revolutionary changes in the mode of waging combat." (6/22)

b. (U) Soviet frontal operations experienced their initial development during World War I and subsequent refinement during World War II, when increases in the numerical strength of countries' armed forces led in turn to increases in the spatial scope of military operations. As a result, there arose a new form of military action -- the operation (operatsiya) -- as an aggregate of battles (boyev) and engagements (srazheniy) separated in time and space but unified by a common concept of operations and directed toward a particular war objective. A war now began to consist not of a series of battles and engagements but of an aggregate of operations and campaigns (kampaniy). But this concept of the military operation did not develop instantaneously. Its rudiments, or certain elements of it, were present as early as the Napoleonic Wars of 1812 and in the Franco-Prussian War of 1870-1871. The most important engagements in the Russo-Japanese War of 1904-1905 can, with certain reservations, be called operations. However, operations on the scale of the army, and subsequently of the front as well, did not take shape until World War I and did not reach their full development until World War II. (6/24)

c. (U) During World War II (the Great Patriotic War) the front was the principal form of military action by the Soviet armed forces on an operational scale. The front would advance in a zone averaging 200-300 kilometers in width and ranging from 100 to 400 kilometers in depth. Upon completion of a front operation, a pause would usually occur and, frequently, a protracted period of preparation for the next front operation. At this time, these pauses were made necessary by the types of weapons and means of locomotion then available. (6/24)

d. (U) During the Great Patriotic War, however, especially in its second and third periods, the manpower and weapons of a single Soviet front frequently proved insufficient, and to achieve large-scale military-political objectives it was necessary to combine the efforts of two or more fronts. Correspondingly, it became necessary to plan several front

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operations, to be executed simultaneously, unified by a common concept, and under the unified control of the Supreme High Command (Verkhovnovo Glavnokomandovaniya). Thus, a new concept of military operations was born -- the operation of a group of fronts as distinguished from the single front operation. A number of such operations were planned and executed during the Great Patriotic War, including the Stalingrad, Kursk, Belorussian, Iasi-Kishinev, Vistula-Oder, Berlin, Manchurian, and other operations. Operations of a group of fronts continued to develop in the postwar period. (6/24)

e. (U) Today, the Soviet front commanders have at their disposal weapons (missiles, missile-armed aircraft, aircraft with a considerable combat radius, etc.) whose combat capabilities substantially exceed the scope of front operations. Troop mobility and maneuverability have sharply increased, the time required to concentrate battle groups has decreased, and the conditions and modes of carrying out of operational and strategic missions by combined units and formations in all of the services have changed. The establishment of strategic nuclear forces has given the top-echelon Soviet military leadership the capability to significantly affect the achievement of strategic and military-political objectives. Thus, the previous modes of employing combined units and formations of the armed services had, to a large extent, ceased to adequately respond to present-day conditions. (6/24, 25)

f. (U) Concerning this issue, the First Deputy Minister of Defense and Chief of the Soviet Armed Forces General Staff, Marshal of the Soviet Union Nikolay Ogarkov, stated, "One should evidently consider as the principal operation in the war of today not the front but rather a larger-scale form of military operations -- the theater strategic operation (strategicheskuyu operatsiyu). In the course of such an operation each front (fleet) can conduct two or more front operations in succession, with brief pauses and even without pauses." (6/25)

2. Soviet Strategy and the Theater of Military Operations (TEATR VOYENNIKH DEISTVIY (TVD) (U).

a. (U) ~~(S)~~ As the Soviets have frequently acknowledged, theater nuclear exchanges could well escalate into a global nuclear exchange. As far back as late 1964, however, they began to consider the possibility of restricting nuclear war to a particular Theater of Military Operations. By 1966, the Soviets recognized the need to move toward a strategy and force capability to fight decisively at all levels of conflict, with or without nuclear means.

b. (U) ~~(S)~~ The Soviets have defined the Theater of Military Operations (TVD) simply as that particular territory within whose limits a known part of the armed forces of the country or coalition operates in wartime. Within each Theater of Military Operations there is one, or more, strategic direction(s) (napravleniye). A strategic sector consists of a wide strip of land or sea and the airspace above it, leading the armed forces to the enemy's most important administrative-political and industrial-economic

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centers. Strategic sectors involve strategic operations, which are undertaken by a combination of fronts, fleets, or independent armies or flotillas. Thus, a strategic sector usually permits operations by many strategic formations of various services. Strategic sectors consist of one, or more than one, operational direction. An operational direction is a zone, or a combination of zones, of terrain, water, or airspace within which strategic formations conduct their operations. Within the context of the TVD in which they lie, operational directions may be internal or coastal. (5/E-1)

(u)
c. ~~(S)~~ Their perception of the reduced utility of US nuclear escalation gave rise to the Soviet view that they can fight and win a war in Europe without resorting to nuclear means. The Soviets believe that if they could rapidly destroy NATO general purpose forces and sufficiently degrade NATO's nuclear capability during an initial non-nuclear phase, NATO would then face clearly superior Soviet theater nuclear forces and use of NATO's surviving nuclear assets would be futile. Recognizing that a non-nuclear conflict with NATO would be conducted under the constant threat of escalation to nuclear warfare, the Soviets would hope that the combined effect of their effort to destroy or neutralize NATO air and nuclear assets, the quantity and depth of penetration of ground maneuver forces, the interposition with and/or close proximity of attacking forces to defending units, and the dispersal of attacking forces would make it impossible for NATO to use its remaining nuclear capability effectively. (5/E-3)

(u)
d. ~~(S)~~ Central to the Soviet concept for the conduct of a non-nuclear option is the requirement that the leading echelons attack on a broad front to over-stress and break through NATO's forward defenses. Highly mobile exploitation groups as large as a tank army would follow the leading attack echelons. As early in the offensive as possible, these mobile groups, or operational maneuver groups (OMGs), would attempt to drive through gaps and weak sectors in the forward defense toward objectives deep in NATO's operational rear. These OMGs, along with airborne groupings, would seek to rapidly destroy NATO's reserves, prevent lateral reinforcement, and destroy supply lines and C^3 in order to quickly reduce the perceived utility of continued resistance. Airpower would be used to buy time for the ground forces to achieve their objectives. In essence, the Soviets would attempt to present the West with a fait accompli by defeating NATO before it could complete the deployment of its conventional defenses and by precluding NATO's use of its nuclear forces to redress the situation. (5/E-3)

(u)
e. ~~(S)~~ The two concepts -- the air operation and the employment of tank heavy "mobile groups" -- are consistent with the Soviet theories of "combined arms warfare" and of "deep operations." Furthermore, the continuing evolution of Soviet strategy is clearly evident in the reorganization now occurring in the Soviet armed forces. (5/E-3)

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3. Soviet Military Organizational Development (U).

a. (u) ~~(S)~~ Over the past 15 years, the USSR has acquired a broader range of military options -- the result of sustained dedication of resources to an extensive program of what the Soviets call military "organizational development". This organizational development involves both hardware acquisition and the further development of organization structure. These developments, running from preparation of wartime strategic leadership to the resubordination of helicopter regiments, constitute an attempt to ensure the Soviet Union's ability to fight and win any war in which it may become involved. The goal is victory at the lowest possible cost. (5/E-4)

b. (u) ~~(S)~~ Recently, command and control of the Soviet air and air defense forces was significantly reorganized. In most land-border areas, control of strategic and tactical air defense elements apparently has been consolidated. Operational control of the ground force tactical SAM units of PVO Voysk (Air Defense Forces) has been integrated with the strategic SAMs of PVO Strany (National Air Defense Forces). Now, both elements are controlled by a central PVO (Air Defense) command authority in the Military District or the Groups of Forces in which they are located. At the national level, PVO Strany is now referred to as Voyska PVO (Forces of Air Defense), apparently reflecting this merger. Furthermore, in most land-border MDs, control of former air defense (APVO) interceptor aircraft has been consolidated with the majority of frontal aviation's tactical aircraft in the "air forces of the Military District." (5/E-4)

c. (u) ~~(S)~~ The bomber force organizational structure, formerly known as Long Range Aviation (LRA), has also been significantly altered by the reorganization. And it is likely that a new, expanded strategic aviation branch is evolving that, in addition to the bombers, includes some of the tactical aircraft, most notably, the Su-24/FENCER, formerly under the control of the front or MD commander. These aircraft probably are being grouped into "air armies" that will be controlled by a High Command for a Theater of Operations or by the Supreme High Command itself. (5/E-4)

d. (u) ~~(S)~~ This realignment of air assets is probably intended to improve operational maneuver of aviation forces by facilitating the massing of air firepower in critical areas to meet strategic and operational-strategic objectives. These new air armies will probably form the core of the strike force for major theater-scale air operations in the European and Asian Theaters. In the past, this strike force would have been assembled on an ad hoc basis, drawing from units of different aviation commands shortly before or after the initiation of hostilities. (5/E-4)

e. (u) ~~(S)~~ Probably related to the withdrawal of some tactical fixed-wing aircraft from the front commander is the increasing Soviet emphasis on the combat helicopter force, which is called "army aviation". The evolution of army aviation reflects its responsibility to provide fire support to combined arms and tank armies while large numbers of fixed-wing aircraft

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conduct major air operations against deep theater objectives. In the future, army aviation may include Su-25 ground-support aircraft. (5/E-4)

(u)
f. ~~(S)~~ As part of their flexible approach to the use of force within a continental TVD, the Soviets have also begun to deploy a new family of more accurate theater missiles. Older FROG rockets are being replaced by the SS-21, the SCUD B by the SS-23, and the SS-12 SCALEBOARD by the SS-22. Until these weapons appeared, the "combined arms" aspect of air operations was threatened by uncertainty about whether theater missiles could successfully be used to support the air operation. These new systems incorporate improvements in reaction time, missile reliability, accuracy, and handling characteristics. In addition, even though the Soviets have long had "Eurostrategic" nuclear weapons (in the sense that their ranges were not intercontinental), the deployment of the SS-20 gives the Soviets a highly accurate system, with a considerable "hard-target" kill potential, to replace the SS-4s and SS-5s. (5/E-5)

4. Front and Army Organizations (U).

(u)
a. ~~(C)~~ The highest operational echelon in wartime is the front. A typical front may have three-to-five Soviet and/or non-Soviet Warsaw Pact combined arms or tank armies, air forces of the front, air defenses of the front, an air assault brigade, an artillery division, surface-to-surface missile brigade(s), SPETSNAZ, and, if required, it may be supported by attached airborne and/or amphibious forces. In addition to assigned army forces and a variety of combat support and combat service support units, front operations may also be supported by the Strategic Rocket Forces (SRF), strike aviation, naval forces, railroad troops, construction troops, and MVD and KGB units. (9/1-12)

b. (U) The front is both an administrative and an operational entity, incorporating the air and ground forces required for operations in a given area. Fronts do not exist in peacetime. They are activated and organized for a specific strategic operation within a TVD. The results of a strategic offensive operation should exert significant influence on the course of the war. (9/1-12)

c. (U) The basic combat elements of a wartime front (i.e., the armies and divisions assigned to them) also exist in peacetime, but within the structure of the Military Districts and of some Groups of Forces. The rudimentary framework of the combat service support units for the potential front is also present in the peacetime structure of the Military Districts and Groups of Forces. (9/1-12)

d. (U) There is no fixed front organization. The number of armies and separate divisions that might constitute the combat elements of a front could vary widely, depending on its mission within the context of the overall strategic operation. The combat divisions assigned to a front are further assigned to the armies or placed in a separate (or front reserve) status, depending on the nature of the operation and on the combat situation as it develops. (9/1-12)

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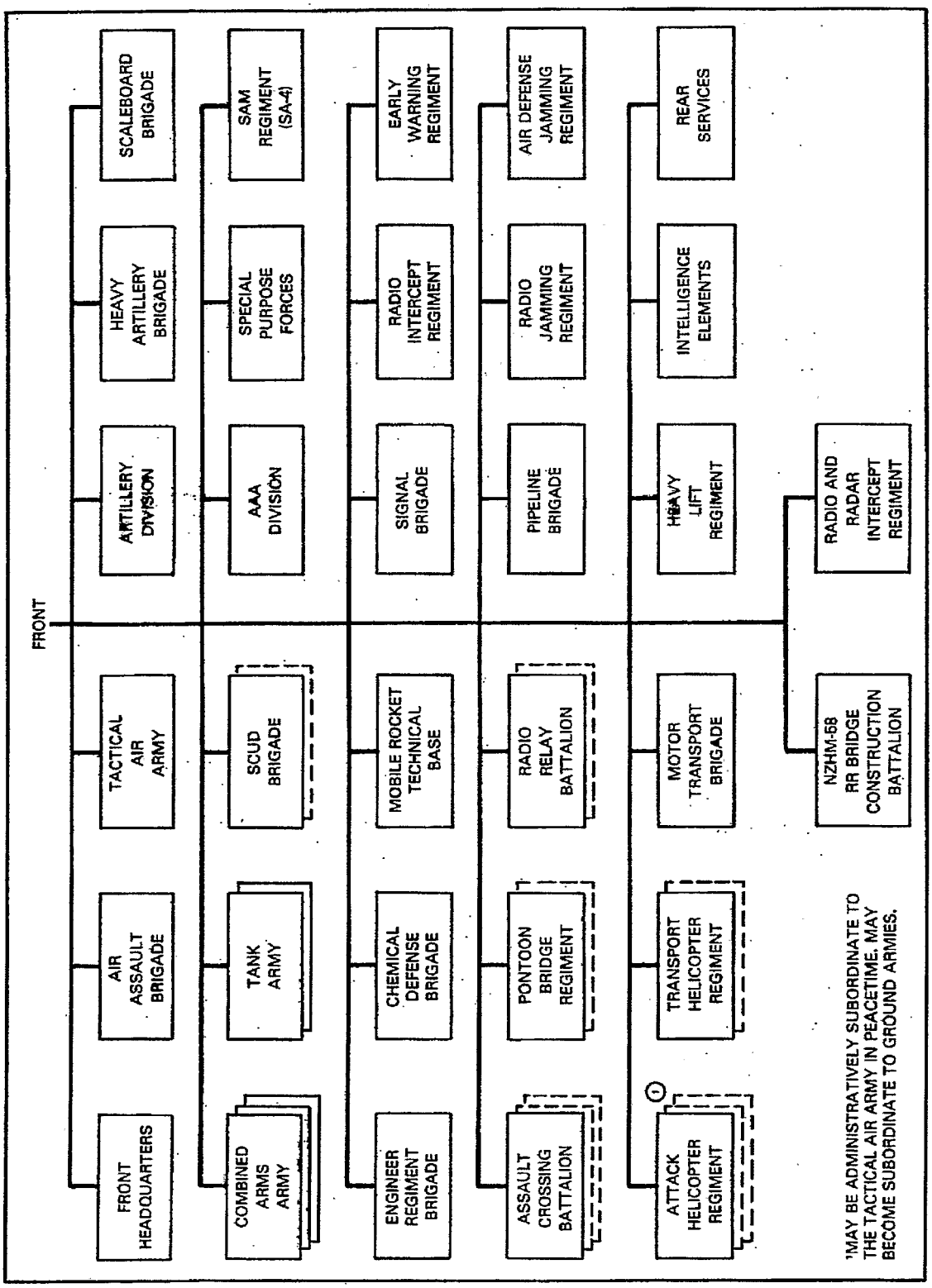

Figure 9. (U) Structure of A Type Front

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e. (U) The combat service support or rear service structure of a front will be organized to meet the logistical support requirements of all aspects of the front operation, including augmentation of its armies. Front rear services include transport, supply, evacuation, repair, and medical units; road, bridge, and railroad construction units to establish and maintain the lines of communications; and road and rail traffic control units to operate the lines of communication. (9/1-12)

f. (U) Figure 9 depicts the current organization of a typical front.

g. (U) The army is the largest peacetime combined arms formation; it has a permanent staff structure and a complement of non-divisional combat support elements, giving it the level of control and ground-based support needed for its divisions during the army's participation in a front operation. When its divisions are actively engaged in front combat operations, the army's combat support elements will be supplemented with front assets. (9/1-12)

h. (U) There are two types of armies: the combined arms army and the tank army. A tank army has a preponderance of tank divisions, whereas a combined arms army normally has a preponderance of motorized rifle divisions. In World War II, tank armies were the "exploitation" forces for a front operation -- i.e., the forces committed through a breach in the enemy's positional defense to open up the operation. Tank armies were to drive rapidly toward deep objectives, destroy enemy strategic reserves, or maneuver rapidly to the flanks to encircle large enemy groupings that would subsequently be destroyed by the slower-moving infantry. The original tank armies were made up almost entirely of medium and heavy tank units and assault gun units, with a relatively small complement of motorized infantry. Today, Soviet infantry elements are completely mechanized, and the Soviet motorized rifle division includes a significant number of tanks. Thus, any Soviet army, regardless of its divisional makeup, is designed to accomplish the tasks envisioned on a highly mobile battlefield. (9/1-12)

i. (U) Figure 10 depicts the current organization of a type combined arms army.

5. Front-Level Offensive Operations (U).

a. (U) The following paragraphs discuss the concept of Soviet and Warsaw Pact front-level offensive operations. They identify, in the context of land warfare in Western Europe, typical missions, objectives, concepts of employment of second-echelon forces, and space and time relationships. (1/1)

b. (u) ~~(S/NOFORN)~~ Front: Soviet and Warsaw Pact doctrine for a front offensive operation is illustrated in Figure 11. Time and space relationships are as follows: (1/1)

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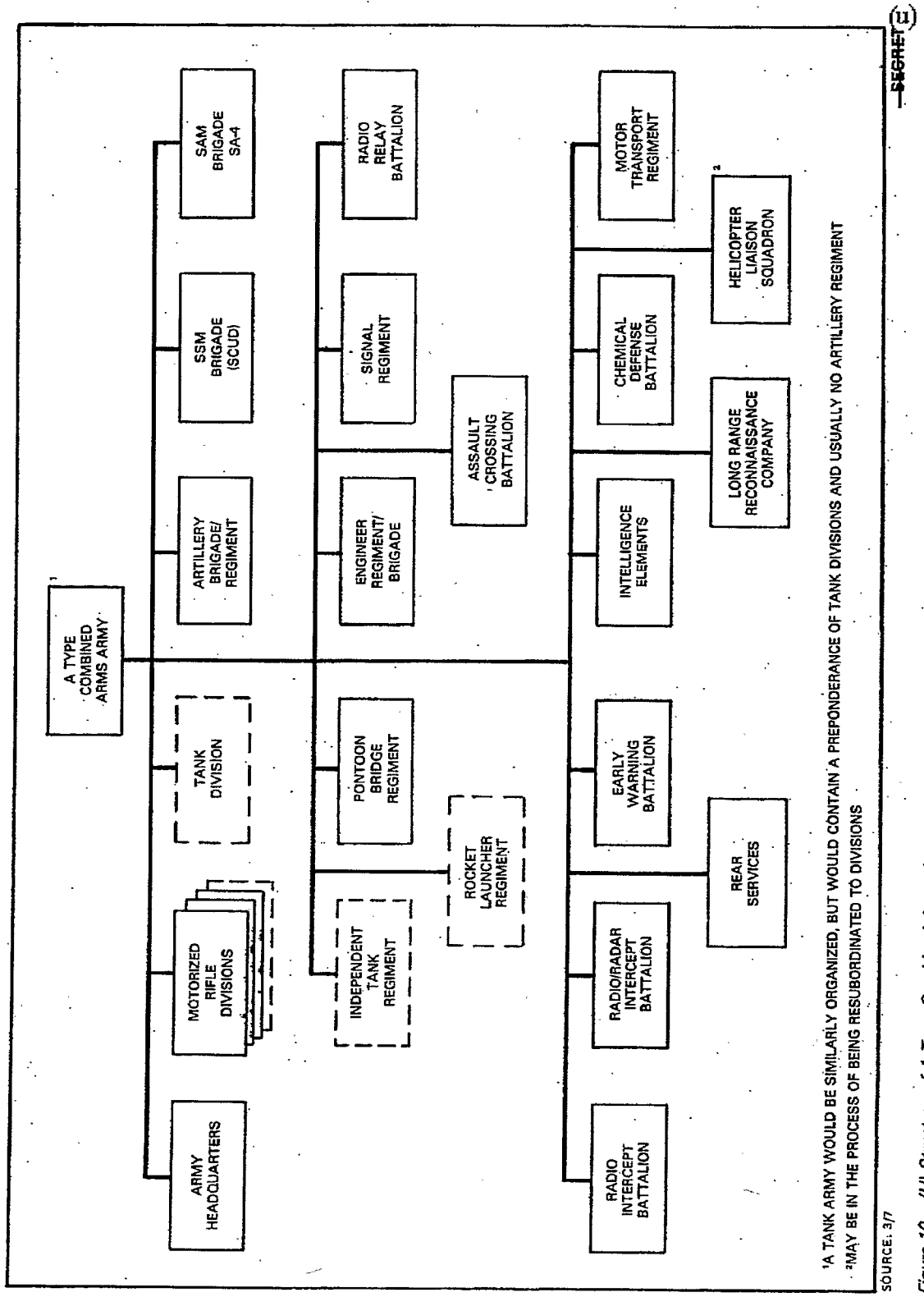

Figure 10. (U) Structure of A Type Combined Arms Army

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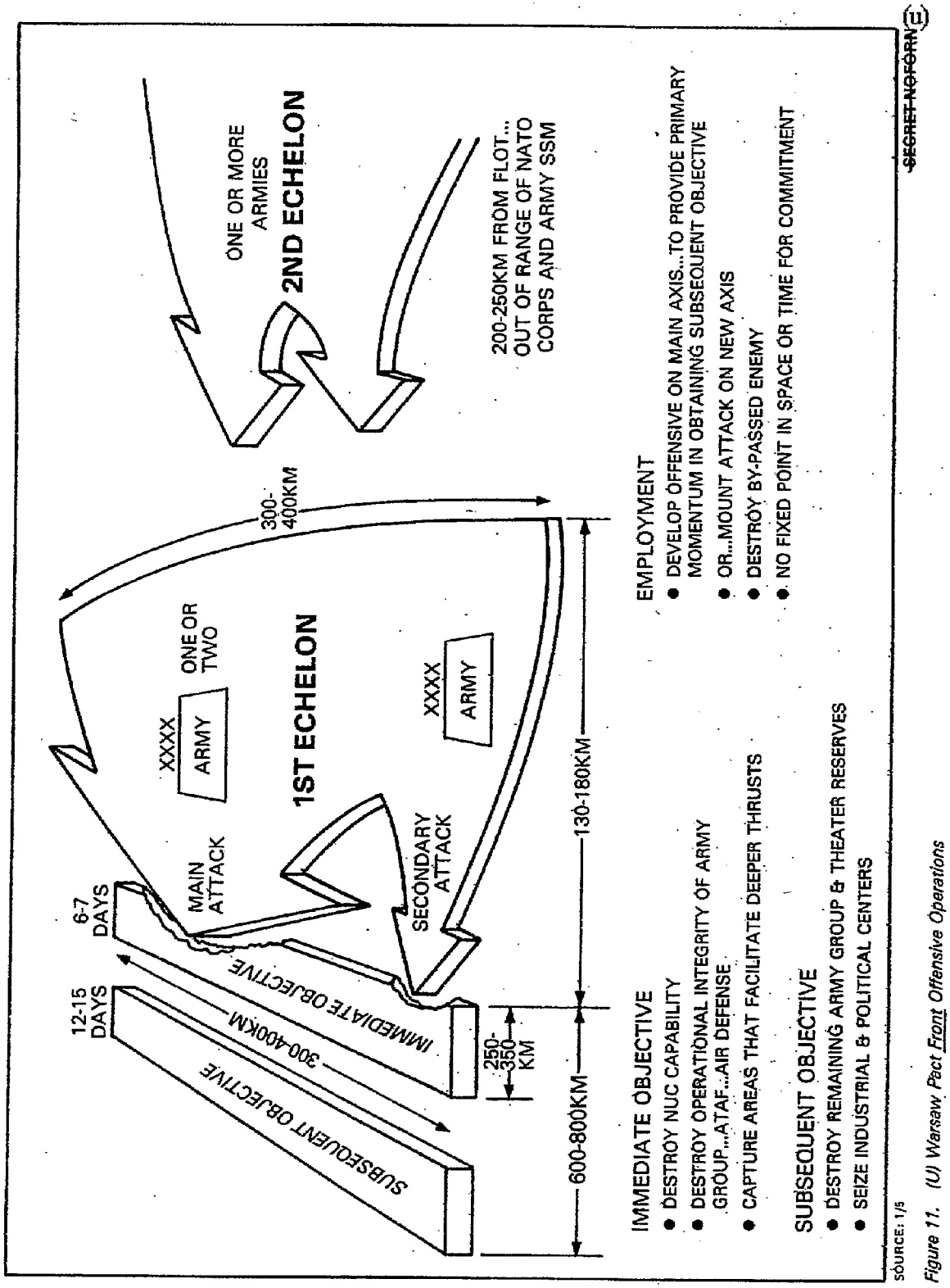

Figure 11. (U) Warsaw Pact Front Offensive Operations

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(u) (1) (S/NOFORN) Depth of Mission: 600-800 kilometers. (1/1)

(u) (2) (S/NOFORN) Expected Time to Achieve Main Objective: 12-15 days. (1/1)

(u) (3) (S/NOFORN) Expected Average Rate of Advance: 50 kilometers per day. (1/1)

(u) d. (S/NOFORN) Width of Zone of Action: The zone of action depends on the number of armies and number of their divisions in the front's first echelon. Assessments of friendly and enemy forces, as well as the nature of the terrain, are considered in assigning division frontages. The average division zone of action for offensive operations in a main attack is 15-20 kilometers. Depending on the number of divisions (3-5) in the first echelon of an army making the main attack, the width of its zone might vary from 60 to 100 kilometers. For armies not making the main attack the width of the zone of action could be even greater than 100 kilometers. For a front with three or four armies in the first echelon, the zone of action will be 300 to 400 kilometers wide. The depth of the front forces may be 300 to 400 km, measured from the FEBA. (1/1)

(u) e. (S/NOFORN) Objectives: A front is typically assigned an immediate and a subsequent objective that must be gained to achieve the front's strategic mission. (1/1)

(u) (1) (S/NOFORN) A typical immediate objective (tasks to achieve immediate objective) would be to, in zone, neutralize or destroy the enemy's nuclear delivery capabilities, destroy the main forces and tactical enemy's operational stability, and create favorable conditions for developing the offensive deeper into his territory. Depth and time are important considerations associated with achieving the immediate objective. Typically, a front's immediate objective is considered accomplished when its armies have penetrated to a depth of 250-350 kilometers in a period of 6 to 7 days. (1/1,2)

(u) (2) (S/NOFORN) A typical subsequent objective (tasks to achieve subsequent objective) would be to, in zone, destroy any newly detected nuclear delivery capabilities destroy any remaining army group forces, theater reserves and national forces and seize important industrial and political centers deep in the enemy's territory (achieve the strategic mission of the front's offensive operation). The depth of the subsequent objective can be as much as an additional 350 to 500 kilometers beyond the immediate objective and can be achieved in a period of 5 to 9 days. Warsaw Pact doctrine calls for achieving the "subsequent objective" in 11 to 16 days measured from the start of the operation. (1/2)

(u) f. (S/NOFORN) Front Echelonment: The first echelon of the front is intended to gain the immediate objective of the front. After gaining the immediate objective, the first echelon will continue the attack together with the front second echelon to rout and destroy the enemy's theater

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reserves. The first echelon of a front can include both tank armies and combined arms armies. The depth of the front first echelon forces may extend 130 to 180 kilometers behind the forward edge of the battle area (FEBA). (1/2)

g. (u) ~~(S/NOFORN)~~ The second echelon of a front normally consists of one or more armies. Employment of the second echelon is intended to develop the offensive on the axis of the main attack and rout the enemy's deep reserves (i.e. army group and theater). The front normally consists of one army committed on a new axis or to be used to repel a strong enemy multi-division counterattack. Commitment of the front second echelon is intended to accelerate the offensive operation and/or result in a decisive change in the course of battle. There is no fixed point in space or time for commitment of the front second echelon. Ideally, commitment is planned to coincide with the achievement of the front's immediate objective in order to develop the offensive on the axis of the main attack. The location of second echelon forces is influenced by two considerations: it should be out of range of NATO corps and army surface-to-surface missiles (SSM) and it should be at the depth that will ensure flexibility of maneuver to probable axes of commitment. Normally, the second echelon will be found 200-250 kilometers behind the FEBA. (1/12)

h. (u) ~~(S/NOFORN)~~ In addition to the second echelon of a front, there will be a combined arms reserve consisting of several tank or motorized rifle divisions. This reserve can be used to reinforce first echelon forces, replace first echelon army divisions that have become non-effective, destroy bypassed individual enemy groupings, secure rear areas, defend vital territory that has been seized, or be prepared for any other contingencies. These divisions will be positioned and will maneuver between the first echelon army's second echelon divisions and the front's second echelon armies. (1/2)

6. Army Level Offensive Operations (U).

a. (u) ~~(S/NOFORN)~~ Warsaw Pact doctrine concerning the conduct of army operations is illustrated in Figure 12. Typical army missions are tactical in scope and oriented toward destroying enemy forces. They are integral to the accomplishment of the front mission. The first echelon army usually performs two successive operations in the course of accomplishing the front's mission: one is to accomplish the front's immediate objective and the second is to accomplish the subsequent objective. The army is given an immediate and subsequent objective for each operation. Second echelon armies are assigned missions that exploit the successes of the first echelon and facilitate the accomplishment of the front subsequent objective. (1/3)

(1) (u) ~~(S/NOFORN)~~ Depth of the operation: 250-350 kilometers. (1/3)

(2) (u) ~~(S/NOFORN)~~ Expected Time to Achieve: 6-7 days.. (1/3)

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(u)

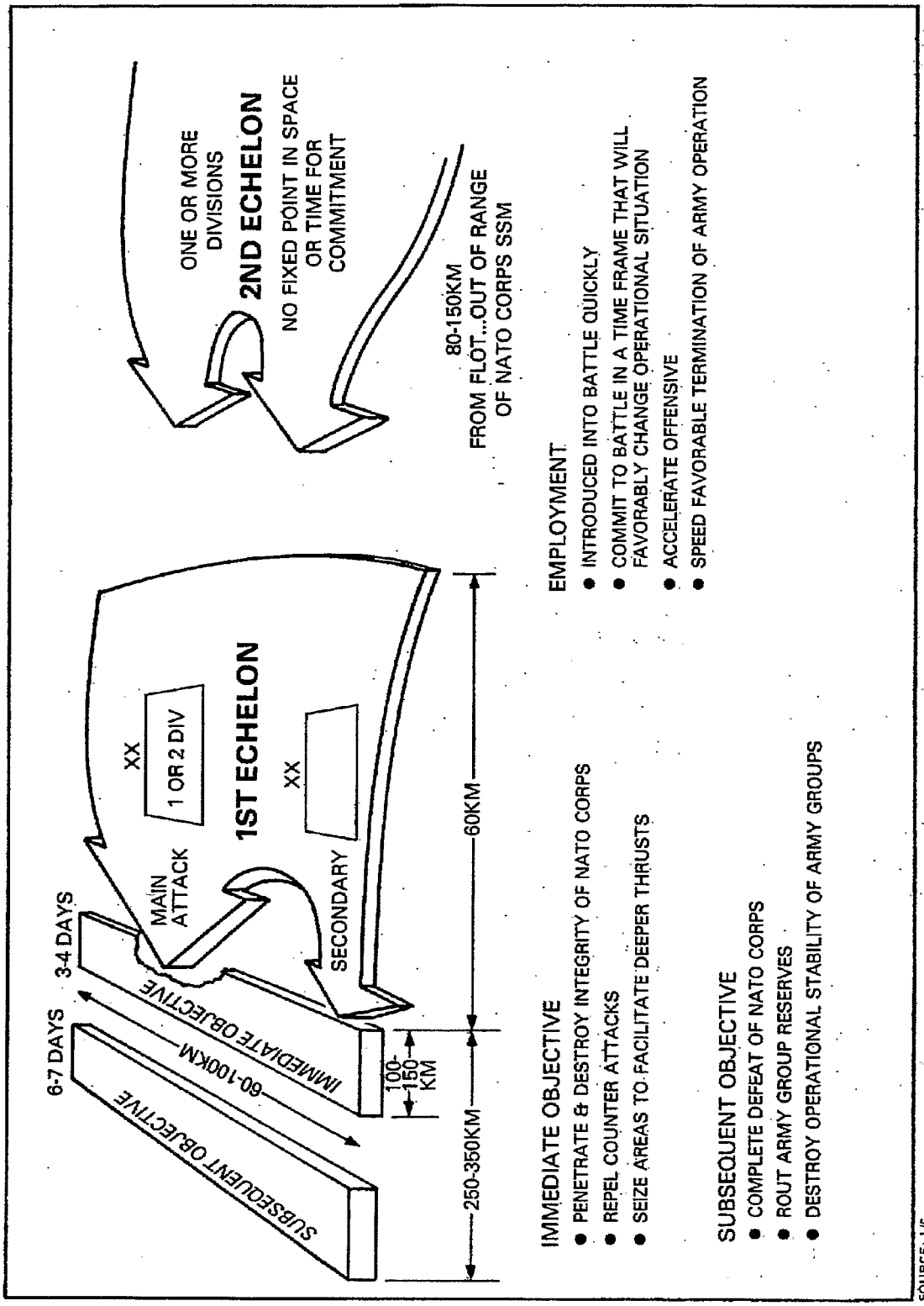

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Figure 12. (U) Warsaw Pact Army Operations as Part of Front Offensive

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(3) (u) ~~(S/NOFORN)~~ Expected Average Rate of Advance: 50 kilometers per day. (1/3)

(4) (u) ~~(S/NOFORN)~~ Width of Zone of Action: 60-100 kilometers. (1/3)

b. (u) ~~(S/NOFORN)~~ A typical Army Immediate Objective (tasks to achieve) would be to, in zone, destroy the integrity of NATO corps and seize important areas that will facilitate offensive operations deeper into the enemy rear area. The Warsaw Pact anticipates penetrating to a depth of 100-150 or more kilometers in 3 to 4 days to gain this objective. The task of the first day of the operation may be to penetrate the forward defending NATO division and subsequently advance to the counterattacking corps reserves. (1/3)

c. (u) ~~(S/NOFORN)~~ A typical Army Subsequent Objective would be to, in zone, complete the defeat of the NATO corps, rout army group reserves, and destroy the integrity and operational stability of the opposing army group. The depth and time associated with gaining the subsequent objective are as much as an additional 150-200 kilometers in 3 to 4 days. The combined depths of the army's immediate and subsequent objective, 250-350 kilometers, corresponds to that of the immediate objective of the front. (1/3)

d. (u) ~~(S/NOFORN)~~ Army Echelons: In addition to a "first echelon", the army will normally have a second echelon composed of one or more tank or motorized rifle divisions. On occasion, an army may have a "combined arms reserve" of one or more regiments. The first echelon of the army may extend from the FEBA backward to a depth of 60 kilometers. The Army's "second echelon" divisions will be task-organized and positioned to facilitate its rapid introduction into battle, but at a location outside the range of NATO corps' surface-to-surface missiles. (1/3)

e. (u) ~~(S/NOFORN)~~ Commitment of the army's "second echelon": As with the front's second echelon, there is no fixed point in space or time for the commitment of the army's second echelon. The army's first echelon is expected to accomplish the army immediate objective and to participate in the accomplishment of the subsequent objective. Ideally, the army's second echelon is planned for commitment at the time and depth associated with gaining the army's immediate objective. The key to its commitment is that it should produce a decisive improvement in the situation. (1/3)

7. Types of Offensive Actions (U).

a. (U) The Soviets perceive three major types of offensive actions: the meeting engagement, which includes advance to contact; the breakthrough; and the pursuit. (8/13)

b. Meeting Engagement (U).

(1) (u) ~~(C)~~ The meeting engagement is perceived as the most common

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offensive action on the nuclear battlefield. In the nuclear environment, combat zones extend over vast areas and often opposing forces will clash through the depth of the zone. (8/13)

(u) (2) ~~(C)~~ The principal difference between the meeting engagement and other types of offensive action is that in the former at least one of the combatants meets the enemy in an unexpected manner, or both forces enter into violent contact with little or no advance warning. Due to the fluid nature of the combat action and the resulting confused situation, the Soviets believe that speed of reaction is vital and that the commander who can regain the initiative first will have a decisive advantage over his opponent. (8/13)

(u) (3) ~~(C)~~ The meeting engagement is characterized by rapid changes in the situation and fluid operations on a wide front, fast changes in combat formations, and open flanks for friendly and enemy forces. The Soviets teach that success in a meeting engagement is achieved by speedy and aggressive action and the coordinated use of all arms despite the lack of detailed knowledge of enemy dispositions. The goal is to disorganize and divide the enemy and then to destroy the divided forces. This may be accomplished by a smaller force if it acts aggressively and launches a coordinated attack faster than the opposing larger force. When employing this method of operation against over-extended defenses or unprepared positions, the Soviets will deploy from the march column and attack without halting in the belief that the disadvantage of a hastily planned and uncoordinated attack is more than offset by the advantage of striking an enemy who has had no time to prepare adequately.

c. The Breakthrough (U).

(u) ~~(C)~~ When the enemy has established either a hasty or deliberate defense line, the Soviets generally place primary emphasis on breaking through in order to carry the battle to the enemy rear, rather than seizing and consolidating terrain objectives. The basic organized concept for breakthrough operations provides for two echelons of attack forces. The assault will not necessarily be directed to the seizure of key defensive terrain; instead, attacking units will attempt to push through weakly defended or unoccupied areas to create gaps that will permit the exploitation forces to strike deep into the enemy's rear. The capture of strong points and key terrain is left to succeeding echelons. Once the breakthrough is accomplished, the subsequent action is the encirclement and destruction of the penetrated enemy defenses characterized by a series of meeting engagements. (8/13, 14)

d. Pursuit (U).

(u) ~~(C)~~ (1) The Soviets consider pursuit as an offensive operation designed to complete the destruction of the enemy. While combined frontal and parallel pursuit is used, the preferred focus of the operation is for

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pursuing units to move along routes parallel to the enemy's retreat, attempt to outdistance portions of the enemy force, and cut the withdrawing columns into segments and destroy them. Priority for nuclear and chemical fires, when employed, are enemy nuclear weapons, delivery means, and storage sites, troop defiles, and possible enemy defense areas. Airborne, heliborne, or airlanded forces may be used to seize critical terrain and block or slow down the enemy's withdrawal. (8/14)

(2) (u) ~~(C)~~ Planning for the pursuit is started before the attack. Plans include consideration of possible routes for withdrawal, determination of schemes of maneuver best suited to the situation, composition of pursuit forces, and allocation of nuclear weapons and delivery systems. (8/14)

(3) (u) ~~(C)~~ The pursuit is initiated at the first opportunity by regiments and higher units. The pursuit is terminated only on orders by army or higher commanders. Normally, orders to terminate pursuit are issued when the enemy has been completely destroyed, or when pursuing elements have outdistanced their logistical support or are overextended and in danger of being cut off, or when the enemy has succeeded in establishing a strong defensive position. When the pursuit ends, units are regrouped and redeployed for the next operation. Artillery, air, tank, and transportation units are brought back under centralized control. (8/14)

e. Basic Maneuvers (U).

(u) ~~(C)~~ The Soviets employ two basic offensive maneuvers with supporting attacks; the envelopment and the penetration. Variations of the envelopment are the single and double envelopment. The penetration is characterized by a strong single thrust by a break-through force; variations are the multiple penetration and the pincer. The multiple penetration and the pincer movement are normally used at army and front levels. Nuclear fires are planned to facilitate all maneuvers. (8/14)

(1) Single Envelopment (U).

(u) ~~(C)~~ The single envelopment is used when there is an opportunity to pin hostile forces against an obstacle. This maneuver permits concentration of effort in one direction, thus helping to ensure combat superiority over the enemy in the decisive area. Soviet doctrine differs from US doctrine (in which the main attack normally is directed toward a decisive objective) in that the attacking units will attempt to push through weakly defended or unoccupied areas to create gaps that will permit the exploitation forces to strike deep into the enemy rear. As depicted in Figure 13, the supporting attack would be developed by succeeding echelons to exploit a break in the defenses and, through subsequent action, encircle and destroy the enemy. (8/14)

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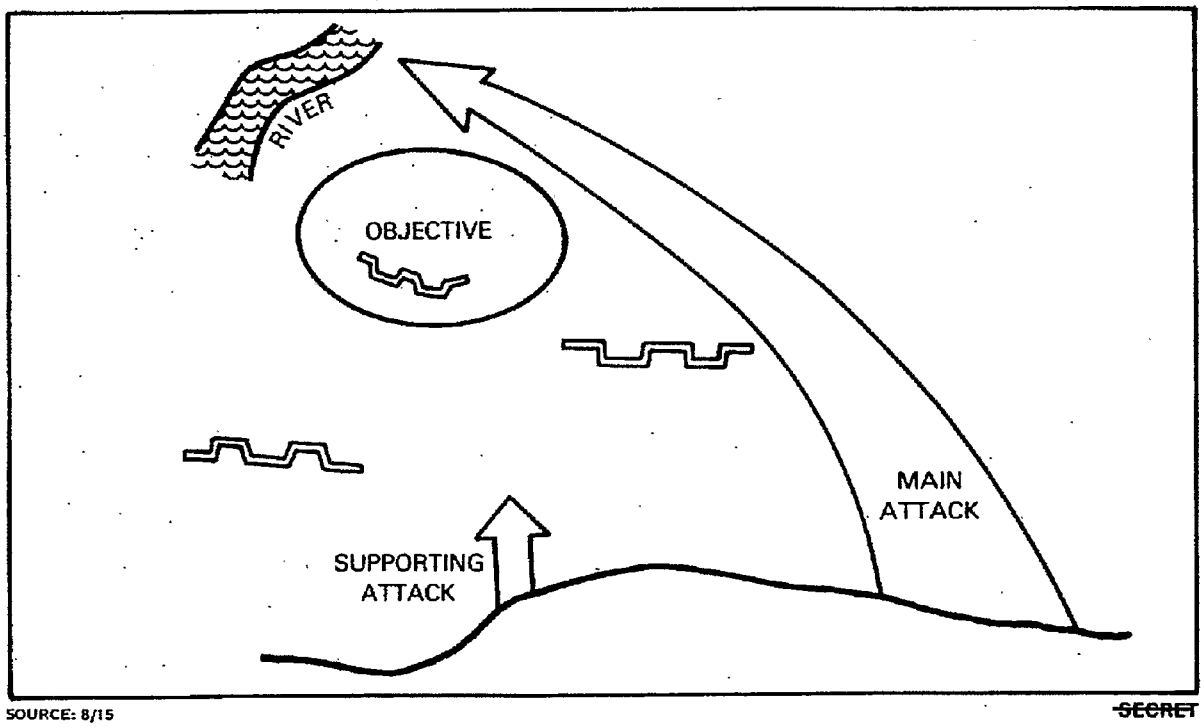

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Figure 13. (U) Single Envelopment

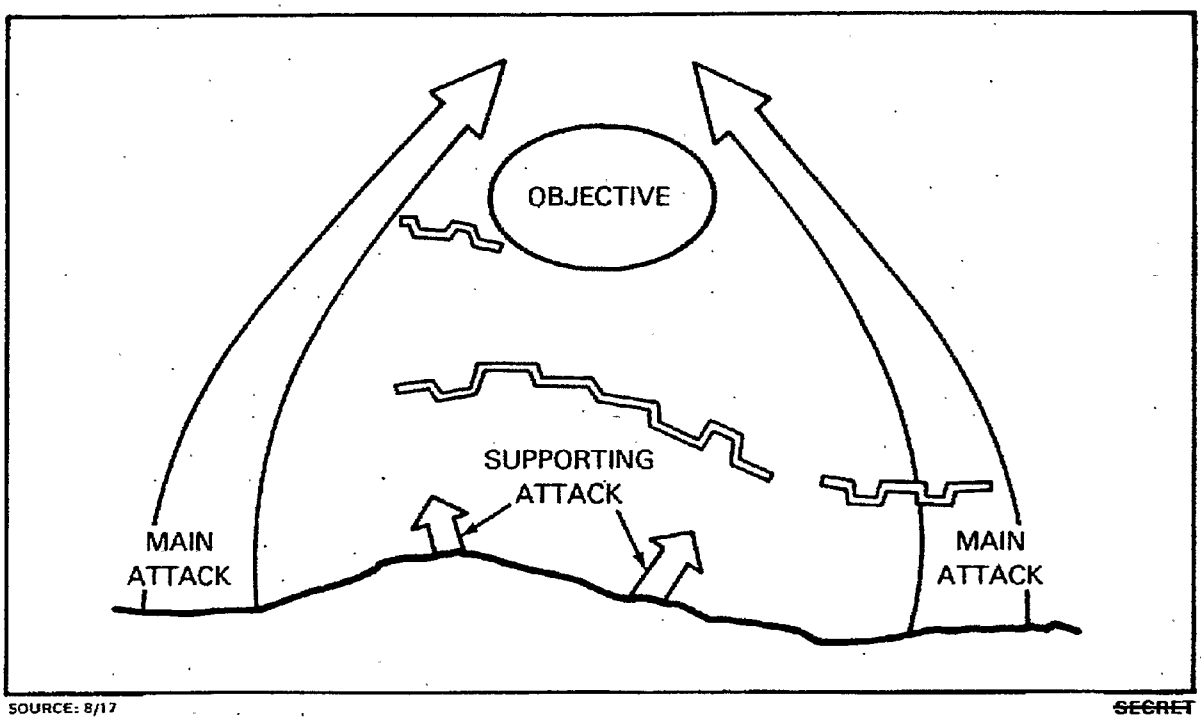

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Figure 14. (U) Double Envelopment

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(2) Double Envelopment (U).

(u) ~~(C)~~ The Soviets believe this to be the most decisive maneuver contributing most effectively to the encirclement and destruction of the enemy. It is used when they enjoy a preponderance of force and when there is little risk of defeat in detail. (Figure 14) (8/16)

(3) Penetration (U).

(u) ~~(C)~~ Penetrations are conducted through overextended enemy positions in order to destroy enemy reserves. This maneuver will divide continuity of enemy defenses and allow the enemy's defeat in detail. The penetration is conducted by positioning the bulk of available combat power on a narrow front. One or more supporting attacks will be conducted for the purpose of deception, thus limiting the enemy's maneuver. (Figure 15) (8/16)

(4) Multiple Penetration (U).

(u) ~~(C)~~ When double envelopment is not possible, multiple penetration may be used if sufficient combat power is still available. This maneuver consists of a series of penetrations to the depth of the enemy's corps reserves with subsequent encirclement and destruction of the separated enemy forces. Large forces are required for this maneuver, and the availability of large numbers of nuclear weapons facilitates this maneuver. (Figure 16) (8/16)

(5) Pincers (U).

(u) ~~(C)~~ When faced with an enemy whose flanks appear to be unassailable, the Soviet commander may resort to the pincers maneuver. This consists of two penetrations made to create assailable interior flanks. Mobile forces attack through the gaps created by the initial penetrations, make a deep penetration to include corps reserves, and then meet at the rear of the enemy to engage possible enemy reinforcements. Other forces, forming the inner pincers, divide and destroy the encircled enemy forces. The encircled enemy forces may be compressed into lucrative targets for low yield nuclear weapons. (Figure 17) (8/16)

8. Non-nuclear Offensive Operations (U).

a. (u) ~~(C)~~ Soviet military thought leads to a view of warfare in which all problems are linked in such a way as to require that they be viewed in totality. Soviet military strategy advocates the coordinated and massed utilization of all branches and arms in the interest of defeating the enemy and reaching set objectives. From Soviet military strategy developed the theory of operations in depth, which was based on the simultaneous neutralization by the artillery and aviation of the enemy defense over its entire depth, its swift penetration, and the development of a tactical

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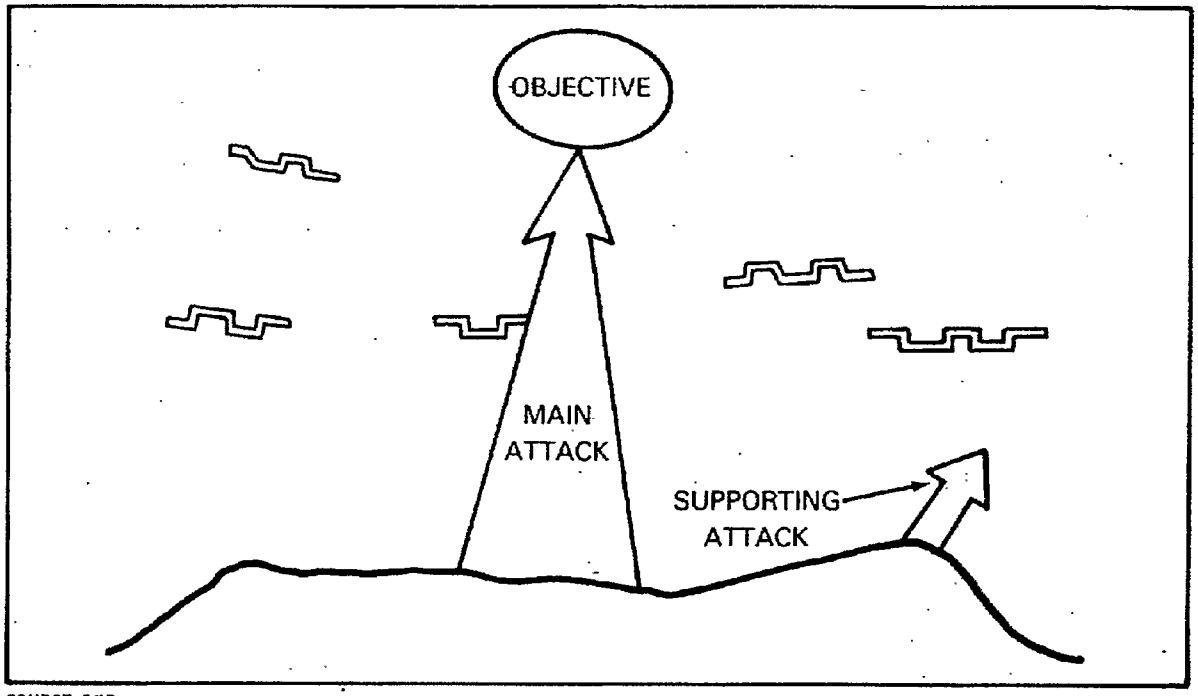

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Figure 15. (U) Penetration

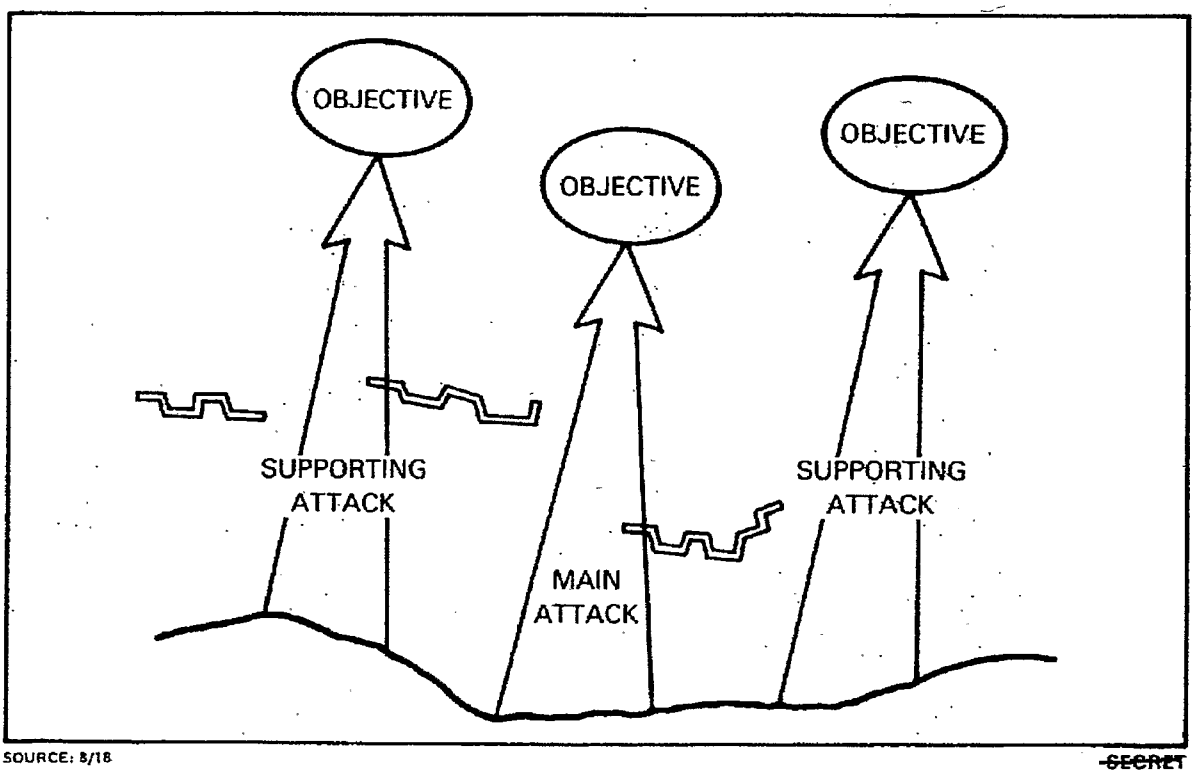

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Figure 16. (U) Multiple Penetration

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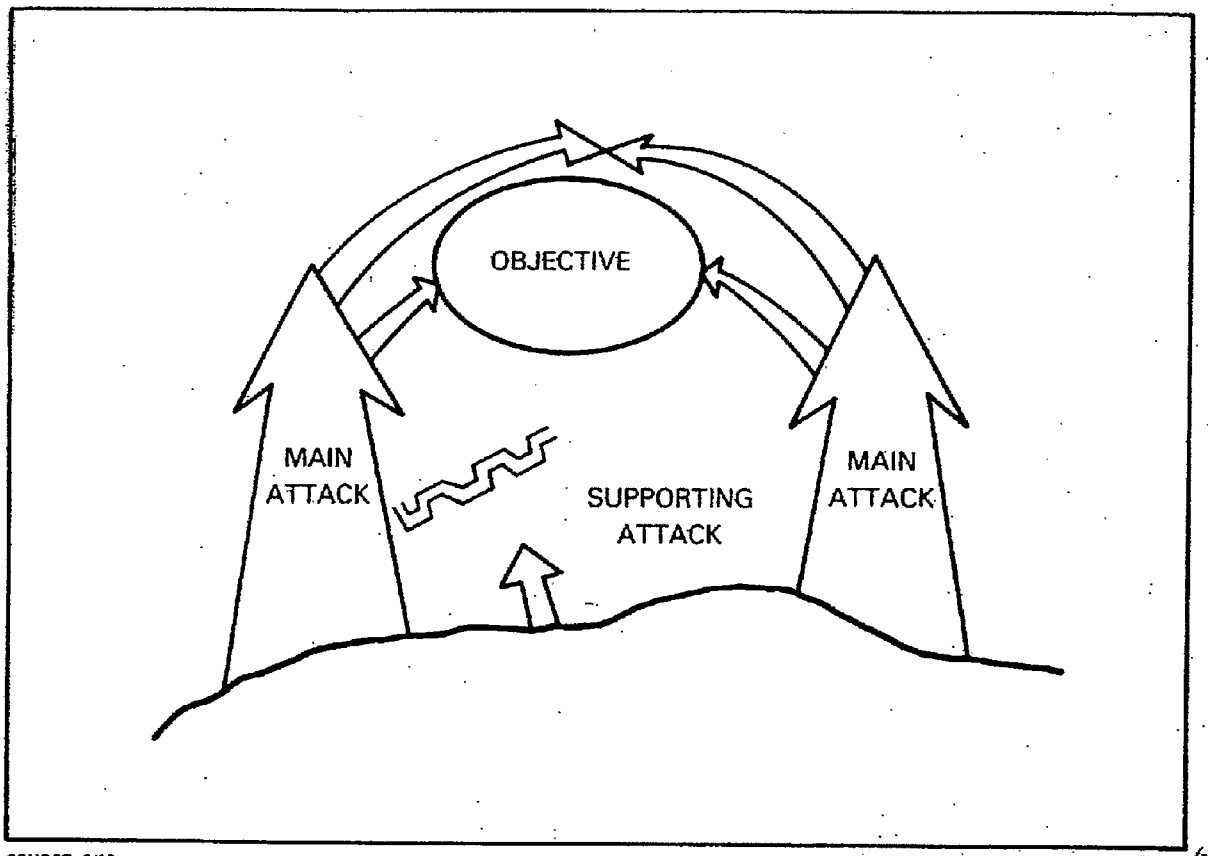

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Figure 17. (U) Pincers

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success into an operational success by means of the employment of powerful mobile groups and airborne landings. The formulation of the "deep operation theory" reinforced the concept of "all arms" or "combined arms" combat. It was only natural, therefore, that the strategic operation became the main and decisive form of combat. (5/E-5)

(u)
b. ~~(S)~~ Executing the "deep operational theory" in the contemporary period would require strikes against an enemy's air and nuclear assets and associated C^3 to the entire depth of a Theater of Military Operations. Executing "deep strategic attacks" became possible only with the appearance of modern long-range strategic rocket forces and bombers. Operational-tactical missiles and frontal aviation can also be widely used for deep attacks in the Theater of Military Operations. (5/E-5)

(u)
c. ~~(S)~~ The Soviet concept of "combined arms" combat goes beyond the integration of fires to include radio electronic combat. The Soviets believe that if they could introduce delays into the control process by either electronically interfering or physically destroying portions of the C^3 system, the system would become overloaded and NATO would lose its ability to respond in a time-sensitive manner. (5/E-5)

(u)
d. ~~(S)~~ Ground-based SIGINT sites and jamming units are integrated with the army units, and coordinated with the air platforms, to jam tactical radios and radars. A primary target is NATO's command and control communications links associated with nuclear, air, and air defense stand-off jamming (SOJ) and for dispensing chaff, as well as self-protection jammers for attack aircraft. The Soviets believe that the integration of radio-electronic combat means into the air and ground operations, and the coordination of these operations will have a force-multiplier effect. (5/E-5, E-6)

(u)
e. ~~(S)~~ Apparently, under nonnuclear conditions, the Soviets intend to substitute a modernized version of a World War II air operation for an initial mass nuclear strike. The contemporary air operation is a nonnuclear, operational-strategic scale, combined arms operation comprising the aggregate combat activities of strategic aviation in coordination with other branches of aviation as well as other services of the armed forces. It is performed in accordance with a single concept and in conformity with a plan of the Supreme High Command for the attainment of major operational or strategic goals in continental or oceanic Theaters of Military Operations. An "independent" air operation, in contrast, is a smaller-scale operation employing only assets of the air forces. As a smaller-scale operation, an "independent" air operation would probably occur subsequent to the combined arms air operation in the course of a relatively protracted conflict. (5/E-6)

(u)
f. ~~(S)~~ The combined arms air operation to suppress NATO's air and nuclear assets would be undertaken in conformity with the plan of the

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Supreme High Command. Although each strategic or operational sector would be covered by a front, fleet, independent army, or flotilla, the Soviets would likely supplement their strategic leadership with intermediate-level high commands. These high commands would serve as organs of strategic leadership for directing groups of strategic-scale formations. In the European Theater of War, high commands in the Western and Southwestern Theaters of Military Operations could serve the purpose of integrating the combined arms forces of the Warsaw Pact. Such an arrangement would serve to segregate the Soviet Supreme High Command decisionmaking process from the Warsaw Pact and thereby preserve Soviet flexibility in prosecuting the war. (5/E-6)

g. (u) ~~(S)~~ The conduct of the combined arms air operation is likely to be managed by a high command. Artillery and operational-tactical surface-to-surface rockets and missiles would initiate the strategic operations with strikes to suppress time-critical air and air defense activities. The combined arms air operation plan would direct the aviation of the front to open corridors through the NATO ground-based air defense, already under attack, and to prevent NATO aircraft from moving into such corridors. Fighters and fighter-bombers would also be directed against selected airfields, nuclear storage facilities, and key command-and-control points throughout the depth of frontal aviation activity (about 300 kilometers). Aviation assets of the Supreme High Command allocated to the operation would constitute the "shock force" of the operation. This force would include bombers, fighter-bombers, and fighters from the strategic aviation air armies in the Western USSR. Naval aircraft of the Baltic Fleet undoubtedly would be directed against NATO naval forces in the Baltic and North Sea, and subsequently to support the amphibious assaults on Denmark directed at seizing the Baltic Straits. Soviet naval aviation Tu-22/BLINDER could be employed in early mining of NATO naval bases to inhibit NATO defensive mining efforts. (5/E-6)

h. (u) ~~(S)~~ Although reinforcement is possible, the number of ordnance-delivering aircraft in the first massed strike would probably number 1,200 out of a total of over 2,400 aircraft available, because it is unlikely that the Soviets would be willing to compromise surprise and put frontal aviation aircraft at risk by forward-deploying aircraft that cannot be sheltered. (5/E-7)

i. (u) ~~(S)~~ The Western TVD combined arms air operation could last a minimum of two or three days, involving a minimum of three to seven massed strikes by aviation over the period. The first day would involve two or three massed strikes, with one or two additional massed strikes on subsequent days. (5/E-7)

j. (u) ~~(S)~~ It should also be noted that throughout the Theater of Military Operations, Special Purpose troops (SPETSNAZ) of the General Staff's main Intelligence Directorate (GRU) would attempt to neutralize NATO's nuclear delivery systems, nuclear storage facilities, and associated C^3. The Sov-

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iets familiarize their GRU SPETSNAZ personnel with US Special Ammunition Sites (SAS); missile nuclear-delivery systems; nuclear-capable artillery; and nuclear-associated airstrips. Although SPETSNAZ actions by themselves will not be decisive, they could contribute greatly to the success of a Soviet theater offensive. (5/E-7)

9. Nuclear Offensive Operations (U).

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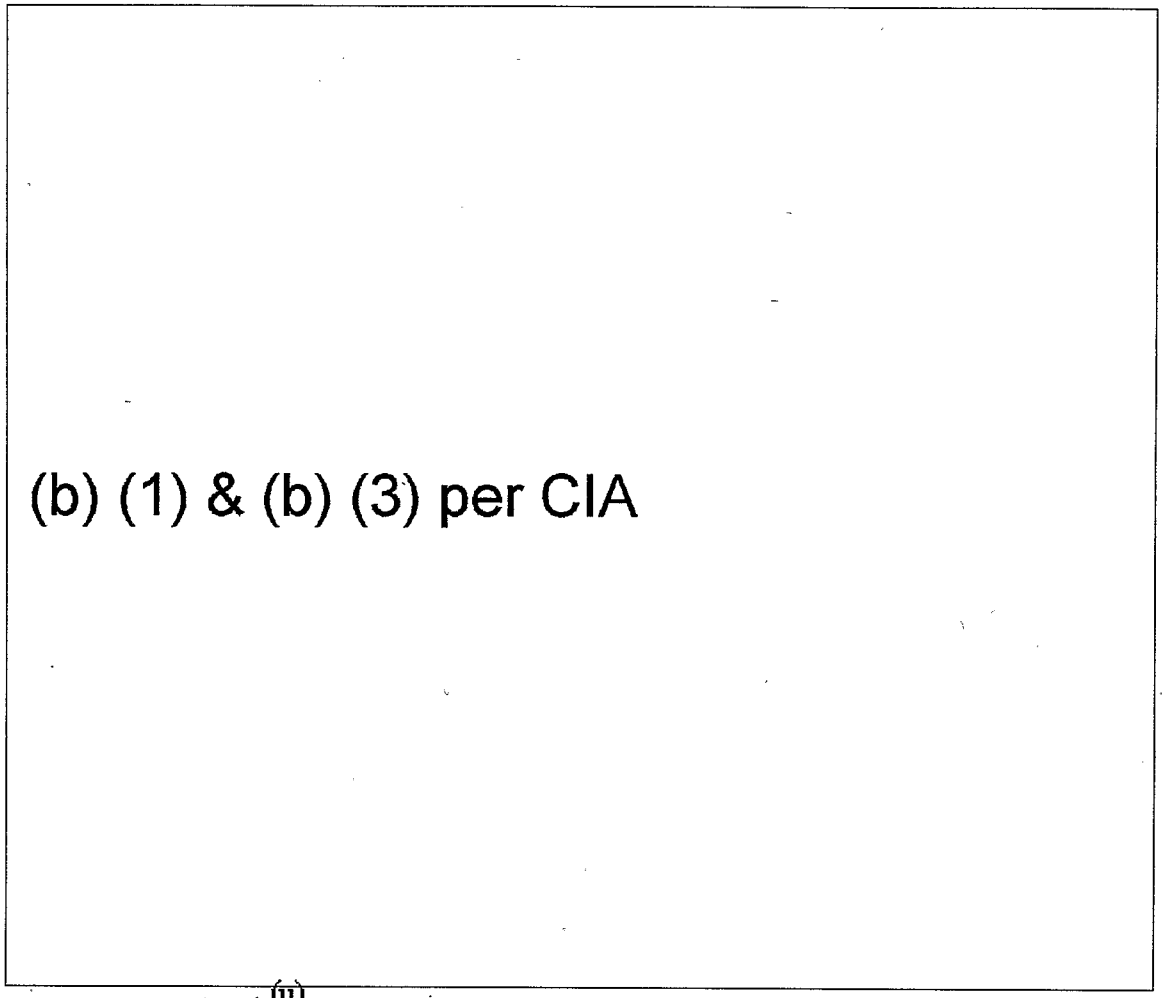
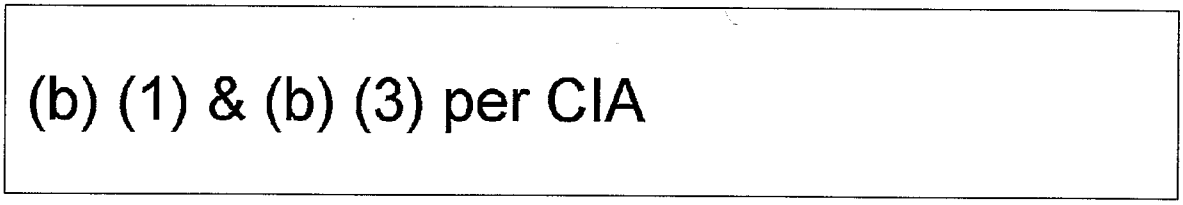


(u)

(5) ~~(S/NOFORN)~~ In most cases, airborne forces, resubordinated to the front by the Supreme High Command, are necessary to rapidly exploit the effects of nuclear weapons. The airborne forces will be landed in the areas of the nuclear strikes delivered against enemy reserves and will have the task of holding these areas until the arrival of units advancing from the front. The airborne forces can also be given the task of capturing and holding bridgeheads and mountain passes, of destroying enemy offensive nuclear weapons, of blocking lateral reinforcements, and of seizing other key terrain objectives.



(b) (1) & (b) (3) per CIA

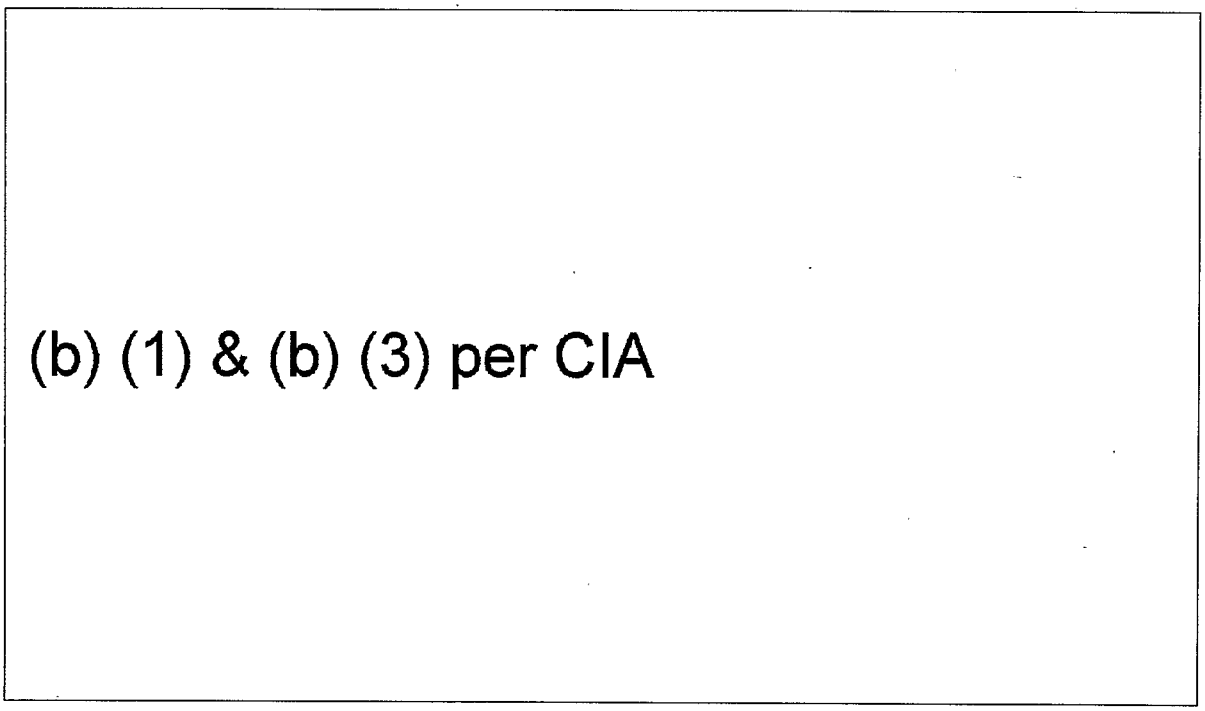
(b) (1) & (b) (3) per CIA

(3) (u) ~~(S/NOFORN)~~ However, the transformation of nuclear strikes into the final destruction of the enemy and the seizure of his territory requires the immediate carrying out of airborne landings and the swift advance of motorized rifle and tank troops in coordination with aviation. (2/17)

(a) (u) ~~(S/NOFORN)~~ In coordination with the mass nuclear strikes of the missile troops and front aviation, the airborne forces will rapidly exploit their effect by seizing the key terrain objectives along the axes of advance, completing the destruction of the enemy in these areas, and preventing the approach of enemy reserves from the rear and from unattacked sectors, thus ensuring the swift advance of advancing troops into the operational depth of the enemy.

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA



1. Tactical Nuclear Weapons Control and Employment Procedures (U).

(1) (u) ~~(S/NOFORN)~~ The Soviet ground forces have a large arsenal of nuclear weapons, with tactical delivery systems at division level and above. Once a decision is made by the Soviet Politburo to authorize use of nuclear weapons, the Soviet general staff will assign various types and quantities of tactical nuclear warheads to theater and front level commands. An extensive set of command procedures and technical measures are employed to ensure positive control. The front commander has several means of controlling the nuclear firepower within the front. He assigns some missile units to the armies and retains others under front control. He assigns all nuclear warheads within the front. He approves all targets engaged in the first mass strike and in subsequent strikes involving more than one army. He also retains the right to approve targets for front weapons, targets in depth, or targets crossing boundaries between armies. Nuclear weapon delivery systems are linked to their controlling commands through redundant and survivable communications systems. These communications systems permit top-to-bottom transmittal of alerting, instructional, and command-and-control messages. (7/1)

(2) (u) ~~(S)~~ The Soviets will employ nuclear fires in conjunction with conventional and chemical munitions. Nuclear fires will be directed against targets in a manner that will provide the greatest result with the least expenditure of nuclear resources, the minimum danger to friendly troops, and the minimum of maintenance and control problems. A large percentage of nuclear weapons will be used to support the main effort; smaller numbers will be assigned to secondary areas and to the support of defense elements. (7/2)

(u)
(3) ~~(S)~~ Before the preparation begins, only deep targets will normally be attacked with nuclear fires; the purpose of this procedure is to achieve surprise and to conceal the location of the main effort. Suitable targets for such attacks are enemy airbases, nuclear delivery means, storage sites, and nuclear supply concentrations. Nonnuclear fires will normally be massed on enemy forces in close contact, although nuclear fires might be used to assist in making the penetration. To achieve surprise as to the exact location of the main effort, close-in targets will usually be attacked last. (7/2)

(u)
(4) ~~(S/NOFORN)~~ After the initial mass strike, strikes may be made at enemy nuclear systems, reserves, and at any counterattacks as they develop. Nuclear weapons may be used against large pockets of bypassed enemy troops and unexpected areas of resistance. (7/2)

(u)
(5) ~~(S/NOFORN)~~ Important static installations located well behind the forward edge of the battle area (FEBA) may be engaged by medium-range ballistic missiles or long-range aircraft from the strategic rocket forces or long-range aviation. (7/2)

(u)
(6) ~~(S)~~ In defensive situations, nuclear weapons may be used to destroy enemy nuclear delivery means, to delay or prevent enemy attacks, to break up attacks as they are launched, to eliminate enemy penetrations, and to prepare for Soviet counterattacks (including area denial, through the use of surface bursts). (7/3)

(u)
(7) ~~(S/NOFORN)~~ The front may be allocated as many as 300 to 1000 nuclear warheads, depending on its mission. These warheads range in size from 3 to 500 kilotons. The warheads can be delivered to targets by artillery and missiles from the FEBA to as far as 750 kilometers deep in the enemy rear area. The initial launch of weapons may involve the use of 20 to 30 percent of the front's allocation or as many as 200 to 300 warheads. The initial strike is intended to crush enemy resistance and allow maneuver forces to exploit gaps in the defensive structure. Subsequent strikes will assist forces in defeating any resistance encountered after the initial exchange. (7/3)

10. Organization and Equipment Modernization (U).

(u)
a. ~~(S)~~ Recent structural changes in Soviet ground maneuver formations have been designed to enhance the Soviet capability to execute deep fire and maneuver operations. The organizational changes now being implemented in tank and motorized rifle divisions are based on concepts tested since late 1977 in the two tank divisions at Belogorsk and Ovruch. Several BMP-equipped motorized rifle regiments in the GSFG have either converted to or are experimenting with the use of 43-BMPs per motorized rifle battalion. The motorized rifle battalion in reorganized tank regiments of tank divisions appear to contain 43 BMPs. (4/F2)

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(u)
b. ~~(S)~~ Prior to 1942, Soviet army aviation units consisted of aviation divisions of fighter, ground attack and light bomber aircraft directly subordinate to combined arms army commanders. The recent establishment within tank and combined arms armies of an aviation organization that includes an attack helicopter regiment represents a revival of this direct subordination only using the attack helicopter. As a highly mobile fire support platform, the Mi-24 HIND helicopter constitutes the backbone of this organization. In the future, SU-25 regiments may be included in the aviation organization of combined arms armies and tank armies as well. (4/F-2)

(u)
c. ~~(S)~~ In another important development, the Soviets have been forming air assault brigades capable of conducting parachute, heliborne, or airlanding operations in enemy rear areas. Air assault brigades have been identified in at least 11 (and possibly 12) locations with 7 (and possibly 8) located in the USSR; and Afghanistan, East Germany, Czechoslovakia, and Hungary each having one. The air assault brigade (AAB) is assessed as having 2 BMD-equipped parachute assault battalions, 2 parachute assault battalions, a reorganized howitzer battalion equipped with D-30 howitzers and the M-1975 multiple rocket launcher, a mortar battery in each battalion, GAZ-66 motor transport units, a ZU-23 antiaircraft battery, and service support elements for 2000 to 2400 troops.

(u)
d. ~~(S)~~ It has become clear during the past year that non-divisional Soviet artillery units are undergoing major structural change. This has been most apparent in the GSFG, where the 3rd Shock Army's artillery regiment has been upgraded from three 18-gun battalions to a brigade of four 24-gun battalions. Battery size has increased from six to eight guns. The other two non-divisional artillery regiments in the GSFG are almost certainly following suit. (4/F-3)

(u)
e. ~~(S)~~ In the 34th Artillery Division, subordinate to GSFG Headquarters, there is also evidence strongly suggesting that the battalions of the M-1973 self-propelled artillery brigade are adopting a 24-gun structure. The 152mm self-propelled gun M-1977, newly identified in the GDR in 1981, is also expected to enter service in the division's M-46 brigade. In the division's rocket launcher brigade, three of four battalions are now equipped with the 220mm BM-27 multiple rocket launcher which has a range of at least 40 kilometers. These changes obviously entail signficant increases in both the quality and quantity of long-range artillery available to front and army commanders. (4/F-3)

(u)
f. ~~(S)~~ The Soviets have undertaken a major program to modernize their entire inventory of theater nuclear missiles. The mobile SS-20 is being complemented by a new family of tactical and operational-tactical missiles which will replace or augment the FROG-7 at division level, the SCUD B at army and front levels, and the SS-12 SCALEBOARD at front level. (4/F-3)

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(u)
g. ~~(S)~~ While deployment of the SS-21 to troop units has been slow - until 1981 it had been positively identified in only four divisions in the Western USSR - it recently has entered service with at least two divisions in the GDR. At army and front levels, the SS-23 will replace the SCUD B and the SS-22, the SCALEBOARD. Deployment of the new Soviet family of tactical and operational-tactical missiles, with their increased range, accuracy and responsiveness, will result in both significantly improved targeting coverage and survivability. (4/F-3)

11. Effect of Organizational and Equipment Changes (U).

(u)
a. ~~(S)~~ The addition of large-caliber self-propelled howitzers and long-range multiple rocket launchers to the artillery available to army and front commanders provides them with the capability to extend area and counterbattery fire support to subordinate divisions as they maneuver at considerable depth in the enemy's defenses. (4/F-4)

(u)
b. ~~(S)~~ At the same time, the establishment of army aviation has given ground maneuver formations a vertical dimension. The helicopter now provides combined arms and tank armies with a highly maneuverable, versatile platform for reconnaissance, command, control, and fire support. General purpose and attack helicopter units can move with armies and divisions at the high rates of advance they would seek to achieve in conducting combined arms operations in depth. (4/F-4)

(u)
c. ~~(S)~~ These marked increases in the quantity of long-range area weapons, self-propelled artillery, and attack helicopters to ground maneuver formations has greatly enhanced the combined arms commander's ability to quickly mass conventional fires in support of ground maneuver operations. In the event of an extended or indefinite nonnuclear phase in a theater war, these conventional fire support systems could provide the additional massed fires needed to "take up the slack" in destructive firepower that would otherwise by provided by nuclear strikes. (4/F-4)

(u)
d. ~~(S)~~ The development of the air assault brigade has given to the front commander a large, flexible, well-armed force that he can employ early in the battle against targets deep in the enemy operational-tactical rear. Deployed as a unit or more likely as subunits, the brigade is to seize, disrupt, or destroy nuclear weapons, airfields, C^3, logistics facilities and key terrain such as river crossing sites and road junctions and thereby help shift the focus of the battle away from the FEBA. If successful, the activities of the brigade should, first, facilitate rapid penetration by first echelon Soviet formations through the enemy's forward defensive zone, and second, directly support the high-speed movement of large exploitation forces advancing from the front into the depths of the enemy's defenses. (4/F-4)

(u)
e. ~~(S)~~ As a result of the reorganization and modernization of ground maneuver formations, the attacking divisions of every Soviet front will consist of tank and motorized rifle regiments of greater combined arms capa-

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bility, reinforced by masses of long-range area and counterbattery artillery weapons, and accompanied by highly mobile anti-tank systems mounted on armored vehicles and attack helicopters. Thus equipped and organized, the front is expected to be able to apply considerable pressure on a broad front while simultaneously conducting deep enveloping operations on the ground and from the air. (4/F-4,F-5)

12. Operational Maneuver Group (OMG) (U).

a. History of The OMG (U).

(1) (u) ~~(S)~~ These changes in the organizational structure and capabilities of ground maneuver formations clearly complement and support changes in the organization for combat and concept for employment of fronts and armies. The single most significant development has been the reintroduction of a special high-speed tank-heavy exploitation echelon (currently referred to as an operational maneuver group (OMG)) into the combat organization of armies and probably fronts. The following discussion of the operational maneuver group is based on all-source analysis to include a great deal of information contained in professional military literature published in the Soviet Union and other Warsaw Pact countries over the past two years. Exploitation of military literature that is unclassified or of low classification has made it possible to discuss this subject at a much lower level of classification (4/F-5).

(2) (u) ~~(S)~~ In conjunction with the development of the theory of "operations in depth" formulated in the mid-1930s, the Soviets held that in preparing for offensive operations the commander of a front or army would normally distribute his forces over four major components of a combat formation. Those components were: the first echelon, the second echelon (or smaller combined arms reserves), exploitation echelon, and special reserves such as chemical, engineer and anti-tank. The first echelon mission was, in simplest terms, to reduce or to eliminate the combat effectiveness of the enemy first echelon and create the conditions necessary for the exploitation and achievement of subsequent objectives by following echelons. The special reserves were contingency forces used by the commander to deal with unforeseen threats and opportunities. Typical missions of the second echelon included: widening a penetration, repulsion of counterattacks, securing the flanks of the parent unit, forming the external front of an encirclement operation, and replacing the first echelon, should it lose its combat effectiveness. The exploitation echelon on the other hand had two basic missions. First, it normally helped first echelon forces to complete the penetration of the enemy's main tactical zone of defense and secondly almost always helped to effect penetration or prevent lateral reinforcement by the enemy, encirclement of enemy formations, destruction of enemy reserves, pursuit operations, and seizure of key objectives deep in the enemy rear (4/F-5).

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(u)
(3) ~~(S)~~ At various times in the military history of the Soviet Union this exploitaion echelon has taken the form of mechanized cavalry corps, tank corps, and tank armies. During World War II, this component of the operational combat formation of front and armies was normally called a "mobile group" and sometimes by the more general term "operational group" (4/F-5).

(u)
(4) ~~(S)~~ In the mid-1950s, with the advent of tactical nuclear weapons and the total mobilization of Soviet ground maneuver forces, Soviet military planners abandoned the concept of forming a separate exploitation echelon such as the mobile group, and transferred its resources and missions to the second echelon. The use of tactical nuclear strikes against enemy defenses would eliminate the need for a special penetration force and the total mechanization of all elements of ground maneuver formations eliminated the need to pool relatively scarce mobile assets into special groups better suited for high-speed deep exploitation. In Volume 6 of the authoritative Soviet Military Encyclopedia, published in 1978, the authors reaffirmed that special mobile exploitation groups were no longer needed. (4/F-6)

(u)
(5) ~~(S)~~ However, in 1981, several articles appeared in the Soviet and Warsaw Pact military press asserting that the concept of a combat echelon such as the mobile group was clearly necessary and relevant today. Articles in the 1980 Soviet and East German military thought journals have clearly confirmed this change. An article appearing in a Polish Air Force journal in June 1981 clearly describes the special exploitation echelon in great detail, but called it an operational maneuver group instead of a mobile group, probably reflecting the fact that all formations are now mobile. (4/F-6)

(u)
(6) ~~(S)~~ Regardless of whether it is called a mobile group or an operational maneuver group, it appears that a separate exploitation echelon whose mission and presumably structure are very similar to those of the World War II formation is again part of the combat organization of fronts and armies of the Warsaw Pact. The two critical missions of assisting in the completion of the penetration of enemy defenses and the conduct of deep exploitation seem to have both been shifted from the second echelon back to the exploitation echelon essentially as it was before the introduction of tactical nuclear weapons. (4/F-6)

b. Organization of the OMG (U).

(u)
~~(S)~~ An OMG is probably a reinforced, highly mobile combat organization formed at front and/or army level. At front level, an OMG probably consists of a tank or combined arms army (or Corps) of two to four divisions. An OMG of an army probably comprises at least one tank division (TD) or motorized rifle division (MRD). The front and army OMG will probably be reinforced with airborne or air assault elements, aviation elements, air defense artillery, extra engineer support (especially river crossing units), and mobile rear services. The actual size and composition of the OMG would be determined by the nature of the enemy defenses, the specific

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mission, and the characteristics of the terrain over which it must maneuver. (4/F-6)

c. Mission of the OMG (U).

(1) (u) ~~(S)~~ The mission of the OMG is to help the first echelon to penetrate the enemy defenses, if required, and then to exploit deep in the enemy's rear as early in the offensive as possible. The OMG is to disrupt enemy lateral reinforcement and movement of enemy reserves from the rear, disrupt enemy C3 and logistics, and seize key objectives that will ensure the rapid advance of the main forces. To accomplish this, the group may be charged with the following tasks: (4/F-7)

(a) (u) ~~(S)~~ Destroy nuclear warheads and delivery systems. (4/F-7)

(b) (u) ~~(S)~~ Attack the flanks and rear of enemy troop concentrations, block retreat of enemy defenders, and effect encirclement, if possible. (4/F-7)

(c) (u) ~~(S)~~ Seize or destroy CPs and disrupt C^3 and logistics. (4/F-7)

(d) (u) ~~(S)~~ Seize specific objectives, areas, or intermediate lines of defense. (4/F-7)

(e) (u) ~~(S)~~ Destroy withdrawing enemy forces. (4/F-7)

(2) (u) ~~(S)~~ Tasks of the OMG would require accurate and timely target reconnaissance, and a large and active forward detachment. Operations by airborne forces (VDV) are definitely associated with OMG operations. (4/F-7)

d. Employment of the OMG (U).

(1) (u) ~~(S)~~ The timing of commitment of the OMG relative to actions of the first and second echelons is a major factor in the role it plays. Judging by the way in which the mobile group was employed in WWII, it is very likely that at both front and army level the OMG will normally be committed before the commitment of the second echelon. The Soviet army commander will probably not commit his second echelon until the immediate army objective is attained, which may take several days. By contrast, the army OMG might be committed on the first day or, at the latest, early in the second day. The OMG or its forward detachment might be expected to assist first echelon units to complete the penetration of the tactical defensive zone and would be expected to prevent a retreating enemy from consolidating on a second line of defense. At front level, the second echelon would normally be committed once the front's immediate objective is attained (which could take more than a week). The front OMG, on the other hand, may be committed on the second or third day (normally after

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the enemy's tactical zone of defense has been penetrated). If the defense is relatively shallow and lacking strong reserves, even the front OMG may be committed as early as the first day of the operation and possibly assist in completing the penetration.

(u)
(2) ~~(S)~~ There appear to be two major variations in the way in which the group may be employed. The group may act somewhat in isolation, conducting operations well apart from the axes of the main effort and separate from the second echelon and reserves. In this instance, its primary purpose would be disruption of the enemy rear in direct support of the advancing main forces. (4/F-7)

(u)
(3) ~~(S)~~ The group may also be employed with one or more additional OMGs for the purpose of executing encirclement operations. In a typical operation, two OMGs move on converging axes toward a blocking position established by airborne or air assault forces. Second-echelon forces or other OMGs may then be committed to split and destroy the encircled enemy. (4/F-8)

(u)
(4) ~~(S)~~ There are important differences between the concept for employment of the second echelon and that of the OMG. The second echelon in its typical employment is closely controlled by the parent organization. It is given a set objective and a subsequent direction of advance in direct support of an overall plan that is normally very clearly defined. In effect, typical second-echelon operations represent a much more measured and carefully planned application of force than is normally the case with the OMGs. (4/F-8)

(u)
(5) ~~(S)~~ Unlike the second echelon, the OMG acts in many respects as a large operational raiding force. Typically, the OMG is assigned an ultimate objective or objectives, but is expected to disrupt, capture, or seize other objectives along the way, while attempting to avoid decisive engagement with large enemy forces. The OMG could attack targets en route with its entire force, or more likely, with subunits detached for this purpose. The relative importance of "raiding" versus seizing an objective will vary depending upon whether the group is operating in isolation or as part of an encirclement operation. (4/F-8)

(u)
(6) ~~(S)~~ The relationship between the OMG and the second echelon in any given operation will vary depending upon the concept of operation. If the OMG is operating away from the main axes of advance principally as a large raiding force, the activities of the OMG and second echelon may not be directly related. If the OMG is operating on a main axis of advance, the second echelon may be required to reduce forces bypassed by the OMG or secure the OMG's lines of communications. This is more likely to be true when the OMG is participating in an encirclement operation. Finally, if enemy resistance is stronger than anticipated, then the second echelon may have to precede the OMG to create a gap large enough for its commitment. (4/F-8)

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(u) ~~(S)~~ (7) If it is at all possible, the OMG will be committed during the hours of darkness to maximize surprise and reduce its vulnerability to air and nuclear attack. This will be more difficult at front level considering the size of the group (possibly an entire army). At night, the helicopter will be the primary means of air support for OMG operations. Helicopters units will provide route reconnaissance and security, command and control, and fire support en route and at the objective. During the day, the group will also normally require considerable support from high performance aircraft for air defense and close air support. (4/F-8)

(u) ~~(S)~~ (8) The manner in which the OMG will come through the enemy's defenses will vary. The group may be introduced as a single force dispersed in width and in depth. It is more likely than the OMG will come through the defensive zone in at least two locations simultaneously. Soviet strategists believe that this method is more effective because: it results in a more fragmented enemy first echelon, makes it more difficult for the enemy to identify the main attack, and reduces the group's vulnerability to enemy air and nuclear attack. (4/F-8)

e. Assessment of the OMG (U).

(u) ~~(S)~~ (1) The Soviets have been testing the operational maneuver group and are apparently satisfied that the concept should be incorporated into Soviet military doctrine. It would clearly constitute a necessary component of a strategy to achieve victory without necessarily making use of nuclear weapons. The air operation must reduce the enemy nuclear and air threat to ground maneuver formations, but the maneuver forces themselves must then exploit this opportunity and quickly seize key enemy objectives to ensure an early victory. It is possible to infer from the Soviets' apparent decisions to re-establish a separate exploitation echelon at army and front, some probable perceptions and intentions of Soviet military planners. These include: (4/F-9)

(u) ~~(S)~~ (a) Acknowledgement of the increased technical capabilities available to both sides and the consequent need to shorten the time available for NATO to respond to Warsaw Pact offensive pressure. (4/F-9)

(u) ~~(S)~~ (b) The intention to overwhelm the defense by nearly simultaneous action throughout the operational depth, thereby avoiding the need to defeat the defender with time-consuming successive operations against the enemy's forward echelons. (4/F-9)

(u) ~~(S)~~ (c) The intention to permit more rapid exploitation of nuclear strikes, and possibly to complicate US/NATO nuclear planning, should the Soviets feel compelled to employ nuclear weapons. (4/F-9)

(u) ~~(S)~~ (2) The rapid attainment of theater strategic objectives in a war that does not necessarily involve the use of nuclear weapons is a goal that the Soviets may consider achievable under certain conditions.

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These conditions include surprise in the initial phase of a war against NATO, no major change in the quantity and level of modernization of NATO's theater nuclear forces, and no change in NATO's defensive strategy. (4/F-9)

(3) (u) ~~(S)~~ In addition, improvements in the ability of Soviet forces to execute the ambitious air and ground maneuver operations are probably a criteria for pursuing such a strategy. (4/F-9)

(4) (u) ~~(S)~~ These changes in organization and concepts for operational employment of the armed forces do not represent a revolutionary shift in Soviet military thought. It is the product of evolutionary changes in Soviet strategy and operational art that are made possible by improvements in technology. These changes are entirely consistent with the long-standing Soviet doctrinal goal of security through preparedness to conduct offensive operations at the lowest necessary risk to the Soviet homeland. (4/F-9)

(5) (u) ~~(S)~~ In addition, an effort to attain theater strategic objectives without resorting to nuclear weapons does not preclude Soviet employment of nuclear weapons if their use is deemed essential. Nor does it deny the Soviets the freedom to use chemical weapons at any time. Chemical weapons are "non-nuclear" even though the Soviets classify them as weapons of mass destruction. In any case, it is extremely unlikely that the Soviets would ever risk defeat for the sake of avoiding escalation to nuclear or chemical war. (4/F-10)

(6) (u) ~~(S)~~ Soviets have now acquired the weapons capabilities and the basic organizational structure required to implement a more flexible theater strategy. But as their writings reveal, they perceive a continued need for training to achieve the high level of readiness required for successful execution, as well as the need to develop more sophisticated command, control, and communications for effectively controlling such strategic operations. (4/F-10)

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SECTION II. FRONT AND ARMY DEFENSIVE OPERATIONS (U)

1. Front Level Defensive Operations (U).

a. Planning the Defense (U).

(u) ~~(C)~~ The front normally prescribes the general location of the forward edge of the main defense belt and the limits of the combined arms or tank army zone of defense. The army designates the more important areas in the main defense belt that are to be defended, prescribes the anti-tank defense through the depth of the area, and establishes the counterattack plan. The army also plans for possible withdrawal of forces from forward positions in the main defense belt when close-in nuclear fires are employed. Division commanders select the exact trace of the forward edge of the main defense belt. Division defense plans include the organization of the defense, allocation and use of artillery, anti-tank defense, use of air support, counterattack by division forces, and priorities for the preparation of defensive emplacements. (8/19)

b. Organization of the Defense (U).

(1) (u) ~~(S)~~ The defense is organized in successive belts designed to provide depth to the defended area. Normally, those consist of a security zone, a main defense belt, a second defense belt, and a third defense belt. Figure 18 depicts the schematic representation of the Soviet defensive belts concept. (8/19)

(2) (u) ~~(S)~~ Each defense belt consists of a series of mutually supported, self-sufficient battalion defense areas designed to be manned by motorized rifle battalions with artillery, mortar, and tank support. A large mobile reserve is held in assembly areas for each defense belt. (8/19)

(3) (u) ~~(S)~~ Obstacle belts are constructed forward of and within defense positions of each belt to hinder the enemy advance, to canalize him, or cause him to mass to present a lucrative nuclear or chemical target. (8/19)

(4) (u) ~~(S)~~ In the organization of the defense, emphasis is placed on protection of troops and materiel from the effects of nuclear fires. In selecting defensive areas, a major consideration is given to terrain features offering the best cover and concealment. (8/19)

c. Security Zone (U).

(1) (u) ~~(S)~~ The purpose of the security zone is to halt the enemy or to delay him by forcing him to deploy before reaching the main defense belt. (8/19)

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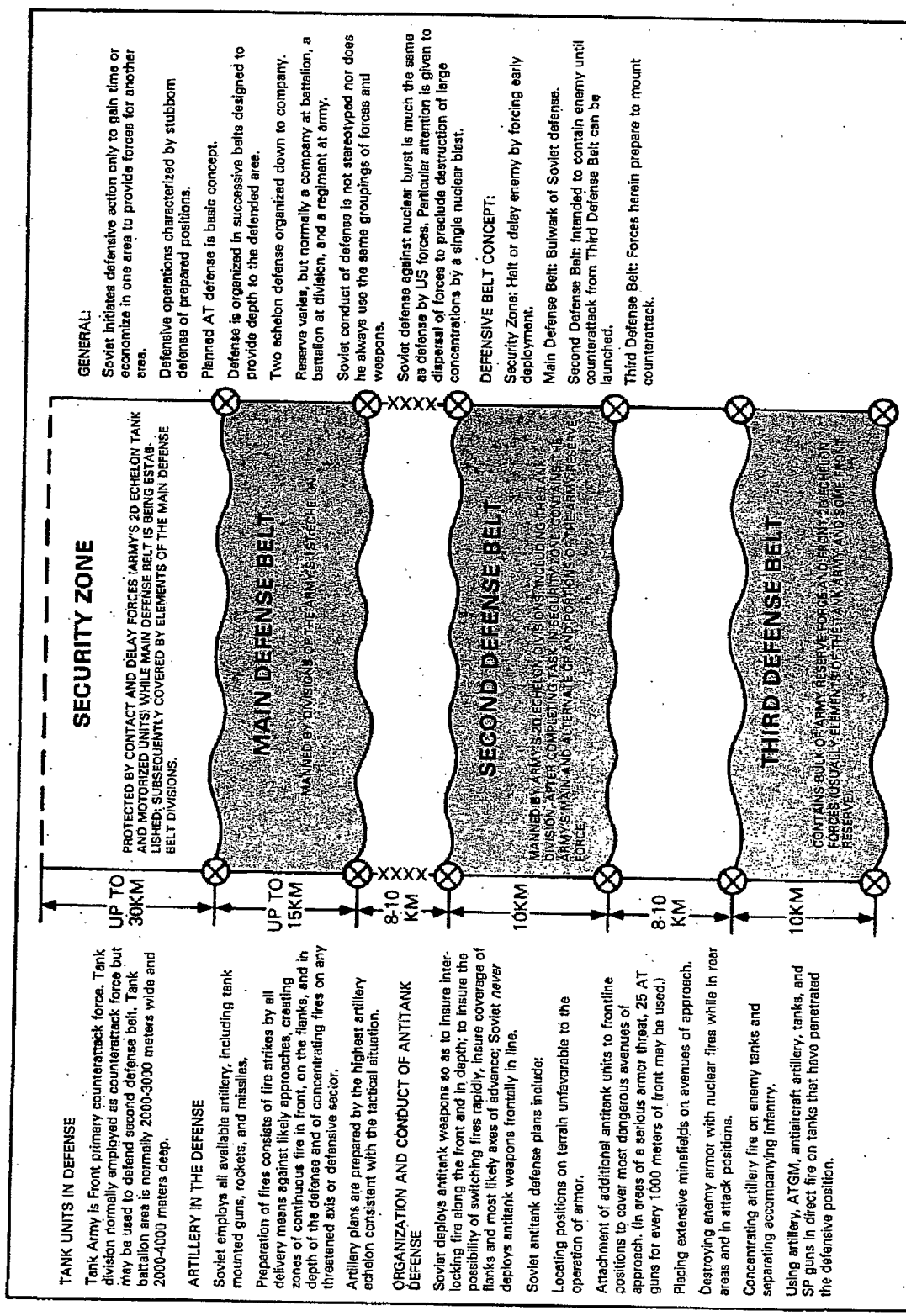

SOURCE: 8/24

Figure 18. (U) Schematic Representation of Soviet Defense Belt Concept

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(u)
(2) ~~(S)~~ The security zone extends forward of the main defense belt. It is at least deep enough to prevent the enemy from delivering fire on the main and second defense belts with divisional weapons. Usually it is 20-30 km deep, but it may be twice that depth if space and troops are available and delaying action can be employed. (8/19)

(u)
(3) ~~(S)~~ The security zone is established and manned by the combined arms army. The second echelon motorized rifle units, and the tank reserves of the combined arms army, reinforced with artillery and engineer support, establish and man delaying positions. These are the most forward positions of the security zone. (8/20)

(u)
(4) ~~(S)~~ Delaying forces are disposed on a frontage up to four times as wide as their normal frontage for area defense. This means that there is an average of one Soviet battalion every 8-12 kilometers along the delaying positions. Terrain and enemy are considerations which will vary this pattern. These forces are known as the contact and delay, or security force of the combined arms army, and they normally are the only forces available to delay the enemy or to cover the preparation and occupation of the defense belts by the motorized rifle division. (8/20)

(u)
(5) ~~(S)~~ In deploying his forces in delaying positions, most of the combat power is placed in the first echelon, with tank reserves being retained primarily to assist in the disengagement of the first echelon force. (8/20)

(u)
(6) ~~(S)~~ When not in contact with the enemy, the motorized rifle divisions manning the main defense belt establish general outposts in the security zone as much as 25 kilometers in front of the main defense belt. This is in addition to the combined arms army security force. Normally the division's second echelon (a motorized rifle regiment) is employed in this task. As in the case of the contact and delay force, probable deployment of the general outpost force would be in the order of one motorized rifle battalion per each 8-12 kilometers of frontage. (8/20)

(u)
(7) ~~(S)~~ First echelon regiments in the main defense belt establish combat outposts in the security zone, 3-5 kilometers to the front of forward battalions. Their missions are to protect the main defense against surprise attack, conduct counter-reconnaissance missions, conduct counter battery operations against enemy artillery fire on the main defense belt, deceive the enemy as to forward elements of the main defense belt, and prevent the enemy from clearing obstacles. (8/20)

(u)
(8) ~~(S)~~ Combat outposts are manned by regimental second echelon units. A motorized rifle battalion is generally assigned a 15 kilometer zone in which to establish a combat outpost line. A combat outpost may consist of a rifle company reinforced by AT weapons, artillery, tanks, and engineers. Such an outpost will further deploy security outposts. (8/20)

(u)
(9) ~~(S)~~ The main body of an outpost is deployed across the pri-

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mary approaches to the battalion defense area and occupies an area up to 1,200 meters wide. (8/20)

(10) (U) ~~(S)~~ Local security is established by the first echelon battalions of the main defense belt divisions' first echelon regiments. Observation posts, security posts, and patrols are established 650-900 meters in front of the main defense belt and in gaps between units. (8/20)

d. Main Defense Belt (U).

(U) ~~(S)~~ This belt is the backbone of the defense. It takes advantage of natural defensive terrain that affords the maximum protection and defense against enemy target acquisition and nuclear attack, preferably behind a natural obstacle. It is designed to stop and destroy the attacking enemy forces. This belt is up to 15 kilometers deep and is manned preferably by motorized rifle divisions. Within this belt are those forces necessary to conduct the defense (including tank, artillery, anti-tank, and air defense units), the division reserves, and the division main and alternate command posts. (8/21)

e. Second Defense Belt (U).

(1) (U) ~~(S)~~ The second defense belt is up to 10 kilometers deep and is located 8-10 kilometers to the rear of the main defense belt, and usually consists of prepared but unoccupied defense positions. If the enemy penetrates the main defense belt, this belt is intended to contain the enemy until counterattacks from the third defense belt can be launched. The second defense belt is established and defended by army second echelon motorized rifle divisions and reserves, to include tank divisions which deploy to assembly areas in the second defense belt after completing their missions in the security zone. (8/21)

(2) (U) ~~(S)~~ The army's main and alternate command posts, some artillery, and portions of the army's reserves are located in the second defense belt.

f. Third Defense Belt (U).

(1) (U) ~~(S)~~ The third defense belt is 8-10 kilometers to the rear of the second defense belt and is approximately 10 kilometers deep. Located in or near this belt are the army's reserve, usually a reinforced regiment from a first echelon division, and the front's second echelon forces, usually consisting of elements of a tank army, reserves available to the front, and possibly a combined arms army, dispersed over a very wide zone. (8/21)

(2) (U) ~~(S)~~ The mission of the third defense belt is the counter-attack. In the event a counter-attack cannot be mounted, they will man prepared defensive positions and attempt to stop the enemy's advance.

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Front counteroffensives are launched from the area of the third defense belt. (8/21)

g. Anti-tank Defense (U).

(u) (S) Anti-tank defense is basic to Soviet defense concepts. Overall anti-tank defense usually is planned and coordinated at army level. However, At planning is considered one of the most important planning responsibilities of commanders at all levels. (8/21)

(u) (S) (1) Divisional and regimental anti-tank defenses are organized throughout the depth of the defense zone, mainly along avenues of approach for tanks. (8/21)

(u) (S) (2) Anti-tank defenses include unit strong points with anti-tank weapons firing positions prepared for occupation by tanks and anti-tank reserves preplanned artillery concentrations and extensive use of anti-tank mines and other obstacles. (8/22)

h. Organization and Conduct of the Anti-tank Defense (U).

(u) (S) (1) Anti-tank weapons are deployed to insure interlocking fire parallel to and in depth from the FEBA. This insures complete coverage in gaps, on flanks, and along the most likely avenues of approach of enemy tanks. The Soviet commander never deploys anti-tank weapons frontally on line. (8/22)

(u) (S) (2) Soviet anti-tank defense plans specifically include: (8/22)

(u) (S) (a) Locating defense positions on terrain unfavorable to tank operations. (8/22)

(u) (S) (b) Attaching anti-tank unit reinforcements to FEBA defensive positions to insure coverage of the most likely armor avenues of approach. (Historically, up to 25 AT guns for every 1,000 meters of front may be used.) (8/22)

(u) (S) (c) Placing extensive minefields on avenues of approach. (8/22)

(u) (S) (d) Destroying enemy armor with nuclear fires while in rear areas and in attack positions. (8/22)

(u) (S) (e) Concentrating artillery fire on attacking tank/infantry formations in order to separate the infantry from the tanks. (8/22)

(u) (S) (f) Commencing fire with anti-tank weapons on enemy tanks as soon as they are within effective range. (8/22)

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(g) (u) ~~(S)~~ The use of artillery, anti-tank weapons, air defense artillery, tanks, and assault guns in direct fire on tanks that have penetrated the defense position. (8/22)

(h) (u) ~~(S)~~ Counter-attacking armored penetrations with tanks. (8/22)

i. Employment of Mines and Obstacles (U).

(1) (u) ~~(S)~~ The Soviet army makes extensive use of high explosive (HE) and chemical mines and obstacles in both the offense and defense. In the offense, mines are used to cover positions held by troops on seizing key positions or to protect flanks. They are primarily used in the defense against tanks and personnel. Anti-tank minefields are laid with a minimum average density of one mine per meter of forward area. Minefields are laid in considerable depth. (8/22)

(2) (u) ~~(S)~~ In the defense, anti-tank minefields normally are placed in belts across likely tank approaches about 400 meters in front of the forward defenses, across approaches to strong points and division artillery areas. Command detonated HE and chemical mines are placed in gaps in standard minefields that are used by friendly units traversing the mine field. Delayed action mines are used in areas where enemy concentrations might take place, such as railroads, destroyed bridges, and probable assembly areas. Antipersonnel, HE, and chemical mines are laid on the approaches to and within antitank minefields. (8/23)

(3) (u) ~~(S)~~ Obstacles other than mines are laid on approaches to and within anti-tank minefields. Civilian resources are utilized to construct improvised obstacles, such as anti-tank ditches, tank traps, and abatis. All obstacles are covered by fire when possible. (8/23)

2. Combined Arms Army in the Defense (U).

a. Security Zone and Main Defense Belt (U).

(1) (u) ~~(S)~~ Units in the security zone normally employ delaying actions, followed by a withdrawal. Security zone forces attempt to make their enemy deploy and prevent enemy reconnaissance units from reaching the main defense belts. Close contact with the enemy is maintained. Tank reserves may be employed to assist in disengaging first echelon units if required. (8/108)

(2) (u) ~~(S)~~ The delaying forces withdraw through the main defense belt to the second defense belt. Stay behind forces are often left in the security zone to execute intelligence and sabotage missions, specifically to locate enemy nuclear delivery means, and to determine enemy attack formations and time of attack. (8/108)

(3) (u) ~~(S)~~ As the enemy approaches the main defense belt, he is subjected to continuous heavy fires from all available means. Reconnaissance

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is intensified. Troops are altered to occupy protective shelters to minimize the effects of nuclear fires. (8/108)

(u) ~~(S)~~ (4) Counterpreparatory fires are readied and fired on order of the army commander. Authority to fire a counterpreparation may be delegated to division commanders. Nuclear fires, if available, are included in the counterpreparation. Preferred targets are enemy units in assembly areas and nuclear delivery systems. (8/108)

(u) ~~(S)~~ (5) If the enemy penetrates the main defense belt, the combined arms army normally launches a counter-attack with the tank division and available elements of the engaged motorized rifle division, supported by nondivisional reserves of tanks and other support weapons. (8/108)

(u) ~~(S)~~ (6) Counter-attacks are directed at the flank and rear of enemy penetrations. Nuclear fires are used on deep penetrations. If necessary, the counter-attack forces pass through radiologically contaminated areas to reach the enemy. (8/108)

(u) ~~(S)~~ (7) Full use is made of the inherent mobility of the motorized rifle troops in their organic infantry combat fighting vehicles. The motorized rifle troops normally will not dismount in the course of the attack unless forced by enemy fires. (8/108)

(u) ~~(S)~~ (8) If the counter-attack fails, forces are withdrawn from the main defense belt to take up prepared positions in the second defense belt. From the third defense belt, the front second echelon forces launch counterattacks to regain the lost territory. All withdrawals are protected by nuclear fires and counter-attacks by elements of the army second echelon. (8/108)

b. Second Defense Belt (U).

(u) ~~(S)~~ (1) The tank divisions, held in assembly areas near probable areas of enemy penetration, counter-attack from the vicinity of the second defense belt to destroy enemy penetrations of the main defense belt. (8/109)

(u) ~~(S)~~ (2) The army reserve, normally located in the third defense belt, may be employed in the second defense belt to block the enemy advance while the tank division counter-attacks. (8/109)

(u) ~~(S)~~ (3) If the combined army army fails to eject the enemy from the main defense belt through failure of the counter-attack, elements of the engaged motorized rifle divisions withdraw from the main defense belt and take up positions in the second defense belt. (8/109)

(u) ~~(S)~~ (4) The forces in the second defense belt then conduct the defense as did those in the main defense belt. (8/109)

(u) ~~(S)~~ (5) Army forces in the second defense belt support the coun-

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terattack or counter-offensive of the front launched from the vicinity of the third defense belt. (8/109)

c. Third Defense Belt (U)

(1) (u) ~~(S)~~ The army reserve is held in assembly areas in or near the third belt; used as a contingency force, it may be used to replace units destroyed by enemy action, to block enemy penetrations, or to counter-attack in either the main or second defense belt. (8/109)

(2) (u) ~~(S)~~ If it appears that the enemy is succeeding in penetrating the second defense belt, the army reserve conducts a counter-attack to block the penetration. (8/109)

(3) (u) ~~(S)~~ In the event the counter-attack fails, the reserve occupies prepared positions in the third defense belt. (8/109)

(4) (u) ~~(S)~~ From the third defense belt, the front second echelon (tank army) launches either a counter-attack or counter-offensive. (8/109)

3. Tank Army in the Defense (U).

a. General (U).

(1) (u) ~~(S)~~ The tank army is designed to neutralize or destroy the enemy's strategic reserves and to seize the front's objective; it is not suited to static defensive operations. Defensive combat by the tank army is avoided, if possible. During defensive operations, the tank army is held in reserve as the front's counter-attack force. (8/113)

(2) (u) ~~(S)~~ Soviet doctrine dictates that the tank army will not be employed to hold an occupied area, to repel an attack of superior enemy force, nor as an attrition force to deplete the offensive strength of an enemy in order to create favorable conditions for transition to a decisive offense. These are the missions of the motorized rifle units. While these are being accomplished, the front augments defensive operations by the employment and maneuver of its tank army in counter-attacks and counter-offensives launched from behind the tactical defense zone. (8/113)

(3) (u) ~~(S)~~ In the defense, the tank army's vulnerability to nuclear destruction is reduced by the dispersion of forces both laterally and in depth, and by executing movements rapidly. (8/113)

b. Organization of the Defense (U)

(1) (u) ~~(S)~~ The tank army defends as a first echelon unit only if a situation demands it, and then only temporarily. In this case, the front commander makes every effort to replace the tank army at the earliest possible time with a combined arms army. The tank army is redeployed either to prepare and execute a counter-offensive or to a sector of offensive action. (8/113)

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(u)
(2) ~~(S)~~ The ultimate objective of the defense in an area of strategic significance is to launch a counter-offensive. The counter-offensive is executed by the front, and tank armies constitute the main striking force. (8/113)

(u)
(3) ~~(S)~~ The front defense (Figure 19) is typically organized into defensive belts and a front counter-attack force. The front counter-attack is normally composed of the tank army located to the rear of the second defense belt in the vicinity of the third defense belt. (8/113)

(u)
(4) ~~(S)~~ The tank army, located in the rear defense area of the army and composing the army's counter-attack force, is the key to the defense of the front zone. The mission of the tank army in this zone is to prevent the enemy from completing a breakthrough of the area. This is accomplished by a series of large-scale counterblows in conjunction with the second echelon combined arms armies. (8/113)

4. Front and Army Retrograde Operations (U).

a. General (U).

(u)
(1) ~~(S)~~ Local withdrawals are normal to an area defense and are employed to reduce vulnerability to nuclear fires, to canalize the enemy, and to regroup defensive forces. The Soviets rarely execute a general withdrawal, preferring to conduct delaying actions. (8/25)

(u)
(2) ~~(S)~~ Three types of defensive operations are employed in retrograde movements. They are the delaying action, the withdrawal, and the retirement. (8/25)

(u)
(3) ~~(S)~~ Disengagements for withdrawal under heavy enemy attack are preceded whenever possible by massed fire support, to include, when possible, nuclear fires. (8/25)

(u)
(4) ~~(S)~~ Reinforced motorized rifle and tank units are assigned to cover the disengagement of the main force. These units remain in the defensive positions of the main force and continue to conduct defensive operations to confuse and deceive the enemy concerning the extent of the main force's disengagement. These same units may subsequently be used to relieve or reinforce rear guard units covering the withdrawal. (8/25)

(u)
(5) ~~(S)~~ Emphasis is placed on reconnaissance in retrograde operations and a major Soviet preoccupation is the fear of enemy flanking and enveloping movements. Consequently, the primary efforts of reconnaissance activities during retrograde operations are directed at ascertaining the enemy's intent and capability to threaten the flanks of the withdrawing forces. Surveillance is also conducted on the deployment of adjacent friendly units and routes of withdrawal to insure continuity of operations. (8/25)

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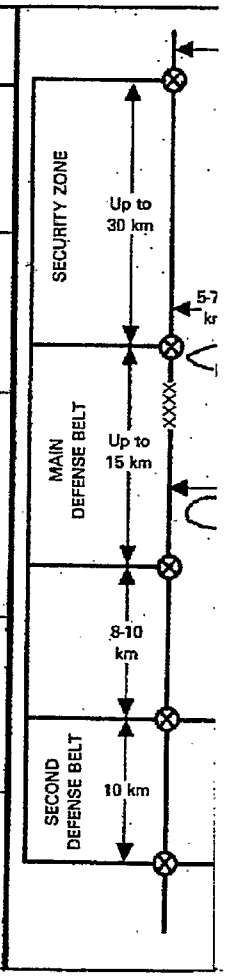
*Indicating usual frontages and typical composition of major elements applicable to nuclear and nonnuclear prepared warfare.

Typical Defensive Organization, Security Zone, and Main Defense Belt

UNIT	FRONTAGE/DEPTH	SECURITY ZONE	MAIN DEFENSE BELT		RESERVE
			1st Echelon	2nd Echelon	
Front	Up to 400 km wide and 400 km deep.	Established and manned, by each CAA in Front 1st ech. Usually 20-30 km deep but may be up to twice as deep if space and troops available.	Two or three CAA.	See Note (1) below.	See Note (1) below.
Combined Arms Army	About 100 km wide and about 100-120 km deep. If width is more than 90 km, 1st ech. is usually greater than 2 MRD.	Delaying pan established and manned by CAA 2nd ech. tank div. and mech. units. Bn covers about 8-12 km along delaying positions.	Two to four MRD.	See Note (2) below.	General Res. may consist of MRR from one of 1st ech. MRD as well as Engr, AT, and Arty res. See Note (2) below.
Motorized Rifle Division	Width up to 45 km.	When not in contact, establish COP as much as 25 km in front of the Main Defense Belt. 2d ech. MRR used for task.	Two MRR (ea. regt.) defends up to 10 km of div. zone. Defense is organized on basis of Bn defense areas).	One MRR which occupies position across rear of div. zone about 4-8 km deep and about 10 km from forward trace of Main Defense Belt; not in assembly area but in Bn defense areas across rear of div. zone.	Medium tank regt. under div. control as div. tank reserve. Elements of regt. (2 or 3 co) may reinforce mech. regt. Tank regt. is usually located between 1st and 2nd echelon regiments.
Motorized Rifle Regiment	Width from 10-15 km.	Establish COP 3-5 km in front of the forward Bns from regimental 2d ech. units. Generally, a MRR disposed along each 15 km of COPL.	Two reinf. MRB which defend forward 4 km of regt. zone. Usually reinf. with medium tank co, mortar platoon, AT gun platoon and ATGM platoon.	One rein. mech. Bn located in rear of regt. zone about 3-5 km deep and from 5-7 km from forward trace of Main Defense Belt. Occupies Bn def area up to 5 km.	MRC and AT 1st from 2d ech. of MRB may be held as regt. res.
Motorized Rifle Battalion	Width varies from 5-7.5 km.	Local security 600-900 meters beyond unit being secured.	Two MRC who establish 1st and 2d defensive lines in Bn zone. 1st def. line along forward trace of def. belt. 2d def. line about 450 meters to rear.	One MRC est. 3d def. line about 900 meters to rear of 2d def. line. 3d supports first two with mortar fire only.	Reinforcing AT platoons.



SOURCE: 8/101

*Figure 19. (U) Schematic Representation of Soviet Large-Scale Defensive Operations**

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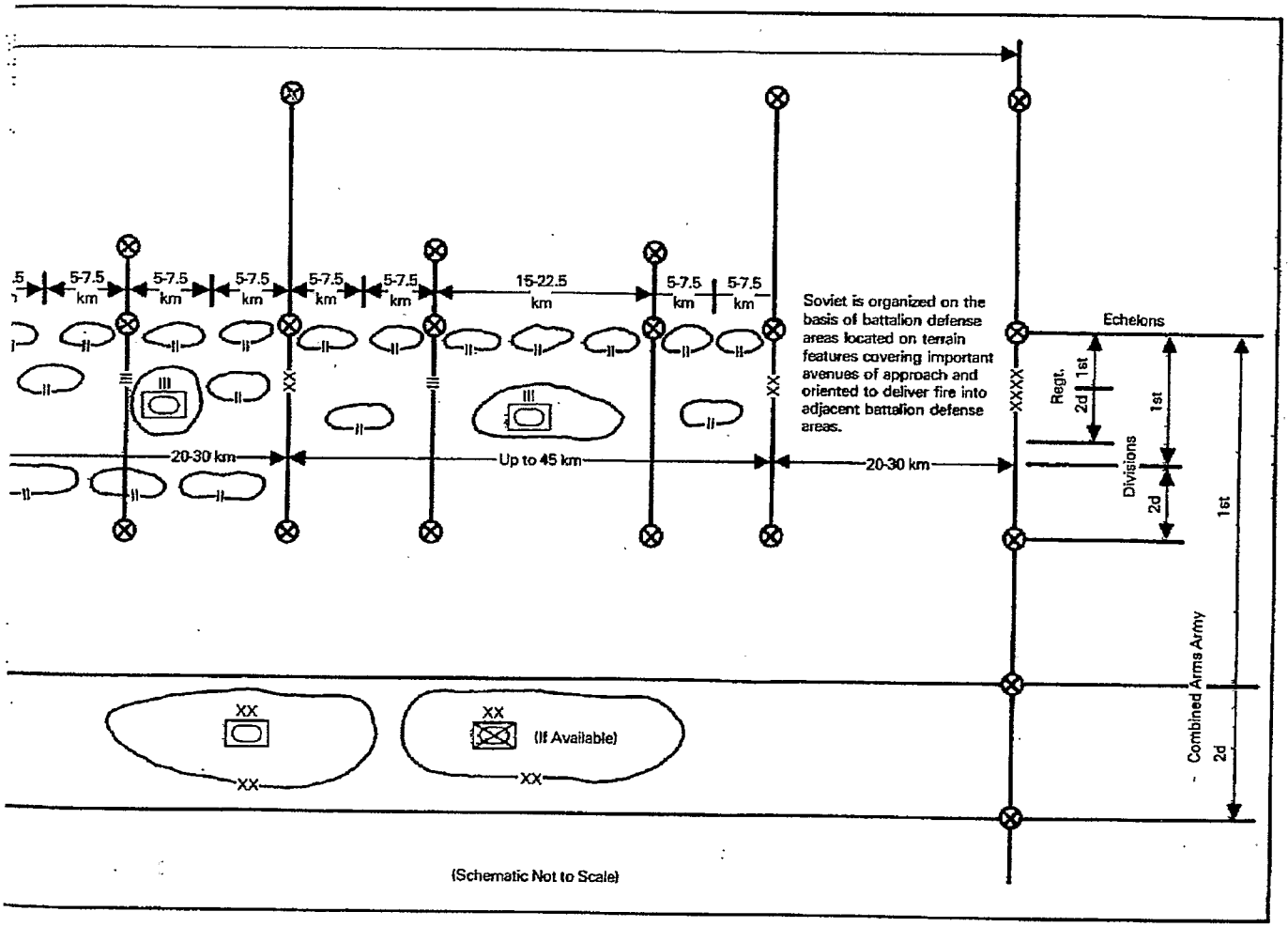

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b. Delaying Action (U).

(1) (u) ~~(S)~~ Delaying actions are employed to trade space for time and to inflict maximum punishment on the enemy without becoming decisively engaged in combat. Ambushes and traps are continuously employed as delaying forces offer sufficient resistance to prevent infiltration and to force the enemy to concentrate for deliberate attacks. (8/25)

(2) (u) ~~(S)~~ Long-range fires, prepositioned nuclear weapons, flame and chemical mines, and obstacles in depth may be used. At times, long range fires may be withheld for deception. (8/25)

(3) (u) ~~(S)~~ First echelon forces, the bulk of available combat power, engage the enemy at long ranges to cause casualties and timeconsuming deployments. As the enemy advances, he is subjected to repeated flank attacks by small mobile units. As the enemy comes within range, the total volume of fire is increased. Every effort is made to inflict maximum casualties, disorganize and force the enemy to reorganize or mass for an assault. (8/26)

(4) (u) ~~(S)~~ Second echelons and tank reserves are employed in counter-attacks or as covering forces to assist in the disengagement of the first echelon forces. Low yield nuclear weapons may assist in this action. (3/26)

(5) (u) ~~(S)~~ When threatened with decisive combat, the delaying force disengages and executes a withdrawal. (8/26)

c. The Withdrawal (U).

(1) (u) ~~(S)~~ The withdrawal is executed when it is necessary to disengage from the enemy. It is ideally conducted in periods of limited visibility. The first units to withdraw are rear service units and front artillery. (8/26)

(2) (u) ~~(S)~~ The general withdrawal is planned in as much detail as possible. Demolition and scorched earth plans are initiated as the withdrawal commences. This action is covered by darkness, smoke, artillery fire, limited tank counter-attacks, and nuclear fires. (8/26)

(3) (u) ~~(S)~~ Rear guards are always utilized to cover withdrawals. These rear guards normally consist of motorized rifle units reinforced by tank and engineer units, thereby forming strong, aggressive, and highly mobile groups capable of independent operations. (8/26)

(4) (u) ~~(S)~~ Rear guard elements hold, in succession, a series of defensive lines and fall back from line to line as the enemy pressure increases on each line, forcing the enemy to deploy, thus delaying him and gaining time for the withdrawing main force. (8/26)

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(u)
(5) ~~(S)~~ Extensive use of flank security forces are made in order to block flanking and envelopment attempts by the enemy. These forces, normally tanks and motorized rifle units reinforced by anti-tank and engineer units, move along the flanks of the withdrawing force to intercept and delay long enough to allow friendly forces to withdraw safely. (8/26)

(u)
(6) ~~(S)~~ All key terrain features along the route of withdrawal are occupied and held by elements of the withdrawing forces until the main body has passed through them and the rear guard has reached them. The rear guard takes over and carries out their mission of delay and destruction. (8/26)

d. Retirement (U).

(u)
(1) ~~(S)~~ After a successful disengagement, the retirement is a defensive operation that enables the friendly force to move away from the enemy without direct pressure. (8/27)

(u)
(2) ~~(S)~~ Retirement consists of a withdrawal followed by a tactical road march. The tactical road march is conducted in the same manner as the advance to contact in the offense, however: (8/27)

(u)
(a) ~~(S)~~ A strong rear guard is employed and generally maintains contact with the enemy. (8/27)

(u)
(b) ~~(S)~~ The ultimate destination of the force is an assembly area or location from which to prepare for a subsquent mission rather than immediately to renew contact with the enemy. (8/27)

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CHAPTER 4

HIGHLIGHTS (U)

(u)
~~(C)~~ The Soviet division is the highest tactical level at which a fixed organization is found. The three basic types of Soviet divisions are the motorized rifle (MRD), tank (TD), and airborne (ABND).

(u)
~~(S/NOFORN)~~ Reorganizations now being under way at the division level will improve the capabilities of divisions to carry out their assigned missions. Major changes in the organizational structure are:

- Airborne Division -- All regiments will soon be fully equipped with BMDs. This will increase the organic firepower and mobility of the airborne units.

- Tank Divisions -- Tank regiments of tank divisions are acquiring an organic artillery battalion and are expanding motorized rifle companies to battalions.

- Motorized Rifle Division -- The tank regiment of the MRD is being equipped with an organic artillery battalion.

- Reconnaissance Battalions in both TDs and MRDs are being equipped with six tanks each.

- TDs and MRDs are receiving organic helicopter detachments.

(u)
~~(S)~~ Divisions are the basic tactical formations of the various service branches (arms). Soviet tank and motorized rifle divisions are highly mobile, heavily armored forces. The current tank division is organized with three tank regiments and one motorized rifle regiment, while the current motorized rifle division is organized with three motorized rifle regiments and one tank regiment. Both tank and motorized rifle divisions have a full complement of support elements, including artillery, air defense, signal, engineer, chemical, reconnaissance, maintenance, motor transport, and medical units. Airborne divisions will consist of three airborne regiments (BMD equipped), providing good antiarmor capability, plus accompanying combat support and service units.

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CHAPTER 4

SOVIET DIVISIONS IN THE YEARS 1990 AND 2000 (U)

SECTION I. DIVISIONS IN THE YEAR 1990 (U)

1. General (U).

a. (U) (S) This section describes projected Soviet line divisions of the year 1990. These projections represent a pattern of organizational development which has been in progress since the late 1960s. They reflect a consolidation of the series of changes which have produced a far greater combined arms balance within the division than was the case ten years ago. Divisions are the basic tactical formation of the various combat arms, consisting of several units and subunits. Soviet tank and motorized rifle divisions are highly mobile armored forces. The tank division is based on three tank regiments (TR) and one motorized rifle regiment (MRR), while the motorized rifle division is based on three motorized rifle regiments and one tank regiment. Tank and motorized rifle divisions have a full complement of support elements, including helicopters, artillery, air defense, signal, engineer, chemical, reconnaissance, maintenance, motor transport, and medical units. Soviet airborne divisions consist of three BMD-equipped airborne regiments, and combat support and service units. They have good antiarmor capability. (34/64)

b. (U) The 1990 TOE projections were based in large measure on the Soviet Ground Forces DIPP. The 1990 TOEs are provided as benchmarks leading to the 2000 TOEs. They are basically consistent with other TOEs spanning this time period; however, there are some minor differences, chiefly concerning weapon models. These arise because the TOEs presented herein apply to the "top twenty" Soviet divisions only, and TOEs applicable to a broader group of divisions necessarily reflect different equipment constraints. For 1990 we have included a single TOE for each type division, representing the "best estimate."

2. Key Considerations (U).

a. (U) (S) During the next decade, further expansion and modernization of Soviet ground forces is expected, epecially adoption of the divisional TOE now being implemented and replacement of older weapons.

b. Divisional Reorganization (U).

(U) (S) In 1980, the Soviets revised divisional TOEs and included concepts which had been developed in experimental divisions in the late 1970s. The upgrading which is underway sets new standards for MRDs and TDs which probably will be in effect through the 1980s. This upgrading probably will be completed before the end of decade. It will affect all tank divisions

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and about three-fourths of the motorized rifle divisions. One of the most significant aspects of this upgrading affects tank regiments of tank divisions, which are acquiring organic artillery battalions and are increasing their motorized rifle companies to battalions. This additional fire support and infantry protection for tank regiments provides them with a combined-arms capability suitable for a variety of missions, and provides them additional protection against enemy antitank means. The following specific changes have been observed or are expected by 1990 at division level:

(1) (u) ~~(S)~~ Inclusion of a composite artillery battalion in tank regiments of both TDs and MRDs, consisting of six 122-mm GRAD-1 multiple rocket launchers (MRL) and twelve 122-mm howitzers;

(2) (u) ~~(S)~~ Expansion of motorized rifle companies to battalions in tank regiments of TDs;

(3) (u) ~~(S)~~ Addition of medium tanks to divisional reconnaissance battalions;

(4) (u) ~~(S)~~ Increase in the number of BMPs in BMP-equipped motorized rifle battalions.

(5) (u) ~~(S)~~ Increase in the number of armored personnel carriers (APC) in BTR-equipped motorized rifle battalions;

(6) (u) ~~(S)~~ The restructured artillery regiment is projected by 1990 to have three 152-mm SP-gun battalions and one MRL battalion;

(7) (u) ~~(S)~~ Addition of a divisional helicopter detachment containing six HOPLITE, eight HIP, and six HIND-type helicopters;

(8) (u) ~~(S)~~ Addition of nine 82-mm automatic mortars to motorized rifle regiments, and two 82-mm light mortars to each motorized rifle company;

(9) (u) ~~(S)~~ Addition of automatic grenade launchers on the basis of two per BTR-equipped and one per BMP-equipped motorized rifle company;

(10) (u) ~~(S/NOFORN/WNINTEL)~~ Addition of six 85-mm anti-tank guns per BTR-equipped motorized rifle battalion;

(11) (u) ~~(S)~~ Addition of six 82-mm light mortars per motorized rifle battalion; and

(12) (u) ~~(S)~~ Introduction of two types of tactical lasers are projected. Four armored vehicle mounted tactical high energy lasers (HEL) with the anti-aircraft artillery (AAA) at regimental level (1 battery per regiment), and a low power laser weapon (LPLWS) on the basis of one per tank battalion and motorized rifle battalion.

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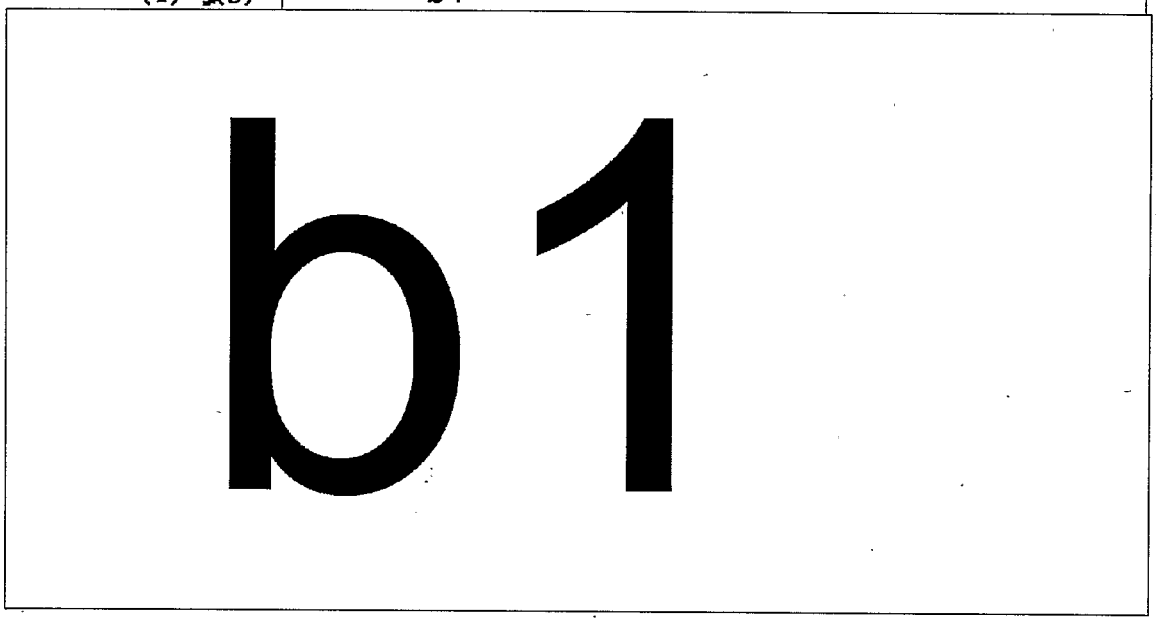
c. Possible Divisional Changes (U).

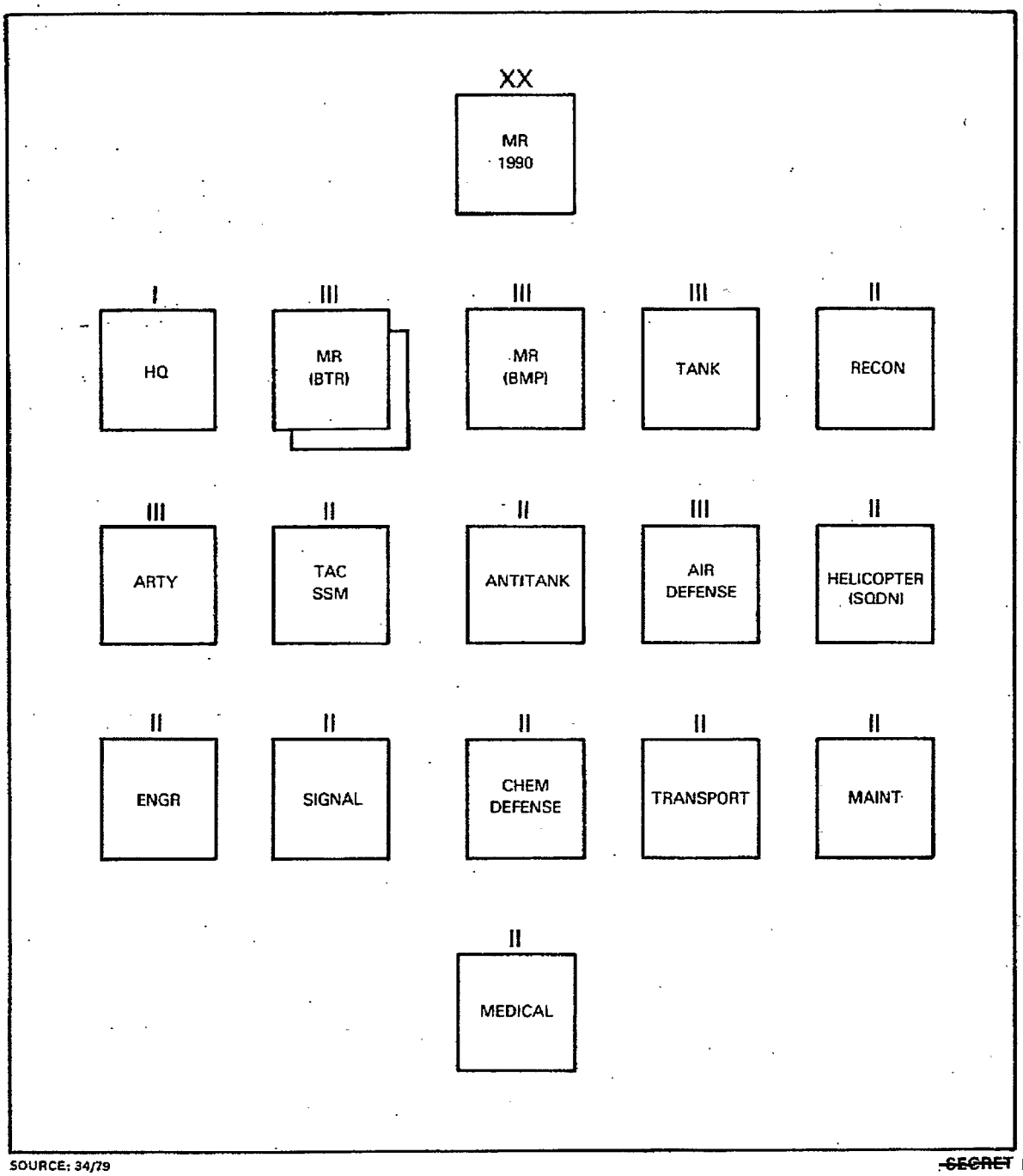
(U)
~~(S)~~ Other divisional changes are possible, but there is insufficient evidence to say that they are probable. They have not been projected.

(1) ~~(S)~~ b1



3. Projected Organizational Tables for MRDs, TDs and ABNDs in the Year 1990 (U).

(U) Tables 1 thru 5 and Figures 20 and 21 depict the projected organizations for Tank, Motorized Rifle and Airborne Divisions in the Year 1990.



SOURCE: 34/79

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Figure 20. (U) Motorized Rifle Division (MRD) 1990 Organization (General)

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Table 1. (U) Motorized Rifle Division (MRD) 1990 Equipment

	ICV MRR	APC MRR (x2)	TANK REGT	ARTY REGT	TAC SSM BN	AT BN	ADEF REGT	HEL SQDN	RECON BN	ALSO IN DIV	TOTAL
INFANTRY COMBAT VEHICLE BMP-3	135		3						15		153
ARMORED PERS CARRIER BTR-70 F/O		288							7	6	301
TANK T-80*	40	80	94						6		220
82MM AUTO MORTAR	9	18									27
TOWED AND SP 120 MORTAR	18 SP	36 T									18/36
LT 82MM MORTAR	18	36									54
SP 122MM HOWITZER M-1974 F/O	18	36	12								66
SP 152MM HOWITZER M-1973 F/O				54							54
GRAD-1/122MM REGIMENTAL MRL			6								6
BM-21 F/O DIVISION MRL				18							18
TOWED OR SP 125 AT GUN						12					12
TOWED 85 AT GUN		36									36
MANPACK ATGM SET AT-4 F/O		36									36
MANPACK ATGM AT-7		54									54
ATGM LAUNCHER VEH AT-5 F/O	9	18				9					36
SS-21 MOD-A OR F/O					4						4
MANPACK SAM SA-14 F/O	30	60	3				21			6	120
SPAA ZSU-X	4	8	4								16
HEL	1	2	1								4
SA-13 TEL	4	8	4								16
SA-11/SA-8 TEL							20				20
AUTOGRENADE LAUNCHER F/O	9	36									45
RPG-16	140	292	18	62					18	72	602
ARM RECON VEHICLE (WHLD) BRDM	4	8	4						4		20
RADIO/RADAR VEHICLE									15		15
LPLWS	4	8	3								15
LT HEL MI-2								6			6
MED HEL MI-8								8			8
ATK HEL MI-24								6			6
PERSONNEL	2376	5220	1150	1279	169	167	490	168	340	2146	13,505

SOURCE: 34/80

~~SECRET~~ (u)

(u)

*~~(S)~~ WE FORECAST THAT REMAINING T-62s IN GOF WILL BE REPLACED BY T-64I BY THE MID-80s. THESE IN TURN WILL BE REPLACED BY THE NEXT SOVIET TANK, WHICH WE HAVE DESIGNATED THE T-80. BY 1990 WE FORECAST THAT THE "TOP 20" SOVIET DIVISIONS COULD BE EQUIPPED WITH T-80s, BUT THAT MANY OTHER DIVISIONS OPPOSITE NATO WOULD STILL HAVE OLDER MODELS.

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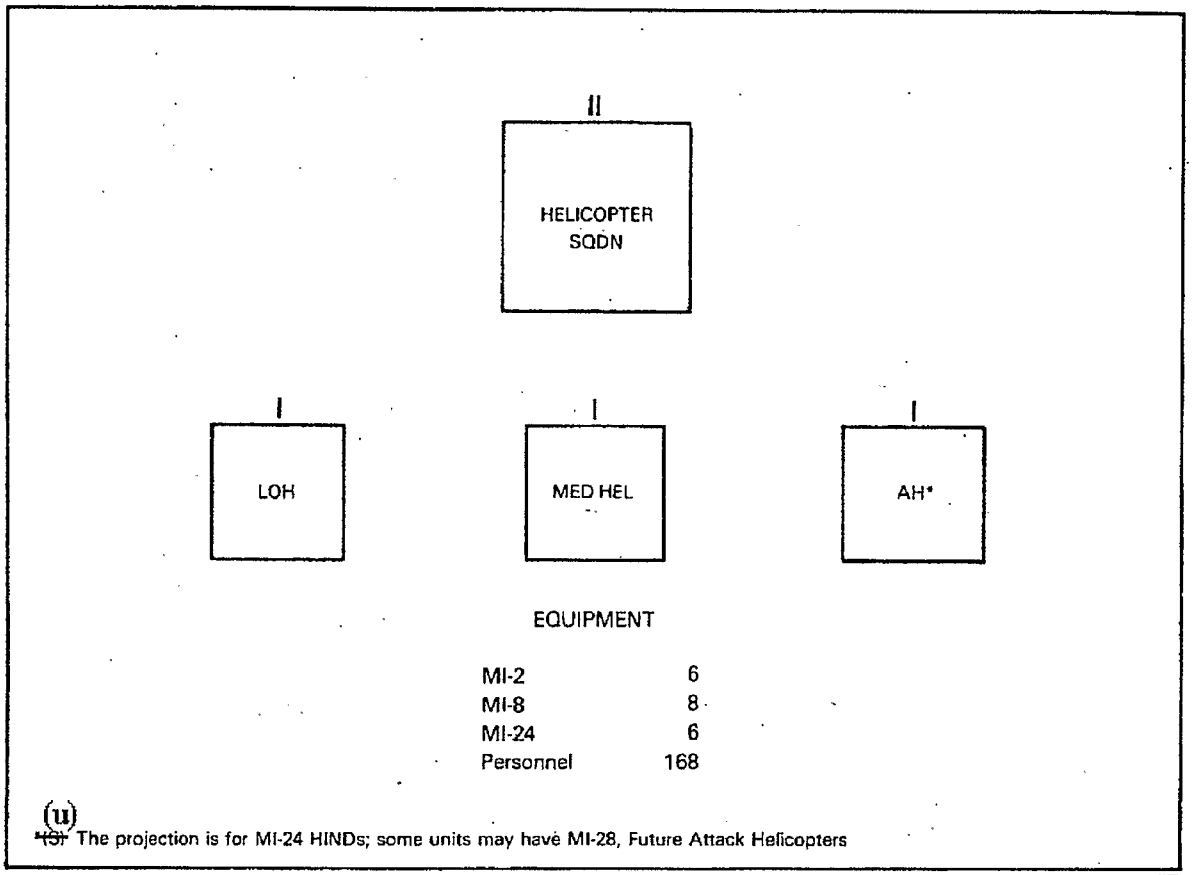
Table 2. (U) Tactical Helicopter Squadron, Motorized Rifle Division 1990



(u)
*~~(S)~~ The projection is for MI-24 HINDs; some units may have MI-28, Future Attack Helicopters

SOURCE: 34/82

~~SECRET~~ (u)

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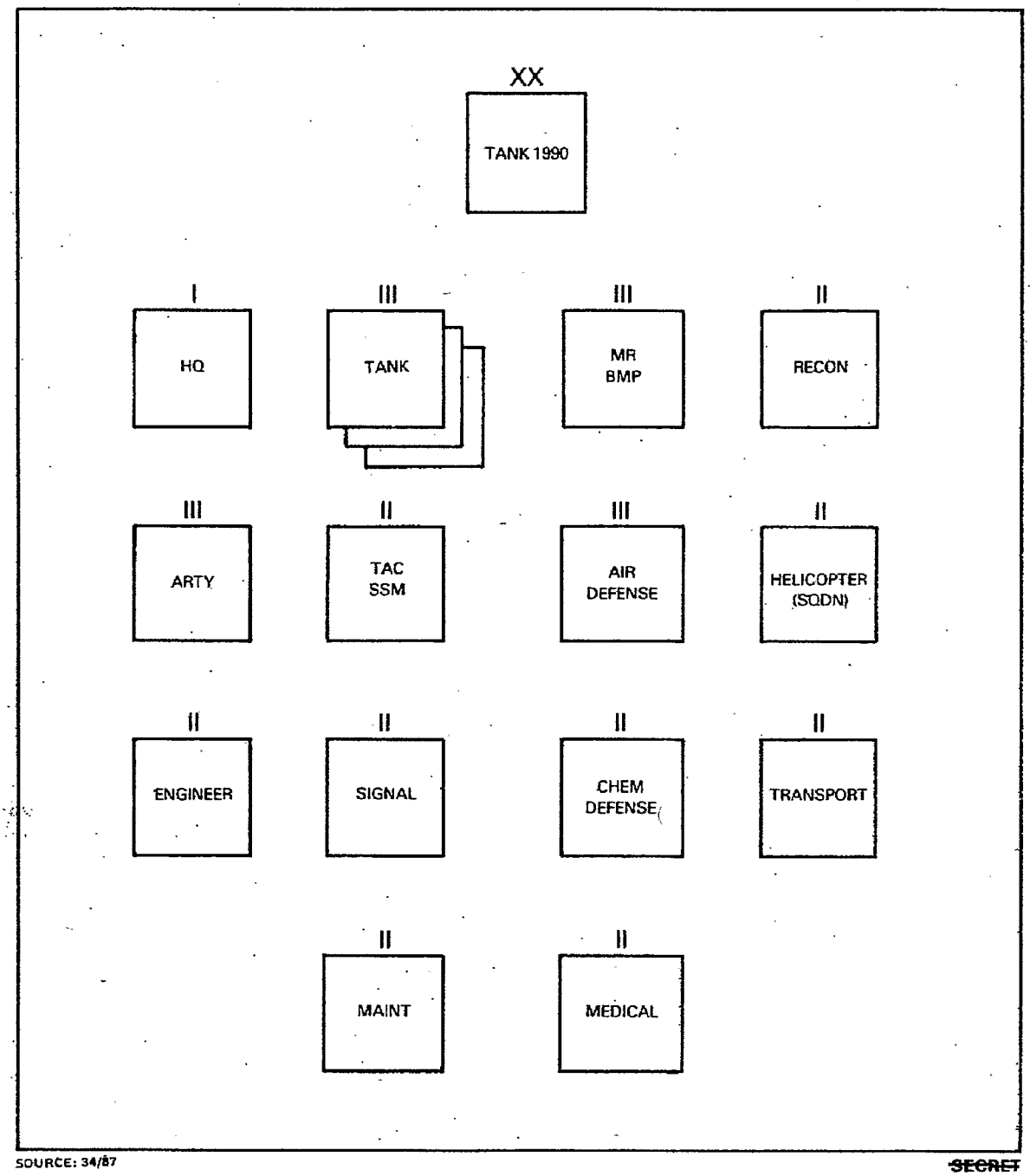

SOURCE: 34/87

~~SECRET~~ (u)

Figure 21. (U) Tank Division (TD) 1990 Organization (General)

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Table 3. (U) Tank Division (TD) 1990 Equipment

	TANK REGT (x3)	ICV MRR	ARTY REGT	TAC SSM BN	ADEF REGT	HEL SQDN	RE-CON BN	ALSO IN DIV	TOTAL
INF COMBAT VEH BMP-3	141	135					15		291
TANK T-80	282	40					6		328
SP 82MM AUTO MORTAR		9							9
SP 120 MORTAR	18	18							36
LT 82MM MORTAR	18	18							36
SP 122MM HOWITZER M-1974 F/O	36	18							54
SP 152MM HOWITZER M-1973 F/O			54						54
GRAD-1/122MM REGIMENTAL MRL	18								18
BM-21 F/O DIVISION MRL			18						18
ATGM LAUNCHER VEHICLE AT-5 F/O		9							9
SS-21 F/O				4					4
MANPACK SAM SA-14 F/O	36	30			21			6	93
SPAA ZSU-X	12	4							16
HEL	3	1							4
SA-13 TEL	12	4							16
SA-8 OR SA-11					20				20
AUTOGRENADE LAUNCHER	9	9							18
LPLWS	12	4							16
RPG-16	153	140					18		311
BTR-70 F/O							7	4	11
LT HEL MI-2						6			6
MED HEL MI-8						8			8
ATK HEL						6			6
RADIO/RADAR VEHICLES							15		15
ARM RECON/VEH (WHEELED) BRDM	12	4					4		20
PERSONNEL	4851	2376	1279	169	490	168	340	2146	11,819

SOURCE: 34/88

~~SECRET~~ (u)

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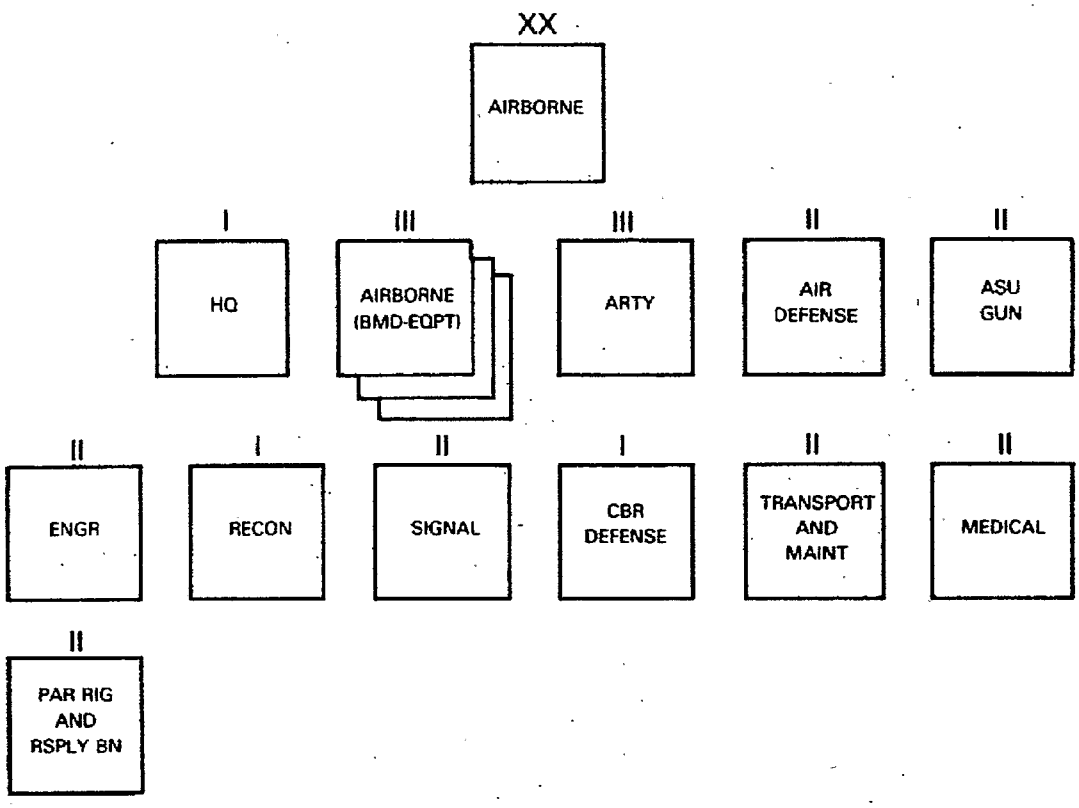
Table 4. (U) Airborne Division 1990 Organization and Equipment



	ABN REGT (x3)	ARTY REGT	ADEF BN	ASU GUN BN	RECON CO	ALSO IN DIV	TOTAL
AIRBORNE AMPHIB CMD VEH BMD SERIES	57					4	61
AIRBORNE AMPHIB COMBAT VEHICLE BMD	270				8		278
AIRBORNE ASSAULT GUN (100-125MM)				40			40
120MM MORTAR (NEW, TOWED)	18						18
122MM HOWITZER D-30		30					30
ATGM AT-7	81						81
122MM MRL (TRUCK MOUNTED)		6					6
ATGL, RPG-16 F/O	333	40		2	9	25	409
VEH ATGM AT-5 F/O	27						27
ZSU-X (ABN VERSION)	18		18				36
MP SAM SA-14 F/O	117	21	12	12	6	24	192
LPLWS	9						9
AUTO GREN LCHR AGS-17	27						27
ARMD CMD VEH BRDM SERIES	12						12
PERSONNEL	4413	621	120	216	75	1119	6564

SOURCE: 34/100

~~SECRET~~ (u)

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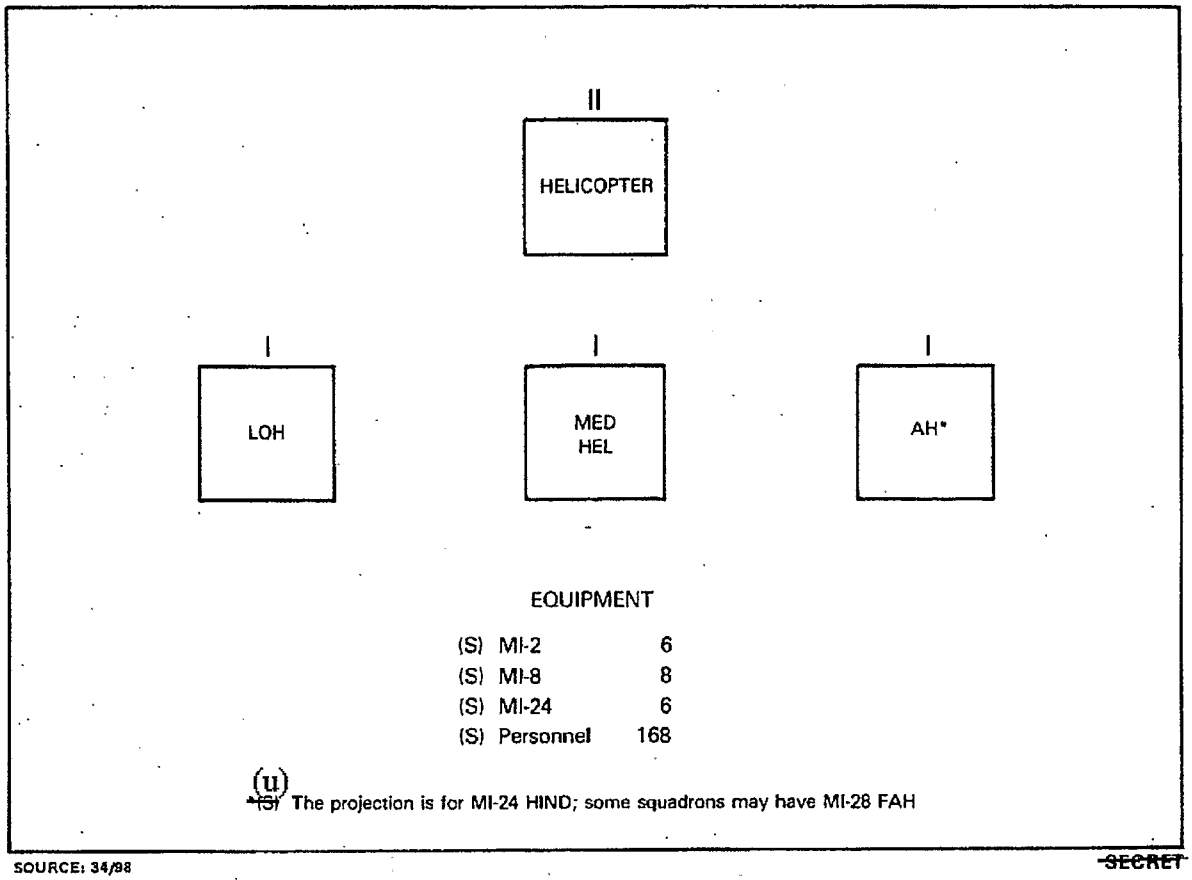
Table 5. (U) Tactical Helicopter Squadron, Tank Division 1990



SOURCE: 34/98

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SECTION II. SOVIET "CONTINUATION DIVISIONS" IN THE YEAR 2000 (U)

1. General (U).

(U) This section provides the division organizational structure projections for the year 2000. It is important to bear in mind that all these TOE projections represent the best twenty divisions in the year 2000; i.e., 10 tank and 10 motorized rifle. A best, high, and alternative division structure will be presented.

2. Organizational Issues for the Future (U).

a. (U) It is believed that the Soviet political and military perceptions to the year 2000 will result in both change and continuity in Soviet division organizational structures.

(1) (U) The NATO threat will continue to require the most advanced Soviet capabilities, and hence will pace Soviet force development.

(2) (U) Decisive offensive warfare conducted at a high intensity to maximal depth will continue to be the preferred means to defeat NATO.

(3) (U) War may be nuclear or nonnuclear, requiring the capability to fight in either environment.

(4) (U) Conventional war will be preferred, and the best way to deter use of nuclear weapons by NATO will be to possess demonstrable battlefield nuclear superiority at all levels of conflict.

(5) (U) The trend of continual major increases in battlefield lethality, which has characterized the past twenty years, will also characterize the next twenty.

(6) (U) The tank will remain central to division structures for its superior firepower, shock action and survivability.

(7) (U) Combined arms integration of complementary combat capabilities (tank, motorized rifle, artillery, air, air assault, engineer, etc.) will continue to be a prime force development watchword.

(8) (U) The three primary maneuver division types — tank, motorized rifle, and airborne — will continue to be required, because each is optimized for distinct roles on the battlefield.

(9) (U) The maneuver regiment will remain the focus of structural combined arms integration for several practical reasons, including its compatibility with norms for mission depths and sector widths, peacetime training requirements, capabilities of commanders, flexibility in combat applica-

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tion, and precedent of long standing.

(10) (U) Accomplishing primary offensive missions will require a synergism of several distinct capabilities: to penetrate a sophisticated NATO defense; to rapidly exploit the penetration into the depths of the defense; to simultaneously suppress NATO firepower and maneuver capabilities throughout the defensive sector; and to isolate the sector from outside reinforcement. These capabilities, which are to be found in part within maneuver divisions and in part elsewhere, are together intended to cause a general collapse of the defense.

b. (U) These perceptions lend themselves to restatement and elaboration as requirements. Essentially they help guide the requirements generation process. Fulfilling the requirements may be accomplished through various combinations of measures. These may include qualitative improvements and quantitative increases. They may be structural, operational (e.g., a change in tactics) or both. The method used to develop the TOEs contained herein uses, as its start point, existing intelligence community projections, which in general extend twenty years for individual weapon and equipment systems, and ten years for organizational matters. Rationale for judgments on the year 2000 TOEs precede the organizational charts. (34/71-74)

3. Soviet Divisions in the Year 2000 (U).

a. (U) It is believed that the basic overall organizational structure for divisions in the year 2000 will not be radically different from that of 1990. The most significant projected organizational change is projected in the "high" estimate for the Motorized Rifle Division, which will be depicted as having:

(1) (u) ~~(S)~~ Three BMP equipped MRRs;

(2) (u) ~~(S)~~ One Independent Tank Battalion (ITB); and

(3) (u) ~~(S)~~ One Tank Regiment with an organic MRB (BMP)

b. (u) ~~(S)~~ The "best" estimates for the MRD will continue to have a mix of two BTR regiments and one BMP regiment. It must be reemphasized that the MRDs being projected represent only the ten best MRDs in the Soviet Army, and will be located primarily in the Groups of Soviet Forces opposing NATO. TDs and MRDs projected in this study for the year 2000 will be referred to as "Continuation Divisions" based on the logic that they continue to reflect the basic present day mix of regimental maneuver units; i.e., 3 TRs, 1 MRR, 3 MRRs, 1 TR.

c. (U) In deciding the organization of the "high" estimate MRD, the following points were considered:

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(1) (u) ~~(S)~~ The decision to project three BMP-equipped MRRs in the high estimate MRD was based principally on the following rationale:

(a) (u) ~~(S)~~ The BMP is an infantry fighting vehicle which surpasses the capability of the BTR armored personnel carrier to support Soviet offensive operations as envisioned in the Western TVD.

(b) (u) ~~(S)~~ The BTR is considered preferable for conducting dismounted attacks against stubborn resistance for fighting in built-up areas. However, while it is acknowledged that the troop capacity of the BTR exceeds that of the BMP, there do not appear to be any other significant tactical advantages which would indicate its superiority over the BMP during an actual combat engagement. Specifically, the following points outline the pertinent tactical advantages of the BMP:

1 (u) ~~(S)~~ Troops dismounting from BMPs to conduct dismounted infantry operations (whether in built-up areas or the countryside) will have an advantage over those dismounting from a BTR. Significantly, the BMP with its superior firepower (73-mm gun or 30-mm automatic cannon, ATGM and 7.62-mm machine gun) will be able to provide a significant supporting base of fire for the attacking dismounted infantry.

2 (u) ~~(S)~~ The superior off-road movement capability of the tracked BMP will enable it to follow dismounted attacking infantry and provide continuous fire support. Moreover, the ability of the BMP to follow the infantry will result in reduced exposure time for the infantry as they attempt to rendezvous with their vehicle at the completion of their dismounted attack.

(c) (u) ~~(S)~~ The tank will continue to be the centerpiece of the Soviet offensive, and will have to rely increasingly on combined arms support. Moreover, the development of an "armored force" concept is a distinct possibility. BMPs are better suited overall to support tank forces in high speed offensive operations.

(2) (u) ~~(S)~~ The projection of an ITB in the MRD seemed logical because at the present time all but three MRDs in the Groups of Soviet Forces have ITBs. This policy is not expected to change.

(3) (u) ~~(S)~~ The projection of a MRB (BMP) in the TR of the MRD appears to be a logical continuation of the combined arms integration at regimental level.

d. (u) ~~(S)~~ In deciding the organization of the "best" estimate MRD, the following points were considered:

(1) (u) ~~(S)~~ The MRD would have two BTR MRRs, one BMP MRR and one tank regiment. The possibility that a second BMP regiment could replace

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one of the BTR regiments in the MRD was considered. However, this seemed to be so unlikely as to not warrant including it. The rationale was that the BMP was developed for fast-moving warfare in which few dismounted attacks were expected. The BTR is preferable for dismounted attacks, which would normally involve at least two regiments in the first echelon. It is believed somewhat more likely, although still not forecast, that some motorized rifle divisions would be configured with three BMP regiments. It is conceivable that selected MRDs of tank armies could be organized with three BMP regiments if, for example, they were intended for use in a operational maneuver group (OMG) type role.

(2) (u) ~~(S)~~ ITBs should be considered as exceptions, which will be found only in selected units. Their presence in MRDs in Central Europe should, of course, not be overlooked.

(3) (u) ~~(S)~~ It is possible, although not likely, that MR battalions will be added to tank regiments of MRDs. Had the Soviets intended to make this change they could have done so in the late 1970s when MR battalions were added to tank regiments of tank divisions. The practice of forming a combined arms reserve in MRDs, which can operate with the tank regiment when required, may obviate the need for a motorized rifle battalion in these tank regiments.

f. (u) ~~(S)~~ It was also determined that the Soviets would favor qualitative over quantitative improvements within divisions. System specific projections documents indicate that, in most system areas, significant qualitative improvements are expected during the 1990-2000 period, thus enabling a conservative approach to quantitative organizational changes.

g. (u) ~~(S)~~ Also guiding this determination was a belief that the Soviets will be reluctant to sharply increase the size of division structures for fear of making them unwieldy. Where necessary, the Soviets can strengthen capabilities at echelons above division and make them available to divisions when required for certain operational phases, such as penetrating a strong, deliberate defense.

h. (u) ~~(U)~~ Finally, an attempt was made in the year-2000 projections to identify areas of significant uncertainty. Our vehicles for this were two: the inclusion of a best, high, and alternative estimate range, and narrative caveats contained in the text below. (34/74-79)

4. Tank Division and Motorized Rifle Division 2000 (U).

a. Armored Vehicles (U).

(1) Tanks (U).

(u) ~~(S)~~ The best estimate is that tank totals will show a modest increase of 16 in both divisions to 236 in the MRD and 344 in the TD.

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This reflects an increase of tanks in the division reconnaissance battalion of the TD and MRD to a company of ten and the addition of a platoon of three tanks to each regimental reconnaissance company. These increases would extend the recent decision to add tanks to the reconnaissance battalion, thus better enabling all reconnaissance elements to operate in an environment of strong NATO forward elements. The only potential further increase which can be envisioned would result from increasing the number of tanks in tank battalions of tank regiments from 31 to 40, as was done for those in motorized rifle regiments. It is doubtful that this will occur because the former increase facilitated the infantry support requirement of MRRs, not the exploitation role of tank regiments. It is believed that the present battalion of 31 tanks offers command and control advantages for high speed operations, which the Soviets would be reluctant to give up. Nevertheless, it is postulated in the high estimate that all tank battalions (except the ITB with 41 TKs) would be increased to 40 tanks, plus the aforementioned increase to reconnaissance units.

(2) Infantry Fighting Vehicles (U).

~~(S)~~ (U) The best estimate is that the 1990 total of 144 BMP's per BMP-equipped MRR will be retained. This assumes that the total includes 2 automatic grenade launchers (AGL) per company (requiring 1 BMP), and 2 light 82-mm mortars per company (requiring 2 BMP) for weapons, crew, and ammunition. BMP follow-on vehicles of this period may mount improved antitank missiles configured for internal reload. The 73-mm main gun will probably be replaced by an improved automatic cannon with primary role of destroying light armored vehicles and a secondary anti-helicopter role. The smaller squad which can be carried on the 30-mm cannon BMP variant may result in its use with BMP regiments of tank divisions where primarily mounted combat is anticipated. In this case, BMPs armed with the 73-mm system might remain in MRDs.

(3) Armored Personnel Carriers in Motorized Rifle Division (U).

~~(S)~~ (U) The best estimate total of 312 reflects the addition of 2 BTR's per maneuver company to carry the light 82-mm mortars with crew and ammunition. No attempt was made to include totals for the few remaining BTR's now found elsewhere in the division.

b. Artillery (U).

~~(S)~~ (U) Division artillery regiments are projected to standardize with three battalions of 152-mm SP howitzers and one battalion of MRLs, as projected for 1990. The high estimate reflects a change from six to eight tube batteries in the artillery regiment. This is believed unlikely to occur, although it is likely that front and army level artillery will convert to 8-gun battery, 24-gun battalions. The best estimate reflects the belief that it is far more likely that perceived requirements for more divisional and regimental firepower in the year 2000 will be met by

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automated fire control procedures, improved munitions, faster rates of fire, use of attack helicopters, and greater artillery reinforcement from echelons above division. The division's MRL battalion retains 18 tubes, except in the high estimate where it is increased to 24. The 1990 mix of 122-mm howitzers and MRLs found at maneuver regiment levels have not changed. It is believed that the recent TOE modifications, which have resulted in the present mix, will be viewed by the Soviets as meeting their requirements for the modern, ATGM-intense conventional battlefield, and expect that further enhancements at this level will be qualitative. The best estimate projects the same quantity and placement of mortar systems as 1990: two 82-mm light mortars per MR company; six 120-mm SP mortars per MR battalion; and nine 82-mm automatic mortars per MR regiment. Placing the automatic mortars at regimental level gives the regimental commander flexibility to focus that firepower as required, whether for special missions, such as smoke, or to lay down a base of fire against a heavy ATGM defense. The projected systems are all postulated to be self-propelled, although towed versions of each also are expected.

c. Anti-tank (U).

~~(S)~~ (u) It is anticipated that the Soviets will retain anti-tank gun systems along with ATGMs. The dual capability increases enemy problems in developing armor protection. The 1990-projected mixed ATGM/gun anti-tank battalion (125-mm SP) at division level and antitank batteries (85-mm towed) in BTR motorized rifle battalions are expected to be retained. The number of 125-mm guns in the divisional AT battalions will not vary, while an increase in the complement of ATGM launcher vehicles in those units from 9 to 18 appears in the high estimate only. The best estimate is a six gun battery of 85-mm anti-tank guns in BTR MR battalions only. The high estimate adds a 6-gun battery to BMP battalions, although it is thought more likely that advanced ATGM systems on BMPs, with multiple missiles configured for internal release, would perform the anti-armor role for these units. Elsewhere in the division, vehicle mounted and manpack ATGM systems within MRRs have been retained in their present numbers, except for an increase in the high estimate. It is projected that the replacement for the anti-tank grenade launcher of the 1980s will be a light squad ATGM of greater range and lethality.

d. Air Defense (U).

~~(S)~~ (u) We have not varied the quantities of SAM launchers or air defense guns in the divisions. An air defense regiment consisting of either 20 SA-8 follow-on (F/O) or 20 SA-11 F/O TELARs has been projected throughout. A high energy laser with primary air defense role is projected to complement the regimental air defense systems.

e. Surface to Surface Missiles (U).

~~(S)~~ (u) It is projected (60 percent confidence) that a transition from

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a four-to a six-missile short range ballistic missile battalion will occur. This projection is based on limited information.

f. Helicopters (U).

(u)
~~(S)~~ The 1990 projection includes a squadron of helicopters (6 LOH, 8 medium combat support and 6 attack) in the divisions. The 2000 best estimate increases the number of LOH and attack helicopters to 12 each. Attack helicopter functions may be accomplished by MI-24 F/O, MI-28 or a mix of the two. It is envisioned that attack helicopters would be used primarily for close air support and flank protection missions. The increase in LOHs presumes an expansion in their missions beyond the current liaison role. It is believed that air assault requirements beyond the division capability will most likely be met by higher echelon independent transport helicopter regiments, although greater numbers of medium combat support helicopters at division level are possible.

g. Reconnaissance (U).

(u)
~~(S)~~ In addition to changes covered in the paragraph on tanks, a shift from wheeled to tracked armored reconnaissance vehicles is expected at division and maneuver regiment level. The best estimate is that 45 tracked BMP-reconnaissance follow-on vehicles will be found in the TD and MRD (i.e., 21 in the reconnaissance battalion and 6 in the TR's and MRR's reconnaissance company). It is believed that the division reconnaissance battalion will contain an organic chemical reconnaissance capability, rather than rely on attachment of assets from the division chemical defense battalion. This element is projected to be of platoon size with four tracked chemical reconnaissance vehicles for off road mobility, instead of a wheeled follow-on to the BRDMrkh. While it is not believed that helicopters will be organic to the division reconnaissance battalion, it is projected that a flight of three-to-four light observation helicopters, assigned to the division helicopter unit, will operate in support of division reconnaissance activities.

h. Motorized Rifle and Tank Division 2000 Organizations (U).

(U) Tables 6 thru 13 and Figures 22 and 25 depict projected Motorized Rifle and Tank Division 2000 organizations. (Both a "Best" and "High Estimate" are provided for the year 2000. (34/124-193)

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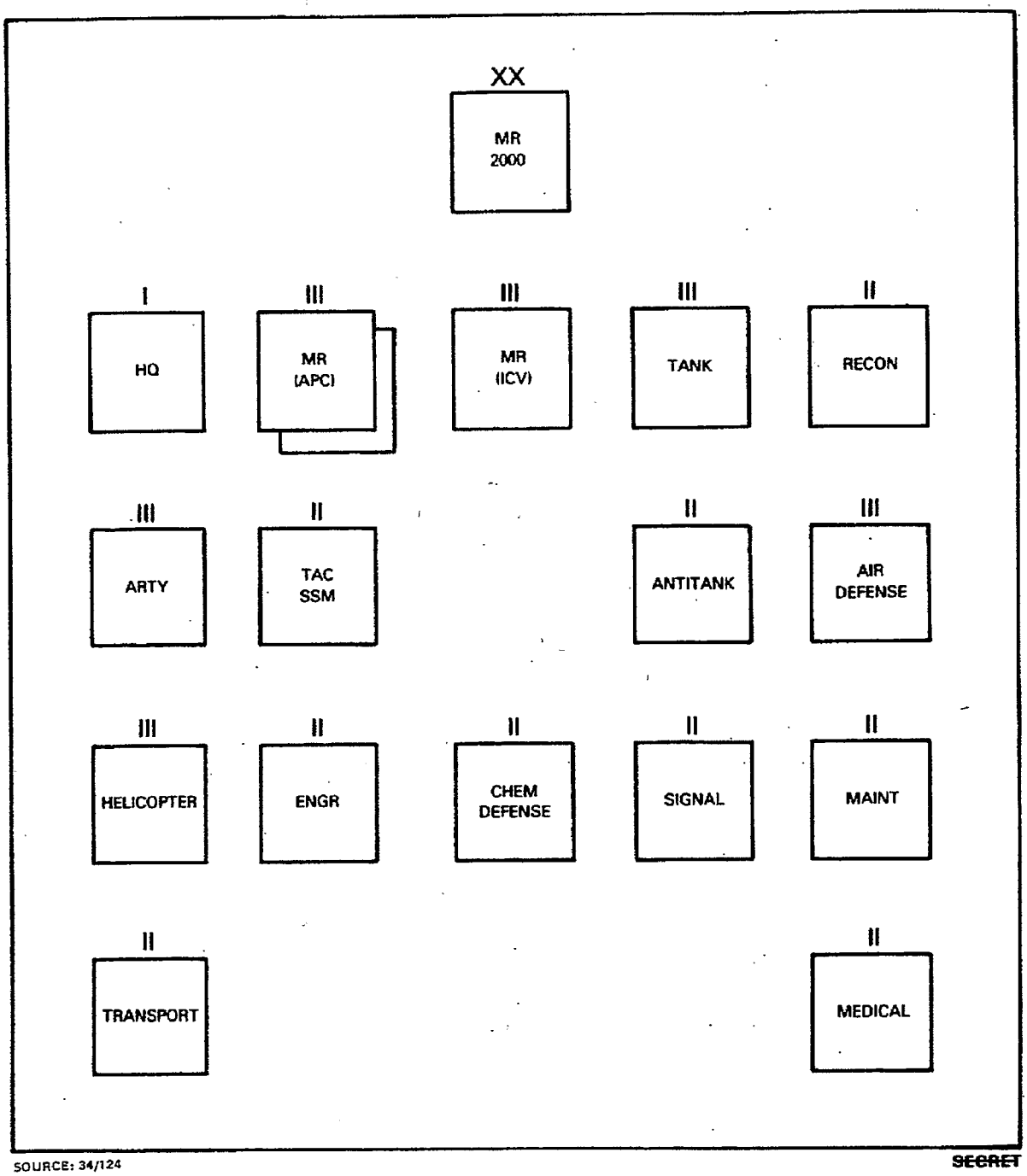

SOURCE: 34/124

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Figure 22. (U) Motorized Rifle Division (Continuation) 2000 Best Estimate Organization

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Table 6. (U) Motorized Rifle Division (Continuation) 2000 Best Estimate Equipment

	ICV MRR	APC MRR (x2)	TK REGT	ARTY REGT	TAC SSM BN	AT BN	ADEF REGT	HELO REGT	RECON BN	ALSO IN DIV	TOTAL
TANK, T-80 F/O	43	86	97						10		236
INFANTRY COMBAT VEHICLE BMP-X	144	12	6						21		183
ARMORED PERS CARRIER BTR-X		312									312
AUTO GRENADE LAUNCHER F/O	18	36									54
SP 82MM AUTO MORT (IMPROVED)	9	18									27
LT 82MM MORTAR	18	36									54
SP 120MM MORTAR	18	36									54
SP HOWITZER-X (122MM OR +)	18	36	12								66
SP 152MM HOWITZER				54							54
GRAD-1 F/O 122MM REGT MRL			6								6
BM-X DIVISION MRL				18							18
SQUAD ATGM	140	292	18	62					18	59	589
MP ATGM AT-X		36									36
VEH ATGM AT-Y	9	18				9					36
TOWED 85MM AT GUN		36									36
SP 125MM F/O AT GUN						12					12
SS-X TACTICAL MISSILE					6						6
MP SAM SA-14 F/O	30	60	3				21		10	6	130
ZSU-X F/O SPAA	4	8	4								16
SA-13 F/O SAM TELAR	4	8	4								16
SA-8 OR SA-11 F/O SAM TELAR							20				20
LPLWS	12	24	9								45
HEL (CCG/ADS)	3	6	3								12
LT OBSER HELICOPTER								12			12
MED CBT SPT HELICOPTER								8			8
FUTURE ATTACK HELICOPTER								12			12
PERSONNEL	2445	5268	1179	1259	208	167	490	294	372	2146	13,828

SOURCE: 34/125

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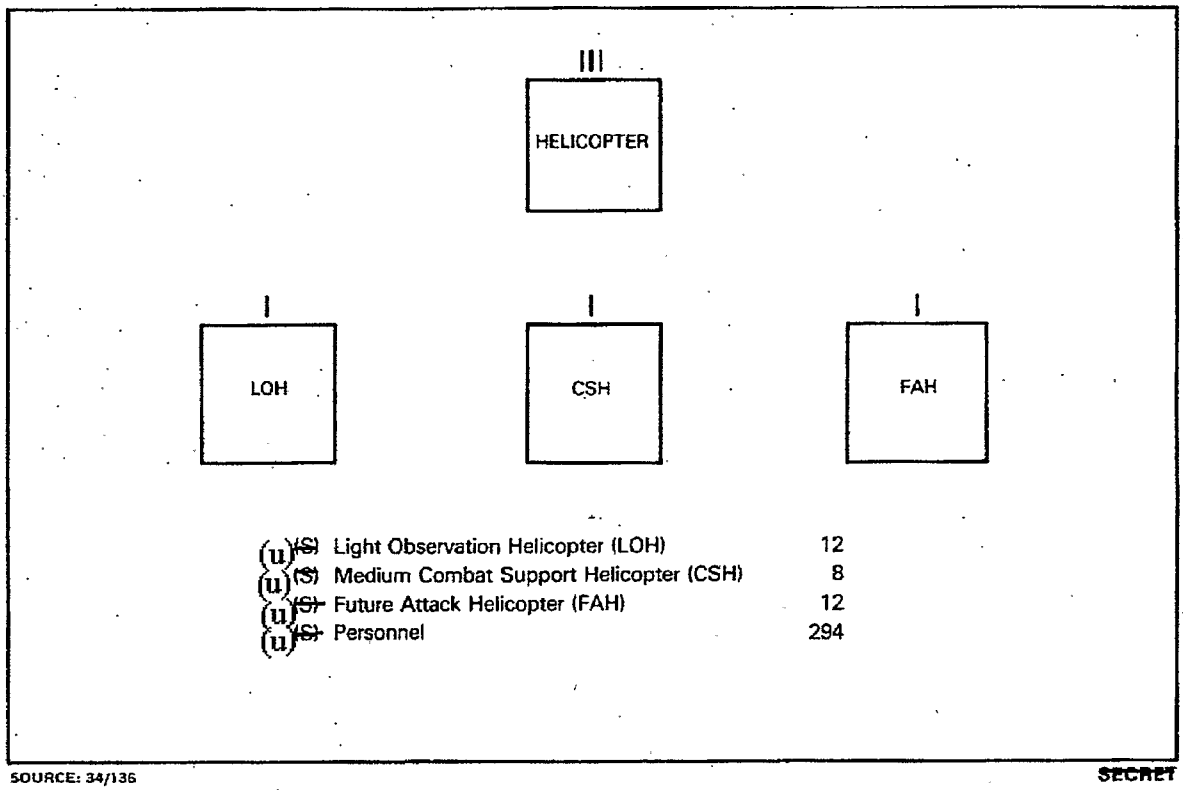
Table 7. (U) Tactical Helicopter Regiment, Motorized Rifle Division (Continuation) 2000 Best Estimate



(u) ~~(S)~~	Light Observation Helicopter (LOH)	12
(u) ~~(S)~~	Medium Combat Support Helicopter (CSH)	8
(u) ~~(S)~~	Future Attack Helicopter (FAH)	12
(u) ~~(S)~~	Personnel	294

SOURCE: 34/136

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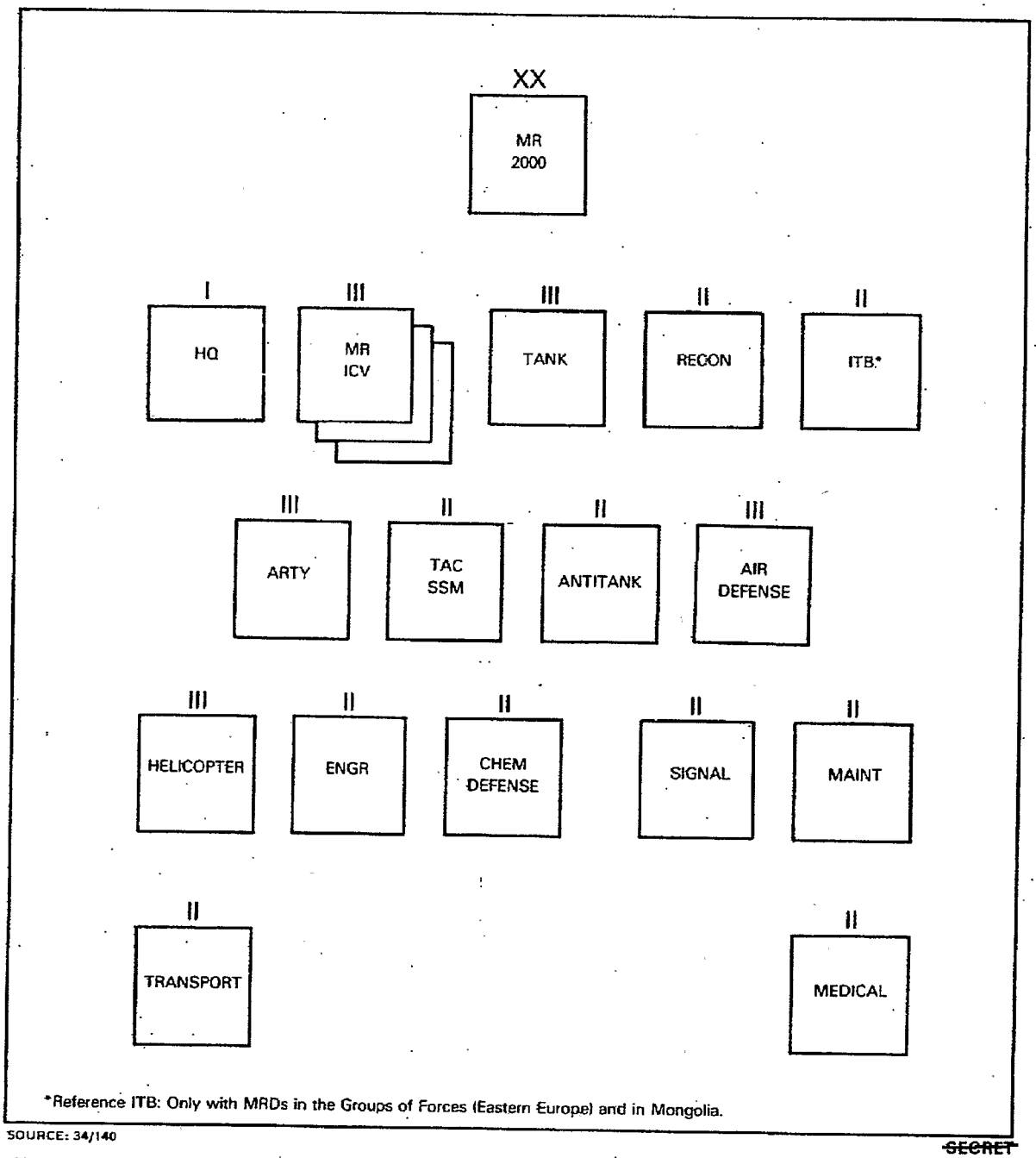

SOURCE: 34/140

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Figure 23. (U) Motorized Rifle Division (Continuation) 2000 High Estimate Organization

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Table 8. (U) Motorized Rifle Division (Continuation) 2000 High Estimate Equipment

	ICV MRR (x3)	IND TK BN*	TK REGT	ARTY REGT	TAC SSM BN	AT BN	ADEF REGT	HELO REGT	RECON BN	ALSO IN DIV	TOTAL
TANK, T-80 F/O	129	41	124						10		304
INF COMBAT VEH BMP-X	486		56						21		563
AUTO GREN LAUNCHER F/O	54		6								60
SP 82MM AUTO MORT (IMPROVED)	36										36
82MM LT MORTAR	54		6								60
SP 120MM MORTAR	54		6								60
SP HOWITZER-X (122MM OR +)	54		18								72
SP 152MM HOWITZER				72							72
GRAD-1 F/O 122MM REGT MRL	18		6								24
BM-X DIVISION MRL				24							24
SQUAD ATGM	420	2	33	62					21	59	597
VEH ATGM AT-X	27					18					45
TOWED 85MM AT GUN	54		6								60
SP 125MM F/O AT GUN						12					12
SS-X TACTICAL MISSILE					6						6
MP SAM SA-14 F/O	90	1	12				21		10	6	140
ZSU-X F/O SPAA	12		4								16
SA-13 F/O SAM TELAR	12		4								16
SA-11 OR SA-8 F/O SAM TELAR							20				20
LPLWS	36	4	12								52
HEL (CCG/ADS)	12		4								16
LT OBSER HELICOPTER								16			16
MED CBT SPT HELICOPTER								8			8
FUTURE ATK HELICOPTER								16			16
PERSONNEL	7923	194	1851	1405	208	196	490	368	372	2146	15,153

SOURCE: 34/141

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(u)
*~~(S)~~ REFERENCE ITB: ONLY WITH MRDs IN THE GROUPS OF FORCES (EASTERN EUROPE) AND IN MONGOLIA.

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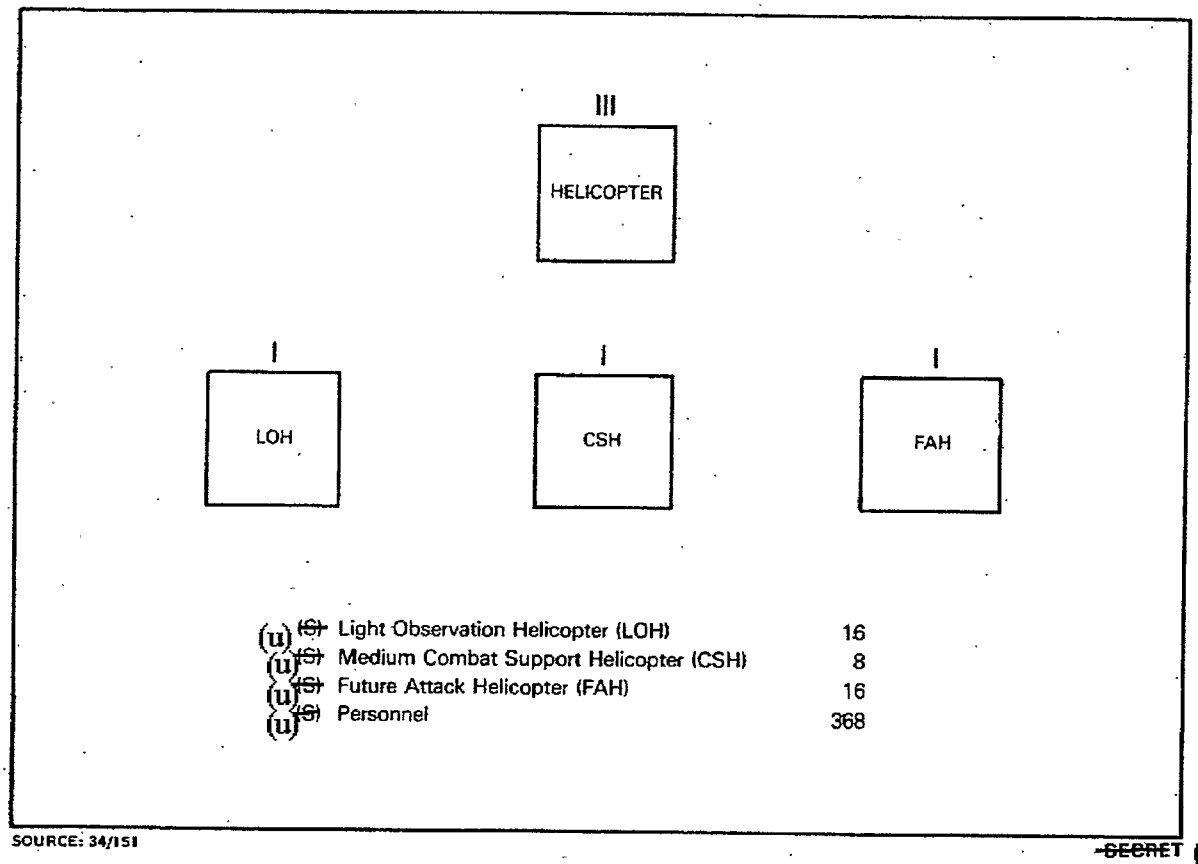
Table 9. (U) Tactical Helicopter Regiment, Motorized Rifle Division (Continuation) 2000 High Estimate



(u) (~~S~~)	Light Observation Helicopter (LOH)	16
(u) (~~S~~)	Medium Combat Support Helicopter (CSH)	8
(u) (~~S~~)	Future Attack Helicopter (FAH)	16
(u) (~~S~~)	Personnel	368

SOURCE: 34/151

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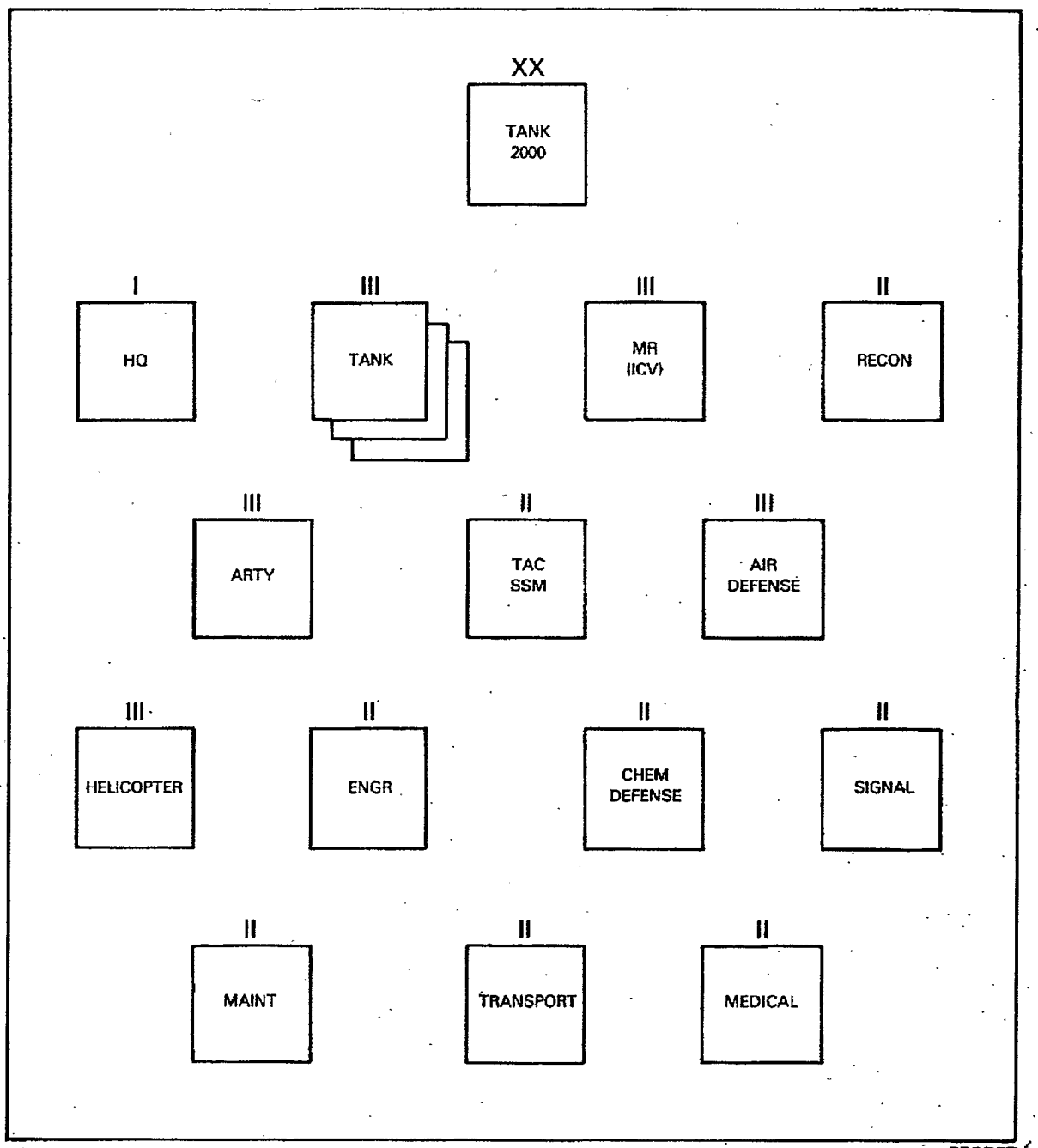

SOURCE: 34/171

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Figure 24. (U) Tank Division (Continuation) 2000 Organization Best Estimate

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Table 10. (U) Tank Division (Continuation) 2000 Best Estimate Equipment

	TK REGT (x3)	MRR (ICV)	ARTY REGT	TAC SSM BN	AD REGT	HELO REGT	RE-CON BN	ALSO IN DIV	TOTAL
TANK, T-80 F/O	291	43					10		344
INFANTRY COMBAT VEHICLE BMP-X	150	144					21		315
AUTO GRENADE LAUNCHER F/O	18	18							36
SP 82MM AUTO MORTAR (IMPROVED)		9							9
SP 120MM MORTAR	18	18							36
SP HOWITZER-X (122MM OR +)	36	18							54
SP 152MM HOWITZER			54						54
GRAD-1 F/O 122MM REGIMENTAL MRL	18								18
BM-X DIVISION MRL			18						18
SQUAD ATGM	99	140	62				18	63	382
VEH ATGM AT-Y		9							9
SS-X TACTICAL MISSILE				6					6
MP SAM SA-14 F/O	36	30			21		10	6	103
ZSU-X F/O SPAA	12	4							16
SA-13 F/O SAM TELAR	12	4							16
SA-8 F/O SAM TELAR OR SA-11 F/O SAM TELAR					20				20
LPLWS	36	12							48
HEL (CCG/ADS)	9	3							12
82MM LT MORTAR	18	18							36
LT OBSER HELICOPTER						12			12
MED CBT SPT HELICOPTER						8			8
FUTURE ATTACK HELICOPTER						12			12
PERSONNEL	4986	2445	1279	208	490	294	372	2146	12,220

SOURCE: 34/172

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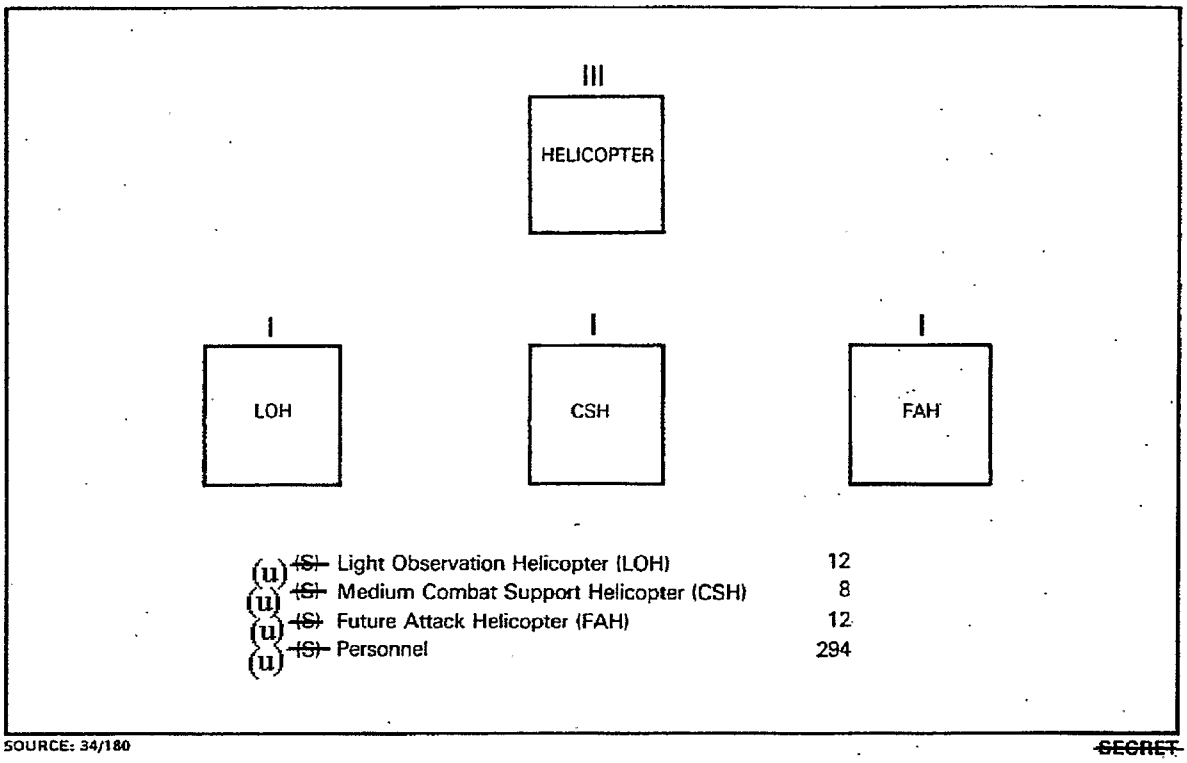
Table 11. (U) Tactical Helicopter Regiment, Tank Division (Continuation) 2000 Best Estimate



(u)	~~(S)~~ Light Observation Helicopter (LOH)	12
(u)	~~(S)~~ Medium Combat Support Helicopter (CSH)	8
(u)	~~(S)~~ Future Attack Helicopter (FAH)	12
(u)	~~(S)~~ Personnel	294

SOURCE: 34/180

~~SECRET~~ (u)

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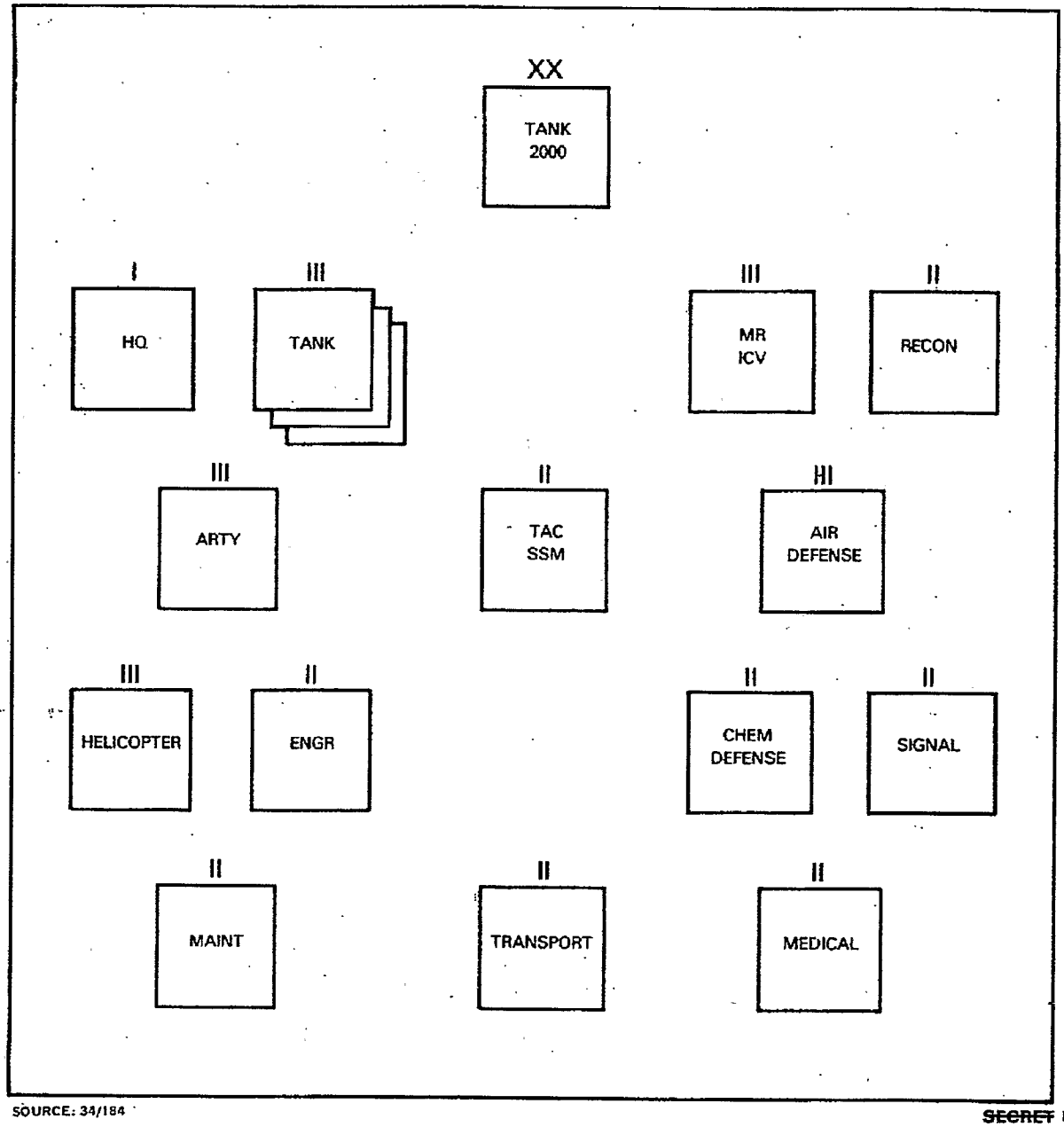

SOURCE: 34/184

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Figure 25. (U) Tank Division (Continuation) 2000 Organization High Estimate

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Table 12. (U) Tank Division (Continuation) 2000 High Estimate Equipment

	TK REGT (x3)	MRR (ICV)	ARTY REGT	TAC SSM BN	ADEF REGT	HEL REGT	RE-CON BN	ALSO IN DIV	TOTAL
TANK, T-80 F/O	372	43					10		425
INFANTRY COMBAT VEHICLE BMP-X	168	162					21		351
AUTO GRENADE LAUNCHER F/O	18	18							36
SP 82MM AUTO MORTAR (IMPROVED)		12							12
SP 120MM MORTAR	18	18							36
SP HOWITZER-X (122MM OR +)	54	18							72
SP 152MM HOWITZER			72						72
GRAD-1 F/O 122MM REGIMENTAL MRL	18	6							24
BM-X DIVISION MRL			24						24
SQUAD ATGM	99	140	62				21	63	385
VEH ATGM AT-Y		9							9
SS-X TACTICAL MISSILE				6					6
MP SAM SA-14 F/O	36	30			21		10	6	103
ZSU-X F/O SPAA	12	4							16
SA-13 F/O SAM TELAR	12	4							16
SA-8 F/O SAM TELAR OR SA-11 F/O SAM TELAR					20				20
LPLWS	36	12							48
HEL (CCG/ADS)	12	4							16
LT OBSER HELICOPTER						16			16
MED CBT SPT HELICOPTER						8			8
FUTURE ATTACK HELICOPTER						16			16
TOWED 85MM AT GUN	18	18							36
82MM LT MORTAR	18	18							36
PERSONNEL	5553	2641	1405	208	490	368	372	2146	13,183

SOURCE: 34/185

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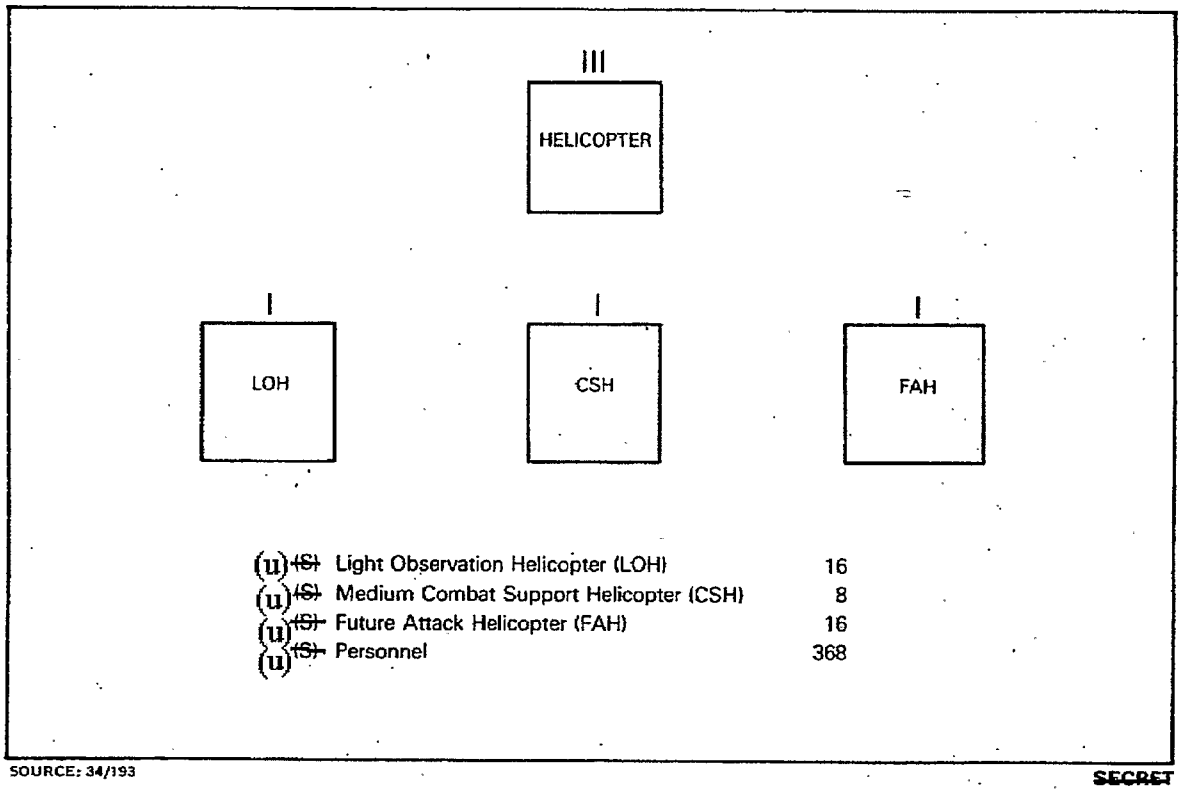
Table 13. (U) Tactical Helicopter Regiment, Tank Division (Continuation) 2000 High Estimate



(u) ~~(S)~~	Light Observation Helicopter (LOH)	16
(u) ~~(S)~~	Medium Combat Support Helicopter (CSH)	8
(u) ~~(S)~~	Future Attack Helicopter (FAH)	16
(u) ~~(S)~~	Personnel	368

SOURCE: 34/193

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5. Airborne Division 2000 (U).

a. (U) Soviet concepts for employment of airborne divisions (ABND) are frequently misunderstood or overlooked. Such operations are expected to continue to receive emphasis and to occupy an important role in Soviet theater warfare planning. This section summarizes the development of Soviet airborne capabilities and assesses future equipment projections. An in depth analysis of the doctrine concerning the employment of the airborne division, airborne tactics in both the offense and defense, and future force projections of the airborne division, will be addressed in Section III: Division Level Tactics, paragraph 16.

b. (U) During World War II, airborne operations were limited by the capability and shortage of military airlift, and the slow development of the offensive operation toward linkup. Missions were generally limited to seizing an objective and defending it within a limited area until arrival of the main ground force. Airborne troops were lightly equipped, lacking ground mobility and the firepower to engage armored formations. These problems limited early postwar development of airborne operational concepts beyond the World War II depths of 20-100 kilometers.

c. (U) Two factors provided impetus for fundamental changes in the organizational development and employment of Soviet airborne forces (VDV). First, improved airlift capabilities allowed major increases in airborne unit weapons and equipment. Such forces, possessing greater survivability and sustainability, would be less dependent on quick linkups. Second, theater nuclear war fighting concepts envisioned early suppression of enemy air defenses, and high speed ground attacks to develop the offensive. Nuclear weapons were instrumental in making large-scale deep drops compatible with rapid linkup.

d. (u) (~~S/NOFORN~~) Airborne units underwent extensive modernization, emphasizing increased antitank, air defense, and indirect and direct fire support capabilities. The most significant capability gained was the organic mobility, firepower, and protection represented by the BMD airborne amphibious combat vehicle (AACV). The BMD initially was introduced into one airborne regiment of the division in the late 1960s, and subsequently was integrated into the two remaining airborne regiments in the 1980s.

e. (U) By the 1970s, these improvements led to a significant shift in the nature of airborne tactics and the scope of operations in the rear area. Airborne units were now capable of more active operations over a wider area, and of maneuvering to raid multiple targets within an assigned zone and seizing a subsequent objective at a significant distance from the initial objective. The change in tactics and operational scope meant these forces could play a greater role in disrupting the operational stability of defending forces, as well as in seizing key objectives in the path of main ground force efforts.

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(u) ~~(S)~~ In the 1960s, greater emphasis was placed on methods of delivering airborne forces through sophisticated enemy air defenses to depths of 150 to more than 300 kilometers in a theater, as well as on improving landing force survivability. Some of these measures were passive in nature and included approach flights in corridors at low level, carrying out landings at night or in poor visibility, and increasing airlift capability. More active measures included quickly exploiting corridors to the landing area created by suppression of enemy air defense systems by nuclear strikes, air strikes, electronic countermeasures, and special purpose raids. Speed of egress from landing zones was emphasized and organic mobility was used to leave the landing area and quickly maneuver forces to attack objectives in close proximity or at some distance. In nuclear combat, the Soviets anticipate that, from the outset of the war, deep airborne landings could be employed on the first day following nuclear strikes. In nonnuclear conditions, the success of the suppression of enemy air defenses, as part of the theater air operation, is expected to determine the timing of such a landing operation, which is generally thought possible as early as the second or third day of the war.

g. (u) ~~(S)~~ Although division-size parachute drops doctrinally remain sound and have been exercised, the parachute assault of an initial element of the division force, followed by the airlanding of the remainder of the division, has become the preferred method.

h. (u) ~~(S)~~ The primary wartime roles of divisional airborne forces, in nuclear or nonnuclear combat, are in operational landings supporting front offensive operations, and in Supreme High Command directed strategic landings and smaller scale special raids directed at deep theater objectives. Operational landings generally comprise division or reinforced regimental landings at depths of 150-300 kilometers beyond the FEBA. It is planned that forces would carry out operations independently of the front for a few days to a week before linkup. In contrast, strategic landings are carried out at depths over 300 kilometers beyong the FEBA, and are not dependent upon rapid linkup with, or ground support from, fronts. The decision to carry out an airborne landing is governed by the degree of decisiveness it contributes to the outcome of a battle, an operation, or the theater campaign, and by the extent to which the airborne operation provides a unique capability.

i. (u) ~~(S)~~ The creation of front level air assault brigades (see Section VI, The Soviet Airmobile Threat) in the 1980s, with parachute and heliborne insertion capabilities independent of the airborne divisions, will reduce the responsibility of airborne divisions for regimental and battalion-size landings at lesser depths in support of the front or army. This follows a trend observed since the 1960s, when the responsibility for airborne insertions 10-15 kilometers into the rear area was assumed by regular motorized rifle battalions and companies which could be landed by helicopter.

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j. (u) ~~(S)~~ Weapon and equipment levels will probably stabilize in the 1980s as the last divisions equip all three airborne regiments with BMD airborne amphibious combat vehicles. The tendency toward qualitative upgrading, to include equipment designed specifically for airborne units, such as the BMD AACV and GAZ-66 mounted 122-mm MRL M-1977, will continue. Soviet perceptions of changes in the threat to airborne forces, and planned airlift levels, will significantly affect their decisions.

k. (u) ~~(S)~~ As a wartime element of the Reserve of the Supreme High Command (RVGK), airborne divisions may be employed in nuclear or nonnuclear war in any theater. The feasibility of large-scale landings in nonnuclear combat with NATO, is largely a function of the capability of Soviet air forces, electronic countermeasures, and special purpose raids to create an adequate corridor of suppressed enemy air defenses. The Soviets believe that such corridors can be established in either nuclear or nonnuclear combat. Employment of airborne forces in deep landings will remain an important part of the Soviet concept of the deep theater offensive.

6. Airborne Division Equipment Projections (U).

a. Mortars (U).

(u) ~~(S)~~ The best estimate is that fire support organic to the airborne battalions will be increased. It is believed that rather than increase the number of regimental mortars, it is more likely that the Soviets will introduce a light 82-mm mortar battery into the airborne battalions. The number of mortars in the division will increase from 18 to 72. It is projected (60 percent confidence) that the 120-mm systems will become self-propelled on a light airborne tracked vehicle derived most probably from the AACV F/O. Self-propelled mortars will provide more responsive indirect fire support for fully mobile airborne regiments. The high estimate represents the option of increasing the one 120-mm mortar battery (6 tubes) per airborne regiment to one battalion (18 tubes) of self-propelled mortars. This would increase fire support to the battalions, but retain mortars at regimental level in place of introducing 82-mm systems at battalion.

b. Artillery (U).

(u) ~~(S)~~ The best estimate is that the artillery regiment will retain one battalion of eighteen 122-mm howitzers, plus one battalion of 12 howitzers and 6 MRLs. For the high estimate, the development of an airborne self-propelled 122-mm howitzer for the greater mobility it would afford, has been projected. However, due to the inherent weight and air transport advantages of the D-30, the best estimates reflect the retention of towed howitzers. The high estimate reflects the addition of self-propelled 122 mm howitzers and a possible howitzer battery strength of 8 howitzers, although it is believed a 6-gun battery is more likely in view of control,

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ammunition, and general fire support requirements. Increasing the proportions of MRLs to howitzers was ruled out primarily because of increased ammunition requirements. The best estimate (70% confidence) is that a 40- (separate) assault gun F/O battalion will be retained in the division. It will be task organized for direct fire support of individual airborne regiments and battalions. Assault gun F/O platoons are believed unlikely to increase in size from the four per platoon projected for 1990. An increase of assault gun battalions in the division from one to three was considered but ruled out, based on airlift requirements and absence of demonstrated need. The fielding of an airborne light tank was ruled out based on lack of evidence and Soviet rejection of such a system since World War II, although the possibility warrants consideration in the context of mobility, tactics, and advantages or disadvantages over the assault gun.

c. Antitank (U).

(u)
~~(S)~~ No change is projected in the organization of one ATGM battery of 9 vehicles per airborne regiment. The addition of an 85-mm antitank gun platoon or battery at regimental level was ruled out based upon the existence of superior assault guns to fulfill this role. It is believed that the technology trend represented by the light manportable AT-7 ATGM of the 1980s, foreshadows the likely one-for-one replacement, by the year 2000, of the antitank grenade launcher with a squad ATGM that is light enough to be carried by one man and with a greater range and lethality than that offered by a follow-on antitank grenade launcher (ATGL). The best estimate of 409 squad ATGM systems remains the same as the number of ATGLs in an airborne division of 1990. No change in the overall number or distribution of the weapons within the division is expected.

d. Air Defense (U).

(u)
~~(S)~~ The best estimate (60 percent) is that by 2000 a low altitude SAM vehicle (airborne version) will be developed to replace SP anti-aircraft guns as regimental and division air defense systems. It is believed that the Soviets will continue to emphasize low-altitude, short-range air defense, supplemented by air cover, for the airborne division to meet the greater threat of attack helicopters and tactical air, rather than to introduce low-medium altitude SAM systems comparable to those in MRDs and TDs. The Soviets will continue to prefer outside reinforcement and support of the landing force, tailored to the specific operation. In addition to regimental and divisional SAM vehicles, airborne divisions will rely on extensive employment of manportable SAMs, both within the division area and extended outward in ambush positions. Postulated automatic cannons on AACVs will also have a secondary antihelicopter role. The high estimate includes the introduction of a new airborne version of the MRD/TD division level SAM, although this is not considered likely.

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e. Attack Helicopters (U).

(u)

~~(S)~~ The introduction of attack helicopters into the airborne division force structure was ruled out in 2000, as it was in 1990. This was based upon the additional support requirements to maintain organic squadrons, the ability for such assets to be attached from higher echelon resources, and problems of field support and survivability during prolonged operations deep in the enemy rear.

f. AACV (U).

(u)

~~(S)~~ Airborne Amphibious Combat Vehicles F/O will remain airdroppable combat vehicles derived from the earlier BMD family. They will probably retain an armament configuration of one coaxial turret and two bow-mounted machine guns (80 percent confidence); however, it is likely the turret armament will vary significantly from that of the 1980s. It is projected that antitank capability will be provided by an improved fire-and-forget antitank missile configured for internally reload in place of the external single rail system of the 1980s (60 percent confidence). The antitank missile will provide both close-in and long-range kill capability. The 73-mm main gun of the 1980s will probably be replaced by an improved automatic cannon (possibly 20-30 mm) with a primary role of destroying light armored vehicles and a secondary anti-helicopter role (70 percent confidence). No change in the 1990 total of 278 AACV F/O in the division is projected in either the best or high estimate. In addition to the AACV F/O, an additional 61 armored command vehicles are projected in all estimates. We have high confidence (80 percent) that this number will be increased by the late 1990s; however, we are less confident as to the mix of AACV command variants and other command vehicles, and of their distribution within non-combat units.

g. Airborne Division 2000 Organizations (U).

(U) Tables 14 and 15 and figures 26 and 27 depict projected Airborne Division 2000 organizations.

h. Summary comparison Tables 16 through 18, are included for the MRD, TD, ABND. (34/71-81)

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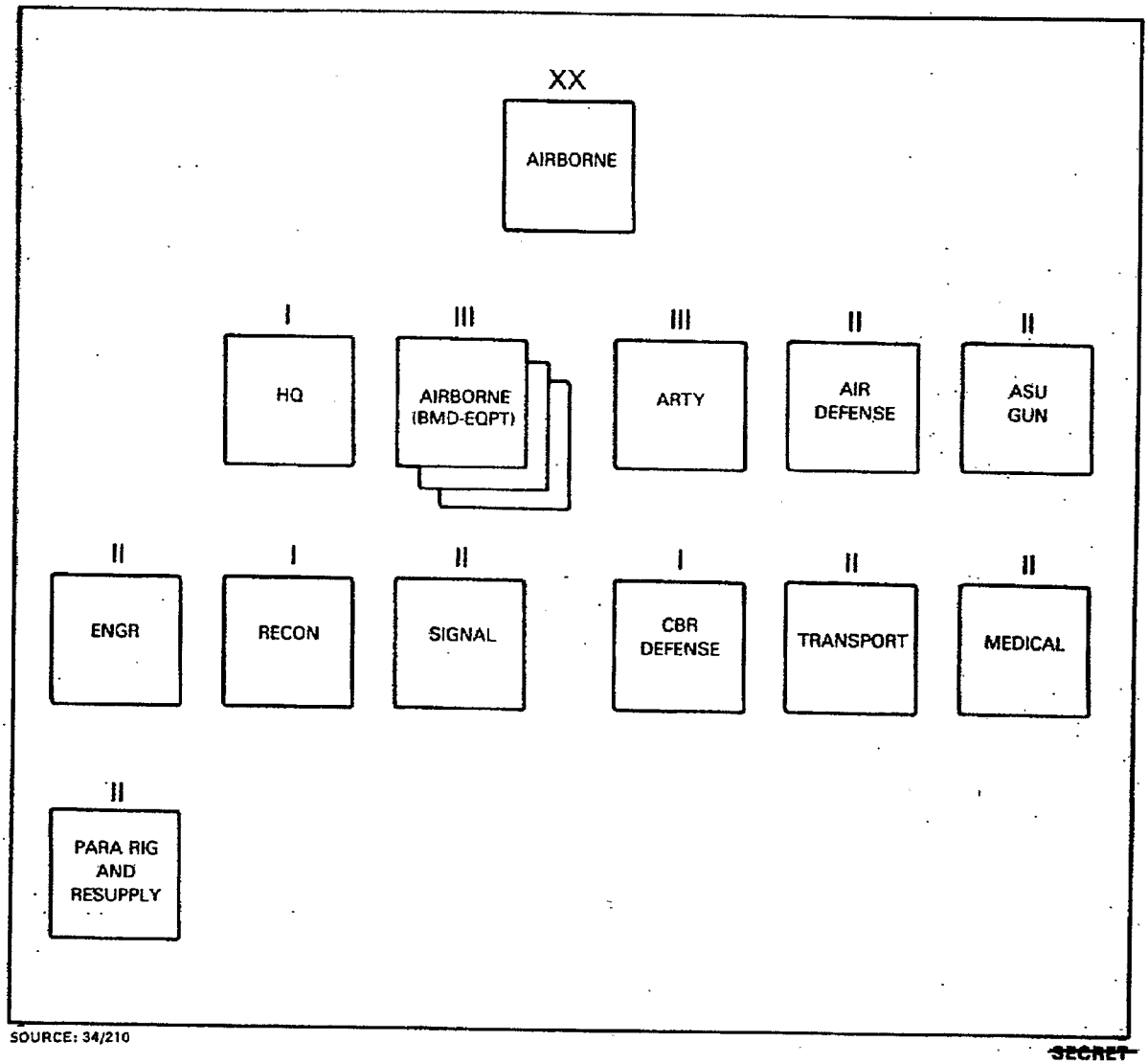

Figure 26. (U) Airborne Division (Continuation) 2000 Organization Best Estimate

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Table 14. (U) Airborne Division (Continuation) 2000 Best Estimate

	ABN REGT (x3)	ARTY REGT	ADEF BN	ASU GUN BN	RECON CO	ALSO IN DIV	TOTAL
AIRBORNE AMPHIB COMMAND VEHICLE	57					4	61
AIRBORNE AMPHIB CBT VEHICLE F/O	270				8		278
AIRBORNE ASSAULT GUN F/O				40			40
SP 120MM MORTAR (ABN VERSION)	18						18
LT 82MM MORTAR	54						54
122MM HOWITZER D-30 (TOWED)		30					30
122MM MRL F/O (TRUCK MOUNTED)		6					6
SQUAD ATGM F/O	333	40		2	9	25	409
VEH ATGM F/O	27						27
SAM VEH (LOW-ALT) (ABN VERSION)	12		16				28
MP SAM SA-14 F/O	117	21	12	12	6	24	192
LPLWS	27						27
AUTO GREN LAU F/O	27						27
PERSONNEL	4707	621	112	216	75	1119	6850

SOURCE: 34/211

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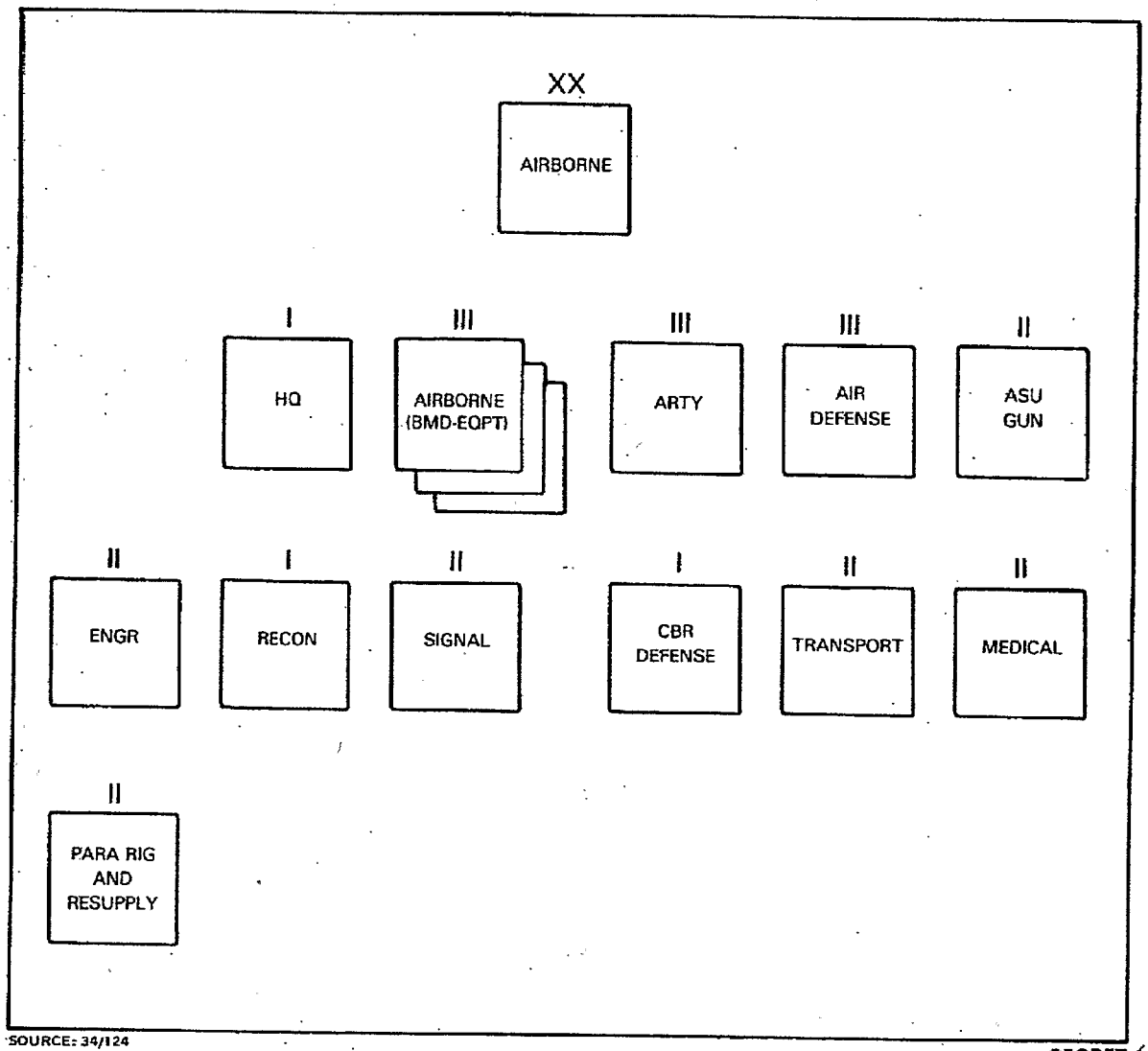

SOURCE: 34/124

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Figure 27. (U) Airborne Division (Continuation) 2000 Organization High Estimate

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Table 15. (U) Airborne Division (Continuation) 2000 High Estimate

	ABN REGT (x3)	ARTY ABN REGT	ADEF REGT	ASU GUN BN	RECON CO	ALSO IN DIV	TOTAL
AIRBORNE AMPHIB COMMAND VEHICLE	57					4	61
AIRBORNE AMPHIB CBT VEHICLE F/O	270				8		278
AIRBORNE ASSAULT GUN F/O				40			40
SP 120MM MORTAR (ABN VERSION)	54						54
SP 122MM HOWITZER (ABN VERSION)		40					40
122MM MRL F/O (TRUCK MOUNTED)		6					6
SQUAD ATGM F/O	369	40		2	9	25	445
VEH ATGM AT-Y	27						27
SAM VEH (LOW-ALT) (ABN VERSION)	12						12
SAM TELAR (LOW-MED) (ABN VERSION)		20					20
MP SA-14 F/O	135	21	12	12	6	24	210
LPLWS	27						27
AUTO GREN LCHR F/O	27						27
PERSONNEL	4773	599	295	216	70	1119	7072

SOURCE: 34/215

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Table 16. (U) Summary Comparison Motorized Rifle Division 2000

	BEST	HIGH
TANK, T-80 F/O	236	304
INFANTRY COMBAT VEHICLE BMP-X	183	563
ARMORED PERSONNEL CARRIER BTR-X	312	0
AUTO GRENADE LAUNCHER F/O	54	60
SP 82MM AUTO MORTAR (IMPROVED)	27	36
LT 82MM MORTAR	54	60
SP 120MM MORTAR	54	60
SP HOWITZER-X (122MM OR +)	66	72
SP 152MM HOWITZER	54	72
GRAD-1 F/O 122MM REGIMENTAL MRL	6	24
BM-X DIVISION MRL	18	24
MP ATGM AT-X	36	0
VEH ATGM AT-Y	36	45
TOWED 85MM AT GUN	36	60
SP 125MM F/O AT GUN	12	12
SS-X TACTICAL MISSILE	6	6
MP SAM SA-14 F/O	130	140
ZSU-X F/O SPAA	16	16
SA-13 F/O SAM TELAR	16	16
SA-8 OR SA-11 F/O SAM TELAR	20	20
LPLWS	45	52
HEL (CCG/ADS)	12	16
LT OBSER HELICOPTER	12	16
MED CBT SPT HELICOPTER	8	8
FUTURE ATTACK HELICOPTER	12	16
SQUAD ATGM	589	597
PERSONNEL	13,828	15,153

SOURCE: 34/222

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Table 17. (U) Summary Comparison Tank Division 2000

	BEST	HIGH
TANK, T-80 F/O	344	425
INFANTRY COMBAT VEHICLE BMP-X	315	351
AUTO GRENADE LAUNCHER F/O	36	36
SP 82MM AUTO MORTAR (IMPROVED)	9	12
SP 120MM MORTAR	36	36
SP HOWITZER-X (122MM OR +)	54	72
SP 152MM HOWITZER	54	72
GRAD-1 F/O 122MM REGIMENTAL MRL	18	24
BM-X DIVISION MRL	18	24
SQUAD ATGM	382	385
VEH ATGM AT-Y	9	9
SS-X TACTICAL MISSILE	6	6
MP SAM SA-14 F/O	103	103
ZSU-X F/O SPAA	16	16
SA-13 F/O SAM TELAR	16	16
SA-8 OR SA-11 F/O SAM TELAR	20	20
LPLWS	48	48
HEL (CCG/ADS)	12	16
LT OBSER HELICOPTER	12	16
MED CBT SPT HELICOPTER	8	8
FUTURE ATTACK HELICOPTER	12	16
TOWED 85MM AT GUN	0	36
82MM LT MORTAR	36	36
PERSONNEL	12,220	13,183

SOURCE: 34/223

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Table 18. (U) Summary Comparison Airborne Division 2000

	BEST	HIGH
AIRBORNE AMPHIBIOUS COMMAND VEHICLE	61	61
AIRBORNE AMPHIBIOUS COMBAT VEHICLE F/O	278	278
AIRBORNE ASSAULT GUN F/O	40	40
NEW 120MM MORTAR (TOWED)	0	0
SP 120MM MORTAR (ABN VERSION)	18	54
LT 82MM MORTAR	54	0
TOWED 122MM HOWITZER (D-30)	30	0
122MM MRL FO (TRUCK MOUNTED)	6	6
SP 122MM HOWITZER (ABN VERSION)	0	40
SQUAD ATGM F/O	409	445
VEH ATGM AT-Y	27	27
ZSU-X SPAA (ABN VERSION)	0	0
SAM VEHICLE (LOW ALT) (ABN VERSION)	28	12
SAM TELAR (LOW-MED ALT) (ABN VERSION)	0	20
MP SAM SA-14 F/O	192	210
LPLWS	27	27
AUTO GREN LCHR F/O	27	27
PERSONNEL	6,850	7,072

SOURCE: 34/224

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SECTION III. DIVISION TACTICS (U)

1. Theater Context (U).

a. (U) The Soviet division, as a rule, will fight within the context of an army operation, which in turn takes place as a part of a front offensive. The discussion below of what is evolving in Soviet thinking concerning theater offensive operations is intended to support this context. Efforts to improve the capability to implement this theater offensive will drive Soviet weapons acquisitions and tactical concepts over the next twenty years.

b. (U) A recent Soviet writing on war in Central Europe stressed, as never before, the need to defeat NATO in a single, relatively short campaign, extending throughout the "depths of the theater", without pausing at intermediate objectives. Marshal of the Soviet Union Ogarkov, Chief of the General Staff, commenting in Kommunist, July 1981, lent his authority to ongoing efforts to focus strategic theater operations more broadly and deeply by better integration of individual front operations into an overall Theater of Military Operations (TVD) context. (30/27)

c. (U) The Soviets are convinced that it is necessary to conduct the campaign in Europe at maximum intensity, thereby overwhelming NATO military forces and causing a general collapse. To accomplish this, great emphasis is placed on the requirement to increase and maximize the simultaneous influence of Soviet forces deep into the enemy rear. Concern with what they have termed the "deep operation" has been a fundamental feature of Soviet military theory for many years. Prerequisites for successfully conducting deep operations include the ability to: fix the enemy by attacking across a wide front to penetrate his defending forces; isolate that portion of the battlefield from outside reinforcement; and rapidly exploit the penetration into his operational rear area.

d. (U) ~~(S/NOFORN)~~ Recent organizational developments, of which maneuver division reorganization is but one, are intended to improve Soviet ability to conduct the sort of rapid, deep campaign which they envision. They are both compatible with operations in a nuclear environment, which the Soviets expect to occur, and enhance the capability to successfully prosecute a nonnuclear war.

e. (U) ~~(S/NOFORN)~~ A major reorganization of air and air defense forces is underway to improve their theater warfare capabilities by facilitating effective TVD level coordination and control. Previously separate and autonomous air defense elements have been unified into a single centralized structure within each military district/wartime front. Offensive air assets have also been realigned to facilitate operational integration of bombers with long range tactical aircraft, thus forming the core of the strike force for major theater strategic air operations.

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(u)
f. ~~(S/NOFORN)~~ The Soviets have also increased emphasis on the combat helicopter force. These assets will be responsible to provide fire support to combined arms and tank armies, while large numbers of fixed wing aircraft conduct major air operations against deep theater objectives.

(u)
g. ~~(S/NOFORN)~~ At the same time, the Soviets have been forming air assault brigades to perform parachute, heliborne, or airlanding operations in enemy rear areas. It is believed that they would operate in the operational-tactical depth between that of heliborne motorized rifle troops and that of the airborne divisions.

(u)
h. ~~(S/NOFORN)~~ These organizational changes reflect Soviet efforts to adapt theater strategy to the requirements and capabilities posed by technological improvements in weapons and equipment. In addition to these changes, the new generation of ground forces surface-to-surface missiles (SS-21, SS-22, SS-23), and the SS-20 will provide a much enhanced capability to support the achievement of theater objectives, through the nuclear and nonnuclear firepower they afford, and by striving to deter NATO initiation of theater nuclear operations.

(u)
i. ~~(S/NOFORN)~~ These organizational changes are elements of a unified air-ground concept which has as its goal the nearly simultaneous destruction of NATO military forces--and hence NATO's political viability--throughout the entire depth of the theater. The air portion of the concept represents a modernization of the nonnuclear air operation. It is a massive, combined arms operation that incorporates aviation strikes, some missile strikes employing high explosive cluster munitions, radio-electronic warfare and airborne, heliborne and amphibious assaults. Under nonnuclear conditions, it substitutes for the initial mass nuclear strike.

(u)
j. ~~(S/NOFORN)~~ On the ground, leading echelons of combined arms and tank armies will attack on a broad front over several Army axes, seeking to rapidly overwhelm and penetrate NATO's forward defenses. Highly mobile exploitation formations as large as a tank army will move behind the leading attack echelons. As early in the offensive as possible, these formations will attempt to drive through gaps and weak sectors in NATO's defense toward objectives deep in the defender's operational rear (NATO corps rear area). Helicopters will be a primary source of air support to these formations for conducting route reconnaissance, assisting in command and control, and providing fire support at the objective. Helicopters also will be useful in moving air assault brigade elements forward of the FEBA to enable their close interaction with the mobile formations. These formations will seek to rapidly destroy NATO nuclear weapons and reserves, prevent lateral reinforcement, and destroy supply lines and C^3. These mobile formations are distinct from second echelons, and are intended for earlier commitment. Their employment would present NATO with a difficult decision of whether to commit significant forces against them, thereby diminishing the amount of force available for commitment against the main body and risking collapse of the defense. A recent article in the Polish

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open-source journal, Review of Air and Air Defense Forces (June 1981), identified these formations as "operational maneuver groups of the Army" (OMGA).

k. (u) ~~(S/NOFORN)~~ The organizational and operational changes outlined above, improve the Soviets' ability to meet the demands of their offensive concept. They improve combat effectiveness and efficiency, promote the flexible application of firepower in support of deep maneuver, and represent an even greater focus than before on paralyzing NATO response capability throughout the theater. They represent a straightforward assessment that the most critical targets--nuclear weapons, air assets, C^3, operational reserves--are located well behind the FEBA and require continuous attack simultaneously with the ground offensive. It is expected that this concept of the theater campaign will remain valid to the year 2000. Modifications in hardware and military art will be guided by the requirement to further improve its execution. Some specific division level tactical innovations which may occur are discussed below. (34/27-32)

2. Background (U).

a. (U) The development of Soviet tactics has been gradual and conservative, with the Soviets building on their World War II experience and the lessons learned from other conflicts of the post-war period. Seldom does one read an article on Soviet tactics in the Soviet press that does not make reference to tactical operations during the Great Patriotic War (WW II). Soviet planners and tacticians feel comfortable in approaching the study and development of tactics in this fashion, a fact that is probably responsible for their conservative approach.

b. (U) In the Soviet hierarchy of military art, tactics are derived from military strategy and operational art. A study of the development and evolution of tactics establishes a pattern which can be applied to projecting future Soviet tactics.

c. (U) The principal influence on tactics is provided by technology. Improvements or upgrading of weapons systems provide gradual evolutionary change, but new technology such as nuclear weapons leads to revolutionary change. Army General Pavlovsky, former Chief of the Soviet Ground Forces, adds personnel to the equation, stating that the principal influence on tactics is provided by the improvement in weapons systems and the change in improvement of the ability of personnel to absorb the technological changes. As tactics are modified to accommodate technological advance, changes to maneuver forms, organization, and the roles of units also evolve. The interaction of the perceived threat and the theater of planned commitment impact directly or indirectly on the development of tactics.

d. (U) The single Soviet doctrinal change since World War II occurred during the mid-1950's and was codified in 1960, as the Soviets came to

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accept the importance of the nuclear weapon. From this acceptance, Soviet strategy, operational art and tactics evolved to reflect the requirements of a nuclear battlefield. In 1967, a relatively minor modification took place, which acknowledged the possibility of nonnuclear operations or a nonnuclear phase during a world war. This basic formulation exists today. It has guided the development of Soviet tactics because it requires Soviet forces to be able to operate successfully in both a nuclear and nonnuclear environment. (34/32-34)

3. Tactical Issues (U).

a. (U) New equipment and organizations, the increasing lethality of the battlefield, and continued efforts to enhance operations in an integrated warfare environment (i.e., nonnuclear/nuclear/chemical/biological) are reflected in Soviet military writing in the search to find tactical solutions for the future battlefield.

b. (U) A survey of Soviet military literature provides a good indication of the wide range of issues which the Soviets will pursue as they develop their tactics in the years ahead. Some of these represent long-standing problems where, in many cases, solutions are unclear. Others are seen as areas requiring further improvement to enhance combat capabilities made possible by the introduction of new or improved technology.

c. (U) In making tactical adaptations, the Soviets will be guided by their principles of military art, which they perceive as guiding the preparation and conduct of battle, operations and war as a whole. The most important of these principles are:

(1) (U) High level of combat preparedness (boyevaya gotovnost') to accomplish the task under any conditions from the initiation of hostilities to their completion;

(2) (U) Surprise (vnezapnost'), decisiveness and activeness of combat actions (in some contexts, "suddenness" may be a more appropriate translation of vnezapnost');

(3) (U) Constant effort to seize and retain the initiative;

(4) (U) Complete utilization of the various means and methods of combat to achieve victory;

(5) (U) Coordinated use and close coordination of formations (large units) of all armed services and branches;

(6) (U) Decisive concentration of the main efforts at the right moment, on the most important axes, to accomplish the main tasks;

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(7) (U) Simultaneous destruction of all enemy units throughout his area of operations, timely intensification of effort, bold maneuver of forces and means for development of combat actions at high tempos and defeat of the enemy in a short time;

(8) (U) Calculation and full utilization of the moral-political factors;

(9) (U) Firm and continuous control (upravleniye);

(10) (U) Determination and decisiveness in accomplishing the mission;

(11) (U) Thorough support of combat actions; and

(12) (U) Timely restoration (vosstanovleniye) of reserves and the combat effectiveness of the forces. (28/111)

d. (U) Specific tactical issues tend to overlap several of these principles. The following tactical issues are examined in this chapter:

(1) (U) Fire and maneuver;

(2) (U) Logistical resupply;

(3) (U) Night operations;

(4) (U) Reconnaissance;

(5) (U) Activeness of the defense;

(6) (U) Concentration;

(7) (U) Command, control, and communication;

(8) (U) Radioelectronic combat;

(9) (U) Camouflage;

(10) (U) Offensive use of chemicals; and

(11) (U) Restoration of combat effectiveness;

4. Enhancing Fire and Maneuver to Maintain Momentum and the Intensity of the Attack (U).

a. (U) (C) Technology has provided the Soviet ground forces the means to increase mobility and achieve high rates of advance. Tactical innovations in maneuver and the increased use of march formations have been introduced to take fuller advantage of these technological improvements. Rates of

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advance under nonnuclear conditions have not changed significantly since the end of WW II, increasing from 30-40 km/day to the present day norm of 30-50. Under nuclear conditions, the norm most frequently used is 50-80 km/day, the same used for the past 20 years. It is unlikely that these rates of advance will be substantially increased by the year 2000. Fire and maneuver will be relied on to maintain momentum on the battlefield of the future.

b. (U) One of the most significant changes projected to take place during the next 20 years is the increase of helicopter units in the ground forces structure. Relying on lessons learned from the US experience in Vietnam, the 1973 Arab-Israeli War, and current operations in Afghanistan, tactical airmobile operations and the use of helicopter gunships will play an increasing role in Soviet tactics. The helicopter gunship will increasingly supplement fixed-wing aircraft in the close-air-support role, while heliborne forces will be used more frequently as a manuever element. The helicopter-versus-helicopter engagement, while not identified as a formal mission at present, is also a capability which warrants close scrutiny.

c. (U) The Soviets have long discussed the airmobile operations as a form of maneuver. Heliborne operations are included in many Soviet exercises, and the concept is being battle-tested during operations in Afghanistan. It is expected that this maneuver form will be further developed and employed extensively during the next 20 years. A more mobile, fluid battlefield will mean opportunities for employing heliborne forces to seize key objectives to aid the advance, for flanking actions, for repulsing enemy counterattacks, and for such traditional missions, as seizing river crossing sites, mountain passes, defiles, and other key objectives, which will facilitate maintaining speed in the offensive.

d. ~~(C)~~ (U) Tactical heliborne operations at the division level are generally conducted using motorized rifle subunits. These operations are conducted in conjunction with the linkup force, with air cover, and within range of artillery fire support; that is, within 10 to 15 km forward of the line of contact. Division level heliborne assaults will be supplemented by deeper operations conducted by <u>front</u> level air assault brigades.

e. (U) Integrating attack helicopters into the fire system of the supported ground force is another important means of enhancing fire and maneuver in combined arms operations. In an article proposing the creation of air-ground assault forces, the author points out that attack helicopter gunships "can execute fire strikes from the air at any time and in any type of battle," and are unique in filling possible firepower gaps that are beyond the range of ground direct support fires, and not within the mission parameters of tactical high performance aircraft. The Soviets will probably employ these helicopter gunships to perform missions at depths beyond artillery range, and in close-in areas where artillery may not be effective, or when artillery support is unavailable because of requirements elsewhere.

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The primary mission of helicopter gunships is close support of ground forces. (25/5-7)

f. (U) The Soviets expect that initiation of offensive combat operations from the march will be the norm for the ground forces in the future, and attack from a position of close contact with the enemy will be the exception. Because of its speed and relative ease of control, the tactical march formation is most frequently used when the division is advancing and meeting engagements are anticipated. In his book, General Reznichenko states that:

> The march created in anticipation of a meeting engagement has these requirements: It must ensure the highest combat readiness, the highest speed of deployment and most rapid entry into combat, the realization of a wider maneuver for inflicting a blow to the flank and rear of the enemy, and ease of movement. It must exclude the possibility of a simultaneous defeat of two columns by one nuclear hit. (27/26-27)

These requirements, stated in 1966, are valid today and are expected to remain so for the foreseeable future.

g. (U) Movement from march formations to battle formations is conducted according to fairly specific norms as to where the regiment deploys into battalion columns, battalions into company columns, and finally to battalions or companies on line across the front. Deployment of a battalion into company columns in the approach march, for example, occurs from 4-6 km from the enemy defensive positions, a distance based primarily on the range of enemy direct-fire weapons. As the range and lethality of direct-fire weapons increase, divisional formations are faced with the choice of deploying earlier, or, should they choose to accept the risk, relying on countermeasures and greater speed of maneuver. Earlier deployment slows the tempo of the attack, while failure to do so increases vulnerability. This dilemma is recognized, as the Soviets look for new methods of maintaining high speed in the attack. There is virtually nothing in current Soviet literature to suggest earlier deployment or further dispersion. The Soviets are expected to continue to stress speed of maneuver, heavy suppressive firepower and air mobility, coupled with smoke and other countermeasures to overcome enemy defenses, and will dismount only when necessary. (37/51-54)

h. (U) In 1975, an article appeared in the Soviet press describing a new attack formation variant, undertaken to maintain the speed of the attack while bringing maximum firepower to bear on the defender. The essence of this variant is attacking in two or three company or battalion "battle lines" (See Figure 28) rather than deploying into the standard line formation in one or two echelons. The concept was criticized for violating the

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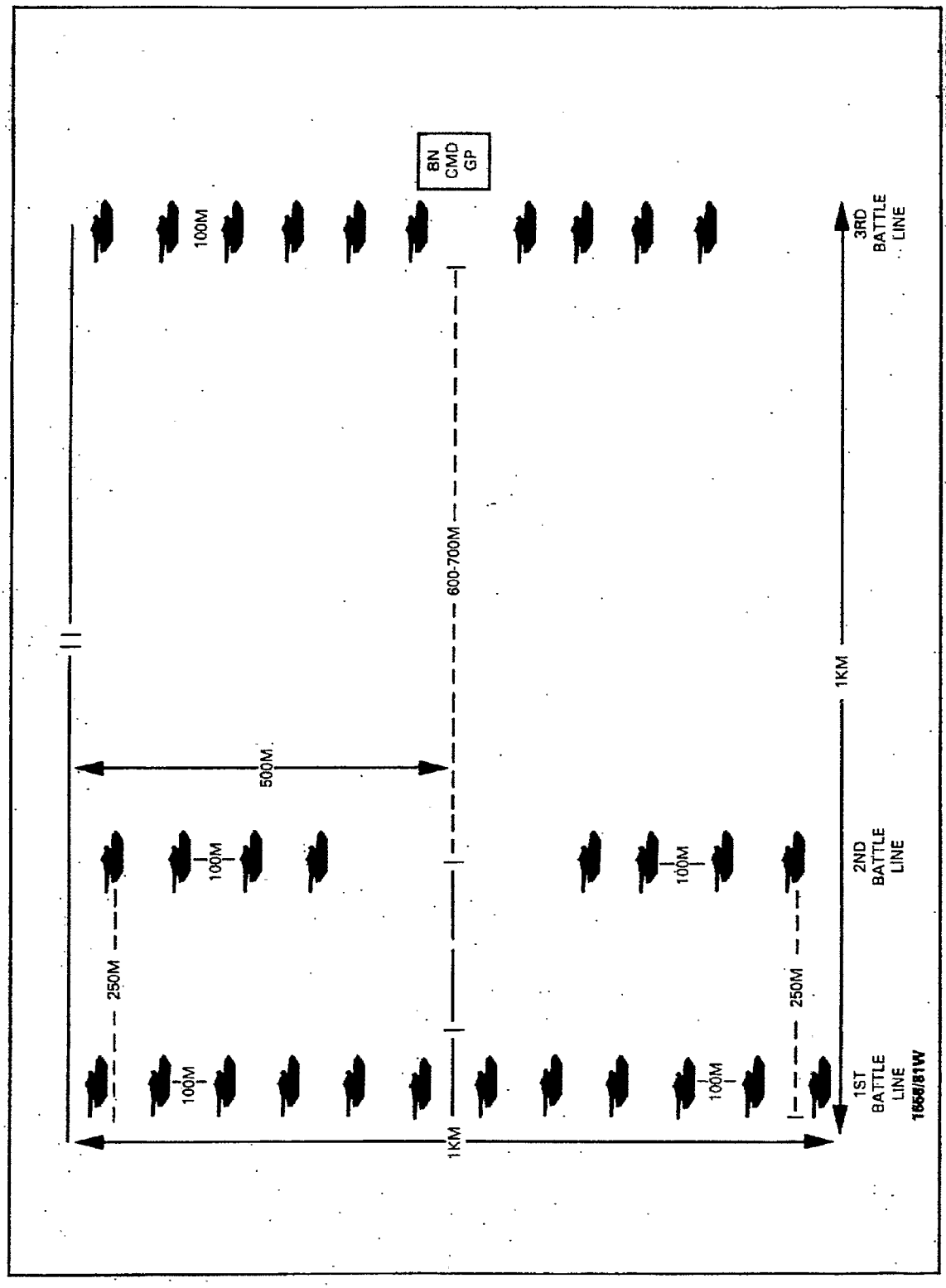

Figure 28. (U) Tank Company in the Attack (Two Battle Lines). Tank Battalion in the Attack (Three Battle Lines). (Not an Officially Recognized Tactical Formation.)

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principle of concentration, for piecemeal commitment, for being too concentrated for a nuclear environment, and for overlooking combined arms aspects of modern warfare. The issue appeared to lay dormant, until its application was mentioned in another Military Herald article in late 1979. The formation was employed where terrain restricted the deployment of a tank battalion into a line formation for the attack. In this instance, a tank company deployed 300-400 m to the rear of the first line of tanks, and provided direct fire support, through the intervals of the first echelon vehicles. As urbanization spreads within Europe and terrain constraints become more acute, this tactical variant could become more commonplace, but refined to accommodate combined arms formations operating in a "nuclear-scared" environment.

i. (U) Despite gains in armor technology, tanks still remain vulnerable to ATGMs. Massive use of artillery, with new and improved munitions, will be relied on to help suppress ATGMs. Additionally, the Soviets will continue to work on developing more effective smokes, aerosols and passive ECM to degrade ATGM effectiveness.

j. (U) The nature of the artillery fire mission is also being examined with respect to enhancing fire and maneuver, and the survivability of the fire support unit itself. One solution is suggested in an article by Lt General of Artillery Stroganov. The thrust of the article is that the artillery battalion should become the primary firing unit (rather than the battery) in most cases, so that rounds can be placed on a target more rapidly, allowing the firing unit then to move to new firing positions. This would result in a higher density of fire in a given time than with individual battery fire, thus more-effectively neutralizing enemy targets and increasing the survivability of the artillery battalion.

k. (U) Soviet emphasis on increased maneuver to maintain the momentum and speed of the offensive requires a solution to yet another problem, that of overcoming minefields. Despite their attention to mine warfare, this remains a weakness when compared to the US/NATO capability to lay minefields. Technology, such as fuel-air explosives (FAE) and possibly radio frequency damage weapons (RFDW), rather than tactics, seems to offer the best long-range solution, while airmobile operations to move a force over or around the minefield will be used to the extent practical.

5. Motorized Rifle Division in the Offense (U).

a. Attack Formation (U).

(U) ~~(C)~~ The motorized rifle division normally attacks in two echelons. The first echelon usually consists of two motorized rifle regiments reinforced with tank battalions, antitank batteries, engineer units (platoon to battalion), chemical radiation squads, air defense platoons and artillery battalions. The second echelon, consisting of one reinforced motorized rifle regiment, may be reinforced by the division independent tank battalion

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when such a battalion is assigned to a motorized rifle division. The tank regiment, minus the battalions attached to the first echelon's motorized rifle regiments, is kept in reserve for commitment when the initial penetration is made.

b. When the motorized rifle division attacks in one echelon, one or two reinforced motorized rifle battalions are retained under division control as division reserve. This formation is used only when there is little resistance and the division is assigned an exceptionally wide frontage.

c. Frontages and Depth (U)

(u) ~~(S)~~ The width of the frontage of a motorized rifle division which is the first echelon of the front main effort, or one making the main effort for an army, is about 15 to 25 km. The breakthrough zone of action under these circumstances is about 4 km wide. The depth of the division tactical formation is up to 30-35 km when fully deployed.

d. Preparation for the Attack (U).

(u) ~~(C)~~ In modern warfare, with no fixed FEBA, the division moves by organic means into assembly areas about 20-30 km from its attack positions. The stay in assembly areas is limited to the time necessary to assign missions to subordinate units, check preparations, and organize combat groups for the attack. On the night preceding the attack, the division moves to the attack position in battalion and regimental columns. March columns are preceded by antitank units. Whenever possible, attack positions and assembly areas are prepared with subsurface shelters before occupancy. Arrival at the attack positions is timed just to precede the start of nuclear preparatory fires.

6. Conduct of the Attack (U)

a. (u) ~~(C)~~ Covered by the artillery preparation, motorized rifle units and their accompanying tanks move on previously cleared lanes through obstacles to close with the enemy. Assault units move within 100 meters of the rolling artillery barrage and take advantage of any limited visibility and surprise. During the assault, antitank guns and mortars are under the control of the supported units. Organic regimental artillery, reinforced by divisional artillery elements, supports the assault in depth and prepares to displace forward. Extended fire duels with enemy centers of resistance are avoided. Small detachments are left to contain the bypassed enemy.

b. (u) ~~(C)~~ The supporting artillery units concentrate their fire on enemy antitank defenses. Riflemen and engineers protect the tanks from hostile infantry, and neutralize antitank minefields and other antitank obstacles. Tanks normally do not outdistance their supporting motorized rifle units by more than 400 meters.

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(u) c. ~~(C)~~ During the advance through the enemy position, special antitank groups composed of antitank guns, and engineers armed with flamethrowers, follow in the rear of the assault groups. The antitank groups block frontal counterattacks while tanks engage the enemy from the flanks and the engineers assist in reducing enemy positions.

(u) d. ~~(C)~~ When the first echelon has driven through the initial enemy positions and has reached the enemy light artillery positions, the second echelon, assisted by some of the assault group, can be expected to widen the breach, destroy bypassed centers of resistance, and exploit the breakthrough. The remainder of the first echelon force consolidates captured positions and prepares to repel counterattacks, then regroups and continues the advance. (35/124)

7. Second Echelon and Reserves (U).

(u) a. ~~(C)~~ The second echelon is used to provide direct support to the attack of the first echelon, protect division flanks, repel counterattacks, maintain the impetus of the assault, mop up centers of resistance bypassed by assault units, and exploit breakthroughs. It is also used to replace first echelon units weakened or destroyed. The second echelon normally is committed from the march.

(u) b. ~~(C)~~ The medium-tank battalions may be deployed in the first echelon as the division main striking force; however, the bulk of the tanks are normally kept in reserve to exploit the initial penetration. The tank battalions may be used to reinforce the motorized rifle regiments of the first echelon.

(u) c. ~~(C)~~ Normal antitank, engineer, and reserve units are retained under division control for later engagement at the decisive time. (34/124-125)

8. Motorized Rifle Division in the Defense (U).

(u) a. ~~(C)~~ Motorized rifle division commanders select the exact trace of the forward edge of the main defense belt. Division defense plans include the organization of the defense, allocation and use of artillery, antitank defense, use of air support, counterattack by division forces, and priorities for the preparation of defensive works.

(u) b. ~~(C)~~ When not in contact with the enemy, the motorized rifle divisions manning the main defense belt establish general outposts in the security zone as much as 3 to 5 km in front of the main defense belt. This is in addition to the combined arms army security force. Normally the division's second echelon (a motorized rifle regiment) is employed in this task.

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9. Conduct of the Defense (U).

a. (U) ~~(C)~~ The defense is based on the motorized rifle divisions of the combined arms army in the main defense belt destroying or canalizing the enemy. The division defends in place.

b. (U) ~~(C)~~ The division, supported by army units, holds its position until overrun or ordered to withdraw. As a minimum, it attempts to canalize the enemy and reduce the effectiveness of the penetration.

(1) (U) ~~(C)~~ Nuclear or chemical fires are employed to blunt the enemy spearhead and to minimize his forward progress.

(2) (U) ~~(C)~~ Penetrations in the division's first echelon areas which cannot be reduced by local battalion or regimental counterattacks, or by fire alone, are attacked by the division's medium tank regiment, the primary counterattack force available to the division.

(3) (U) ~~(S)~~ Penetration of the first echelon regimental areas are blocked by the second echelon regiment, while the division's counterattack force prepares to attack.

(4) (U) ~~(C)~~ Major enemy attacks which threaten to penetrate the main defense belt, are counterattacked by the army counterattack force (usually the tank division from the second defense belt) supported by the division's reserve, if the latter has not been previously committed.

c. (U) ~~(C)~~ If the combined arms army fails to eject the enemy from the main defense belt, either through failure of the counterattack or inability to execute it, elements that are engaged, withdraw from the main defense belt and take up positions in the second defense belt.

d. (U) ~~(C)~~ The first echelon motorized rifle division usually is assigned to defend a zone from 20 to 30 km wide and approximately 15 km deep.

(1) (U) ~~(C)~~ On occasion, the division may be assigned to defend on an extended frontage of up to 45 km. The defense is organized in two echelons, with two motorized rifle regiments in the first echelon and one motorized rifle regiment in the second echelon.

(2) (U) ~~(C)~~ A division artillery group, consisting of several artillery battalions from the combined arms army, is attached to the division. Some of these battalions may be used to fill regimental artillery groups; the remaining units are placed in the division artillery group.

(3) (U) ~~(C)~~ The first echelon motorized rifle regiments defend the forward 10 to 15 km of the division defense zone. The third motorized rifle regiment is organized into three battalion defense areas across the

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rear of the division zone, approximately 5 to 10 km from the forward trace of the main defense belt. These are sited to protect key terrain and control avenues of approach from the front.

(4) (u) ~~(C)~~ The medium-tank regiment is retained under division control as the division's tank reserve. Elements of this force (two or three companies) may be used to reinforce the motorized rifle regiments.

(5) (u) ~~(C)~~ Division artillery is usually located in the area between the first and second echelon regiments.

(6) (u) ~~(C)~~ The logistical elements of the first echelon regiments are usually located within the division's second echelon area. (35/126-128)

10. Tank Division in the Offense (U).

a. (u) ~~(C)~~ The tank division is considered the combined arms army's exploitation force. Its employment is characterized by shock action, mobility, and firepower. It may be employed as part of the first or second echelon, or it may be considered as the army's tank reserve. In either case, its mission is to exploit gaps created in the enemy defenses, rapidly penetrate enemy territory, destroy the continuity of the defense, and assist in securing the army's objectives.

b. (u) ~~(C)~~ The tank division is used to create and maintain shock action deep in the enemy rear; prevent or break up the formation of hasty rear defense positions; disrupt enemy command, communications, and logistical installations; and over-run communications centers, airfields, and nuclear weapon launching sites. Its operations are closely coordinated with the operations of the motorized rifle divisions. If the combined arms army is forced to assume the defensive, the tank division is normally used as a mobile counterattack force.

c. (u) ~~(C)~~ Soviet doctrine permits the tank division to be employed as a first echelon unit where the mission, terrain, and opposing forces favor its employment. Good tank terrain, a weak enemy, weak anti-tank defenses, and a high level of use of nuclear weapons, favor the use of the tank division as part of the breakthrough force to exploit nuclear breakthroughs, for deep penetration, for enveloping movements, and for exploiting gaps in enemy formations. Its mission would be to break through the opposing defenses and continue the advance to the army's objective.

d. (u) ~~(C)~~ As the exploitation force, the division's mission is to exploit gaps created in the enemy defenses by the initial thrust of the motorized rifle divisions' attacks, destroy or isolate small groups of the enemy, bypass enemy resistance, avoid becoming decisively engaged, and destroy the enemy corps reserves. It will attack enemy counterattacks that threaten the breakthrough area. Its operations are directed to destroy the enemy's ability to reconstitute an organized defense or engage

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in an orderly retrograde movement, and are characterized as a series of meeting engagements. At the first sign of an enemy withdrawal, the tank division will initiate pursuit operations designed to divide and destroy the enemy force.

(u)

e. ~~(C)~~ Regardless of whether the division attacks in the first echelon of a large-scale operation or is committed after the forward enemy defenses have been breached, its attack is characterized by the utmost violence and aggressiveness. As the decisive element in the offense, the tank division, once committed, receives first priority from its higher headquarters for reinforcements, air support, fire support, and service support. Thus, its attack is also characterized by its persistence and staying power.

(u)

f. ~~(S)~~ The tank division in the first echelon of the army normally is assigned a frontage of 10 to 20 km in a main attack, and 25 to 30 km in a secondary attack. However, its attack zone usually is 12 to 15 km, regardless of its frontage. In breakthrough operations its breakthrough zone is about 4 km. Once through the enemy defenses, the width of the attack zone may be extended to 20-25 km, depending on the terrain and the enemy strength. (35/134,135)

(u)

g. ~~(C)~~ The tank division usually attacks in two echelons. The first echelon usually consists of two reinforced tank regiments, or it may consist of a medium tank regiment and a reinforced motorized rifle regiment. The second echelon will consist of the remaining regiments.

(u)

h. ~~(C)~~ The tank division may attach a motorized rifle battalion to each tank regiment in the first echelon. It may also organize combat teams around the motorized rifle regiment if appropriate to the situation.

11. Conduct of the Attack (U).

(u)

a. ~~(C)~~ Maneuver elements of the tank division normally attack from an approach march formation. The tank division can rapidly concentrate its power, deal with the problem, and quickly disperse. The attack position normally is 3 to 5 km from the line of departure. Primary attention is devoted to uninterrupted movement of the first echelon regiments from column to battle formations to ensure the simultaneous assault by the entire first echelon. Great care is taken to insure that speed and routes of movement are synchronized. Whenever necessary, extensive engineer effort is devoted to preparing routes and breaching obstacles to insure unimpeded advance.

(u)

b. ~~(C)~~ After deploying for combat, the immediate mission is to penetrate the enemy defenses to a depth of 15 km to destroy the tactical reserves. Primarily, the offense will be a series of meeting engagements, or attacks from the march by first echelon troops, who bypass strong resistance, roll over hasty defenses, and rush on to the objective, leaving mopping-up operations to second echelon troops. Only when the terrain,

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enemy dispositions, or time consideration so dictate will there be a coordinated deliberate attack against prepared defenses.

(u) c. ~~(C)~~ When forward defenses are passed, attacks are made on the flanks and rear of enemy positions wherever possible. Moving rapidly, the tank division overruns and destroys isolated enemy groups. If resistance is too great, the assault is broken off, and containing forces are left to fix the enemy and await the arrival of motorized rifle units. The tank forces then attempt to continue the advance. Crossroads, bridges, and other terrain features are seized to cut off enemy forces. (35/137)

12. Tank Division in the Defense (U).

(u) a. ~~(C)~~ The tank division is considered an offensive unit. In circumstances where it is forced to assume the defense, attempts will be made to relieve it with a motorized rifle division. The tank division is normally employed in a counterattack role during the defense, and it is usually located in or behind the area of the second echelon forces.

(u) b. ~~(C)~~ The tank division is prepared to conduct a defense, if required, to gain time to mass necessary forces to continue the offense, to consolidate captured positions, or to repel enemy ground attacks. In this case, the tank division may be employed in a first echelon role or be charged with the defense of the second defense belt. As a second echelon force, the tank division would prepare defensive positions, but would remain in dispersed assembly areas to the rear from which it could move rapidly to counterattack. (35/141)

13. Organization of the Defense (U).

(u) a. ~~(C)~~ The tank division in the first echelon will normally be assigned to defend a zone 20-30 km wide. The depth of the defense zone will be 12-19 km. The tank division normally defends in two echelons in a manner similar to the motorized rifle division. On an extended front, the division may defend with only one echelon and a reserve.

(u) b. ~~(C)~~ The first echelon usually consists of the two medium tank regiments, each reinforced with up to a battalion of infantry from the motorized rifle regiment. Forces in this echelon defend in battalion defense positions similar to motorized rifle defense positions, except that they are generally smaller.

(u) c. ~~(C)~~ The third tank regiment usually constitutes the second echelon; however, it does not occupy battalion defense areas and is used to execute counterattacks or repel enemy tanks. It may also be employed in the first echelon.

(u) d. ~~(C)~~ The motorized rifle regiment may be employed as the commander's contingency force and held in reserve. It is used primarily to reinforce

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and support the defense of the first echelon. In some cases it may be employed intact in the first echelon and assigned an independent sector.

(u)
e. ~~(C)~~ The division will organize its defense within the limits of its assigned zone normally with one forward position, and one or more subsequent positions. If efforts are to be concentrated to holding the first positions, the division will attempt to repel the enemy forward of the positions, or eject him through counterattacks if he penetrates the position. If planning has been directed to holding subsequent positions, the division will employ a mobile defense in its zone. In either case, subordinate units are expected to defend in position until they receive further orders. Unauthorized withdrawals are strictly prohibited. In cases where the mission requires that the main effort be made to hold the first defensive zone, a security zone will be established by the division. Reconnaissance and covering forces, which will be armor-heavy, seek out the enemy and maintain contact forward of the security zone. Tank ambushes, patrolling and observation posts are organized in front of the defense zone, in the depths of the defense, and also in gaps or on the flanks.

(u)
f. ~~(C)~~ Normal fire support is organized with artillery, air defense, and air support. Antitank defense forms the basis for the defensive system. Antitank strongpoints are organized at all echelons, and consist of antitank guns, rocket launchers, tanks, flamethrowers, and obstacles. The division antitank areas are dispersed laterally and in depth. Antitank obstacles are organized in the gaps and are covered by antitank artillery, mortar, and small arms fire. To complete the antitank system, the division commander employs engineer mobile obstacle detachments, air strikes, roving antitank artillery, and a warning system.

(u)
g. ~~(C)~~ The concept of the defense is based on tank battalion defense areas, which consist of company strongpoints organized for all around defense. Gaps between the company strongpoints, within the battalion defense areas (up to 2 km is permitted), are covered by obstacles, ambush sites, artillery and mortar fire. The battalion is reinforced with infantry. (3/143)

14. Conduct of the Defense (U).

(u)
a. ~~(C)~~ During the defense, the tank division may be employed in delaying actions, defense of the main or secondary defense zone, or in a counterattack. In all these defensive situations, the division conducts a stubborn defense while always maintaining an aggressive posture, constantly attempting to seize the initiative. The tank division inflicts maximum punishment on the enemy at all times, and does not give up territory unless forced to do so.

(u)
b. ~~(C)~~ As the enemy approaches the defense, he is engaged by the security forces. The security forces attempt to deceive the enemy as to the exact location of the defense, and to cause the enemy to deploy early.

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The security forces withdraw, on order, and the enemy is engaged by the front line units as far forward as possible from the main defense zone. Violent resistance is emphasized at all times.

(u)
c. ~~(C)~~ As the enemy closes into his assembly areas or starts to deploy for combat, the army commander may order a counter-preparation to be fired to disrupt enemy attack preparations. The tank division's role in the counter-preparation would probably be confined to participation in the artillery barrage. Another tactic that can be employed is the use of the reconnaissance in force or limited objective attacks. The tank division may be assigned to control the reconnaissance in force, or to conduct tank-heavy attacks against the enemy forces that have suffered the most damage from the counter-preparation.

(u)
d. ~~(C)~~ The defense is conducted based on holding assigned defense areas throughout the main defense zone. When the enemy assault is launched, defensive fires reach their maximum intensity and are concentrated on destroying the attacking tanks. Fires are directed at the most dangerous enemy grouping, and the division commander may move up tanks and artillery from the depths of the defenses or from areas not under attack. Tanks and supporting motorized rifle troops mutually support each other during the battle.

(u)
e. ~~(C)~~ If the enemy succeeds in penetrating the defensive area, the division commander institutes measures to halt the attack, destroy those forces which have penetrated, and restore the defensive positions. Forces from the second echelon and reserves are moved to the most threatened sectors, and elements in the main defensive area are regrouped in anticipation of a counterattack. Where the enemy possesses a superiority of force, the division will continue to defend instead of counterattacking, attempting to create favorable conditions for a counterattack by higher headquarters. (3/144)

15. Withdrawal (U).

(u)
a. ~~(C)~~ Withdrawal is a two-step process (disengagement and retirement) conducted in a concealed, well-organized fashion. Withdrawal is conducted only on order and usually at night, although a daylight withdrawal may be conducted, if required.

(u)
b. ~~(C)~~ The tank division may be assigned to cover the withdrawal of the combined arms army, but normally it withdraws with the main body of the army. A rear guard, normally a reinforced medium tank regiment, is the first unit to withdraw from the front lines; it moves to and occupies a delaying position to the rear. The main body withdraws through the rear guard, and then moves to the division's next assigned position. A covering force protects the withdrawal of both the rear guard and the main body. It remains in place for a designated period of time, then joins the rear guard. The rear guard continues to defend in successive

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delaying positions for a specified period of time.

b1 per DIA

16. Airborne Division in the Offense (U)

a. General (U).

(1) (S/NOFORN)

b1

(2) (U) (S/NOFORN) Parachute forces, by the very nature of their organization and training, are primarily offensive units. (See Figure 29, Airborne Division Structure). Although division-size parachute drops doctrinally remain sound and have been exercised, the parachute assault of an initial element of the division force followed by the airlanding of the remainder of the division has become the preferred method.

* (S/NOFORN/WNINTEL)

b1

b1 per DIA

1007

(u)
(3) ~~(S/NOFORN)~~ The primary wartime roles of VDV airborne forces, in nuclear or nonnuclear combat, are in operational landings supporting front offensive operations, or in Supreme High Command directed strategic landings and smaller scale special raids directed at deep theater objectives. Operational landings generally comprise division or reinforced regimental landings at depths of 150-300 kilometers beyond the FEBA. It is planned that forces would carry out operations independently of the front for a few days to a week before linkup. In contrast, strategic landings are carried out at depths over 300 kilometers beyond the FEBA, and are dependent upon external support from the Supreme High Command. The decision to carry out an airborne landing is governed by the degree of decisiveness it contributes to the outcome of a battle, an operation, or the theater campaign; and by the extent to which the airborne operation provides a capability not available by other means.

b1 per DIA

b. Basic Principles of Employment (U).

(u)
(1) ~~(S/NOFORN)~~ Airborne troops are employed in ground force and navy operations and, in some individual cases, independently. Operating in the enemy rear area, they can perform the following tasks:

(u)
(a) ~~(S/NOFORN)~~ Seize and hold important areas, bridgeheads, water crossings, and mountain passes with the goal of denying the withdrawal of enemy troops; assist in the encirclement and subsequent destruction of the enemy; and block the advance of enemy reserves while supporting the rapid advancement of friendly forces;

(u)
(b) ~~(S/NOFORN)~~ Seize or destroy important objectives, such

as large headquarters, communications centers, airfields, means of mass destruction, bases and road structures; and attack enemy troops with the goals of disorganizing control, disrupting rear services work and frustrating the employment of weapons of mass destruction by the enemy;

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(a) Strategic (U).

(~~S/NOFORN/WNINTEL~~) b1

b1

(2) Operational (U).

(~~S/NOFORN~~) b1

b1

b1 Potential missions are securing bridgeheads, blocking or delaying enemy reserves, securing airlanding or river crossing sites, seizing other key terrain, leapfrogging contaminated areas to exploit the

results of NBC strikes, assisting in the encirclement of a major force, destroying enemy nuclear delivery means, and destroying communications centers and other vital installations in the enemy rear area. (36/1-3)

(b) (S/NOFORN) An airborne division temporarily subordinated to the operational control of a front would execute an operational airborne assault to achieve tasks designated by the front. Detached airborne units, and airmobile or air assault units, which carry out operations in support of the front or specific formations of the front at more shallow depths are designated as operational-tactical forces.

b1

The size of the assault may vary from a battalion up to a reinforced regiment/brigade. Potential missions generally parallel those of operational assaults; however, the landing force is expected to operate in the rear area for less time before linkup.

b1

(c) (S/NOFORN/WNINTEL) One significant difference between Soviet employment concepts of airborne forces and air assault forces should be noted. Airborne forces are structured to land deeper and sustain combat without linkup for longer periods of time than air assault forces. The airborne force often is expected to accomplish major tasks for the front on its own, supported only by air and rocket strikes. Soviet emphasis is focused on insertion of a large combat unit which relies on total ground mobility once in the rear area. All airborne infantry units are either equipped, or are being equipped, with the BMD airborne amphibious combat vehicle (AACV), which provides the airborne force the ability to carry out more active combat action over wider areas by emphasizing maneuver, avoiding decisive engagement, and carrying out frequent raids in its area of operations. Unlike airborne forces, the air assault force carries out successive landing operations of smaller scale to assist the direct advance of specific formations within the front.

b1

(3) Tactical (U).

(u)

(S/NOFORN) Tactical airborne operations support army first echelon divisions. These operations normally involve battalion or company-

sized heliborne insertions of regular motorized rifle troops at depths usually under 20 kilometers. Tactical missions, while similar to operational-tactical missions, are directed primarily at forward objectives that assist the advance of combat divisions. The landing force is expected to carry out operations for only a few hours before quick link-up by ground forces. (36/I-3)

(4) Special Purpose (U).

~~(S/REL UK)~~ Special purpose operations involve units of up to a reinforced company in size performing reconnaissance and raid missions. Forces with a special purpose mission may reconnoiter or destroy enemy nuclear weapons, guide friendly aircraft to the target or drop zone, capture new combat equipment and weapons, destroy airfields, communications and logistics facilities, and perform terrorist and sabotage acts. (36/I-4)

(b) (1) & (b) (3) per CIA

(u)

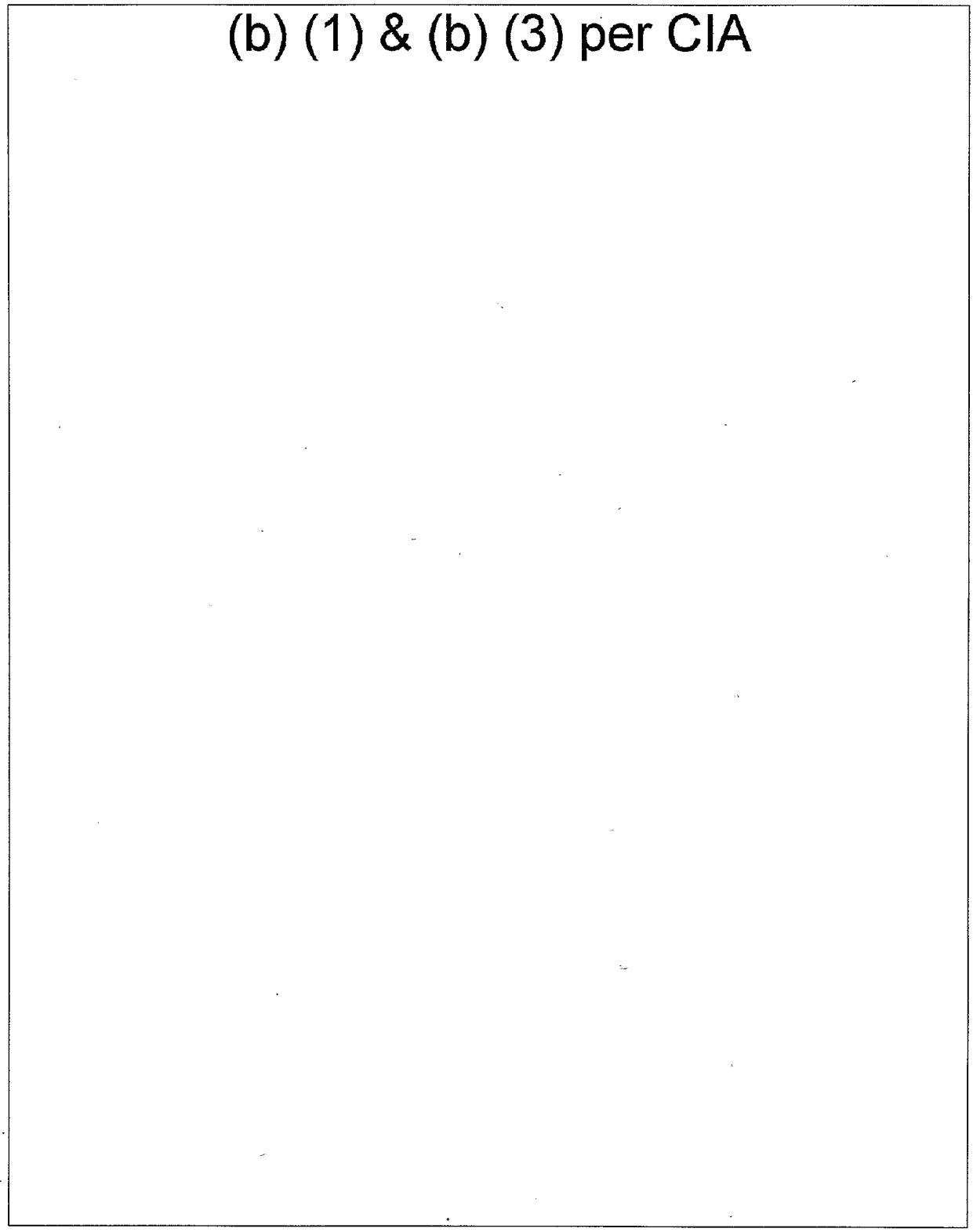
(h) ~~(S/NOFORN)~~ Failure to adequately plan, coordinate or execute any of the above seven attributes of an airborne operation, can result in limited success - if not complete failure. Thus, the same success list, also represents areas of vulnerability for an airborne operation.

(b) (1) & (b) (3) per CIA

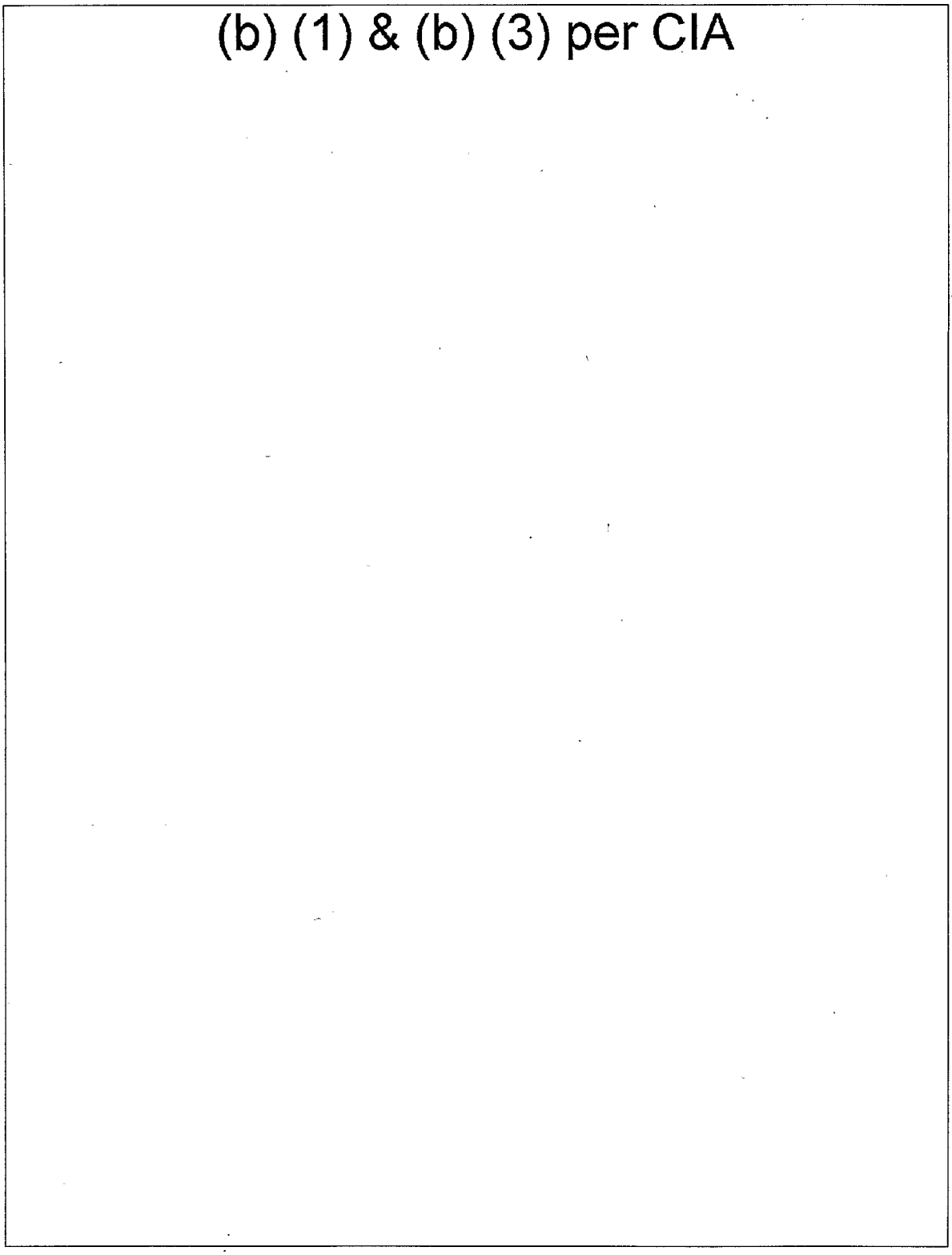
(1013

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA


(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA


(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

22. Airborne Amphibious Combat Vehicle (U).

a. (u) ~~(S)~~ The BMD AACV, a unique infantry combat vehicle developed by the Soviets for airborne units, has been added to the force structure of air assault units. The combination of armored protection, fire support, and amphibious capability in a ground mobile vehicle, indicates that the Soviets desire to extend operations of air assault units deeper into enemy rear areas. There, the mobility and protection of the BMD offers greater capability to sustain operations than that provided by foot mobility, and suggests that the Soviets continue to embrace ground transport as the primary solution to airborne and air assault unit mobility once troops are inserted into the rear area. (23)

b. (u) ~~(S/NOFORN)~~ The conversion of airborne divisions to three BMD-equipped regiments has been underway since approximately 1980. The addition of about 180 BMDs (nearly 200% increase) substantially affects the capabilities of airborne units. Equipping airborne and air assault units with the BMD gives them the capability to shift from "land and hold" missions to those emphasizing maneuver for significant distances. Raids on targets near to the airborne units direction of maneuver are part of the shift towards achieving multiple objectives in the rear area over a period of days. The Soviets believe that the mobility, protection, and firepower of the BMD gives airborne troops the ability to maneuver without becoming decisively engaged, as is highly probable with foot-mobile airborne units. (23)

(b) (1) & (b) (3) per CIA

1 (U) BMD platoons are used in the role of combat reconnaissance patrols to reconnoiter routes, crossing sites, objectives, and enemy dispositions ahead of the main forces. (23)

2 (U) A BMD platoon with its infantry section usually constitutes a single tactical antitank ambush. Such an ambush is executed from a covered position which controls an armor avenue of approach. The ambush may be either outposted from the main line of defense or established to screen its parent unit engaged in overrunning an objective. In defense the infantry deploys in support of the BMD. Antitank mines and additional measures may support the platoon ambush. (23)

3 (U) A BMD-equipped company, or larger unit, uses a march column organization similar to conventional Soviet motorized rifle units, and uses the BMD-equipped advanced guard to warn of a sudden threat. The advanced guard force will set up in hasty defense on favorable ground to contain a superior force so that the Soviet main force may deploy to covered positions. It can also screen the maneuver to evade decisive engagement. An inferior threat will be eliminated by the security force, or it may be fixed to permit maneuver of main forces for attack on the enemy flank or rear. (19)

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

25. Airborne Operations (U).

a. Exploitation of a Nuclear Strike (U).

(1) (u) ~~(S/NOFORN)~~ One of the most important conditions for achieving the successful and rapid defeat of the enemy, is the ability of the advancing forces to simultaneously bring to bear all available fire against enemy positions, throughout the entire depth of his defense system, with the object of inflicting maximum losses on his personnel and equipment, disorganizing the control of his troops, and, thereby, creating the conditions for a rapid advance. Airborne forces are expected to play a vital role in both the rapid breakthrough of the enemy defense and the subsequent rout of his troops.

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(7) (u) (~~S/NOFORN~~) In some instances it may be necessary to plan and execute the nuclear strike together with a chemical strike in order to ensure the neutralization of enemy defensive positions, anti-aircraft artillery, and enemy radar facilities.

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

k. Airborne-Air Assault Support of the Operational Maneuver Group (U).

(1) General (U).

b1 per DIA

(b) (U) The OMG is an updated version of an older concept with new technology. It was widely used in the final stages of World War II when the Germans and Japanese were unable to present a deeply echeloned defense and had no large operational reserves. The predecessor of the OMG was the army and front "mobile group" of World War II. Mobile groups were large operational exploitation forces used to move rapidly and decisively deep into the enemy's rear area to destroy his command and control and lines of communication, defeat his reserves, encircle and destroy his forces, and capture or destroy key political and economic centers. (12/7)

(2) (U) Since the late 1970s, important changes in the operational employment and organization of Soviet ground maneuver formations have been observed. The most significant operational change has been the concept of employing a tailored, high-speed exploitation force at army and probably front level. The structure of this force, called the operational maneuver group (OMG), depends upon the situation. The OMG is designed to move deep into the enemy rear area and seize critical objectives, normally before second-echelon Soviet formations are committed to combat. (12/1)

(3) (U) Army OMGs are likely to be formed from resources that are normally part of, or supporting, the army. They may be established prior to an operation, as part of the initial plan, or during an operation to exploit an unforeseen opportunity. A front OMG may be attached from resources controlled by the Theater of Military Operations (TVD) or Supreme High Command. At army level, the OMG may be at least as large as a rein-

forced division; at front level the OMG could be as large as an army. (12/1)

(4) (U) The assessed purposes of combat activities of the operational maneuver group (OMG) are:

(a) (U) Maintain the momentum and continuity of the offensive; (26)

(b) (U) Transfer the focus of combat deep into the rear of the enemy; (26)

(c) (U) Destroy important enemy objectives which cannot be destroyed by other forces or means; (26)

(d) (U) Create confusion and disorganize the enemy's defense system; and (23)

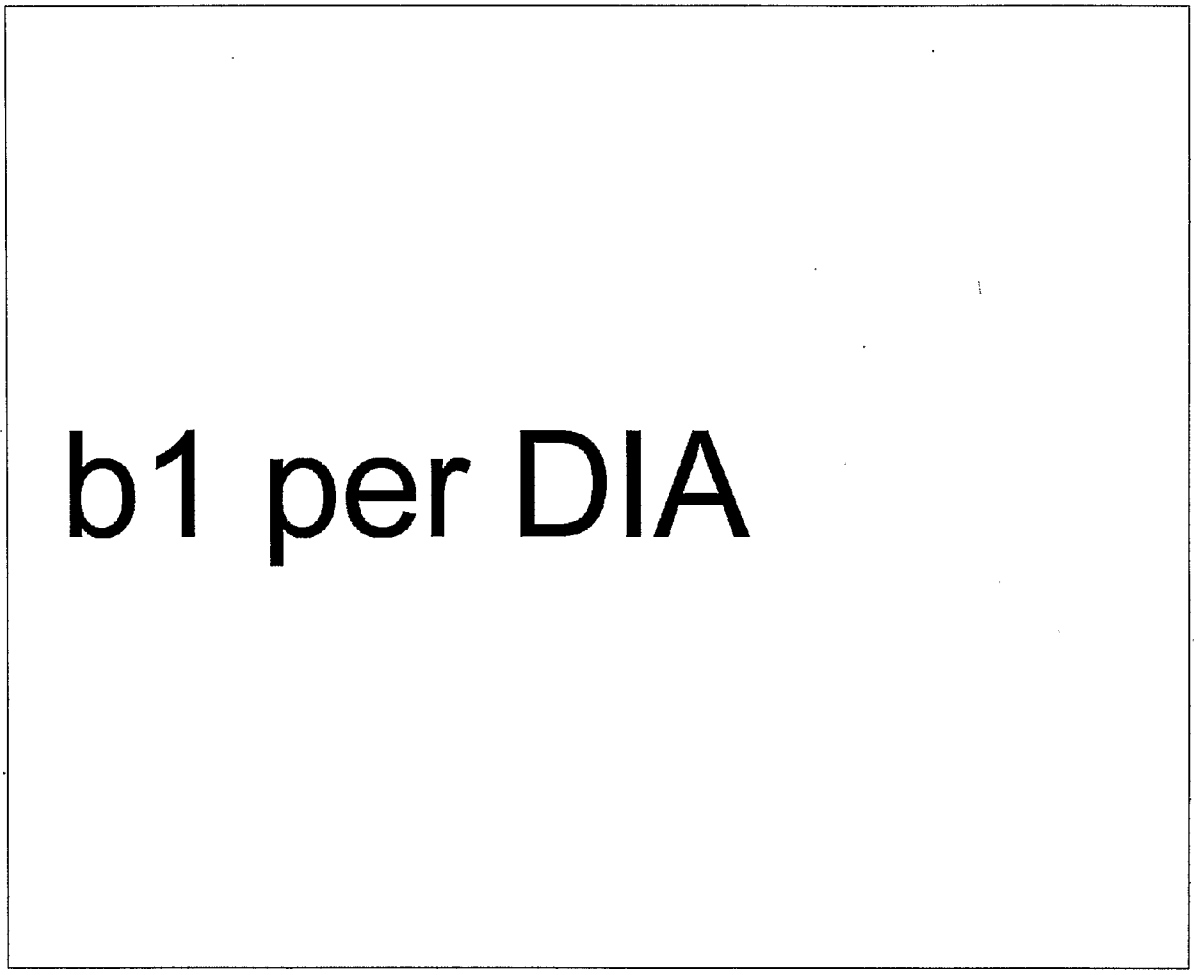
(e) (U) Disturb and limit the enemy's maneuverability and effectiveness of his combat activities. (26)

(5) (u) ~~(S/NOFORN/WNINTEL)~~ With the increasing emphasis upon high speed mobility and the projection of combat forces into the depth and rear of the enemy, both the airborne and air assault forces are expected to play an integral role in support of the OMG.

(b) (1) & (b) (3) per CIA

(7) ZAPAD '81 Exercise (U).

b1 per DIA



26. Airborne Division: Future Projections (U).

a. Uncertainties (U).

(U) Projecting changes in Soviet airborne force structure, organization, and concepts of employment 10-20 years in the future are subject to a number of uncertainties. Among these are the nature of technological developments, airlift resources, the nature of the NATO defenses perceived by the Soviets, and the development of tactics, operational art, and strategy. Some important uncertainties are listed below:

(1) (U) What impact will result from the development of high energy lasers, radio frequency damage weapons, and similar weapons technology on the survivability of air transportable combat forces being transported by fixed wing aircraft and helicopters over the battlefield?

(2) (U) What impact will economic constraints, declining rates of population growth, and demographic shifts have upon future Soviet force developments?

(u)
(3) ~~(S)~~ What new or improved measures will be integrated into present Soviet methods of neutralizing NATO air defenses, within planned corridors, to permit air movement?

(u)
(4) ~~(S)~~ How will the Soviets approach the balance of airlift between the needs of the front and the priorities for employing VTA? Will there be a major effort to develop the new Short Takeoff and Landing (STOL) tactical transports for the front requirement?

b. Trends (U).

(u)
~~(C)~~ Since the 1960s, Soviet air transportable combat forces have increased both quantitatively and in diversity. The Soviets' commitment to the importance of airborne, airmobile, and air assault operations, at all levels of the theater offensive, will continue to increase.

(u)
(1) ~~(C)~~ This trend will likely continue into the year 2000. The Soviets will continue to consider these forces as a means for focusing combat power in the enemy rear area to accomplish key tasks, and increasing the speed of offensive operations from division through theater level.

(2) (U) The Soviet effort to develop air transportable combat forces in the next twenty years is likely to be characterized by:

(u)
(a) ~~(C)~~ Retention of a full spectrum of air transportable combat capabilities: airborne, air assault, airmobile, and special purpose.

(u)
(b) ~~(C)~~ Increasing the reach, sustainability, and lift capability for air transportable combat forces.

(u)
(c) ~~(S/NOFORN)~~ Retaining the airborne forces' capability to accomplish deeper landings of 150 or more kilometers, which require a larger focus of combat force, greater duration of operations prior to linkup, and more orientation towards active maneuver to accomplish multiple tasks over time; and

(u)
(d) ~~(C)~~ Enhancing the existing capability to project airborne forces into regions outside theaters contiguous to the Soviet Union; i.e, lift capability, overflight rights, and basing rights.

c. Lift Projections (U).

(u)
~~(S/NOFORN)~~ Military transport aviation by 1990 is projected to include a transport mix of the following major aircraft types:

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Medium: (280) 210 AN-12 CUB
70 Medium Assault Transports (IOC: '85-'87)

Long Range: (405) 315 IL-76 CANDID
40 AN-22 COCK
50 Long Range Heavy Transport (IOC: '82-'85)

(u) (1) ~~(S/NOFORN)~~ The projected total VTA force of 280 medium and 405 long range transports represents a 45% decrease in medium transports and a 245% increase in long range transports. VTA capability for simultaneous airlift by 1990 should increase about 50%, as a result of the expected higher proportion of long-range transports deployed in the next ten years.

(u) (2) ~~(S)~~ The advent of the 1990s will see very little change in the overall capability to strategically deploy VDV divisions. The airlift capacity of military transport aviation will continue to be a limiting factor on the strategic movement of airborne forces during this period, although operational capabilities will be enhanced. By the mid-1990s, more than 90 percent of the long range transport fleet assigned to VTA regiments will consist of the new long range heavy transport and the CANDID. The increased numbers of modern long range, high payload aircraft should alleviate three problems which have served to constrain VTA operations--the necessity to obtain overflight, landing, and staging rights from countries which must be crossed; historic low aircraft-to-crew ratios; and the limited ability of the current fleet to handle oversize cargo. While it is possible that future world perceptions of Soviet military power will ease granting of transit rights, the availability of the 7200-nautical-mile range of the long range heavy transport (LRHT), and the projected inflight refueling capability for the CANDID, will make enroute stops much less necessary and greatly increase routing flexibility. Further, the large cargo capacity of the LRHT should mean most operations will require fewer aircraft and facilitate rotation of aircrews from uncommitted aircraft. Despite the expected enhancement of operational capabilities, we project that the overall growth in VTA lift will be offset by the expanded VDV equipment inventory and that the one-time lift capability will remain at about one VDV division (including all personnel and equipment) or six airborne BMD-equipped parachute assault regiments (with minimum ground support and supplies). (13/28,29)

d. Equipment Projections* (U).

(u) (1) ~~(S/NOFORN)~~ The two greatest threats to an airborne operation are the enemy air defenses (both air and ground), through which the trans-

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* (U) For an indepth discussion of airborne equipment projections, see Section II, paragraph 6.

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ports carrying the airborne forces must pass, and the enemy tank threat, once the airborne force has landed. The period 1980-2000 will see significant increases in and upgrades of the Soviet Air Forces, VTA forces, artillery and electronic warfare (EW) capabilities in their role of safeguarding the transport of airborne forces to their designated drop and landing zones.

(u)

(2) ~~(S)~~ Significant developments are expected to continue in the area of electronic countermeasures (ECM). Currently, the IL-76/M CANDID B's ECM capability allows the aircraft to operate in an environment in which enemy air defense is still active. The Soviets may engage in CANDID B paradrop operations without suppressing enemy air defenses. This possibility could enhance Soviet potential for use of massed airborne forces early in a major offensive. (21/98)

(u)

(3) ~~(S/NOFORN)~~ Soviet airborne division equipment increases and upgrading in the 1980-2000 timeframe will signficantly enhance its antitank capability. The 200 percent increase in BMD's, the addition of the 85-mm antitank guns, and the 409 squad ATGM's will significantly enhance the survivability and sustainability of the airborne division in a tank threatened environment.

(u)

(4) ~~(S/NOFORN)~~ The conversion of airborne divisions from one to three BMD-equipped parachute assault regiments, represents the single most important equipment upgrade of the airborne division. The armor protection, fire support and amphibious capability of the BMD extends the Soviet airborne threat from a primarily foot-mobile parachute unit with a "land and hold" mission, to a fully motorized division with an enhanced survivability, sustainability and capability for high-speed maneuvers beyond the initial objective to subsequent and follow-on objectives.

e. Force Projections (U).

(u)

(1) ~~(S/NOFORN/WNINTEL)~~ In December 1979, two airborne divisions were committed to Afghanistan (the 103rd GAD from Belorussian Military District (MD) and the 105th GAD from the Turkestan MD). These were the only Category I combat divisions available to the Soviet commander which had not required extensive mobilization of reservists and additional equipment prior to the invasion. Both divisions were airlanded unopposed in Afghanistan at airfields secured by forces already in place.

(u)

(2) ~~(S/NOFORN/WNINTEL)~~ Both divisions have been engaged in ground and airmobile combat in Afghanistan. Elements of the 105th GAD from the Turkestan MD were used to form a separate air assault brigade before the invasion and smaller airmobile units after the invasion.

(u)

(3) ~~(S/NOFORN/WNINTEL)~~ This contingency use of airborne troops to meet an operational need is not new to the Soviets; World War II provides many examples. However, with the possible exception of the air assault

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brigade formed from the assets of the 105th GAD, all other contingency task force organizations involving airborne forces of either the 103rd GAD or the 105th GAD, are assessed as temporary in nature based upon immediate operational exigencies. For this reason, both the 103rd and 105th Guards Airborne Divisions are projected to be reconstituted, resubordinated, and returned from Afghanistan to the USSR by 1985.

(u)

(4) ~~(S/NOFORN/WNINTEL)~~ Just as the Soviets perceived an immediate security threat along their Afghan border, which subsequently prompted the redeployment of two airborne divisions to Afghanistan, they also perceive an ever growing and permament security threat along the vast expanses of the Soviet-Chinese border. The nature of the perceived security threat from the People's Republic of China has prompted a projected (1980-2000) increase within the Far Eastern Theater of Military Operations (FETVD) of an additional eleven motorized rifle divisions - an approximate 300% additional increase greater than that projected for any other TVD. Significant equipment upgrades are also underway and projected in the FETVD.

(u)

(5) ~~(S/NOFORN)~~ As a result of the magnitude of the perceived Chinese threat along the Sino-Soviet border, the tremendous distances involved, the availability of VTA bases and regiments, and the previous historical experience of the FETVD, an additional airborne division is projected for the FETVD during the 1990-2000 timeframe.

(a) (U) The last recorded combat use (and one of the more successful) of Soviet airborne forces in WWII occurred in the Far East against the Japanese. Between 19 and 22 August 1945, the Soviet air force flew more than 5,000 sorties which included the paradropping of airborne groups of between 50 and 500 men into the major Manchurian cities to seize airfields, rail centers, weapons, and to disarm the local populace. (20/53,54)

(u)

(b) ~~(S)~~ This airborne operation in support of the advancing Soviet ground forces resulted in the total rout of the Kwangtong Army, and the establishment of a significant military-historical example to cite for justifying the reconsideration of an airborne division presence in the FETVD. The 98th GAD, currently located at Bolgrad in the Odessa MD, had previously been located in the Svobodnyy-Belogork area, Far East MD, as one of three airborne divisions of an airborne corps. A combination of an increased threat perception in the West, a perceived decline in the threat in the East, and a political force reduction, resulted in the reduction of airborne divisions from ten to seven in 1967, and the complete loss of an airborne corps in the Far East. However, the current Soviet perception of an ever increasing and permament Chinese threat once again provides support for an airborne presence in the FETVD.

(u)

(c) ~~(S/NOFORN/WNINTEL)~~ The FETVD is currently assessed as

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having air assault and airmobile assault brigade assets available for offensive/defensive operations. However, the tremendous distances involved (in excess of 3,000 miles of common border) in offensive or defensive operations within the Far East area of operations, and the inherent requirement for sustained independent operations involving extended periods prior to linkup, could only be fulfilled with the operational capabilities of an airborne division.

(u)
d. ~~(S)~~ The air transport substructure to support the addition of an airborne division in the FETVD is already in place. VTA bases currently exist at Nikolayevskoye, in the Transbaykal MD, and at Zavitinsk, in the Far East MD. Both bases have an assigned VTA transport regiment, and both are located along the Sino-Soviet border within the Far East TVD boundaries.

(u)
e. ~~(S/NOFORN)~~ Uncertainty exists as to whether an additional airborne division will be formed, or whether an existing airborne division will simply be transferred from another TVD to the Far East — as occurred in reverse in 1967. However, since force projections for 1980-2000 do not support a declining threat perception in the West, the likelihood of a shift of a currently existing airborne division from West to East is considered improbable. Thus, the 1990-2000 projected formation of an additional airborne division in the Far East TVD will bring the total airborne force structure to nine airborne divisions--eight Category I and one Category III for training.

f. Conclusions (U).

(1) Airborne Divisions (U).

(u)
~~(S)~~ Since World War II, the Soviet Union has maintained the largest airborne force in the world, some eight divisions (including one training division). We forecast that this number will increase to nine during the 1990s. The airborne divisions provide the Soviet leadership with a rapidly deployable force which can be used to influence events against recalcitrant Warsaw Pact allies, support friendly third world governments, or, during war, strategic, operational-strategic, and operational objectives.

(u)
(2) ~~(S)~~ We estimate that the peacetime projection role of their operational-tactical responsibilities are assumed by the growing number of front/military district level air assault brigades (AAB). During the 1990s, the airborne division's principal peacetime mission will be to serve as a strategic mobile force capable of intervening in areas peripheral to the Soviet Union to protect Soviet and Soviet-approved client interests. These divisions, although unable to equal the firepower and sustained combat capability of conventional armored and mechanized divisions, will be more than a match for light infantry and the armies of most underdeveloped nations. While power projection remains one likely role, the primary wartime mission of the airborne will be that of a reserve, under Supreme

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High Command control. Airborne divisions will be selectively employed in theaters of war to contribute toward achieving decisive operational or strategic outcomes of conventional or nuclear combat within the offensive zone of an important front, or within a theater. (13/29) By the early 1990s, we expect to see the enhancements currently underway completed, and the addition of a ninth airborne division in the Far East TVD completed.

(u)

(3) (~~S/NOFORN/WNINTEL~~) Efforts to improve the capability to conduct a high speed offensive in depth will drive Soviet tactical concept developments during the next twenty years. Both equipment upgrades and the projected increase of an airborne division in the years 1980–2000, will significantly enhance the Soviet commander's high speed capability to prosecute the offensive across the entire width and depth of the enemy's defensive zones. Typical airborne operations which capitalize on current and projected equipment upgrades, and support high speed offensive operations in depth, are: operations to exploit the effects of nuclear strikes, deep penetrations to support amphibious landings, seizure of bridgeheads, river crossings, mountain passes and airfields, and operations in support of the OMG.

(u)

(4) (~~S/NOFORN~~) The threat of the airborne division in the year 2000 will be formidable. Once deployed in the rear defensive zones of the enemy, the airborne division will present the defending commander with a Hobson's choice: the decision to commit significant resources to destroy or neutralize the threat, thus diminishing the amount of force available to be committed against the front; or to ignore the threat and risk the impending loss of key geographical objectives, as well as command, control and logistic support elements located in the rear area.

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SECTION IV. POSSIBLE ALTERNATIVE DIVISION STRUCTURES (U)

1. General (U).

(U) As previously indicated, we believe that the structures of year 2000 divisions will be similar to those of today's divisions, because the weight of available evidence and observable trends so indicate. It is, of course, possible that we are wrong. Unforeseen events or unexpected decisions could result in the emergence of a markedly different division structure. We have considered several alternatives that are described briefly in this chapter.

2. High Technology Division (U).

(U)
a. ~~(S)~~ The Soviets might develop a division which integrates many highly advanced technological features, potentially available in the year 2000, in such a way that present weapons and equipment become outmoded, and are thus replaced. Such a division would have a common combat vehicle armed with lasers and missiles, and carry a four- to six-man assault team to replace both tanks and APC's. Cannon and rocket artillery, and air defense units would be largely replaced by missiles and directed energy weapons capable of being used against air and ground targets. In theory, such a unit would have much reduced resupply requirements since directed energy weapons would substitute for many conventional systems. It might also have advanced, state-of-the-art command, control and communications capabilities, including sophisticated data storage and retrieval support for reconnaissance and fire support systems. This kind of a "high technology" division has been envisioned as a possible elite force optimized for rapid, deep, highly mobile operations. It would thus take over the primary role of current tank divisions.

(U)
b. ~~(S)~~ We have no indications that the Soviets are moving in this direction, or that they have even given thought to such a "high technology" division. In addition to technical problems, there are some tactical difficulties with the idea of a common combat vehicle, particularly when the infantrymen would be intended for dismounted combat. Further, we are not aware of any Soviet efforts suggesting interest in developing such a common combat vehicle. In our judgment, the Soviets are far more likely to gradually integrate specific new capabilities into existing organizations than they are to create an entirely new kind of division.

3. Air Assault Type Division (U).

(U)
~~(S)~~ We have noted in this study what we assess to be a growing emphasis on air assault capability, which is likely to increase in the future.

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A reasonable argument may be made that further urbanization, coupled with continually improving NATO antitank warfare capabilities, could lead the Soviets to further increase their air assault force structure. This increase could lead the Soviets to form a front level air assault division.

(u)
a. ~~(S/NOFORN)~~ This division could conduct a large number of coordinated air assault landings in part by paradrop, but predominantly by helicopter, in a wide zone up to 150 km beyond the FEBA. The multiple landings would be part of an overall front operational plan to isolate defending units from their reserves and service support, by seizing key blocking terrain, disrupting combat support and service support operations with successive raids, and by diverting enemy reserves from the main battle. To achieve the necessary scale of offensive action, both attack and transport helicopters would operate with the air assault force in the rear. This concept would not replace the more independent and deeper airborne division landing operation. However, it would expand the present air assault brigade role, from successfully supporting specific tank-heavy formations and units, to one with a broader focus on disrupting the enemy rear area in support of the overall front offensive concept.

(u)
b. ~~(S)~~ An alternate focus, which may be more likely, would be to expand the present capability to successively support the advance of specific tank-heavy formations and units, by substituting airmobile (heliborne only) forces for motorized rifle troops within tank divisions. Either the motorized rifle regiment of the tank division, or the motorized rifle battalions within tank regiments would be affected. The idea behind such an organization would be to allow tank regiments to maximize their shock value in a fluid battlefield situation, while retaining a highly mobile light infantry capability to successfully secure the route of advance, or attack centers of resistance from the rear. Such a force would also offer certain advantages in operations conducted over nuclear-contaminated terrain.

(u)
c. ~~(S)~~ There is no evidence that the Soviets are actively considering either organization. Questions remain as to the survivability of helicopters and their support, which would remain with the divisions that had penetrated the rear area. For the foreseeable future, the Soviets have apparently opted for independent air assault brigades and battalions which are projected to increase in number. We do not project that an air assault type division or a composite tank/airmobile division will be created, but simply note that such structures would offer certain possible advantages.

4. Balanced Division (U).

(u)
a. ~~(S)~~ There have been suggestions that the Soviets might replace current tank and motorized rifle divisions with what has been termed a "balanced," "unitary," or "composite" division. Such a structure would merge the characteristics of present tank and motorized rifle divisions in any of several postulated ways. One approach would be to create composite

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battalions. These battalions would be of two types, motorized rifle-heavy (three motorized rifle companies and one tank company) and tank-heavy (three tank companies and one motorized rifle company). Two of each type of composite battalion would constitute a composite regiment, and four of the latter a so-called "balanced" division. A variation of this theme might retain current battalion structures, but combine two tank and two motorized rifle battalions into a "balanced" regiment. Four such regiments would then constitute a "balanced" division. Yet another variation would retain the current distinction between tank and motorized rifle divisions, but with a difference. Three of the four maneuver regiments would be balanced, consisting of two tank and two motorized rifle battalions. The fourth regiment would be pure. If this regiment were a tank regiment, the division would be known as a tank division. If it were a motorized rifle regiment, the division would be designated a motorized rifle division. No doubt other variations of this theme could also be created.

b. (U) It is the consensus of the intelligence community that the Soviets are not likely to institute organizational changes of the sort noted above.

(1) (u) ~~(S)~~ Apparently, the notion gained currency in some quarters at the time that motorized rifle and artillery elements began to be added to tank regiments. This led some to conclude that the distinctions between tank and motorized rifle regiments were being eliminated, and to postulate from this that separate tank and motorized rifle divisions were no longer required. We believe it is correct to say that the combined arms capabilities of tank regiments to conduct their traditional missions were being improved. This was a natural and expectable response to the demands of modern warfare.

(2) (u) ~~(S)~~ Soviet writings retain a clear functional distinction between tanks organic to motorized rifle regiments, which have an infantry support role, and those organic to tank regiments, which are designed for shock action in highly mobile warfare. A tank division contains three separate concentrations of nearly 100 tanks each, unencumbered by excessive motorized rifle troops, while a motorized rifle division has only one such concentration, since most of its tanks are tied down to infantry support. Conversely, the motorized rifle division structure is optimized for deliberate attacks and other operations for which substantial infantry support is needed. The Soviets have shown no inclination to change this fundamental three-and-one structure. It provides them with flexibility not contained in the alternatives. We also believe the mix of maneuver battalion types (tank or motorized rifle) within tank or motorized rifle regiments is more flexible to meet varied combat situations. Comparing only aggregate counts of equipment or personnel is misleading. Such comparisons ignore the fundamental tactical problems associated with a regiment that is neither tank-heavy nor infantry-heavy and therefore is unable to build up a deliberate attack with infantry or conduct an exploitation without additional armor.

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(u)

(3) ~~(S)~~ Similarly, no convincing argument has been advanced for a Soviet decision to adopt a combined arms structure at battalion level (i.e., battalions containing a mix of tank and motorized rifle companies). Aside from compounding the existing difficulty in finding capable combined arms commanders and complicating unit training, integration at battalion level would prevent tanks from concentrating properly. The commander's ability to constitute tank reserves, support his main effort, or react to a rapid change in the situation would be hampered. We have seen no indications that the Soviets are considering such battalion level integration, and doubt that they will move in this direction.

c. (U) Predicting the organizational structure of Soviet divisions twenty years in the future is in large measure an exercise in judgment. The analyst becomes acutely aware that there are many unknowns which could influence division structures in unforeseeable ways. Because of this situation, we believe that it is prudent to offer, as a possibility, an alternative division structure which, although not anticipated, could evolve, in order to give planners and force developers a better appreciation of the rather wide spread of possible future division structures. We have selected as a vehicle to do this the "balanced division."

(u)

(1) ~~(S)~~ This division would have four balanced maneuver regiments, each consisting of two tank battalions and two motorized rifle battalions.

(u)

(2) ~~(S)~~ The division would perform the same missions as the continuation divisions, and would be unique only in the organization of its four maneuver regiments.

(u)

(3) ~~(S)~~ The projection of a possible balanced regiment as a variant to the traditional tank and motorized rifle regiments is based primarily on the following:

(u)

(a) ~~(S)~~ The tank will continue to be the centerpiece of the Soviet offensive. However, tanks will have to increasingly rely on combined arms support. The development of an "armored force" concept is a distinct possibility. The complex nature of the modern battlefield seems to argue against the notion that missions can be clearly categorized as tank or motorized rifle. On a battlefield proliferated with diverse weapons systems, it may very well be that the terms "motorized rifle missions" and "tank missions" could lose practical significance.

(u)

(b) ~~(S)~~ The continuing urbanization of Western Europe will impact directly on the employment of large tank heavy forces. The inherent disadvantages of having tanks fight in or maneuver through urban areas may necessitate a more balanced mix of motorized rifle and tank units.

(u)

(c) ~~(S)~~ The proliferation of NATO ATGMs and the significant threat it poses to the survival of Soviet tanks could conceivably

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cause the Soviets to reevaluate their current mix of tank and motorized rifle units within the combined arms concept.

(4) (U) The "Balanced Division" concept provides a distinct alternative to the continuation divisions. No one really knows how Soviet divisions will be organized in the year 2000. By 1981 standards, the projected "Balanced Division" may appear to be a revolutionary departure from Soviet practices. However, changes in the organizational structure of Soviet divisions are occurring today and there is reason to believe that changes will not continue. If changes occur within several years of each other they are normally categorized as "evolutionary." Evolutionary change is typically Soviet. Assuming that three or four "evolutionary" changes in Soviet divisional organization structure occur over the next 10 to 15 years, the division structure which might exist by the year 2000, would not represent "revolutionary change", but rather would be another phase in an ongoing series of evolutionary changes. Therefore, the "Balanced Division" has been included in this study not as a "revolutionary concept", but rather as a possible product of 20 years of evolutionary activities.

(5) (U) When projecting 20 years into the future, consideration of alternatives will not only contribute to the generation of different sensitivities and the identification of critical intelligence parameters, but will also stress the capabilities of both US combat systems and US intelligence collection systems. If only the probable "Continuation Divisions" are studied, Army materiel and force developers may not be prepared to cope with unanticipated challenges presented by possible alternative Soviet actions.

(6) (U) It should be emphasized that the projected "Continuation Divisions", with their "3-and-1" regimental mix, are considered properly organized and equipped to successfully perform their missions in accordance with Soviet doctrine and tactics. Therefore, the "Balanced Division" is not being offered with the intention of disparaging the capabilities of those "Continuation Divisions." Rather, the "Balanced Division" is presented as a conceptual alternative with its own capabilities to function effectively on the battlefield in the year 2000. (34/96-106)

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CHAPTER 5

HIGHLIGHTS (U)

(U) This chapter provides an analysis of Soviet motorized rifle and tank regimental operations that will be applicable out to the year 2000. The analysis includes both offensive and defensive tactics of the motorized rifle and tank regiments. Additionally, projected Soviet motorized rifle, tank, and airborne regimental tables of organization and equipment for the years 1990 and 2000 are provided to provide a framework for the discussion of operations and tactics. A detailed rationale for the projections contained in the tables of organization and equipment is discussed in Chapter 4, Sections I thru III.

(U)

~~(C)~~ The motorized rifle regiment in the attack, as part of the motorized rifle division's first echelon, is given the mission to break through to the enemy division reserves. The regimental commander uses the fire and maneuver capabilities of battalions and supporting units to maintain the momentum of the attack.

(U)

~~(C)~~ The tank regiment is the main exploitation force of the motorized rifle division. Soviet doctrine emphasizes the vital role of tanks in nuclear warfare, particularly in overrunning hastily occupied defenses in the mobile exploitation phase of the offensive and in the pursuit. Therefore, the rate of advance of other divisional units is determined by that achieved by the tanks. The speed of the tanks increases the suitability of the tank regiment for the exploitation of nuclear strikes and sustaining the momentum of the advance by rapid crossing of contaminated areas.

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CHAPTER 5

SOVIET REGIMENTAL OPERATIONS (U)

1. Motorized Rifle Regiment in the Offense (U).

a. Attack Formation (U).

(U) ~~(C)~~ The attack formation of the reinforced motorized rifle regiment (MRR) is determined after consideration of the mission, terrain, character of enemy defenses, and means available. Normally, the regiment attacks in two echelons. The first echelon consists of two motorized rifle battalions, each of which is usually reinforced with a company of tanks from the regiment's medium tank battalion. The regimental second echelon usually is a motorized rifle battalion, which may or may not be reinforced with tanks. The second echelon is used to reinforce the first echelon, to outflank the enemy defenses, to mop up bypassed resistance, and to block counterattacks from the flanks. It usually follows the first echelon by 1 to 3 km and is usually committed from the march. The remaining tank company of the tank battalion is the regiment's tank reserve, and it may be reinforced with antitank weapons from the regiment's antitank battery. The regiment may be reinforced with more tanks from the division's tank regiment or a divisional independent tank battalion in the motorized rifle division.

b. Frontages and Depths (U).

(U) ~~(C)~~ If the division is making the army's main effort, the regiment normally has a frontage of 5 to 8 km. A regiment normally has a frontage of 10 to 15 km if the division is making a secondary attack. The actual breakthrough zone of the regiment is about 1 to 2 km wide within its assigned frontage. The depth of the attack formation of the regiment when fully deployed is about 15 km.

c. Conduct of the Attack (U).

(1) (U) ~~(C)~~ The motorized rifle regiment in the attack, as part of the motorized rifle division's first echelon, is given the mission to break through to the enemy forward artillery positions and continue the attack against enemy division reserves. The regimental commander uses the fire and maneuver capabilities of battalions and supporting units to maintain the momentum of the attack.

(2) Attack positions for the battalions are selected by the regimental commander behind the last available terrain feature that can be reached without exposure to hostile observation and small arms fire. These positions may be at varying distances from the line of contact. The advance is so timed that all first echelon battalions cross the line of departure at approximately the same time.

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(u)
(3) ~~(C)~~ Security is organized at the regimental echelon. Antitank units in reserve prepare to protect the flanks of the attacking units against armored counterattacks. Flank and rear security is provided by motorized rifle elements. Rear security groups keep the lines of communications free of enemy stragglers.

(u)
(4) ~~(C)~~ When the attack is launched, enemy strongpoints that cannot be immediately reduced are bypassed. Small elements are detached from the battalions of the first echelon to block these strongpoints and contain them. The first echelon battalions, supported by the regimental artillery, attempt to penetrate the enemy defenses and create gaps between the positions to permit the employment of exploitation forces.

(u)
(5) ~~(C)~~ Should a weak point in the enemy defenses develop, the second echelon is promptly committed to exploit the success of the first echelon. The second echelon is also used to reinforce the first echelon should the advance begin to slow down, to outflank enemy defenses, and meet counterattacks from the flanks. Actions of the battalions are influenced by changes of direction and by readjustment in supporting artillery fires. During this phase, the regimental commander is particularly alert for enemy counterattacks from the flanks which are supported by armor. Regimental antitank reserves are used to counter such threats. Hasty antitank minefields are used to block approaches favorable to the enemy. When the enemy armor threat no longer exists, the antitank mines are recovered and moved forward by assigned engineers assisted by motorized rifle elements.

(u)
(6) ~~(C)~~ The tank battalion is the regimental commander's tank reserve and is committed to exploit penetrations. If its companies have been placed under the operational control of the motorized rifle battalions and the regimental commander desires to commit his tanks in mass, he will direct the motorized rifle battalions to release them to the control of the parent battalion. These tanks attempt to drive through and overrun enemy positions immediately in front of the battalion positions, enabling the motorized rifle units to continue the assault.

(u)
(7) ~~(C)~~ The motorized rifle regiment begins pursuit operations at the first opportunity. During the initial phase, the regiment attempts to prevent the enemy from breaking contact and strives to keep up the pressure. Small units are employed to infiltrate the enemy area to set up road blocks and, in general, to delay and harass the retreating enemy. Motorized rifle columns, reinforced with tanks and artillery, are employed in coordination with tank units in the tasks of cutting up and destroying enemy columns.

(u)
(8) ~~(C)~~ Tank units are employed to race ahead of the retreating enemy columns and block their withdrawal routes; to attack withdrawing columns from the flanks; to make rapid surprise thrusts into the enemy rear and create panic, destroy supplies, rupture communications, and attack command posts. Reserves of tanks, with artillery and motorized rifle elements, are held in readiness to engage enemy reserves. (4/149-154)

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2. Motorized Rifle Regiment in the Defense (U).

a. Organization for Defense (U).

(1) (u) ~~(C)~~ The first echelon motorized rifle regiment usually is assigned to defend a zone approximately 10 to 15 km wide and from 8 to 10 km deep. The defense is organized in two echelons with two reinforced motorized rifle battalions in the first echelon and a reinforced motorized rifle battalion in the second echelon. A regimental artillery group, consisting of two or more artillery battalions and a multiple rocket launcher battalion, is formed from division assets and placed in support of a first echelon regiment.

(2) (u) ~~(C)~~ The first echelon motorized rifle battalions defend the forward 4 km of the regimental zone. The third motorized rifle battalion establishes a battalion defense area in the rear of the regimental defense zone. This defensive area is approximately 5 km wide and from 3 to 5 km deep; it is located 5 to 7 km from the forward trace of the main defense belt.

(3) (u) ~~(C)~~ The regimental artillery group prepares primary, alternate, and night firing positions for each battery within the regimental second echelon defense zone. The platoons of the regiment's air defense battery are deployed to protect the batteries of the regimental artillery group.

(4) (u) ~~(C)~~ The motorized rifle regiment's reserve force, consisting of the regimental tank battalion and an antitank guided missile platoon from the regiment's antitank guided missile battery, are located in the vicinity of the second echelon battalion. These elements may be reinforced by divisional antitank artillery in the motorized rifle division.

(5) (u) ~~(C)~~ The regimental command post is located with the second echelon battalion and is protected by the security platoon of the regimental headquarters company.

b. Conduct of the Defense (U).

(1) (u) ~~(C)~~ The combat outposts keep the enemy under continuous surveillance and a constant volume of long-range fires. Action is taken to deceive the enemy as to the location of the main defense belt and to cause him to mass his forces. The combat outpost line holds its position as long as possible without becoming decisively engaged with the enemy.

(2) (u) ~~(C)~~ The motorized rife regiment begins the defense when the enemy makes contact with the security outposts. As hostile elements move within range, security outposts take them under fire with mortars, small

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arms, machineguns, tanks, and antitank weapons. Artillery places fire on the advancing enemy and covers the withdrawal of the security outposts as the latter are forced back.

(u) (a) ~~(C)~~ Hostile penetrations of the forward positions of battalion defense areas are blocked by the second echelon.

(u) (b) ~~(C)~~ Small mobile tank forces are employed by the regiment to execute local counterattacks against penetrations of the first echelon positions.

(u) (c) ~~(S)~~ Penetrations of the regimental sectors are counter-attacked by the divisional counterattack force (usually consisting of the medium tank regiment, antitank weapons, and other artillery). If these counterattacks fail to stop the enemy advance, threatened units may withdraw to alternate defense areas. (4/156-159)

3. Offensive Employment of the Tank Regiment in the Motorized Rifle Division (U).

a. Attack Formation (U).

(u) ~~(C)~~ The medium tank regiment is the main exploitation force of the motorized rifle division. Soviet doctrine emphasizes the vital role of tanks in nuclear warfare, particularly in overrunning hastily occupied defenses in the mobile exploitation phase of the offensive and in the pursuit. Therefore, the rate of advance of other divisional units is determined by that achieved by the tanks. The speed of the tanks increases the suitability of the tank regiment for the exploitation of nuclear strikes and sustaining the momentum of the advance by rapid crossing of contaminated areas.

b. Conduct of Operations (U).

(u) (1) ~~(C)~~ Soviet doctrine permits the tank regiment to be employed as a first echelon unit only if enemy tanks or anti-tank weapons and defenses are not expected to be encountered early and where the mission, terrain, and opposing forces favor its employment. Good tank terrain, a weak enemy, and a high level of use of nuclear weapons favor the use of the tank regiment as part of the breakthrough force to exploit nuclear breakthroughs, for deep penetration, for enveloping movements, and for exploiting gaps in enemy formations. Its mission would be to break through the opposing defenses and continue the advance to the division's objective.

(u) (2) ~~(C)~~ For a deliberate attack against a prepared enemy defense, the motorized rifle division normally attacks in two echelons, in an attack zone 10 to 15 kms wide. Within the attack zone a breakthrough area 4 km wide is established. Two regiments would attack in the breakthrough area, and a third regiment would conduct a supporting attack in the remainder of

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the division attack zone. A fourth regiment, which might be the tank regiment, would be held in reserve to exploit the successes of the attacking 1st echelon regiments.

(3) (u) ~~(C)~~ During mobile phases of offensive operations, when the attack from the march or the meeting engagement characterizes combat action, deployment of forces does not follow a standard pattern. The motorized rifle division normally advances in three or more columns, depending on the width of the division zone and the number of routes available. The attack formation is developed by rapid employment of forces from march columns as the situation requires. In such an advance, the medium tank regiment moves well forward in the division main body in order to facilitate rapid commitment to exploit nuclear strikes or to attack the flanks of an encountered enemy force.

(4) (u) ~~(C)~~ The division commander organizes his forces to include follow-up echelons and reserves in order to maintain the high intensity of the advance, to repel enemy counterattacks, and to provide a force to exploit the offensive success of the first echelon. The reserve is a force withheld initially from an engagement for later commitment at a decisive moment. The division commander organizes this reserve force to include all combat arms (combined arms reserve, tank reserve, antitank reserve, and engineer reserve). As the main striking force of the division, the tank regiment is committed to exploit the initial penetration of motorized rifle regiments by deep thrusts into the rear enemy defense. (4/162-163)

4. Defensive Employment of the Tank Regiment in the Motorized Rifle Division (U).

a. General (U).

(C) Normally, the tank regiment is employed in a counterattack role during the defense, and is usually located in or behind the area of the second echelon forces.

b. Conduct of Operations (U).

(1) (u) ~~(C)~~ The tank regiment is prepared to conduct a defense, if required, to gain time to mass necessary forces to continue the offense, to consolidate captured positions, or to repel enemy ground attacks. In this case, the medium tank regiment may be employed in a first echelon role.

(2) (u) ~~(C)~~ Normally, the tank battalions of the motorized rifle regiments are employed to provide tank reinforcements to first echelon motorized rifle battalions and to constitute a regimental tank reserve. The tank regiment is thus left at the disposal of the division commander to form the main counterattack force of the division's defense system. However, if the terrain does not permit the maneuver of large tank formations, elements of the tank regiment may be subordinated to first echelon motorized rifle regiments as tank reinforcements. (4/164)

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5. Offensive Employment of the Tank Regiment in the Tank Division (U).

a. General (U).

(U) ~~(C)~~ The medium tank regiment is normally a first echelon force of the tank division. By combining its heavy firepower with supporting tactical nuclear strikes, conventional artillery fire, and air strikes, the medium tank regiment can rapidly maneuver to accomplish its offensive mission.

(U) b. ~~(C)~~ The medium tank regiment organizes for the attack as a first echelon unit where the mission, terrain, and opposing forces favor its employment. Regardless of whether the medium tank regiment attacks in the first echelon of a large-scale operation, or is committed after the forward enemy defenses have been breached, its attack is always characterized by utmost violence and extremely vigorous action.

(U) c. ~~(C)~~ Because the medium tank regiment in the tank division has a different mission from that in the motorized rifle division, the methods of employment will be in support of the missions of the tank division and tank army. (4/165)

6. Defensive Employment of the Tank Regiment in the Tank Division (U).

(U) a. ~~(C)~~ In a defensive posture, the medium tank regiment in a tank division, may become a first echelon defensive force and await the development of the situation in order to reassume an offensive role. If the regiment is not a first echelon defensive force then it awaits to counterattack, and is disposed well into the second defensive belt and dispersed in order to avoid becoming a lucrative nuclear target. Should the first echelon defensive belt collapse, a series of counterattacks will be initiated, coordinated with all combat units to include aviation and nuclear strikes. A powerful nonnuclear artillery preparation, tactical air support, and missile support will probably precede the counterattacks if the enemy temporarily delays the continuation of his attack. (4/165)

b. (U) Tables 19 thru 35 depict Soviet Regiments in 1990 and 2000. For the year 2000, both a "Best" and "High" Estimate are provided. (4/76-145)

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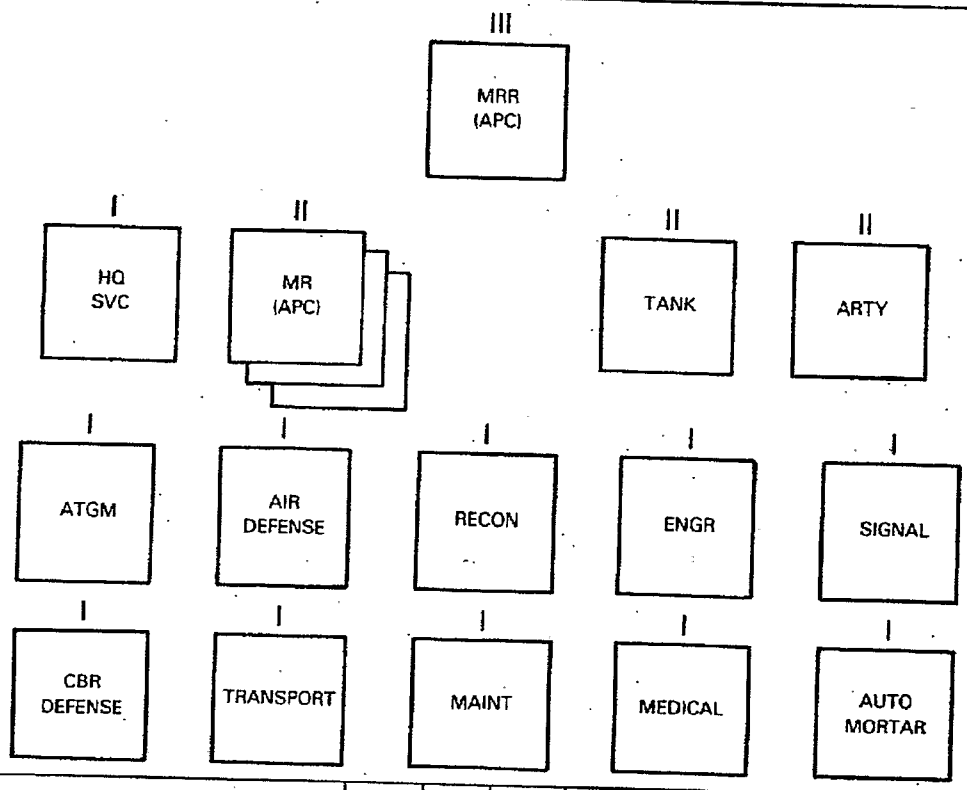
Table 19. (U) Motorized Rifle Regiment (APC), Motorized Rifle Division 1990



	MR BN (x3)	TK BN	ARTY BN	ATGM BTY	ADEF BTY	RE-CON CO	AUTO MORT PLT	ALSO IN REGT	TOTAL
TANK T-80		40							40
ARMORED PERS. CARRIER BTR-70-F/O	141					3			144
ARMORED RECON VEHICLE BRDM						4			4
AUTO 82MM AUTO MORTAR							9		9
LT 82MM MORTAR	18								18
120MM MORTAR (TOWED)	18								18
SP 122MM HOWITZER M-1974 FO			18						18
MP ATGM AT-4 F/O	18								18
VEH ATGM AT-5 F/O				9					9
TOWED 85MM AT GUN	18								18
MP SAM SA-14 F/O	27	3							30
ZSU-X					4				4
SA-13 SAM TEL					4				4
LPLWS	3	1							4
AUTO GRENADE LAUNCHER F/O	18								18
RPG-16	105	2	18	9		4		8	146
AT-7	27								27
HEL					1				1
PERSONNEL	1641	168	211	40	65	54	46	385	2610

SOURCE: 3/76

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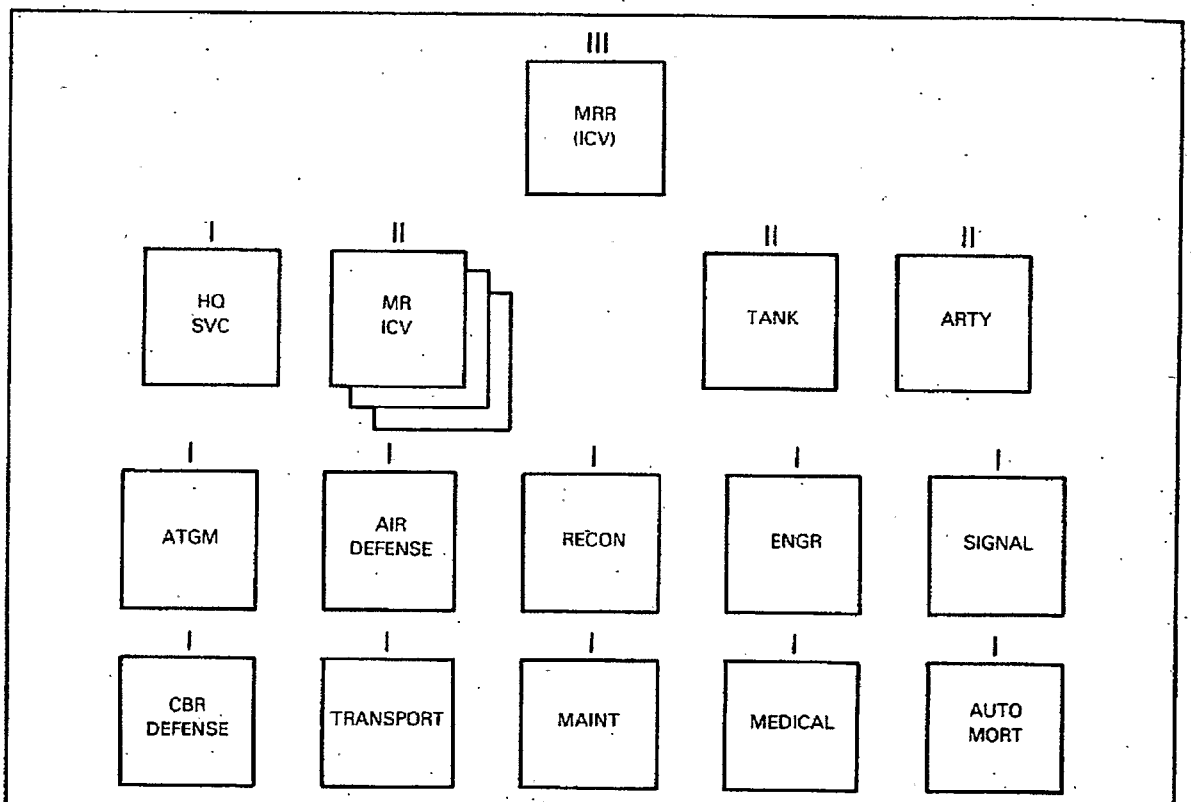
Table 20. (U) Motorized Rifle Regiment (ICV), Motorized Rifle Division 1990



	MR BN (x3)	TK BN	ARTY BN	ATGM BTY	ADF BTY	RE-CON CO	AUTO 82 MORT BTY	ALSO IN REGT	TOTAL
TANK, T-80		40							40
INFANTRY COMBAT VEHICLE BMP-3	132					3			135
ARMORED RECON BRDM						4			4
TOWED 82MM AUTO MORTAR							9		9
LT 82MM MORT	18								18
SP 120MM MORTAR	18								18
SP HOWITZER-122MM M-1974 F/O			18						18
VEH ATGM AT-5 F/O				9					9
MP SAM SA-14 F/O	27	3							30
ZSU-X SPAA					4				4
SA-13 SAM TEL					4				4
AUTO GRENADE LAUNCHER F/O	9								9
RPG-16	99	2	18	9		4		8	140
LPLWS	3	1							4
HEL					1				1
PERSONNEL	1401	168	211	40	65	54	46	391	2376

SOURCE: 3/73

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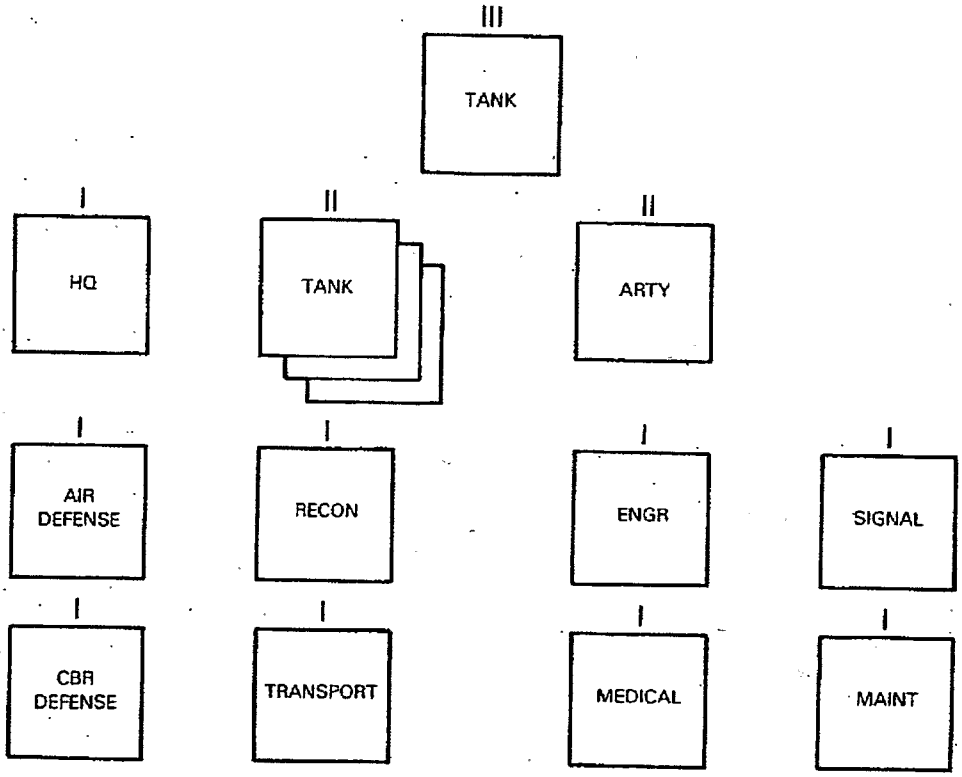
Table 21. (U) Tank Regiment, Motorized Rifle Division 1990



	TK BN (x3)	ARTY BN	ADEF BTY	RECON CO	ALSO IN REGT	TOTAL
INFANTRY COMBAT VEHICLE BMP-3				3		3
TANK, T-80	93				1(HQ)	94
SP HOWITZER-122MM HOW M-1974 F/O		12				12
GRAD-1 122MM REGIMENTAL MRL		6				6
MP SAM SA-14 F/O	3					3
SPAA ZSU-X			4			4
SA-13 SAM TEL			4			4
LPLWS	3					3
RPG-16					18	18
RECON VEH - BRDM				4		4
HEL			1			1
PERSONNEL	414	216	65	54	401	1150

SOURCE: 3/79

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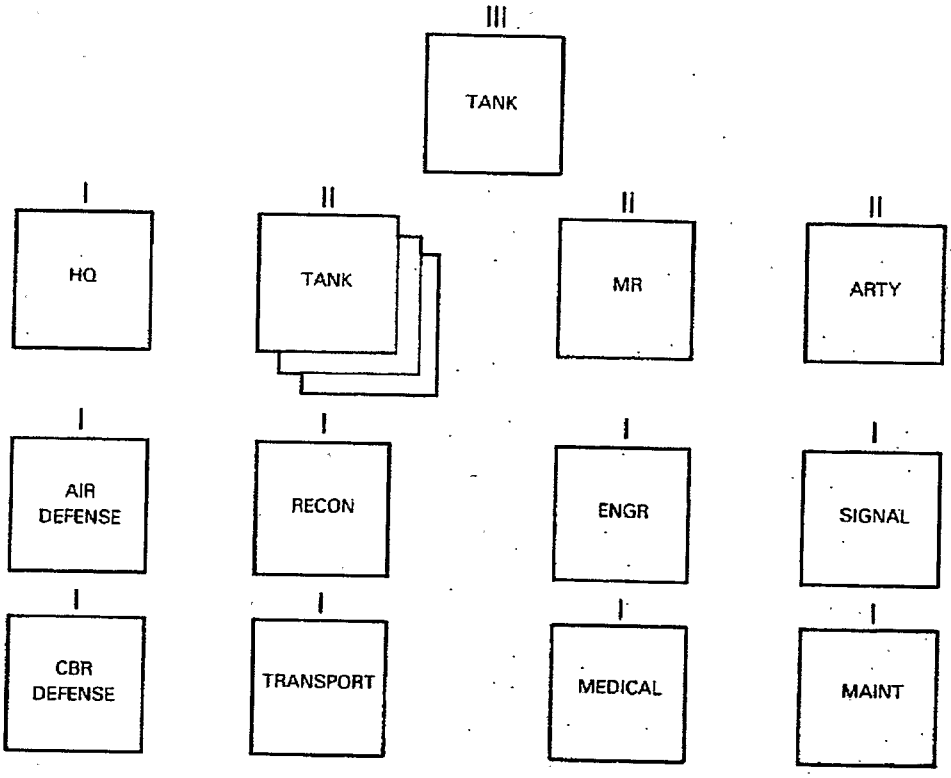
Table 22. (U) Tank Regiment, Tank Division 1990



	TK BN (x3)	MR BN	ARTY BN	AIR DEF	RECON CO	ALSO IN REGT	TOTAL
INFANTRY COMBAT VEHICLE BMP-3		44			3		47
TANK, T-80	93					1	94
LT 82MM MORTAR		6					6
SP 120MM MORTAR		6					6
SP 122MM HOWITZER M-1974 F/O			12				12
GRAD-1/122MM REGIMENTAL MRL			6				6
MP SAM SA-14 F/O	9	3					12
SPAA ZSU-X				4			4
SA-13 TEL				4			4
AUTO GRENADE LAUNCHER		3					3
HEL				1			1
LPLWS	3	1					4
RPG 16	6	33			12		51
RECON VEH BRDM					4		4
PERSONNEL	414	467	216	65	54	401	1617

SOURCE: 3/89

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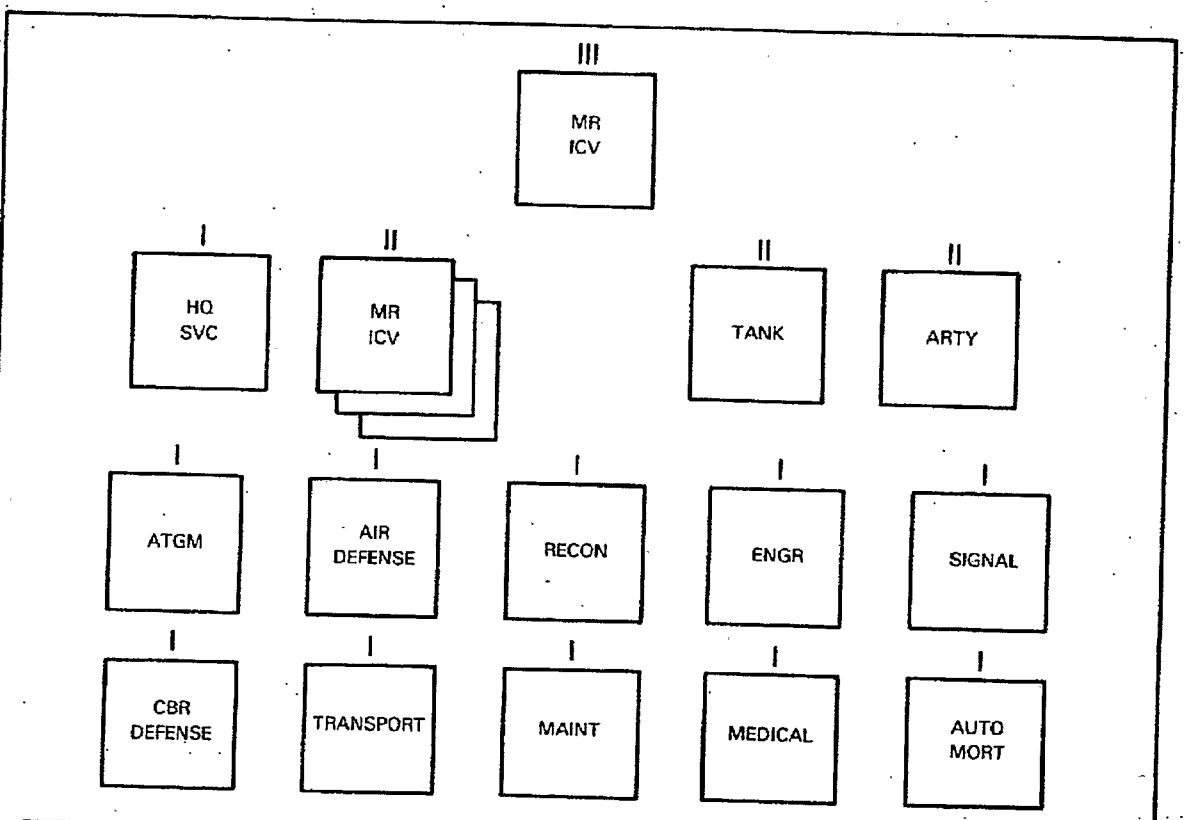
Table 23. (U) Motorized Rifle Regiment (ICV), Tank Division 1990



	MR BN (x3)	TK BN	ARTY BN	ATGM BTY	ADEF BTY	RE-CON CO	AUTO 82 MORT BTY	ALSO IN REGT	TOTAL
LPLWS	3	1							4
TANK, T-80 F/O		40							40
INFANTRY COMBAT VEHICLE BMP-3	132					3			135
ARMORED RECON BRDM (WHEELED)						4			4
SP 82MM AUTO MORTAR							9		9
SP 120MM MORTAR	18								18
SP HOWITZER-122MM SP HOW			18						18
VEH ATGM AT-5 F/O				9					9
MP SAM SA-14 F/O	27	3							30
ZSU-X SPAA					4				4
SA-13 TEL					4				4
LT 82MM MORTAR	18								18
AUTO GRENADE LAUNCHER	9								9
RPG-16	99	2	18	9		4		8	140
HEL					1				1
PERSONNEL	1401	168	211	40	65	54	46	391	2376

SOURCE: 3/92

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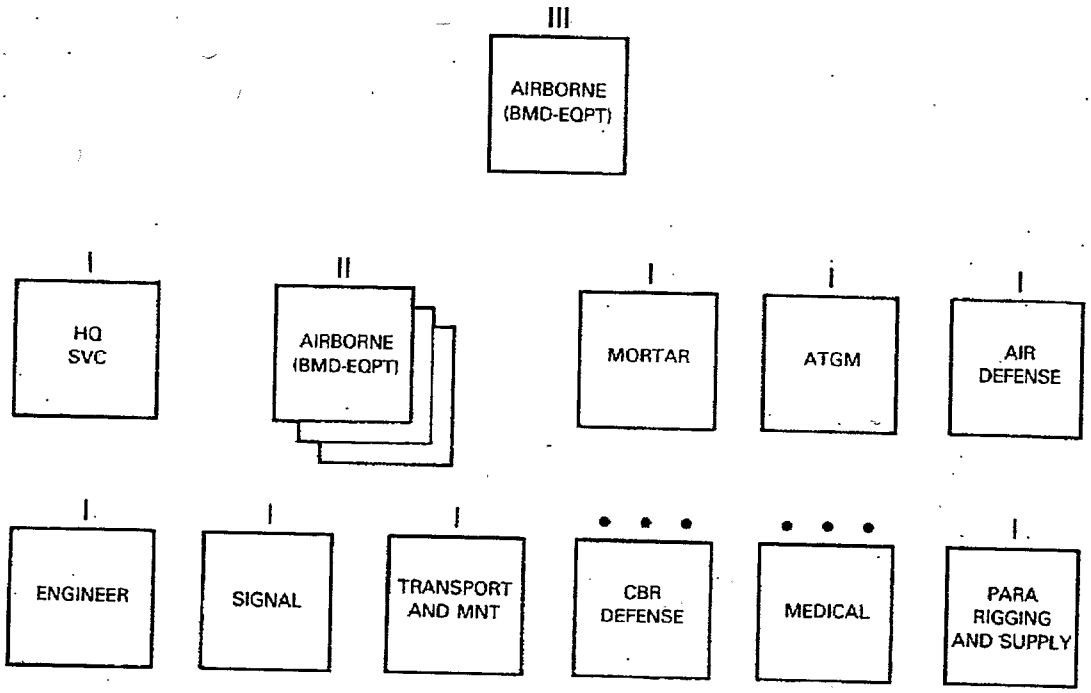
Table 24. (U) Airborne Regiment, ABND 1990 Organization and Equipment



	ABN BN (x3)	MORT BTY	ADEF BTY	ATGM BTY	ALSO IN REGT	TOTAL
AIRBORNE AMPHIB CMD VEH BMD SERIES	15				4	19
AIRBORNE AMPHIB COMBAT VEHICLE BMD	90					90
120MM MORTAR (NEW, TOWED)		6				6
ARMORED COMMAND VEH BRDM SERIES					4	4
ATGM AT-7	27					27
ATGL RPG-16 F/O	90	6		9	6	111
VEHICLE AGTM AT-5 F/O				9		9
MP SAM SA-14 F/O	27	3	3	3	3	39
LPLWS	3					3
ZSU-X (ABN VERSION)			6			6
AUTO GREN LCHR AGS-17	9					9
PERSONNEL	963	60	33	44	371	1471

SOURCE: 3/101

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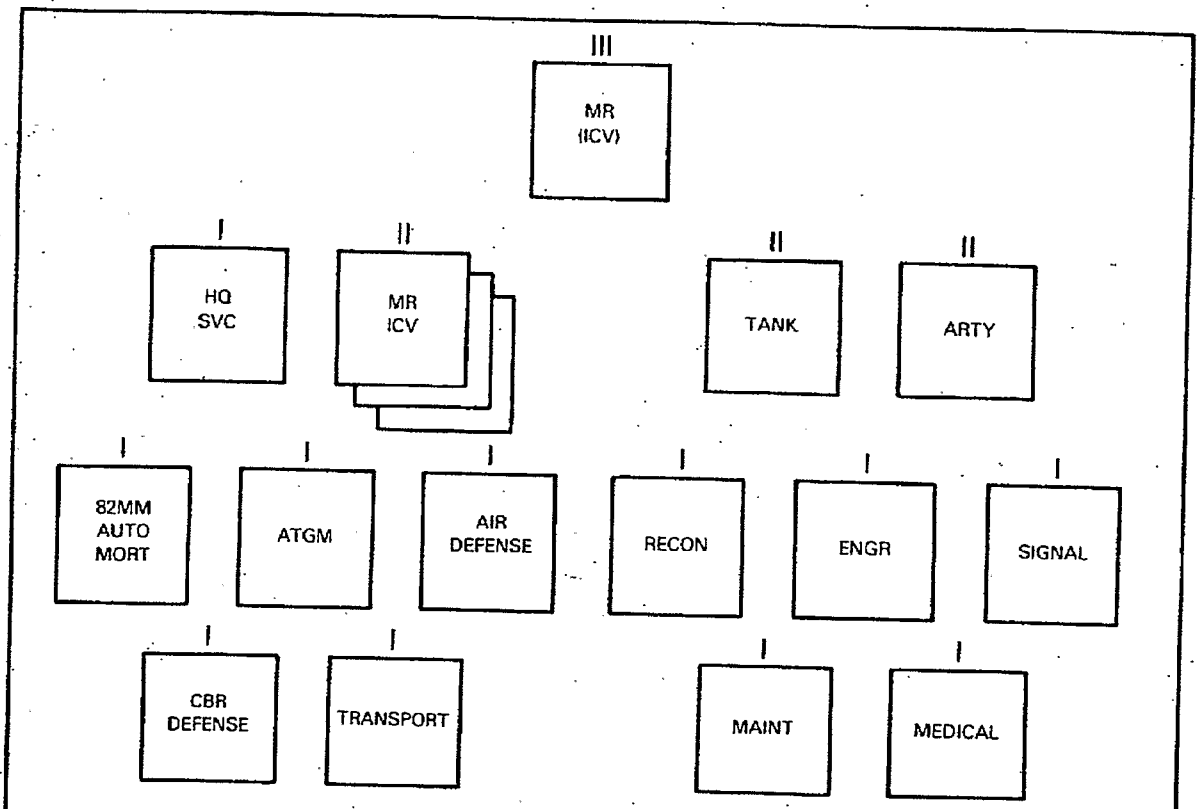
Table 25. (U) Motorized Rifle Regiment (ICV), Motorized Rifle Division (Continuation) 2000 Best Estimate



	82MM AUTO MORT BTY	MR BN (x3)	TK BN	ARTY BN	ATGM BTY	AD BTY	RE-CON CO	ALSO IN REGT	TOTAL
TANK, T-80 F/O			40				3		43
INFANTRY COMBAT VEHICLE BMP-X		132					6	6	144
SP 82MM AUTO MORTAR (IMPROVED)	9								9
82MM LT MORTAR		18							18
SP 120MM MORTAR		18							18
SP HOWITZER-X (122MM OR +)				18					18
VEH ATGM AT-Y					9				9
MP SAM SA-14 F/O		27						3	30
ZSU-X F/O SPAA						4			4
SA-13 F/O SAM TELAR						4			4
HEL						3			3
LPLWS		9	3						12
AUTO GRENADE LAUNCHER F/O		18							18
SQUAD ATGM		99	2	18	9		4	8	140
PERSONNEL	46	1449	172	211	40	75	61	391	2445

SOURCE: 3/126

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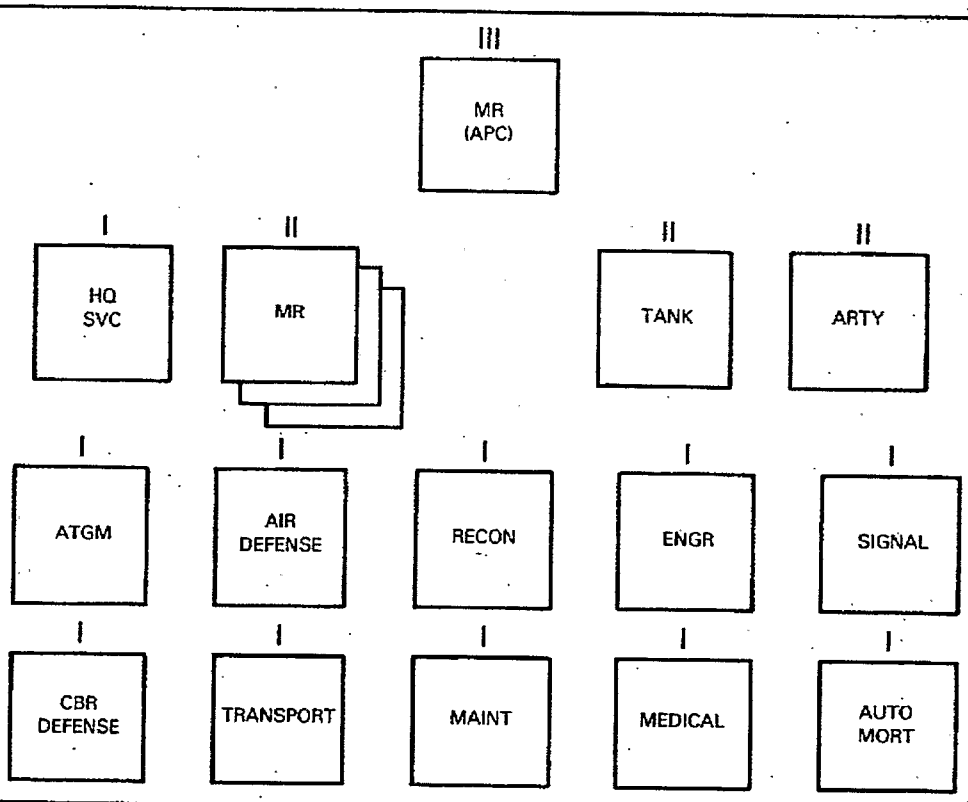
Table 26. (U) Motorized Rifle Regiment (APC), Motorized Rifle Division (Continuation) 2000 Best Estimate



	MR BN (x3)	TK BN	ARTY BN	ATGM BTY	ADEF BTY	RE-CON CO	AUTO MORT BTY	ALSO IN REGT	TOTAL
ICV BMP-X						6			6
TANK T-80 F/O		40				3			43
ARMORED PERS. CARRIER BTR-X	150							6	156
SP 82MM AUTO MORTAR (IMPROVED)							9		9
LT 82MM MORTAR	18								18
SP 120MM MORTAR	18								18
SP HOWITZER-X (122MM OR +)			18						18
MP ATGM AT-X	18								18
VEH ATGM AT-Y				9					9
TOWED 85MM AT GUN	18								18
MP SAM SA-14 F/O	27							3	30
ZSU-X F/O SPAA					4				4
SA-13 F/O SAM TELAR					4				4
HEL					3				3
LPLWS	9	3							12
AUTO GRENADE LAUNCHER F/O	18								18
SQUAD ATGM	105	2	18	9		4		8	146
PERSONNEL	1644	172	211	40	75	61	46	385	2634

SOURCE: 3/129

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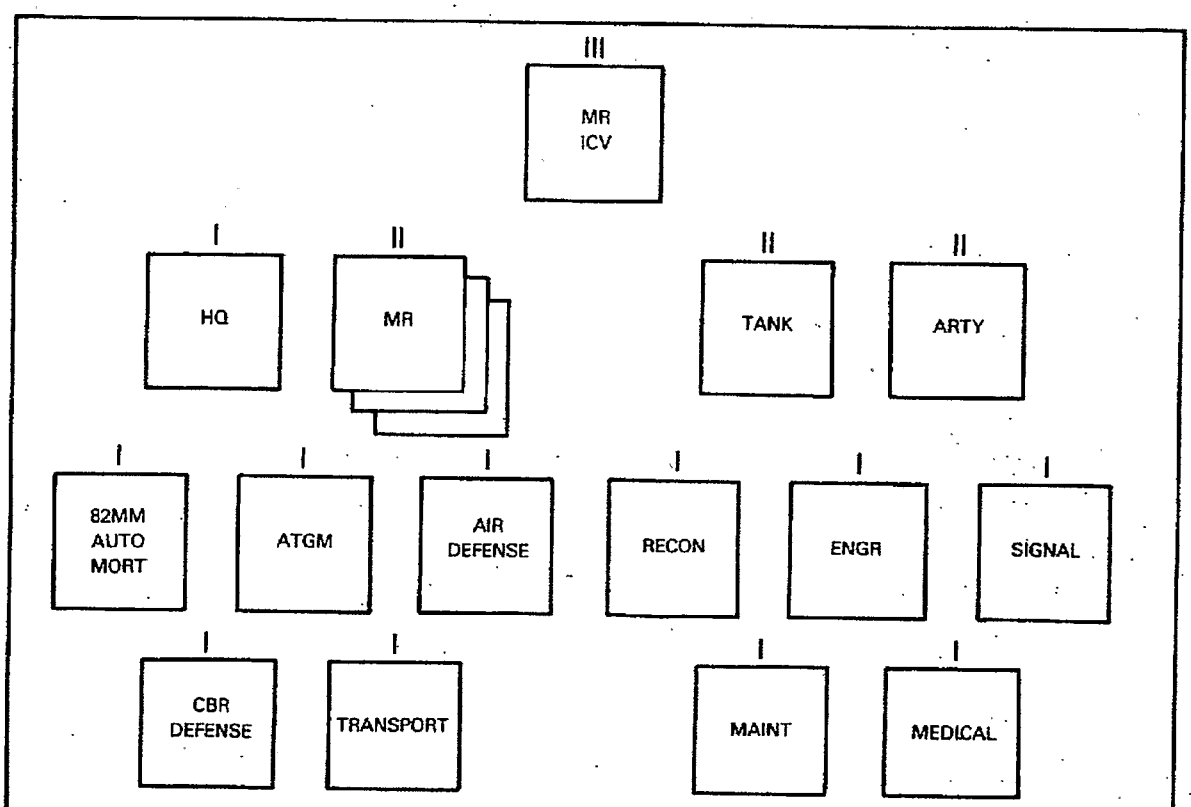
Table 27. (U) Motorized Rifle Regiment, Tank Division (Continuation) 2000 Best Estimate



	82MM AUTO MORT BTY	MR BN (x3)	TK BN	ARTY BN	ATGM BTY	ADEF BTY	RE-CON CO	ALSO IN REGT	TOTAL
TANK, T-80 F/O			40				3		43
INFANTRY COMBAT VEHICLE BMP-X		132					6	6	144
82MM LT MORTAR		18							18
SP 82MM AUTO MORTAR (IMPROVED)	9								9
SP 120MM MORTAR		18							18
SP HOWITZER-X (122MM OR +)				18					18
VEH ATGM AT-Y					9				9
MP SAM SA-14 F/O		27						3	30
ZSU-X F/O SPAA						4			4
SA-13 F/O SAM TELAR						4			4
HEL						3			3
LPLWS		9	3						12
AUTO GRENADE LAUNCHER F/O		18							18
SQUAD ATGM		99	2	18	9		4	8	140
PERSONNEL	46	1449	172	211	40	75	61	391	2445

SOURCE: 3/176

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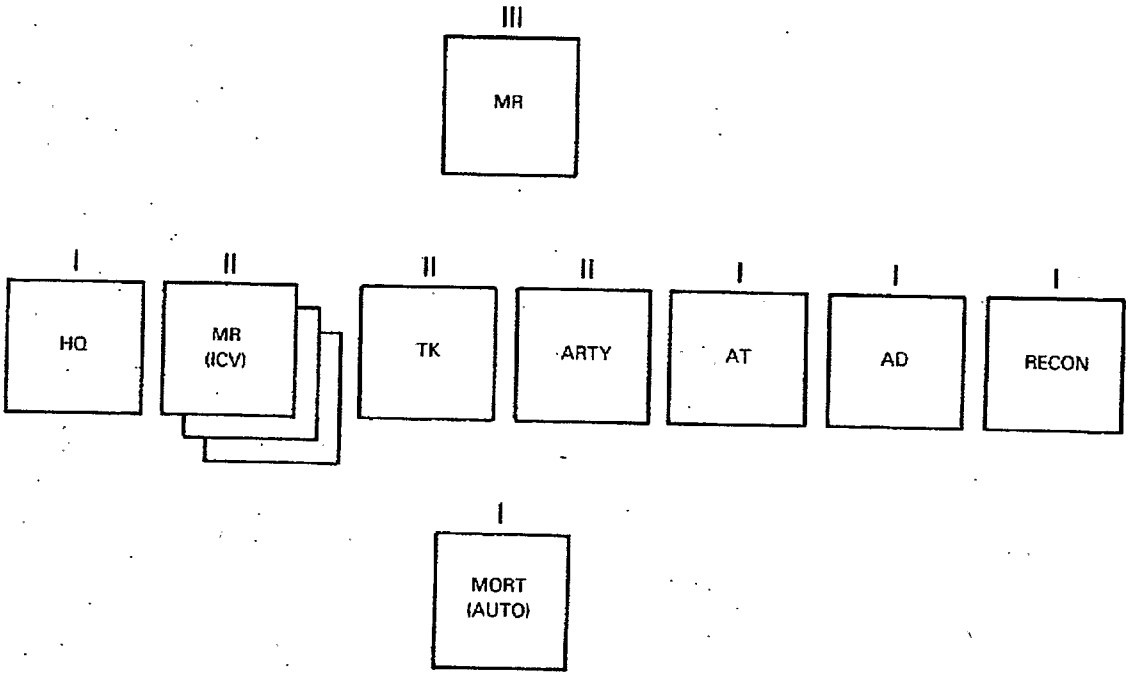
Table 28. (U) Motorized Rifle Regiment, Tank Division (Continuation) 2000 High Estimate



	82MM AUTO MORT BTY	MR BN (x3)	TK BN	ARTY BN	ATGM BTY	ADEF BTY	RE-CON CO	ALSO IN REGT	TOTAL
TANK, T-80 F/O			40				3		43
INFANTRY COMBAT VEHICLE BMP-X		150					6	6	162
SP 82MM AUTO MORTAR (IMPROVED)	12								12
SP 120MM MORTAR		18							18
SP HOWITZER-X (122MM OR +)				18					18
GRAD-1 F/O 122MM REGT MRL				6					6
VEH ATGM AT-Y					9				9
TOWED 85MM AT GUN		18							18
MP SAM SA-14 F/O		27						3	30
ZSU-X F/O SPAA						4			4
SA-13 F/O SAM TELAR						4			4
HEL						4			4
LPLWS		9	3						12
AUTO GRENADE LAUNCHER F/O		18							18
SQUAD ATGM		99	2	18	9		4	8	140
82MM LT MORTAR		18							18
PERSONNEL	58	1569	172	270	40	80	61	391	2641

SOURCE: 3/181

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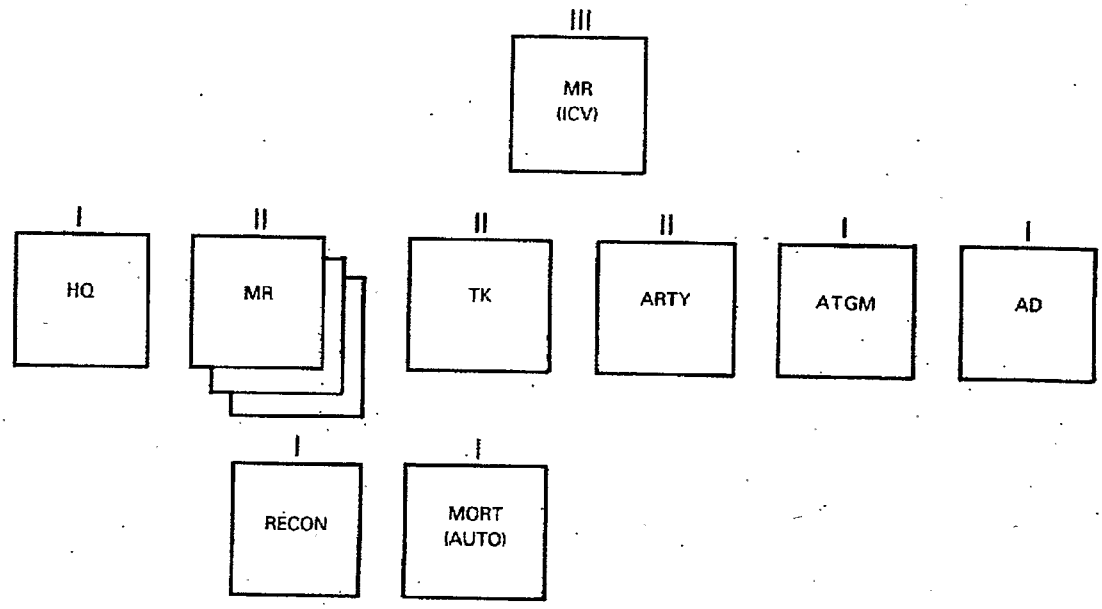
Table 29. (U) Motorized Rifle Regiment (ICV), Motorized Rifle Division (Continuation) 2000 High Estimate



	82MM AUTO MORT BTY	MR BN (ICV) (x3)	TK BN	ARTY BN	ATGM BTY	ADEF BTY	RE-CON CO	ALSO IN REGT	TOTAL
TANK, T-80 F/O			40				3		43
INFANTRY COMBAT VEHICLE BMP-X		150					6	6	162
SP 82MM AUTO MORTAR (IMPROVED)	12								12
SP 120MM MORTAR		18							18
SP HOWITZER-X (122MM OR +)				18					18
VEH ATGM AT-Y					9				9
TOWED 85MM AT GUN		18							18
MP SAM SA-14 F/O		27						3	30
ZSU-X F/O SPAA						4			4
SA-13 F/O SAM TELAR						4			4
HEL						4			4
LPLWS		9	3						12
AUTO GRENADE LAUNCHER F/O		18							18
SQUAD ATGM		99	2	18	9		4	8	140
GRAD-1 F/O 122MM REGT MRL				6					6
82MM LT MORTAR		18							18
PERSONNEL	58	1569	172	270	40	80	61	391	2641

SOURCE: 3/142

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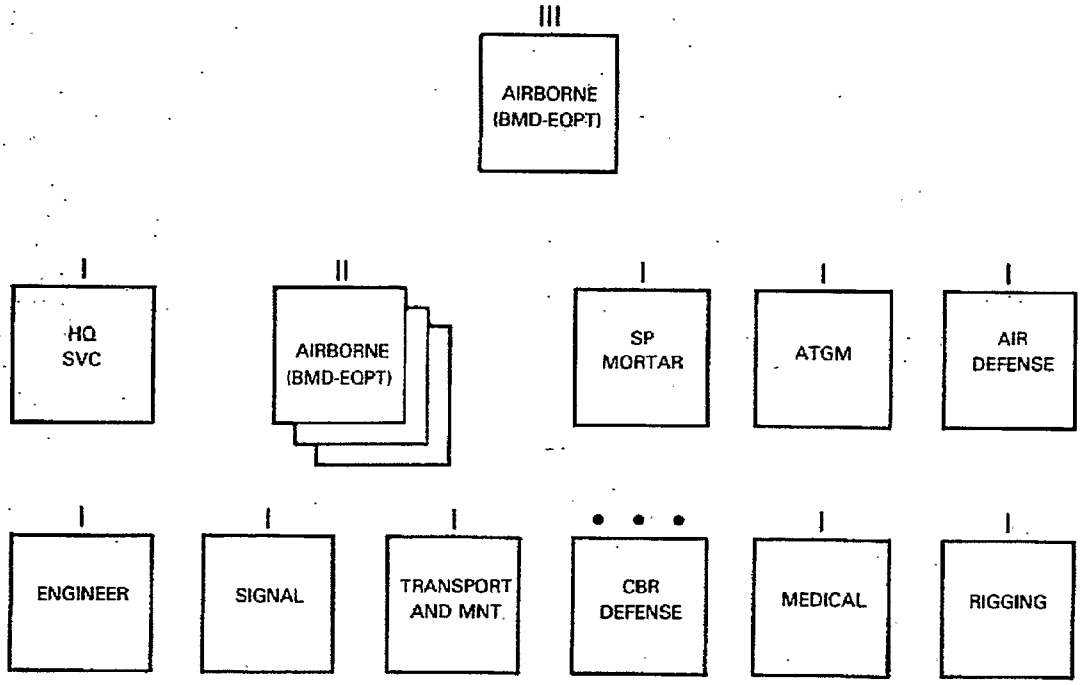
Table 30. (U) Airborne Regiment, Airborne Division (Continuation) 2000 Best Estimate



	ABN BN (x3)	SP MORT BTY	ADEF BTY	ATGM BTY	ALSO IN REGT	TOTAL
AIRBORNE AMPHIB COMMAND VEHICLE	15				4	19
AIRBORNE AMPHIB COMBAT VEHICLE F/O	90					90
SP 120MM MORTAR (ABN VERSION)		6				6
LT 82MM MORTAR	18					18
SQUAD ATGM F/O	90	6		9	6	111
VEHICLE ATGM AT-Y				9		9
SAM VEH (LOW ALT) (ABN VERSION)			4			4
MP SAM SA-14 F/O	27	3	3	3	3	39
LPLWS	9					9
AUTO GREN LCHR	9					9
PERSONNEL	1077	54	23	44	371	1569

SOURCE: 3/212

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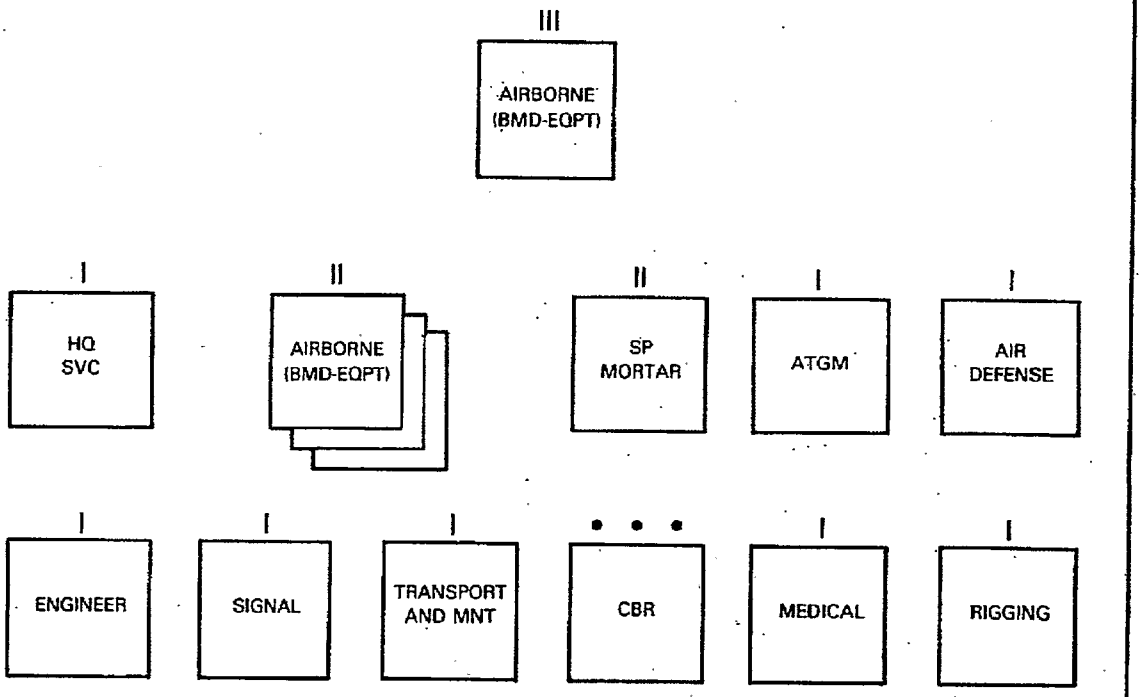
Table 31. (U) Airborne Regiment, Airborne Division (Continuation) 2000 High Estimate



	ABN BN (x3)	SP MORTAR BTY	ADEF BTY	ATGM BTY	ALSO IN REGT	TOTAL
AIRBORNE AMPHIB COMMAND VEHICLE	15				4	19
AIRBORNE AMPHIB COMBAT VEHICLE F/O	90					90
SP 120MM MORTAR		18				18
VEHICLE ATGM AT-Y				9		9
SAM VEH (LOW ALT) (ABN VERSION)			4			4
MP SAM SA-14 F/O	27	9	3	3	3	45
LPLWS	9					9
SQUAD ATGM	90	18		9	6	123
AUTO GREN LCHR F/O	9					9
PERSONNEL	981	172	23	44	371	1591

SOURCE: 3/216

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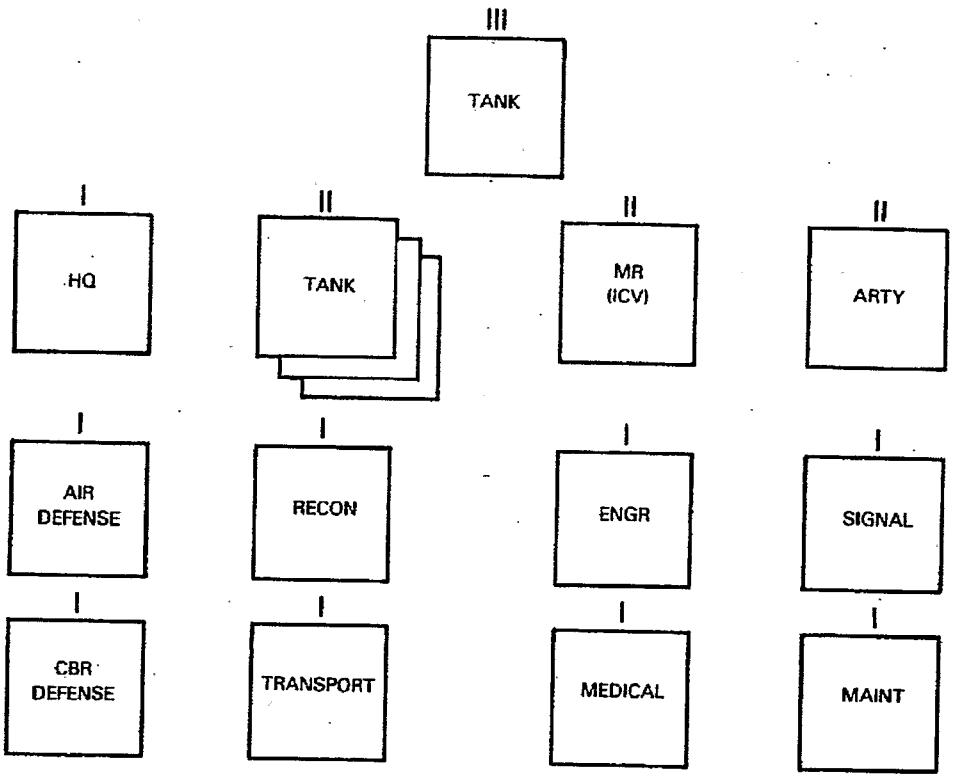
Table 32. (U) Tank Regiment, Tank Division (Continuation) 2000 Best Estimate



	TK BN (x3)	MR BN ICV	ARTY BN	ADEF BTY	RECON CO	ALSO IN REGT	TOTAL
TANK, T-80 F/O	93				3	1(HQ)	97
INFANTRY COMBAT VEHICLE BMP-X		44			6		50
SP 120MM MORTAR		6					6
SP HOWITZER-X (122MM OR +)			12				12
GRAD-1 F/O 122MM REGIMENTAL MRL			6				6
MP SAM SA-14 F/O	3	9					12
ZSU-X F/O SPAA				4			4
SA-13 F/O SAM TELAR				4			4
LPLWS	9	3					12
AUTO GRENADE LAUNCHER F/O		6					6
SQUAD ATGM		33					33
82MM LT MORTAR		6					6
HEL				3			3
PERSONNEL	426	483	216	75	61	401	1662

SOURCE: 3/173

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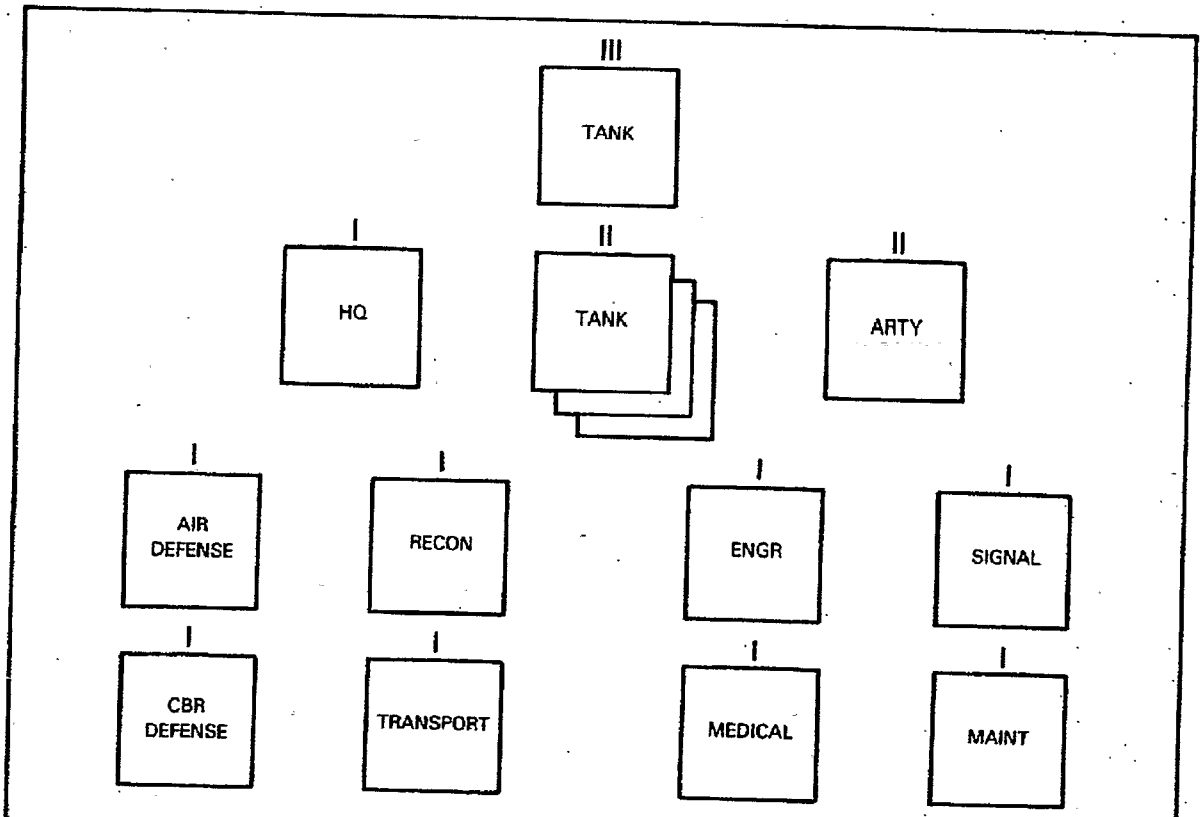
Table 33. (U) Tank Regiment, Motorized Rifle Division (Continuation) 2000 Best Estimate



	TK BN (x3)	ARTY BN	ADEF BTY	RECON CO	ALSO IN REGT	TOTAL
INFANTRY COMBAT VEHICLE BMP-X				6		6
TANK, T-80 F/O	93			3	1(HQ)	97
SP HOWITZER-X (122MM OR +)		12				12
GRAD-1 F/O 122MM REGIMENTAL MRL		6				6
MP SAM SA-14 F/O	3					3
ZSU-X F/O SPAA			4			4
SA-13 F/O SAM TELAR			4			4
HEL			3			3
LPLWS	9					9
SQUAD ATGM					18	18
PERSONNEL	426	216	75	61	401	1179

SOURCE: 3/132

~~SECRET~~ (u)

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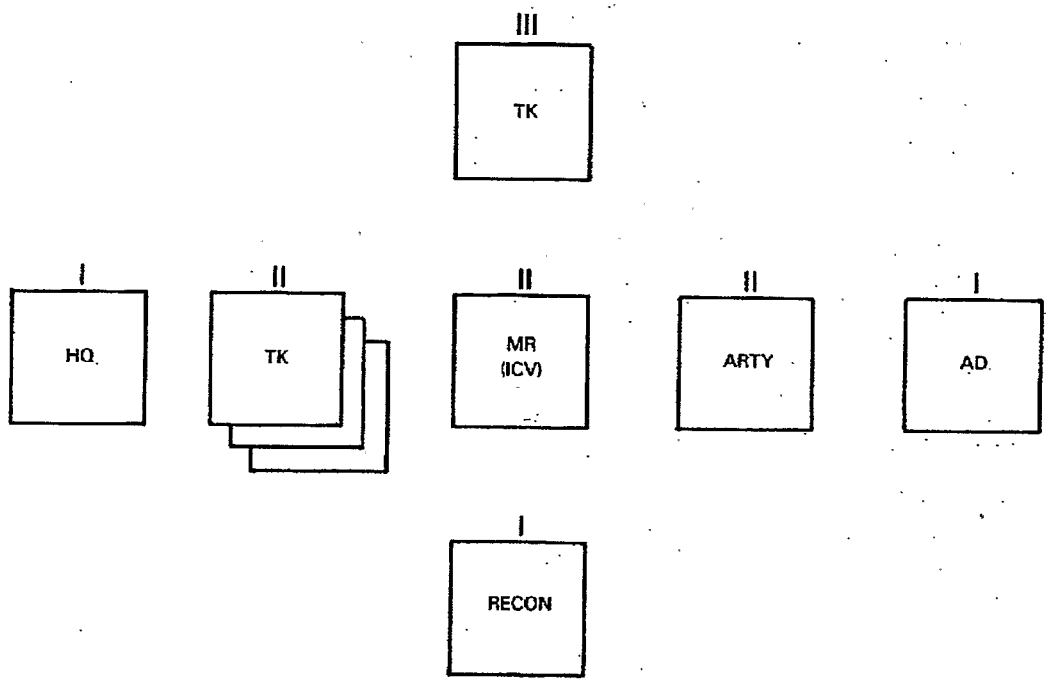
Table 34. (U) Tank Regiment, Tank Division (Continuation) 2000 High Estimate



	TK BN (x3)	MR BN	ARTY BN	ADEF BTY	RECON CO	ALSO IN REGT	TOTAL
T-80 F/O TANK	120				3	1(HQ)	124
INFANTRY COMBAT VEHICLE BMP-X		50			6		56
SP 120MM MORTAR		6					6
SP HOWITZER-X (122MM OR +)			18				18
GRAD-1 F/O REGT MRL			6				6
TOWED 85MM AT GUN		6					6
MP SAM SA-14 F/O	3	9					12
ZSU-X F/O SPAA			4				4
SA-13 F/O SAM TELAR			4				4
HEL				4			4
LPLWS	9	3					12
AUTO GRENADE LAUNCHER F/O		6					6
82MM LT MORTAR		6					6
SQUAD ATGM		33					33
PERSONNEL	516	523	270	80	61	401	1851

SOURCE: 3/186

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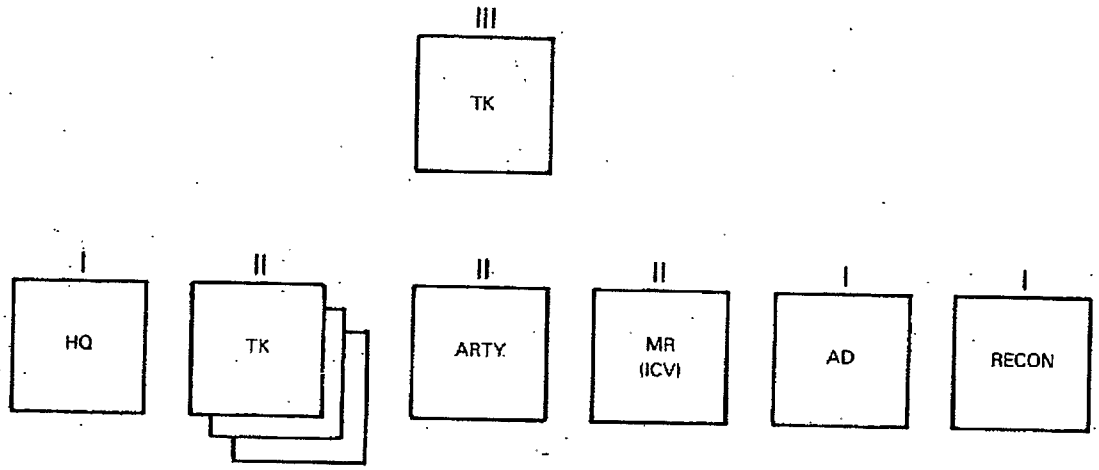
Table 35. (U) Tank Regiment, Motorized Rifle Division (Continuation) 2000 High Estimate



	MR BN (ICV)	TK BN (x3)	ARTY BN	ADEF BTY	RECON CO	ALSO IN REGT	TOTAL
TANK T-80 F/O		120			3	1(HQ)	124
SP HOWITZER-X (122MM)			18				18
GRAD-1 F/O 122MM REGT MRL			6				6
MP SAM SA-14 F/O	9	3					12
ZSU-X F/O SPAA				4			4
HEL				4			4
SA-13 F/O SAM TELAR				4			4
LPLWS	3	9					12
INFANTRY COMBAT VEH BMP-X	50				6		56
82MM LT MORTAR	6						6
SP 120MM MORTAR	6						6
TWD 85MM AT GUN	6						6
AUTO GRENADE LAUNCHER F/O	6						6
SQUAD ATGM	33						33
PERSONNEL	523	516	270	80	61	401	1851

SOURCE: 3/145

~~SECRET~~ (u)

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2. Defense Intelligence Agency, Soviet Doctrine and Planning Factors for Ground Operations (U), DDI-1100-147-77, March 1977 ~~(S/NOFORN)~~

3. United States Intelligence and Threat Analysis Center, The Soviet Tank Motorized Rifle and Airborne Divisions in the Year 2000 (U), DRAFT ATC-PD-26/0-122-82 ~~(S/NOFORN)~~

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CHAPTER 6

HIGHLIGHTS (U)

(U) This chapter provides an analysis of Soviet motorized rifle and tank battalions that will be applicable out to the year 2000. The analysis includes both offensive and defensive tactics of the motorized rifle and tank battalions. Additionally, projected Soviet motorized rifle, tank, airborne, and related lower echelon battalion tables of organization and equipment for the years 1990 and 2000 are provided. A detailed rationale for the projections contained in the tables of organization and equipment are discussed in Chapter 4, Sections I thru III.

(u)

~~(C)~~ The motorized rifle battalion conducts the attack as a part of the motorized rifle regiment, or, when so attached, as part of the tank regiment. It may be in the first or second echelon, or it may be detached and employed as an advance guard (suitably reinforced) or it may also be employed as part of the division reserve.

(u)

~~(C)~~ Although a motorized rifle battalion may participate in any of the basic maneuvers, the battalion conducts an attack resulting in either a penetration or an envelopment of the enemy position. The objective in either case is to advance into the enemy's rear and destroy the continuity of the defense.

(u)

~~(C)~~ Tank units are considered the basic striking force. Such units combine their heavy firepower with supporting tactical nuclear strikes, conventional artillery, and air strikes in rapid maneuver to accomplish an offensive mission; offense is considered the prime combat operation and is continued on an around-the-clock basis. The Soviets use the night attack to continue a daytime offensive operation, to maintain momentum in the advance and to achieve surprise. Their doctrine holds that nuclear weapons, directly or indirectly, create the conditions for deep maneuver by tank units.

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CHAPTER 6

SOVIET BATTALION OPERATIONS (U)

1. Motorized Rifle Battalion in the Offense (U).

a. Attack Formation (U).

(u) ~~(c)~~ The motorized rifle battalion will use one of the following formations in the attack:

(u) (1) ~~(c)~~ Line of companies (one echelon);

(u) (2) ~~(c)~~ Inverted wedge (normally two echelons); and

(u) (3) ~~(c)~~ Wedge (variations of the two-echelon formation, used when the enemy is concentrated and a double envelopment is contemplated.

(u) b. ~~(c)~~ The battalion normally attacks in two echelons, the first consisting of two of the three motorized rifle companies reinforced by tanks and antitank weapons. The second echelon contains the third motorized rifle company that may be reinforced by tanks. A battalion making a secondary attack normally will have a wider sector than one making the main attack and may use all three companies on line. In this case, a reserve of one motorized rifle platoon may be held out. A tank reserve usually is not retained at battalion.

(u) c. ~~(s)~~ ATGMs of the BTR-equipped battalion normally are attached to attacking motorized rifle companies. A platoon of ATGMs could be detached from regiment and held under battalion control as an antitank reserve, although in BTR-equipped battalions it is possible organic 85mm antitank guns would be employed in this role. BMP-equipped battalions have no such separate ATGM and AT gun elements since this support is provided by BMP infantry fighting vehicles (IFV). Reinforcement from regimental ATGMs might be provided if required. Combat engineer units are attached to leading motorized rifle companies, who can expect to encounter minefields or obstacles. When available, these units are equipped with flamethrowers or mineclearing tanks.

2. Frontages and Depths (U).

(u) a. ~~(c)~~ A battalion conducting a main effort will have a minimum breakthrough zone of about 400 meters out of a possible attack zone of 1 to 2 km and a depth of up to 5 km.

(u) b. ~~(c)~~ A company normally attacks on a frontage of 500 to 800 meters with three platoons abreast. The company may echelon its platoons or employ them in a wedge formation if there is a threat to the flank.

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(u) ~~(C)~~ c. A platoon normally attacks on a frontage of 150 to 200 meters, with all squads on line. The platoon may echelon its squads or employ them in a wedge formation. (2/7)

3. Conduct of the Attack (U).

(u) ~~(C)~~ a. The motorized rifle battalion conducts the attack as a part of the motorized rifle regiment, or, when so attached, as part of the tank regiment. It may be in the first or second echelon, or it may be detached and employed as an advance guard (suitably reinforced) or it may also be employed as part of the division reserve.

(u) ~~(C)~~ b. Although a motorized rifle battalion may participate in any of the basic maneuvers, the battalion itself will conduct either a penetration or an envelopment. The objective in either case is to penetrate the enemy's rear and destroy the continuity of the defense.

(u) ~~(C)~~ c. Motorized rifle troops remain mounted until forced out of their IFVs. Thereafter, the BMPs follow and support the assault with their organic weapons, usually from defilade positions. The company usually dismounts as a unit, with certain exceptions, such as an advance guard action, where one or two platoons will remain mounted to conduct an envelopment.

(u) ~~(C)~~ d. The Soviets use fire and maneuver within the maneuvering force when under heavy defensive fire, but prefer to advance rapidly and simultaneously. Tanks preferably fire while moving, or during short halts. A tank platoon or company may occupy firing positions and concentrate its fire on a single tank or antitank weapon delaying the advance. Infantry elements rely primarily on mortar and artillery fire to suppress defensive fires during their movement to the line of attack, and use accompanying direct-fire weapons to reduce targets of opportunity.

(u) ~~(C)~~ e. The motorized rifle battalion has no organic reconnaissance element. Battle reconnaisance patrols are organized and dispatched by companies, either on their own initiative or on the battalion commander's orders.

(u) ~~(C)~~ (1) Whenever companies are not in contact, battalions dispatch battle reconnaissance patrols to determine enemy locations, strengths, and activities. For example, battalions will send patrols to the front and flanks of march columns during attacks. These patrols usually consist of no more than an infantry squad with engineer or chemical personnel.

(u) ~~(C)~~ (2) Companies dispatch battle reconnaissance patrols whenever committed to action. They begin with reconnaissance of approaches to enemy defensive positions and the positions themselves, and continue throughout the attack. Primary objectives are information about terrain, trafficability, covered and concealed routes of approach, and location of enemy weapons. Patrols range from two men to no more than a squad of infantry, engineer and chemical personnel.

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(u)
(3) ~~(c)~~ Speed and shock action are stressed in the attack. Primary emphasis is placed on penetrating enemy defenses in order to carry the battle to the enemy rear, rather than seizing and consolidating on terrain objectives. The assault will not necessarily be directed to the key defensive terrain. Instead, the battalion attempts to push through weakly defended areas, and leaves the capture of strongpoints and key terrain to succeeding echelons. Soviet commanders concern themselves with rapidly penetrating each defense line they encounter. The Soviets consider that exploitation of these maneuvers will benefit the force sufficiently to offset the increased risk of losing entire units through attrition or capture. They further believe that these tactics will disrupt a prepared defense sufficiently to justify the risk.

(u)
(4) ~~(c)~~ If the motorized rifle battalion is attacking as part of a large-scale offensive, an artillery preparation of 15-20 minutes normally precedes the assault. Nuclear fires may be included in the preparation. If speed, shock effect, or surprise will be delayed or lost by waiting for the preparation, Soviet forces can be expected to attack without the normal preparatory fires.

(u)
(5) ~~(c)~~ The Soviets usually attach a tank company to a motorized rifle battalion, which further attaches tank platoons to motorized rifle companies. If more than one tank company is attached to a battalion, a full tank company will be attached to at least one of the first-echelon companies. Not more than one platoon of tanks will be attached to a second-echelon motorized rifle company. Tank platoons are seldom broken up, and each habitually works with one motorized rifle company. Tanks normally would lead the assault, except when enemy antitank defenses are strong or terrain seriously restricts visibility, e.g., wooded areas.

4. Motorized Rifle Battalion in the Defense (U).

(u)
a. ~~(c)~~ The Soviet concept of defense is based on the ability of the motorized rifle divisions of the combined arms armies in the main defense belt to destroy or canalize the enemy.

(u)
b. ~~(c)~~ The motorized rifle battalion conducts the defense as part of the regiment. The same procedures are used whether the battalion is in the first or second echelon.

(u)
(1) ~~(c)~~ Frontline positions do little firing until the enemy's attack is definitely underway. Artillery and mortar barrages are fired within 400 meters of the main defense belt. The enemy is subjected to heavy direct antitank and artillery fire. Concurrently, he must deal with antipersonnel and antitank obstacles including mine belts.

(u)
(2) ~~(c)~~ Tanks are considered the primary target of all weapons fires. Machinegun and rifle fire are used in an attempt to separate the infantry from the tanks.

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(u)
(3) ~~(C)~~ Defending battalions remain in place until overrun or ordered to withdraw by higher headquarters. However, occupation of alternate and supplemental positions within the defense area is considered normal. The Soviets expect enemy penetrations in the gaps between units and intend to accomplish maximum killing in these areas. Unengaged units adjacent to threatened defense areas may be employed to attack the flanks of attacking enemy forces. Local counterattacks, employing small mobile tank forces, are employed by the battalion to maintain the integrity of the defense area.

(u)
c. ~~(C)~~ In a BTR-equipped battalion, ATGMs from the battalion antitank battery, a platoon of tanks, and mortars from the battalion mortar battery are normally attached to each first echelon company. The battalion 85mm AT guns and some ATGMs would probably be held as an antitank reserve. The tanks are dug in between the first and second defense lines, but not further than 600 meters from the forward trace of the main defense belt. They are prepared to move forward to assist a hard pressed defense. A platoon of tanks is also attached to the second echelon and usually employed forward of the third defense line to add depth to the antitank defense; the tank platoon will participate in counterattacks and blocking operations of the second echelon.

(u)
d. ~~(C)~~ Supplemental and alternate company and platoon defensive positions are prepared within the battalion defensive areas to permit the movement of forces during the conduct of the defense. Supplemental and alternate battalion defensive positions are also prepared and occupied when directed by the regiment.

(u)
e. ~~(C)~~ The second echelon consists of a motorized rifle company, but may be only a reinforced platoon when the battalion has a wide zone and is defending on an extended frontage. Second echelon companies usually place all three platoons on line, establishing the third defense line of the battalion. This line is located about 900 meters to the rear of the second defense line, and when terrain permits, usually on a reverse slope.

(u)
f. ~~(C)~~ The battalion reserve normally consists of a motorized rifle company and an antitank platoon. (4/169-176)

5. Organization of the Defense (U)

(u)
a. ~~(C)~~ A first echelon motorized rifle battalion usually is assigned to defend a zone 2 to 5 km wide and approximately 2 km deep. Within this zone, the battalion occupies a defensive area which covers important avenues of approach and is oriented to enable delivery of flanking fire into adjacent battalion defense areas. The defense area is organized into two echelons and has a total of three lines of defense. First echelon battalions are usually reinforced with a medium tank company, a 120-mm mortar platoon, an antitank gun platoon, an antitank guided missile platoon, and air defense assets from regiment.

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b. (u) ~~(C)~~ The battalion's first echelon normally consists of two motorized rifle companies when the zone assigned to the battalion is up to 5000 meters wide. If the zone is extended to 7500 meters, three motorized rifle companies (one minus a platoon) may be employed. The first echelon companies establish the first and second defense lines. First echelon companies usually place two platoons in the first defense line and the third platoon in the second line. The first defense line is located along the forward trace of the defense belt, and when possible, on a forward slope. The second defense line is about 450 meters to the rear. Company command posts are located with the platoons in the second defense line, and battalion command posts are located with the second echelon companies. (4/182-183)

6. The Tank Battalion in the Offense (U).

a. Organization (U).

(u) ~~(C)~~ Tank battalions are the main components of the tank regiment and are also organic to the motorized rifle regiment. An independent tank battalion may be assigned to motorized rifle divisions.

b. Mission (U).

(u) ~~(C)~~ In order to cope with any circumstance during an offensive operation, the tank battalion commander will assign one or more of the following missions to his companies:

(1) (u) ~~(C)~~ Operate as a first echelon element of a tank battalion or regiment;

(2) (u) ~~(C)~~ Operate as the battalion reserve or as a battalion second echelon force to a first echelon motorized rifle battalion;

(3) (u) ~~(C)~~ Operate as the reserve force of a tank regiment or a motorized rifle regiment, with or without attachments;

(4) (u) ~~(C)~~ Operate with attachments as the tank battalion advance guard on the march in anticipation of a meeting engagement;

(5) (u) ~~(C)~~ Operate as part of the advance guard force of regimental size units;

(6) (u) ~~(C)~~ Operate as part of a forward detachment; or

(7) (u) ~~(C)~~ Conduct special reconnaissance in force missions for the regiment. (3/187)

c. Organization of the Attack (U).

(1) (u) ~~(C)~~ Tank units are considered the basic striking force.

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Such units combine their heavy firepower with supporting tactical nuclear strikes, conventional artillery, and air strikes in rapid maneuver to accomplish an offensive mission. Offense is considered the prime combat operation and is continued on an around-the-clock basis. The Soviets use the night attack to continue a daytime offensive operation, to maintain momentum in the advance, and to achieve surprise. Their doctrine holds that nuclear weapons, directly or indirectly, create the conditions for deep maneuver by tank units. Directly, a nuclear strike forms a gap between enemy units which allows the tank force to envelop or penetrate into the enemy defensive depths. Indirectly, an enemy force on the defense disperses to offset the danger of nuclear annihilation. This dispersion creates gaps between defensive positions which may be exploited by tank elements maneuvering into the enemy defenses. Relentless pressure following a breakthrough may prevent the enemy from employing nuclear strikes against the attacking forces.

(2) (u) ~~(C)~~ Soviet tank units use two basic forms of maneuver: the frontal attack and the envelopment.

(a) (u) ~~(C)~~ The frontal attack is the less desirable of the two forms and is employed when the enemy does not have an assailable flank. Its purpose is to create a gap in the enemy defense for subsequent exploitation by enveloping maneuvers. The frontal attack may be used also as a secondary effort or feint in support of a main enveloping force.

(b) (u) ~~(C)~~ An envelopment may be close or deep. The close envelopment is a comparatively shallow maneuver directed against one or both flanks of an enemy force and is directly supported by fire from units attacking frontally. The deep envelopment is directed against the flanks or rear of the enemy to a depth beyond close fire support range of other attacking units. A force employed in a deep envelopment is reinforced for independent action and coordinates its tactical operation with units attacking frontally.

(c) (u) ~~(C)~~ The Soviets organize all combat forces into a first echelon, a second echelon, and a reserve. The first echelon is the main striking force. The second echelon moves in approach march formation behind the combat formations of the first echelon at a distance prescribed by the battalion commander. It is used to support the first echelon and may revert to the role of reserve to exploit the success of the first echelon or to replace depleted units. The mission of the second echelon is assigned at the same time as the mission of the first echelon and is amended during combat as the situation develops. In addition to the two echelons, reserves are formed to be committed at a decisive moment during the operation. A tank company forming all or part of the tank reserve moves in a designated direction and maintains a specified distance from the attacking units. Plans are made for commitment of the reserve from the line of march. (3/187-191)

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d. Breakthrough Operations (U).

(u) ~~(C)~~ Successful breakthrough operations are greatly dependent upon thorough reconnaissance and detailed fire planning applicable to both nuclear and nonnuclear warfare. Upon successful penetration through the first portion of the enemy's defense, the tanks revert to an exploitation role to assist in overrunning enemy positions in depth. This sequence of operations is employed by a tank battalion in the attack or the tank company in direct support of motorized rifle units. The conduct of the attack is executed in the following manner:

(u) ~~(C)~~ (1) The tank units move forward and join with those attached elements on the movement to contact. The units will arrive at and cross the departure position at the time specified in the battalion order. If the attack is to be preceded by a nuclear strike against forward enemy positions, arrangements are made to protect all elements of the attacking force from the adverse effects of the nuclear strike. Areas for protection are preselected along the movement to contact, and are occupied only as long as it is necessary to shield the tanks and attached units.

(u) ~~(C)~~ (2) The tanks then deploy in phases to move into the attack fully deployed in combat formation. The tank companies deploy from columns of platoons into a line formation as they approach within range of enemy antitank weapons.

(u) ~~(C)~~ (3) Normally, the tank companies attack with three platoons in the first echelon. No second echelon or reserve is held at company level.

(u) ~~(C)~~ (4) The tanks move into the attack at a high rate of speed. All tanks commence firing on enemy weapons and personnel on the FEBA and on subsequent defensive positions. Antitank obstacles forward of the enemy defensive positions are avoided through the use of previously prepared passages. Minefields previously cleared by engineer units, or mineclearing tanks, may precede the advancing units.

(u) ~~(C)~~ (5) Under cover of supporting fire and air support, the assaulting tanks intensify their fires and, with motorized rifle units, attempt to penetrate the defense, destroy personnel and weapons, and continue an uninterrupted advance into the depths of the defenses. During this phase, the tank companies may support by fire halted adjacent units, but do not deviate from their own direction of advance. Momentum is maintained even if supporting elements are slowed.

(u) ~~(C)~~ (6) During the attack the tanks fire on the move, from short halts, or at a complete halt. The preferred method is to fire on the move, which provides immediate firepower without slowing down the advance. Since movement affects aiming and accuracy, tank crews utilize a combination of firing on the move and firing from brief halts. The halt is used to fire only one aimed round or several bursts from the machinegun and then the

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tank moves on. If necessary, a longer halt is ordered to fire three to five rounds. When tanks encounter a heavily fortified target or an object considered to be of vital importance to the mission, concentrated fire is used. The tanks halt behind any available natural cover and continue to fire until the target is destroyed.

(7) When tanks lead the attack, attached motorized rifle elements normally follow the tanks up to 150 meters to the rear. These troops remain mounted in their BMPs to keep pace with tanks. Riflemen deliver individual fire through the ports of the BMPs.

(8) (u) ~~(c)~~ Upon overcoming the forward positions of the enemy defense, tank units become the spearhead of the advance and are given priority of supporting fires to insure a rapid rate of advance. Action of the tank company is determined by the strength of enemy resistance encountered. Stubborn, isolated enemy strongpoints are bypassed in order to maintain momentum. If the advance is halted and a flanking maneuver is not possible, the commander calls for additional supporting fires, assigns attack missions for an attempted penetration, and launches the attack. Tanks move under cover of supporting fires, fire on the move, penetrate the enemy positions, and continue in their assigned direction of advance. Antitank obstacles are either bypassed or cleared by supporting engineers or motorized rifle units. Radiologically or chemically contaminated areas must not lower the speed of the advance. Such areas are passed through rapidly or bypassed.

(9) (u) ~~(c)~~ Upon overrunning the enemy defensive position, the commander orders all elements to continue the movement forward. If resistance collapses completely, the tanks revert to approach march formation and are ordered to continue the advance in pursuit of the withdrawing enemy forces.(4/192-197)

7. The Tank Battalion in the Defense (U).

a. Defense Operations (U).

(u) ~~(c)~~ Soviet doctrine considers the defense as the occupation and holding of previously well prepared or hastily occupied areas or positions from which units inflict losses on the attacker, repel his troops, and create favorable conditions for launching a counteroffensive. Defense is considered a transitory stage of combat which is used to repel a superior enemy, to consolidate objectives, to secure flanks of attacking units, to gain time for the regrouping of forces, to repel counterattacks, and to canalize an enemy into a disadvantageous position where maneuvering forces can destroy him. Soviet units in the forward defensive positions may be required to hold their areas at all costs while larger groupings of forces use maneuver and firepower to destroy the attacker. However, forward units may be included in the overall maneuver defense plan and use rapid movement to absorb the initial attack, give ground, and create favorable conditions for the commitment of the tank heavy reserves. Tanks in the

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defense are placed in prepared positions which are dispersed laterally and in depth to lessen the effects of nuclear attack. The Soviets avoid massing units larger than battalion, which is the basic forward defensive unit. These battalion defense areas consist of a series of well-dispersed company positions, protected by mines, obstacles, nuclear fires, and conventional artillery.

b. Defensive Missions (U).

(u) ~~(C)~~ Tank units may be assigned various defensive missions which include:

(1) (u) ~~(C)~~ Holding a designated area;

(2) (u) ~~(C)~~ Destroying an enemy penetration by direct fire or counterattack;

(3) (u) ~~(C)~~ Engaging the enemy from ambush;

(4) (u) ~~(C)~~ Protecting the defending units as part of the antitank strongpoint;

(5) (u) ~~(C)~~ Closing gaps created by enemy nuclear strikes;

(6) (u) ~~(C)~~ Providing indirect fire support; and

(7) (u) ~~(C)~~ Forming a part or all of the reserve.

c. Deployment (U).

(u) ~~(C)~~ Frontage and depth for a tank battalion are determined by terrain, cover, comparative strengths, mission, and available fire support. Normally, a tank battalion can cover an area 2,000 to 3,000 meters wide and 2,000 to 4,000 meters deep. Within the defensive area, the tank battalion organizes mutually supporting company defensive areas, each of which is up to 1,000 meters wide and 1,000 meters deep. When the battalion defensive area is 3,000 meters wide, the gaps between company positions may be as much as 800 meters. (4/198)

d. Battalion Organization for Defense (U).

(u) ~~(C)~~ Organization for the defense is normally composed of two echelons, with two tank companies in the first echelon and one tank company in the second echelon. Terrain will often dictate the disposition of the battalion, so there may be only one company in the first echelon while the other two are in the second echelon. A platoon of the second echelon company may initially defend ahead of the main defense position and later fall back. A motorized rifle company normally is attached to the tank battalion with each of its platoons attached to each tank company. If the

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enemy penetrates to a minor degree, the battalion commander may order a first echelon tank company to launch a counterattack. However, the counter-attack usually is conducted by the second echelon, supported by fire from the tank company in the first echelon.(4/197-199)

e. (U) Tables 36 thru 74 are projected battalion organizations in 1990 and 2000. For the year 2000 "Best" and "High" Estimates are provided. (3/74-217)

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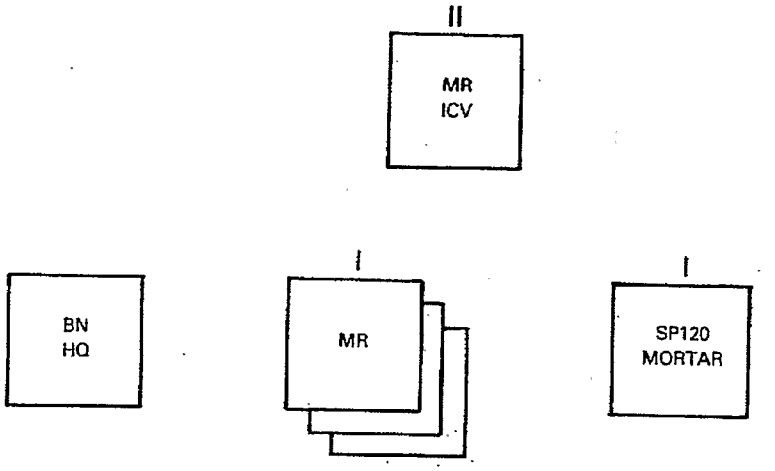
Table 36. (U) Motorized Rifle Battalion (ICV), Motorized Rifle Regiment, Motorized Rifle Division 1990



	MR CO (x3)	SP120 MORT BTY	ALSO IN BATTA-LION	TOTAL
INFANTRY COMBAT VEHICLE BMP-3	42		2(HQ)	44
LT 82MM MORTAR	6			6
SP 120MM MORTAR		6		6
MP SAM SA-14	9			9
AUTO GRENADE LAUNCHER	3			3
RPG-16	27	6		33
LPLWS			1	1
PERSONNEL	356	54	57	467

SOURCE: 3/24

~~SECRET~~ (u)

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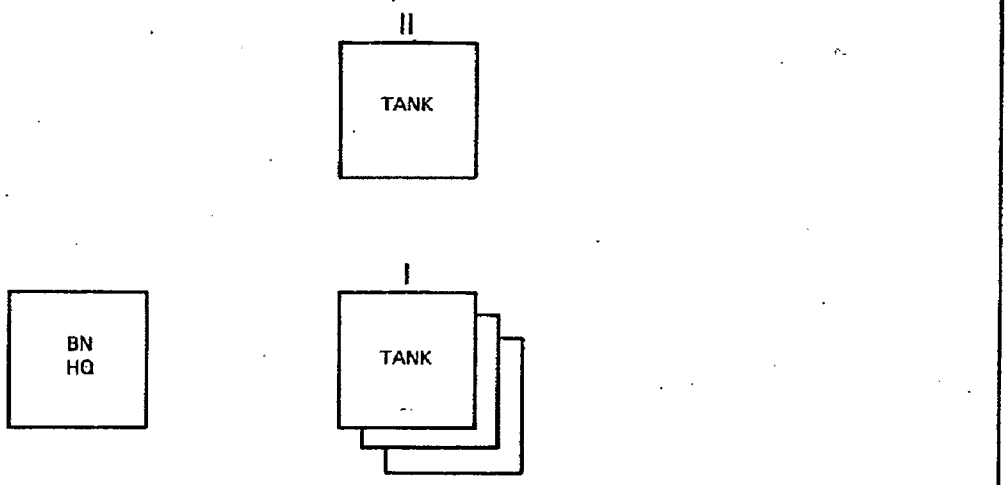
Table 37. (U) Tank Battalion, Motorized Rifle Regiment (ICV), Motorized Rifle Division 1990



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80	39	1(HQ)	40
MP SAM SA-14 F/O	3		3
LPLWS		1	1
RPG-16		2	2
PERSONNEL			168

SOURCE: 3/75

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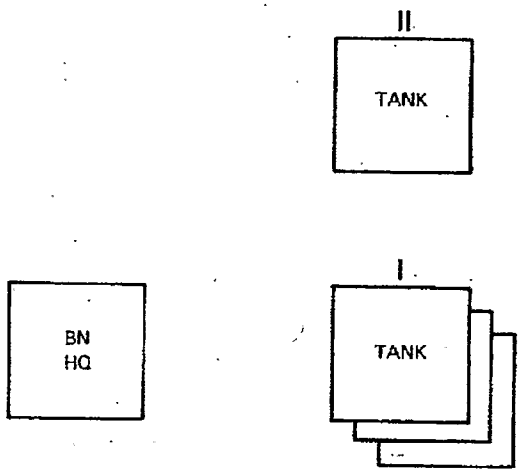
Table 38. (U) Tank Battalion, Motorized Rifle Regiment (APC), Motorized Rifle Division 1990



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80	39	1(HQ)	40
MP SAM SA-14 F/O	3		3
LPLWS		1	1
RPG-16		2	2
PERSONNEL			168

SOURCE: 3/78

~~SECRET~~ (u)

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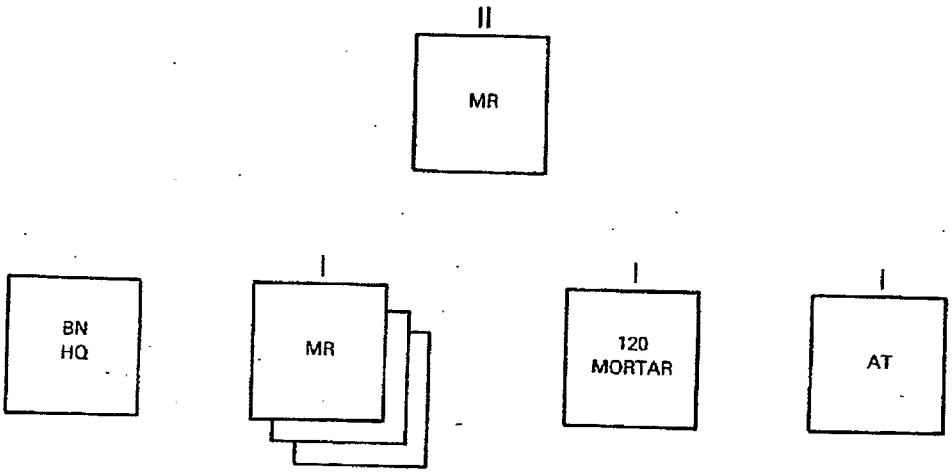
Table 39. (U) Motorized Rifle Battalion (APC), Motorized Rifle Regiment, Motorized Rifle Division 1990



	MR CO (x3)	TOWED 120 MORT BTY	AT BTY	ALSO IN BATTA-LION	TOTAL
ARMORED PERSONNEL CARRIER BTR-70 F/O	39		6	2(HQ)	47
LT 82MM MORTAR	6				6
120MM MORTAR (TOWED)		6			6
MP ATGM AT-4 F/O			6		6
RPG-16	27	6	2		35
AUTO GRENADE LAUNCHER F/O	6				6
MP SAM SA-14 F/O	9				9
AT-7	9				9
85MM GUN, TOWED AT			6		6
LPLWS				1	1
PERSONNEL	368	61	61	57	547

SOURCE: 3/79

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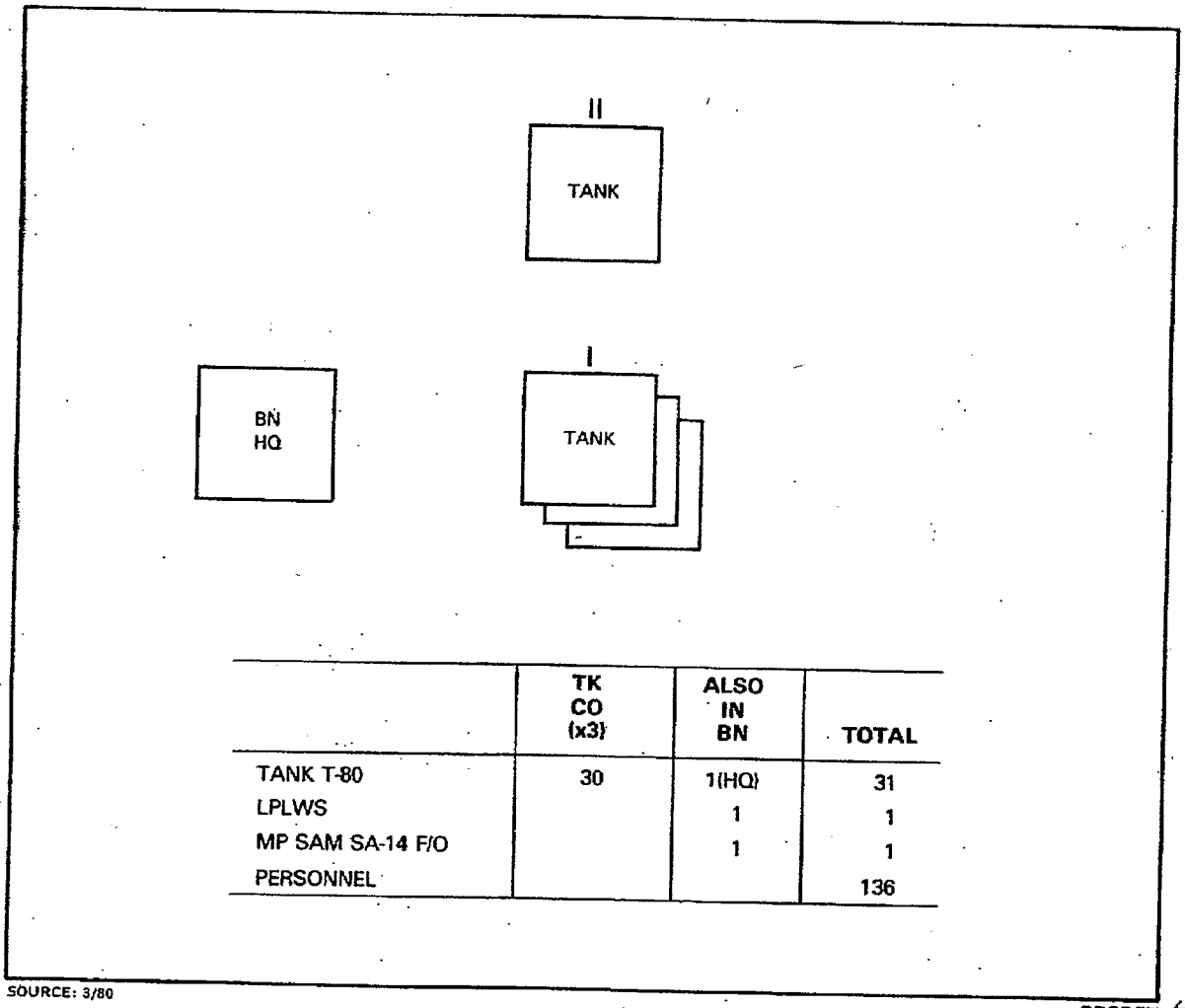
Table 40. (U) Tank Battalion, Tank Regiment, Motorized Rifle Division 1990



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80	30	1(HQ)	31
LPLWS		1	1
MP SAM SA-14 F/O		1	1
PERSONNEL			136

SOURCE: 3/80

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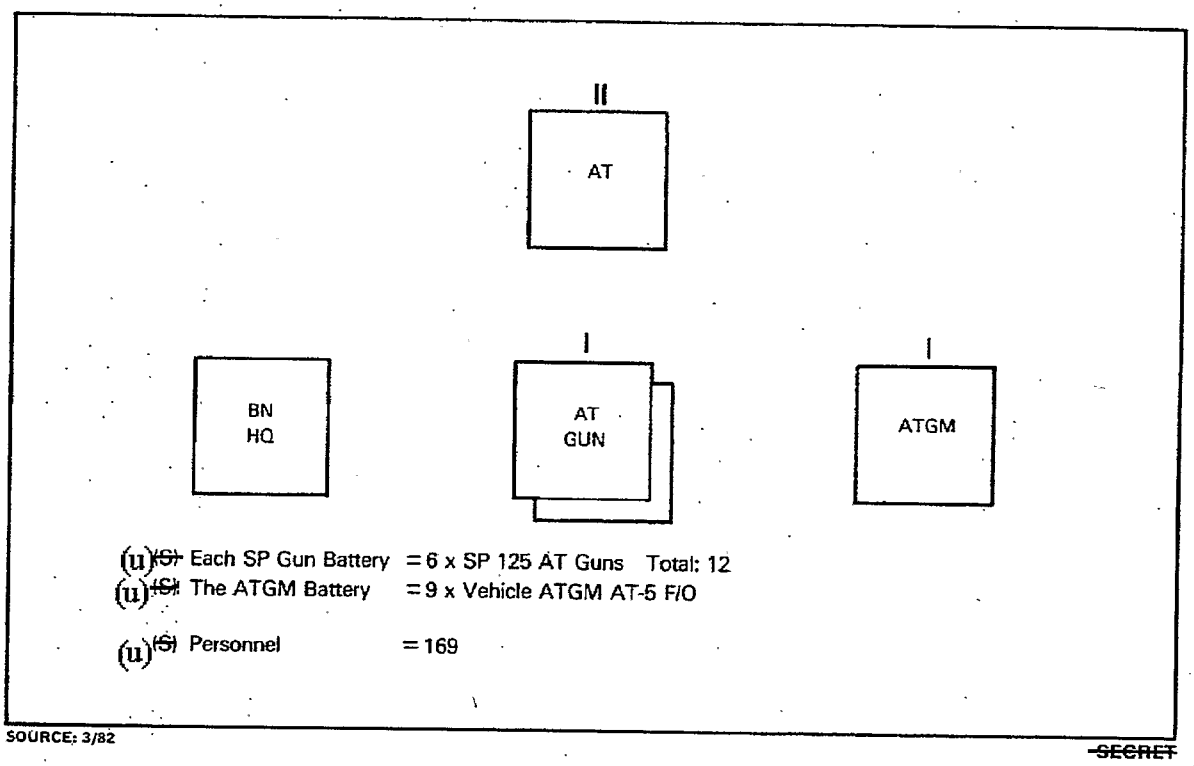
Table 41. (U) Antitank Battalion, Motorized Rifle Division 1990



SOURCE: 3/82

~~SECRET~~ (u)

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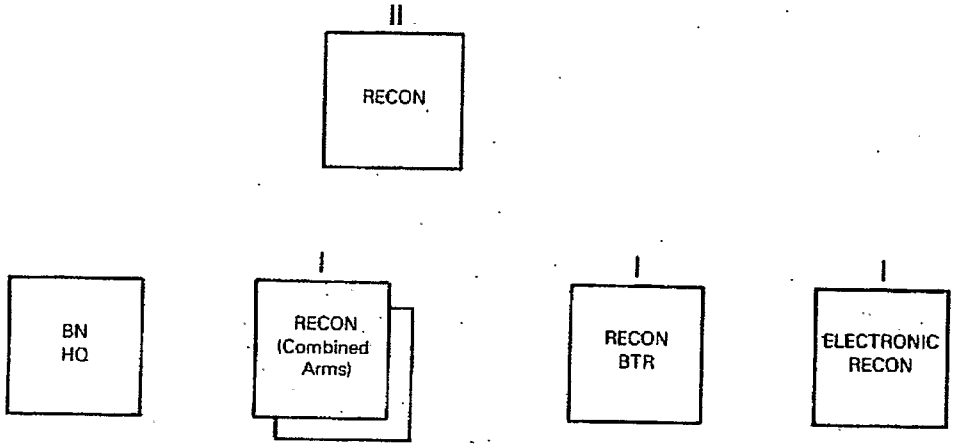
Table 42. (U) Reconnaissance Battalion, Motorized Rifle Division 1990



(S) THE RECON BATTALION HAS NO ORGANIC CBR RECON CAPABILITY, HOWEVER, CBR RECON VEHICLES ARE DETACHED FROM THE CHEMICAL DEFENSE BATTALION AND OPERATE WITH RECON ELEMENTS ON A TASK ORGANIZED BASIS. FOUR (4) TRACKED CHEMICAL RECON VEHICLES WOULD BE A LOGICAL ATTACHMENT.

	RECON CO COMBINED ARMS x2	RECON CO BTR	ELEC-TRONIC CO	ALSO IN BATTA-LION	TOTAL
BMP-3 (K)	2			1(HQ)	3
BMP-3	12				12
BTR-70 F/O		6		1(HQ)	7
TANK T-80	6				6
ARM RECON VEH (WHLD) BRDM		4			4
(TURN SERIES) RADIO/RADAR VEH			15		15
RPG-16	12	6			18
PERSONNEL					340

SOURCE: 3/84

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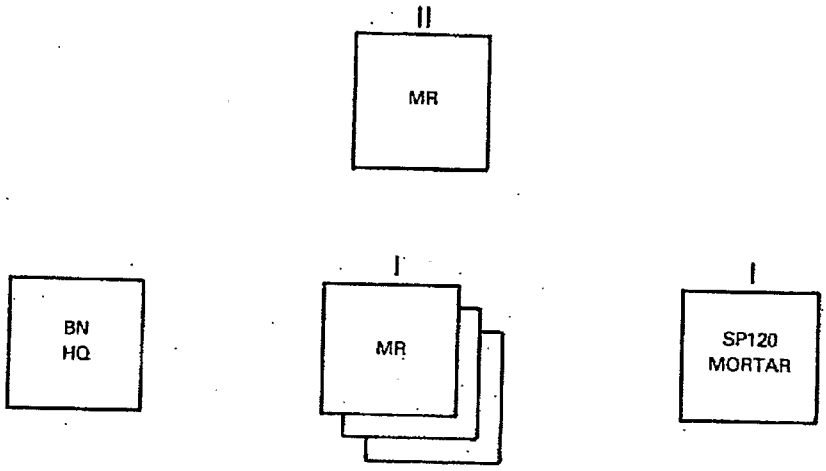
Table 43. (U) Motorized Rifle Battalion, Tank Regiment, Tank Division 1990



	MR CO (x3)	SP120 MORT BTY	ALSO IN BATTA-LION	TOTAL
INFANTRY COMBAT VEHICLE BMP-3	42		2(HQ)	44
LT 82MM MORTAR	6			6
SP 120MM MORTAR		6		6
MP SAM SA-14 F/O	3			3
AUTO GRENADE LAUNCHER	3			3
RPG-16	27	6		33
LPLWS			1	1
PERSONNEL	356	54	57	467

SOURCE: 3/90

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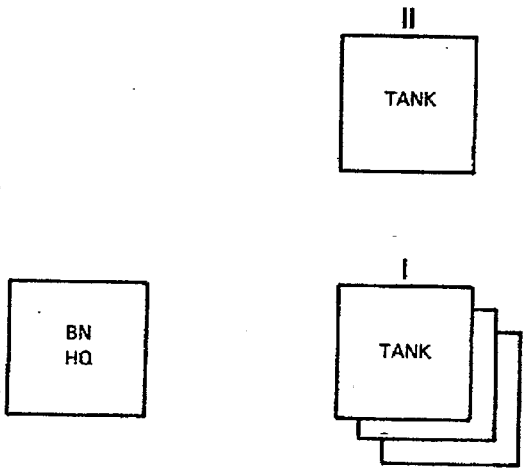
Table 44. (U) Tank Battalion, Tank Regiment, Tank Division 1990



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80	30	1(HQ)	31
LPLWS		1	1
RPG-16		2	2
MP SAM SA-14	3		3
PERSONNEL			136

SOURCE: 3/91

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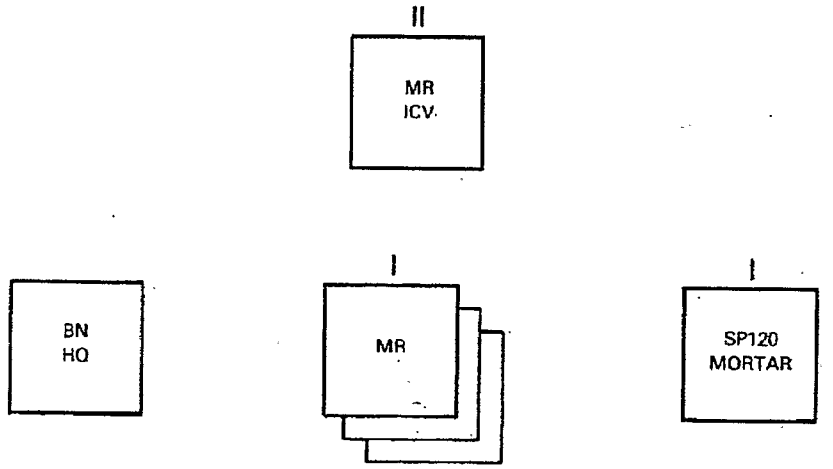
Table 45. (U) Motorized Rifle Battalion (ICV), Motorized Rifle Regiment, Tank Division 1990



	MR CO (x3)	SP120 MORT BTY	ALSO IN BATTA-LION	TOTAL
INFANTRY COMBAT VEHICLE BMP-3	42		2(HQ)	44
LT 82MM MORTAR	6			6
SP 120MM MORTAR		6		6
MP SAM SA-14 F/O	9			9
AUTO GRENADE LAUNCHER F/O	3			3
RPG-16	27	6		33
LPLWS			1	1
PERSONNEL	356	54	57	467

SOURCE: 3/93

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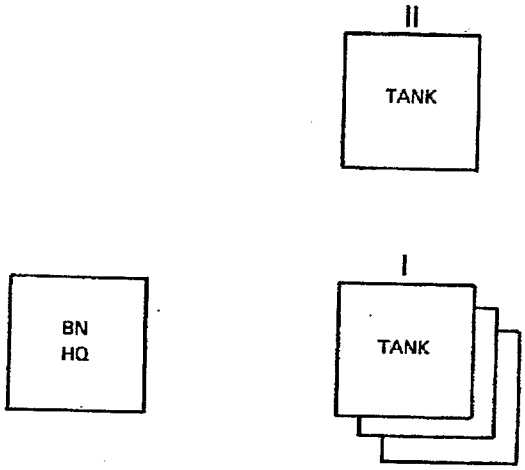
Table 46. (U) Tank Battalion, Motorized Rifle Regiment, Tank Division 1990



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80	39	1(HQ)	40
LPLWS		1	1
RPG-16		2	2
MP SAM SA-14 F/O	3		3
PERSONNEL			168

SOURCE: 3/94

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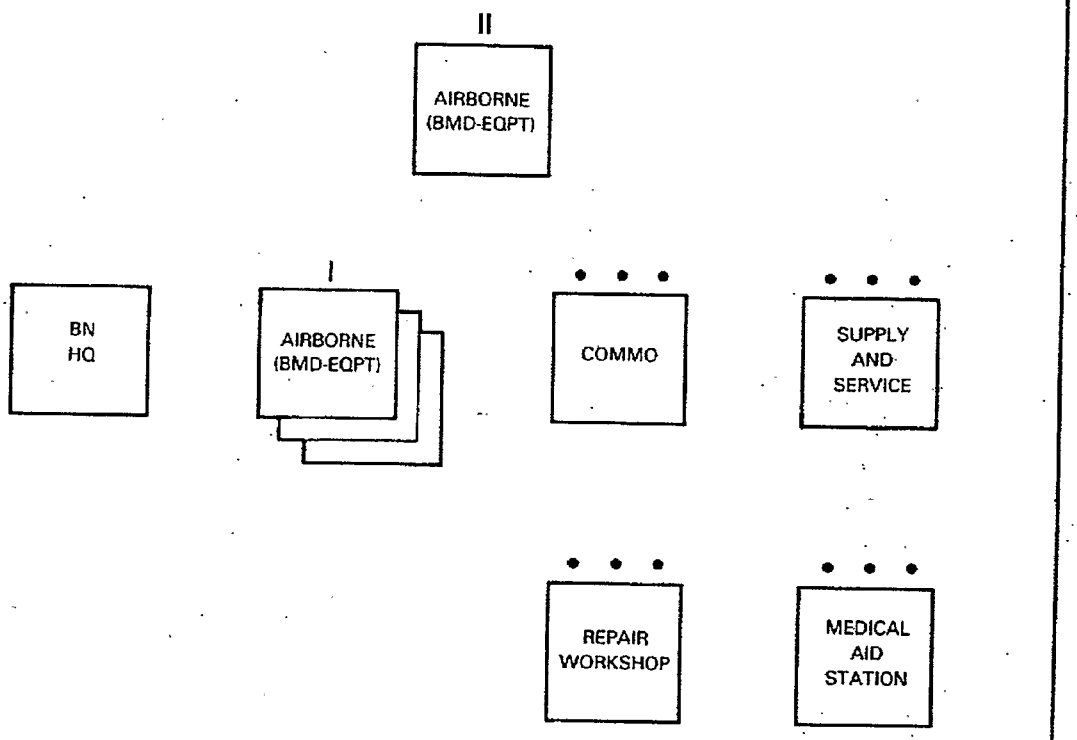
Table 47. (U) Airborne Battalion, ABND 1990 Organization and Equipment



	ABN CO (x3)	ALSO IN BN	TOTAL
AIRBORNE AMPHIB CMD VEH BMD SERIES	3	2	5
AIRBORNE AMPHIB COMBAT VEHICLE	30		30
ATGL RPG-16 F/O	27	3	30
ATGM AT-7	9		9
MP SAM SA-14 F/O	9		9
LPLWS	1		1
AUTO GREN LCHR AGS-17	3		3
PERSONNEL	264	57	321

SOURCE: 3/102

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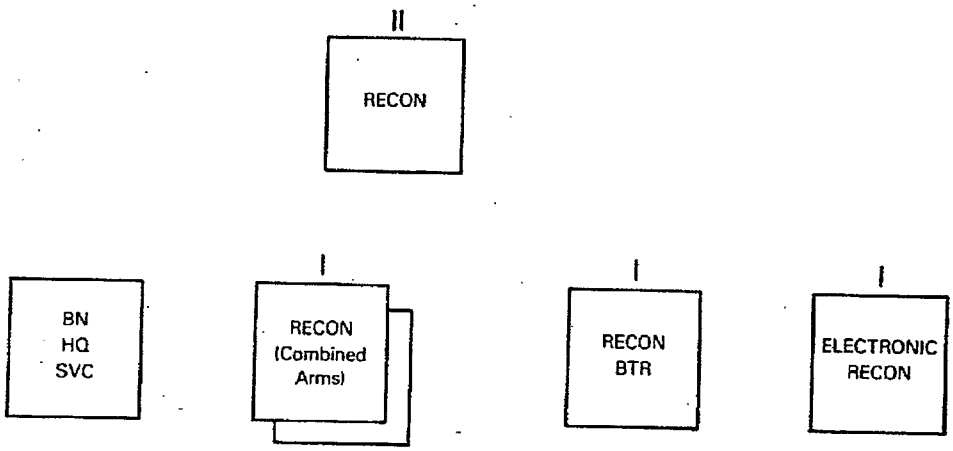
Table 48. (U) Reconnaissance Battalion, Tank Division 1990



(S) THE RECON BATTALION HAS NO ORGANIC CBR RECON CAPABILITY, HOWEVER, CBR RECON VEHICLES ARE DETACHED FROM THE CHEMICAL DEFENSE BATTALION AND OPERATE WITH RECON ELEMENTS ON A TASK ORGANIZED BASIS. FOUR (4) TRACKED CHEMICAL RECON VEHICLES WOULD BE A LOGICAL ATTACHMENT.

	RECON CO COMBINED ARMS x2	RECON CO BTR	ELEC-TRONIC CO	ALSO IN BATTA-LION	TOTAL
BMP-3 (K)	2			1(HQ)	3
BMP-3	12				12
BTR-70 F/O		6		1(HQ)	7
TANK T-80	6				6
ARM RECON VEH (WHLD) BRDM		4			4
(TURN SERIES) RADIO/RADAR VEH			15		15
RPG-16	12	6			18
PERSONNEL					340

SOURCE: 3/97

~~SECRET~~ (U)

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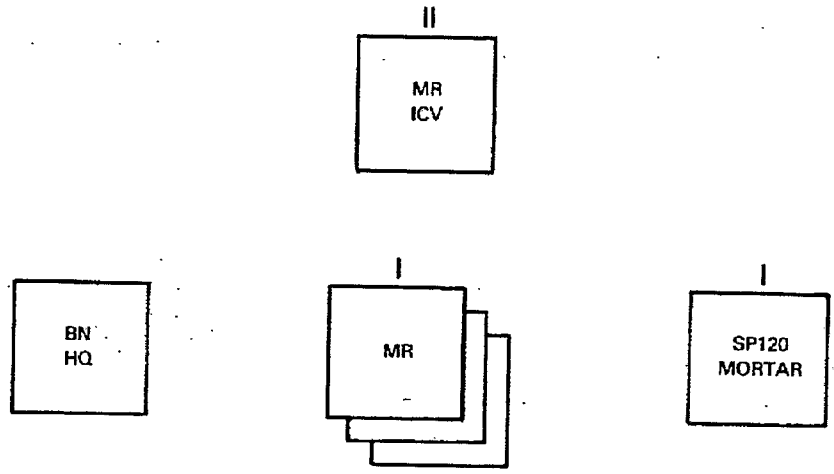
Table 49. (U) Motorized Rifle Battalion, Motorized Rifle Regiment, Tank Division (Continuation) 2000 Best Estimate



	MR CO (x3)	SP120 MORT BTY	ALSO IN BATTA-LION	TOTAL
INFANTRY COMBAT VEHICLE BMP-X	42		2(HQ)	44
SP 120MM MORTAR		6		6
MP SAM SA-14 F/O	9			9
LPLWS	3			3
AUTO GRENADE LAUNCHER F/O	6			6
SQUAD ATGM	27	6		33
82MM LT MORTAR	6			6
PERSONNEL	372	54	57	483

SOURCE: 3/178

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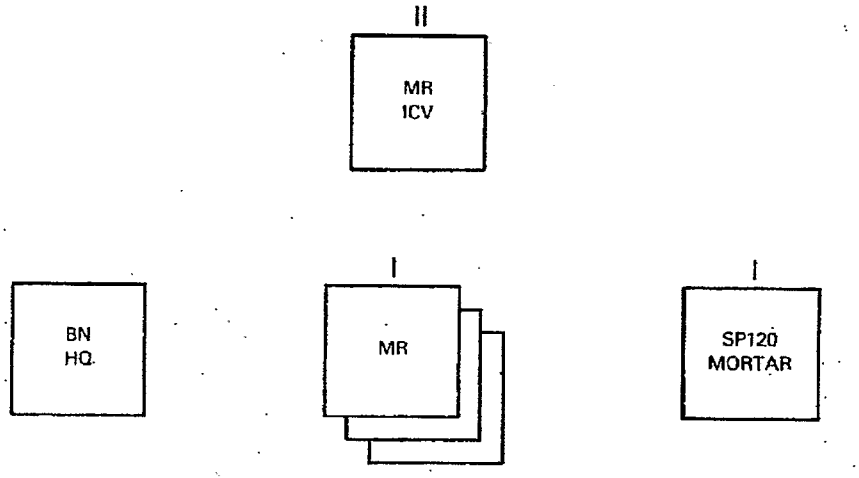
Table 50. (U) Motorized Rifle Battalion (ICV), Tank Regiment, Tank Division (Continuation) 2000 Best Estimate



	MR CO (x3)	SP120 MORT BTY	ALSO IN BATTA-LION	TOTAL
INFANTRY COMBAT VEHICLE BMP-X	42		2(HQ)	44
SP 120MM MORTAR		6		6
MP SAM SA-14 F/O	9			9
LPLWS	3			3
AUTO GRENADE LAUNCHER F/O	6			6
SQUAD ATGM	27	6		33
82MM LT MORTAR	6			6
PERSONNEL	372	54	57	483

SOURCE: 3/175

~~SECRET~~ (u)

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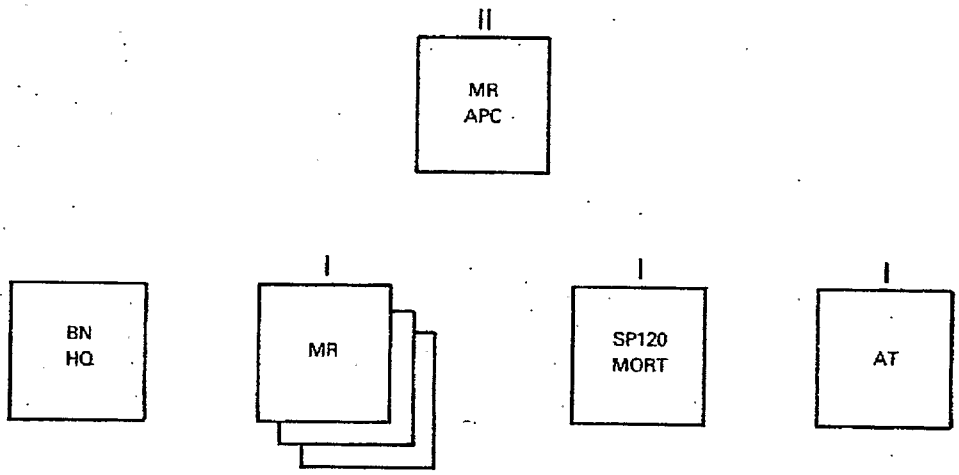
Table 51. (U) Motorized Rifle Battalion (APC), Motorized Rifle Regiment (APC), Motorized Rifle Division (Continuation) 2000 Best Estimate



	MR CO (x3)	SP120 MORT BTY	AT BTY	ALSO IN BATTA-LION	TOTAL
ARMORED PERSONNEL CARRIER BTR-X	42		6	2(HQ)	50
LT 82MM MORTAR	6				6
SP 120MM MORTAR		6			6
MP ATGM AT-X			6		6
TOWED 85MM AT GUN F/O			6		6
LPLWS	3				3
AUTO GRENADE LAUNCHER F/O	6				6
SQUAD ATGM	27	6	2		35
MP SAM SA-14 F/O	9				9
PERSONNEL	372	54	65	57	548

SOURCE: 3/130

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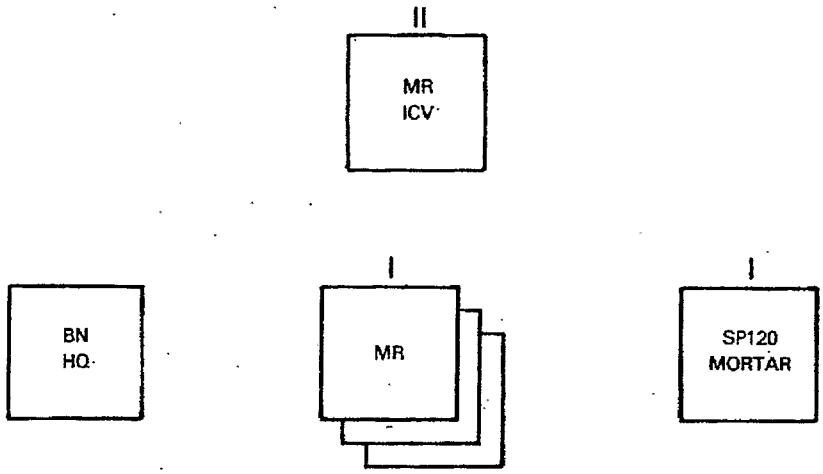
Table 52. (U) Motorized Rifle Battalion (ICV), Motorized Rifle Regiment, Motorized Rifle Division (Continuation) 2000 Best Estimate



	MR CO (x3)	SP120 MORT BTY	ALSO IN BATTA-LION	TOTAL
INFANTRY COMBAT VEHICLE BMP-X	42		2(HQ)	44
SP 120MM MORTAR		6		6
MP SAM SA-14 F/O	9			9
LPLWS	3			3
AUTO GRENADE LAUNCHER F/O	6			6
SQUAD ATGM	27	6		33
82MM LT MORTAR	6			6
PERSONNEL	372	54	57	483

SOURCE: 3/127

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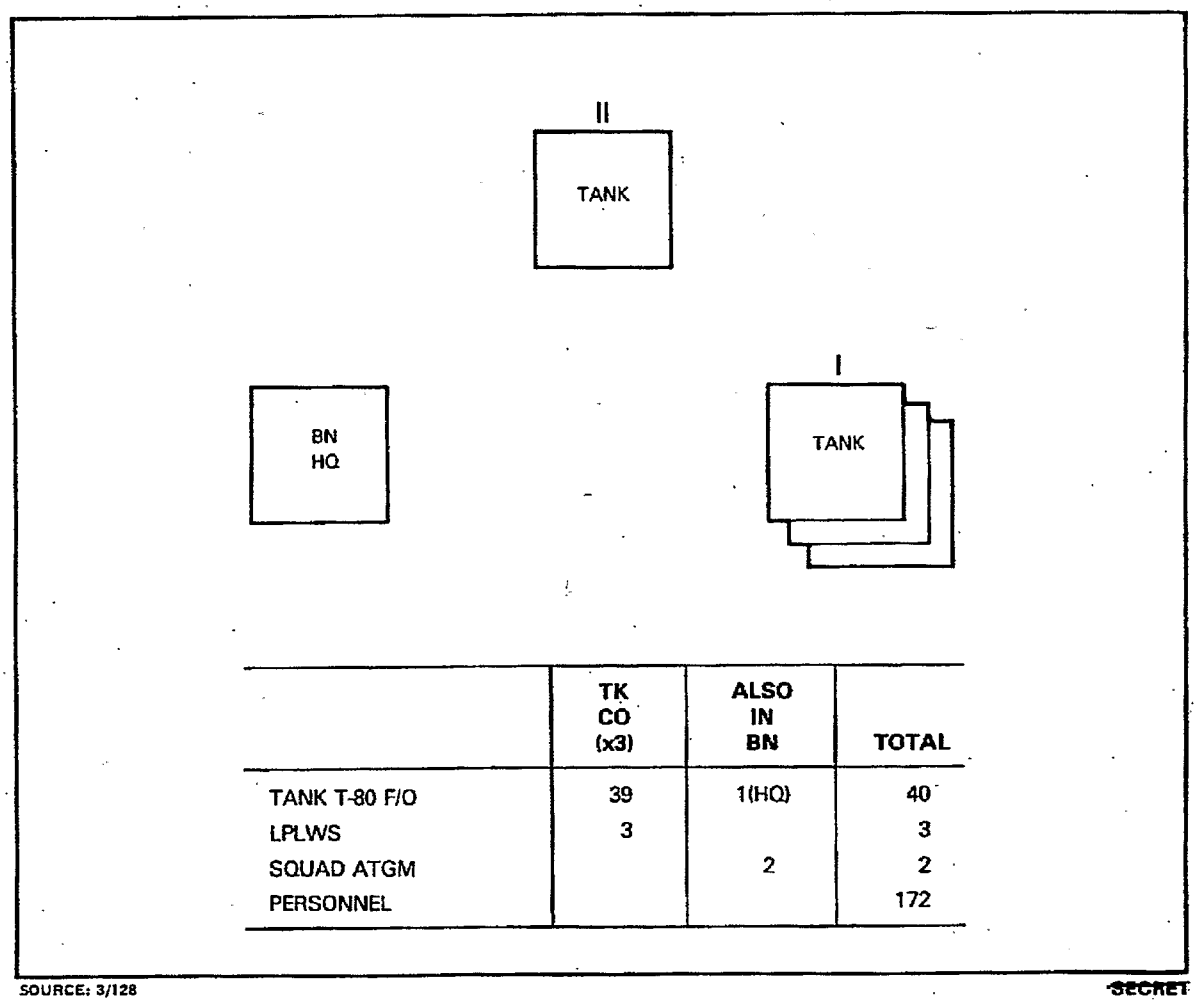
Table 53. (U) Tank Battalion, Motorized Rifle Regiment (ICV), Motorized Rifle Division (Continuation) 2000 Best Estimate



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80 F/O	39	1(HQ)	40
LPLWS	3		3
SQUAD ATGM		2	2
PERSONNEL			172

SOURCE: 3/128

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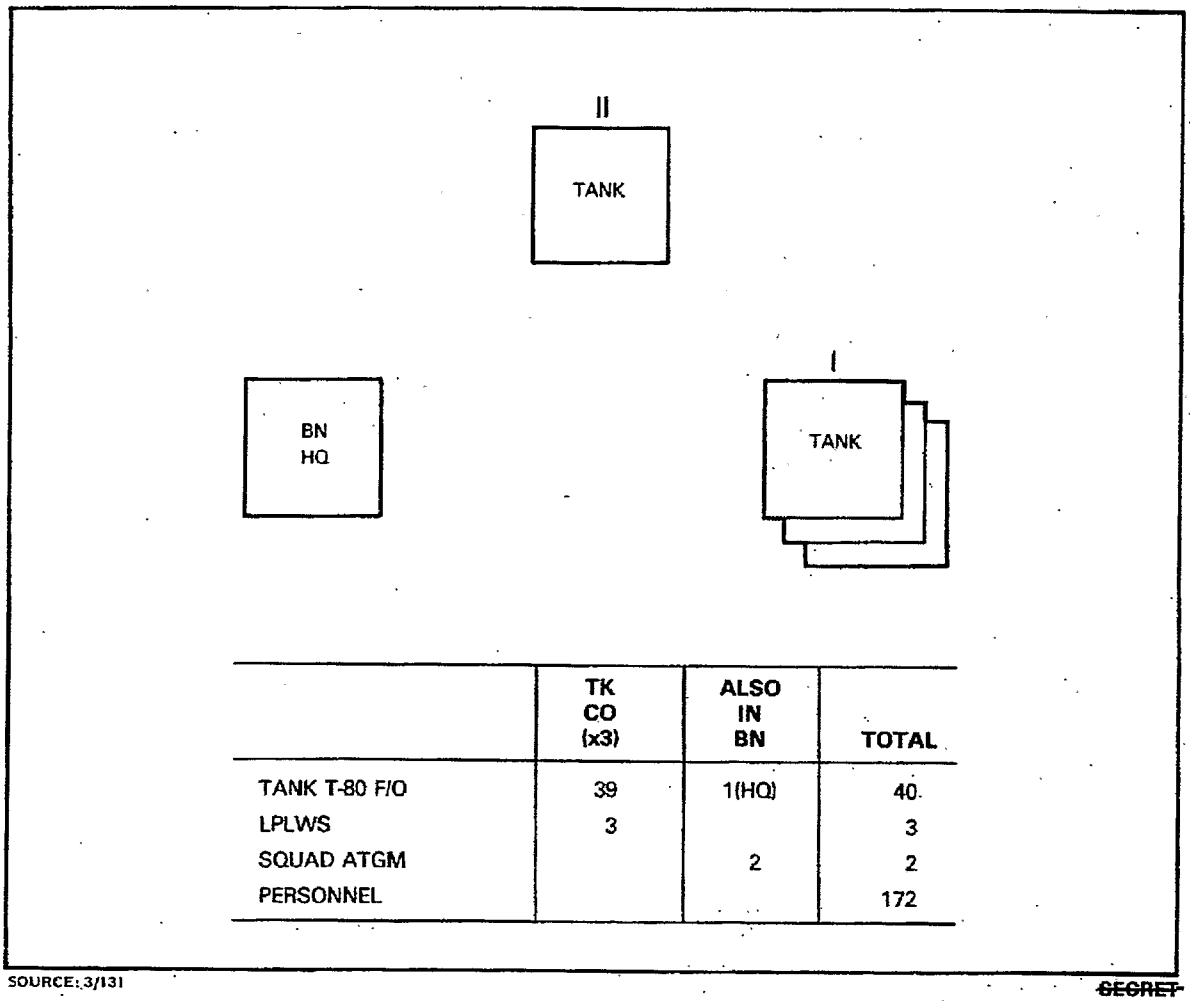
Table 54. (U) Tank Battalion, Motorized Rifle Regiment (APC), Motorized Rifle Division (Continuation) 2000 Best Estimate



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80 F/O	39	1(HQ)	40
LPLWS	3		3
SQUAD ATGM		2	2
PERSONNEL			172

SOURCE: 3/131

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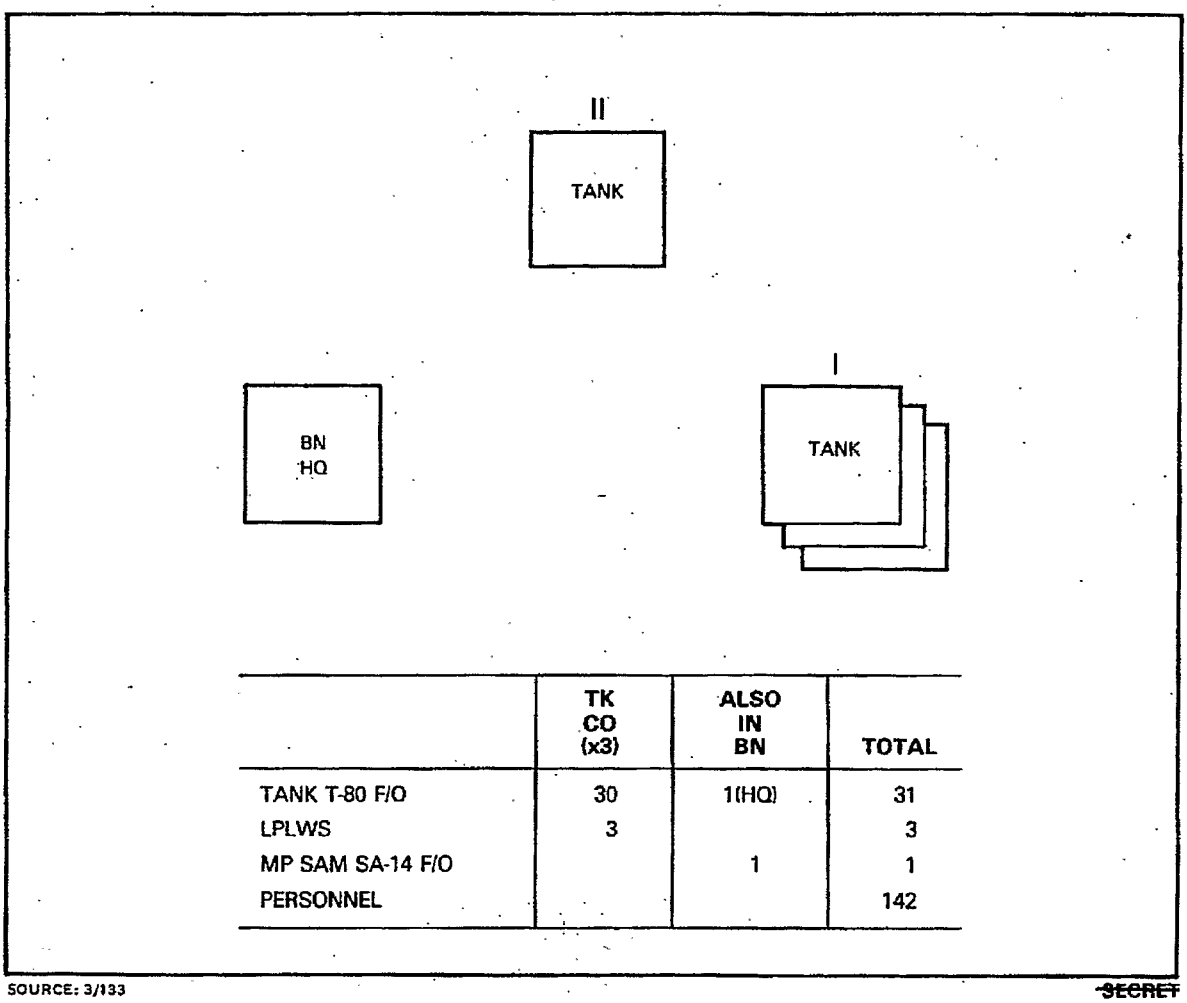
Table 55. (U) Tank Battalion, Tank Regiment, Motorized Rifle Division (Continuation) 2000 Best Estimate



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80 F/O	30	1(HQ)	31
LPLWS	3		3
MP SAM SA-14 F/O		1	1
PERSONNEL			142

SOURCE: 3/133

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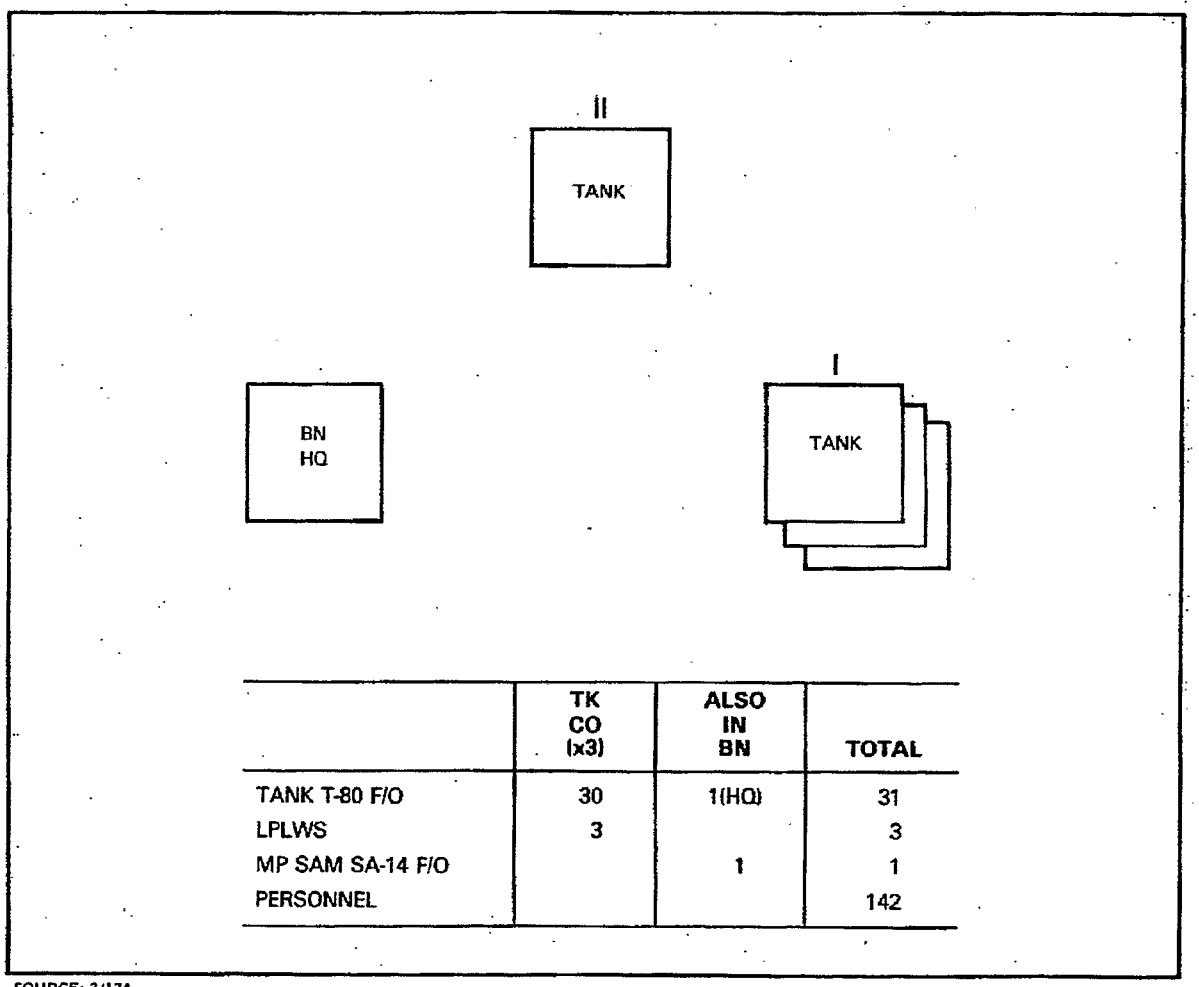
Table 56. (U) Tank Battalion, Tank Regiment, Tank Division (Continuation) 2000 Best Estimate



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80 F/O	30	1(HQ)	31
LPLWS	3		3
MP SAM SA-14 F/O		1	1
PERSONNEL			142

SOURCE: 3/174

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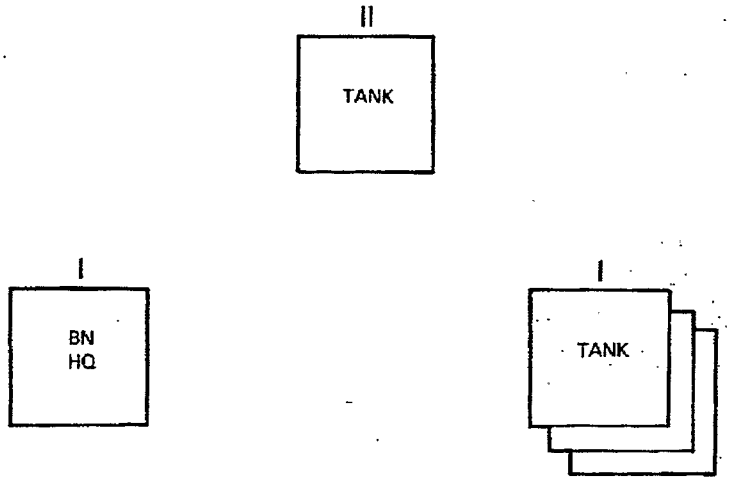
Table 57. (U) Tank Battalion, Motorized Rifle Regiment, Tank Division (Continuation) 2000 Best Estimate



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80 F/O	39	1(HQ)	40
LPLWS	3		3
SQUAD ATGM		2	2
PERSONNEL			172

SOURCE: 3/177

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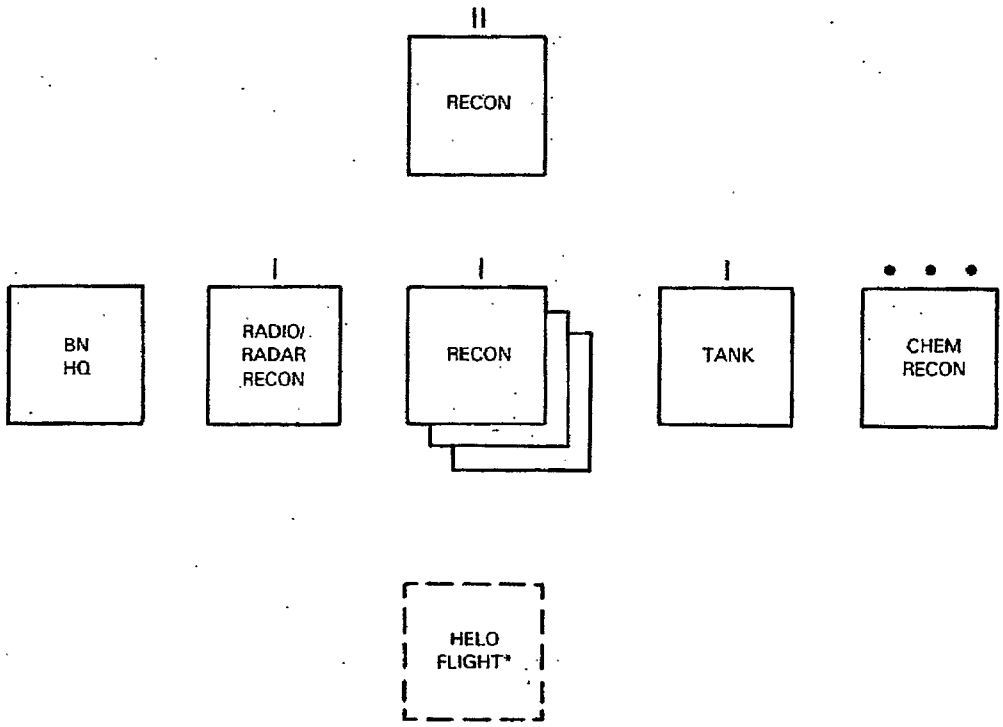
Table 58. (U) Reconnaissance Battalion, Tank Division (Continuation) 2000 Best Estimate



*(S) FLIGHT OF 3-4 LOH FROM DIVISION HELICOPTER REGIMENT OPERATES WITH THE RECON BATTALION.

	HQ & SVC SPT	RECON CO (x3)	TK CO	CHEM RECON PLAT	RADIO/ RADAR RECON CO	TOTAL
INFANTRY COMBAT VEH BMP-X		21				21
T-80 F/O TANK			10			10
MP SAM SA-14 F/O		9	1			10
RADIO/RADAR VEHICLES					15	15
CHEMICAL RECON VEH (TRKD)				4		4
SQUAD ATGM		18				18
PERSONNEL	60	180	30	12	90	372

SOURCE: 3/181

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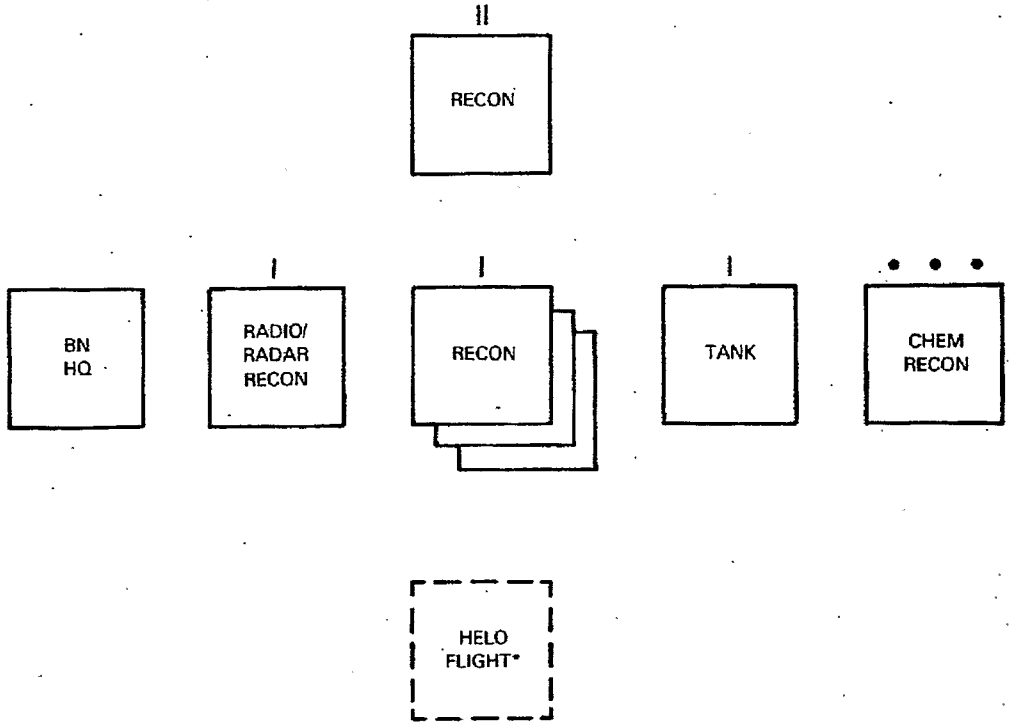
Table 59. (U) Reconnaissance Battalion, Motorized Rifle Division (Continuation) 2000 Best Estimate



*(S) FLIGHT OF 3-4 LOH FROM DIVISION HELICOPTER SQUADRON OPERATES WITH THE RECON BATTALION.

	HQ & SVC SPT	RECON CO (x3)	TK CO	CHEM RECON PLAT	RADIO/ RADAR RECON CO	TOTAL
INFANTRY COMBAT VEH BMP-X		21				21
T-80 F/O TANK			10			10
MP SAM SA-14 F/O		9	1			10
RADIO/RADAR VEHICLES					15	15
CHEMICAL RECON VEH (TRKD)				4		4
SQUAD ATGM		18				18
PERSONNEL	60	180	30	12	90	372

SOURCE: 3/137

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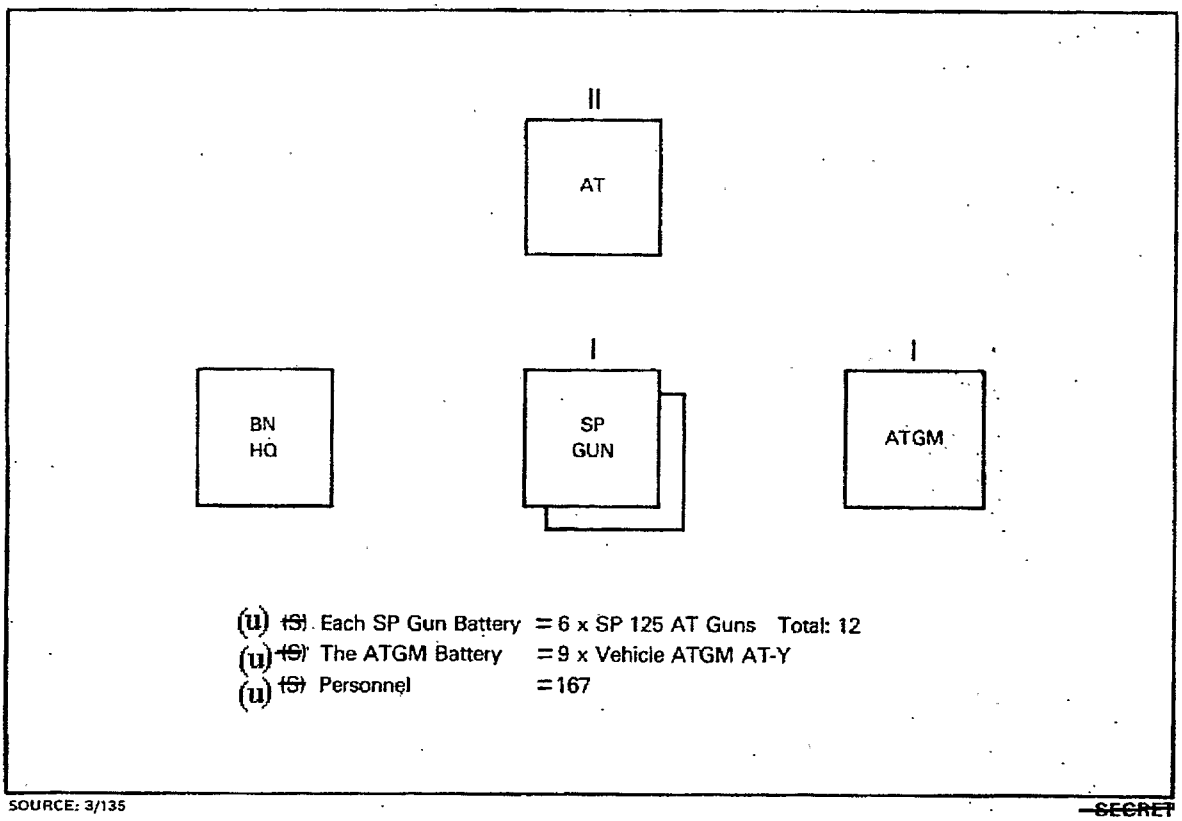
Table 60. (U) Antitank Battalion, Motorized Rifle Division (Continuation) 2000 Best Estimate



(u) ~~(S)~~ Each SP Gun Battery = 6 x SP 125 AT Guns Total: 12
(u) ~~(S)~~ The ATGM Battery = 9 x Vehicle ATGM AT-Y
(u) ~~(S)~~ Personnel = 167

SOURCE: 3/135

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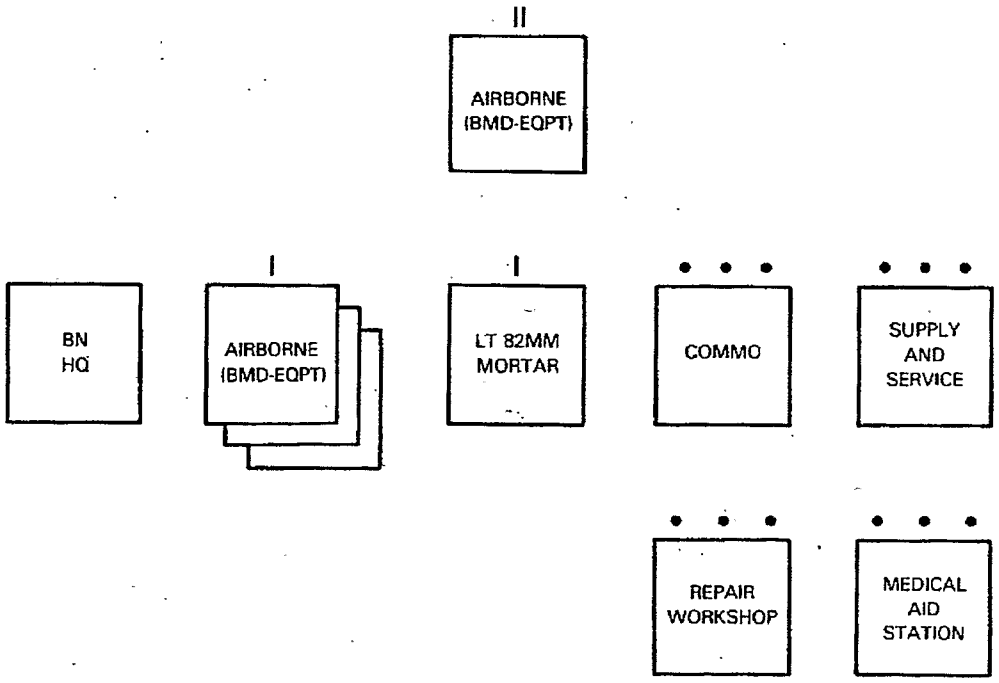
Table 61. (U) Airborne Battalion, Airborne Regiment, Airborne Division (Continuation) 2000 Best Estimate



	ABN CO (x3)	LT 82 MORTAR BTY	ALSO IN BATTA-LION	TOTAL
AIRBORNE AMPHIB COMMAND VEHICLE	3		2	5
AIRBORNE AMPHIB COMBAT VEH F/O	30			30
LT 82MM MORTAR		6		6
SQUAD ATGM F/O	27		3	30
MP SAM SA-14 F/O	9			9
LPLWS	3			3
AUTO GREN LCHR F/O	3			3
PERSONNEL	264	32	63	359

SOURCE: 3/213

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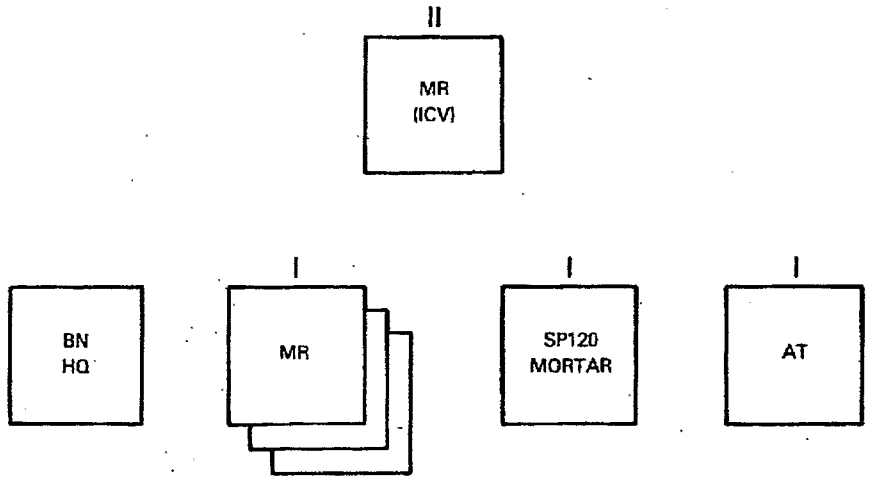
Table 62. (U) Motorized Rifle Battalion (ICV), Tank Regiment, Motorized Rifle Division (Continuation) 2000 High Estimate



	MR CO (x3)	SP120 MORT BTY	AT BTY	ALSO IN BATTA-LION	TOTAL
INFANTRY COMBAT VEHICLE BMP-X	42		6	2(HQ)	50
SP 120MM MORTAR		6			6
TOWED 85MM AT GUN			6		6
MP SAM SA-14 F/O	9				9
LPLWS	3				3
AUTO GRENADE LAUNCHER F/O	6				6
SQUAD ATGM	27	6			33
82MM LT MORTAR	6				6
PERSONNEL	372	54	40	57	523

SOURCE: 3/147

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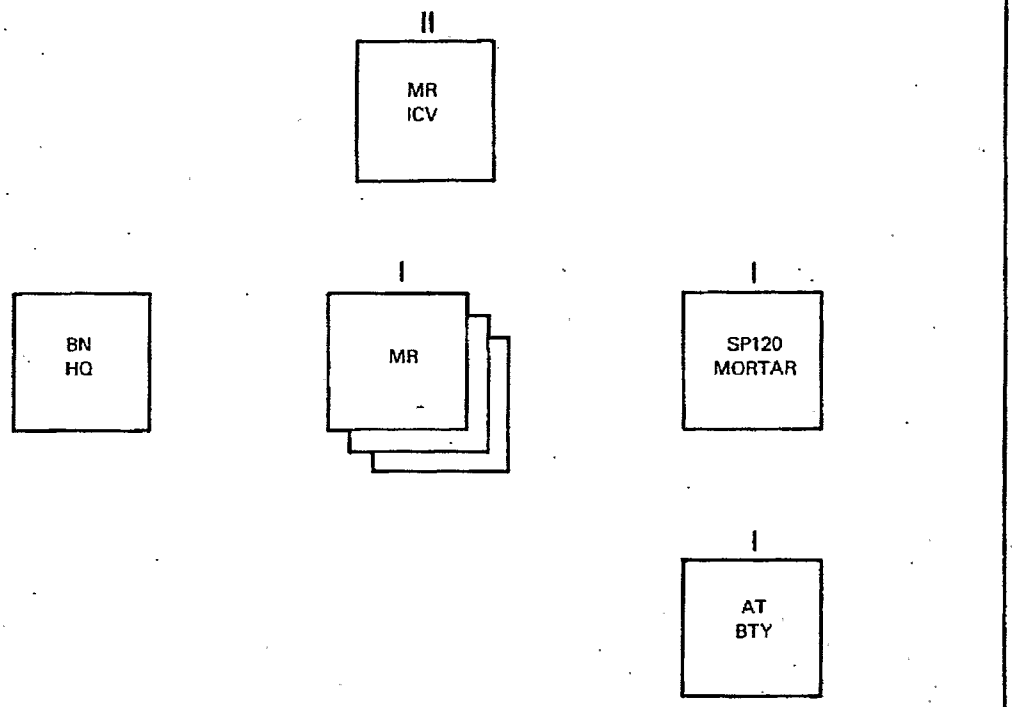
Table 63. (U) Motorized Rifle Battalion (ICV), Motorized Rifle Regiment, Motorized Rifle Division (Continuation) 2000 High Estimate



	MR CO (x3)	SP120 MORT BTY	AT BTY	ALSO IN BATTA-LION	TOTAL
INFANTRY COMBAT VEHICLE BMP-X	42		6	2(HQ)	50
SP 120MM MORTAR		6			6
TOWED 85MM AT GUN			6		6
MP SAM SA-14 F/O	9				9
LPLWS	3				3
AUTO GRENADE LAUNCHER F/O	6				6
SQUAD ATGM	27	6			33
82MM LT MORTAR	6				6
PERSONNEL	372	54	40	57	523

SOURCE: 3/143

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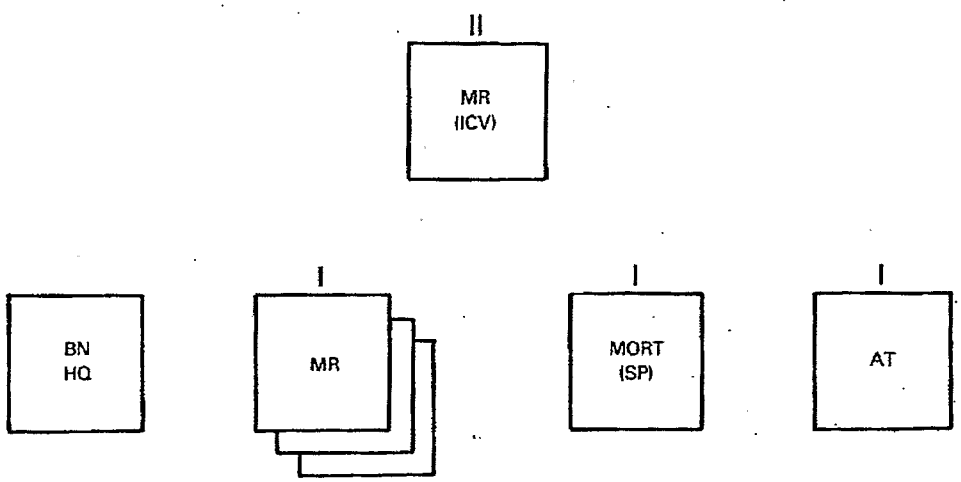
Table 64. (U) Motorized Rifle Battalion, Tank Regiment, Tank Division (Continuation) 2000 High Estimate



	MR CO (x3)	SP120 MORT BTY	AT BTY	ALSO IN BATTA-LION	TOTAL
INFANTRY COMBAT VEHICLE BMP-X	42		6	2(HQ)	50
SP 120MM MORTAR		6			6
TOWED 85MM AT GUN			6		6
MP SAM SA-14 F/O	9				9
LPLWS	3				3
AUTO GRENADE LAUNCHER F/O	6				6
SQUAD ATGM	27	6			33
82MM LT MORTAR	6				6
PERSONNEL	372	54	40	57	523

SOURCE: 3/188

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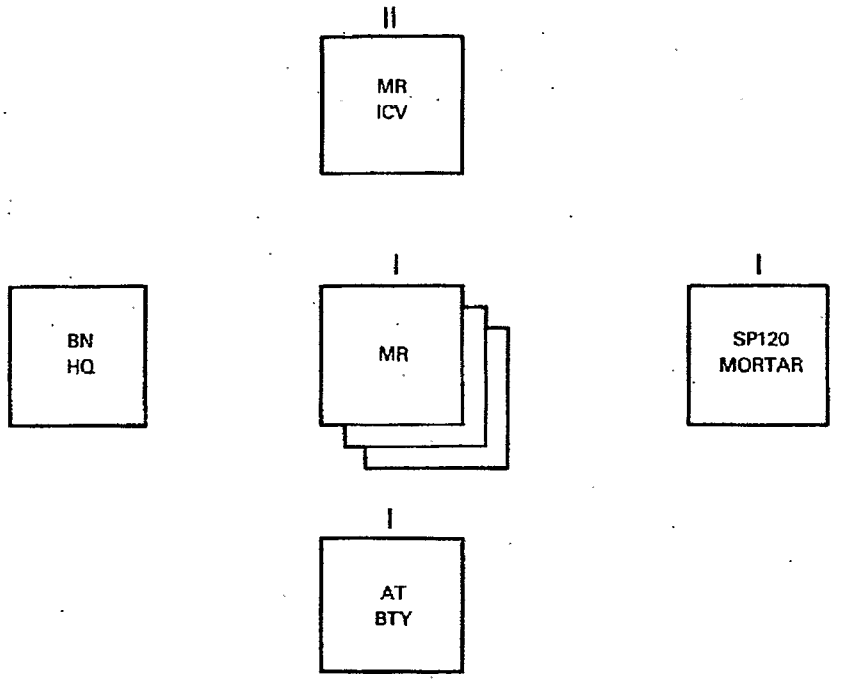
Table 65. (U) Motorized Rifle Battalion, Motorized Rifle Regiment, Tank Division (Continuation) 2000 High Estimate



	MR CO (x3)	SP120 MORT BTY	AT BTY	ALSO IN BATTA-LION	TOTAL
INFANTRY COMBAT VEHICLE BMP-X	42		6	2(HQ)	50
SP 120MM MORTAR		6			6
TOWED 85MM AT GUN			6		6
MP SAM SA-14 F/O	9				9
LPLWS	3				3
AUTO GRENADE LAUNCHER F/O	6				6
SQUAD ATGM	27	6			33
82MM LT MORTAR	6				6
PERSONNEL	372	54	40	57	523

SOURCE: 3/191

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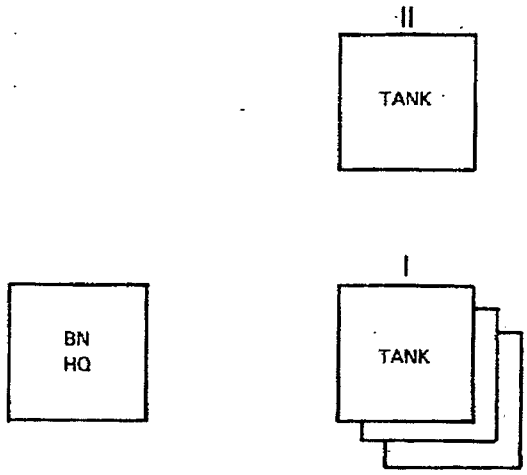
Table 66. (U) Tank Battalion, Tank Regiment, Motorized Rifle Division (Continuation) 2000 High Estimate



	TK CO (x3)	ALSO IN BN	TOTAL
TANK BATTALION	39	1(HQ)	40
MP SAM SA-14 F/O		1	1
LPLWS	3		3
PERSONNEL			172

SOURCE: 3/146

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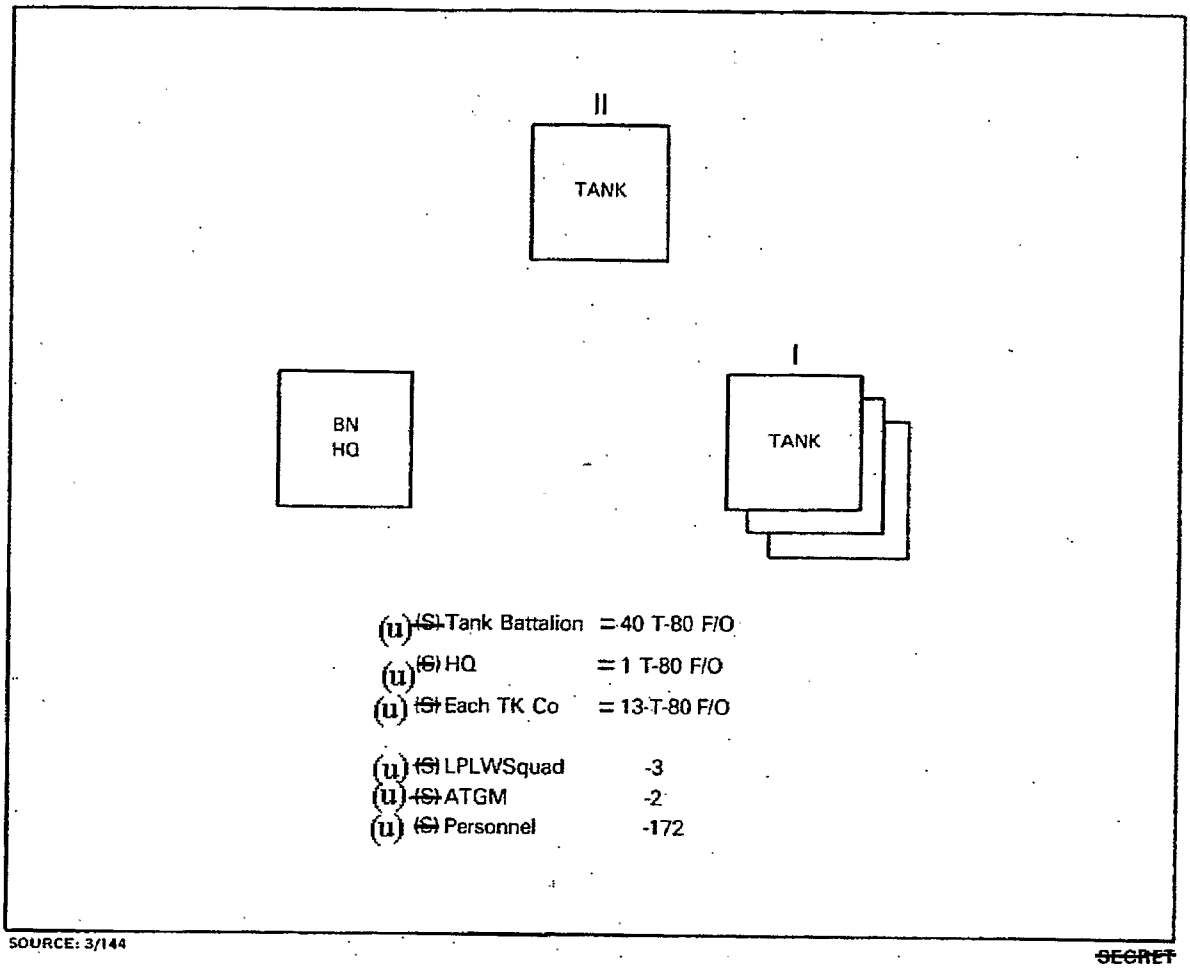
Table 67. (U) Tank Battalion, Motorized Rifle Regiment (ICV), Motorized Rifle Division (Continuation) 2000 High Estimate



SOURCE: 3/144

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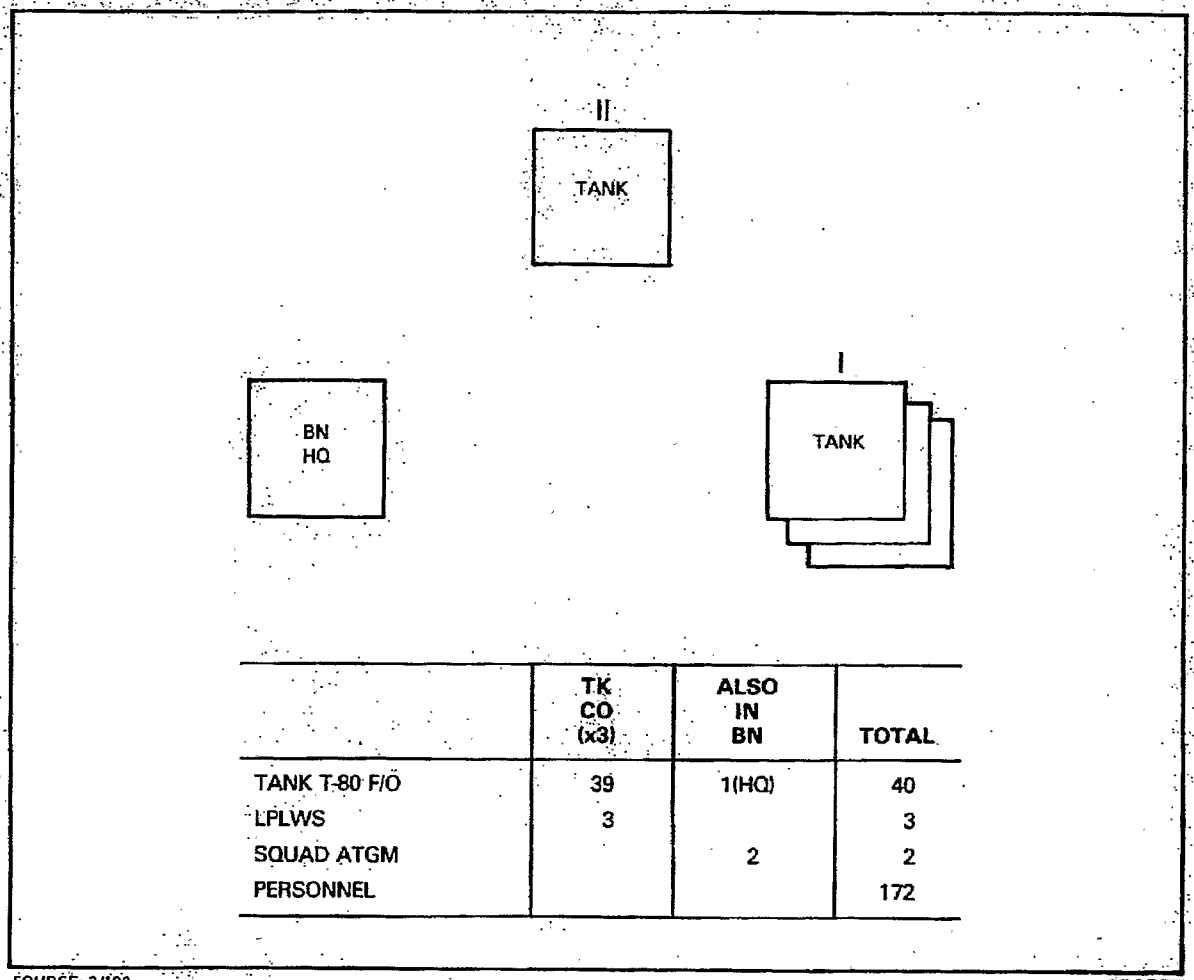
Table 68. (U) Tank Battalion, Motorized Rifle Regiment, Tank Division (Continuation) 2000 High Estimate



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80 F/O	39	1(HQ)	40
LPLWS	3		3
SQUAD ATGM		2	2
PERSONNEL			172

SOURCE: 3/180

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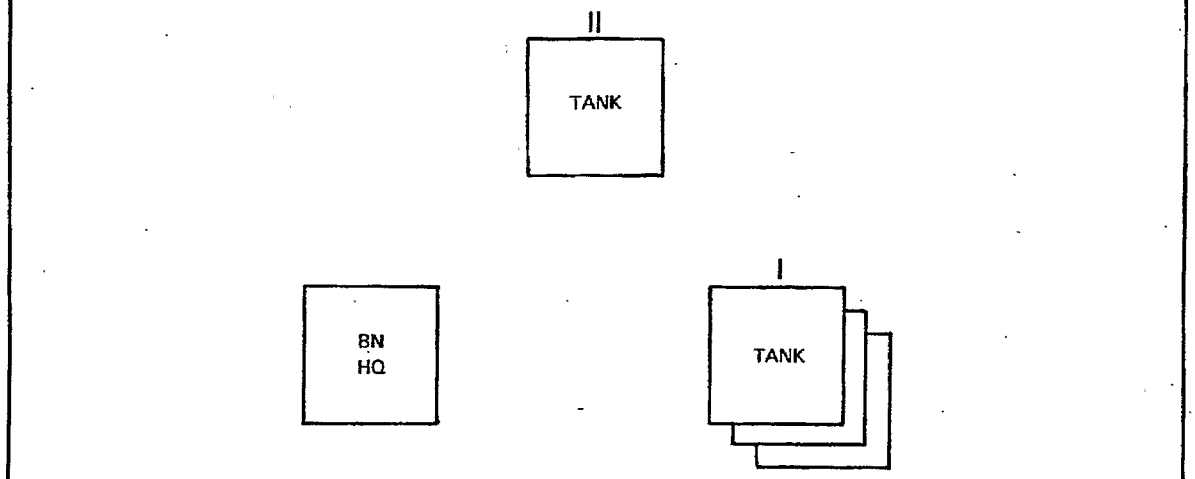
Table 69. (U) Tank Battalion, Tank Regiment, Tank Division (Continuation) 2000 High Estimate



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80 F/O	39	1(HQ)	40
MP SAM SA-14 F/O		1	1
LPLWS	3		3
PERSONNEL			172

SOURCE: 3/187

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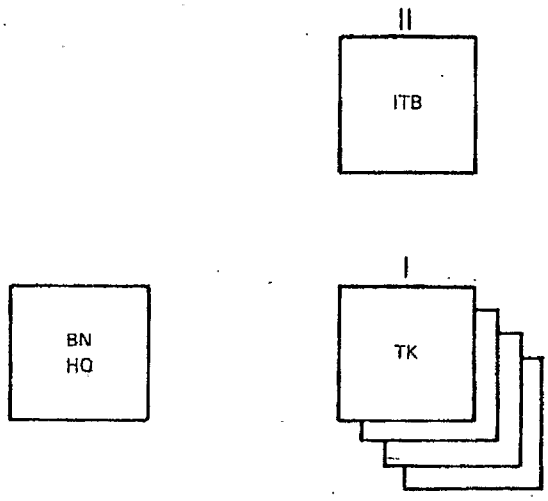
*Table 70. (U) Independent Tank Battalion, Motorized Rifle Division (Continuation) 2000 High Estimate**



	TK CO (x3)	ALSO IN BN	TOTAL
TANK T-80 F/O	40	1(HQ)	41
LPLWS	4		4
SQUAD ATGM		2	2
MP SAM SA-14 F/O		1	1
PERSONNEL			194

(u) ~~(S)~~ ONLY WITH MRDs IN THE SOVIET GROUPS OF FORCES (EASTERN EUROPE) AND IN MONGOLIA.

SOURCE: 3/148

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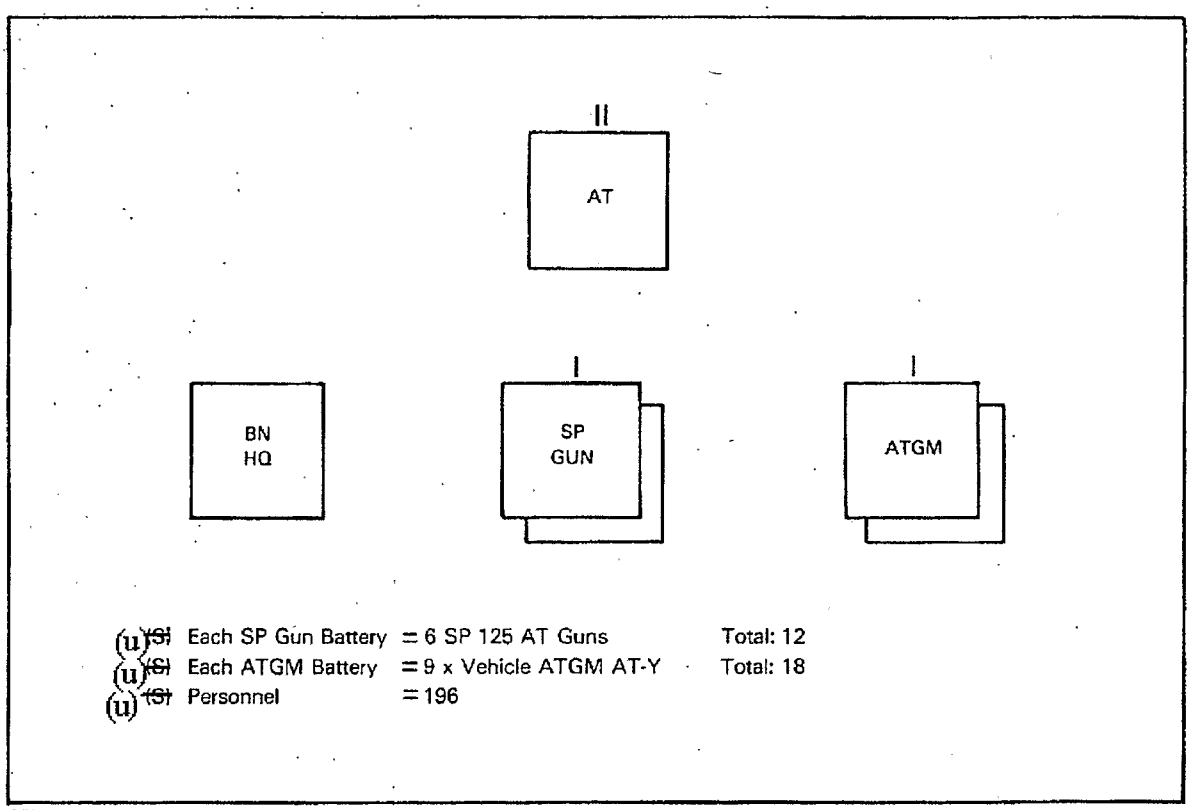
Table 71. (U) Antitank Battalion, Motorized Rifle Division (Continuation) 2000 High Estimate



(u) ~~(S)~~ Each SP Gun Battery = 6 SP 125 AT Guns Total: 12
(u) ~~(S)~~ Each ATGM Battery = 9 x Vehicle ATGM AT-Y Total: 18
(u) ~~(S)~~ Personnel = 196

SOURCE: 3/150

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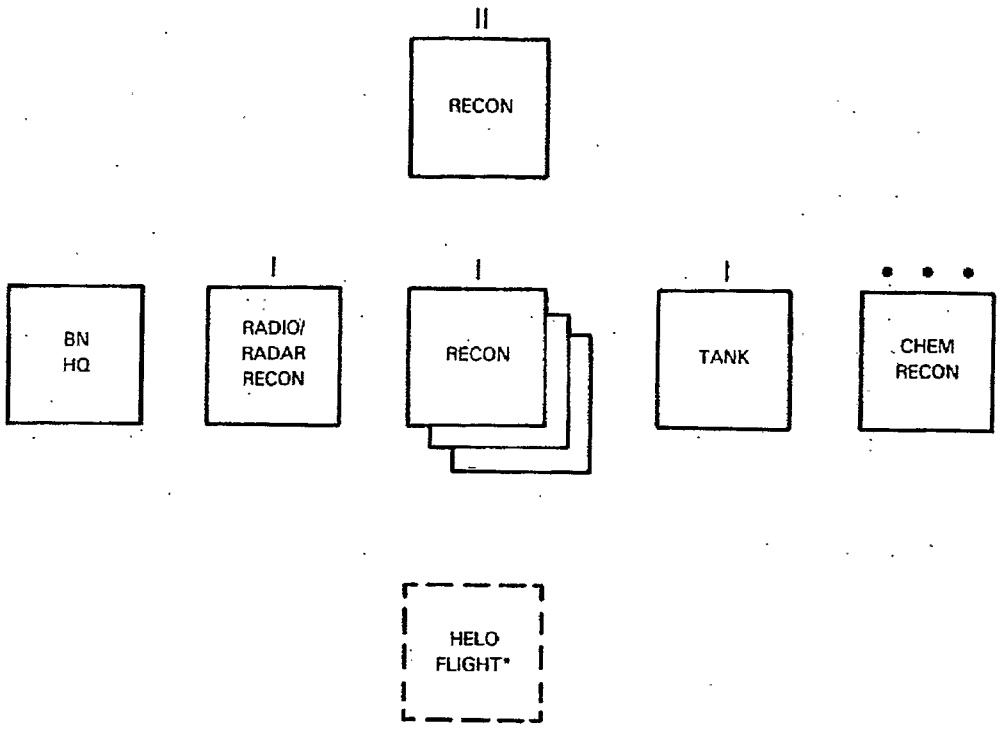
Table 72. (U) Reconnaissance Battalion, Motorized Rifle Division (Continuation) 2000 High Estimate



*(S) FLIGHT OF 3-4 LOH FROM DIVISION HELICOPTER UNIT OPERATES WITH THE RECON BATTALION.

	HQ	RECON CO (x3)	TK CO	CHEM RECON PLAT	RADIO/ RADAR RECON CO	TOTAL
INFANTRY VEHICLE BMP-X		21				21
T-80 F/O TANK			10			10
MP SAM SA-14 F/O		9	1			10
RADIO/RADAR VEHICLES					15	15
CHEMICAL RECON VEH (TRKD)				4		4
SQUAD ATGM		21				21
PERSONNEL	60	180	30	12	90	372

SOURCE: 3/152

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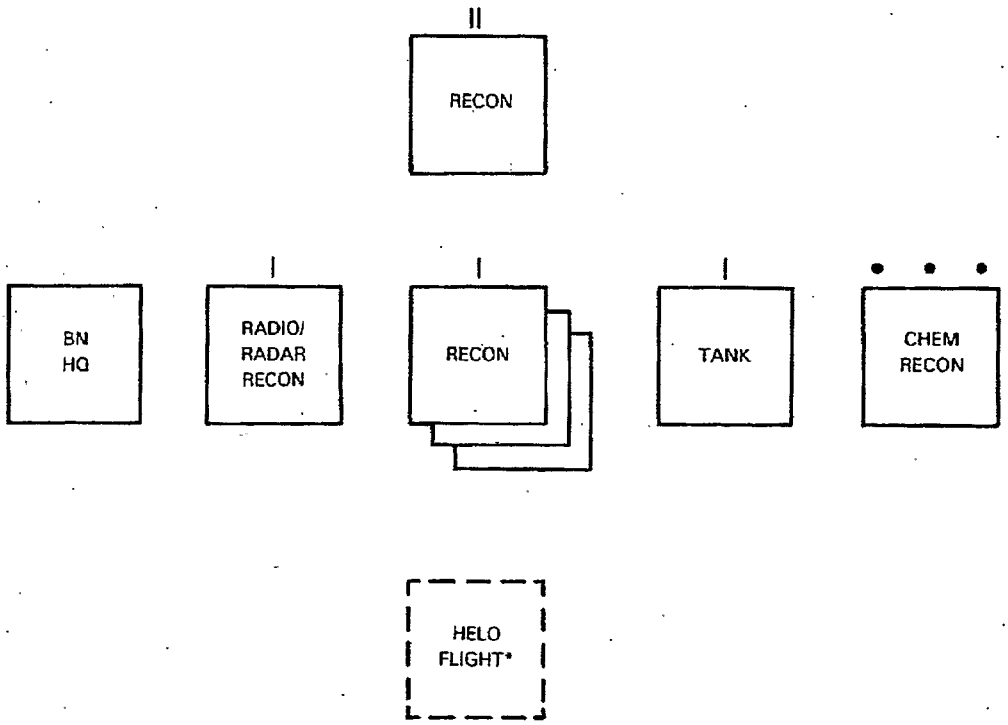
Table 73. (U) Reconnaissance Battalion, Tank Division (Continuation) 2000 High Estimate



*(S) FLIGHT OF 3-4 LOH FROM DIVISION HELICOPTER UNIT OPERATES WITH THE RECON BATTALION.

	HQ SVC SPT	RECON CO (x3)	TK CO	CHEM RECON PLAT	RADIO/ RADAR RECON CO	TOTAL
INFANTRY COMBAT VEH BMP-X		21				21
T-80 F/O TANK			10			10
MP SAM SA-14 F/O		9	1			10
RADIO/RADAR VEHICLES					15	15
CHEMICAL RECON VEH (TRKD)				4		4
SQUAD ATGM		21				21
PERSONNEL	60	180	30	12	90	372

SOURCE: 3/194

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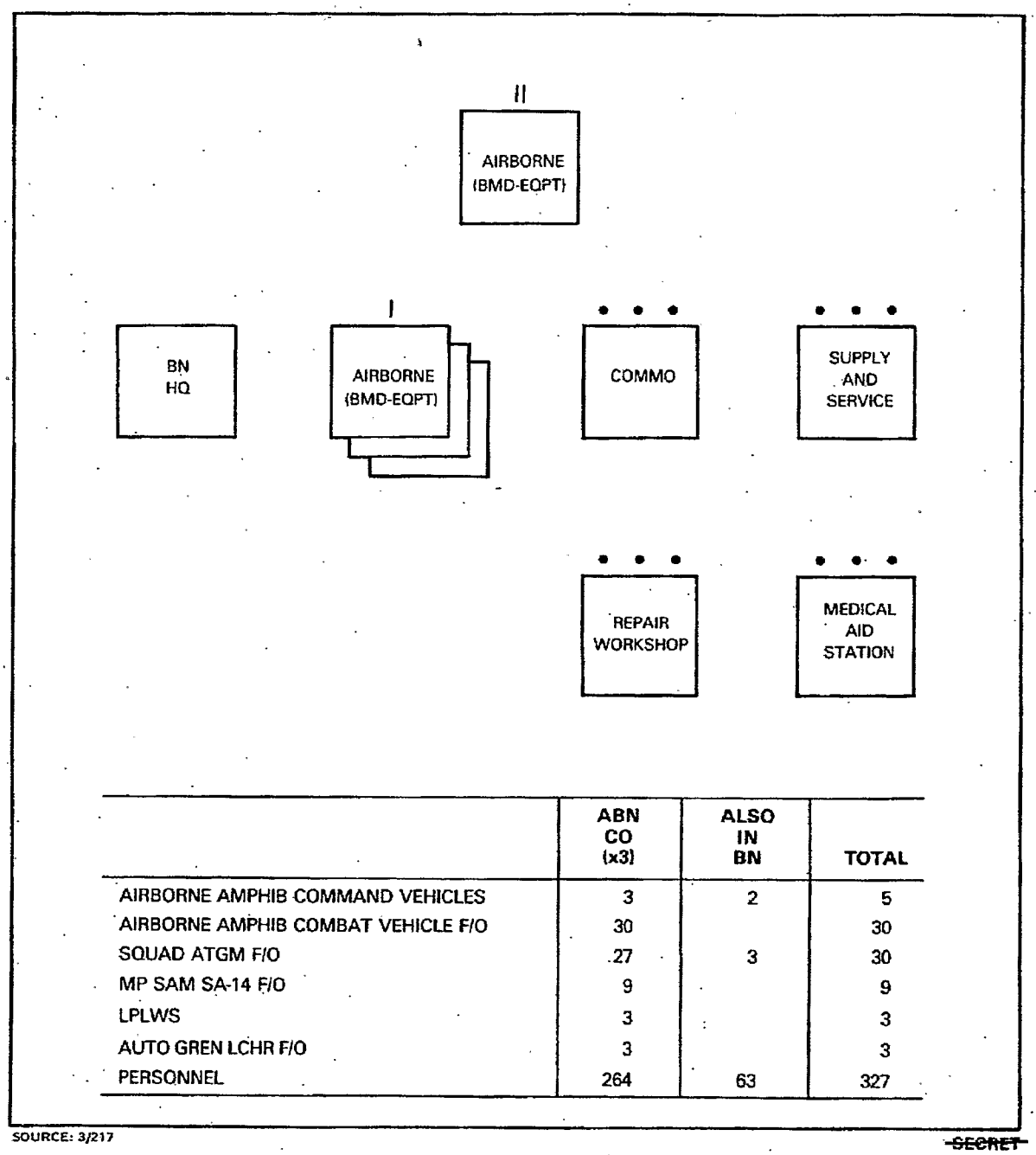
Table 74. (U) Airborne Battalion, Airborne Regiment, Airborne Division (Continuation) 2000 High Estimate



	ABN CO (x3)	ALSO IN BN	TOTAL
AIRBORNE AMPHIB COMMAND VEHICLES	3	2	5
AIRBORNE AMPHIB COMBAT VEHICLE F/O	30		30
SQUAD ATGM F/O	27	3	30
MP SAM SA-14 F/O	9		9
LPLWS	3		3
AUTO GREN LCHR F/O	3		3
PERSONNEL	264	63	327

SOURCE: 3/217

~~SECRET~~

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4) United States Army Intelligence and Threat Analysis Detachment Handbook on the Tactics and Operations of the Soviet Army, (U) ITAD, March 1975 (~~SECRET~~)

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CHAPTER 7

HIGHLIGHTS

(u)

~~(S)~~ Chapter 7 consists of 13 sections which provide information on the following combat support elements and functions: artillery; tactical nuclear doctrine/surface-to-surface missiles (SSM); tactical air; air defense; chemical/biological; airmobile/air assault; command, control, and communications (C^3); electronic countermeasures/radio electronic combat (ECM/REC); directed energy weapons (DEW); SPETSNAZ; engineer; smoke and obscurants and medical. Successful combined arms operations by maneuver divisions in the type of high speed offensive operations characteristic of Soviet planning for an attack against NATO cannot be achieved without the proper integration of combat support capabilities. Realizing this, the Soviets have developed a combat support structure at regimental, divisional, army, and front level which they believe will adequately suit the needs of their maneuver divisions as they execute their highly mobile offensive operations.

(U) Each of the 13 sections addresses those major factors unique to each area discussed (i.e. tactics, doctrine and organization). Additionally, each section will provide information on significant projected capabilities, including doctrinal or organizational changes.

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CHAPTER 7. COMBAT SUPPORT ELEMENTS (U)

SECTION I. ARTILLERY (U)

1. Introduction (U).

(U) Artillery is considered to be a vitally important combat force in the Soviet ground forces. While NATO artillery doctrine emphasizes artillery support of maneuver plans, Soviet military doctrine states that maneuver forces will exploit the nuclear and nonnuclear fires of artillery and missiles. In other words, the Soviets draw up their artillery fire plans first, then the maneuver plans are shaped to exploit the former. No other army in the world emphasizes the primacy of artillery as does the Soviet Army.

(u)

a. ~~(S)~~ Soviet artillery is allocated in sufficient numbers at all echelons to accomplish its mission. A front commander may have one or two artillery divisions which can be allocated to subordinate units or maintained as a reserve. The organization of Soviet artillery divisions will vary from front to front during wartime. Furthermore, during peacetime their organization will vary depending upon where they are located in the Soviet Union. Normally, a typical artillery division contains up to six artillery cannon brigades of 152 mm gun/howitzers and 130 mm guns, one or two antitank brigades, a multiple rocket launcher brigade, and in some instances 240 mm heavy mortars and 203 mm guns. Each army level formation will have an organic artillery brigade made up of mixed calibers of tube artillery and multiple rocket launchers. In addition to the front and army level artillery assets, each maneuver division has an organic artillery regiment at division level and an artillery battalion at maneuver regiment level. A single typical front with twenty maneuver divisions could have about 3000 field artillery pieces and about 2000 antitank weapons. (4/107)

(u)

b. ~~(S)~~ Front and army artillery units are allocated to subordinate units to form artillery groups. These groupings are formed at army, division, and regiment levels and will vary according to the mission and availability. The front commander allocates most of his artillery resources to the armies under his command according to the army mission. The army commander, using his organic artillery and that given to him by the front commander, may form an army artillery group (AAG) and an antitank reserve. The remaining army artillery is distributed to the subordinate divisions according to their mission. The division commander, in turn, forms a division artillery group (DAG) and this process even extends down to maneuver regiments which form a regimental artillery group (RAG). Artillery groups are not permanent organizations, but are established to perform specific missions. Once that mission has been accomplished, the battalions of the artillery groups are reallocated as necessary.

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c. (u) ~~(S)~~ The principal missions of the artillery are to:

(1) (U) Destroy enemy nuclear delivery systems within range.

(2) (U) Destroy opposing large maneuver units, which are in the forward area during the breakthrough, by preparatory fires and by subsequent fire support during the attack; and

(3) (U) Repel counterattacks and interdict movement of enemy forces.

d. (u) ~~(S)~~ During an offensive, artillery is employed according to the following principles:

(1) (u) ~~(S)~~ Artillery is concentrated on the most important axes and in support of breakthrough operations;

(2) (u) ~~(S)~~ Close coordination is effected with combined arms, tank formations and front aviation;

(3) (u) ~~(S)~~ Continuous fire support is provided during the attack; and

(4) (u) ~~(S)~~ Artillery is rapidly massed for preparatory fires and fire support, and rapidly dispersed as a means of protection against nuclear attack.

2. Artillery Systems (U).

(u) ~~(S)~~ This section contains narrative and technical data on Soviet field artillery weapons and provides supplementary information on selected aspects of Soviet doctrine, tactics, organization and possible field artillery developments. The following systems are projected for the year 2000:

a. ~~(S)~~ (u)	122 mm Towed Howitzer	M-1987
b. ~~(S)~~ (u)	122 mm Self-Propelled Howitzer	M-1988
c. ~~(S)~~ (u)	152 mm Towed Gun	M-1976
d. ~~(S)~~ (u)	152 mm Towed Howitzer	M-1987
e. ~~(S)~~ (u)	152 mm Self-Propelled Gun	M-1991
f. ~~(S)~~ (u)	152 mm Self-Propelled Howitzer	M-1991
g. ~~(S)~~ (u)	152 mm Self-Propelled Gun	M-2000
h. ~~(S)~~ (u)	122 mm Multiple Rocket Launcher	M-1991
i. ~~(S)~~ (u)	180 mm Multiple Rocket Launcher	M-1987
j. ~~(S)~~ (u)	240 mm Multiple Rocket Launcher	M-2000

3. Doctrine (U).

a. (u) ~~(S)~~ Over the years, Soviet artillery doctrine has remained unchanged. Only the emphasis, resulting from technological, organizational

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or political innovations has changed. Soviet artillery doctrine stresses centralized planning, high speed mobility, surprise massing of fires and increased flexibility in support of the needs of the supported commander. (4/108)

b. Centralized Planning (U).

(u)
~~(S)~~ Centralized planning of artillery fires allows the artillery commander to respond rapidly and precisely to the challenge on the battlefield. The Soviet artillery planner in the year 2000 will have the necessary assets to accomplish the missions as assigned. This is possible through a thoroughly redundant command, control, and communications structure and the numbers and variety of fire support assets available at all echelons. These redundancies reduce to nearly zero the effect of individual system shortcomings or malfunctions. Centralized planning allows the most efficient use of the available assets and can be used to control rates of fire and logistic allocations to ensure a formidable threat to any enemy. Preplanning of operations at the appropriate command echelon provides for proper use of artillery assets and ensures orderly artillery fire support for the assigned missions as the battle develops. Centralization does not mean that the system is not responsive to diverse needs and tasks. It does mean that artillery assets provide support in consonance with the ebb and flow of the battle. (4/110)

c. High Speed Mobility (U).

(u)
~~(S)~~ The combined assets of highly mobile artillery systems can be placed in a particular area of the battlefield and rapidly moved to keep up with planned Soviet high speed rates of advance. In the year 2000 the high speed offensive doctrine will be enhanced by more reliable, more mobile, longer-range, and extremely lethal artillery systems. Innovations in target acquisition will allow the planning for the proper movement of artillery assets. Mobility will also provide security. Highly sensitive artillery activities can be "concealed" by short position occupation times. Artillery will be able to move rapidly and still provide high quality surprise fires.

d. Surprise (U).

(u)
~~(S)~~ Surprise as an artillery doctrinal cornerstone will not change. Only the means to accomplish the effect will change by the year 2000. Artillery fire effectiveness can be dramatically increased if the target is caught unprepared and if the attack is sufficiently lethal and violent. The Soviets have long sought to increase their artillery accuracy and the rates of fire for their artillery systems. As a result the cannon and multiple rocket launchers will have refined capabilities assisted by automated means. Improvement in the speed of artillery response will guarantee that even fleeting enemy targets will be engaged.

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e. Massing of Fires (U).

(u) ~~(S)~~ The Soviets will have sufficient inventories by the year 2000 to mass artillery systems against any potential or perceived enemy threat. Included in these massed effects are an array of conventional, improved conventional, blast enhanced, chemical, biological, nuclear and enhanced nuclear (radiation) effects ammunitions. The massed fires can be achieved by using the system capabilities, (range, refire, lethality, movement, speed etc.) to achieve either a neutralization or destruction of the target. The target can be either a point target such as a bunker or bridge or an area target such as an airfield or tank battalion assembly area. Neutralization has the effect of making the target ineffective long enough for the area to be overrun by the ground forces. Destruction, or more properly, annihilation of a target means it will not be a viable fighting asset and will require replacement. Neutralization or destruction criteria are met by the proper blend of fire means, using the element of surprise, if possible.

f. Responsiveness (U).

(u) ~~(S)~~ Support for the overall tactical operation is a prime requirement for the artillery and will remain so beyond the year 2000. The Soviet ground forces have and will exploit the results of the awesome firepower provided by the supporting artillery. Using every possible technological innovation, the artillery will be more than capable of performing its part of the assigned mission. The formation of artillery groups will remain a standard practice. The purpose of the formation of artillery groups will be to centralize more effectively the ground force commander's control of the battlefield. The artillery groups will consist of at least two battalions of guns, field guns, howitzers, gun howitzers or MRL's. These groups are employed to ensure sufficiently responsive artillery support to the main and supporting axes of advance. All of the above elements complement each other to give Soviet artillery truly devastating firepower.

4. Artillery Tactics (U).

a. (u) ~~(S)~~ The principal influence on tactics is provided by technology. Improvements or upgrading of artillery weapons systems provide gradual evolutionary change in the areas of mobility, rates of fire, ranges, and lethality of munitions, whereas new technology such as nuclear weapons leads to revolutionary change. The interaction of the perceived NATO or Chinese threat and the threats of planned commitment has had both a direct and indirect impact on the development of tactics. Historically, the rate of introduction of new or enhanced technology into the Soviet armed forces has occurred at a faster pace than tactical innovation thereby causing tactics to lag behind technology. This condition will continue to exist into the forseeable future.

b. (u) ~~(S)~~ It is unlikely that any major changes in artillery tactics

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will occur over the next two decades unless there is a unique technological breakthrough requiring a complete re-examination of fundamental tactics. The introduction of new or improved equipment or a shift in the perception of the threat might, however, result in some wider modifications in the implementation of Soviet artillery tactics. Rates of advance for the Soviet ground forces should not change dramatically, only the means of achieving those rates will change. Emphasis on the survivability of artillery will become important. Measures to mask the artillery from hostile counterfire systems and the preservation of nuclear delivery systems will become imperative as NATO target acquisition abilities improve over the next two decades. Artillery will become more involved in missions where it has not had primacy before: scatterable mines; blinding of electro-optics by using improved aerosols, smokes and obscurants; single-shot nonnuclear electromagnetic-pulse (NNEMP) devices; improved lethality, penetration, blast, and fragmentation; NBC delivery.

c. (u) ~~(S)~~ An additional groupment is postulated by the year 2000. The AAGs, DAGs, and RAGs will remain as stated; however, there is an increasing tendency for the Soviets to provide groupment procedures at the lower command levels. By the year 2000 the battalion will have a variety of mortars and artillery at the disposal of the maneuver-battalion commander. This command echelon will have more diverse artillery assets. A battalion artillery group (BAG) is the answer to free the maneuver commander from fire support problems, especially when considering the diverse mortar, cannon and multiple rocket launcher systems which could be allocated from regimental or higher command levels.

d. (u) ~~(S)~~ It should be borne in mind that the following projections apply to 1990 and to the year 2000. The nature of the artillery fire mission will be reflected in organizational changes to both enhance fire and maneuver while increasing the survivability of the fire support unit itself.

e. (U) Tables 75 thru 86 project artillery/surface-to-surface (SSM) units in the years 1990 and 2000. For the year 2000 both "best" and "high" estimates are provided. As an integral part of the artillery forces, the SSM tables are addressed here with a discussion of tactical nuclear doctrine/surface-to-surface missiles in the following Section II of Chapter 7. (5/174-185)

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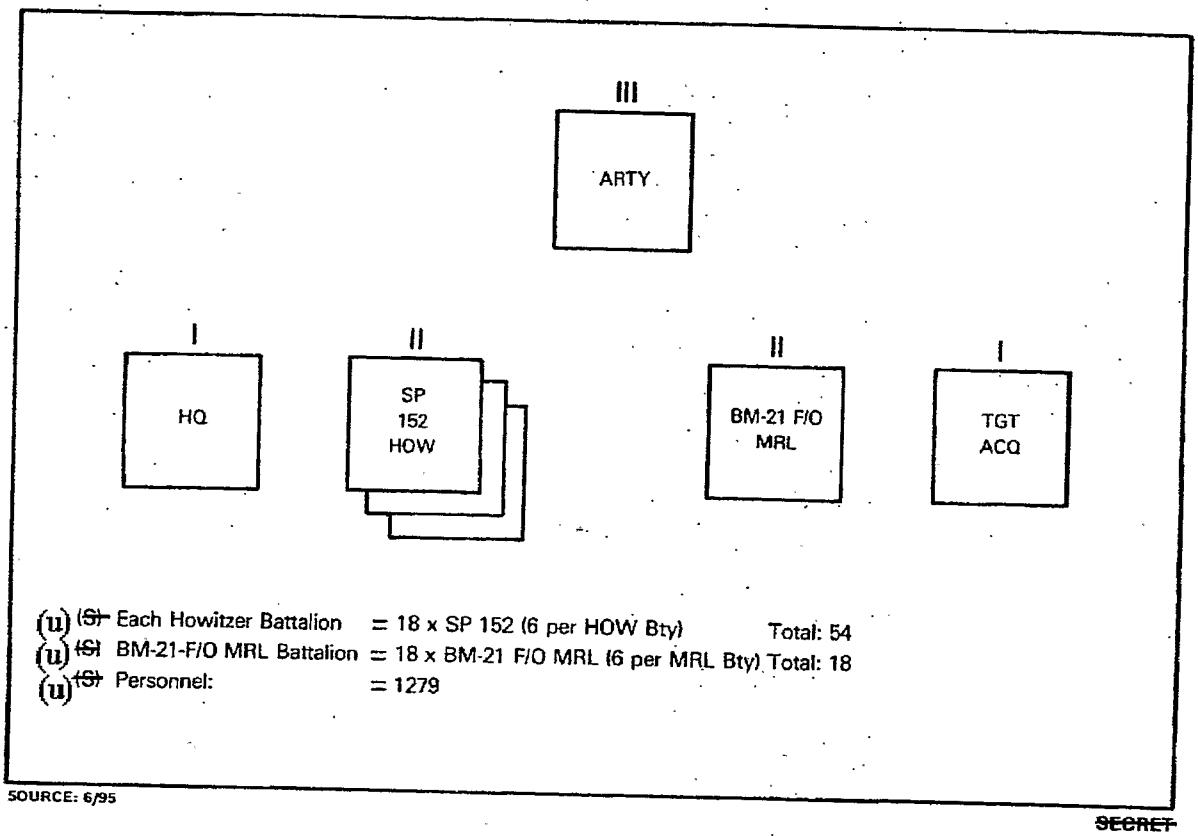
Table 75. (U) Artillery Regiment, Tank Division 1990



SOURCE: 6/95

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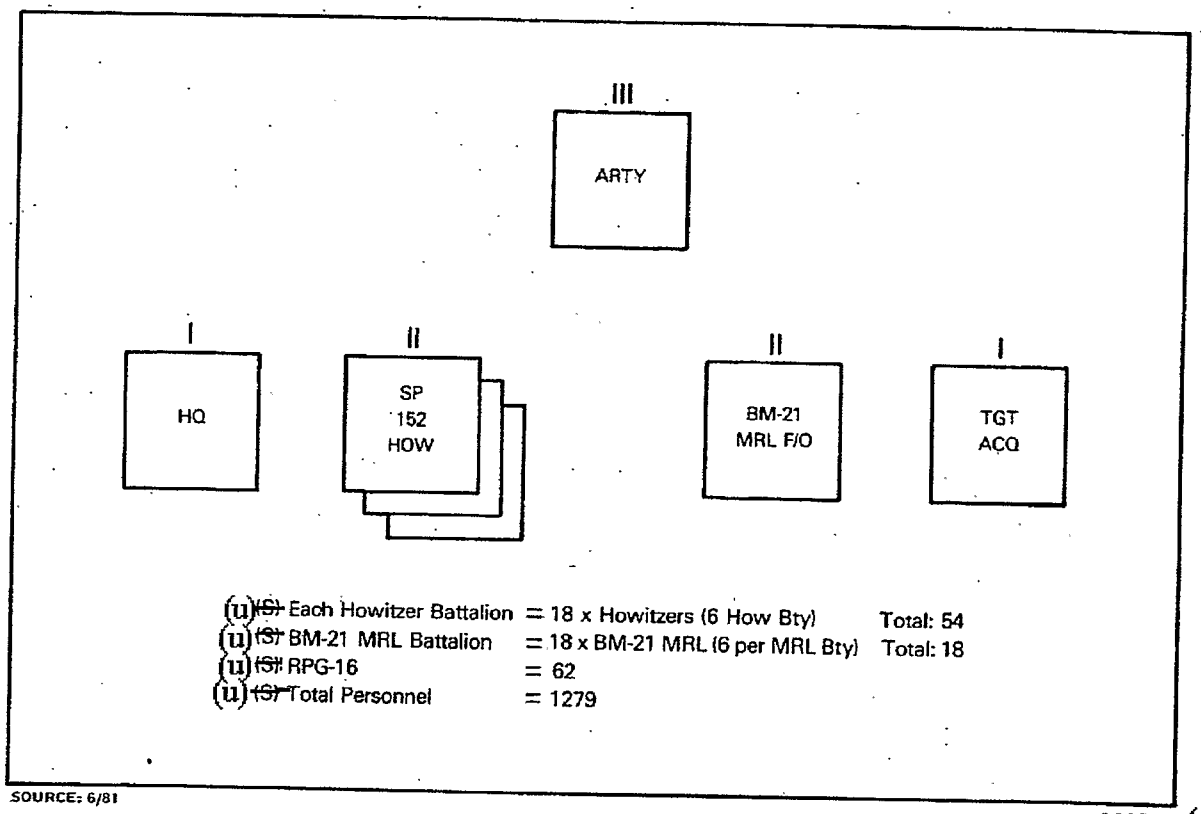
Table 76. (U) Artillery Regiment, Motorized Rifle Division 1990



SOURCE: 6/81

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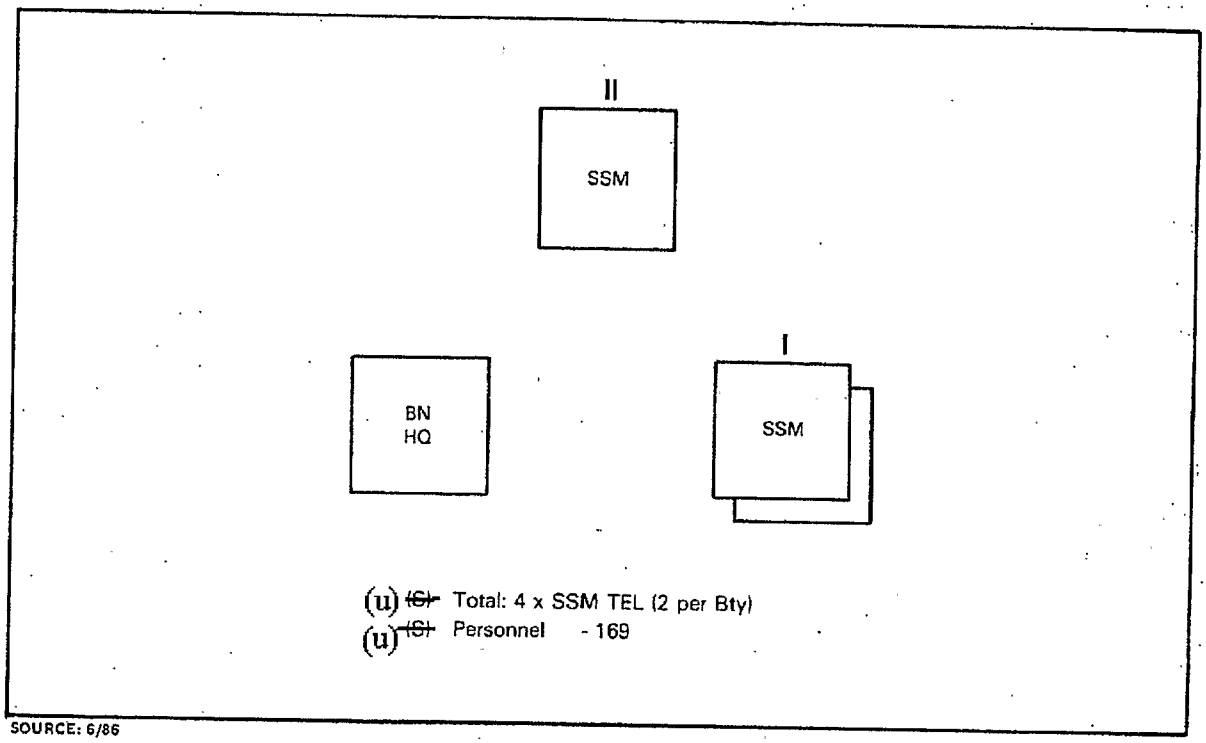
Table 77. (U) Tactical SSM Battalion, Motorized Rifle Division 1990



SOURCE: 6/86

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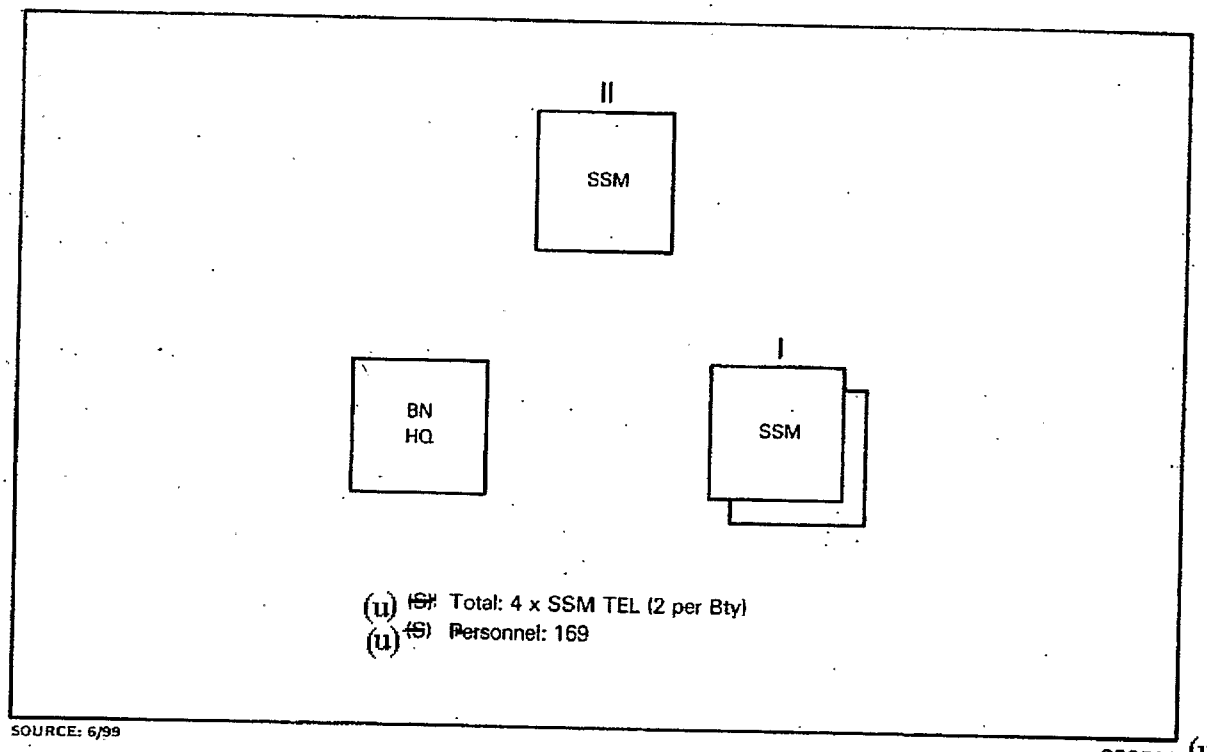
Table 78. (U) Tactical SSM Battalion, Tank Division 1990



SOURCE: 6/99

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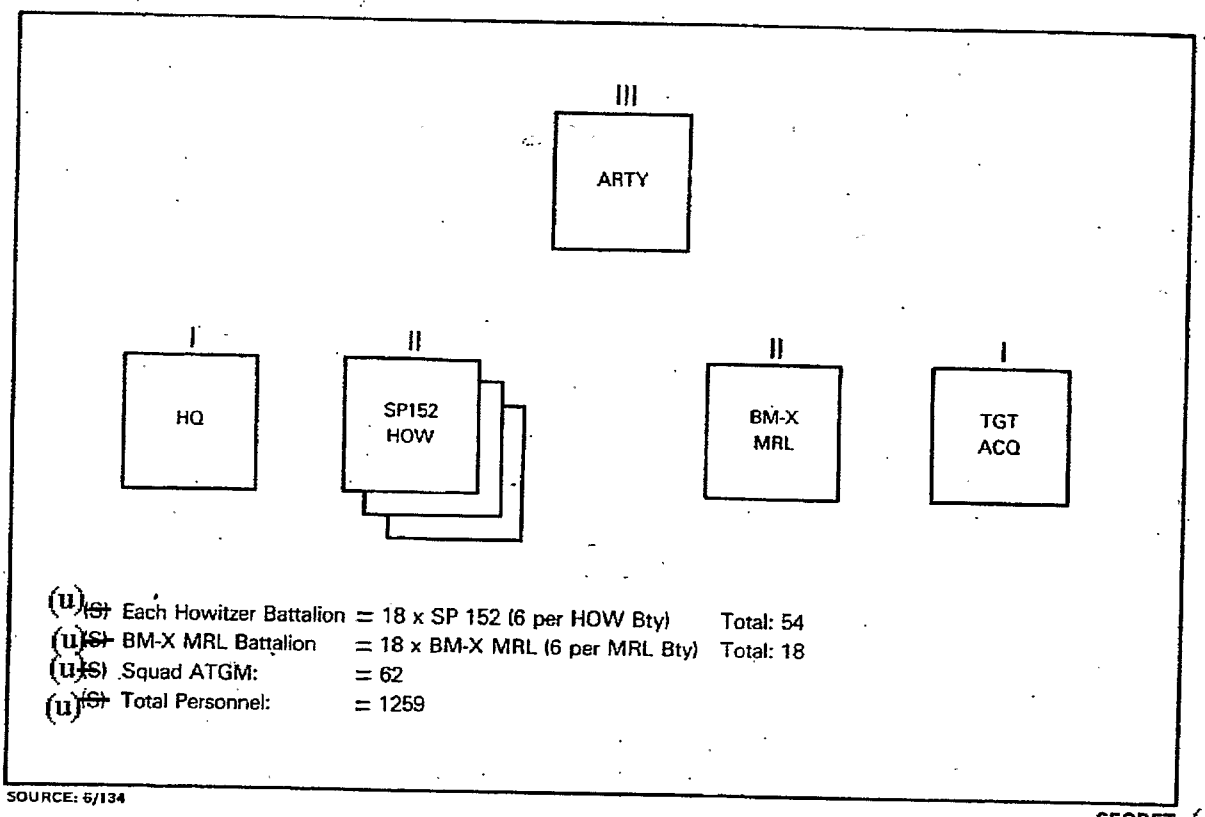
Table 79. (U) Artillery Regiment, Motorized Rifle Division (Continuation) 2000 Best Estimate



SOURCE: 6/134

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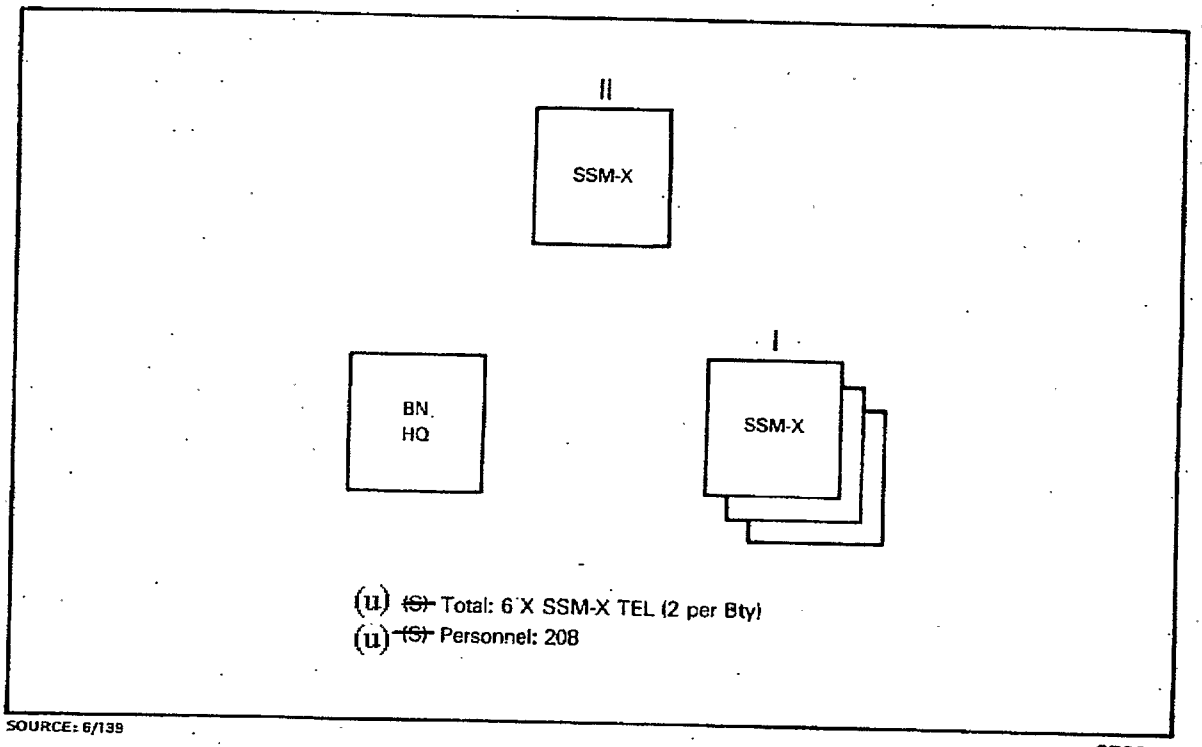
Table 80. (U) Tactical SSM Battalion, Motorized Rifle Division (Continuation) 2000 Best Estimate



SOURCE: 6/139

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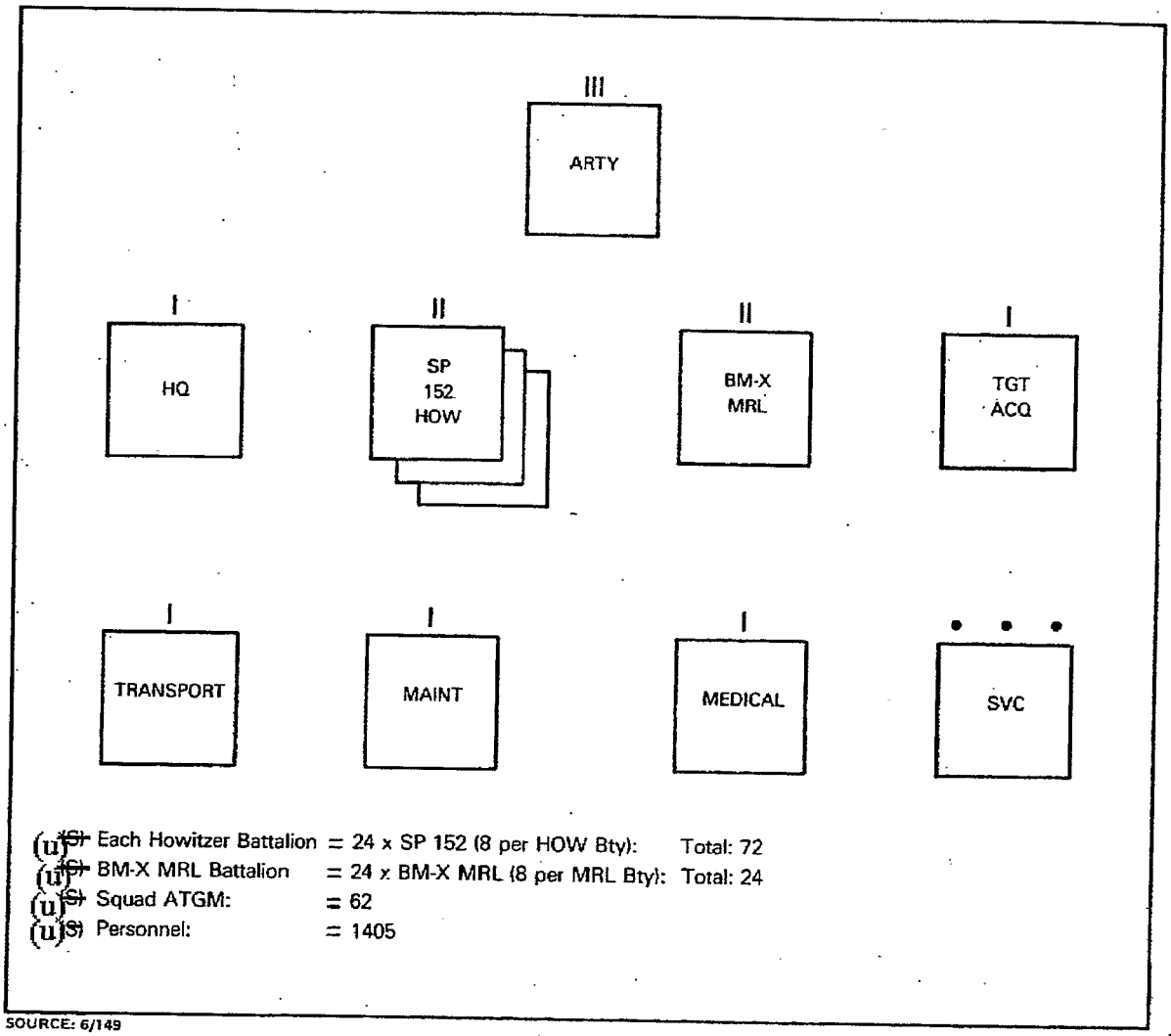
Table 81. (U) Artillery Regiment, Motorized Rifle Division (Continuation) 2000 High Estimate



(u) ~~(S)~~ Each Howitzer Battalion = 24 x SP 152 (8 per HOW Bty): Total: 72
(u) ~~(S)~~ BM-X MRL Battalion = 24 x BM-X MRL (8 per MRL Bty): Total: 24
(u) ~~(S)~~ Squad ATGM: = 62
(u) ~~(S)~~ Personnel: = 1405

SOURCE: 6/149

~~SECRET~~ (u)

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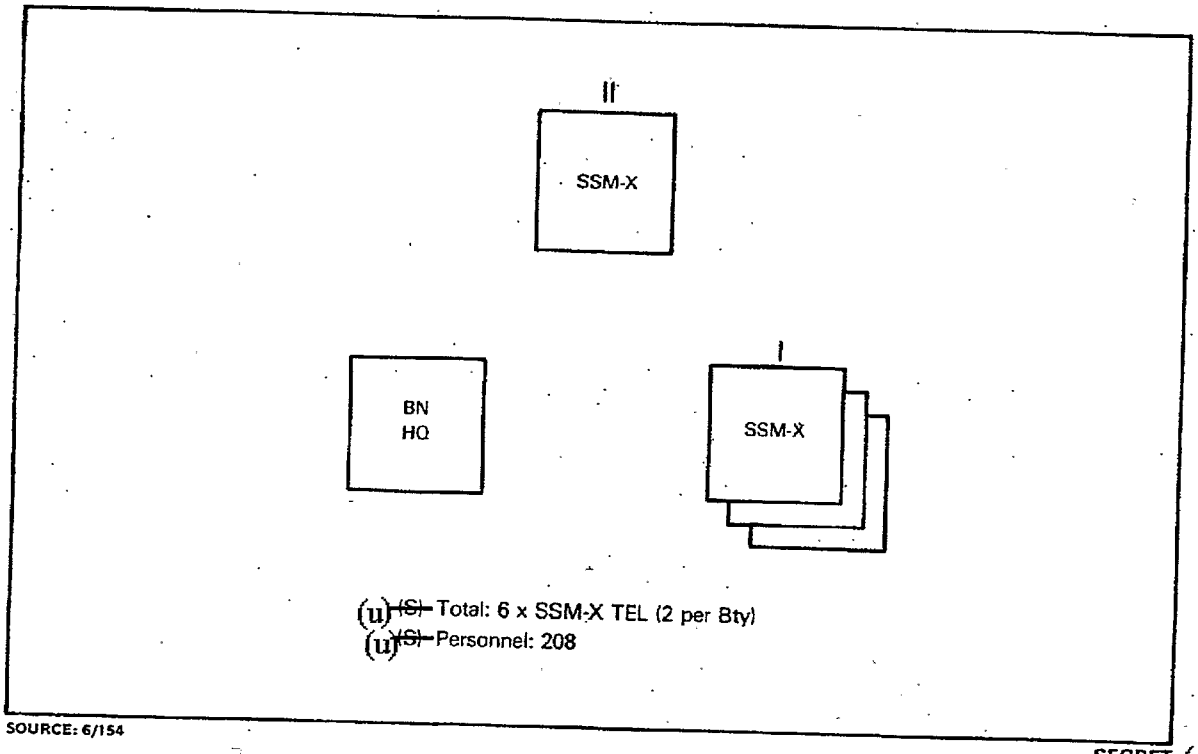
Table 82. (U) Tactical SSM Battalion, Motorized Rifle Division (Continuation) 2000 High Estimate



SOURCE: 6/154

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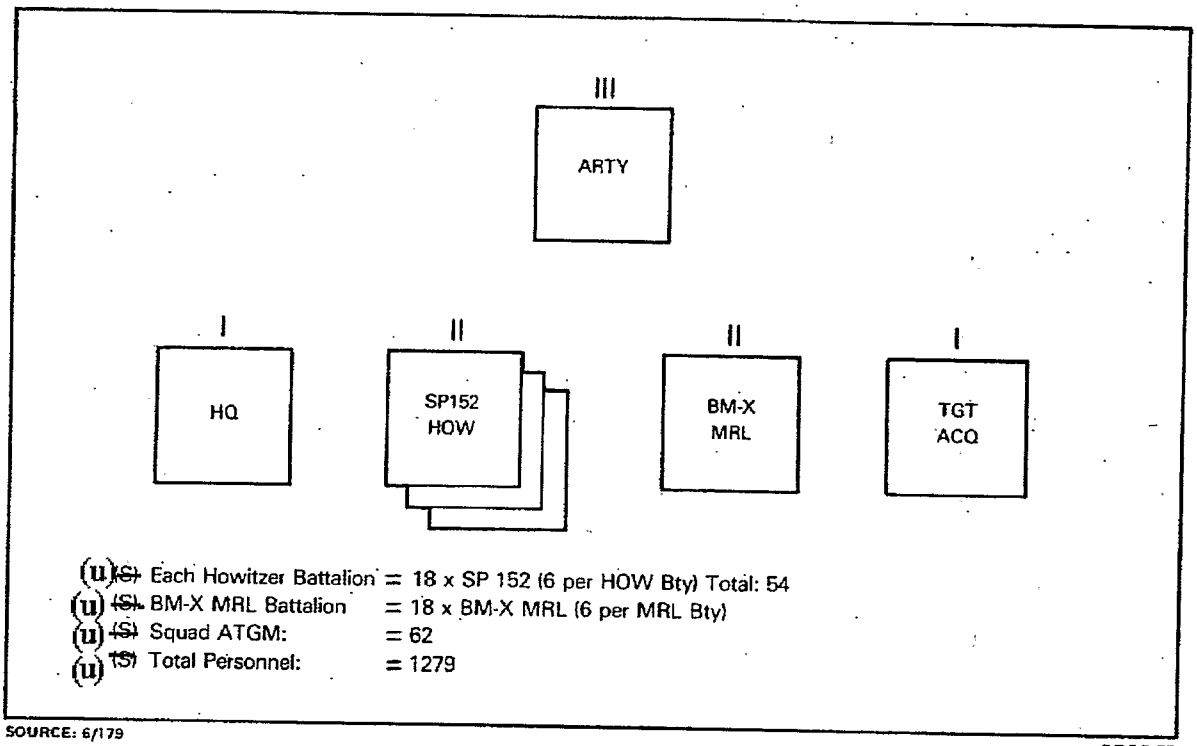
Table 83. (U) Artillery Regiment, Tank Division (Continuation) 2000 Best Estimate



(u) ~~(C)~~ Each Howitzer Battalion = 18 x SP 152 (6 per HOW Bty) Total: 54
(u) ~~(S)~~ BM-X MRL Battalion = 18 x BM-X MRL (6 per MRL Bty)
(u) ~~(S)~~ Squad ATGM: = 62
(u) ~~(S)~~ Total Personnel: = 1279

SOURCE: 6/179

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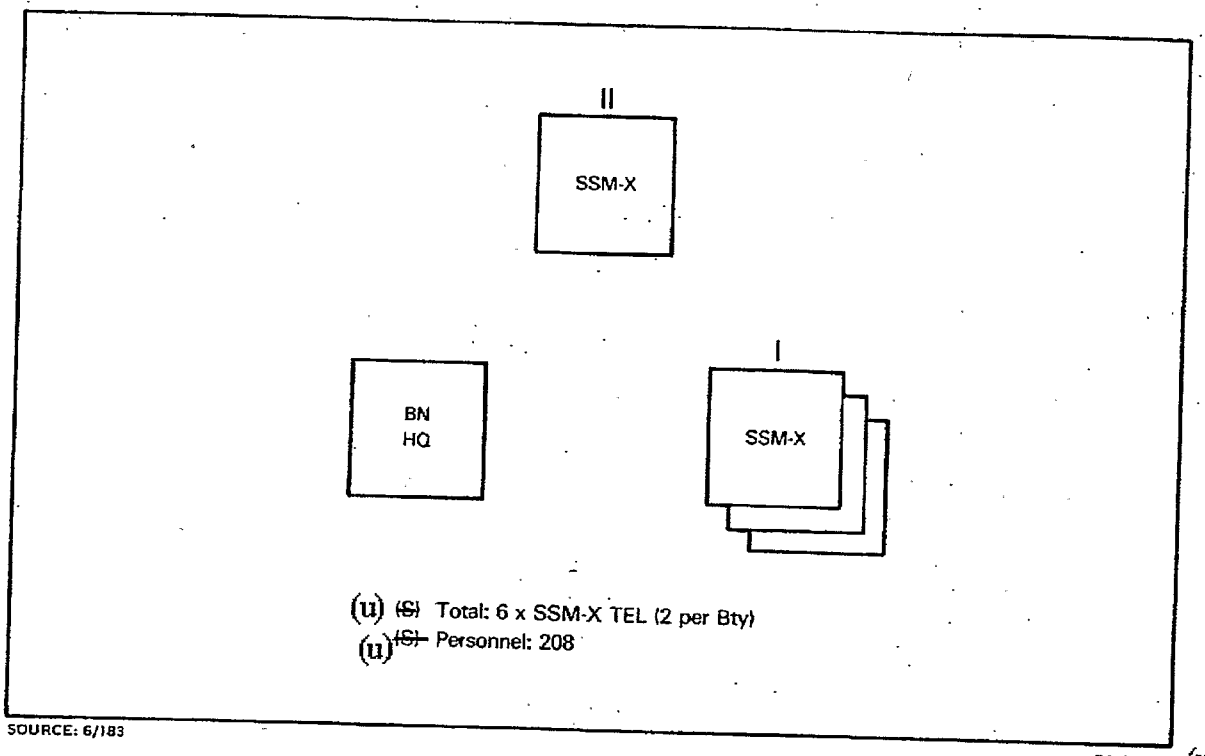
Table 84. (U) Tactical SSM Battalion, Tank Division (Continuation) 2000 Best Estimate



(u) ~~(S)~~ Total: 6 x SSM-X TEL (2 per Bty)
(u) ~~(S)~~ Personnel: 208

SOURCE: 6/183

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Table 85. (U) Artillery Regiment, Tank Division (Continuation) 2000 High Estimate

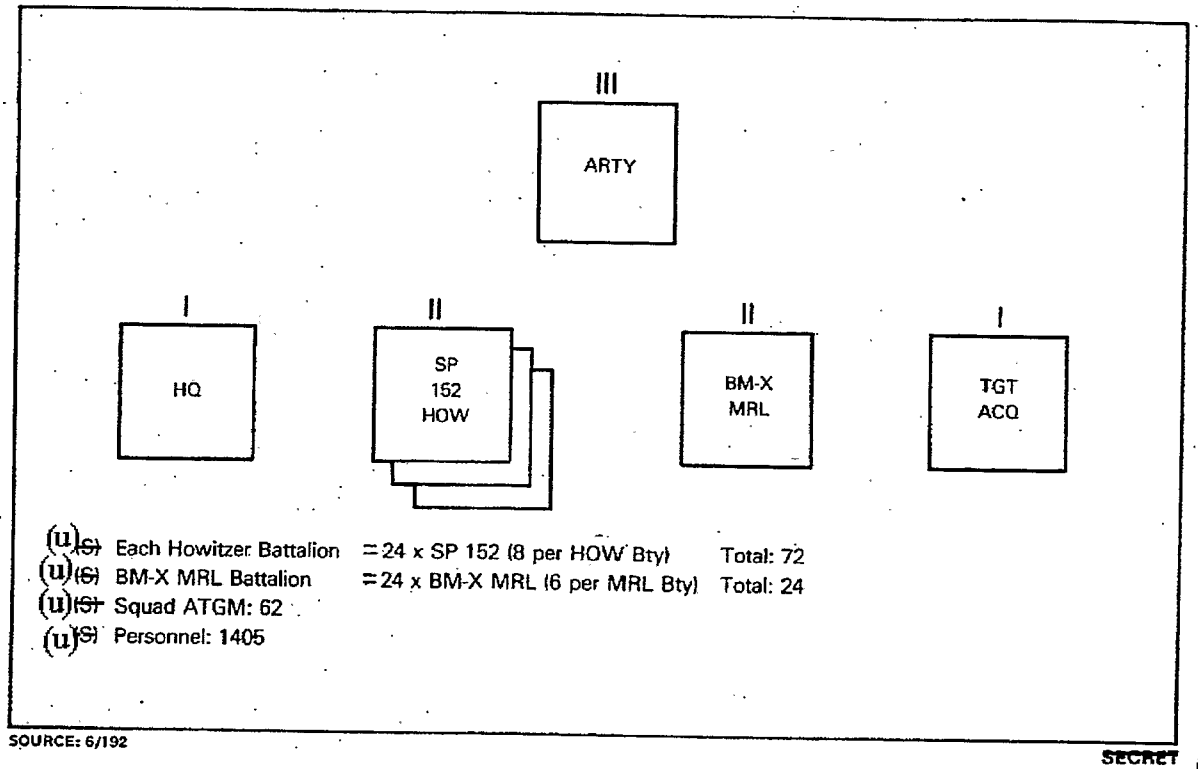

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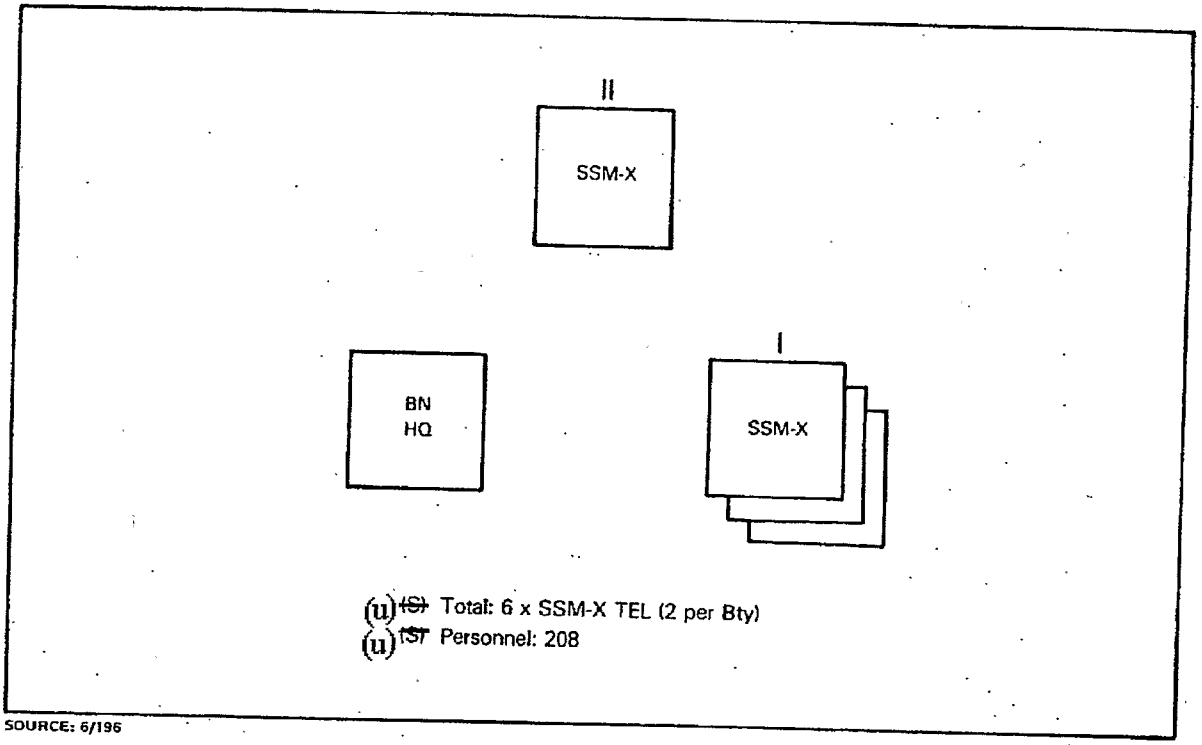
Table 86. (U) Tactical SSM Battalion, Tank Division (Continuation) 2000 High Estimate



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SECTION II

TACTICAL NUCLEAR DOCTRINE/SURFACE-TO-SURFACE MISSILES (U)

1. Nuclear Environment (U).

a. (u) ~~(S/NOFORN)~~ The use of nuclear weapons on the tactical battlefield in Central Europe has been studied in great detail in the U.S. and the Soviet Union. Despite the common topic, both countries have evolved different types of "nuclear doctrine." The US believes that the purpose of its nuclear capable forces within the framework of NATO is to deter WP nuclear and conventional attacks. If this deterrence fails, US/NATO nuclear capable forces are intended to defend against a theater nuclear attack and against a conventional attack. Soviet doctrine, on the other hand, is strongly directed toward the almost inevitable transition to some type of nuclear conflict. To the Soviets, theater nuclear weapons are a fundamental part of their warfighting capability and not just a deterrent adjunct to their conventional forces. Soviet doctrine further stresses the importance of surprise and the need to preempt and strike first. (5/1)

b. (u) ~~(S/NOFORN)~~ Soviet doctrine is based upon the fundamental assumption that a nuclear war can be won. The Soviets believe that a nation can survive a nuclear holocaust and have proceeded to get on with the highly serious business of being capable of initiating, waging, and prevailing in a nuclear conflict. NATO doctrine, in contrast, has stressed the prevention of war and has often been based on the assumption that nuclear war is both unthinkable and unwinnable.

c. (u) ~~(S/NOFORN)~~ The implementation of Soviet doctrine by the field forces of the Warsaw Pact has largely been accomplished through the development of many different nuclear weapons and also of a methodology for their employment that has been specifically directed toward their use in Central Europe. The methodology for the use of nuclear weapons encompasses a set of interrelated criteria and planning factors used by Warsaw Pact analysts to evaluate and select NATO targets and the weapons to be used against them in a nuclear strike.

2. The Soviet Perception of Tactical Nuclear Warfare (U).

a. (u) ~~(S/NOFORN)~~ The political and military leadership of the USSR believe that their planning and force structuring must be based upon a capability to conduct wide area operations in both conventional and nuclear war. Further, they believe that a conventional war can, and in certain situations will, lead to a tactical nuclear war. Soviet doctrine stresses that in such a situation, decisive results, including ultimate victory, can only be achieved through aggressive offensive actions and the "proper use" of nuclear weapons. The "proper use" of nuclear weapons, in Soviet doctrine,

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refers to the importance of surprise, need to preempt and strike first, and, depending upon the authorized level of intensity, to carry out nuclear strikes throughout the entire depth of the opposing NATO forces. (5/2)
(u)

b. ~~(S/NOFORN)~~ If war develops in Europe, the Soviet objective will be to decisively defeat NATO forces, to capture vitally important regions and objectives, and to seize, occupy, and hold NATO territory. Regardless of how the war begins, the Soviets intend to be the first side to use nuclear weapons. Once initiated, the Soviet nuclear plan calls for a massive, in-depth nuclear strike aimed at destroying NATO's means of nuclear attack and the main groupings of NATO combat forces and their command and control. This attack will also serve to isolate the battlefield, breach the main line of NATO defenses, and mark the main corridors of attack. Immediately following the nuclear strike will come a high speed offensive, exploiting the results of the initial nuclear strike, consisting of the landing of airborne and air assault forces and a high speed combined arms attack led by tank troops. The exceedingly mobile and well protected ground forces are so structured as to best exploit the shock effect of the preceding nuclear strike, to maximize NATO's targeting problems, to minimize the time required to cross radioactive contaminated areas, and to minimize their potential losses.
(u)

c. ~~(S/NOFORN)~~ The Soviets believe, with good reason, that the likli-hood of a transition from conventional to nuclear war is highest at certain critical points. These occur during both the initial and final phases of a major operation. Thus, critical periods would be those in which either the NATO army or the Warsaw Pact army might initiate a major breakthrough offensive, and those in which either commander might carry out a major defensive counterattack intended to turn the tide of battle. (5/4-6)
(u)

d. ~~(S/NOFORN)~~ Of particular pertinence to the subject of critical points are those situations in which the Warsaw Pact forces, fighting in a conventional mode, are about to achieve the major breakthrough that would lead to the collapse of the entire NATO positions. In this situation, the Soviet front commander expects that previously stated NATO doctrine will be observed, and that the NATO commander will be given permission to use nuclear weapons to halt the Warsaw Pact penetration. During this critical period, the front commander will probably have available to him both combat information pointing to the imminent collapse of the NATO defense and also "all source" intelligence indicating that the NATO commander is indeed preparing to use nuclear weapons. The Soviet commander will attempt to utilize surprise and maintain the initiative by preempting the NATO strike with one of his own. The WP commander believes that the first use of nuclear weapons will reduce his losses and guarantee that his breakthrough offensive, although modified by the new situation, will proceed in an expeditious manner.
(u)

e. ~~(S/NOFORN)~~ It should also be noted that after the initial use of nuclear weapons, Soviet military doctrine calls for a new type of warfare

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in which nuclear weapons become the primary means of achieving the objectives of the front while conventional weapons are used in a supplementary role. In all cases, nuclear weapons are intended for use in a fairly restrictive manner, i.e., against carefully selected targets that impose no safety problems upon Warsaw Pact troops or lead to undue difficulties in subsequent operations. It is expected that a conventional attack will quickly follow the use of nuclear weapons, and that the resulting situation will be immediately exploited by airborne and air assault forces and subsequently by those ground forces in direct contact with the most forward elements of the NATO units. (5/32-34)

3. Tactical Nuclear Surface-to-Surface Missiles (SSM) (U).

a. (S) Every front is supported by four echelons of surface-to-surface rockets or missiles. Currently, these systems are represented by the FROG-7, organic to maneuver divisions with a range of about 70 km and SCALEBOARD, found in army and front level brigades with a range of about 900 km. All systems have nuclear warheads and FROG and SCUD are believed to have chemical and improved conventional munition (ICM) warheads. FROG and SCUD are deployed with Soviet and Warsaw Pact forces opposite NATO forces. SCALEBOARD is believed to be deployed only in the western military districts of the Soviet Union. These systems provide the front with considerable means to attack targets up to a depth of 500 km beyond the FEBA. Additionally, should the front commander need to attack targets in greater depth, elements of the Strategic Rocket Forces (SRF) can be made available. Moreover, it is possible that short or intermediate range missiles launched from submarines in the North Sea or Atlantic Ocean could support a front or theater.

b. (S) During the 1980s and 1990s, Soviet forces plan to replace their older SSM systems with new ones. Non-Soviet Warsaw Pact forces will probably be armed with a mixture of new and older systems. b1 All the new systems will have significantly improved accuracies and response times. Each system will be able to deliver nuclear warheads of probably high and low yields as well as chemical and ICM warheads. By the early 1990s, product improved variants of these new systems will be fielded, providing further improved accuracy, munition selection, and flexibility. These systems should prevail past the year 2000.

c. (S) A type front composed of 20 divisions might have (b) (1) & (b) (3) per CIA launchers with several missiles available per launcher. Nuclear planning of the front includes nuclear weapons delivered by ground launchers and frontal aviation. Front nuclear delivery assets give the capability of striking (b) (1) & (b) (3) per CIA targets. The primary missions of SSMs in descending priority are to destroy enemy nuclear delivery systems, air defenses, airfields, command and communications facilities, major maneuver

organizations, and important rear service installations.

4. Systems (U).

a. ~~(S)~~ b1

b1

b. Organization (U).

(1) General (U).

(b) (1) & (b) (3) per CIA

(b) ~~(S)~~ The Soviets have kept a family of older generation nuclear warheads for SRBM use. (b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(c) ~~(S)~~ b1

b1

(b) (1) & (b) (3) per CIA

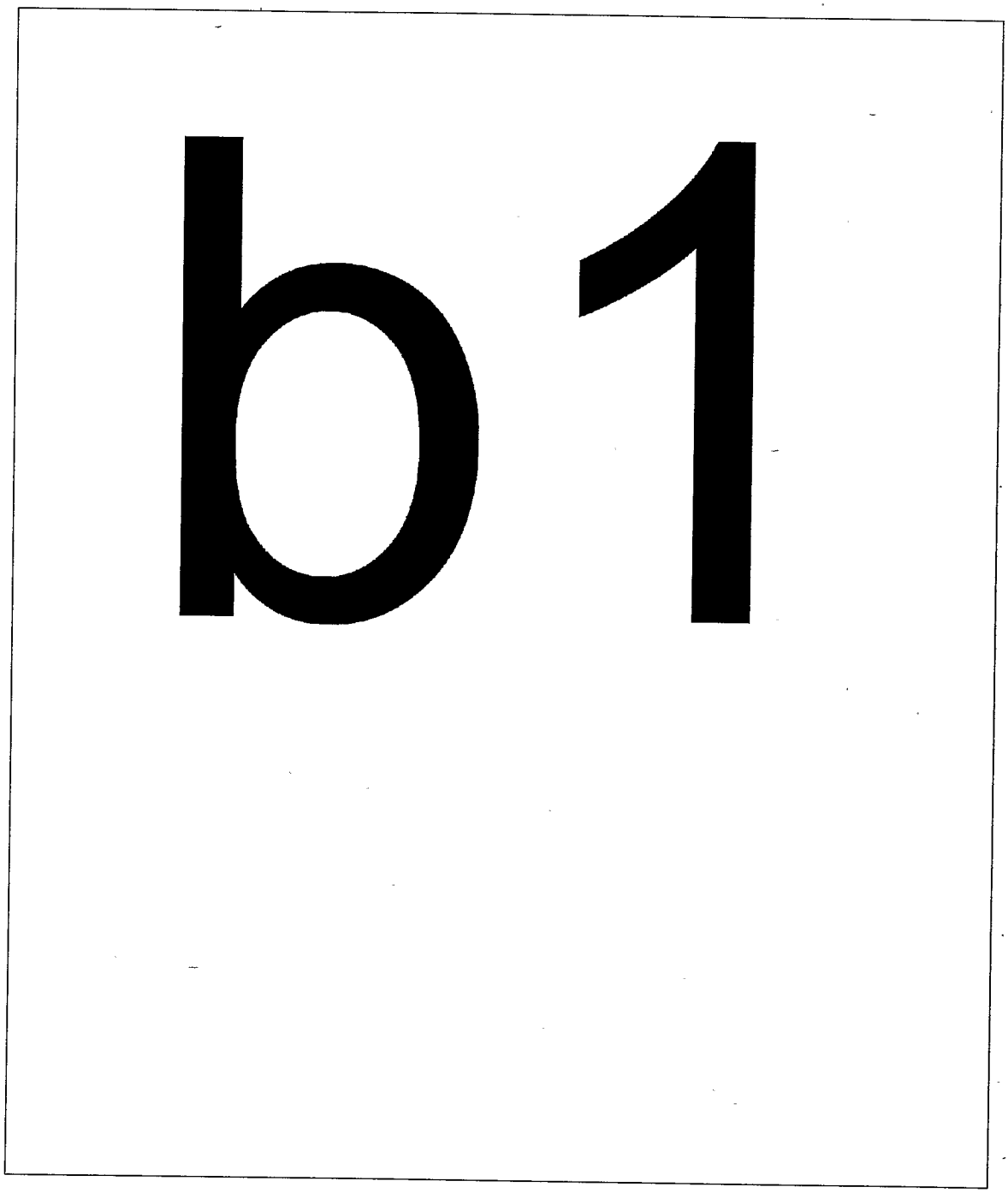
d. Nuclear Warheads (U).

(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(For a further discusson of tactical nuclear employment see front operations, Appendix A).

e. (U) Tables 87 thru 91 shows projected nuclear weapons and delivery systems.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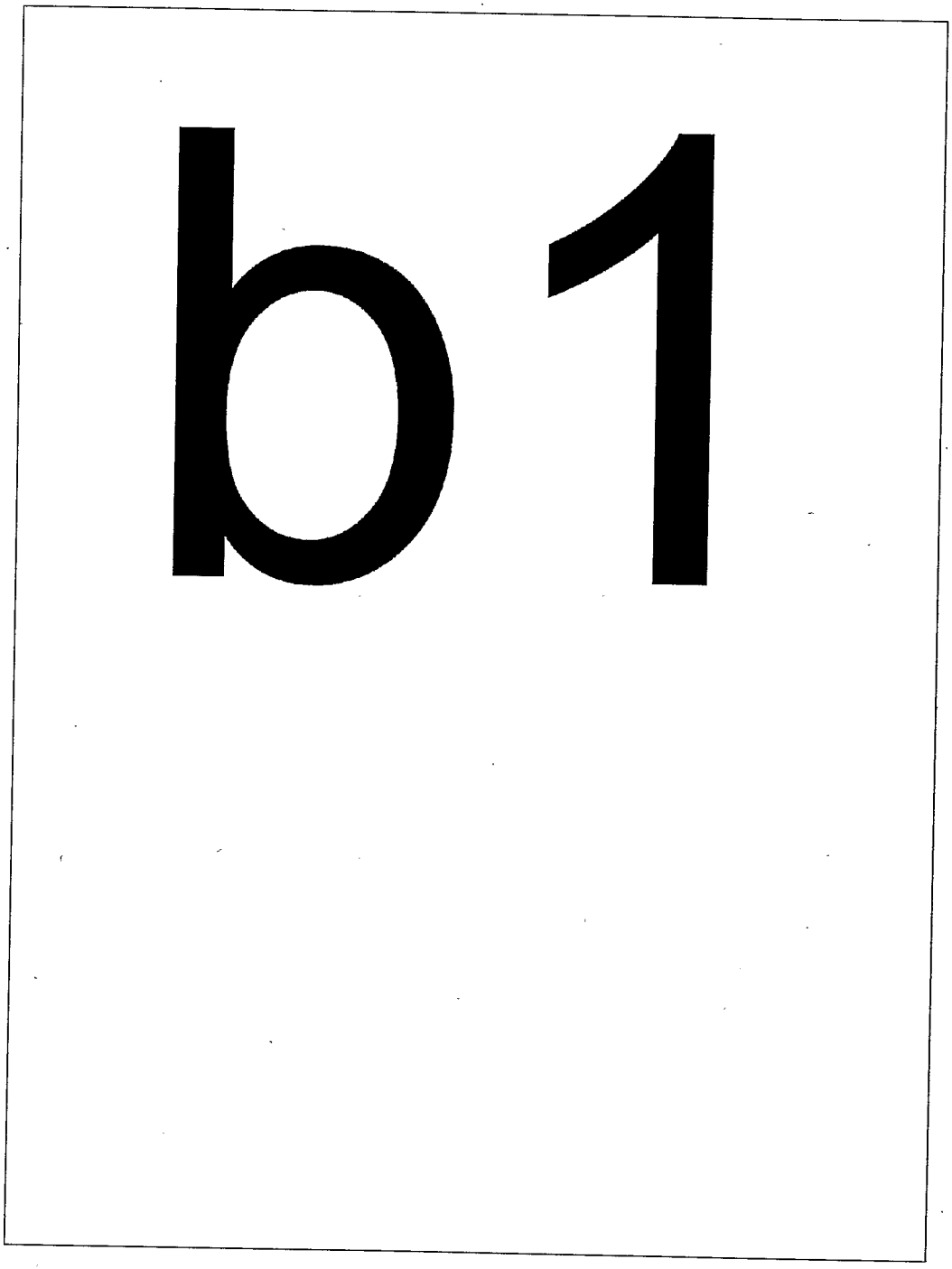
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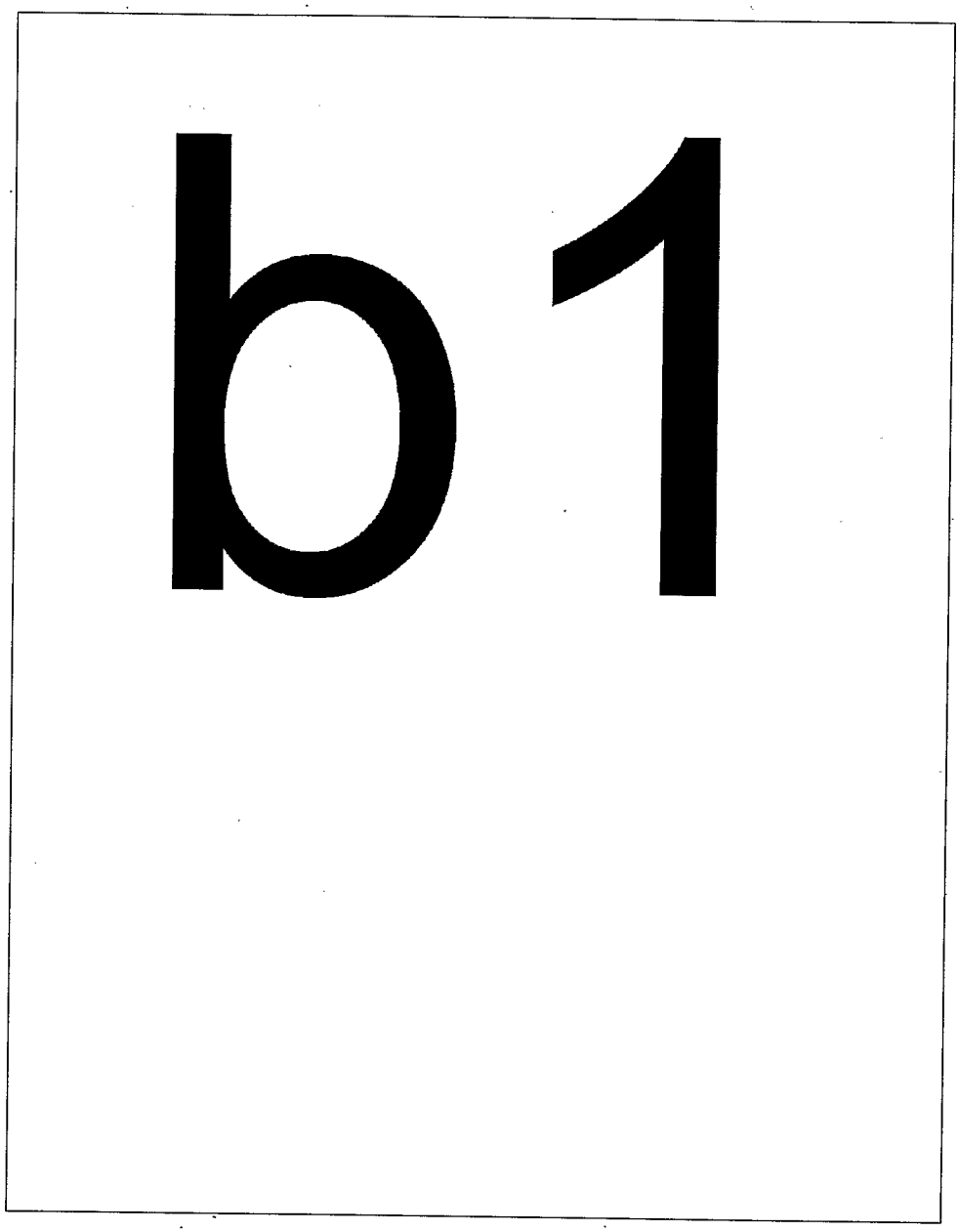
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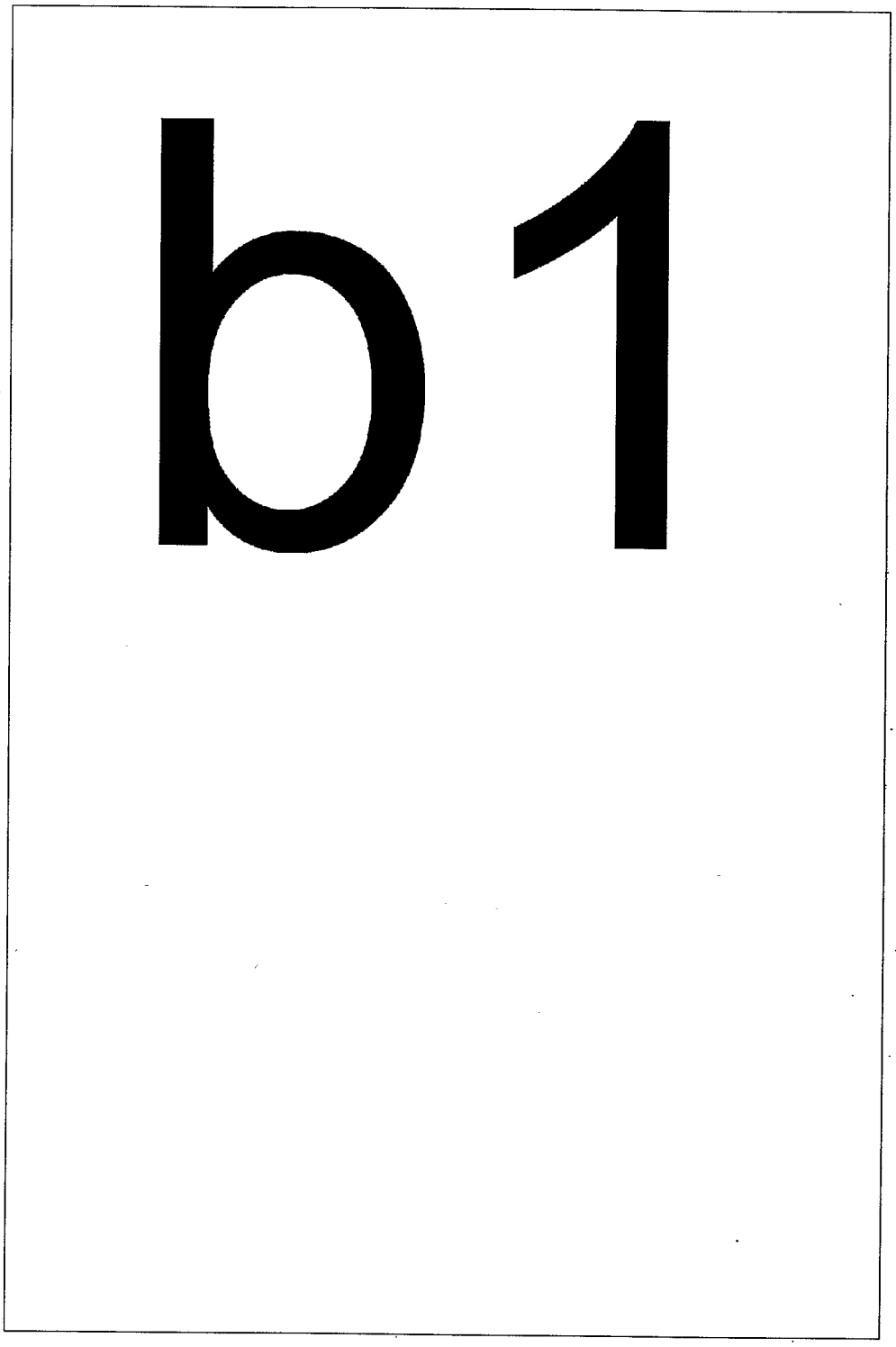
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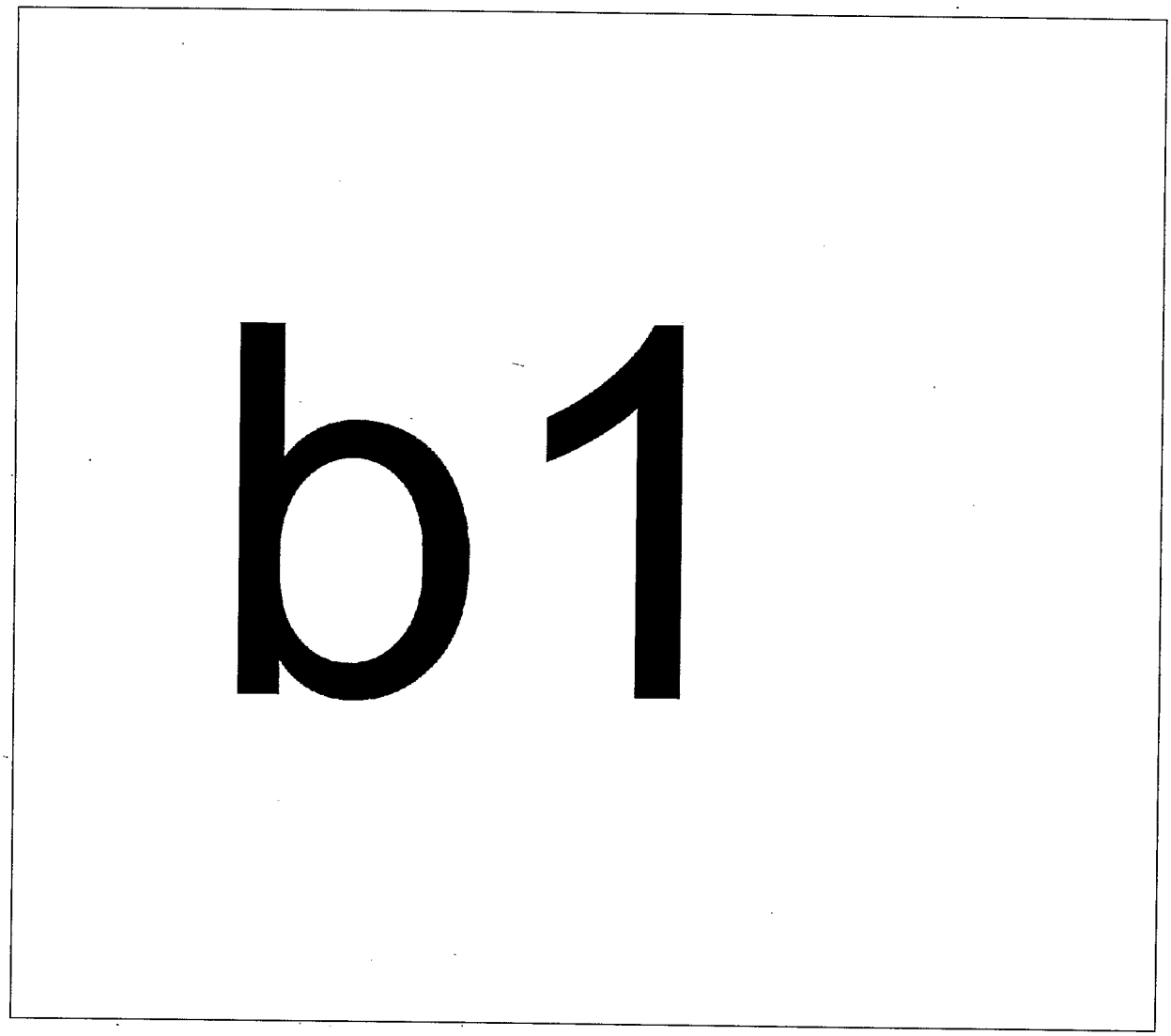

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SECTION III

TACTICAL AIR (U)

1. Soviet Tactical Aviation, Missions and Doctrine (U).

a. General (U).

(U) Before discussing the organization of, and equipment available to, Soviet Frontal Aviation, it is important to be aware of the missions and doctrine under which Soviet aviation operates. The equipment now being deployed and that which is projected for the future, and the organizational structure in which that equipment is employed, are determined from mission requirements and from a rational assessment of current and projected doctrinal requirements (tempered, of course, by technological capabilities and limitations, and some economic constraints).

b. Mission (U).

(U) ~~(C)~~ The missions of Soviet tactical aviation include:

(1) (U) Battlefield air interdiction--to include operations against nuclear delivery systems, airfields and key C^3 facilities;

(2) (U) Tactical air support of ground operations;

(3) (U) Attaining and maintaining air superiority;

(4) (U) Air reconnaissance;

(5) (U) Electronic warfare and radio electronic combat (REC);

(6) (U) Assistance in airborne and air assault operations; and

(7) (U) Airborne command, control, and communications.

c. The Air Operation Against Central Europe (U).

(U) (1) ~~(S/NOFORN)~~ Doctrine for the conduct of air operations emphasizes an initial mass strike to neutralize enemy ground-base air defense systems followed by strikes to destroy or degrade the enemy's ability to conduct nuclear operations, to launch retaliatory air strikes, or to conduct counterair operations. Maximum emphasis is placed on attaining surprise by striking early, at a time when not expected, and taking advantage of all REC and deception means available.

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(u)

(2) ~~(S/NOFORN)~~ The initial air operation, referred to as the "Air Operation Plan" is a high risk, massive operation coordinated with REC, SSM attacks, and SPETSNAZ (clandestine agent operations) under the overall direction of the Soviet General Staff. It is considered to be the Soviet Union's nonnuclear initial attack option and is designed to neutralize NATO's nuclear superiority and to gain air superiority at the outset of war. The preponderance of available high performance fixed-wing assets will be used over a period of two to three (or more) days--leaving support of the ground forces primarily to the attack helicopters and SU-25/FROGFOOT of army aviation. The overall operation is expected to consist of three to seven mass strikes of three waves each: the first day involving two to three strikes and one to two strikes occurring on subsequent days. Once the air operation has commenced, air action against the enemy would be continuous, with constant pressure maintained to minimize any lull in the air battle. NATO planners should not overlook the likelihood of the early employment of chemical and biological agents in this nonnuclear scenario.

(u)

(3) ~~(S)~~ Because of the high number of aircraft involved, the initial attacks against all targets will be thoroughly preplanned to maximize surprise, minimize C^3 problems and to insure safe passage through friendly air defense. Three or more air corridors (one or two per front) may be established through NATO's forward air defense by saturating and destroying air defense in and around the selected corridors, using both air and ground assets to include surface-to-surface missiles and artillery. (See Figure 30). The first assault through each corridor may commence with possibly two waves of fighters and fighter-bombers followed within minutes by a third wave involving perhaps 150 or more Strategic Aviation bombers escorted by counterair and EW aircraft. The first wave is aimed at suppressing enemy forward air defenses and clearing a corridor through which subsequent waves can pass. The second wave widens the corridor and attacks forward nuclear capabilities. The third wave is targeted against key positions, including airfields in the rear area and NATO's nuclear delivery means. This three wave attack will be followed by similar attacks until the theater objectives have been attained. The entire operation would be continuously supported by extensive REC measures to include standoff jamming. These measures would be coordinated with ground-based EW, artillery and air defense assets. The activities of Special Operations Forces (SPETSNAZ), "fifth column" and clandestine agents will be integrated into the Air Operation Plan to maximize the effectiveness of the air operation. Figure 31 provides a visual concept of a plausible three-wave air operation. The precise form of the air operation and locations of the corridors, will depend upon the type, number, and positioning of NATO's air defense, locations of rear area targets, number of operating bases available and number of aircraft that can be effectively controlled and serviced. Extensive advance planning, reconnaissance and detailed weaponeering against these targets can be expected. Upon completion of the air operation, command of most of the remaining forces would revert to the front commanders for use in support of ground operations.

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(U)

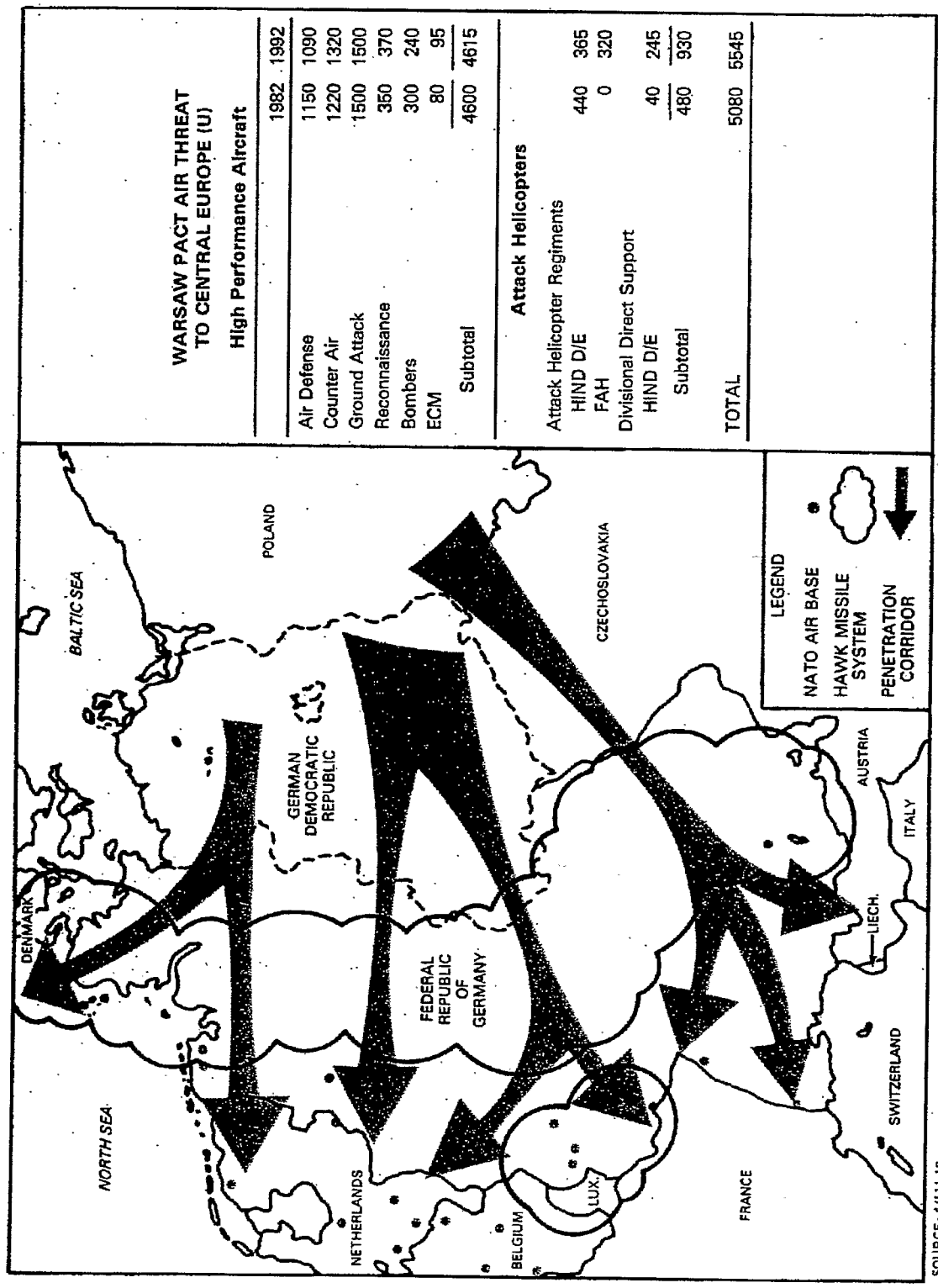

Figure 30. (U) Possible Air Operation Penetration Corridors

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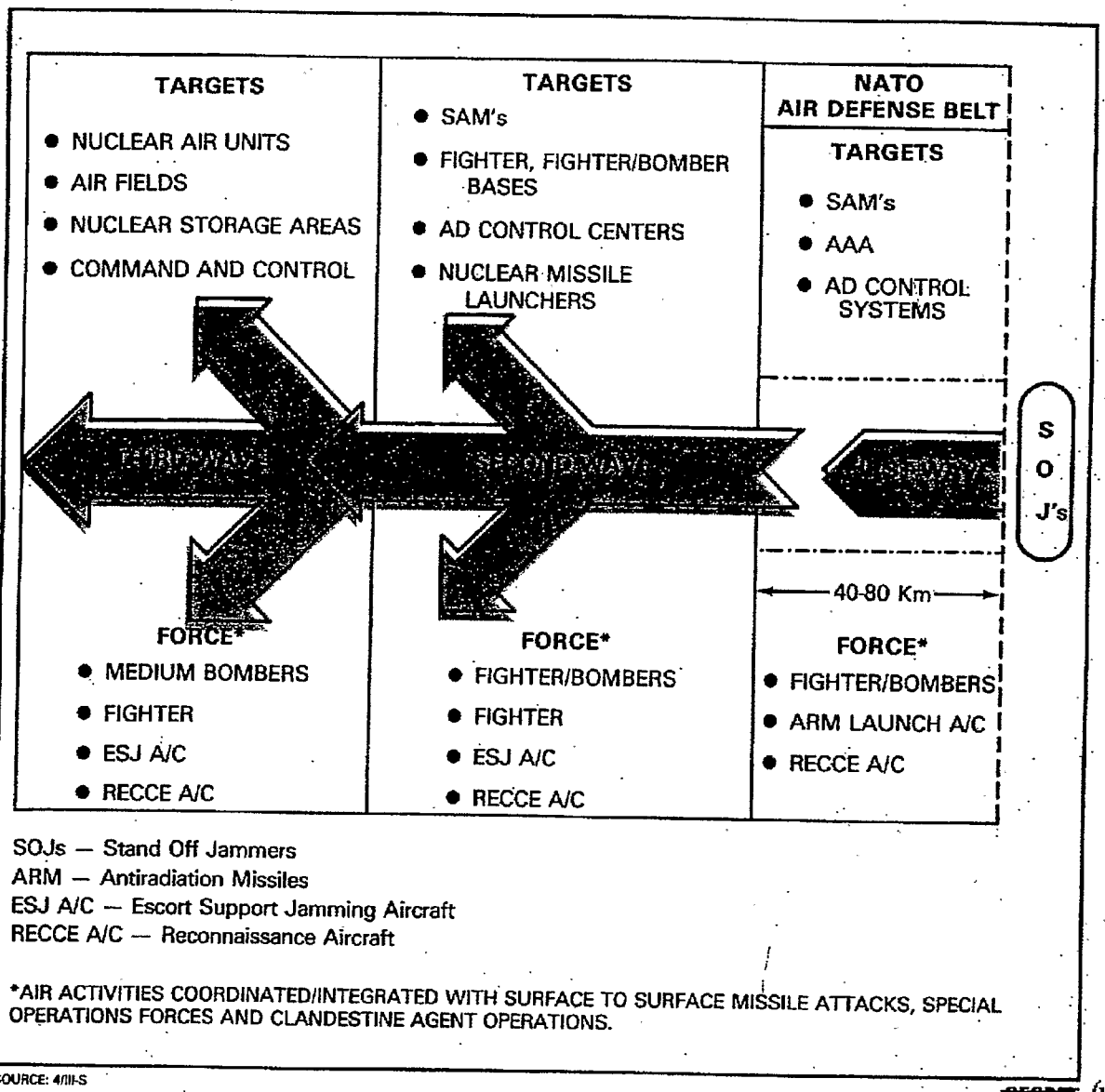

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Figure 31. (U) Plausible Three-Wave Air Operations Concept

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d. Aviation in Support of the Ground Forces (U).

(1) (u) ~~(S/NOFORN)~~ Soviet ground operations are to be conducted under an umbrella of air defense provided by a redundant combination of surface-to-air missiles, antiaircraft artillery, and counterair fighters conducting both offensive and defensive missions. When used in the ground attack role, tactical fixed-wing aircraft are used both to augment and to complement field artillery with air strikes integrated into the artillery fire plan. With recent improvements in avionics, C^3, and development of precision guided munitions, Soviet Frontal Aviation is no longer relegated to serving primarily an interdiction role; it also functions to perform close air support missions. This capability is further enhanced with the deployment of attack helicopters and the SU-25/FROGFOOT which are optimized for ground attack missions in close proximity to the FEBA. The Soviets are known to use helicopters and high performance fixed-wing aircraft both independently and in joint operations near the FEBA. It is expected that FROGFOOT operations will also be so integrated. Attack helicopters are also employed as escorts for transport helicopters (while retaining their own troop-carrying capability) in support of air assault operations.

e. Organization (U).

(1) (u) ~~(S/NOFORN/WNINTEL)~~ Currently, the Soviet Air Forces are in the throes of a reorganization, the extent and ramification of which have yet to be fully assessed. The reorganization is an apparent effort to streamline its operations, improve its capability to perform assigned missions, and to structure itself in such a manner as to facilitate transition into a wartime posture.

(2) (u) ~~(S/NOFORN/WNINTEL)~~ At the center of reorganization is a realignment of Soviet air and air defense force missions and functions in order to better support the General Staff, Supreme High Command (VGK), and Theater High Commands. To accomplish this objective the Soviets have integrated their strategic (formerly PVO Strany) and tactical ground-based air defense (PVO-Voysk) systems with their aviation air defense (APVO) assets under the control of a new "super organization" called Voyska PVO. This new organization, together with all associated weapons have been placed within a military district uner the command of that MD commander. (During wartime, the MD will serve as the basis for a front.) Long Range Aviation (LRA) has apparently been disestablished, and some of the fighter-bomber assets formerly assigned to Frontal Aviation (FA) have been resubordinated to bomber units. These assets have then, apparently, been integrated into air armies of the VGK, and are referred to as "strategic aviation." In addition, Soviet military leaders have also created a new organization, army aviation — as an air branch or speciality — to provide direct close air support to the ground commander. The components of army aviation are currently rotary wing systems, but in the future army aviation may be expanded to include the newly deployed (1981) SU-25 FROGFOOT Ground Support Fighter. Army aviation also includes the small rotary wing direct support

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units (DSU) assigned to divisions and helicopter general purpose squadrons of the army. Increasingly, these DSUs are being equipped with small (6 to 8 HIND) attack helicopter squadrons to augment their current structure of transport (HIP) and observation (HOPLITE) helicopters. In the future, these DSUs assigned to the divisions may each have as many as 8 to 12 HIND or MI-28 Future Attack Helicopters.

(3) (u) ~~(S/NOFORN/WNINTEL)~~ While the air armies of the VGK may primarily be expected to conduct operational and operational-strategic missions in the form of deep interdiction raids against priority targets, tactical and operational-tactical missions can be expected by counter air fighters and ground attack fighter-bombers, the two primary components of FA. Tactical missions will be flown by army aviation assets with some support of FA assets as they become available and as the mission requires. The small, direct support helicopter units will provide tactical support directly to the divisions to which they are assigned. Operations will generally be supported by a generous number of reconnaissance and electronic warfare aircraft (escort support, and stand-off jamming) in accordance with Soviet doctrine. (5/III-10)

f. Tactics (U).

b1

(u)

(4) ~~(S)~~ All operations would be accompanied by a combination of standoff jamming (SOJ), escort support jamming (ESJ), and self-screening jamming (SSJ). Modern airframes, sophisticated avionics, better training, and more effective C^3 procedures also enable pilots to more accurately and effectively engage targets. This can be done at ranges well beyond the FEBA, where adequate ground or air control navigational assistance may not be available, and in all weather conditions.

(u)

(5) ~~(S/NOFORN)~~ Limited evidence suggests the Soviets might be willing to accept heavy, perhaps 40 percent, losses in the first one to two days of battle. They would intend to replace most of these forces from air assets not previously committed against Central Europe.

(u)

(6) ~~(S/NOFORN)~~ During the initial stages of combat, the preponderance of air support to the ground forces is expected from attack helicopters (HIND and future attack helicopters, and HIP E) and the SU-25/FROGFOOT ground support fighter. As mission requirements permit, and upon termination of the Air Operation, high performance fixed-wing assets will be made available to conduct counterair, battlefield air interdiction, and close air support missions in support of the ground forces. Aircraft currently designed and employed for counterair missions are also capable of performing in the ground attack role and it has become standard practice for FA fighter regiments to spend about ten to twenty percent of their identified combat training sorties practicing ground attack tactics. Until recently, airstrikes have generally been made at sufficient distance from friendly forces so that detailed coordination between air attacks and ground troop movements was not required. However, development of improved avionics, precision guided munitions, and improved C^3 have combined to facilitate the ability of the Soviets to provide close air support in the true sense of the NATO definition. Deployment of the FROGFOOT is expected to significantly enhance the ability of the Soviets to provide close air support. The FROGFOOT is expected to operate independently or in conjunction with either rotary wing or high performance fixed-wing aircraft. Massive deployments of attack helicopters have given an additional dimension to Soviet air support capabilites. The HIND can operate in a close air support role to attack a variety of targets with its nosegun, ATGMs and rockets or bombs, and has been known to operate jointly with high performance fixed-wing aircraft. It is likewise expected to conduct joint operations with the FROGFOOT. Attack helicopters may also be employed as escorts for transport helicopters conducting air assault operations (providing fire support both enroute to and at the landing zone), and may perform armed reconnaissance, airborne command and control (C^2) minelaying, smokescreen laying and bombing missions. The HIND is also assessed to have limited capability against enemy helicopters and slow-moving fixed-wing aircraft--a capability which may, under some circumstances, be used. As with fixed-wing developments, improvements in avionics and munitions are expected to provide the attack helicopters with increased lethality at greater standoff ranges, both at night and in adverse weather, thus reducing vulnerability.

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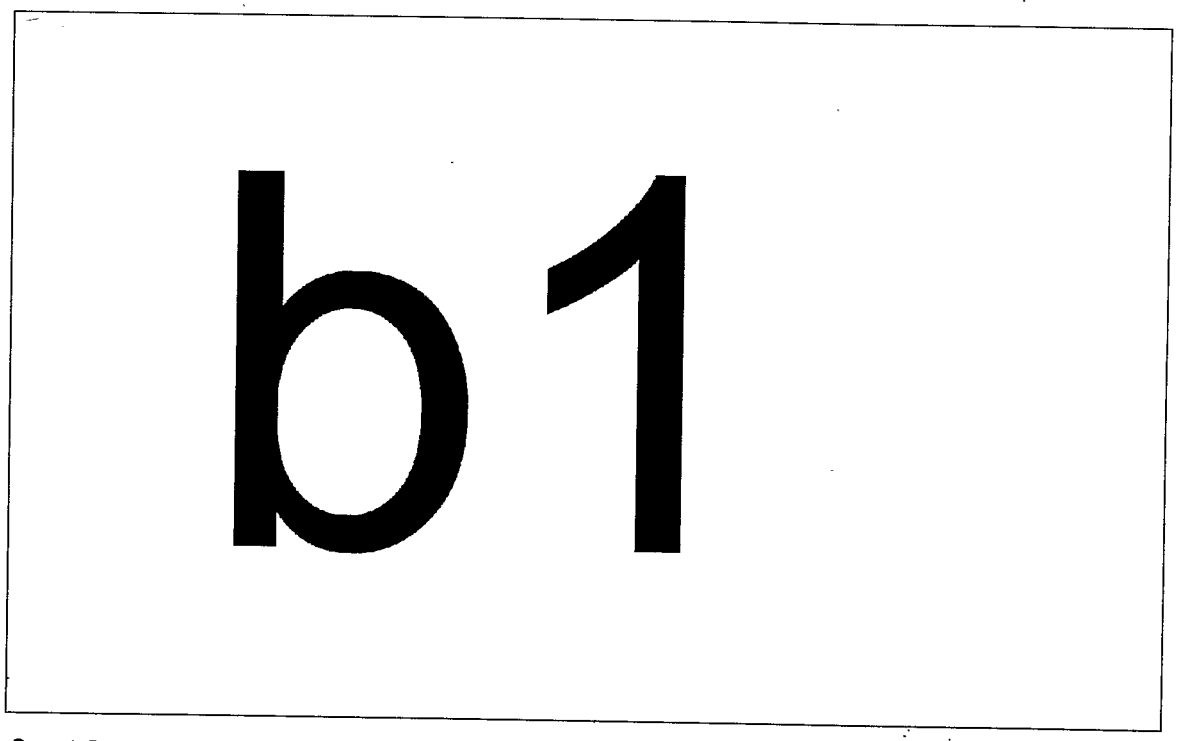
2. Airborne Reconnaissance Operations (U).



3. Electronic Warfare (EW) and Electronic Countermeasures (ECM) Operations (U).

(u)

a. ~~(S/NOFORN)~~ The Soviets strongly emphasize EW/ECM activities and have therefore developed and deployed the most extensive EW/ECM capability of any nation. They have fully integrated EW/ECM operations with physical destruction means into a concept referred to as "radio-electronic combat" (REC). All such operations are fully coordinated between ground and air assets, and are integrated into all combat operations. This program has resulted in a most impressive array of jamming transmitters, control systems, and direction finding equipment, and is augmented by a multiplicity of active and passive EO/IR/Radar countermeasures ranging from chaff and flares to IR suppressive paint--all of which are designed to degrade, deceive, and destroy the enemy's air defense systems.

(u)

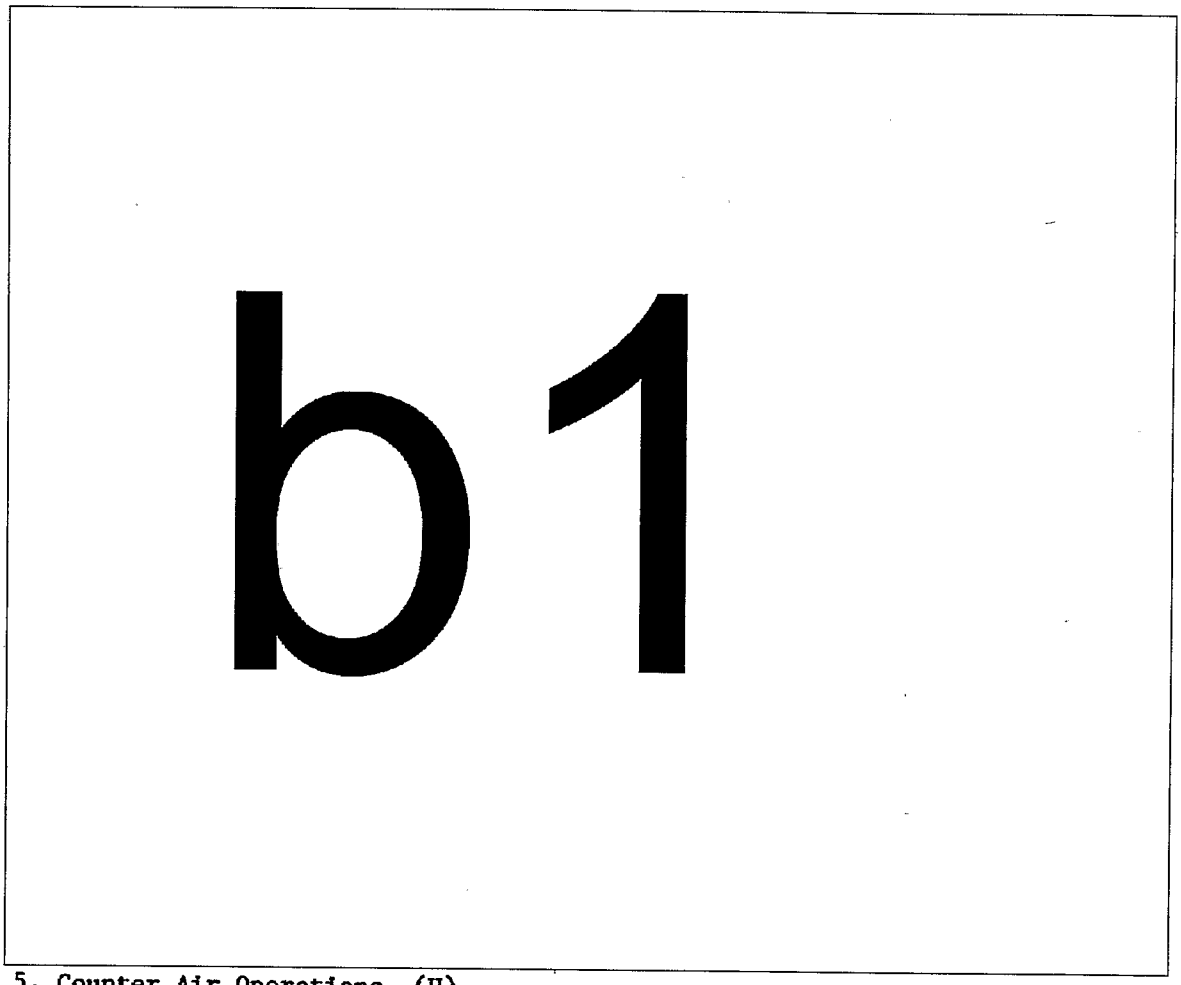
b. ~~(S/NOFORN)~~ Air operations will take place under an umbrella of standoff jamming (SOJ), escort support jamming (ESJ), self-screening jamming (SSJ), and chaff dispersal. Additionally, Soviet aircraft have available now (or during the 1980s are expected to be equipped with) a variety of countermeasures to include jammers, IR flares, chaff, and threat warning receivers. Future airframes are expected to incorporate a variety of passive EO/IR countermeasures such as IR signature reduction through special fuels (with chemical additives), suppressive paint, emission shielding, and special design techniques.

4. Adverse Weather and Ground Attack Operations (U).

a. (U) Adverse weather, as it affects the capability of aircraft to deliver ordnance accurately and effectively on ground targets, is defined as those conditions of precipitation, cloud cover, or ground haze which prevent or substantially degrade visual sighting of ground targets by the attacking aircraft. For simplicity, darkness is included in this definition. Soviet aircraft can deliver ordnance in adverse weather with varying degrees of effectiveness, depending on the severity of the weather conditions and the sophistication of their navigation and bombing aids. The Soviets have increased the sophistication of their navigation systems in recent years, and are expected to contintue making improvements in their avionics throughout the 1980s and into the 1990s.

b1

* (U) ~~(S)~~ Inertial systems are particulary attractive since they are self contained, non-radiating, resistant to ECM, and highly accurate (depending on flight duration).



5. Counter Air Operations (U).

(u) (S/NOFORN) During 1981, the Soviets demonstrated a full look-down/shoot-down air-to-air capability. The deployment of FOXHOUND (formerly referred to as modified FOXBAT), which is equipped with improved radars and an improved all-aspect air to air (AAM) missile (the AA-X-9), greatly enhances the Soviet's air-to-air capability. During the mid 1980s, two additional counterair fighters are expected to reach their IOC--the new Sukhoy and new Mikoyan fighters. Each is expected to be equipped with more sophisticated radars and AAMs with look-down/shoot-down capabilities. (1/38-45)

6. Trends in Soviet Tactical Aviation (U).

a. General (U)

(u) (S) Soviet aviation and developments during the decade of the 1980s are expected to concentrate on qualitative improvements rather than quanti-

tative increases in the fixed-wing force (although it is unclear at this time whether or not production of the ground support fighter [GSF] will be part of a stabilized force level or be in addition to the estimated force level).* Improvements in avionics will increase the proportion of aircraft with all-weather capabilities and will allow for more effective target acquisition and more accurate delivery of munitions during adverse weather. Munitions improvements will permit an increase in standoff ranges and improved accuracy. Counterair fighters will become equipped with a true look-down/shoot-down capability along with improved air-to-air ordnance. Whereas, fixed-wing assets have previously been rigidly controlled and reasonably adept at attacking area targets, advancements will permit more freedom and accuracy in attacking point targets. Helicopter developments appear to be moving toward improvements in both quality and quantity. The total number of Soviet attack helicopters (HIND) and Future Attack Helicopters (FAH) is expected to more-than double, to an estimated 2,000 by 1992. Improvements in helicopter avionics, target acquisition equipment, and munitions are expected to parallel those of the fixed-wing fleet, thereby increasing lethality and reducing vulnerability. (See Figure 32.)

b. Fixed-Wing Aircraft (U).
(u)

~~(S/NOFORN)~~ During the 1980s, significant qualitative improvements are expected. As an example, the less capable, less sophisticated fighter-bomber aircraft such as FISHBED D/F/J/K/L and FITTER A/B/C/D are expected to be replaced by more modern aircraft such as FLOGGER D/J, FITTER H, FENCER A, Fighter-Bomber-Proj-I, and the GSF. Less capable counterair fighters (FISHBED D/F/J/K/L/N) are expected to decline in deployment while the newer FLOGGER G continues to be deployed and production of the New Sukhoy and New Mikoyan fighters begins.

c. Fixed-Wing Aircraft Tactics (U).
(u)

~~(S)~~ Frontal Aviation fighter-bomber aircraft would probably employ low altitude penetration tactics (50 to 200 meters at 250 to 300 meters per second) to mininize warning time and to enhance survivability against a balanced (HIMAD-SHORAD-Airborne Interceptor) defense. Weapons delivery could include horizontal, dive, popup, and standoff modes of attack, depending upon ordnance employed and visibility conditions in the target areas. After delivery, the aircraft would execute defensive turns and depart the threat area at low altitude and high speed (275 to 375 m/s).

*~~(S)~~ b1

b1

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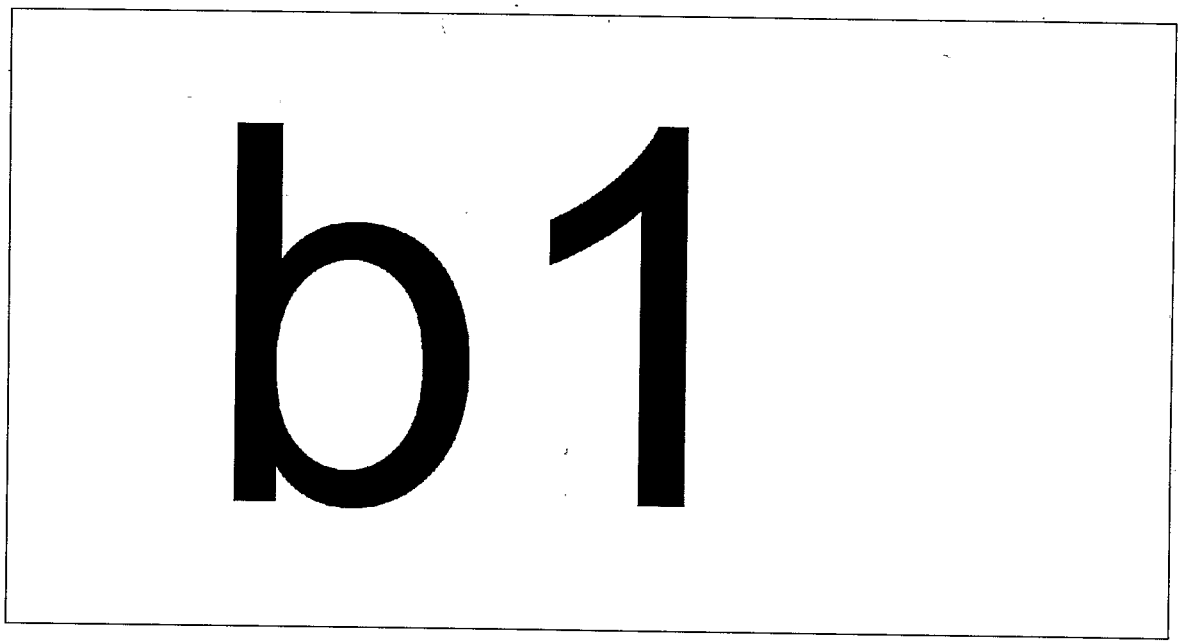

f. Helicopter Tactics (U).

(u)

(S) Helicopters will be increasingly deployed for operations at and beyond the FEBA to depths of 50km or more. The helicopters are expected to be armed primarily to destroy armored vehicles or hard defensive points and to provide suppressive fire in airmobile operations; they could also function in a ground air defense suppression role. Helicopter flight profiles will attempt to maximize use of terrain masking while minimizing exposure time to air defense weapons systems. Exposure time, standoff range, and assurance of locating ground targets are interrelated factors and vary with terrain and weather. The preferred attack tactics involve a low-level running approach to the target followed by a zoom climb and a dive toward the target. In a high air defense threat environment, Soviet helicopters will most likely use their hover capability and pop up to acquire and engage targets. Projected ATGMs will allow the HIND to fire independently at targets from maximum standoff ranges while remaining masked.

g. Reconnaissance (U).

(u)

(S) Future developments in reconnaissance will probably include real-time SLAR, low-light-level-TV and long-wave IR systems. Those improvements, along with improved navigation and aerial refueling, should significantly upgrade the ability of Soviets to conduct adverse weather, day/night, deep penetration,pre- and post-strike battlefield damage assessment (BDA) in support of theater and front operations. (5/III-16)

h. (U) Navigation/Night-Adverse Weather Capability (U).

~~(S)~~ There is little doubt that within the next 10 to 20 years many firstline Soviet ground attack aircraft will be equipped with terrain avoidance/ terrain following radar equipment. The navigation/attack system will enable these aircraft to navigate accurately (using laser or electrostatic gyros) and attack ground targets with state-of-the-art head-up display (HUD) systems under all-weather conditions with an extremely high degree of ordnance delivery accuracy. In the 1980s, the Soviet ground attack aircraft can be expected to employ the Doppler inertial navigation system (DINS) with a variety of short-range correction and terminal guidance techniques. In the future, active target acquisition systems are likely to include millimeter wave and laser radars, possibly multi-mode or coupled with advanced microwave radar systems for a terrain avoidance or terrain following capability. Passive detection systems might well include low-light-level television, long-wave infrared, and radiometry. Advanced DINS could bring ground aircraft into visual acquisition range of targets, which would permit ground attack under most combat conditions (at night, in adverse weather, and in an electronic countermeasure environment). The majority of fighter-bombers are expected to have ground attack radars which would permit all-weather operations.

i. (U) Electronic Warfare/Electronic Countermeasures (U).

~~(S)~~ During the 1980s, the Soviets are expected to continue to refine their EW/ECM capabilities. They will continue to develop noise jamming equipment capable of both overlapping bandwidths (to form a broad-spectrum barrage) and programmed shifts in frequency, thereby achieving broader effective frequency coverage. Further, the Soviets will deploy tactical noise-jammer systems which will be automatically responsive to their environment--that is, jamming only when illuminated with sufficient intensity by the target radar, jamming more than one radar with a single transmitter, and selecting the jamming signal modulation most appropriate to the target radar. Additionally, the Soviets are expected to make further technological advances in power management, power sources, and antenna design. The Soviets are experimenting with advanced deceptive jamming techniques, and it is highly likely that they will deploy additional ECM equipment incorporating deceptive jamming capabilities in the near future. A major thrust of Soviet ECM has been in the area of support jamming of the major surveillance and acquisition radar elements of the enemy air defense network. The Soviets are expected to maintain this current capability. In addition to this, it is becoming apparent that the Soviets have recognized the need for protecting their aircraft from terminal threat radars (SAM, AAA, and air interceptor [AI] radars) and missiles, and are continuing to place an emphasis on developing both an internal ECM capability and external ECM pods. This self-defense ECM program will rely heavily on ECM pods employing spot-noise and deceptive countermeasure techniques to defend against surveillance radars and terminal threats. Concurrently, the Soviets will continue to develop and deploy ECM-dedicated

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sing the capability to maneuver with tank and motorized infantry forces.

(d) (U) Continuous movement by air defense units is required to insure comprehensive air defense coverage. This principle also places demands on the logistic support system to adequately supply air defense units operating at a high level of activity.

(e) (U) Aggressive action, initiative, and originality on the part of air defense unit commanders are required if they are to fully exploit the inherent capabilities of their equipment to accomplish their missions. The battlefield will be a fluid and volatile environment that will allow little or no opportunity to profit from "lessons learned". Air defense unit commanders must be responsive to changes in the tactical situation. For example, if the supported unit's mission is modified, the air defense unit commander must reevaluate his own unit's deployment in light of new requirements for mobility and responsiveness to changes in the tactical situation. The Soviet Chief of Air Defense of Ground Forces, Colonel General Petr G. Levchenko, said: "A unique feature of troop air defense is the fact that targets which must be provided cover against airstrikes are quite mobile. For example, a tank (or motorized rifle) battalion is capable of moving a great distance, deploying into battle, and so forth, in a very short period of time. In other words, such targets often change their profile and location, and this makes it necessary to reorganize the groupings of air defense elements and their firing positions." (2/1)

(f) (U) Coordination of actions of supported and supporting units, and among air defense units, reflects the Soviet perception of air defense. It is a system composed of interrelated elements and operations and not a series of separate and distinct actions unrelated to each other or the conduct of the ground battle. Air defense operations are perceived as an integral element of the ground battle.

(g) (U) All-round defense is required because air attack can come from any quarter. It is not sufficient to provide security only for units close to the FEBA or only in the direction of enemy forces.(1/V-1)

(2) (U) The units engaged in ground force air defense are required to perform the four basic air defense functions (target detection, identification, engagement, and destruction) under the fluid conditions of the modern battlefield. To accomplish this task, the Soviets have retained and improved upon established concepts in some weapons, while at the same time they have incorporated new technological developments into other weapons. Their goal has been the development of a variety of air defense weapons with complementary capabilities.(1/V-1)

3. Tactics (U).

a. (U) Objectives protected by air defense units, alone or with other units, include troop units (motorized rifle, tank, artillery, engineer,

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etc.); various types of combat operations--movement, defensive, offensive, and river crossings; fixed installations such as airfields, depots, and communications facilities; key terrain features such as gorges, defiles, road junctions; and landing sites for airborne, airmobile, and amphibious forces.(1/V-18)

b. (U) The maneuver unit commander is ultimately responsible for the fulfillment of the air defense mission within his unit. At command echelons of maneuver regiment and above, the commander is assisted by a Chief of Air Defense. The Chief of Air Defense and his staff conduct the air defense battle in all its phases - coordination with higher, subordinate, and lateral units, deployment of weapons, arrangement for air warning, selection and allocation of targets, and combat support. The commander of the air defense regiment in maneuver divisions and air defense commanders and assets in maneuver regiments and below are subject to direct orders (as opposed to staff supervision) from the division Chief of Air Defense. Each air defense unit commander is reponsible for providing timely detection of enemy air activity in his sector of responsibility by electronic or visual means and for preventing enemy air attacks against the defended unit, facility, or area.(1/V-19)

c. (U) The characteristics of the objects to be defended are the determining factors for making decisions with respect to the tactical employment of air defense units and in determining their combat missions. Primary among these are the combat function and location of the defended unit, facility, or object. This is determined primarily by the role and location of ground combat units and rear service facilities and by the current tactical situation. Other factors which have a considerable influence on a decision as to the type and quantity of air defense units assigned are:

(1) Sensitivity of the target (U). A fuel dump is more sensitive to air strikes than a fuel depot; a mountain road is considerably more critical than a road on a plain, since damage to the road surface would force troops to halt in the first case, but not necessarily in the second.

(2) Geometric dimensions of a target (U). The larger the target, the greater the probability of its being hit. If a target's dimensions are large, e.g., an airfield, it can be attacked from horizontal flight at medium-to-high altitudes. In most cases, targets of smaller dimensions would be attacked from very low or low altitudes or by diving aircraft.

(3) Mobility of a target (U). Targets maneuvering on the battlefield are harder to locate and attack than are fixed targets. The enemy will therefore most likely attempt to destroy them immediately upon detection. Stationary or immobile targets are not necessarily subject to airstrikes immediately upon their detection, but as the tactical situation warrants it. As a rule, for example, a railroad station is bombed when there are trains present, and ammunition or fuel dumps when the enemy assumes that they con-

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tain ammunition or fuel.

(4) The possibility of attacking aircraft locating targets in various separate kinds of weather and at night (U). Reference points on the approaches to, and at the target's location, can be used for navigational fixes to more accurately acquire the target.(1/V-19)

d. (U) Missions are assigned to air defense units after detailed studies are made of the role and features of the defended unit, object, or area. Assignment of the air defense mission normally is based on the availability and technical characteristics of air defense units. Consideration is given to:

(1) The effective range of the air defense unit's specific weapon system (U). If the effective range of the air defense weapon system does not exceed 10 km, the air defense unit is not assigned a mission of covering an object extending 30 km. The same applies to altitude: a unit of small caliber AA guns is not assigned a mission of independently protecting an object which can be successfully hit by an airstrike from altitudes over 2,000 meters.

(2) Effectiveness of fire (U). The effectiveness of fire of an air defense unit's weapons is usually described by its probability of destroying an air target. If the probability of destruction is small, the object may be covered by several air defense elements.

(3) The all-weather capability (U). If enemy aircraft are capable of striking the object during any weather conditions, units without direction-laying or fire control radar are not capable of providing adequate air defense.

(4) Mobility of the air defense weapons (U). An air defense system chosen to defend a given object must have at least the same degree of mobility as the object defended. For example, fixed-site SAMs are not suitable for defense of mobile ground forces. The degree of mobility is critical. An air defense unit equipped with self-propelled antiaircraft guns does not necessarily need to halt in order to fire; it can fire on the move to cover advancing forces. If the air defense unit is equipped with a limited mobility missile then the unit can cover those same forces only within a specific area, where it can deploy in advance. Alternatively, and consistent with Soviet tactical doctrine, the maneuver unit would have to slow to the speed of the defending air defense unit to avoid outrunning its air defense "umbrella."(1/V-20)

e. (U) An air defense unit's mission must also take into account the existence and capabilities of early-warning/target-acquisition radars, the weapons' ECM/ECCM ability, and their operation requirements. In all cases, significant emphasis is attached to the training and combat experience of the air defense unit's personnel.(1/V-20)

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f. (U) The essence of an air defense unit's combat mission can be expressed with two words: "to cover." The combat units or facilities to be covered are indicated in the combat order as well as the starting time and duration of the air defense mission. Also given are the degree of readiness and procedure for conducting fire, procedures for organizing early-warning/target-acquisition and communications, routes of movement to the new firing or launching position area, and the system of coordination between the covered ground troops and friendly aviation, regarding control signals, materiel, and technical supply.(1/V-20)

g. (U) The tactical importance of units and facilities change during the course of combat as assigned missions are accomplished. For example, the role of a battalion advancing in the first echelon along the main axis and that of a battalion removed to the second echelon are not of equal importance with respect to successful accomplishment of the combat mission. Also, the importance of a river-crossing site before the troops begin using it and after it has been crossed by the main body are not of the same value. Systematic reappraisal of the role and function of combat units and support facilities in accomplishing the overall mission is required on a timely basis to provide proper air defense coverage. As the importance of a potential target is reappraised, the combat mission of the air defense units is also reevaluated. In certain cases, there may be insufficient air defense troops to cover all targets. In those cases, air defense units are relieved from covering targets which have become of secondary importance and are assigned to cover new, more important targets to insure the ability of the combined-arms forces to complete their missions without interference from enemy air action.(1/V-20)

4. Mid-Term, Circa 1990 (U).

a. Doctrine and Tactics (U).

(1) (u) ~~(S)~~ Fundamental Soviet Air Defense doctrine and tactics, which have evolved over the decades since the advent of the SAM air defense weapon system, are expected to continue to prevail in the mid-term time period. Refinements can be expected to continually occur in response to perceived changes in the NATO threat, the advent of new weapon technologies, and the occurrence of military actions such as those in Afghanistan or Vietnam, which provide increased insight into combat operations.(5/2-1)

(2) (u) ~~(S)~~ Consideration of these responses in terms of the projected NATO threat, shortcomings of the current Warsaw Pact air defense deployments, historical trends, and intelligence community findings with respect to Soviet development systems and technology advancements has led to a postulation of refinements expected in Warsaw Pact air defense organizations, deployments, and employments for the mid-term.(5/2-1)

(3) (u) ~~(S)~~ Four organizational refinements are postulated for this era: co-located SAM and Frontal Aviation command posts at both Army and

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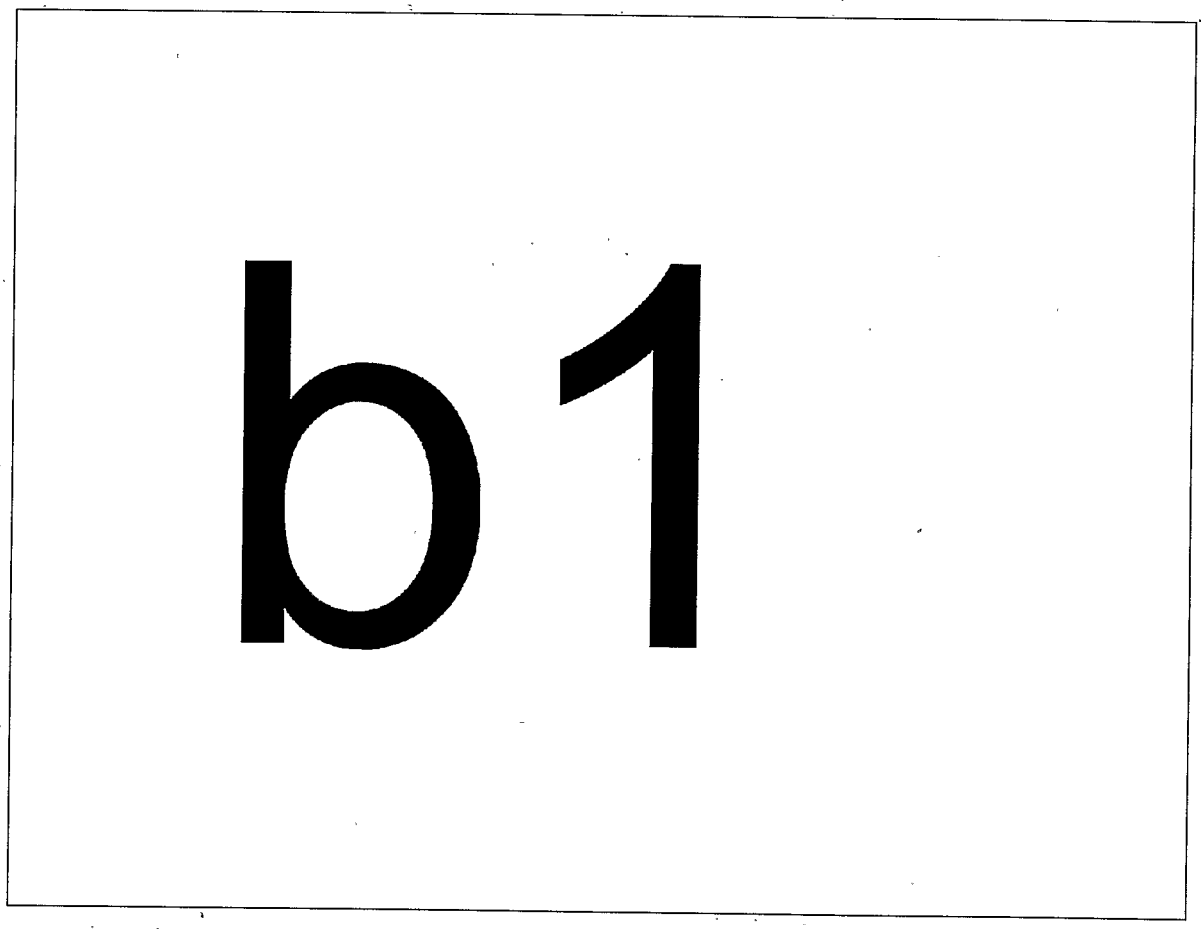
divisional levels to improve the integration of these air defense groups; centralized integration of air defense data from all sources and echelon levels and its dissemination to air defense forces; multiple redundant command posts to alleviate the vulnerability inherent in centralized control by a single command post; and the establishment of zonal communications within divisional areas of operations to increase survivability of the structure if one or two components are lost. The mid-term division signal battalion will be able to field four zonal communications entities, as well as one company to operate divisional headquarters.(5/2-1)

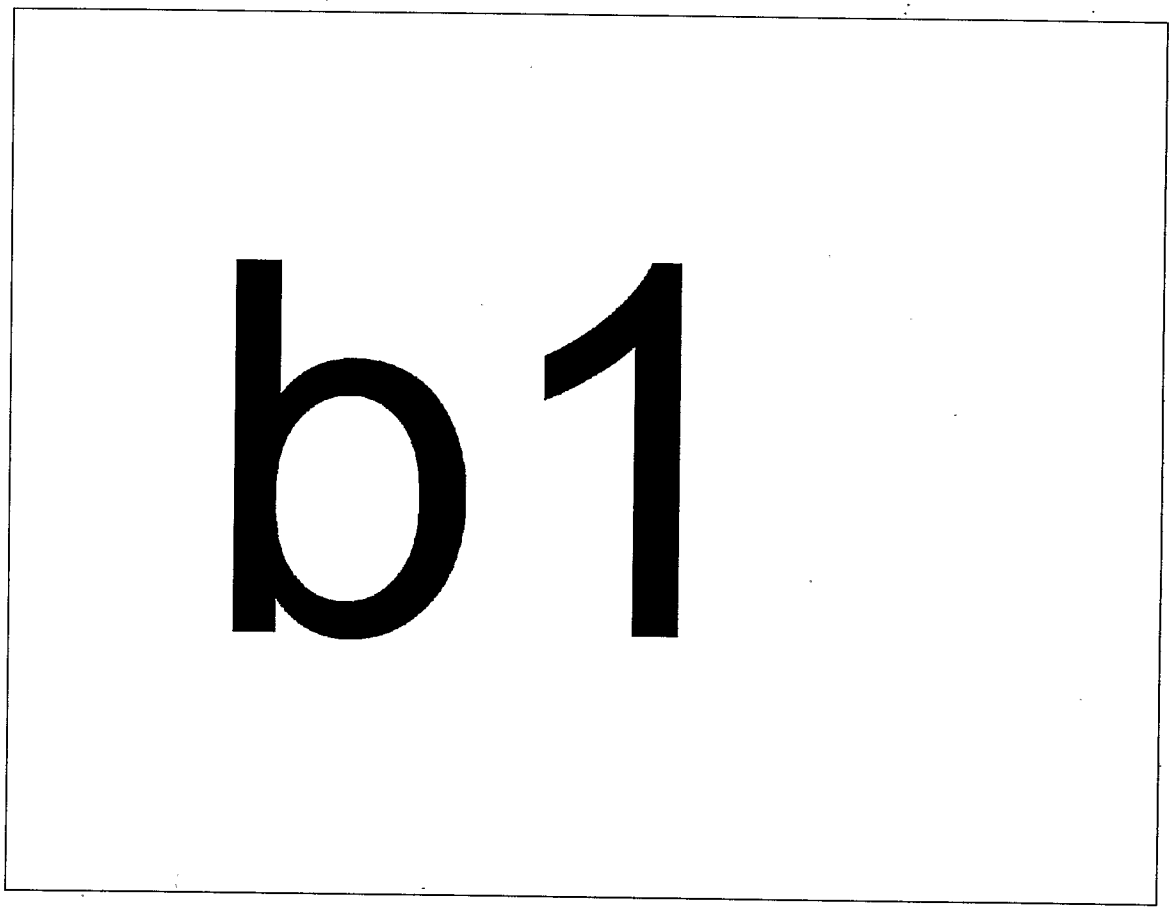
(u)

(4) ~~(S)~~ Deployment refinements for the mid-term period are expected to include the deployment of an anti-tactical ballistic missile system; continued deployment of improved and advanced weapon systems in greater numbers (SA-12, SA-11, SA-13, SA-14, and SA-8 FO); integration of SAM launchers in all regiments and divisions as AA guns are replaced; and the possible deployment of a vehicle-mounted high energy laser weapon system (HEL) to craze or fracture aircraft and battlefield sensor systems and of a Radio Frequency Damage Weapon (RFDW).(5/2-2)



(u)

(3) (S) We have postulated, based on limited information, that the first mission for the HEL would be that of mobile air defense with committed regimental SAM platoons. The second mission would be that of ground combat, and the third that of point defense.



d. Integrated Air Defense Command, Control and Communications (U).

(u)

(1) (S) During the current and near-term period, the tactical air defense system of the Warsaw Pact ground forces will be comprised of seven mobile SAM systems (SA-4, SA-6, SA-8, SA-9, SA-11, SA-X-12, and SA-13), man-portable SAM systems (SA-7 and SA-14), and two mobile antiaircraft artillery systems (ZSU-23-4, ZSU-X) as well as a few older towed AAA systems and the road-transportable SA-3 system. The mid-term era will see these defense forces augmented by the SA-8 FO, a mobile antitactical ballistic missile weapon system to counter the tactical ballistic missile threat, and a mobile HEL weapon system to degrade or destroy electro-optics and other acquisition and guidance means. In the new era, the older system will be increasingly replaced by the more advanced weapon systems, particularly in the forward areas. The composition of the new air defense systems

is summarized in Table 92.(5/2-2)

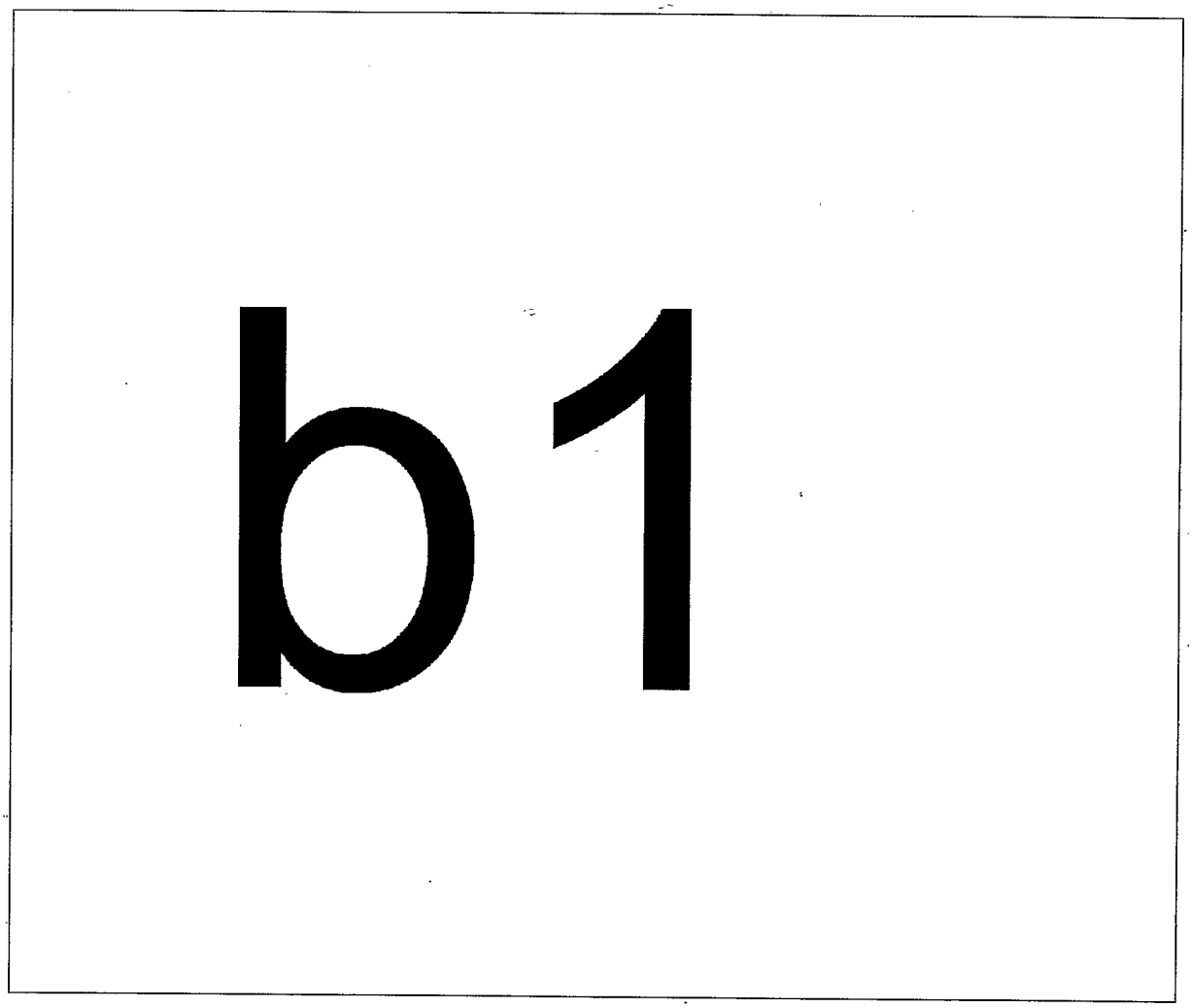
(u)
(2) ~~(S)~~ The mobile air defense weapon systems, each having different capabilities and roles, require major command and control considerations primarily because of their mobility and employment in tactical situations. The Warsaw pact has emphasized flexibility in the C^3 systems associated with their ground force air defense systems. Each of the tactical SAM systems can operate within a command and control network or can operate as autonomous units without any external data. When operating under centralized control, there are provisions for both RF communications and landlines for passing command and control information, for radar diversity, and for redundant and skip-echelon communications. Autonomous operations allow for use of on-board sensors to detect targets and are most effective against low-altitude, pop-up type targets.(5/2-4)

(3) ~~(S/NOFORN/WNINTEL)~~ b1

b1

(u)
(4) ~~(S/NOFORN/REL/UK/CAN)~~ The Warsaw Pact apparently is attempting to integrate the air defense assets of the ground forces at division level and below. The deployment of unique command and control equipment (BTR-60PA vehicle) with SA-8 and SA-9/SA-13/ZSU-23-4 units indicates that close coordination could be carried out. If these weapon systems command and control elements are tied together in such a manner that target track information could be transmitted up-echelon as well as down-echelon in near real-time, the advantages would be significant. Not only would the air defense commanders be able to manage their weapons and allocate their resources more effectively, but the capability to hand-off targets and maintain continuous tracks on low-altitude targets would be enhanced.(5/2-4)

(u)
(5) ~~(S/NOFORN/WNINTEL)~~ An upgrading of command and control systems used with the Warsaw Pact ground force air defense systems is expected to occur throughout the 1980s and 1990s, with emphasis on more-flexible, higher capacity data transmission systems, and more-accurate information processing equipment and procedures. New data systems with at least some of these characteristics, are expected to be deployed with SA-8, SA-8 FO, SA-11,


b1

SA-X-12, and ATBM elements. In addition, the deployment of improved communication equipment to support the air defense command and control networks is expected to continue.(5/2-5)

(u)
(6) ~~(S)~~ Radio/microwave links will continue to be the primary means of communiction. Lasers may be used for point-to-point communications. More transmitters probably will be physically separated from their antennas and linked by optical fiber, cable, or microwave pipe. Secure speech and on-line encryption equipment, along with burst transmissions, will increase communications security and command post survivability. Dedicated air-ground communication vehicles will be organic to each communication center, while regimental signal companies will have organic forward air control teams. Along with use of support aircraft as flying command posts or relay vehicles, post-1980 ground air defense forces will have a much greater capability for cooperation with frontal aviation units. (5/2-5)

(u)
(7) ~~(S)~~ The deployment of the new surface-to-air missile systems (SA-8 FO/SA-11/SA-X-12) is expected to require more sophisticated command and control equipment to take advantage of phased array and 3-D tracking techniques. The new command and control equipment will most likely incorporate automatic encoding of track data (to preclude the man-in-the-loop requirement), integrated circuit technology, and a greater computer storage capacity to facilitate handling of a larger number of targets and associated information.(5/2-5)

(u)
(8) ~~(S)~~ During the near-term and mid-term periods, the organizational structure of the Soviet front, as presented in Figure 33, is expected to be basically unchanged. The figure depicts all of the different types of units that could be associated with any given front. Not all fronts would have all of these units present, and many of the units may be modified to suit the particular needs of that front. The Soviet front consists of a headquarters and several subordinate field armies of two basic types: a combined arms type army consisting primarily of three or four motorized rifle divisions and one tank division; a tank type army having three or four tank divisions and perhaps one motorized rifle division (see Figures 34 and 35).(5/2-5)

(u)
(9) ~~(S)~~ Divisions, the major combat units of the armies, have been undergoing organization development since the late 1960s. This organizational development has resulted in increased integration of combined arms at the divisional echelon. There are three types of divisions: motorized rifle divisions, tank divisions, and airborne divisions. (See Figures 36 thru 37 and Tables 93 thru 97.)(5/2-10)

e. Deployments of Tactical Air Defense Systems (U).

(u)
(1) ~~(S)~~ During the mid-term period, Category I divisions will have their SA-8 Regiments replaced by SA-8 FO and SA-11 equipped Regiments

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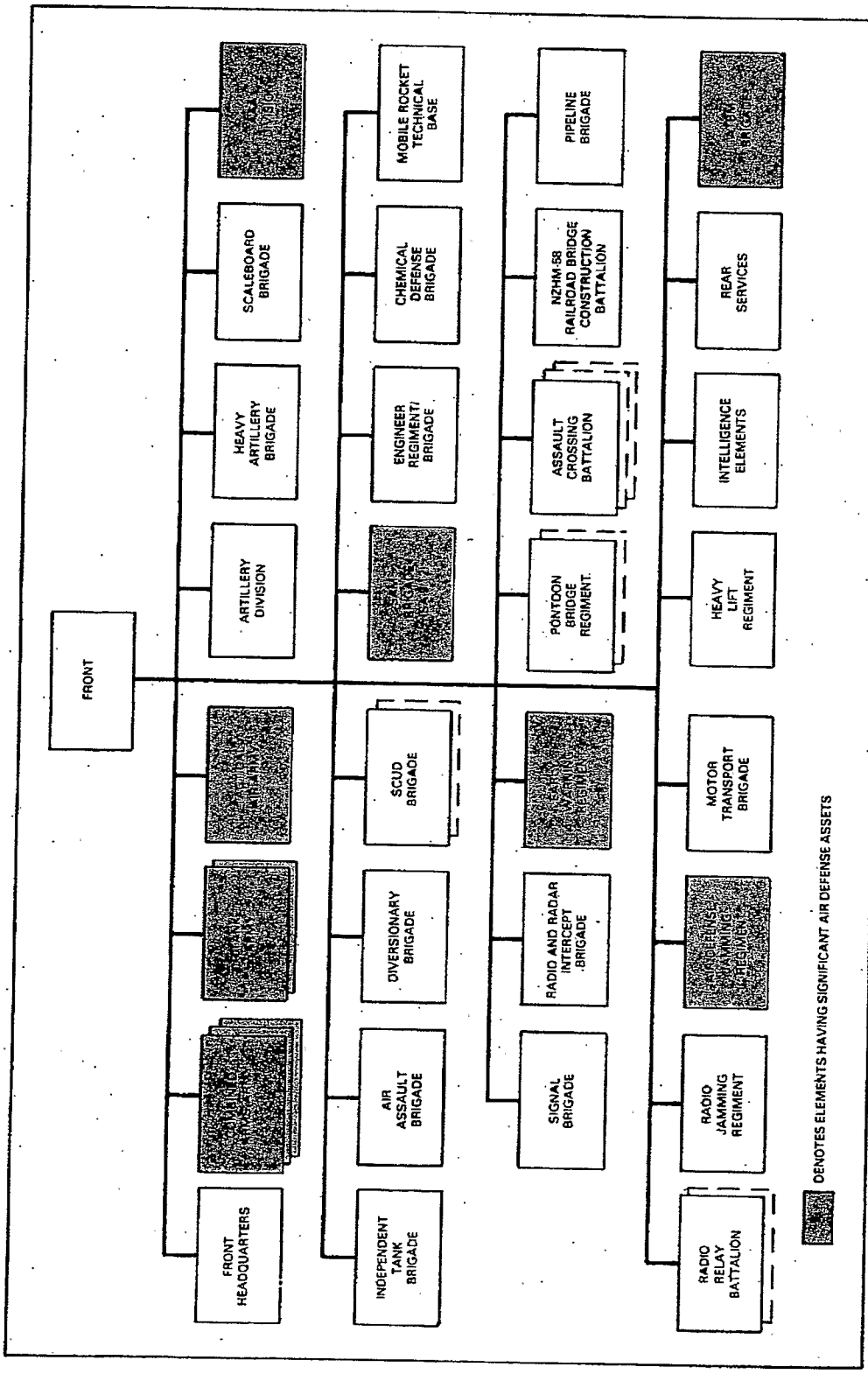

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Figure 33. (U) A Soviet Front

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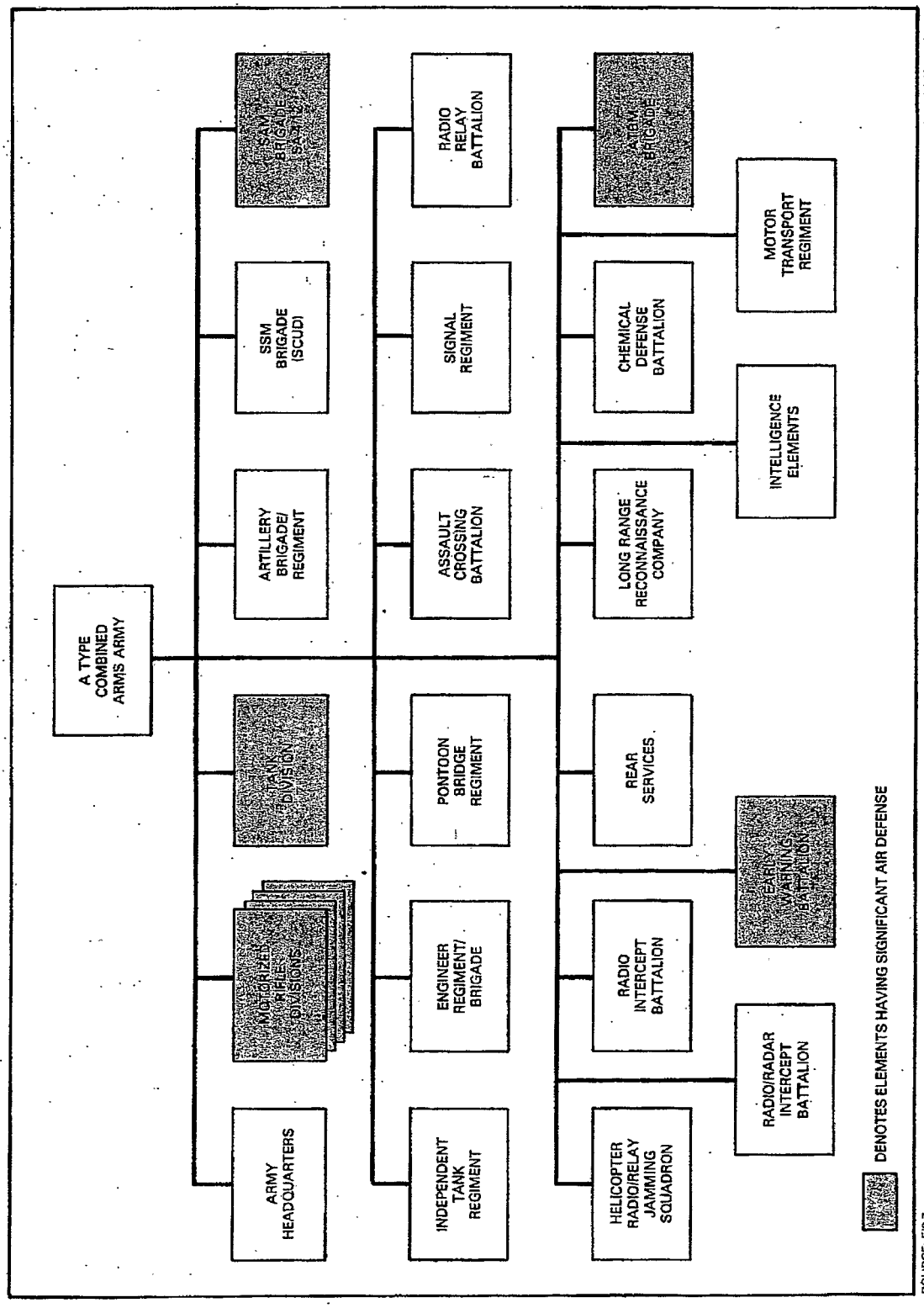

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Figure 34. (U) A Type Combined-Arms Army.

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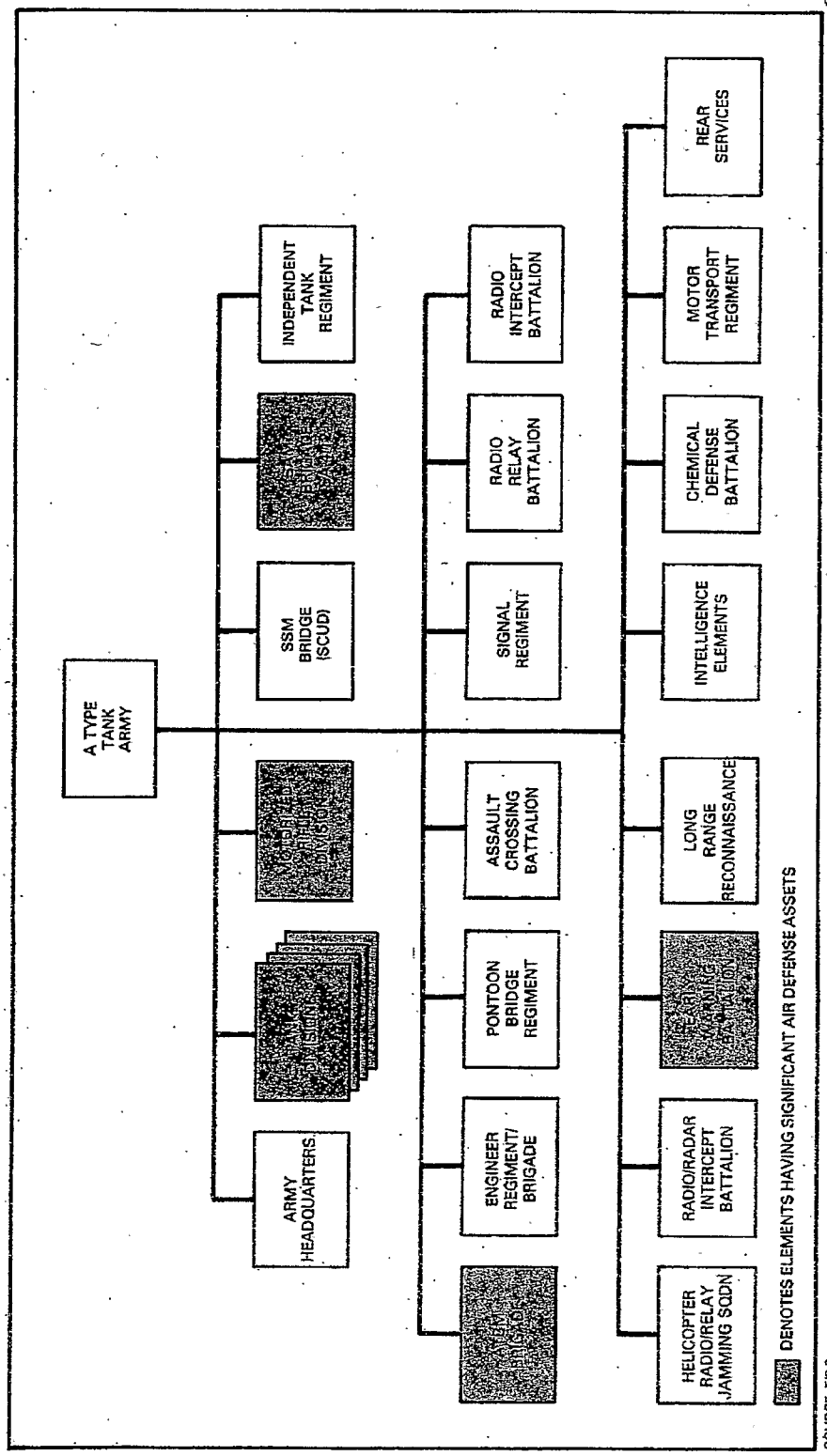

Figure 35. (U) A Type Tank Army

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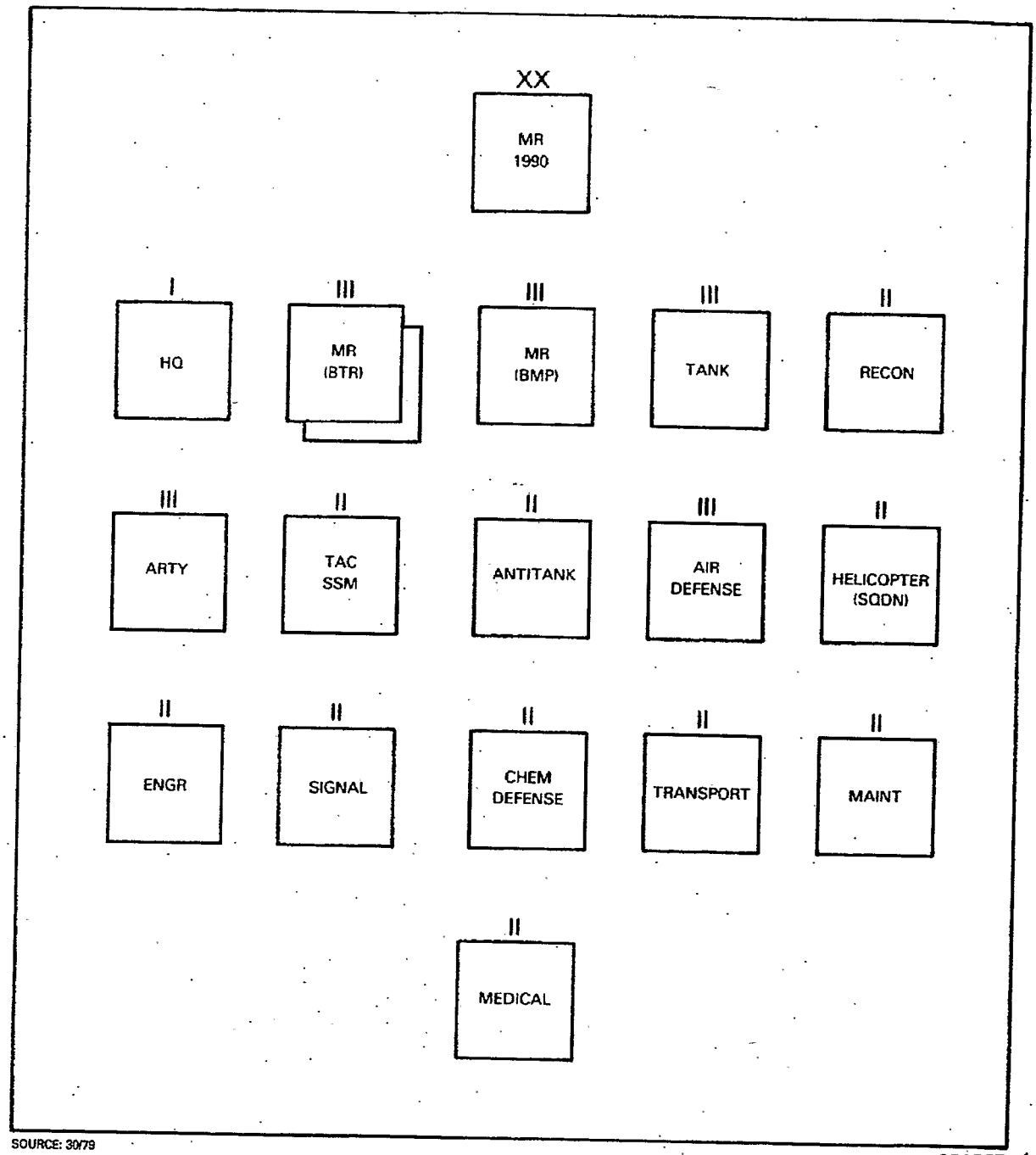

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Figure 36. (U) Motorized Rifle Division (MRD) 1990 Organization (General)

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Table 93. (U) Motorized Rifle Division (MRD) 1990 Equipment

	ICV MRR	APC MRR (x2)	TANK REGT	ARTY REGT	TAC SSM BN	AT BN	ADEF REGT	HEL SQDN	RECON BN	ALSO IN DIV	TOTAL
INFANTRY COMBAT VEHICLE BMP-3	135		3						15		153
ARMORED PERS CARRIER BTR-70 F/O		288							7	6	301
TANK T-80*	40	80	94						6		220
82MM AUTO MORTAR	9	18									27
TOWED AND SP 120 MORTAR	18 SP	36 T									18/36
LT 82MM MORTAR	18	36									54
SP 122MM HOWITZER M-1974 F/O	18	36	12								66
SP 152MM HOWITZER M-1973 F/O				54							54
GRAD-1/122MM REGIMENTAL MRL			6								6
BM-21 F/O DIVISION MRL				18							18
TOWED OR SP 125 AT GUN						12					12
TOWED 85 AT GUN		36									36
MANPACK ATGM SET AT-4 F/O		36									36
MANPACK ATGM AT-7		54									54
ATGM LAUNCHER VEH AT-5 F/O	9	18				9					36
SS-21 MOD-A OR F/O					4						4
MANPACK SAM SA-14 F/O	30	60	3				21			6	120
SPAA ZSU-X	4	8	4								16
HEL	1	2	1								4
SA-13 TEL	4	8	4								16
SA-11/SA-8 TEL							20				20
AUTOGRENADE LAUNCHER F/O	9	36									45
RPG-16	140	292	18	62					18	72	602
ARM RECON VEHICLE (WHLD) BRDM	4	8	4						4		20
RADIO/RADAR VEHICLE									15		15
LPLWS	4	8	3								15
LT HEL MI-2								6			6
MED HEL MI-8								8			8
ATK HEL MI-24								6			6
PERSONNEL	2376	5220	1150	1279	169	167	490	168	340	2146	13,505

SOURCE: 3/80

~~SECRET~~ (u)

(u)

*~~(S)~~ WE FORECAST THAT REMAINING T-62s IN GOF WILL BE REPLACED BY T-64I BY THE MID-80s. THESE IN TURN WILL BE REPLACED BY THE NEXT SOVIET TANK, WHICH WE HAVE DESIGNATED THE T-80. BY 1990 WE FORECAST THAT THE "TOP 20" SOVIET DIVISIONS COULD BE EQUIPPED WITH T-80s, BUT THAT MANY OTHER DIVISIONS OPPOSITE NATO WOULD STILL HAVE OLDER MODELS.

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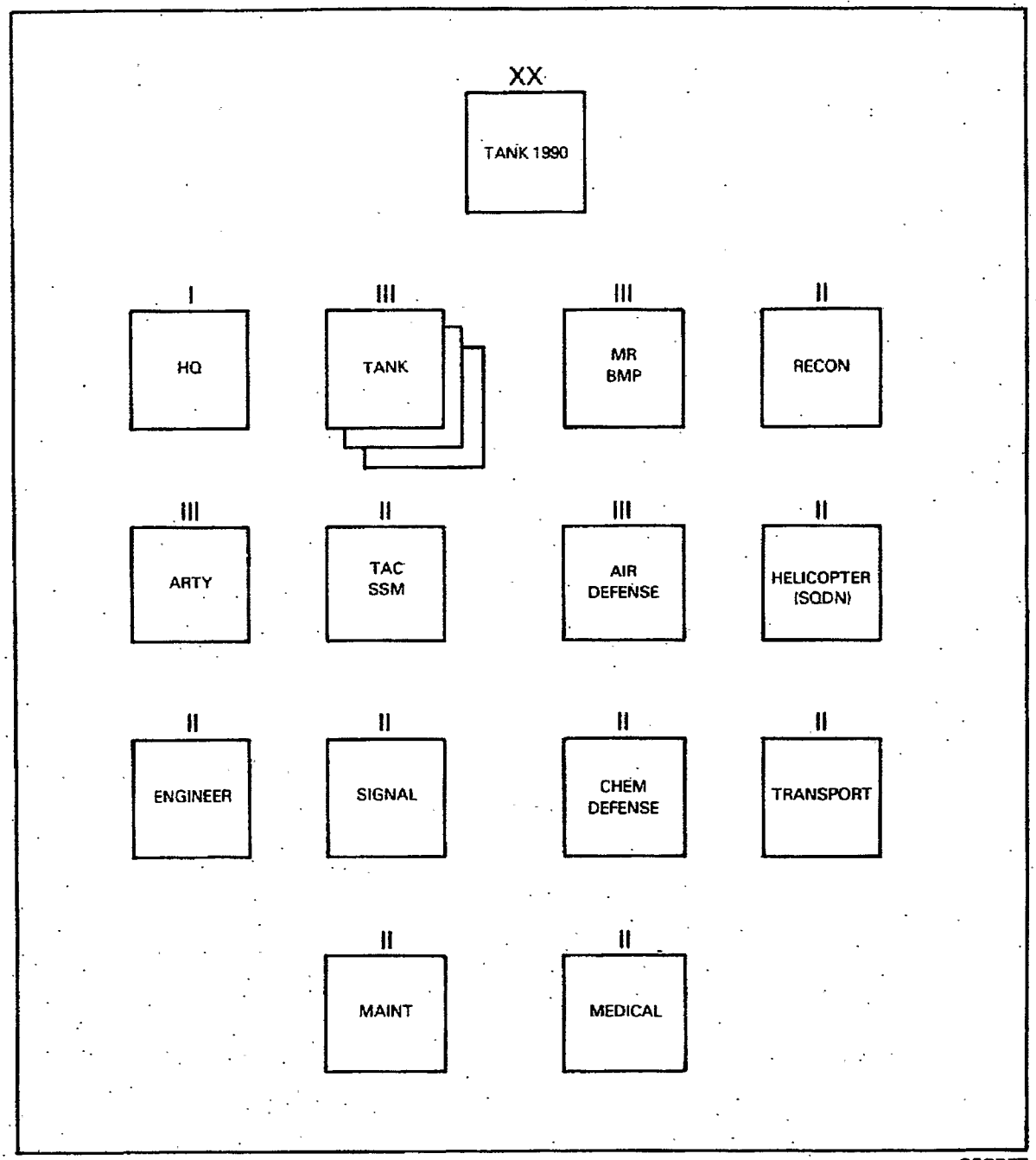

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Figure 37. (U) Tank Division (TD) 1990 Organization (General)

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Table 94. (U) Tank Division (TD) 1990 Equipment

	TANK REGT (x3)	ICV MRR	ARTY REGT	TAC SSM BN	ADEF REGT	HEL SQDN	RE-CON BN	ALSO IN DIV	TOTAL
INF COMBAT VEH BMP-3	141	135					15		291
TANK T-80	282	40					6		328
SP 82MM AUTO MORTAR		9							9
SP 120 MORTAR	18	18							36
LT 82MM MORTAR	18	18							36
SP 122MM HOWITZER M-1974 F/O	36	18							54
SP 152MM HOWITZER M-1973 F/O			54						54
GRAD-1/122MM REGIMENTAL MRL	18								18
BM-21 F/O DIVISION MRL			18						18
ATGM LAUNCHER VEHICLE AT-5 F/O		9							9
SS-21 F/O				4					4
MANPACK SAM SA-14 F/O	36	30			21			6	93
SPAA ZSU-X	12	4							16
HEL	3	1							4
SA-13 TEL	12	4							16
SA-8 OR SA-11					20				20
AUTOGRENADE LAUNCHER	9	9							18
LPLWS	12	4							16
RPG-16	153	140					18		311
BTR-70 F/O							7	4	11
LT HEL MI-2						6			6
MED HEL MI-8						8			8
ATK HEL						6			6
RADIO/RADAR VEHICLES							15		15
ARM RECON/VEH (WHEELED) BRDM	12	4					4		20
PERSONNEL	4851	2376	1279	169	490	168	340	2146	11,819

SOURCE: 3/88

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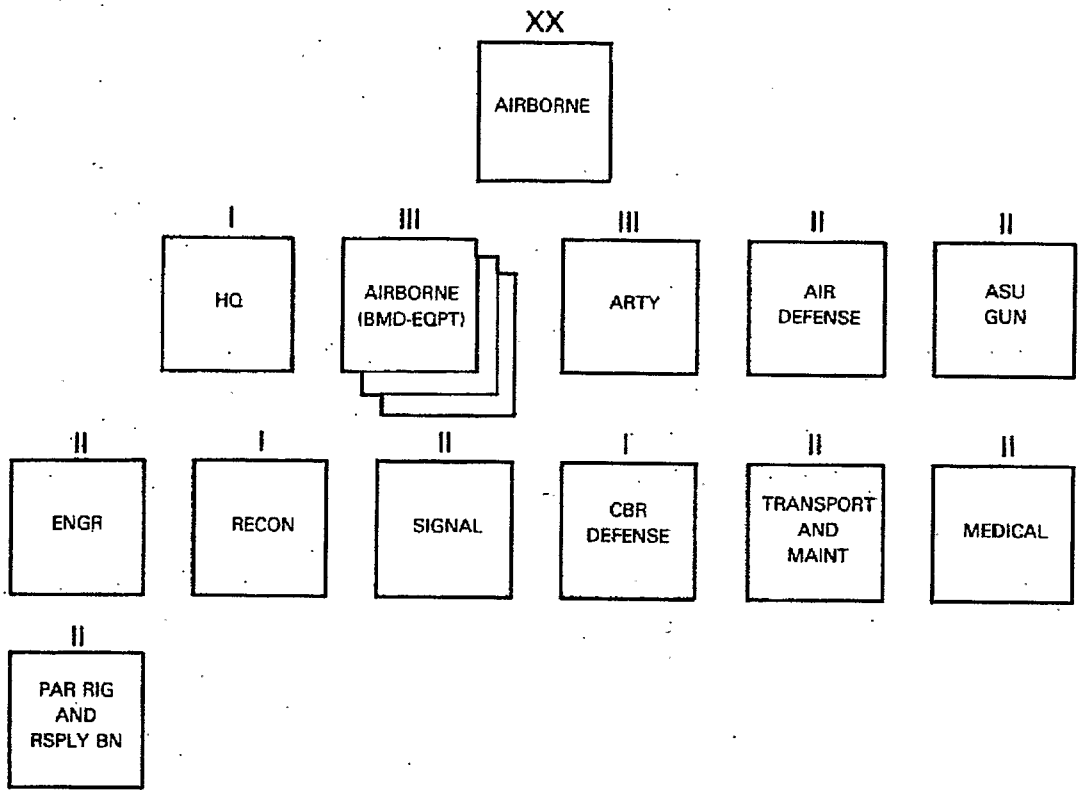
Table 95. (U) Airborne Division 1990 Organization and Equipment



	ABN REGT (x3)	ARTY REGT	ADEF BN	ASU GUN BN	RECON CO	ALSO IN DIV	TOTAL
AIRBORNE AMPHIB CMD VEH BMD SERIES	57					4	61
AIRBORNE AMPHIB COMBAT VEHICLE BMD	270				8		278
AIRBORNE ASSAULT GUN (100-125MM)				40			40
120MM MORTAR (NEW, TOWED)	18						18
122MM HOWITZER D-30		30					30
ATGM AT-7	81						81
122MM MRL (TRUCK MOUNTED)		6					6
ATGL, RPG-16 F/O	333	40		2	9	25	409
VEH ATGM AT-5 F/O	27						27
ZSU-X (ABN VERSION)	18		18				36
MP SAM SA-14 F/O	117	21	12	12	6	24	192
LPLWS	9						9
AUTO GREN LCHR AGS-17	27						27
ARMD CMD VEH BRDM SERIES	12						12
PERSONNEL	4413	621	120	216	75	1119	6564

SOURCE: 30/100

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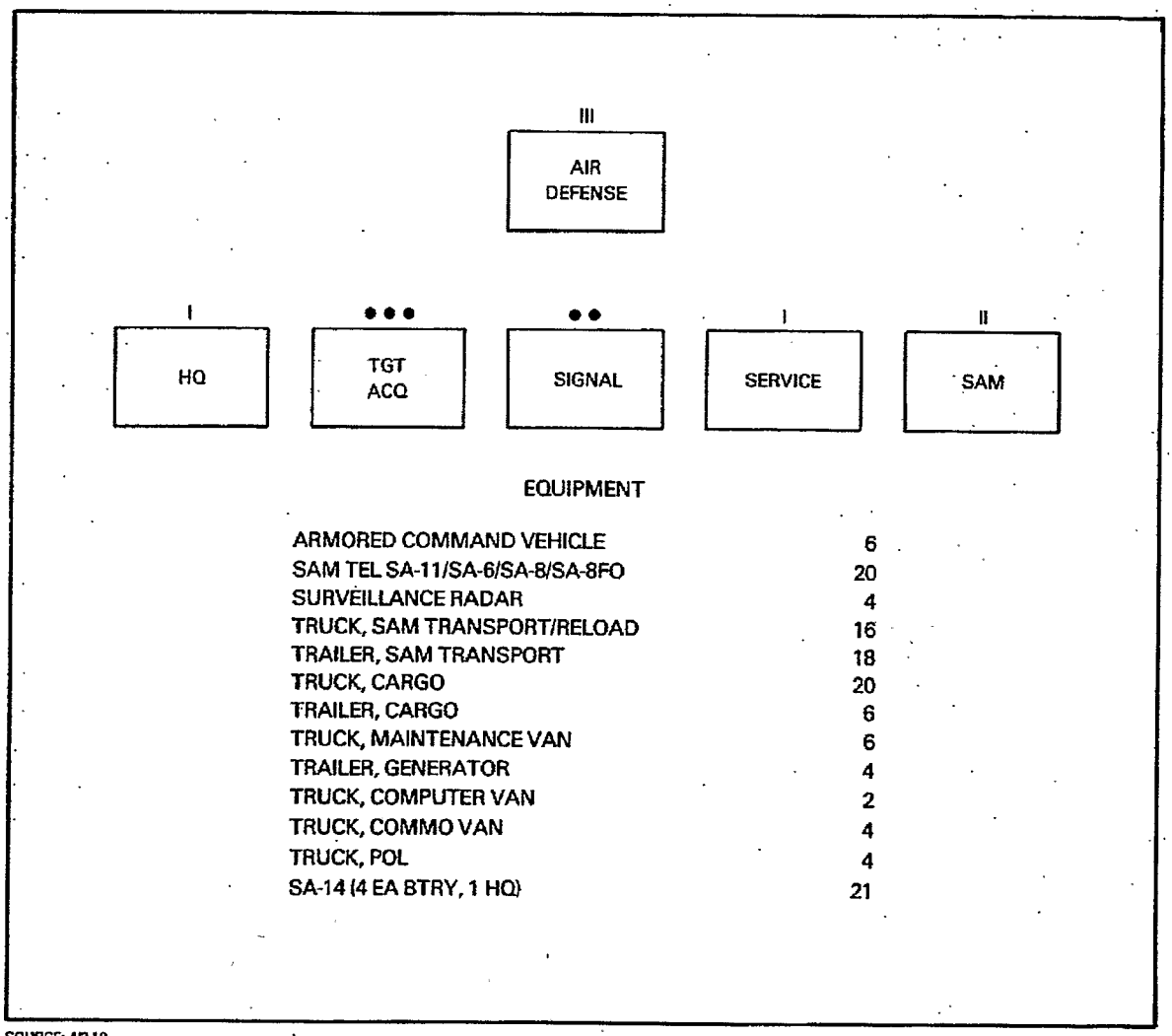
Table 96. (U) MRD/TD 1990 Air Defense Regiment Organization and Equipment



EQUIPMENT

ARMORED COMMAND VEHICLE	6
SAM TEL SA-11/SA-6/SA-8/SA-8FO	20
SURVEILLANCE RADAR	4
TRUCK, SAM TRANSPORT/RELOAD	16
TRAILER, SAM TRANSPORT	18
TRUCK, CARGO	20
TRAILER, CARGO	6
TRUCK, MAINTENANCE VAN	6
TRAILER, GENERATOR	4
TRUCK, COMPUTER VAN	2
TRUCK, COMMO VAN	4
TRUCK, POL	4
SA-14 (4 EA BTRY, 1 HQ)	21

SOURCE: 4/2-19

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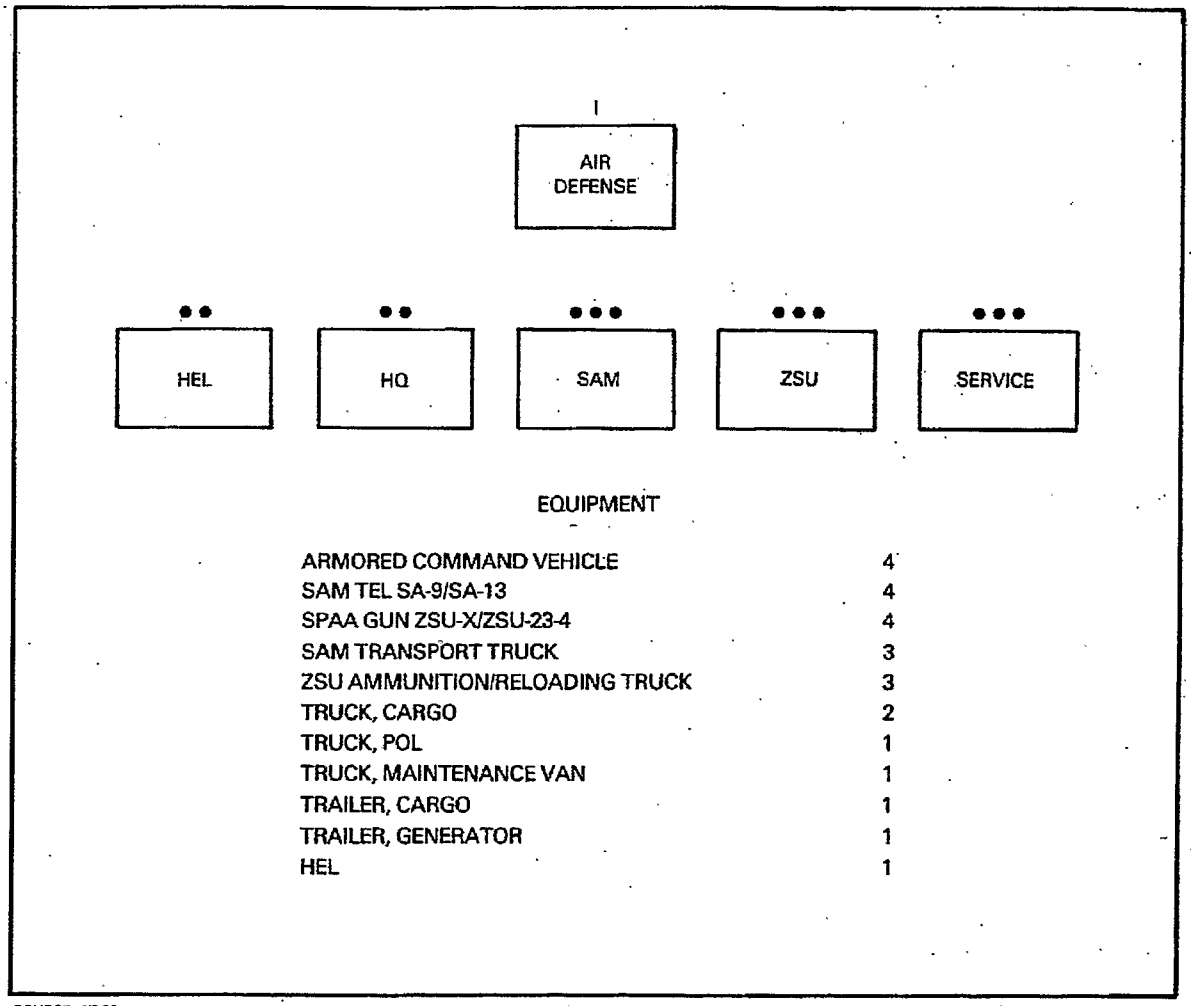
Table 97. (U) MRR/TR /Air Defense Battery 1990 Organization and Equipment



EQUIPMENT

ARMORED COMMAND VEHICLE	4
SAM TEL SA-9/SA-13	4
SPAA GUN ZSU-X/ZSU-23-4	4
SAM TRANSPORT TRUCK	3
ZSU AMMUNITION/RELOADING TRUCK	3
TRUCK, CARGO	2
TRUCK, POL	1
TRUCK, MAINTENANCE VAN	1
TRAILER, CARGO	1
TRAILER, GENERATOR	1
HEL	1

SOURCE: 4/2-20

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1187

(see Table 96). The replaced SA-8 and SA-6 weapons (plus additional SA-8s and SA-6s manufactured early in the 1980s) will continue to replace the S-60 AAA Regiment providing air defense for Category II and III divisions. It is expected that the SA-9/ZSU-23-4 battery will complete replacement of the ZPU-4 in MRRs and the ZSU-57-2 in TRs by 1988. The SA-13/ZSU-X Battery is expected to be a direct replacement for the SA-9/ZSU-23-4 Battery in Category I divisions (see Table 97). The deployment of the SA-13 has already begun, and the deployment of the ZSU-X in the Western TVD is postulated to begin in 1983. DIA expects the SA-14 to be a direct replacement for the SA-7. The replacement is expected to be complete by 1991. Table 98 presents the postulated 1991 Defense Missile Order of Battle. Table 99 presents the mix of old and replacement systems (SA-6/SA-11, etc.) expected in the time period based upon historical deployment patterns and production rates.(5/2-31)

(u)
(2) ~~(S)~~ The SA-10 weapon system is expected to be an eventual replacement for the SA-3 weapon system in strategic air defense sites. However, initial deployments may merely add the SA-10 to the existing complex of SA-5s, SA-2s, and SA-3s in a strategic air defense brigade. Initial deployment of the SA-10 began in the 1981 time period in the Soviet Union.

(u)
(3) ~~(S/NFD/WNINTEL)~~ Recent intelligence information leads to the postulation that the original SA-X-12 system may be deployed in two different configurations. The SA-X-12 system will be deployed with the original SA-X-12 interceptor and the acquisition and engagement radars that have been under development for a number of years. This configuration is expected to replace the front/Army SA-4 air defense system.(5/2-31)

(u)
(4) ~~(S/NFD/WNINTEL)~~ The ATBM configuration includes a larger TELAR to handle a new high performance interceptor, the SA-X-12 acquisition and engagement radars, and the SA-X-12 command and control vehicles. Since engagement of tactical ballistic missiles requires different surveillance, acquisition, and tracking functions and guidance significantly more complex and different from aircraft targets, it is expected that the ATBM configurations radar operating parameters, signal processing and command/control data processing are entirely different from the SA-X-12. It is believed that the new configuration will have an IOC in the 1985-1986 time frame. It is expected to be deployed as a front/Army ATBM system in the rear areas to protect high value assets as a point or limited area defense. It will probably be organized as a brigade or regiment which will operate independently of the normal air defense systems, being concerned almost totally with the protection of its assigned high value assets (SASPs, CPs, airbases).(5/2-31)

f. Early Warning and Surveillance Networks (U).

(u)
(1) ~~(S/NOFORN/WNINTEL)~~ For early warning, the Warsaw Pact ground

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Table 98. (U) 1991 Defense Missile Order of Battle

Name	Western TVD	USSR*	Soviet GSF				NSWP			
			GDR	PL	CZ	Total	GDR	PL	CZ	Total
SA-4/12 Bde	37	17	8	1	1	10	3	4	3	10
SA-6/11 Rgt	47	19	11	1	3	15	4	5	4	13
SA-7/14 LCHR	10,000	4,200	2,200	300	600	3,100	800	800	1,100	2,700
SA-8/8 FO RGT	31	13	8	1	2	11	2	3	2	8
SA-9/13 PN	312	128	76	8	20	104	24	32	24	80
ZSU-23-4/X PN	312	128	76	8	20	104	24	32	24	80
ATBM Bde	12	None	8	2	2	12	None	None	None	None
HEL	**									

SOURCE: 5/232

(u)

~~SECRET NOFORN WNINTEL~~

*(U) Belorussian, Baltic and Carpathian Military Districts

**(U) Not expected to be a dedicated air defense weapon during this era.

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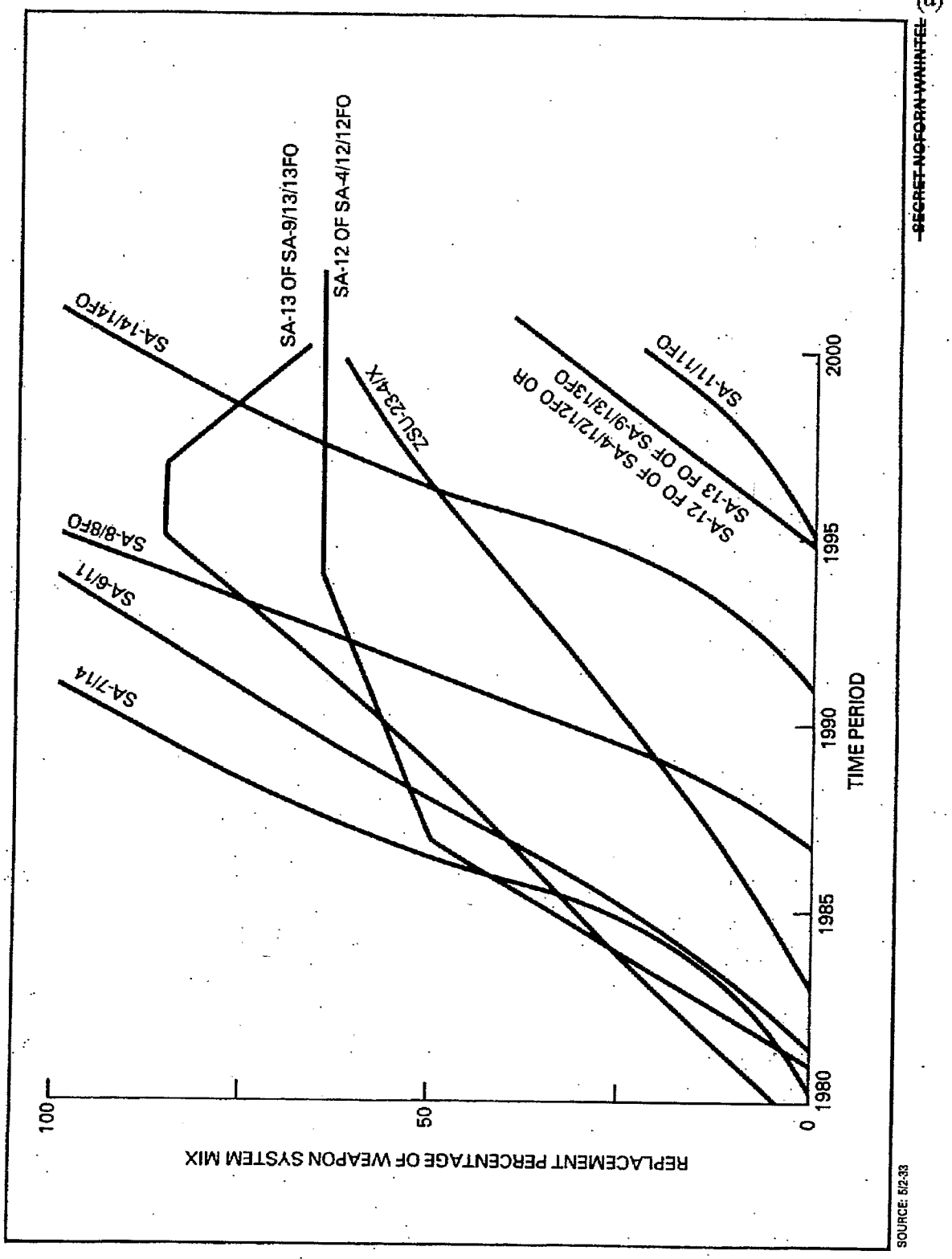
(U)



~~SECRET NOFORN WNINTEL~~

Table 99. (U) Postulated OLD/Replacement Weapon System Mixes in Western TVD

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force air defense systems depend on colocated early warning/acquisition sources, air situation broadcasts from army and front level, and probably information provided by the PVO Strany (air defense of the homeland) radar reporting networks. A wide variety of acquisition and height-finding radars are used to provide aircraft target information; many of these radars have been modified for improved low altitude tracking capabilities and additional electronic counter-countermeasures. There are some indications that the capabilities of the Soviet ground force radar reporting networks have been upgraded, but details of the upgrading are not available. Further improvements in the area of early warning/acquisition radars will also be evident in the near-term, with continued emphasis on sector scans, PRF and RF variability, ECCM, and possibly automatic encoding and 3-D capabilities.(5/2-40)

(2) (S)

b1

5. Far-Term, Circa 2000 (U).

a. Doctrine and Tactics (U).

(1) (U) (S) Fundamental Soviet Air Defense doctrine and tactics, which has evolved over the decades since the advent of the SAM air defense weapon system, is expected to continue to prevail in the far-term time period. Adaptations can be expected to continually occur in response to perceived changes in the NATO threat, the advent of new weapon technologies and the occurrence of military actions, such as those in the Mid-East or Afghanistan, which provide increased insight into combat operations. Forecasting these developments and the Soviet responses ten to twenty years in the future, is, at best, an uncertain process, and the forecasts can only be viewed as logical possibilities.(4/2-1)

(2) (U) (S) The major new Soviet tactical air defense problem for the 90s appears to be the vast number of highly lethal standoff weapons that may be fielded by NATO in that era.

(3) (U) (S) Doctrinally, it is expected that the Soviets will react to this threat as they have to past NATO threats - a perception of air defense as a specialized task with dedicated weapon systems deployed to

counter each element of the threat, with massed air defenses, with a mix of weapon system types, and with highly mobile systems which can move with the maneuver forces.(4/2-3)

(u)
(4) ~~(S)~~ The standoff weapon threat, particularly the artillery launched precision guided munitions (PGMs) and the multiple launch rocket system (MLRS) with their increased firepower, improved targeting and longer lethality ranges, will extend the depth of the battlefield "forward area" (the region most hazardous and vulnerable to attack). Easily targeted, slow-moving elements of the tactical forces, such as major command posts, SASPS, communication centers, surveillance facilities, large air defense systems (SA-4, SA-12, SA-12FO HIMADS or SA-6, SA-11, SA-11FO LOMADS), will be extremely vulnerable in this forward area. It is anticipated that the Soviets will respond to this vulnerability by deploying those vulnerable elements further to the rear during the far-term era.(4/2-3)

(u)
(5) ~~(S)~~ This further rearward deployment of the HIMADS and LOMADS has two major effects on the Soviet air defense. The first consequence is the requirement placed on the HIMADS and LOMADS for increased range and performance to provide coverage over the extended area. The second is that the region most vulnerable to low altitude penetration attack (beneath the umbrella coverage of the HIMADS and LOMADS) is enlarged. In this region, air defense is provided by the SHORAD, MANPAD, and Maneuver Element Air Defense System (MEADS) weapons, such as the SA-9, SA-13, SA-13FO, ZSU-23-4, ZSU-X, ZSU-Y, SA-7, SA-14, SA-14FO, SA-8, and SA-8FO. Potential advanced concept systems (i.e., HEL, EMP) may also be utilized in this mission. It is postulated that these air defense forces will be significantly increased in numbers, performance, and firepower to satisfy the requirements of this increased vulnerability region.(4/2-3)

(u)
(6) ~~(S)~~ It is also predicted that the Soviets will respond to the standoff weapon threat by defining new air defense missions and roles to counter the TBM, cruise missile, PGM, and forward acquisition and targeting elements of the standoff weapon threat. The expected air defense missions for the 90s are summarized in Figures 38 thru 41.(4/2-4)

(u)
(7) ~~(S)~~ The anticipated response to the standoff weapon threat is a new generation of air defense weapon systems at all echelon levels from the front/army level to the battalion level augmenting the existing air defense weapons against this advanced threat. The beginnings of this new generation of air defense weapon systems occurred in the mid-term era with the deployment of a limited capability antitactical-ballistic-missile system (ATBM), a weapon with some cruise missile intercept capabilities (SA-10) and an improved SA-8 FO weapon.(4/2-4)

(u)
(8) ~~(S)~~ It is believed that the Soviets are exploring a number of exotic weapon possibilities (high energy lasers, EMP weapons, etc.) to fulfill the air defense missions against the PGMs, forward acquisition and targeting systems, and other weapons of the far-term era.(4/2-4)

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1. ROLE/MISSION—HIMADS (SA-4, SA-12, SA-12 FO)

- MAJOR ELEMENT IN front FORCE-ON-FORCE AREA AIR DEFENSE SYSTEM.
- PROVIDES PROTECTION AGAINST MEDIUM-TO-HIGH ALTITUDE, HIGH PERFORMANCE AIRCRAFT.
- PROVIDES AREA PROTECTION TO VITAL INSTALLATIONS, COMMAND AND CONTROL POSTS, front AND ARMY HEADQUARTERS, LINES OF COMMUNICATION, AND SUBORDINATE ELEMENTS.

2. ROLE/MISSION—ATBM

- PROVIDES PROTECTION AGAINST TACTICAL BALLISTIC MISSILES.
- PROVIDES LIMITED AREA OR POINT DEFENSE PROTECTION TO VITAL INSTALLATIONS, COMMAND AND CONTROL POSTS, front AND ARMY HEADQUARTERS, AND LINES OF COMMUNICATION.

3. ROLE/MISSION—ANTI-CRUISE MISSILE (SA-10)

- PROVIDES PROTECTION AGAINST CRUISE MISSILE ATTACKS.
- PROVIDES LIMITED AREA OR POINT DEFENSE PROTECTION TO VITAL INSTALLATIONS, COMMAND AND CONTROL POSTS, front AND ARMY HEADQUARTERS, AND LINES OF COMMUNICATION.

SOURCE: 4/2-5

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Figure 38. (U) Air Defense Missions/Roles for the 1990s Front/Army

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1193

1. ROLE/MISSION—LOMADS (SA-6, SA-11, SA-11 FO)

- PART OF front FORCE-ON-FORCE AREA AIR DEFENSE SYSTEM.
- FILLS COVERAGE GAPS IN front/ARMY LONG RANGE, HIGH-MEDIUM ALTITUDE PROTECTION CAUSED BY FLUID BATTLE SCENE OR TERRAIN CONDITIONS IN DIVISION AREA.
- PROVIDES PROTECTION AGAINST MEDIUM AND LOW ALTITUDE AIRCRAFT.
- PROVIDES PRIORITY SUPPORT TO DIVISION HEADQUARTERS AND THE SSM BATTALION.

2. ROLE/MISSION—MANEUVER ELEMENT AIR DEFENSE SYSTEMS (MEADS) (SA-8, SA-8 FO)

- PART OF front FORCE-ON-FORCE AREA AIR DEFENSE SYSTEM.
- FILLS COVERAGE GAPS IN front/ARMY LONG RANGE, HIGH-MEDIUM ALTITUDE PROTECTION CAUSED BY FLUID BATTLE SCENE OR TERRAIN CONDITIONS IN DIVISION AREA AND PROVIDES WEAPON DIVERSIFICATION AT DIVISION LEVEL.
- PROVIDES PROTECTION AGAINST LOW-ALTITUDE AIRCRAFT AND HELICOPTERS.
- PROVIDES PRIORITY SUPPORT TO ENGAGED MANEUVER REGIMENTS.
- PROVIDES PROTECTION ALONG MARCH ROUTES FOR RIVER CROSSINGS AND BRIDGING SITES.

3. ROLE/MISSION—ANTI-PROJECTILE SYSTEM (HEL, EMP)

- PROVIDES CLOSE-IN PROTECTION TO FORWARD AREA ELEMENTS DURING OFFENSIVE AND DEFENSIVE OPERATIONS.
- PROVIDES PROTECTION AGAINST, PGMs, ROCKETS, AIR-TO-SURFACE MISSILES, ANTI-RADIATION MISSILES, AND OTHER GUIDED PROJECTILE WEAPONRY BY INHIBITING THE EFFECTIVENESS OF THE WEAPON'S SENSORS, FUZING OR ELECTRONIC SYBSYSTEMS.
- PROVIDES PRIORITY SUPPORT TO ENGAGED MANEUVER ELEMENTS.
- PROVIDES PROTECTION ALONG MARCH ROUTES FOR RIVER CROSSINGS, BRIDGING SITES AND MASSING POINTS.

SOURCE: 4/2-6

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Figure 39. (U) Air Defense Missions/Roles for the 1990s Division

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1194

1. ROLE/MISSION—SAM SHORAD (SA-9, SA-13, SA-13 FO)

- PROVIDES CLOSE-IN AIR DEFENSE PROTECTION TO REGIMENT DURING OFFENSIVE AND DEFENSIVE OPERATIONS.
- PROVIDES PROTECTION AGAINST LOW-FLYING FIXED-WING AND ROTARY WING AIRCRAFT INCLUDING RPVs.
- PROVIDES PRIORITY SUPPORT TO MANEUVER BATTALIONS AND REGIMENTAL HEADQUARTERS.
- IN MARCH COLUMN, OPERATES INTEGRATED WITH MOTORIZED RIFLE AND TANK ELEMENTS, FIRING FROM ROADSIDE POSITIONS.

2. ROLE/MISSION—AA GUN SHORAD (ZSU-23-4, ZSU-X, ZSU-Y)

- PROVIDES CLOSE-IN AIR DEFENSE PROTECTION TO REGIMENT DURING OFFENSIVE AND DEFENSIVE OPERATIONS.
- PROVIDES PROTECTION AGAINST LOW-FLYING FIXED-WING AND ROTARY WING AIRCRAFT INCLUDING RPVs.
- PROVIDES PRIORITY SUPPORT TO MANEUVER BATTALIONS AND REGIMENTAL HEADQUARTERS.
- IN MARCH COLUMN, INTEGRATED WITH MOTORIZED RIFLE AND TANK ELEMENTS, FIRES ON THE MOVE AND CONTINUES IN MARCH COLUMN.

SOURCE: 4/2-7

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Figure 40. (U) Air Defense Missions/Roles for the 1990s Regiment

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(1195

1. ROLE/MISSION—MANPAD SAM (SA-7, SA-14, SA-14 FO)

- PROVIDES CLOSE-IN AIR DEFENSE PROTECTION TO BATTALION DURING OFFENSIVE AND DEFENSIVE OPERATIONS.
- PROVIDES PROTECTION AGAINST LOW-FLYING FIXED-WING AND ROTARY WING AIRCRAFT.
- PROVIDES PRIORITY SUPPORT TO MOTORIZED RIFLE MANEUVER COMPANIES, TANK COMPANY HEADQUARTERS, AND BATTALION HEADQUARTERS.
- IN MARCH COLUMN, OPERATES INTEGRATED WITH MOTORIZED RIFLE ELEMENTS FIRING FROM ROADSIDE POSITIONS.
- PROVIDES AIR DEFENSE AMBUSH OR ROVING UNIT OPERATIONS.

SOURCE: 4/28

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Figure 41. (U) Air Defense Missions/Roles for the 1990s Battalion

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(9) (u) ~~(S)~~ It is forecast that new technological developments will emerge as the Soviet's response to the major target detection, acquisition and tracking problems imposed by the standoff weapon threat. New warheads with greatly increased lethality are also forecast, along with longer range, increased performance air defense weapons. Regimental and battalion level air defense is expected to have increased fire-power in accordance with the regiment's and battalion's new role as independent maneuver units. Soviet tactics designated to counter direct attacks by penetrating aircraft will undoubtedly be adapted for combat against the standoff weapons. These tactics will evolve as the operational characteristics, limitations and vulnerabilities of the standoff weapons and the new generation of air defense weapons are recognized and understood.(4/2-4)

b. Integrated Air Defense Command, Control, and Communications (U).

(1) (u) ~~(S)~~ During the mid-term period, the tactical air defense system of the Warsaw Pact ground forces will be comprised of nine mobile SAM systems (SA-4, SA-6, SA-8, SA8FO, SA-9, SA-11, SA-X-12, SA-X-12B (ATBM), and SA-13), man-portable SAM systems (SA-7 and SA-14), and two mobile anti-aircraft artillery systems (ZSU-23-4, ZSU-X), as well as a few older towed AAA systems and the road-transportable SA-3 system. The far-term era will see these defense forces modernized by a new generation of weapon systems, the SA-11 FO, SA-12 FO, SA-13 FO, SA-14 FO, a new mobile antiaircraft artillery system (ZSU-Y), and directed energy systems (HEL, EMP, etc). In each new era, the older system will be increasingly replaced by the more advanced weapon systems, particularly in the forward areas.(4/2-9)

(2) (u) ~~(S)~~ The mobile air defense weapon systems, each having different capabilities and roles, require major command and control considerations primarily because of their mobility and employment in tactical situations. The Warsaw Pact has emphasized flexibility in the C^3 systems associated with their ground force air defense systems. Each of the tactical SAM systems can operate either within a command and control network or can operate as autonomous units without any external data. When operating under centralized control, there are provisions for both radio communications and landlines for passing command and control information, for radar diversity, and for redundant and skip echelon communications. Autonomous operations allow for use of on-board sensors to detect targets and are most effective against low-altitude, pop-up type targets.(4/2-9)

(3) (u) ~~(S/NFD/WNINTEL)~~ An upgrading of command and control systems used with the Warsaw Pact ground force air defense systems is expected to occur throughout the 1980s and 1990s, with emphasis on more flexible, higher capacity data transmission systems, and more accurate information processing equipment and procedures. New data systems with these characteristics, are expected to be deployed with the new generation of weapon systems. In addition, the deployment of improved communication equipment to support the air defense command and control networks is expected to continue.(4/2-9)

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(u)
(4) ~~(S)~~ Radio/microwave links will continue to be the primary means of communication. Lasers may also be used for point-to-point communications. More transmitters probably will be physically separated from their antennas and linked by optical fiber, cable, or microwave pipe. Secure speech and on-line encryption equipment, along with burst transmissions, will increase communications security and command post survivability. Dedicated air-ground communications vehicles will be organic to each communications center, while regimental signal companies will have organic forward air control teams. Along with use of support aircraft as flying command posts or relay vehicles, ground air defense forces will have a much greater capability for cooperation with frontal aviation units. (4/2-10)

(u)
(5) ~~(S)~~ The deployment of the new surface-to-air missile systems is expected to require more sophisticated command and control equipment to take advantage of more sophisticated target acquisition and tracking techniques. The new command and control equipment will most likely incorporate automatic encoding of track data to preclude the man-in-the-loop requirement, integrated circuit technology, and a greater computer storage capacity to facilitate handling of a larger number of targets and associated information.(4/2-10)

(u)
(6) ~~(S)~~ During the mid-term and far-term periods, the organizational structure of the Soviet front, as presented in Figure 42, is expected to be basically unchanged. The figure depicts all of the different types of units that could be associated with any given front. Not all fronts would have all of these units present, and many of the units may be modified to suit the particular needs of a front. The Soviet front consists of a headquarters and several subordinate field armies. A combined arms type army consisting primarily of four or five divisions is expected to be the principal army structure for the 90s (Figure 43).(4/2-10)

(u)
(7) ~~(S)~~ Divisions, the major combat units of the armies, have been undergoing organizational development since the late 1960s. This organizational development has resulted in increased integration of combined arms at the divisional echelon. Divisions are postulated to retain four maneuver regiments in the 90s. (4/2-10)

(u)
(8) ~~(S)~~ A motorized rifle and tank "Continuation Division" best estimate representing the divisional structures now (1980) being fielded with 2000 equipment. Their structures are indicated in Figure 44 thru 45. A fifty percent increase in regimental air defense fire-power is forecast for this divisional structure. Equipment is listed on Tables 100 and 101.(4/2-10)

(u)
(9) ~~(S)~~ Airborne divisional structure had already undergone substantial change from its light infantry character of the early 1960s and is becoming more of a light mechanized division. It is expected that this process will continue as lift capabilities continue to expand and as the

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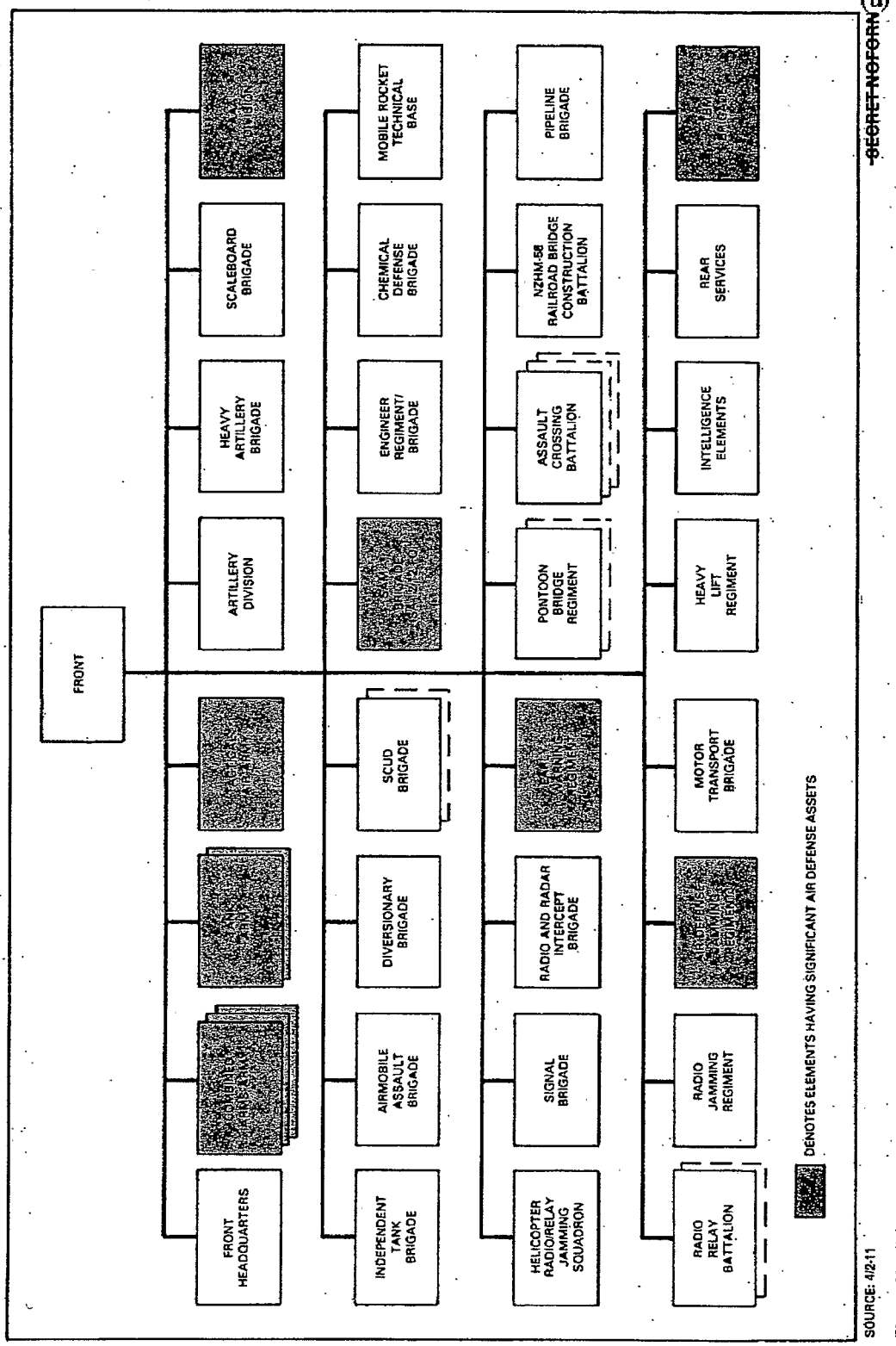

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SOURCE: 412-11

Figure 42. (U) A Soviet Front 2000

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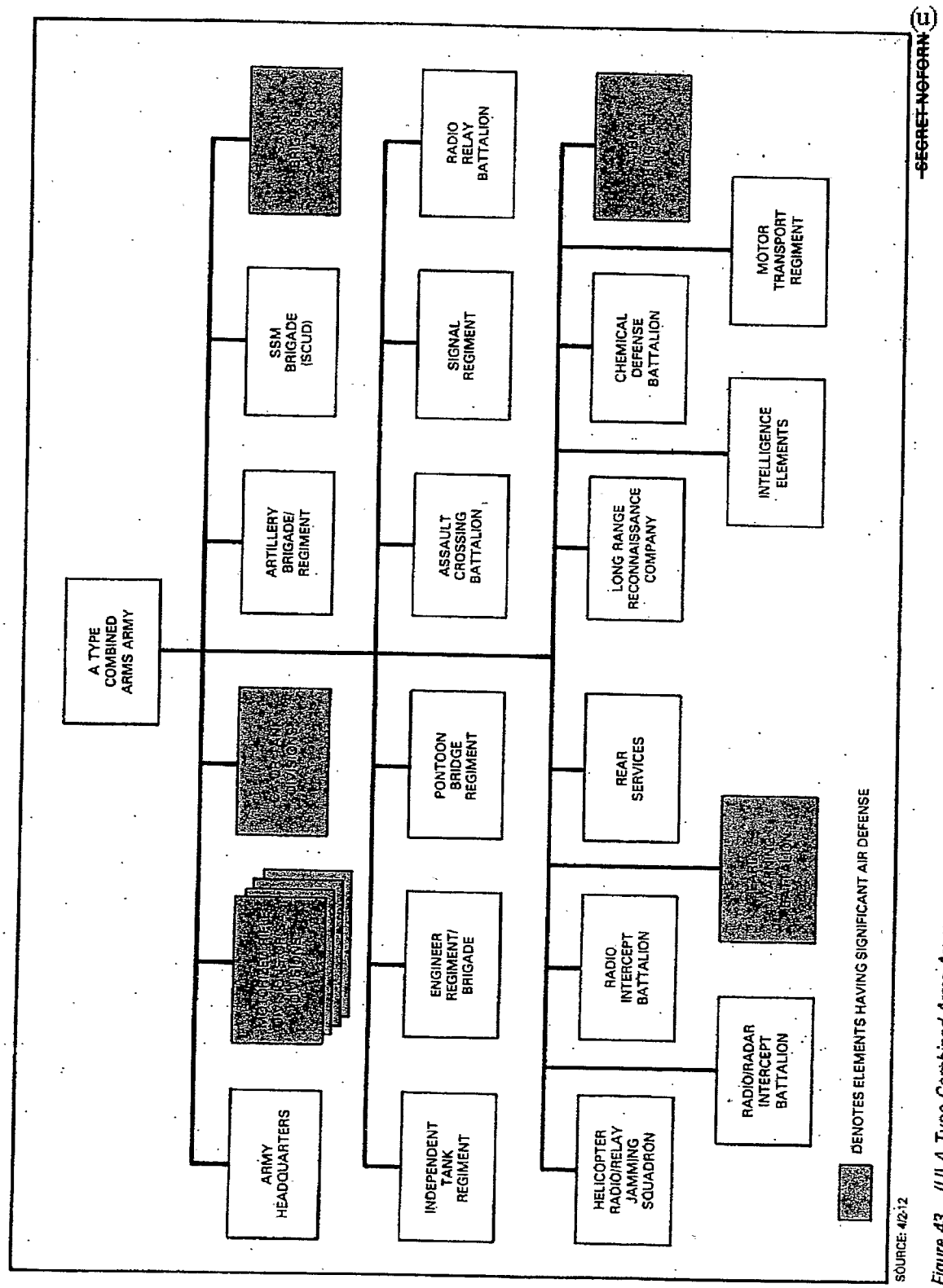

Figure 43. (U) A Type Combined-Arms Army

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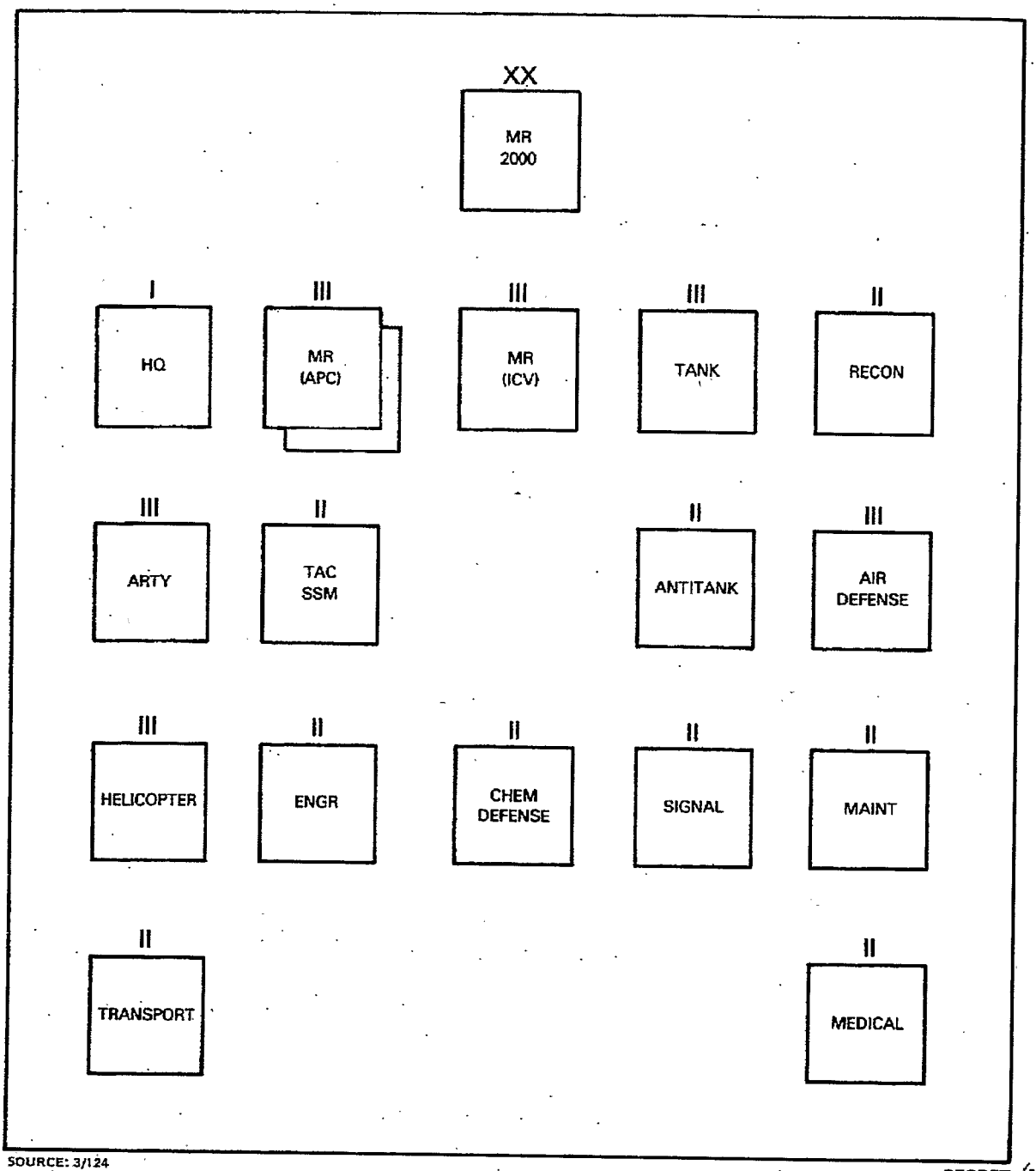

SOURCE: 3/124

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Figure 44. (U) Motorized Rifle Division (Continuation) 2000 Best Estimate Organization

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Table 100. (U) Motorized Rifle Division (Continuation) 2000 Best Estimate Equipment

	ICV MRR	APC MRR (x2)	TK REGT	ARTY REGT	TAC SSM BN	AT BN	ADEF REGT	HELO REGT	RECON BN	ALSO IN DIV	TOTAL
TANK, T-80 F/O	43	86	97						10		236
INFANTRY COMBAT VEHICLE BMP-X	144	12	6						21		183
ARMORED PERS CARRIER BTR-X		312									312
AUTO GRENADE LAUNCHER F/O	18	36									54
SP 82MM AUTO MORT (IMPROVED)	9	18									27
LT 82MM MORTAR	18	36									54
SP 120MM MORTAR	18	36									54
SP HOWITZER-X (122MM OR +)	18	36	12								66
SP 152MM HOWITZER				54							54
GRAD-1 F/O 122MM REGT MRL			6								6
BM-X DIVISION MRL				18							18
SQUAD ATGM	140	292	18	62					18	59	589
MP ATGM AT-X		36									36
VEH ATGM AT-Y	9	18				9					36
TOWED 85MM AT GUN		36									36
SP 125MM F/O AT GUN						12					12
SS-X TACTICAL MISSILE					6						6
MP SAM SA-14 F/O	30	60	3				21		10	6	130
ZSU-X F/O SPAA	4	8	4								16
SA-13 F/O SAM TELAR	4	8	4								16
SA-8 OR SA-11 F/O SAM TELAR							20				20
LPLWS	12	24	9								45
HEL (CCG/ADS)	3	6	3								12
LT OBSER HELICOPTER								12			12
MED CBT SPT HELICOPTER								8			8
FUTURE ATTACK HELICOPTER								12			12
PERSONNEL	2445	5268	1179	1259	208	167	490	294	372	2146	13,828

SOURCE: 3/125

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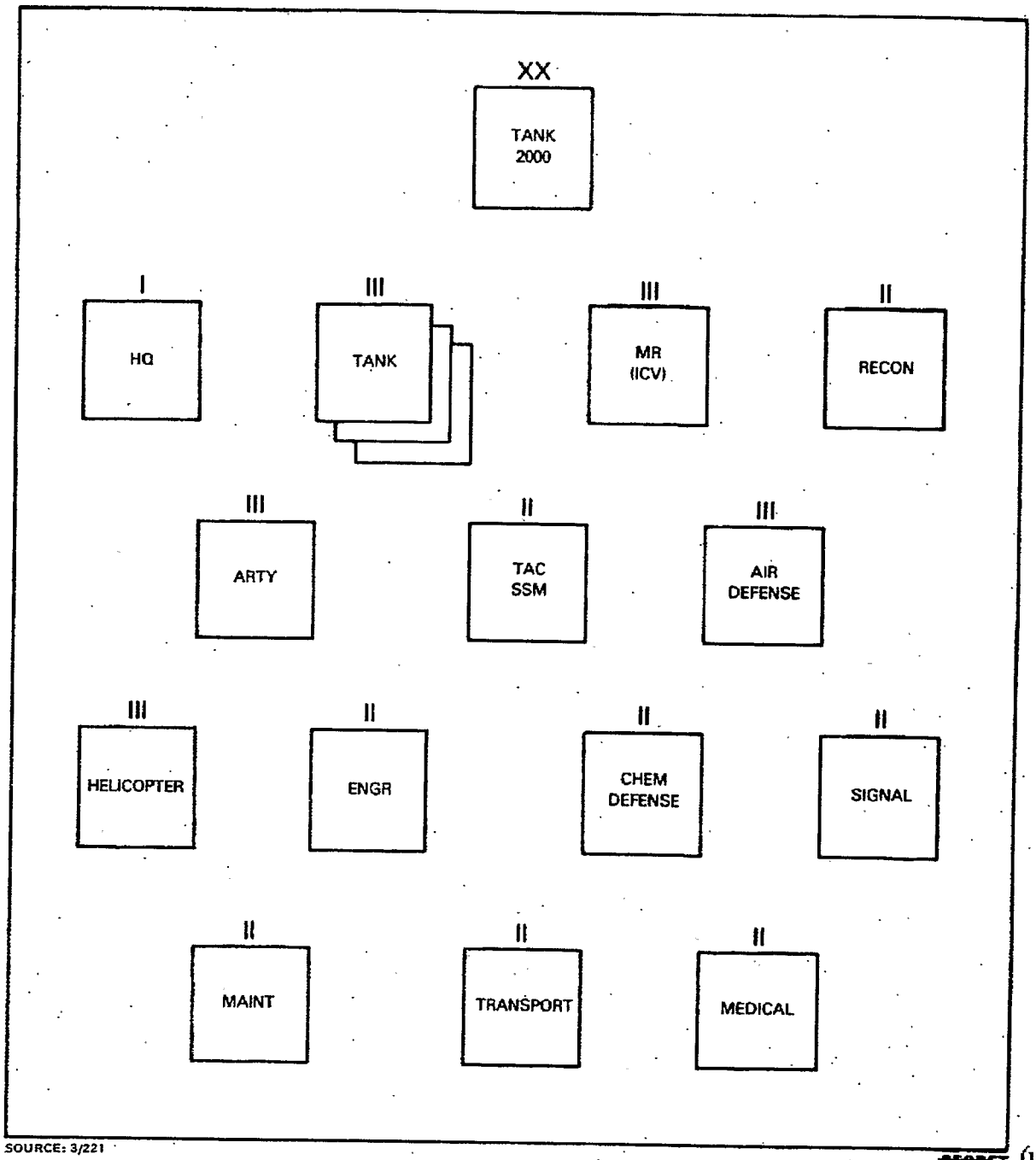

SOURCE: 3/221

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Figure 45. (U) Tank Division (Continuation) 2000 Organization Best Estimate

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Table 101. (U) Tank Division (Continuation) 2000 Best Estimate Equipment

	TK REGT (x3)	MRR (ICV)	ARTY REGT	TAC SSM BN	AD REGT	HELO REGT	RE-CON BN	ALSO IN DIV	TOTAL
TANK, T-80 F/O	291	43					10		344
INFANTRY COMBAT VEHICLE BMP-X	150	144					21		315
AUTO GRENADE LAUNCHER F/O	18	18							36
SP 82MM AUTO MORTAR (IMPROVED)		9							9
SP 120MM MORTAR	18	18							36
SP HOWITZER-X (122MM OR +)	36	18							54
SP 152MM HOWITZER			54						54
GRAD-1 F/O 122MM REGIMENTAL MRL	18								18
BM-X DIVISION MRL			18						18
SQUAD ATGM	99	140	62				18	63	382
VEH ATGM AT-Y		9							9
SS-X TACTICAL MISSILE				6					6
MP SAM SA-14 F/O	36	30			21		10	6	103
ZSU-X F/O SPAA	12	4							16
SA-13 F/O SAM TELAR	12	4							16
SA-8 F/O SAM TELAR OR SA-11 F/O SAM TELAR					20				20
LPLWS	36	12							48
HEL (CCG/ADS)	9	3							12
82MM LT MORTAR	18	18							36
LT OBSER HELICOPTER						12			12
MED CBT SPT HELICOPTER						8			8
FUTURE ATTACK HELICOPTER						12			12
PERSONNEL	4986	2445	1279	208	490	294	372	2146	12,220

SOURCE: 3/172

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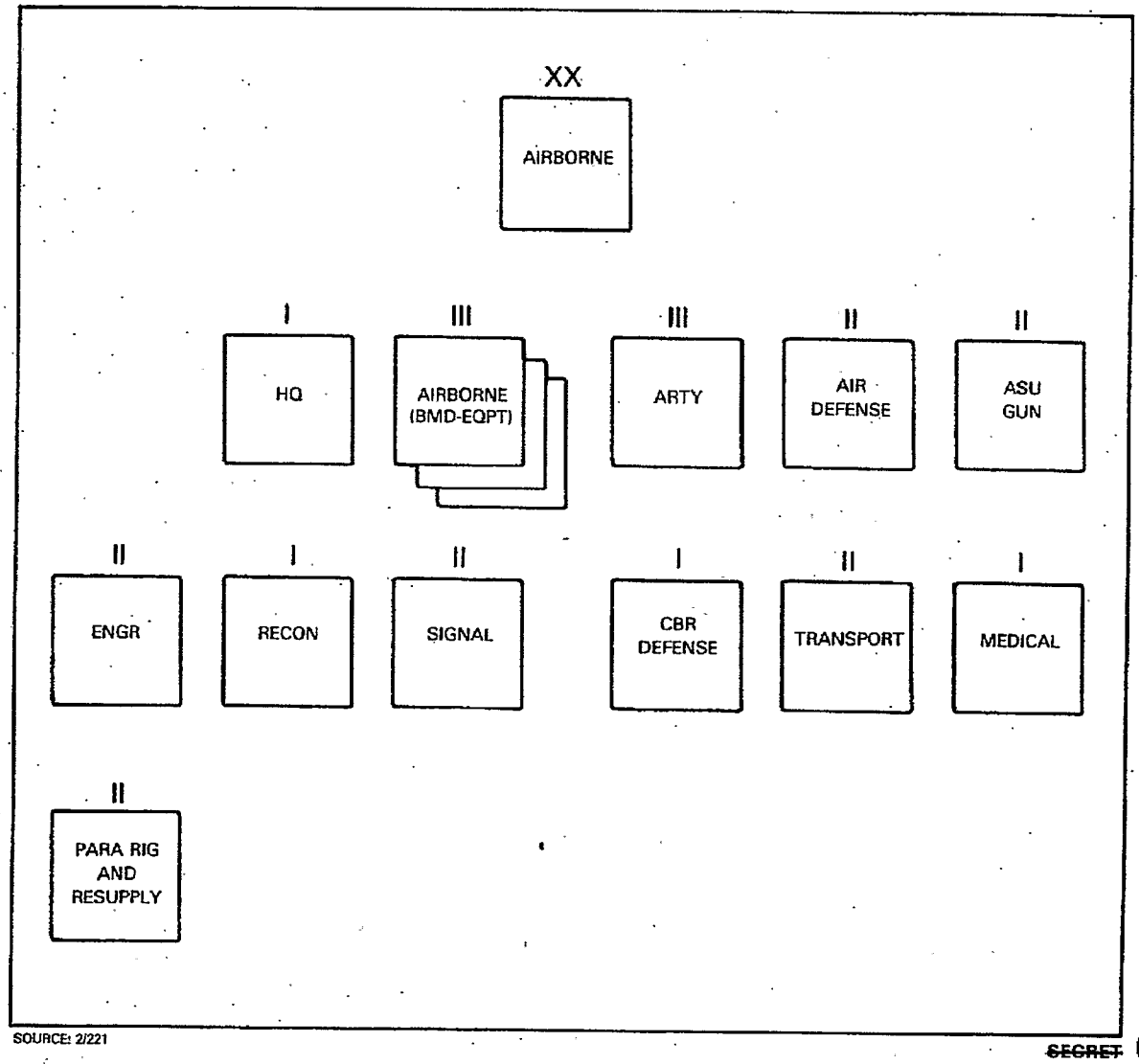

SOURCE: 2/221

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Figure 46. (U) Airborne Division (Continuation) 2000 Organization

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Table 102. (U) Airborne Division (Continuation) 2000 Best Estimate

	ABN REGT (x3)	ARTY REGT	ADEF BN	ASU GUN BN	RECON CO	ALSO IN DIV	TOTAL
AIRBORNE AMPHIB COMMAND VEHICLE	57					4	61
AIRBORNE AMPHIB CBT VEHICLE F/O	270				8		278
AIRBORNE ASSAULT GUN F/O				40			40
SP 120MM MORTAR (ABN VERSION)	18						18
LT 82MM MORTAR	54						54
122MM HOWITZER D-30 (TOWED)		30					30
122MM MRL F/O (TRUCK MOUNTED)		6					6
SQUAD ATGM F/O	333	40		2	9	25	409
VEH ATGM F/O	27						27
SAM VEH (LOW-ALT) (ABN VERSION)	12		16				28
MP SAM SA-14 F/O	117	21	12	12	6	24	192
LPLWS	27						27
AUTO GREN LAU F/O	27						27
PERSONNEL	4707	621	112	216	75	1119	6850

SOURCE: 3/211

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Soviets seek to further increase the offensive capabilities and sustainability of the airborne units. The year-2000 airborne organization is shown in Figure 46. The equipment for this division is given in Table 102. (4/2-15)

c. Deployments of Tactical Air Defense Systems (U).

(u) (1) ~~(S)~~ The Soviet Western TVD forces opposing the NATO Central region are composed of the Groups of Soviet Forces in GDR, Poland, and Czechoslavakia; the Soviet forces in the Western USSR Military districts; and the national forces of GDR, Poland, and Czechoslavakia. The Soviet's total force of over 180 divisions is unevenly equipped and manned, and will almost certainly remain so over the next 20 years. This is due to its great size and corresponding large materiel requirements, which cannot be filled at normal production rates. The readiness status of Soviet divisions may be categorized as follows: Category I, at least seventy-five percent fully manned and fully equipped with modern equipment; Category II, about fifty percent fully manned and with some modern equipment; and Category III, little more than cadre and equipped with older equipment. The Western TVD divisions are well-armed, to present a maximum visible menace and to confront the most serious perceived threat to the Soviet Union. Of the 58 divisions in the Western TVD, eighty-five percent are at least partially armed with the most modern weapons, compared to seventy-two percent for the Soviet Army as a whole. About twenty-three percent have fully modern armament compared to about twelve percent for the entire army.(4/2-26)

(u) (2) ~~(S)~~ The major changes expected are the replacement of older weapons systems by modern ones and the deployment of weapons systems to combat the standoff weapon threat. It is postulated that the SA-12FO will begin to replace the SA-12 in the front and Army air defense brigades during this era. Some of the replaced SA-12s will be used to replace SA-4s in Category II and III divisions in the Western TVD.(4/2-26)

(u) (3) ~~(S)~~ During the far-term period, Category I divisions will have their SA-11 Regiments replaced by SA-11FO equipped Regiments. The SA-8 FO and replaced SA-11 weapons will continue to replace the SA-8 and SA-6 in Regiments providing air defense for Category II and III divisions. The SA-13FO/ZSU-Y Battery is expected to be a direct replacement for the SA-13/ZSU-X Battery in Category I divisions. DIA expects the SA-14FO to be a direct replacement for the SA-14 with a Western TVD date in the mid-90s. Table 103 presents the postulated year-2000 Defensive Missile Order of Battle. Figure 47 presents the mix of old and replacement systems (SA-11/SA-11FO, etc.) expected in the time period based upon historical deployment patterns and production rates.(4/2-26)

d. Early Warning and Surveillance Networks (U).

(u) (1) ~~(S/NFD/WNINTEL)~~ The era of the standoff weapons will require

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Table 103. (U) 2000 Defense Missile Order of Battle

Name	Western TVD	USSR*	Soviet GSF				NSWP			
			GDR	PL	CZ	Total	GDR	PL	CZ	Total
SA-12/12 FO Bde	37	17	8	1	1	10	3	4	3	10
SA-11/11 FO Rgt	47	19	11	1	3	15	4	5	4	13
SA-14/14 FO Lchr	10,000	4,200	2,200	300	600	3,100	800	800	1,100	2,700
SA-8 FO	31	13	8	1	2	11	2	3	2	7
ZSU-23-4/X PN	312	128	76	8	20	104	24	32	24	80
SA-13/13 FO PN	312	128	76	8	20	104	24	32	24	80
ATBM (SA-X-12B) Bde	24	10	8	1	1	10	1	1	2	4

SOURCE: 4/2-28

(U)

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*(U) Belorussian, Baltic and Carpathian Military Districts

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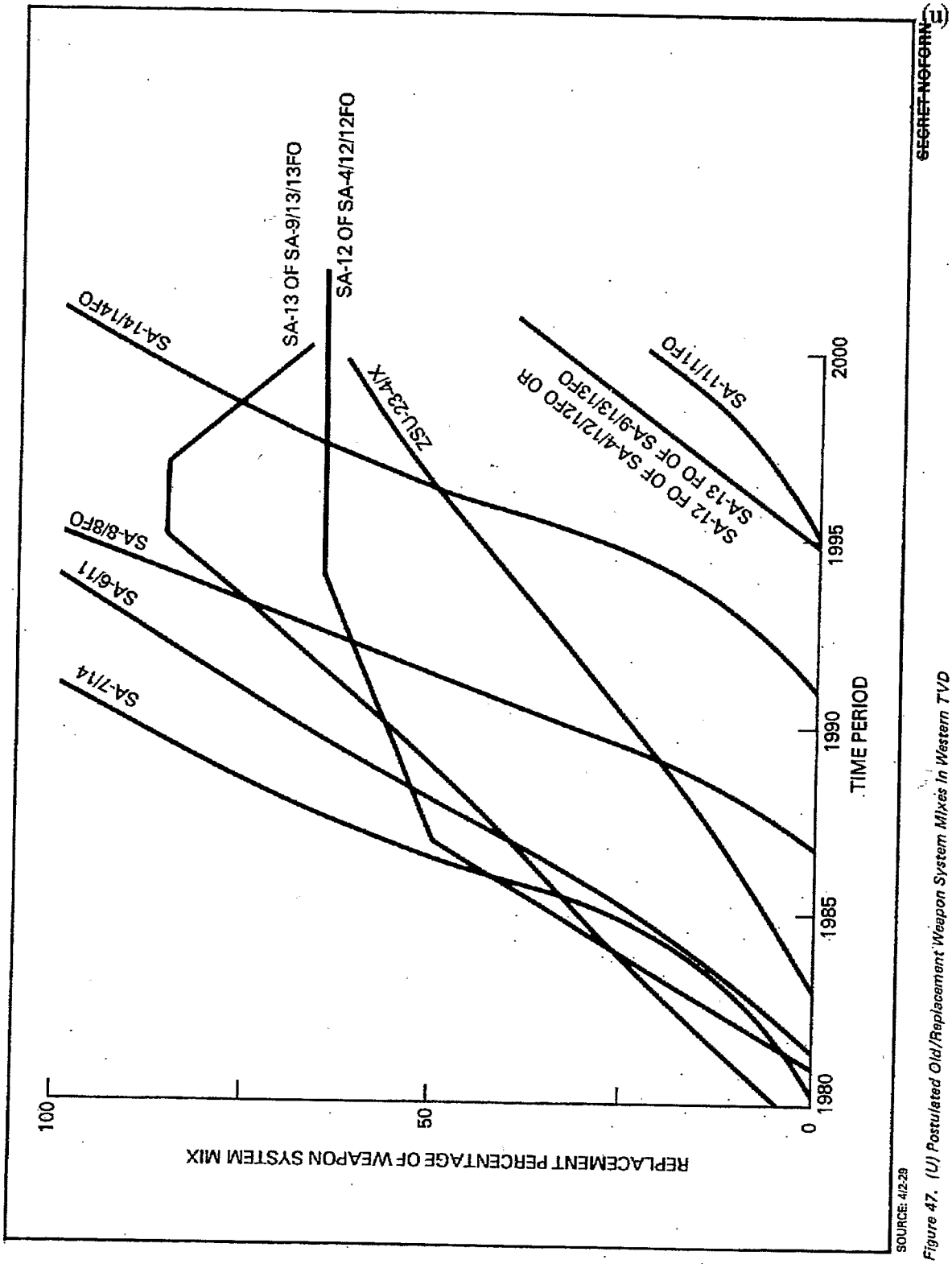

Figure 47. (U) Postulated Old/Replacement Weapon System Mixes in Western TVD

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major changes to the Warsaw Pact early warning and surveillance networks. Higher evaluation coverages will be needed for the tactical ballistic missiles (TBMs) and the precision guided munitions (PGMs), and lower elevation coverage will be necessary for cruise missiles and helicopters flying nap-of-earth profiles. The TBMs and the PGMs will also require the detection of small radar signatures, more-precise tracking, and extended data processing to perform path prediction and discrimination functions. The cruise missile and the platforms for forward acquisition and targeting systems will also require the detection of small radar signatures and extended data processing to discriminate against the many false returns expected in the battlefield environment of the 90s. It is expected that the overland AWACS deployed in the mid-term will be a partial solution to the low altitude coverage problem. It should also be expected that satellite surveillance systems with direct C^3 ties to the battlefield commanders will be employed as part of the early warning and surveillance networks. It is expected that the Soviets will continue to upgrade the capabilties of the networks in terms of ECCM, ground reporting, and information quantity and quality. (4/2-30)

(2) (u) (~~S~~) A basic front surveillance and early warning organization, postulated for the far-term, is shown in Figure 48. The four surveillance system structures of the current time period are:

(a) (u) (~~S~~) The front general early warning network;

(b) (u) (~~S~~) The independent air surveillance network of the Soviet ground armies;

(c) (u) (~~S~~) The Air Defense Sector air surveillance network; and

(d) (u) (~~S~~) The Tactical Air Army GCI sector network.

(3) (u) (~~S~~) These four structures are extended to include a fifth system structure, an earth orbital satellite surveillance network. The satellite network is not a part of the front organization, but supplies EW and surveillance data to the front as part of a more global Soviet integrated information system. The satellite network may, upon request or command, focus its data gathering on the front's sector of the battlefield during period of intense activity. The tactical air army GCI sector network is also shown as extended to include airborne warning and control systems (AWACS). The other three surveillance systems are predicted to have greatly increased coverage and performance capabilities. It is expected that the systems' radars will be replaced by radars capable of performing the aircraft surveillance functions and the standoff weapon functions, or that new radars to perform the standoff weapon functions will be added to the networks. (4/2-30)

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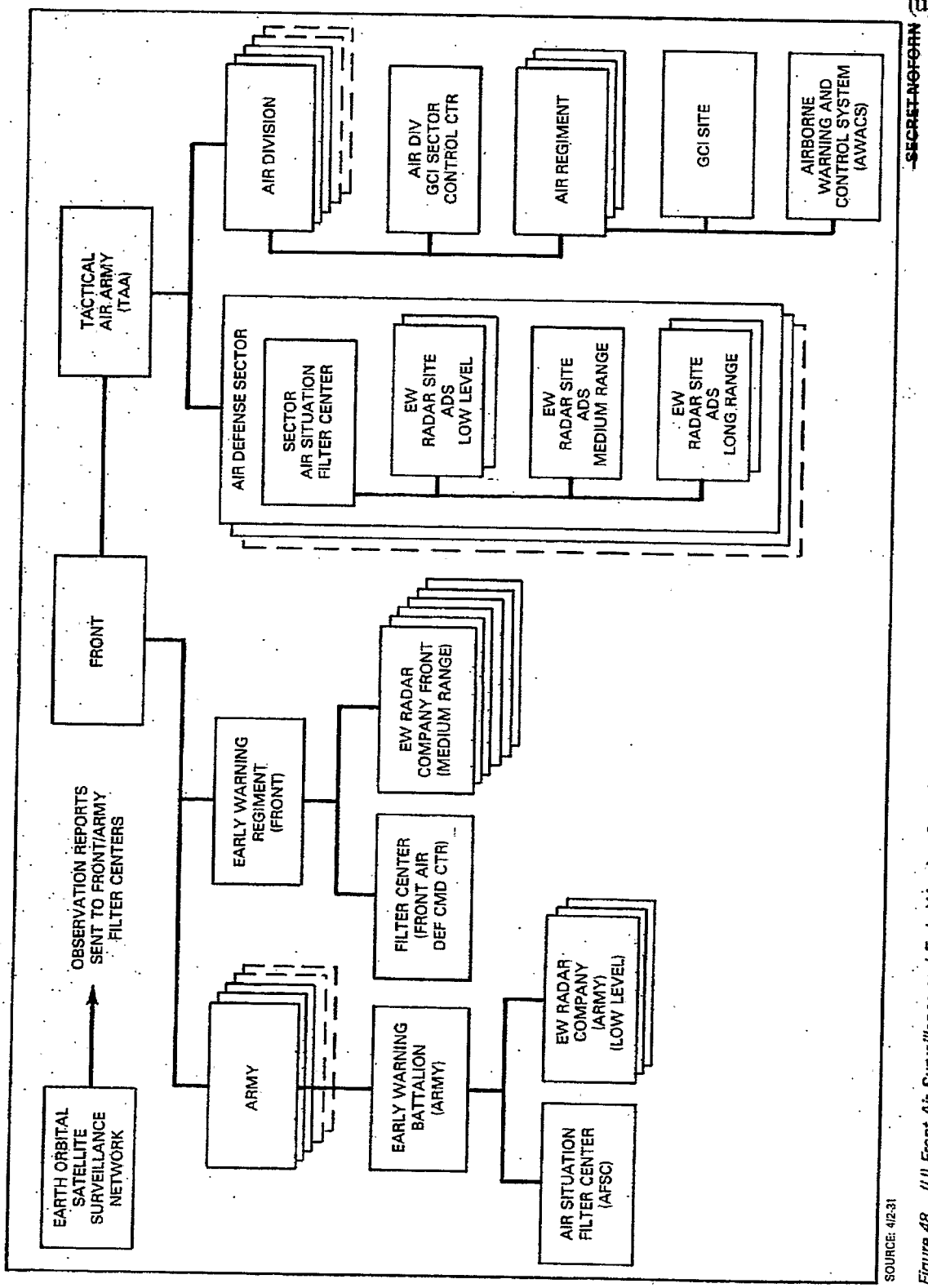

Figure 48. (U) Front Air Surveillance and Early Warning Organization

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SECTION V

CHEMICAL AND BIOLOGICAL AGENTS (U)

1. Introduction (U).

(U) This section contains a general discussion of Soviet tactics, doctrine and employment of chemical and biological agents to the year 2000. Included is a brief description of the types of agents that can be expected to be used by Soviet forces.

2. General (U).

(U) ~~(C)~~ The Soviet Warsaw Pact forces are best prepared of any in the world to conduct offensive or defensive CBR operations. They have a developed and practiced doctrine which is backed up by fully deployed delivery systems, protective equipment and prophylaxes. This doctrine has been thoroughly inculcated in their forces. Thus, they are comfortable with the concepts of integrated operations and mission performance in a contaminated environment, as well as being confident of their ability to exploit them to full advantage.

3. Employment of Chemical and Biological Agents (U).

(b) (1) & (b) (3) per CIA

a. (U) ~~(C)~~ High value activities throughout the theater are potential CB targets. NATO nuclear delivery systems, C^3, transportation and communications junctions, key industrial and population centers, as well as points of debarkation, are examples of the types of activities which could be targets for a CW attack. Distance from the FEBA affords no security. Missiles and SPETSNAZ units are all capable of dispensing CB agents within effective proximity of any of these targets. However, the Soviets could

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use aircraft, MRL's and selected artillery to dispense chemical agents via bomb, rocket, CBU or spray against support sites.

b. ~~(S)~~ The employment of chemical agents can be expected to be phased with less persistent agents being used close to the line of contact and more persistent agents being dispensed against targets/objectives deep in NATO's rear. This would deny or impede their use to NATO and cause "bunching" of deployed assets (e.g., aircraft) at fewer clean sites thus presenting even more inviting targets for attack. At the same time, the degree of contamination would diminish through natural processes, thus simplifying Soviet decontamination and allowing subsequent use to further their operations. Attacks against Rhine River crossing sites (contamination could be maintained by follow-up raids in needed) (b) (1) & (b) (3) per CIA (b) (1) & (b) (3) per CIA could isolate the battle area for Soviet purposes, yet help keep the bridges intact for their subsequent use.

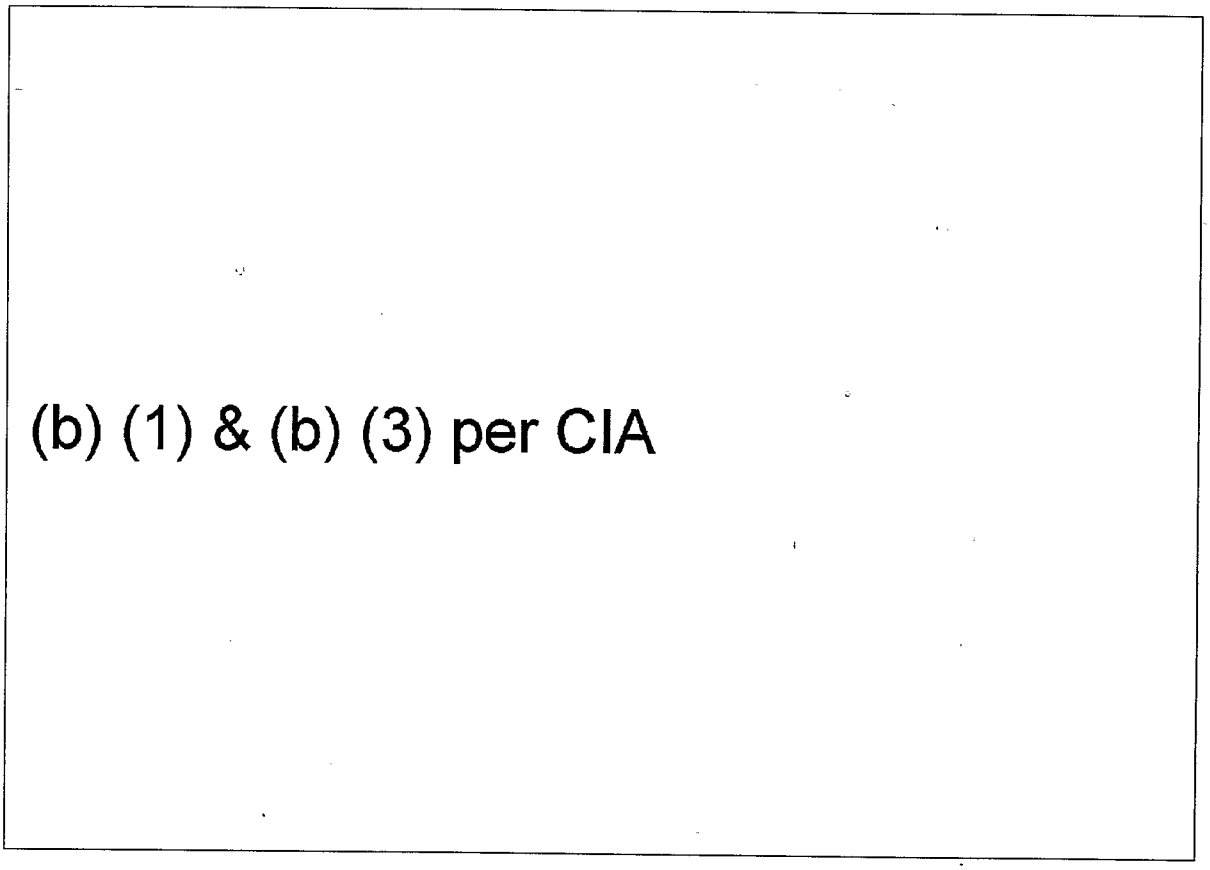
4. Chemical Agents (U).

a. ~~(S)~~ Soviet commanders have a wide variety of chemical delivery systems capable of supporting their operations from the FEBA out to (b) (1) & (b) (3) per CIA Table 104 details the major chemical agents in the Soviet inventory and the associated delivery systems.

b. Agents Descriptions (U).

(b) (1) & (b) (3) per CIA

(b)(1) Per DIA


(b) (1) & (b) (3) per CIA

(b) (1) & (b) (3) per CIA

(b)(1) Per DIA

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Section VI

THE SOVIET AIRMOBILE THREAT (U)

1. Introduction (U).

a. General (U).

(1) (U) Until recently, airborne forces (VDV) were the single focus of air assault tactics and force development. The Soviets were among the first to recognize the potential combat advantage of aerial delivery of troops to the battle area. The moving of ground forces by air and paradropping them onto the battlefield was initially tested by the USSR in the 1930's. These basic concepts were further refined and employed under a broad range of conditions in the crucible of World War II, and provided the USSR with extensive experience to further develop air assault concepts within its overall military doctrine. (28/I-1)

(2) (U) ~~(S)~~ The Soviets have had an airmobile capability since the introduction of troop-carrying helicopters in the mid-1950's. By the early 1970's they had trained an undetermined number of motorized rifle battalions for airmobile operations and formed three airmobile assault brigades. (5/viii)

(3) (U) The US airmobile experience in Vietnam increased Soviet interest in the combat uses of the helicopter. Airmobile operations in Soviet ground force maneuvers increased during the 1970's. Such operations are now standard in military exercises. Since early 1980, Soviet forces in Afghanistan have been conducting airmobile operations in actual combat. (28/III-1)

b. Purpose (U).

(1) (U) The purpose of this section will be to specifically discuss the following four topics:

(a) (U) Current Soviet assets available for airmobile operations;

(b) (U) Doctrine and missions of Soviet airmobile operations;

(c) (U) Current trends of the Soviet airmobile threat; and

(d) (U) Future projections for the Soviet airmobile threat.

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c. Definitions (U).

(1) (U) For the sake of clarity, it is important to define certain key concepts that will be repeatedly referred to in this text:

(a) Airborne landing (vozdushnyy desant) - A Soviet term which refers to either an airmobile operation, a parachute operation, or the deployment of combat-ready troops from fixed-wing transports landing at forward strips. (28/1)

(b) Air assault - A general term encompassing any form of paradrop, airmobile or airlanding operation. (5/I-1)

(c) Parachute-landing (parachyutno-posadochnyy) - a Soviet term referring to when part of the landing force is dropped by parachute and the other alights from airplanes or helicopters. (2/9)

(d) Airlanding - Transport of troops and equipment by fixed-wing aircraft and physically landing them in the battle area. (4/I-1)

(e) Airmobile - Operations and organizations involving the transport of troops and equipment by rotary-wing aircraft and physically landing them in the battle area. (5/I-1)

(2) (U) Both definitions (a) and (b) (airborne landing and air assault) above are all inclusive terms encompassing any form of paradrop, airmobile, or airlanding operation, and may be used interchangeably. However, these terms do not differentiate between the specific type of unit performing the operation, or the specific type of assault to be performed. The differentiations between the various types of air transportable combat units and the specific assault missions they were organized to perform are addressed in paragraphs 2 and 3, Section VI.

2. Current Soviet Assets Available for Airmobile Operations (U).

a. General (U).

(U) Today there are five types of forces which may be transported by rotary-wing aircraft beyond the FEBA:

(1) (U) Airborne,

(2) (U) Motorized Rifle,

(3) (U) Airmobile Assault,

(4) (U) Air assault, and

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(5) (U) Special purpose.

b. Airborne Forces (U).

(u) (1) ~~(S/NOFORN/WNINTEL)~~ Standing airborne forces totalling seven Category I divisions and one training division offer one option. (See Figure 49, (U) "Airborne Division Structure"). The primary function of the airborne forces under the operational control of the Supreme High Command (VGK), will continue to be the performance of theater operational-strategic and strategic paradrops and air landings at a depth in excess of 300 kilometers. However, airborne organizations should not be considered as solely a strategic reserve of the General Staff of the Supreme High Command. In operational landings of regimental or division size at depths of 150-300 kilometers, airborne forces may be used with operational control being delegated to the front by the Supreme High Command. Soviet doctrine and exercises also illustrate that during a period of conventional operations, airborne organizations can be resubordinated by the Supreme High Command to the front for use in an airmobile mode, as is currently taking place in Afghanistan. (28/II-2)

(u) (2) ~~(S/NOFORN/WNINTEL)~~ Although the airborne division's organization and equipment are not designed for complete lift by helicopter, the insurgency in Afghanistan does show that the Soviets can adapt airborne units, given time and operational need, to an airmobile or air assault role. This ability to interchange airborne forces with dedicated specialized airmobile/ air assault units, is more representative of the airborne forces' flexibility to react to a contingent need than a mission-designed role of the airborne. The nature of the mountainous Afghanistan terrain dictates the primary use of the helicopter to transport combat forces by air, while the presence of two airborne divisions attests to the readiness posture, combat proficiency, and versatility expected of the airborne forces.

c. Motorized Rifle Forces (U).

(1) (U) The most immediate tactical airmobile threat from the front is posed by motorized rifle battalions of motorized rifle divisions trained in airmobile techniques. (See Table 105, (U) "Motorized Rifle Battalion BTR-Equipped Motorized Rifle Regiment"). (25/IV-9)

(u) (2) ~~(S/NOFORN)~~ Currently, a minimum of one motorized rifle battalion per motorized rifle division has been trained in airmobile techniques. The firing of live ammunition from airborne helicopters is required once a year for these troops. (5/4)

(3) (U) Soviet motorized rifle troops require a minimum of one day's training in preparation for an airmobile operation. Individual companies require 2 to 4 hours to practice loading and unloading procedures; six or seven hours are required to rehearse the actions required in the

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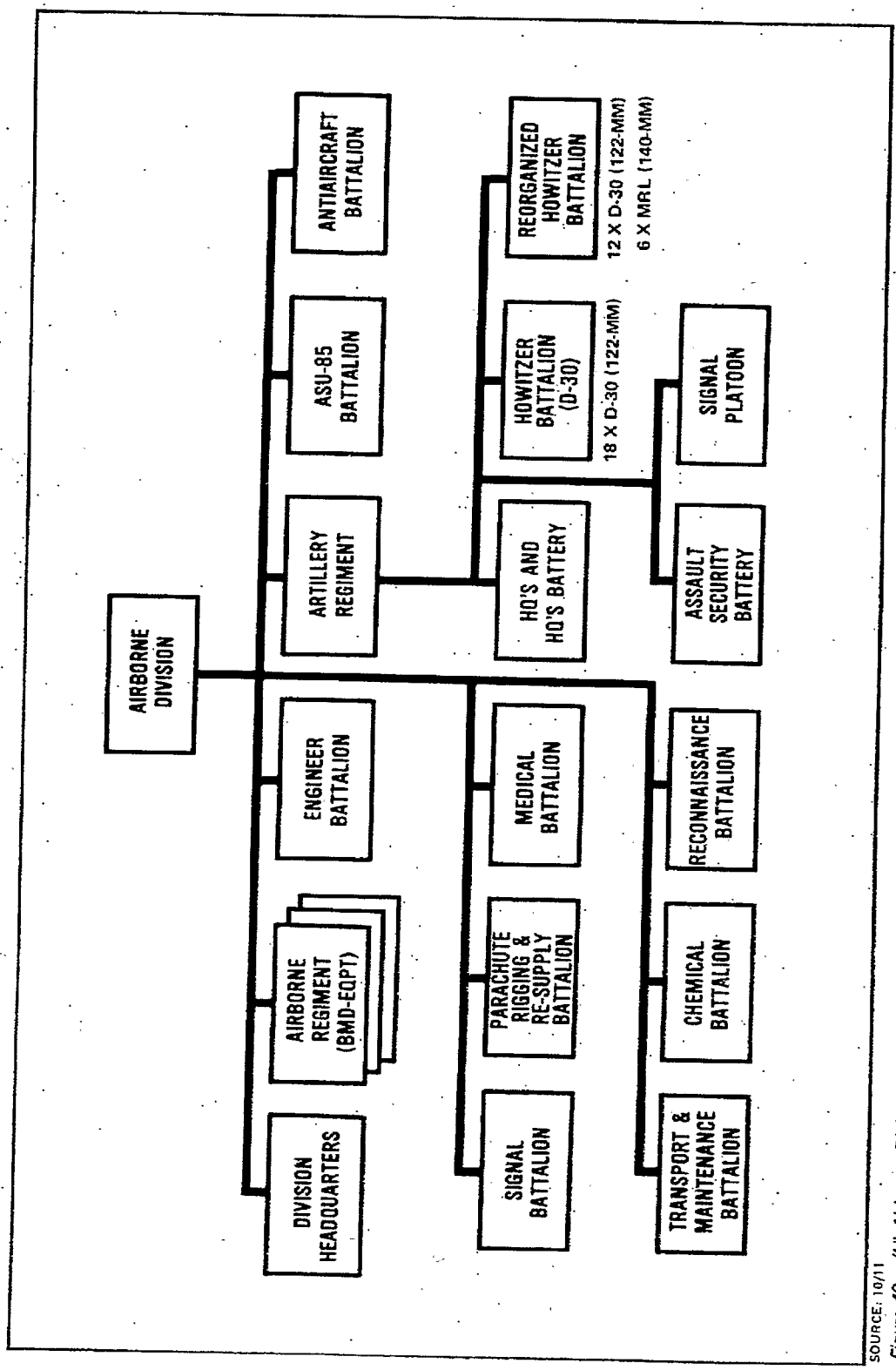

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Figure 49. (U) Airborne Division Structure

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b1 per DIA

departure area prior to embarkation and after landing. (5/18)

(4) (U) The motorized rifle battalion trained as the heliborne assault force will normally be provided by the army's second echelon division, because the division in contact cannot afford a battalion from its second echelon regiment. (5/11)

(5) (u) ~~(S/NOFORN)~~ Using a standard motorized rifle battalion without armored vehicles or non-combat elements, an estimated 16 to 22 MI-8 HIP helicopters would be needed for an airmobile operation. (See Figure 50, (U) "Airmobile Embarkation"). Other augmentations such as towed artillery, reconnaissance, additional antitank units and engineer elements, will necessitate more aircraft. Additionally, the MI-6 HOOK is required to transport any light armored vehicles, such as the BRDM command/reconnaissance vehicle. (25/IV-9)

d. Airmobile Assault Forces (U).

(1) (u) ~~(S/NOFORN)~~ The Soviets established three independent airmobile assault brigades in the middle 1970s. These airmobile assault units consist of motorized rifle forces (not airborne qualified) and are colocated with (a) helicopter unit(s). (5/7)

(2) (u) ~~(S/NOFORN/WNINTEL)~~ All three Soviet independent airmobile assault brigades are located in mountainous border regions with poor overland trafficability. These brigades are at Kutaisi (4216N/4242E), in the Transcaucasus MD opposite Turkey, on the Chinese border at Mogocha (5344N/11944E), in the Transbaykal MD, and at Magdagachi (532722N/1254930E), in the Far East MD. (See Figure 51, (U) "Airmobile Assault Brigade Locations"). The brigades are not likely to be committed against the NATO central region. (25/IV-9)

(3) (u) ~~(S)~~ The location of the airmobile assault brigades in rugged, remote border settings is indicative of their present capability to maneuver and operate in geographic areas where ground mobility is limited.

(4) (u) ~~(S)~~ Information on the organization of Soviet airmobile assault brigades is scarce and incomplete. It is not known if all three brigades are similarly organized. (See Table 106, (U) "Type Airmobile Assault Brigade"). This type brigade is slightly smaller in terms of personnel than a standard motorized rifle regiment (1850 in the brigade vs 2200 in the regiment). To partly offset its lack of infantry combat vehicles, the airmobile assault rifle battalion has more armor-defeating weapons than a standard BTR-equipped motorized rifle battalion. (5/7)

(5) (u) ~~(S/NOFORN/WNINTEL)~~ The possibility exists that the three independent airmobile assault brigades might convert to the TOE structure of

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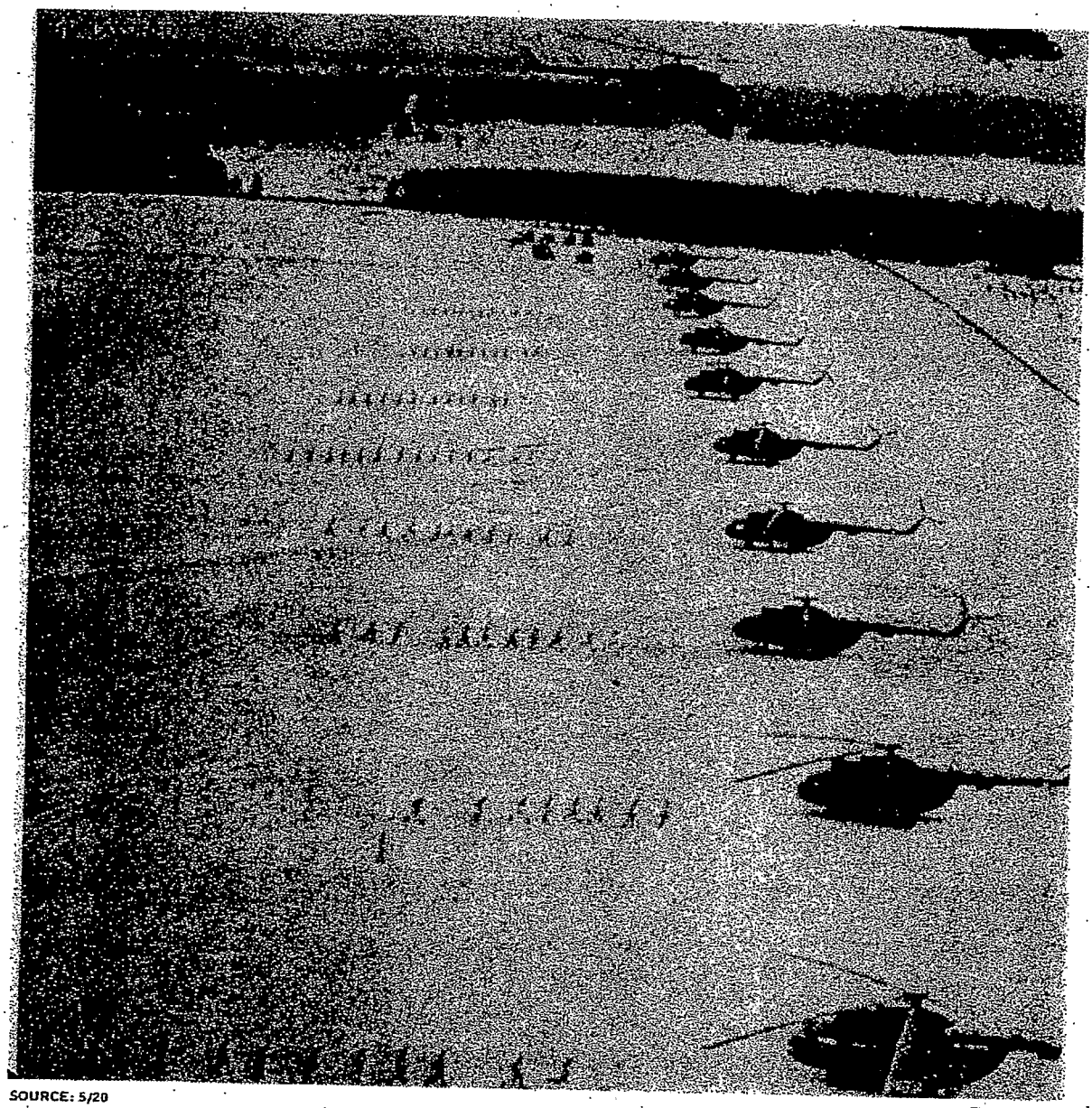

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Figure 50. (U) Airmobile Embarkation

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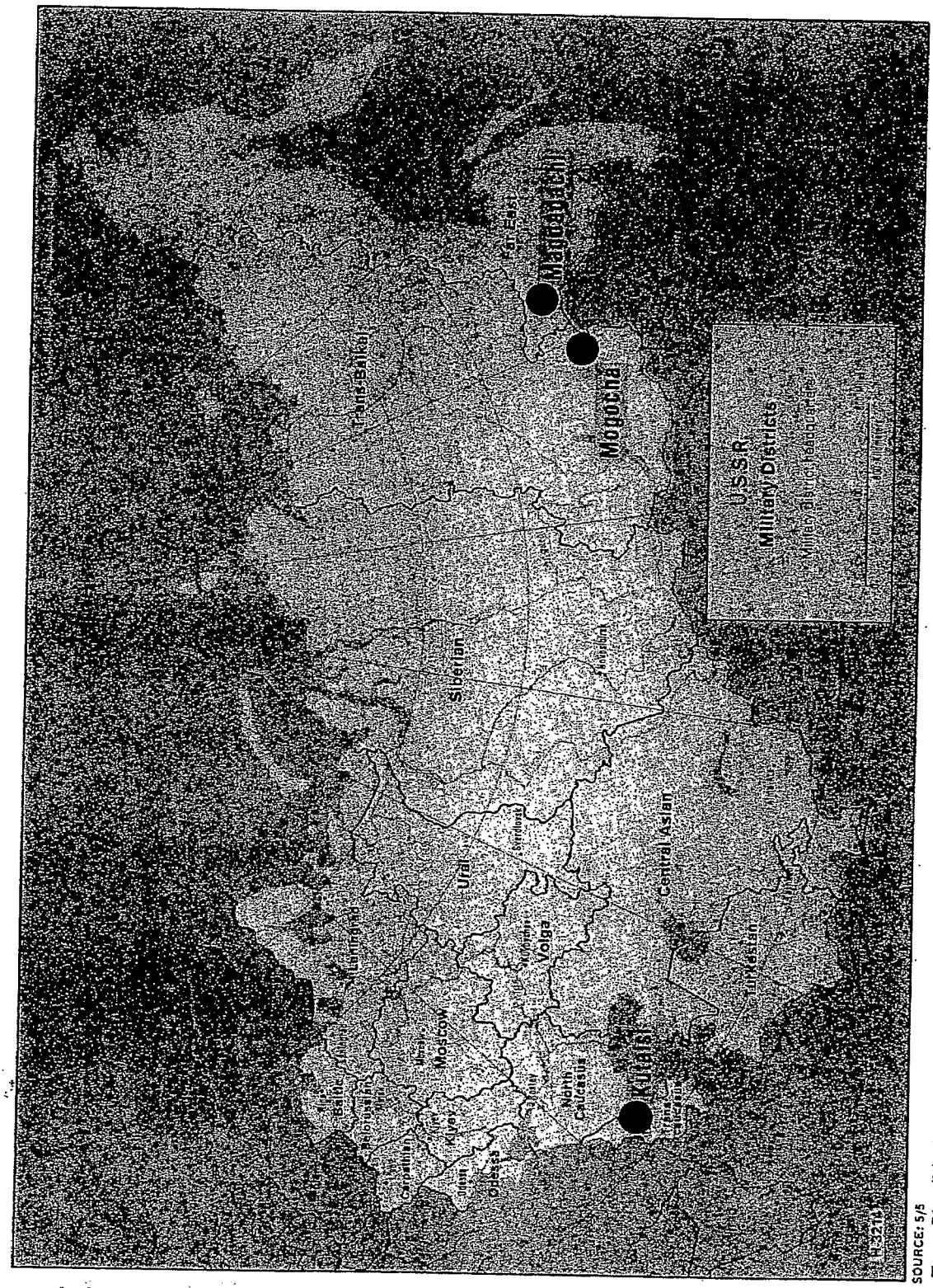

Figure 51. (U) Airmobile Assault Brigade Locations

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b1 per DIA

the air assault brigade, although this is not considered to be a probable occurrence through 1990.

e. Air Assault Forces (U).

(u) (1) ~~(S/NOFORN/WNINTEL)~~ Since January 1980, the Soviets have formed at least eleven* (and possible twelve) air assault brigades (AAB). At least seven (and possibly eight) air assault brigades are located in the USSR, with East Germany, Afghanistan, Czechoslovakia, and Hungary each having one. Air assault brigades differ from air mobile assault brigades in that they have sufficient BMD combat vehicles to equip at least two assault battalions. They also have organic artillery, multiple rocket launchers, air defense and antitank weapons. (See Table 107, (U) "Air Assault Brigade, Front (Assessed Structure)"). The brigade in Afghanistan has been tailored to counter-insurgency requirements, and is generally similar in organizational concept. Air assault brigades and air assault battalions are, respectively, assessed to be front and army level assets to be used by those commanders for special assault roles.

(u) (2) ~~(S/NOFORN)~~ The new air assault brigades have expanded the concept of the airmobile assault brigade with the addition of a paradrop capability. The combat equipment of the air assault brigade offers the military district or front commander the combination of one (and possibly two) parachute assault battalions, and two BMD-equipped battalions to conduct airlanding, airmobile and conventional airborne (paradrop) operations. In addition, the brigade has a reorganized howitzer battalion consisting of D-30 howitzers and GAZ-66 mounted 122mm multiple rocket launchers (M-1975), a mortar battery in each parachute assault battalion, a GAZ-66 equipped airdroppable motor transport unit, a ZSU-23 antiaircraft battery, and service support elements for 2,000 to 2,400 troops.

f. Special Purpose Forces (U).

(u) (1) ~~(S/NOFORN)~~ The final asset available for Soviet airmobile operations is the Special Purpose (SPETZNAZ) Forces, sometimes referred to as diversionary forces. SPETZNAZ units are allegedly assigned on the basis of one brigade per military district, one per front, and one per fleet. Brigade strength seems to vary from 600 to 800, depending on location, with a possibility that it will increase to 1,000 in wartime. There is evidence to indicate that in addition to the front's assigned brigade, SPETZNAZ companies of 10 teams each will be assigned to each combined arms and tank army in wartime. A team may vary from 6 to 12 men depending upon

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*(u) ~~(S/NOFORN/WNINTEL)~~ DIA recognizes only ten Soviet air assault brigades, six at locations in the USSR, with East Germany, Afghanistan, Czechoslovakia, and Hungary each having one.

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the magnitude of the mission. (See Table 108, (U) "Special Operations Force and Diversionary Brigade"). (27/42)

(u)
(2) ~~(S/NOFORN/REL UK and CAN)~~ SPETZNAZ members are generally selected from airborne-qualified personnel, and have, therefore, already received training in operations involving aircraft as a means of transportation. Thus, insertion of SPETZNAZ teams can normally be accomplished by either helicopter or fixed-wing aircraft, depending upon the circumstances. The helicopter offers the ability to insert these teams by flying below radar detection. Therefore, the front-level Special Purpose Brigade, or army-level reconnaissance assets, may employ the helicopter as an insertion means. (27/40,41)

3. Doctrine and Missions of Soviet Airmobile Operations (U).

a. General (U).

(1) (U) Because of the potential interchange of forces, a useful framework in assessing the Soviet air assault capability is the functional mission separation established by their doctrine. In general, the Soviets recognize four levels of air assault operations: strategic, operational, tactical, and special purpose.

(2) (U) The Soviets categorize these four levels based on the number of troops involved in the air assault (size of the unit), the nature of the mission, and the depth of the air assault (i.e. the organizational level the operation would support).

b. Strategic Operations (U).

(u)
(1) ~~(S/REL UK)~~ A strategic operation is planned and conducted under the direct control of the Supreme High Command in order to achieve major theater military or political goals under both nuclear and non-nuclear conditions. The direct and immediate exploitation of a long-range nuclear strike is a principal strategic mission of airborne divisions, although conventional ground troops can be airlanded for this purpose, if necessary.
(28/I-3)

(u)
(2) ~~(S)~~ Strategic operations typically involve seizure of strategically important terrain and installations of military, administrative, political, or economic significance, that are vital to the success of theater operations. Strategic operations are planned at depths in excess of 300 kilometers beyond the FEBA and are expected to be carried out independent of ground forces linkup, for 8-10 days and longer. These depth and linkup parameters render the strategic operation compatible with fixed-wing VDV airborne divisions, and not helicopter-inserted air assault brigades, airmobile assault brigades, or motorized rifle battalions.

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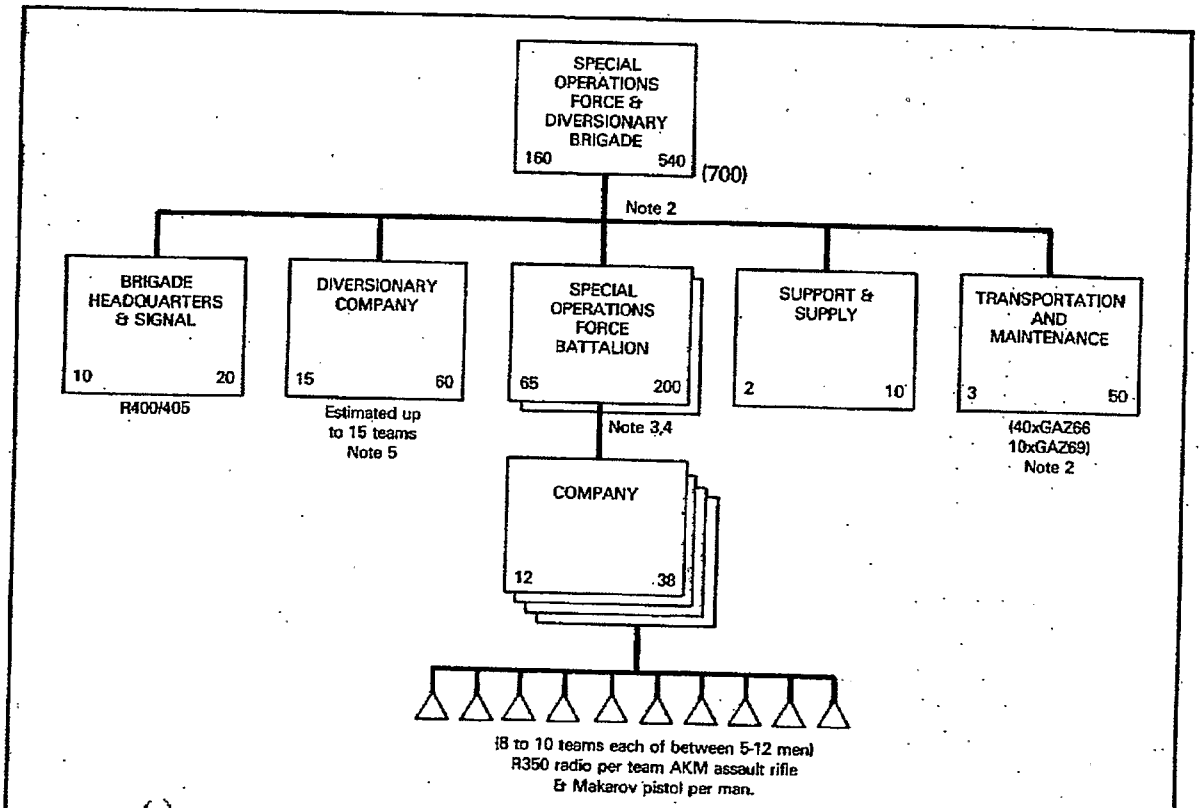
Table 108. (U) Special Operatons Forces Brigade, also Known as Diversionary Brigades (SOF/DB)



NOTES: 1. (u) ~~(S)~~ It is assessed that each front level headquarters would have a SOF/DB assigned.

(u) 2. ~~(S)~~ All strength and equipment figures are estimated. The basic unit is the "team" which has a flexible organization. It is assessed as having between 1 officer + 4 men, to 2 officers + 10 men. The number of teams vary between brigades. The brigade in GSFG is currently the largest, having approximately 700 men in 125 teams.

(u) 3. ~~(S)~~ The existence of battalion and company level headquarters is assumed. They are likely to be necessary for administrative reasons. Brigades may have several battalions in war. In peacetime it is assessed that one battalion provides teams to support the front/MD headquarters and a second battalion provides a centralized headquarters for companies that are allocated to armies for operations or exercises. The number of companies in these "Army" battalions would depend on the number of armies in the front/MD to which the SOF/DB is assigned. The role of SOF/DB troops is likely to vary with the enemy against which they are tasked and the geographic zone of deployment. Their role includes:

a. Reconnaissance from the FEBA to 1000 km behind enemy lines.

b. Sabotage against high value targets such as:

(1) Nuclear weapons

(2) Nuclear delivery means

(3) Air defense radars

(4) Communication centers and headquarters

(5) Key personnel, especially in certain "third world" countries

(u) 4. ~~(S)~~ The SOF battalions may be dual purpose with their teams capable of reconnaissance and sabotage tasks or their primary role may be reconnaissance.

(u) 5. ~~(S)~~ Some brigades may hold a "diversionary" company whose role is to undertake specific sabotage tasks.

(u) 6. ~~(S)~~ Method of operation: SOF/DB troops approach their targets using stealth and clandestine means and rely mainly on surprise in the attack.

SOURCE: 17/260

~~SECRET~~ (u)

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c. Operational Operations (U).

(u) (1) ~~(S/NOFORN)~~ Operational airborne missions support the general concept of a Soviet front combat plan. Operational missions are considered to be those conducted at a depth of 150-300 kilometers beyond the FEBA or, at least, in the enemy's corps rear area or beyond.

(u) (2) ~~(S/NOFORN)~~ Units conducting operational airborne assaults are expected to carry out operations from 3-5 days or longer before ground force linkup. Potential missions are securing bridgeheads, blocking or delaying enemy reserves, securing air landing or river crossing sites, seizing other key terrain, leap-frogging contaminated areas to exploit the results of NBC strikes, encircling enemy forces, destroying enemy nuclear delivery means, and destroying communications centers and other vital installations in the enemy rear area. Again, the depth of employment and link-up requirements of the operational operation preclude the use of air assault brigades, airmobile assault brigades, and motorized rifle battalions in the airmobile mode.

(u) (3) ~~(S/NOFORN)~~ Operational-tactical airborne assaults are operations which overlap both operational and tactical categories in terms of depth of employment, size of force, level of control and mission. The assault may be carried out to depths as great as 150 kilometers, in the case of the airborne division/regiment and air assault brigade, or up to 50 or more kilometers by the airmobile assault brigade or air assault battalion. Potential missions parallel those of operational assaults; however, the landing force is expected to operate in the rear area over a significantly reduced period. (28/I-3)

d. Tactical Operations (U).

(u) (1) ~~(S/NOFORN)~~ Tactical airborne assaults consist of operations in support of army first echelon divisions. These operations involve battalion or, at times, company-sized heliborne insertions of primarily regular motorized rifle troops at depths under 20 kilometers. Tactical missions, while essentially the same as operational-tactical missions, primarily are directed at forward-disposed objectives that assist the advance of combat divisions. The landing force is expected to carry out operations for only a few hours before a quick linkup by ground forces.

(u) (2) ~~(C)~~ Theoretically, motorized rifle battalions may be inserted by helicopter in enemy territory as much as 50 kilometers or more beyond the FEBA, but in actual exercises the distance has been within 15 kilometers of the FEBA; e.g., within range of friendly division artillery. Linkup with an advancing friendly main force comes within 6 hours, or as early as 2 to 3 hours if heavily engaged. The above linkup requirement exists primarily for

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non-BMD-equipped motorized rifle battalions and airmobile assault battalions, and not for air assault battalions accompanied by organic BMD support. (5/viii,4)

e. Special Purpose Operations (U).

(u) ~~(S/REL UK)~~ Special purpose operations involve units of up to a reinforced company in size performing reconnaissance and raid missions. Forces with a special purpose mission may reconnoiter or destroy enemy nuclear weapons, guide friendly aircraft to the target or drop zone, capture new combat equipment and weapons, destroy airfields, communications and logistics facilities, and perform terrorist and other sabotage acts. (28/I-4)

f. Soviet Airmobile Missions* (U).

(1) (U) The first mission priority for an airmobile unit is to destroy enemy nuclear delivery means, and the second is to disrupt his command and control system. Today, in general, a single heliborne air assault by front forces is not likely to exceed a task force battalion with reinforcements. (5/4, 18; 28/III-2)

(2) (u) ~~(S/REL UK)~~ In support of front and army operations against first echelon enemy divisions in the tactical zone, and reserve and support forces in the enemy operational-tactical zone, the Soviets envision airmobile attacks to perform these missions: (28/6,7)

(a) (U) Destroy nuclear strike capability;

(b) (U) Promote the momentum of the ground offensive;

(c) (U) Exploit nuclear or conventional strikes;

(d) (U) Block the commitment of reserves or withdrawals;

(e) (U) Seize key terrain such as river crossing sites mountain passes, etc. (See Figure 52, (U) "Fourth Day of Exercise: "Neman", July 26, 1979. A river crossing by "Red" forces);

(f) (U) Breach barriers;

---

* (u) ~~(C)~~ Soviet doctrine on the types of missions that an airmobile force may receive was revealed in The Motorized Rifle Battalion in a Tactical Airborne Landing, a 1969 book which remains the principal Soviet open source on the subject. (5/4)

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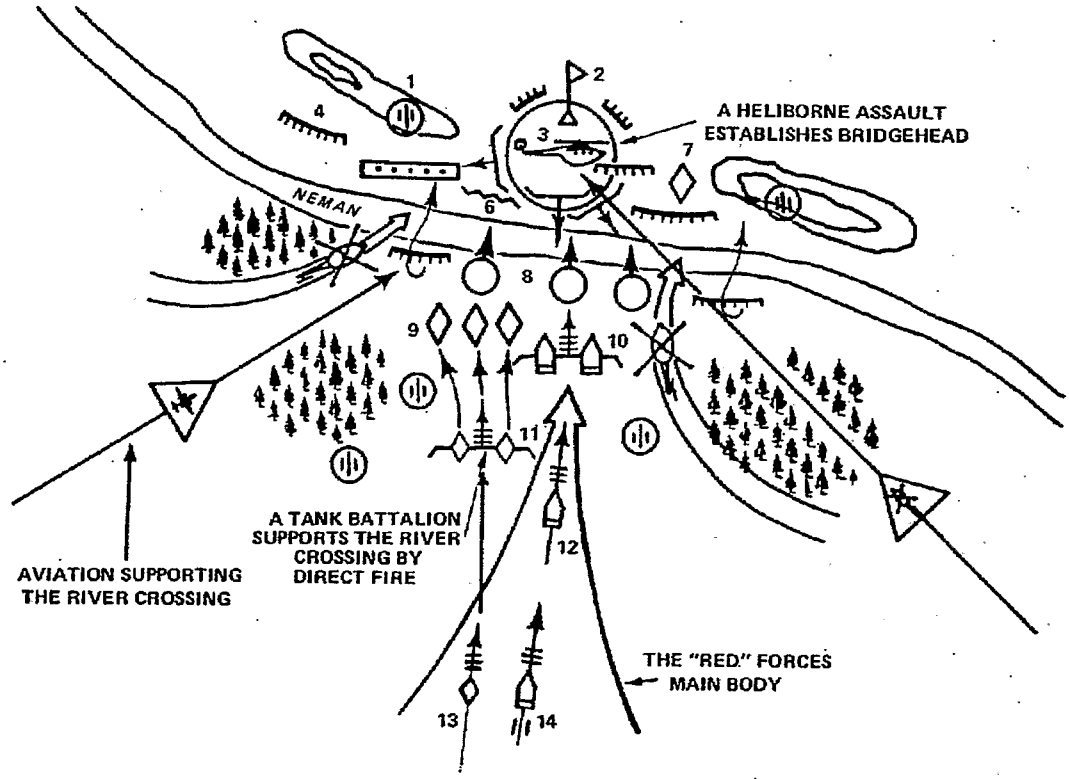

1. ENEMY ARTILLERY FIRING POSITION
2. BATTALION COMMAND POST
3. HELICOPTER LANDING
4. ENEMY DEFENSIVE POSITION
5. MINEFIELD
6. DEFENSE OBSTACLES
7. ENEMY TANK ENTRENCHED
8. RECONNAISSANCE PATROLS
9. TANKS IN DIRECT FIRE POSITIONS
10. MR BATTALION IN ATTACK FORMATION
11. TANK BATTALION IN THE ATTACK
12. MR BATTALION IN AN APPROACH FORMATION
13. TANK BATTALION
14. COLUMN OF MR BATTALION WITH ARTILLERY

AIRMOBILE OPERATION IN SUPPORT OF A RIVER CROSSING. IN THIS RECENT EXAMPLE, A RED HELIBORNE ASSAULT FORCE DEFEATED A DEFENDING BLUE UNIT AND ENABLED THE RED MAIN BODY TO CROSS THE NEMAN RIVER (BALTIC MILITARY DISTRICT).

SOURCE: 5/12

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Figure 52. (U) Fourth Day of Exercise "Neman," July 26, 1979. A River Crossing by "Red" Forces.

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(g) (U) Reinforce advance units and disorganize march formations in a meeting engagement;

(h) (U) Disrupt rear area command and support functions (See Figure 53, (U) "A Motorized Rifle Battalion (Reinforced), Landed by Helicopter, Assaults an Enemy Command and Control Facility");

(i) (U) Block penetrations and function as an anti-air assault force in the defense (See Figure 54, (U) "Airmobile Operation in the Enemy's Rear Area"); and

(j) (U) Conduct reconnaissance and security.

4. Current Trends of the Soviet Airmobile Threat (U).

a. General (U).

(u) ~~(S/NOFORN/WNINTEL)~~ Currently, the Soviets are most capable of conducting successful airmobile assaults (supported by tactical air and helicopter gunships) with the three established airmobile assault brigades and the 11 (and possibly 12) air assault brigades that have been identified since January 1980.

b. Air Assault Units (U).

(u) (1) ~~(S/NOFORN/WNINTEL/REL UK, CA, AUS, NZ)~~ In addition to these 11-12 air assault brigades assigned to the military district or front, the Soviets have selectively organized and deployed independent air assault battalions at the army level. This air assault battalion will function similarly to the air assault brigade, only at army level. Thus, the air assault battalion would be inserted several kilometers in front of the main battle lines of an army or army corps to seize key terrain features, destroy nuclear delivery systems, or perform other specialized missions.

(u) (2) ~~(S/NOFORN/WNINTEL/REL TO NATO)~~ Perhaps the most significant fact about the newly organized air assault brigades is their probable subordination to the military district or front commander, and their exponential rate of growth from zero to 11 (and possibly 12) brigades since January 1980. For the first time, the field commander has an organic asset that is well equipped, highly mobile, and capable of conducting airborne, heliborne and air landing missions in the enemy's rear. This is a significant increase in the commander's capabilities and greatly increases the threat to NATO units, especially those behind the front line combat units.

c. Air Assault Brigade Assumptions (U).

(u) (1) ~~(S)~~ Two assumptions underlie the operational employment hypothesized for air assault brigades. First, it is assumed that the brigade

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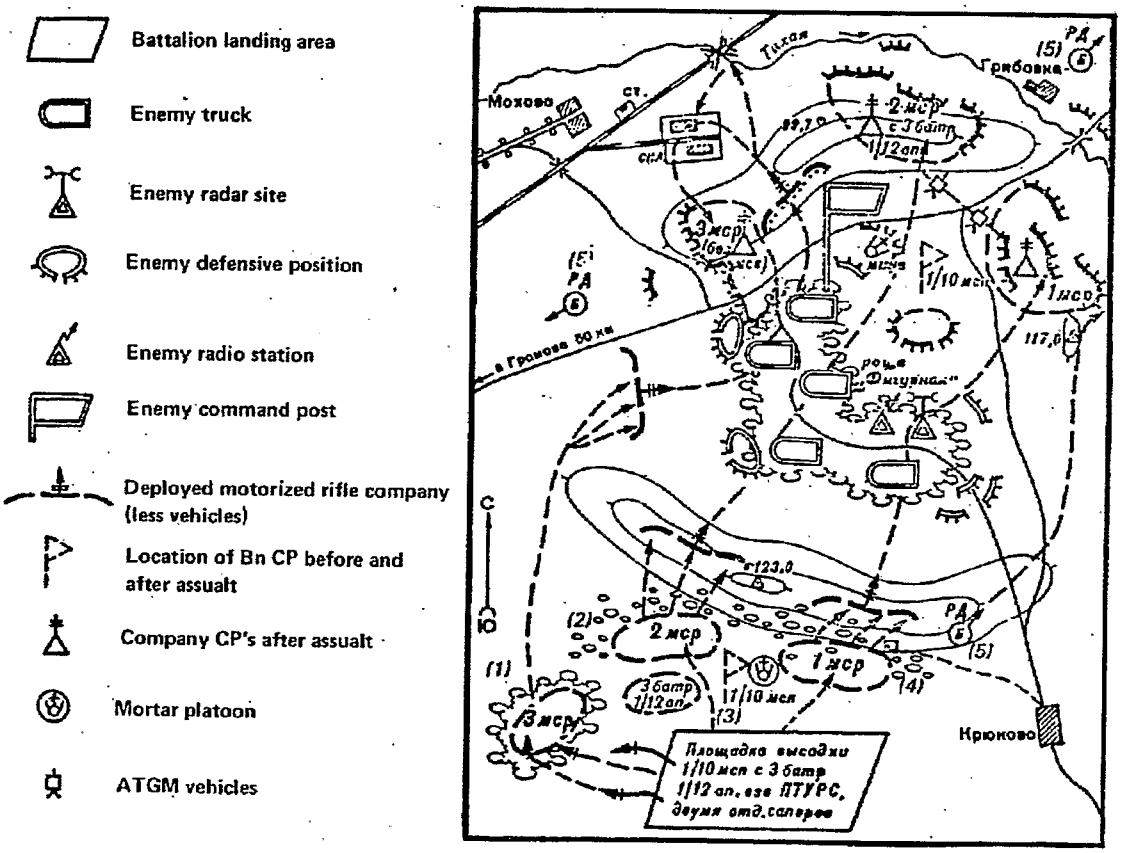

The battalion, reinforced with a battery of artillery, a platoon of antitank guided missile vehicles, and two squads of sappers attack an enemy company-sized command and control facility. Battalion attacks with 3 companies in line. (1) 3d motorized rifle company, minus a platoon, attacks on the left, overruns enemy command post (CP), destroys bridge, overruns supply dump and digs in on high ground immediately to south of supply dump. (2) 2d motorized rifle company attacks in center, overruns enemy position and digs in. (3) Battalion CP and supporting artillery (e.g. 122mm howitzer) follows 2d motorized rifle company. (4) 1st motorized rifle company attacks on right, overruns the radio station, the radar site, and digs in. (5) Reconnaissance squads, constituted from one platoon of 3rd motorized rifle company, move outward from objective in search of approaching enemy units.

SOURCE: 5/16

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Figure 53. (U) A Motorized Rifle Battalion (Reinforced), Landed by Helicopter, Assaults an Enemy Command and Control Facility.

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A Motorized Rifle Battalion Is Landed in the Enemy's Rear Area, by Helicopter to Seize and Hold Two Bridges and an Important Road Junction in Support of Advancing Friendly Forces. Each company establishes a strong defensive position based on three platoon strongpoints. The battalion's mortar battery (six 120-mm mortars) is positioned centrally to support all three companies.

SOURCE: 5/20

Figure 54. (U) Airmobile Operation in the Enemy's Rear Area

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will have two BMD-equipped and two parachute-assault battalions. (See Table 107). So far, no more than the equivalent of two BMD battalions has been identified with any brigade. If these brigades were to have three BMD battalions, greater external (to front) airlift support would be required, thus seeming to contradict the concept of providing the front commander with organic air-assault assets, and then forcing him to request additional General Staff (GS) support. (12/4)

(2) (u) ~~(S)~~ Further, most front organizations have helicopter assets sufficient to conduct two simultaneous battalion-size operations. Airlift for BMDs could only be internally provided by MI-6/HOOK helicopters with all external support provided by Military Transport Aviation (VTA). In wartime, VTA would primarily be committed to support VDV operations and may be unavailable for extensive assignment to front air assault brigades. Second, while it is theoretically possible that an air assault brigade could be employed as an integral unit, it is considered more likely that it will be a mission-tailored battalion-size organization. This tailored organization could obtain additional artillery fire support from the reorganized howitzer battalion of the air assault brigade. (12/4)

d. Role of the BMD (U).

(1) (u) ~~(S)~~ The combination of increased-organic fire support, BMDs, and an airborne/heliborne capability inherent to the air assault brigade structure, indicates a desire to extend operations deeper into the enemy's rear area where the need to sustain operations is greater than the capabilities of lightly-armed heliborne forces.

(2) (u) ~~(S/REL UK)~~ The BMD airborne amphibious combat vehicle (AACV) may perform any of three principal roles in the air assault. First, BMD platoons may be dispatched to reconnoiter routes, objectives, and enemy strengths ahead of the main body. Second, due to its antitank capability, the BMD may be deployed to positions on likely avenues of armor approach to reduce the vulnerability of the main body to armor attack. Finally, the BMD may accompany the main assault element to the airborne objective to maintain momentum and promote shock effect. In this role, the BMD will generally lead dismounted airborne troops. However, in close country, or when encountering effective antitank fire, dismounted troops will lead the BMD. (See Table 109, (U) "Airborne Amphibious Combat Vehicle BMD"). (28/II-12)

(3) (u) ~~(S)~~ The equipping of airborne and air assault units with the BMD gives them the capability to shift from "land and hold" missions, to those emphasizing maneuver to accomplish additional objectives at significant distances from the original landing area and objective. Raids on targets in proximity to the direction of maneuver is part of the shift towards achieving multiple objectives in the rear area over a period of days. The mobility, protection, and firepower of the BMD, in the Soviet perception, gives airborne troops the ability to execute such maneuvers

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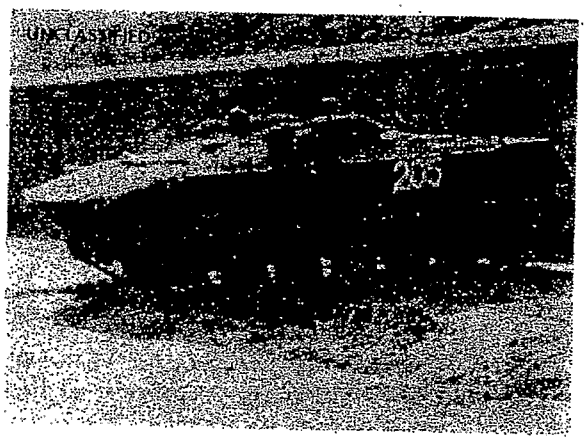
Table 109. (U) Airborne Amphibious Combat Vehicle BMD

BMD



BMD VARIANT

(S) The BMD airborne amphibious combat vehicle has been in the hands of Soviet units since at least 1970. That year, it was observed during the DVINA Exercises. It was first displayed in public during the 1973 November Parade in Moscow. The vehicle serves as the basic personnel carrier for airborne troops. It is air-droppable and amphibious. It has virtually the same turret and gun found on the BMP.

(S) The BMD variant was first observed during the Soviet invasion of Afghanistan during 1979. The significant differences from the basic system are the removal of the turret, the addition of a sixth roadwheel, and three outer support rollers versus two on the basic system. The variant probably is used in a number of roles, including command and control, as a prime mover for mortars, and as a personnel carrier.

CHARACTERISTICS AND PERFORMANCE

Vehicle:	
Weight, combat loaded	7.5mt
Length (BMD)	5.4m
(Variant)	6.0m
Width	2.55m
Height (BMD)	1.77m
(Variant)	1.4m
Engine type	176kw (240hp) (de-tuned BMP V-6 diesel)
Suspension	Variable hydro-pneumatic spring system
Ground Clearance	From 100-450mm
Maximum road speed	60km/hr.
Amphibious	Yes—Hydrojet propulsion
Speed in water	10km/hr.
CBR	Full collective protection CBR system and PAZ radiological protection system
Compass	Yes—Direction gyro
Night Sights	Passive—Same as found on BMP
Personnel load w/driver-crew	7 or 8 (total)
Armament	
Gun	73mm smoothbore
Ammunition	PG-15P HEAT ROUNDS
Effective range	800 meters
Basic load	40 rounds
Missile	AT-3 Sagger
Maximum range	3000 meters
Basic load	3
Machineguns	One 7.62mm PKT coaxial; two 7.62mm PKT in bow
Basic load	1500 rounds in six boxes

SOURCE: 8/2-52

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without becoming decisively engaged, as is highly probable with foot-mobile airborne units.

f. Projected Air Assault Brigade Missions (U).

(1) (u) ~~(S)~~ The air assault brigade's primary offensive missions will be those capitalizing on its mobility, greater tactical "reach", firepower, and sustainability. (See Figure 55, (U) "Air Assault Brigade Missions"). (12/4)

(2) (u) ~~(S)~~ One key operation, which would appear to uniquely fit the air assault brigade TOE, might be best termed a "leapfrog" operation. This would involve the designation of ultimate and intermediate objectives along an axis of advance. In this operation, a heliborne, battalion-sized task force would seize an intermediate objective 15 to 20 km forward of the FEBA, while a similarly sized BMD task force would bypass the intermediate objective and attack and hold an objective deeper in the enmey's rear, astride the axis of advance. This type of operation would be conducted in conjunction with a front offensive designed to achieve a breakthrough along that axis of advance. The more lightly armed heliborne force would be given the closer objective, because it would be within range of friendly front artillery for additional fire support, and would be quickly relieved by advancing combat units. The BMD-equipped force, with its greater firepower, would be better suited for sustaining itself farther behind the FEBA. This unit's terrain objective, probably 35 to 50 km forward of the FEBA, would need to be held for about 24 hours. (12/5)

(3) (u) ~~(S/NOFORN)~~ A similar use of the air assault brigade is foreseen in connection with what has been referred to in a Polish open source journal as an operational exploitation force, or operational maneuver group* (OMG).

(4) (u) ~~(S/NOFORN)~~ The OMG concept envisions the leading echelons of the combined arms and tank armies attacking on a broad front over several army axes, seeking rapidly to overwhelm and penetrate the enemy's forward defenses. Highly mobile exploitation formations, as large as a tank army, will move behind the leading attack echelons. As early in the offensive as possible, these OMG formations will attempt to drive through gaps and weak sectors formed in the enemy's defense toward objectives deep in the defender's operational rear (the enemy's corps rear area). Helicopters will be a primary source of air support to these formations, especially during movement at night, assisting in command and control and providing fire

* A recent article in the Polish open source journal, Review of Air and Air Defense Forces, (June 1981), identified these formations as operational maneuver groups of the army (OMGA).

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(U)

THE AIR ASSAULT BRIGADE'S PRIMARY OFFENSIVE MISSIONS WILL BE THOSE CAPITALIZING ON ITS MOBILITY, GREATER TACTICAL "REACH," FIREPOWER AND SUSTAINABILITY.

PROBABLE MISSIONS:

- RAIDS TO DESTROY NUCLEAR DELIVERY MEANS
- BLOCKING OPERATIONS
- DELAYING OPERATIONS
- SCREENING OPERATIONS
- RECONNAISSANCE-IN-FORCE
- FEINTS
- DISRUPTION OF C^3 OPERATIONS
- ECONOMY-OF-FORCE OPERATIONS
- LEAPFROG OPERATIONS
- OPERATIONAL MANEUVER GROUP SUPPORT OPERATIONS

SECRET/NOFORN

SOURCE: 12/4

Figure 55. (U) Air Assault Brigade Missions

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support at the objective. Helicopters also would be useful in moving air assault brigade elements beyond the FEBA to enable their close interaction with the mobile formations. (See Figure 56, (U) "Air Assault Operation in Support of the Operational Maneuver Group"). These formations will seek to rapidly destroy enemy nuclear weapons and reserves, prevent lateral reinforcement, and destroy supply lines and C^3. These mobile formations are distinct from second echelons, and are probably intended for earlier commitment. Their employment would present the enemy with a difficult decision whether to commit significant forces against them, and thereby diminish the amount of force available for commitment against the main body, or ignore them and risk the impending loss of key geographical objectives and the command, control and logistic support elements located in the rear area.

(5) (u) ~~(S)~~ Other missions that air assault brigades could perform include flank security and screening. In addition, they could also function as mobile front reserves to counter or delay enemy forces that may have penetrated defenses. In this latter role, the brigade, representing one of the commander's most mobile units, could be committed as a whole. (12/5)

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5. Future Projections (U).

a. Uncertainties (U).

(U) Projecting changes in Soviet airborne, airmobile, and air assault force structures, organizations, and concepts of employment 10-20 years in the future are subject to a number of uncertainties. Among these are the nature of technological developments, airlift resources, the nature of the NATO defenses perceived by the Soviets, and the development of tactics, operational art and strategy. Some important uncertainties are listed below:

(1) (U) What impact will result from the development of high energy lasers, radio frequency damage weapons, and similar weapons technology on the survivability of air transportable combat forces being transported by fixed wing aircraft and helicopters over the battlefield?

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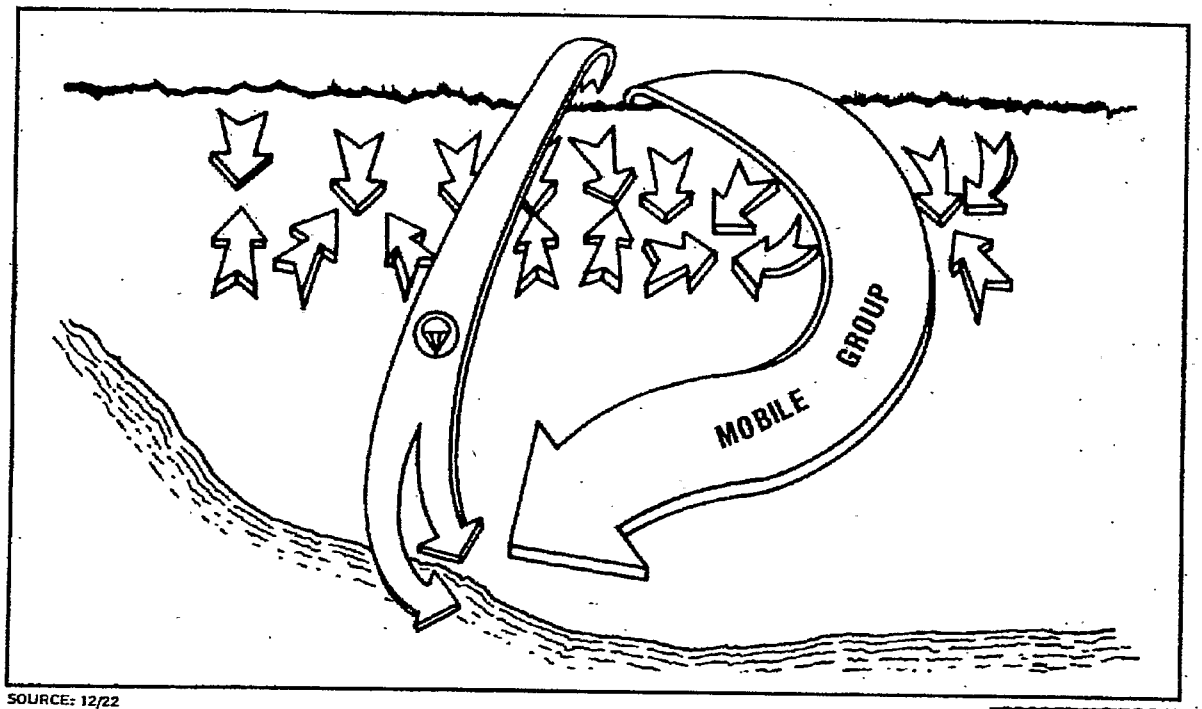

SOURCE: 12/22

Figure 56. (U) Air Assault Units Seizing a Major River Crossing

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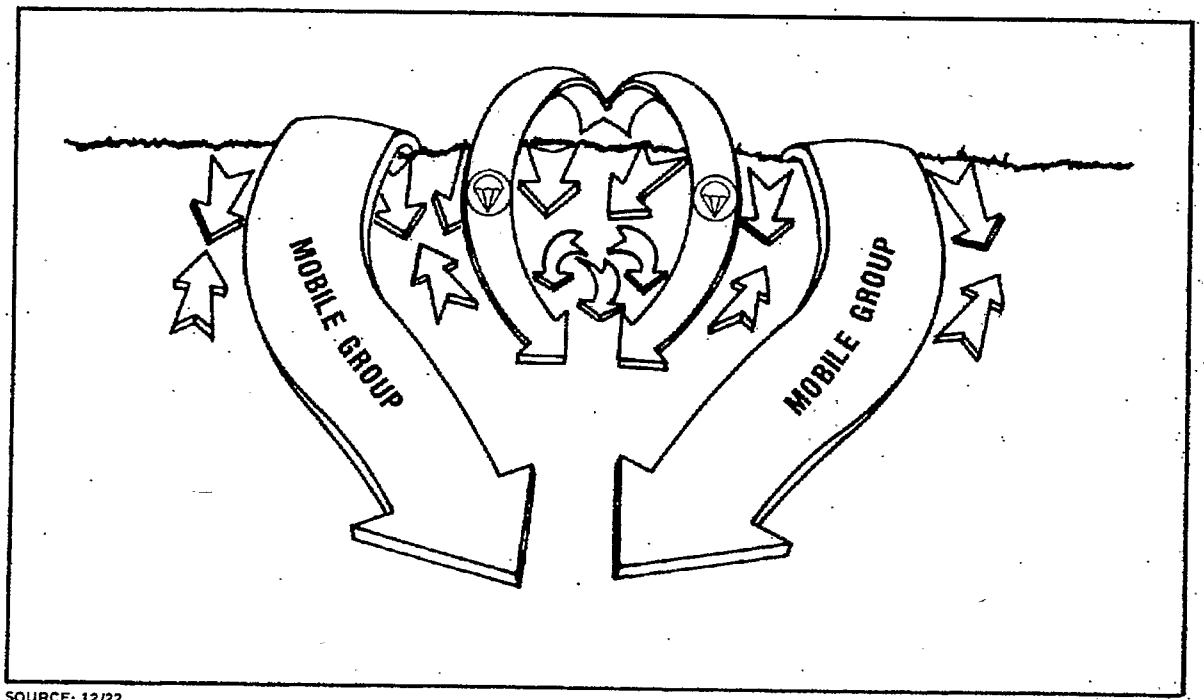

SOURCE: 12/22

Figure 57. (U) Air Assault Units Blocking a Withdrawal

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(2) (U) What impact will economic constraints, declining rates of population growth, and demographic shifts have upon future Soviet force developments?

(3) (u) ~~(S)~~ What new or improved measures will be integrated into present Soviet methods of neutralizing NATO air defenses within planned corridors to permit air movement?

(4) (u) ~~(S)~~ How will the Soviets approach the balance of airlift between the needs of the front and the priorities for employing VTA? Will there be a major effort to develop new Short Take-off and Landing (STOL) tactical transports for the front requirement?

b. Trends (U).

(u) ~~(C)~~ Since the 1960's, Soviet air transportable combat forces have increased quantitatively and in diversity. The Soviets' commitment to the importance of airborne, airmobile, and air assault operations at all levels of the theater offensive will continue to increase.

(1) (u) ~~(C)~~ This trend will likely continue into the year 2000. The Soviets will continue to consider these forces as a means of focusing combat action in the enemy rear area to accomplish key tasks, and increase the speed of offensive operations from division through theater level.

(2) (U) The Soviet effort to develop air transportable combat forces in the next twenty years is likely to be characterized by:

(a) (u) ~~(C)~~ Retention of a full spectrum of air transportable combat capabilities: airborne, air assault, airmobile, and special purpose;

(b) (u) ~~(C)~~ An increase in the reach, sustainability, and lift capability of air transportable combat forces;

(c) (u) ~~(S/NOFORN)~~ Retention at theater and front levels, of the airborne forces' capability to accomplish deeper landings of 150 or more kilometers, which will require a larger focus of combat force, greater duration of operations prior to linkup, and more orientation towards active maneuver to accomplish multiple tasks over time; and by

(d) (u) ~~(S)~~ Planning a front and army level, that will probably continue to be focused on developing more air assault brigades and battalions, independent of airborne divisions, to carry out combined parachute/heliborne landings to accomplish most front and army operational-tactical tasks.

(3) (u) ~~(S/NOFORN/WNINTEL)~~ Air assault unit force structure is expected to continue to increase over the next twenty years as lift resources permit greater capability to support the advance of ground formations.

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The substance of this increase might include:

(u) (a) ~~(S/NOFORN/WNINTEL)~~ Retention of one air assault brigade at front level, or perhaps the addition of a second brigade. A brigade might be tasked to operate in support of an army making the main thrust of a front attack. It could also be tasked to support an army operating ahead of, or on a separate axis from, the front main forces carrying out an exploitation deep into the theater area; maneuvering deep to execute a turning movement against a major enemy force to break open the main attack; or maneuvering deep to engage or block the advance of a corps' equivalent enemy reserve;

(u) (b) ~~(S/NOFORN/WNINTEL)~~ Provision of an organic air assault battalion to each combined arms army or tank army, up to an air assault regiment (3 Battalions) to some tank armies; and

(u) (c) ~~S/NOFORN/WNINTEL)~~ Possible experimentation with the integration of helicopters in the tank division to enhance its exploitation capability. One option might be to leave only the motorized rifle battalions organic to tank regiments with infantry combat vehicles, while converting the motorized rifle regiment organic to the tank division into an airmobile or air assault regiment.

c. Lift Projections (U).

b1 per DIA

(3)(u)~~(S/NOFORN)~~ The AN-72 COALER short range, short take off and landing (STOL) transport has been tested since 1977, and although production plans are uncertain, an IOC of 1982 has been projected. The aircraft is

assessed capable of lifting 4.4 metric tons to 1,400 nm (2,600 km) and 7.5 metric tons to 530 nm (980 km) with maximum combination of fuel and payload. Initial assessments of the aircraft suggested it could be a flight evaluation vehicle as a prelude to development of a transport of larger size, and projected numbers of aircraft were based on existing intra-theater logistics support functions only. This assessment predated the formation of air assault brigades, which could impose additional requirements in airlift regiments. By 1990, only about 240 were projected for assignment to administrative and logistics functions, augmenting about 210 AN-12 CUB transports. While it is uncertain what role the AN-12 CUB, AN-72 STOL, or a follow-on STOL might have in reducing front airlift requirements from VTA for air assault brigade operations, the impact must be projected as a positive one.

d. Equipment Projections (U)

(1) (u) ~~(S/NOFORN/WNINTEL)~~ Airmobile equipment projections from 1980 to the year 2000 will primarily be a function of the rate of growth of helicopter assets and their capability to lift new types of equipment into combat. The deployment of the MI-26/HALO A (IOC 1982) heavy-lift helicopters will provide the capability to internally lift all types of airborne combat equipment and vehicles, up to 100 combat-loaded troops, or a combination thereof. For this reason, airborne equipment with projected IOC's between 1980-2000 can also be considered probable candidates for selective inclusion in the TOEs of the air assault brigades and Special Purpose Forces brigades.

(2) (u) ~~(S/NOFORN/WNINTEL)~~ Equipment projections for the motorized rifle battalion (BTR-equipped) used in the airmobile mode will not vary from the standard projections for a motorized rifle battalion (see Chapter 6, Tables 36 through 74; and Chapter 4). However, due to the task force nature of the motorized rifle battalion in the airmobile mode, additional division equipment may be necessary to enhance survivability, sustainability and firepower, once the battalion is on the ground.

(3) (u) ~~(S/NOFORN/WNINTEL)~~ The three independent airmobile assault brigades are not projected to significantly change their primarily motorized rifle equipment listings from now until the year 2000. Select pieces of light equipment (projected for the airborne division from 1980-2000), such as additional 82mm and 120mm mortars, the 85mm antitank gun, the manportable AT-7 antitank guided missile, and the ZSU-X air defense weapon, can be considered as probable candidates for inclusion in the TOEs of the airmobile assault brigades. These equipment projections will significantly enhance the airmobile assault brigades' antitank, antipersonnel, and air defense capabilities. Inclusion of the airborne amphibious combat vehicle (AAVCV) BMD, and the assault gun follow-on (ASG-FO), are considered improbable considering the severe terrain constraints of the locations of the airmobile assault brigades, and the additional lift requirements their inclusion would generate.

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b1 per DIA

e. Force Projections (U).

(U) (~~S/NOFORN/WNINTEL~~) As discussed in Chapter 4, paragraph 16, all airborne divisions of the Soviet Airborne Forces (VDV) are projected by 1985 to once again be based within the USSR. This projection includes the withdrawal of the 103rd GAD from Afghanistan and its return to Vitebsk in the Belorussian, Military District, and the reconstitution and return of the 105th GAD from Afghanistan to Fergana in the Turkestan, Military District. The addition of an eighth Category I airborne division in the Far East TVD is also projected during the 1990-2000 timeframe, in keeping with the perceived increasing Chinese threat and the subsequent increase of 11 MRDs for the FETVD from 1980-2000.

(U) (~~S/NOFORN/WNINTEL~~) By 1990, the number of Soviet air assault brigades is projected to increase from the current 11 or 12 to a total of 15. This projection will provide nearly every potential front or MD with one air assault brigade (see Table 110). Due to the fact that these brigades have only been in existence since January 1980 and a significant level of uncertainty still surrounds their exact role in the Soviet force structure, no attempt will be made to project AABs beyond 1990. However, it is expected that it will be during this timeframe (1990-2000) that the possible consideration of a second AAB per front dedicated to an exploitation support function might be addressed.

(U) (~~S/NOFORN/WNINTEL~~) By 1990, the number of separate air assault battalions (AABn) is expected to increase from the current assessment of 3 or

---

* (U) (~~S/NOFORN/WNINTEL~~) This possibility assumes a sufficient fixed-wing and rotary-wing capability available to the front commander to lift such an organization utilizing only front assets.

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Table 110. (U) Regional Distribution of Air Assault Brigades — 1990

One Each	Total Soviet Brigades
E. Europe (GSFG, CGF, GSF)	3
W. MDs (BAMD, BEMD, CPMD*)	4
Opposite Southwest Asia (TCMD, NCMD)	2
Afghanistan/TKMD	1
Opposite PRC (CAMD, FEMD, TBKLMD)	3
Remainder of USSR (LEMD, ODMD)	2
	15

(u)

*(~~SECRET/NOFORN/WNINTEL~~) Carpathian M.D. is assessed as having two AABs, since the Carpathian M.D. supports two *fronts*—the Western and Southwestern.

~~SECRET NOFORN WNINTEL~~ (u)

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4 to 14. These battalions are projected for inclusion in the Western and Northwestern TVDs. These projections do not address the FETVD. The weighting of projections in the Western TVDs reflects more a function of available lift capabilities than of an increased threat emphasis in comparison to the FETVD. Although not projected, AABns are likely to be increased in the 1990-2000 timeframe in the FETVD.

(u)
(4) ~~(S/NOFORN)~~ The three Soviet independent airmobile assault brigades are projected to be retained in the force structure at their current locations from 1980 to 2000. It is possible, but not projected, that the Soviets may convert these airmobile assault brigades to air assault brigades, but lift requirements and terrain restrictions will probably preclude this occurrence.

(u)
(5) ~~(S/NOFORN)~~ Emphasis on tactical airmobile assaults by motorized rifle troops at shallow depths in support of first echelon divisions may be reduced as specialized air assault units proliferate. Priority of available helicopter lift would seem to be one reason. As medium transport helicopters assigned to divisional direct support units increase, a division may conduct company-sized airmobile assaults using internal lift assets. In any event, motorized rifle troops will remain a means of augmenting the capability provided by specialized units at the shallow tactical depths of the enemy defense.

6. Conclusions (U).

(u)
a. ~~(S)~~ Both equipment upgrades and unit increases of airborne, air assault, and airmobile assault forces (air transportable combat forces) in the years 1980 to 2000 will significantly enhance the Soviet commander's capability to prosecute the offensive to the entire depth and width of the NATO defensive zones. The greatest tactical change to occur during this period will be the significantly increased emphasis on air assault operations and helicopter gunship employment in a overall effort to improve the capability to conduct a high speed offensive in depth.

(u)
b. ~~(S/NOFORN/WNINTEL)~~ Pivotal to the front offensive concept will be the execution of a variety of combat measures, including the simultaneous conduct of the offensive against on-line corps, as well as engaging and disrupting the reserves, command and control, and combat support of the NATO army group and individual corps. Focus upon deep rear area action to disrupt operational stability is central to success on the axis of the main thrust, and to the speed at which the offensive could be developed. Particular emphasis will be devoted to weakening or diverting the reserves, or blocking their maneuver, destroying nuclear capability and command and control at corps level and higher, and impairing combat support and service support operations. For these reasons, air power, nuclear strikes, airborne, air assault, and Special Purpose Forces operations will play an ever increasing role in the rear area effort.

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(u)

c. ~~(S/NOFORN/WNINTEL)~~ Simultaneous frontal and rear area efforts by airborne, airmobile, and air assault forces will be intended to rapidly splinter the NATO army group into isolated groupings on a non-continuous front, disperse NATO focus of effort, and impair combat and combat support functions throughout the entire depth of the NATO defenses. Thus, the NATO commander will be faced with a no-win situation--react to the Soviet forces and risk weakening the forward defenses, or ignore them and risk a similar fate from the rear.

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SECTION VII

COMMAND, CONTROL AND COMMUNICATIONS (C^3) (U)

1. GENERAL (U).

a. (U) ~~(S)~~ The command and control system that the Soviet ground forces plan to establish in wartime is designed to be mobile, flexible, and survivable. Unit staffs at each echelon will be deployed in three or more field fixed or mobile command posts (CPs) dispersed in depth. Fixed CPs are located in bunkers, and mobile CPs are mounted in trucks, vans, and armored command vehicles. Mobile signal units will deploy redundant radio, radio-relay, wire, and courier systems to provide communications among all echelons. During combat operations, the mobility and redundancy of the C^3 system provides the Soviet commander flexibility in deployment of the C^3 system to insure the most effective control under all types of combat conditions. Generally, a main, rear, and forward CP will be used. Auxiliary and airborne CPs may also be used. The Soviets plan to insure the survivability of the system and provide continuous control through use of redundant C^3 facilities; camouflage, concealment, and deception measures; and extensive provisions for rapid recovery when elements of the system are destroyed.(1/ix)

b. (U) World War II experience is the basic foundation on which the Soviets have based their C^3 theory, techniques, and organization. While forces and equipment have changed significantly since then, the Soviets consider the lessons learned in World War II as still highly relevant to current conditions. They did not learn their lessons painlessly, for in the initial stages of the war the Soviet C^3 system was unable to provide stable and reliable command and control. Many of the elements that the Soviets emphasize in their contemporary C^3 practice were developed from bitter experience with the Germans. Following are some of the more important of these lessons, which are considered relevant today:

(1) (U) Command posts (CPs) were broken down and echeloned in depth across the front. At the beginning of the war, divisions, armies, and fronts each had one large, unwieldy CP that was often detected and attacked by the Germans. During the war, the Soviets cut down the size of that main CP and deployed additional specialized CPs dispersed both laterally and in depth. Among these were a second echelon of control (now called the rear CP) to oversee rear service operations, operations groups deployed at forward locations (now called forward CP), and alternate and auxiliary CPs. These provide the Soviets a much more flexible, reliable, and survivable C^3 system.

(2) (U) Numerous and redundant communications systems were developed. At the beginning of the war, radios were in short supply and limited in range. Courier and wire were the principal means of tactical communi-

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cation, but these were of limited usefulness in controlling fast-moving operations. During the war, more and better radio equipment became available, allowing the Soviets to have more rapid and reliable communications. Redundant communications links were established between CPs, providing both increased traffic capacity and backup capability if one communication system would not function.(1/1-2)

(3) (U) Security of the C^3 system. During World War II, the Germans were able to collect much signal intelligence (SIGINT) from the Soviet C^3 system and then attack it by air or artillery strikes, deep-penetration commando raids, or jamming. The Soviets thus learned the importance of security of their C^3 system. Strict communications security procedures were adopted, and methods of enciphering and encrypting communications were more fully developed medium and high-powered radio transmitters were sited several kilometers away from CPs to hinder enemy radio direction-finding efforts. CPs were dispersed and camouflaged, and measures were taken to defend them from raids.

(4) (U) Movement of CPs. At the beginning of the war, when a CP had to move, control was often interrupted, occasionally with disastrous results. Moves were poorly organized and often made without the authorization or even knowledge of higher headquarters. To avoid this, the Soviets developed procedures during the war to insure stable control while CPs redeployed.

(5) (U) Command and control was centralized at the highest levels. Soviet planners believe that the large-scale, mobile, combined operations of World War II and contemporary warfare demand firm control centralized at the highest level. During the war, the General Staff (GS) in Moscow, front, and army staffs conducted very detailed planning for future operations. These staffs often involved themselves in detailed tactical (below division) planning and decisionmaking. The Soviets believe that this provided a rapidly responsive and efficient way of using large, diverse forces. Nevertheless, they also believe that successful engagement in fast, highly mobile operations requires considerable initiative on the part of subordinate commanders. The Soviet concept of fostering such initiative is to thoroughly indoctrinate a subordinate in a commander's plan so that he can use his initiative to carry out that plan, but within its confines, and under relatively close supervision. During the war, the Soviets implemented this principle by extensive personal contacts between commanders and staff liaison officers. For instance, while planning for a major operation, the front commander might visit the CP of an army commander to thoroughly explain and work out the details of his plan, as they applied to the army. The army commander might participate in planning sessions at front headquarters. In addition, a higher headquarters would assign small groups of officers to subordinate headquarters to insure that the subordinate thoroughly understood and carried out the plan. If a subordinate commander believed the situation required major change or modification of his chief's plan, he would usually obtain his chief's authorization for that change.

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b1 per DIA

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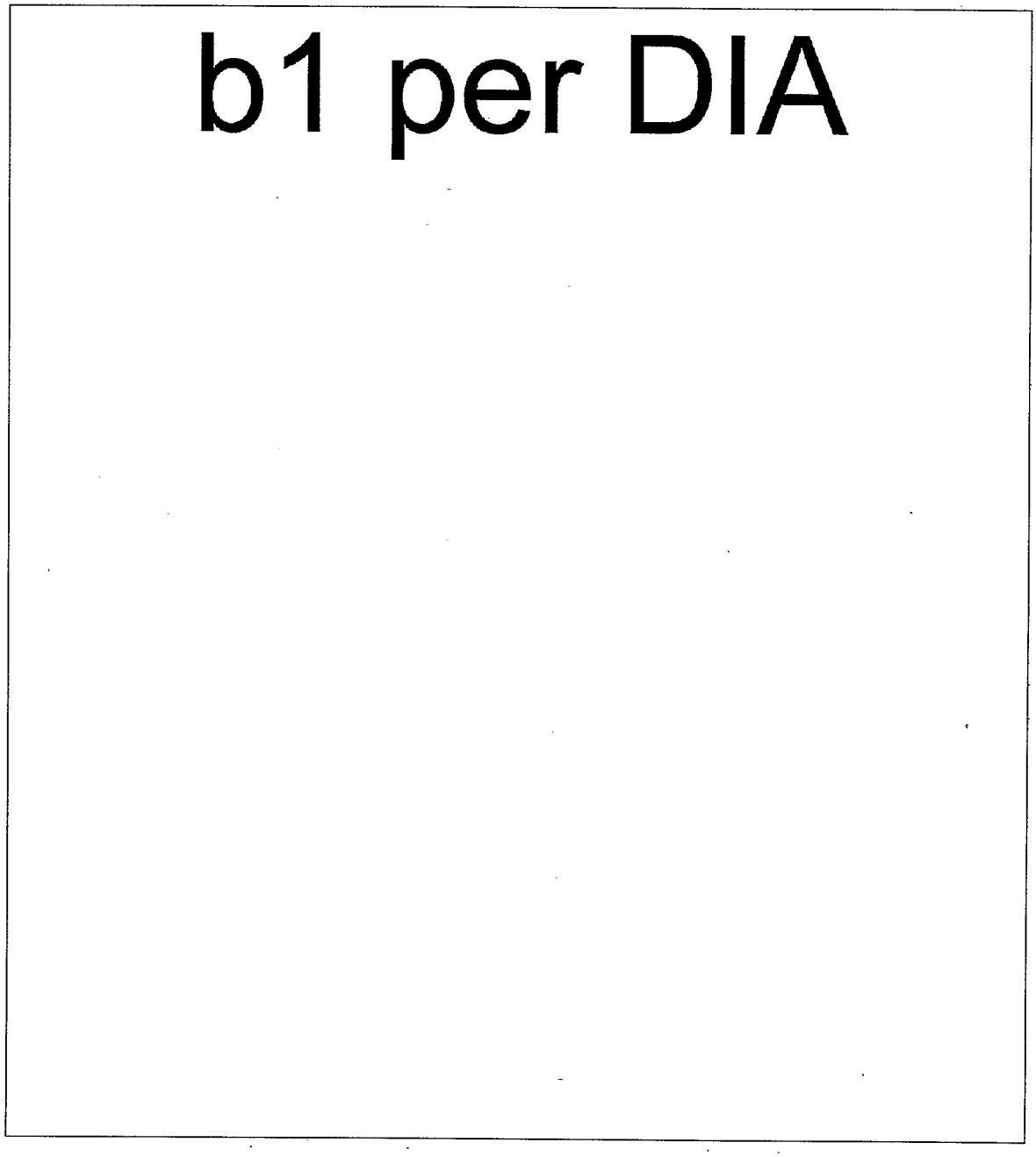
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5. Automated Data Processing (U).

a. (u) ~~(S)~~ Another recent development in Soviet C^3 is the use of automated data processing (ADP).

b. (U) Soviet planners believe that an automated C^3 system is essential, due to the speed and complexity of contemporary operations. To effectively plan and control such operations, large quantities of data on the enemy and friendly situation, terrain, weather, logistics, etc., must be made rapidly available to commanders and staff; forecasts and calculations of operational requirements must also be performed rapidly. Warsaw Pact planners believe two basic approaches can be taken to deal with this problem--rationalization of staff work and automation of C^3.

c. (u) ~~(S)~~ Rationalization is the process of streamlining and speeding up the work of a staff, aside from the introduction of automation. Rationalization involves the optimal assignment of duties to staff officers to insure their greatest productivity, reduction and standardization of documents, and elimination of superfluous reporting requirements. While rationalization can speed up the functioning of the staff, Warsaw Pact planners believe that it is insufficient to meet current requirements. They believe that automation based on a computer's ability to store and rapidly retrieve, collate, and display large quantities of data and to rapidly perform complex calculations is required.(1/79)

d. (U) For a more detailed examination of the Soviet use of ADP on the battlefield see Vol VI.

6. Front Command and Control (U).

a. (u) ~~(C/REL/CA/UK)~~ Command, control, and communications (C^3) are normally established from higher to lower headquarters, and liaison communications from right to left. For example, an army would provide communications to subordinate divisions and to the army on its left. Wire and radio-relay axes are established from army headquarters in the direction of the main advance. These axes permit connection of subordinate communications centers to the higher echelons. A skip-echelon communications capability is required by Soviet doctrine to permit any command to communicate directly two echelons lower in the organization structure.

b. (u) ~~(S)~~ The organization of a front, and its assigned signal units, will vary depending on its specific mission. Limited information is available on the total number of signal units that support a front. This problem is compounded by the fact that a front is a wartime organization that does not exist during peacetime. Fronts are formed from groups of Soviet forces, Soviet military districts, and non-Soviet Warsaw Pact elements. The signal units that support a front are also subordinate to these elements during peacetime. Many of the signal elements exist as battalions during peacetime, and are expected to be subordinated to newly formed regiments or brigades, or expanded into signal regiments during wartime. These signal

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units will provide radio, multichannel radio relay, wire, and communications satellite (COMSAT) support for the front. A typical front in the forward area is expected to be supported by the following units:

(u) ~~(S)~~ (1) Signal brigades, regiments, and independent battalions organic to front;

(u) ~~(S)~~ (2) Signal brigades of the Reserve of the Supreme High Command (RVGK - Rezerv Verchovnogo Glavnokomandovaniya); and

(u) ~~(S)~~ (3) Signal brigades of the Soviet Committee of State Security, Directorate of Government Security (KGB/UPS);

(u) ~~(C)~~ c. The primary function of the front organic signal units is to provide the following:

(u) ~~(C)~~ (1) Communication centers to support the front command post (CP) system;

(u) ~~(C)~~ (2) Multichannel radio relay and wire links from the front CP system to major subordinate units and adjacent units; and

(u) ~~(C)~~ (3) Interconnection of the front CP system to a semipermanent multichannel radio-relay-area communication network.

(u) ~~(S)~~ d. Signal brigades of the RVGK are responsible for establishing the front CP system, theater, and general staff. In certain cases, they may be used to reinforce front and army communication units.

(u) ~~(C)~~ e. The KGB/UPS signal units provide for communications support between the front and the national-level command centers or civilian commands. The primary function of the KGB/UPS signal units is to establish communication links between political leaders in the front area and national civilian authorities in Moscow. These links also provide the Communist Party and Soviet government leadership with channels for direct control of major military formations.

(u) ~~(C)~~ f. At the army level, the army main CP is normally manned by the commander and his staff. The reserve CP is manned by the deputy commander and staff elements capable of duplicating essential functions performed at the main CP. The primary function of the reserve CP is to provide for immediate assumption of command and control responsibilities when the main CP is relocated, and in the event the CP is disabled. Essentially, identical communications support is provided to each of these CPs. (2/xiii)

(u) ~~(S)~~ g. The army main CP is divided into three areas that are referred to as a communications receiving center, a high power communications transmitting center, and a command and control operations area. To minimize the effectiveness of enemy electronic detection and direction finding, the Soviets locate their high power transmitters 15 to 20 km from the army

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receiving center. These transmitters are remotely controlled through two radio distribution centers via redundant wire and radio-relay links from the receiving center.(2/xiii)

b1, b3 per DIA

7. Army Command and Control (U).

(u) a. ~~(C)~~ Soviet army-level artillery and surface-to-surface missiles are controlled by the Army Chief of Rocket Troops and Artillery. Assets at army level include an artillery brigade, rocket-launcher regiment, and SCUD brigade. Soviet artillery organic to fronts, armies, and divisions is normally assigned to support the next lower echelon by establishing artillery groups. These groups vary in size depending on the mission. In addition to weapon resources for timely target information, artillery units also have target acquisition elements that include battlefield surveillance radars, counter-mortar and counter-battery radars, sounding-ranging equipment, and radar-intercept equipment. The Chief of Rocket Troops and Artillery receives target information directly from subordinate elements, the reconnaissance staff, and air liaison elements.(2/xiv)

(u) b. ~~(S)~~ Unlike other arms and services of the Soviet and non-Soviet Warsaw Pact countries, tactical signal intelligence units perform an important peacetime service as a wartime service. Tactical signal intelligence elements deploy to collect information on US and NATO tactical exercises to contribute to the Soviet national intelligence data base. This use of tactical units to collect signal intelligence information during peacetime, not only contributes to the national data base, but also provides realistic training for tactical units. The Soviets reconnoiter the enemy's command, control, and communication systems with their signal intelligence and reconnaissance assets and establish a list of targets for destruction, electronic jamming, or electronic exploitation; this integrated approach to the destruction or degradation of a enemy's communication assets is referred to as radio electronic combat. The Soviets and non-Soviet Warsaw Pact countries emphasize the importance of radio electronic combat and the necessity to deny the enemy the opportunity to exploit their own command, control, and communication systems.(2/xiv)

8. Division (U).

(u) a. ~~(C)~~ At the next lower echelon, motorized rifle and tank divisions are the primary maneuver units of combined arms and tank armies in the Soviet and Warsaw Pact ground forces. Airborne divisions, subordinate to

the Headquarters, also exist, but they are retained as an asset of the Soviet General Staff. (3/xiii)

b. (U) Divisional organizations contain organic combat support elements that include tube artillery, multiple rocket launcher, tactical nuclear missile, engineer, signal, reconnaissance, antiaircraft defense, and chemical defense units. Combat service support is provided by organic motor transport, maintenance, medical, and other elements.(3/xiii)
(u)

c. ~~(C)~~ The divisional command and control system functions through a staff structure and command post system. Each division includes an organic signal battalion. Communications equipment within a division includes about 1800 and 1450 radio equipments per motorized rifle and tank division, respectively.(3/xiii)

d. (U) Soviet division commanders control their operations through a system of command posts that are interconnected by redundant means of communications. Physically, these command posts may be fixed survivable bunkers, semi-fixed temporary buildings or tents, command vehicles, groupings of trucks and vans, or combinations of these. Specially equipped helicopters provide the division commander with an airborne extension of his command post.(3/xiv)
(u)

e. ~~(S)~~ The division forward command post includes armored command vehicles for the division commander, chief of artillery, chief of reconnaissance, and other selected chiefs of arms and services.(3/xiv)

f. (C) An alternate command post may be established and its basic personnel and facilities will duplicate the main command post on a smaller scale.

g. (U) The rear control point, controlled by the chief of the rear services, includes staff officers for: fuel supply, medical, combat equipment repair, ammunition supply, clothing supply, food supply, and prisoners of war and others.(3/xiv)

9. Helicopters (U).

b1 per DIA

UAZ 452, and UAZ 69) have been identified at division level for use in tactical air command and control.(3/xv)

b. An example of Soviet use of helicopters for command and control is shown at Figure 58.

10. Regimental Command and Control (U).

a. (U) ~~(C)~~ The regiment is the smallest unit capable of performing independent offensive and defensive operations without reinforcement. There is some evidence that senior commanders are giving Soviet and other Warsaw Pact regimental commanders more independent authority and flexibility to conduct operations. To support this apparent change, the regimental command is being provided with increased firepower and mobility, as exemplified by assignment of self-propelled artillery and armored personnel carriers. Combat, combat support, and combat service support is included among the regimental commander's resources. The Soviet C^3 system also is being designed to provide an improved capability and more flexibility to support regimental operations.(4/x)

b. (U) ~~(C)~~ A regimental commander usually establishes a main and forward command post, along with a rear control point. Battalions employ only a main command post, but may establish the equivalent of a forward command post when the commander requires it for better observation of the battlefield. Lower echelons usually establish the equivalent of a forward command post when the commander requires it for better observation of the battlefield. Lower echelons usually establish one command post plus a possible observation post.(4/x)

c. (U) ~~(C)~~ The regimental headquarters will be located well forward in order to maintain control of combat. The main command post may be occupied by the commander or his deputy, the chief of staff, and chief of combat and combat support elements (and at times by the commanders of supporting units). Particularly during offensive operations, the commander and selected staff personnel and chiefs of arms and services will be located at the forward command post, probably in armored command vehicles (ACV).(4/x)

d. (U) ~~(C)~~ The regimental headquarters has two BTR armored command vehicles (probably designated R-145 radio station), believed to be equipped with the R-130, R-123, R-311, R-403, and probably two or three R-107 radio sets. An R-118BM and several R-125 radio stations are also associated with the regimental headquarters. Selected HF links from regiment to division level are encrypted.(4/xi)

e. (U) ~~(C)~~ In the tank regiment, communication equipment is similar to that of the motorized rifle regiment. In addition to ACVs, the tank units have a command tank for the regimental commander and each battalion commander. One novel feature of Soviet command tanks is the ability to use a multicoupler to operate two radio sets simultaneously, employing only one whip antenna.(4/xi) Projected C^3 capabilities are included in Volume 6 of SBDP.

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(u)

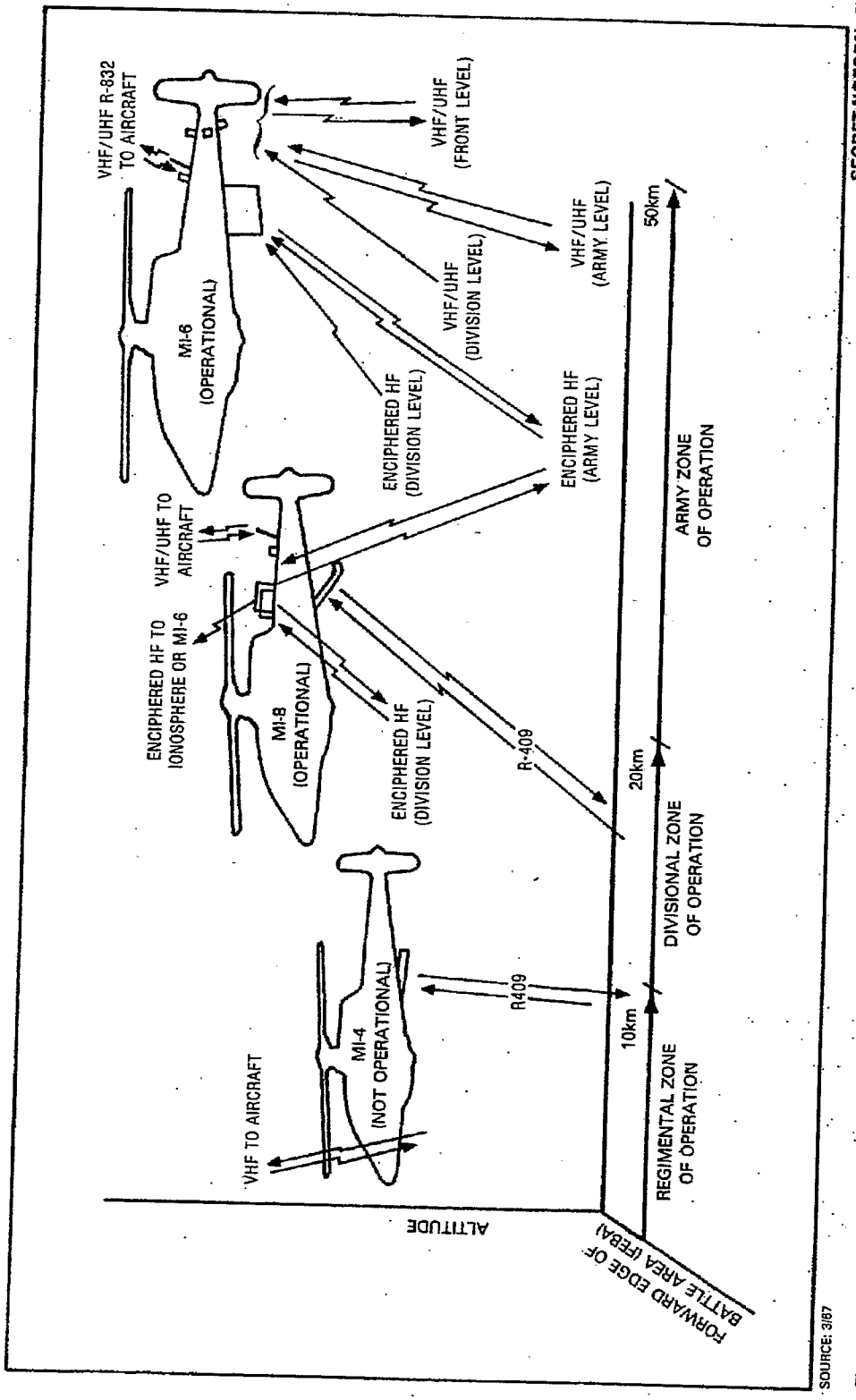

Figure 58. (U) Command Helicopters

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SECTION VIII

TACTICAL COMMUNICATIONS AND ELECTRONIC SYSTEMS (U)

1. Soviet/Warsaw Pact (U).

a. General (U).

(u)
(1) ~~(C)~~ By 1990, Soviet leaders will increasingly view the Soviet Union as an ascendant power for both real and ideological reasons. The mixture of cooperation and conflict that characterized US-Soviet relations in the 1970s will continue to predominate to the mid-1980s. The early 1990s, however, may see a return to a more aggressive Soviet foreign policy as a result of the growth of Soviet military strength and the acquisition of western technology in key sectors of the economy.

(u)
(2) ~~(C)~~ Soviet goals in relation to Western Europe will remain relatively fixed throughout this period. They will seek to foster the weakening of Atlantic ties, strive for West Germany military weakness, and hopefully achieve disunity within Western Europe over economic, political, and defense integration.

(u)
(3) ~~(C)~~ Despite pressures on the Soviets, the Party Congress has set the tone of continued high priority for foreign involvement and defense spending. A case condition may be envisioned wherein the Soviets strive for nuclear superiority, but a strong and convincing argument can be made that a strategic, preponderantly nuclear war, is not fightable because of the disastrous implication this delicate balance of terror has for both sides. A more reasonable situation, and one that seems more likely, is for the Soviets to continue to flesh out their forces, concentrating on conventional forces, in terms of the European theater, and in terms of projecting their influence beyond Eurasia. In this sort of environment, the maintainence of a relative strategic nuclear balance will probably allow the Soviets the option to undertake expansion of their influence in peripheral areas.

(u)
(4) ~~(C)~~ At the nuclear level, a condition of deterrence is likely to continue. At the conventional level, however, the evidence suggests we are entering a period wherein deterring the Warsaw Pact conventional threat in Europe will be of paramount importance. (1/6-1)

b. Non-Nuclear Electromagnetic Pulse (U).

(u)
(1) ~~(S)~~ One of the potentially viable methods the Soviets might consider for future destruction or neutralization of certain electronic systems is the use of a nonnuclear EMP generating weapon. If it is possible to build an EMP generator for simulating the electromagnetic effects of a nuclear detonation, it may also be possible to develop a

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nonnuclear EMP weapon using similar physical principles. Such a weapon would be intended to disrupt or destroy military systems containing sophisticated electronics. The EMP source would either be transported to the target or electromagnetic energy would be delivered as a directed beam. Calculations suggest that it should not be difficult to produce a localized electromagnetic environment comparable in magnitude to the nuclear EMP; i.e., an electric field strength on the order of 50 kV/m.

(2) (u) (S) The Soviets appear to have the requisite technology for the construction of at least a rudimentary single-pulse EMP weapon; in fact, limited evidence suggests the Soviets may be attempting to build such a device or at least some of the components necessary for it. FSTC has proposed an artist's concept (not shown in this document) of an EMP weapon employed in a tactical role. The mass size of the device would be such that it could be placed in a missile warhead for launch from either land, sea, or air, or delivered by aircraft as a gravity bomb. The frequency bandwidth would be wide and centered in the low megahertz region. A radiated power on the order of 10^{10} Watts in less than a microsecond, seems attainable. The effective range for electronic impairment would be several hundred meters. Since the explosion would also inflict mechanical damage on nearby equipment, the EMP warhead would have a dual purpose.

(3) (u) (S) Additionally, the Soviets seem to have the ability to develop a prototype multiple-pulse EMP weapon within the next five years. Such a weapon might be either stationary or mobile. In the latter case, platforms would include ground vehicles, ships, and possibly aircraft and satellites. FSTC has proposed an artist's concept (not shown in this document) of an EMP weapon mounted on a tracked vehicle being used against a radar. A system with a high repetition rate would have applications in jamming and other standard electronic warfare techniques, as well as for physical damage of electronic components. The effective range also might vary considerably, depending on the susceptibility of the target; susceptibility of "soft" systems, such as reconnaissance satellites, might be at hundreds of kilometers.

(4) (S) b1

b1

b1

c. Basic Research (U).

(1) (u) ~~(C)~~ A review of the available literature from the Warsaw Pact countries indicates that the majority of work on spread spectrum (SS) communications is being done in the USSR. The research personnel in that country have a thorough understanding of the theory and techniques involved in designing a spread spectrum communications system. Numerous articles discuss "systems with noise-like signals" or the use of "complex or compound signals," all of which are terms employed in the USSR to describe the type of signal referred to in this country as spread spectrum. Several Soviet articles mention asynchronous address systems, commonly called RADA (Soviet acronym), or spread spectrum multiple access (SSMA) systems in US literature. Occasional Soviet references are made to what seems to be experimental systems and subsystems. No reference, however, is made to pieces of equipment intended for field use. (1/6-3)

(2) (u) ~~(C)~~ Soviet textual material demonstrates an excellent understanding of both the theory and potential for application of spread spectrum technology. It is evident from the nature and volume of material published by the Soviets that Soviet personnel are conducting extensive experimentation in the field.

(3) b1

b1

d. Surface Acoustic Wave Research (U).

(1) (u) ~~(S/NOFORN)~~ Surface acoustic wave (SAW) devices have many potential applications as wideband or spread spectrum signal processors, and may eventually be used by the Warsaw Pact in reaction to the use of such signals by NATO. The Soviets are investigating the properties of SAW devices for a number of unspecified applications. Some of these are probably military related since, although their publications do not specify military applications, the Soviets are known to be investigating

some highly classified areas of SAW applications. A fairly diverse investigation of SAW phenomena apparently began as early as 1965, and a number of Soviet organizations are known to be involved in various aspects of SAW research and development. Some specific investigations underway include:

(u)
(a) (S/NOFORN) Design of a real-time spectral and correlation analyzer that employs dispersive SAW devices, in combination with other microelectronic components, to perform the required signal processing functions;

(u)
(b) (S/NOFORN) Experiments in surface wave amplification on lithium niobate at frequencies up to 200 MHz; and

(u)
(c) (S/NOFORN) Apparent major efforts underway at five Soviet facilities on components used in radar, electronic countermeasures, and secure communications systems.

(2) (S) b1

b1

e. Production Problems (U)

(u)
(1) (S) Soviet open literature articles have demonstrated a thorough knowledge of the theory and applications of spread-spectrum techniques. Although Soviet solid state component production and quality control levels are inferior to those of the United States and other free-world nations, they nevertheless possess the capability to produce at least limited quantities of military deployable spread-spectrum systems. Various factors suggest that the introduction of spread-spectrum systems on a limited scale is a distinct possibility.

(u)
(2) (C) Soviet integrated circuit (IC) production capability, highly desirable for reliable SS systems, is presently well behind that of the United States. This technology lag can be attributed to a general lack of expertise in the field brought about by no industrial competition. In small, closely controlled batches for research purposes, the quality of some of the IC's is nearly equivalent to that currently under commercial production in the United States. In production run quantities in the USSR, however, the percentage of usable IC's is speculated to be quite low. If that is indeed the case, Soviet utilization of IC's would be severely limited.

(3) Such a limitation does not preclude the use of IC's for SS applications. It simply means that a system of priorities must be established for distribution of the few available IC's. If production of computers and other data-handling systems has been given a higher priority, then production of the relatively new field of SS communication may suffer.

(u)

(4) ~~(C)~~ The Soviets also prefer to employ simple, highly reliable circuitry in their radio equipment. Military communications equipment in production in the late 1960's utilized triode and pentode pencil-type tubes and simple circuits. Transistors could have accomplished the same task with greater efficiency. It appears that the Soviets would prefer to use circuits and components that have withstood many years of reliable service, rather than experience a possible failure on a more complicated system. (1/6-5)

f. Trends in Soviet Development (U).

(u)

~~(C)~~ Spread-spectrum communication, although a relatively new and extremely sophisticated modulation technique, is receiving attention from the research personnel of several countries, notably the USSR. The security aspects of SS modulation, in addition to the signal's resistance to the effects of jamming, make it an attractive venture. The coding theory and requirements for acquisition, tracking, and synchronization are fully understood. Problems appear to exist for the Soviets, however, in the area of hardware manufacturing technology, particularly with respect to solid state devices. Because of the attractive features of SS communications, it is expected that the interest being shown in the subject by the USSR will remain at a high level. If the manufacturing problems in the USSR can be overcome, increased usage of SS equipment will be more evident in the near future. (1/6-5,6)

g. Future Electronic Countermeasures (ECM) (U).

(1) Significant changes are expected to occur in Soviet communications jammers and communications materiel now under development. Changes that may be undertaken include increasing the frequency range of jammer and communications equipment to cover the frequencies of western tactical communications links, increasing the degree of automation and centralized (i.e., remote) control from a net control center, and improved mobility and possibly light armor to allow close in deployment. Another concept which may appear is the Soviet use of jammers to "screen" their own transmissions from US intercept and DF resources. This would involve a relatively directional jamming beam with some means to reduce the back-lobes and sidelobes of the jammer.

(u)

(2) ~~(S)~~ By 1991, the Soviets will possess the technical capability to develop jammers of varying effectiveness to operate against frequency hopping radios. Nonexpendable barrage jammers would require

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very high power, directive antennas, and be in sufficient quantity to be stacked in frequency to cover the entire band of hopping activity. These jammers would necessarily be deployed well forward to preclude mutual interference, while achieving maximum signal to noise ratio at the victim receiver. Some of the techniques the Soviets would consider for their future VHF jammer system(s) are given in the following paragraphs. (1/6-6)

(a) Continuous Wave Techniques (U).

1 (u) ~~(S)~~ Narrow-band signal with noise, pulsed tone, AM or FM modulations (e.g., R-330A in single-channel mode);

2 (u) ~~(S)~~ Wide-band signal with noise, pulsed, tone, AM or FM modulations (e.g., R-330A in barrage mode);

3 (u) ~~(S)~~ Multiplewide-band or narrow-band signals with noise, pulsed, tone, with either AM or FM modulations (e.g., R-330A in multichannel modes). Various channel spacings, both even and uneven.

4 (u) ~~(S)~~ Swept signal modes of any of the above (e.g., R-330A with a sweep modulation on the carrier, similar to the Soviet "click" jammers). (1/6-6-7)

(b) Pulsed Jamming Techniques (U)

1 (u) ~~(S)~~ Synchronization jamming. Jammer pulses during the synchronization mode of victim to deny synch; and

2 (u) ~~(S)~~ Transmission disruption. Jammer pulses during information transfer, but after synch, to inject errors; (1/6-7)

(c) Repeater Jammer (U).

(u) ~~(S)~~ Broadband intercept receiver (probably coupled to a high-gain, directional antenna pointed toward FEBA) to intercept the signal, amplify it, and transmit it toward the intended victim, probably with some selected delay, and with or without added modulations. This technique would return all signals in the intercepted band, including noise. This technique could be used to confuse or capture the synchronization mode of the signal to override the information mode with an intent to confuse it or inject errors. (1/6-7)

(d) Transponder Jammer (U).

(u) ~~(S)~~ Broadband receiver with a predetermined jamming response to valid target signals received. The jamming response is not necessarily similar to the received signal. This type of technique is a real possibility in a (possible) Soviet reactive jammer against frequency hopping systems, such as SINCGARS. (1/6-7)

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2. SIGINT/ECM (U).

a. Postulated Doctrine and Organization (U).

(1) (u) ~~(S/NOFORN)~~ The Soviets could develop new doctrine, tactics, and organizations in response to their perception of a threat in being, or one projected to materialize in the military forces of other major powers. One gradual change which could occur over time and become a reality after 1991, is the highly fluid battlefield conditioned by significant increases in the mobility of tactical forces. Improved mobility could be accompanied by upgraded or new electronic materiel, communications, and non-communications systems, thus possibly allowing a significant decrease in time to implement a change in tactics, to respond to a developing threat, or to respond to a request for fire.

(2) (u) ~~(S/NOFORN)~~ The Soviets, in reponse to increased mobility and to additional electronic materiel, could increase their EW and SIGINT capability. This could be reflected in materiel improvements, greater densities of equipment, increased troop training, improved mobility, additional units, and more efficient command and control.

(3) (u) ~~(S/NOFORN)~~ The Soviet will introduce new EW and SIGINT materiel which will be more sophisticated than their current equipment. The sophistication could be reflected in the flexibility designed into this materiel, using automation and data processing. Because of the increased capability to operate against a wider variety of targets, its introduction into the field may not require large increases in operating personnel despite increases in the number of units.

(4) (u) ~~(S/NOFORN)~~ Along with the increase in the number and complexity of new emitters and other electronic materiel, improvements in other military fields are expected to increase the complexity of operations on the battlefield. To locate, identify, interpret, or operate in this complex environment, EW and SIGINT materiel will require corresponding capability.

(5) (u) ~~(S/NOFORN)~~ To contend with the increased overall mobility that is expected for all military forces, EW and SIGINT ground units will be required to increase their mobility. Currently, transportable EW and SIGINT equipment mounted in trucks and airborne platforms will be miniaturized and ruggedized. Improvements in packaging efficiency would allow some of this equipment to be man-portable or mounted in tracked armored vehicles. With the introduction of EW and SIGINT materiel that is portable, or mounted in tracked vehicles, terrain constraints of siting this equipment could be reduced. Locations could be changed rapidly to accommodate a change in the tactical situation and could include cross-country travel, as well as siting on and adjacent to the FEBA. The probability of the Soviets intercepting and targeting enemy highly directional emissions could increase as a result.

(6) (u) ~~(S/NOFORN)~~ Because of an increase in numbers and types of

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hostile electronic materiel near the FEBA, the Soviets may increase their number of EW and SIGINT units, although the organizational structure and the numbers of people attached may not change significantly compared with their current posture. The equipment and training of these specialized units may permit their flexible use in various tactical situations. These units could be attached to motorized rifle, armor, or other units which require EW and SIGINT support.

(u)

(7) ~~(S/NOFORN)~~ Soviet introduction of battlefield data storage and retrieval systems, data processors, data displays, and data communications links would greatly improve the efficiency and effectiveness of Soviet command and control. Inputs from SIGINT units could be used alone, or with other intelligence, to indicate, confirm, or deny the existence of hostile non-communication radiating materiel, communications messages and contents of emissions, and (possibly by deduction) types and unit designations of enemy forces. Interface and coordination of EW units with other tactical units could be accomplished through the command and control net. Items for coordination would include tactics, electronic materiel to be targeted, frequencies, and timing of attacks. The mission of these EW units could be to deny the observation of the quantity and quality of friendly forces, to deny or degrade enemy use of electronic materiel, or to deceive the enemy with erroneous information. Tactical EW units, during hostilities, are projected to be at the various levels of command down to division. (1/6-7,8,9)

(8) (U) The estimates of future Soviet/Warsaw Pact capabilities should be considered in the evaluation of the threat to specific US systems. The Soviets will try to counter a US system by whatever means they believe most effective, considering the resources required; these means will frequently be destructive rather than electronic. Deployed ECM capabilities in the future will depend, at least in part, on the type of threatening US systems and their characteristics. It is reasonable to credit the Soviets with the technical capability to develop whatever they think they really need, but they should not be expected to actually develop every technically feasible countermeasure to a US system. (1/5-3)

b. Tactical SIGINT (U).

(u)

~~(S)~~ Changes in organization, equipment, tactics, and doctrine envisioned out to 2000 will probably be evolutionary rather than revolutionary. It is anticipated that the missions at front, army, and division echelons will remain much the same as 1986-90. Front-level SIGINT elements will provide general support (GS), army level SIGINT elements will provide a combination of GS and direct support (DS), and the division level SIGINT elements will provide DS. The target acquisition elements subordinate to the Chief of Rockets and Artillery, at each of the above echelons, will also provide DS targeting to the supported artillery elements. (1/5-4)

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(1) Front (U).

(u)
~~(S/NOFORN)~~ It is postulated that a wartime front, conducting operations out to 2000, will have an organic SIGINT brigade (Figure 59), which will be targeted primarily at high-level ground and air force communications and electronics systems located at echelons above corps. The brigade will, also, provide the front commander, through his Chief of Intelligence, with both a COMINT and ELINT collection capability against airborne and airborne-related targets and activities. The brigade will be capable of providing intercept coverage of the entire spectrum of US Army communications and electronics. The brigade will have an airborne SIGINT collection capability comprised of fixed wing aircraft and helicopters. Each wartime front will have a target acquisition battalion (Figure 60) organic to the front artillery division, and each of the artillery division's subordinate brigades will have a target acquisition battery (Figure 61). These units will have organic radar intercept and direction finding (DF) equipment and battlefield surveillance (BS) radars, all of which provide the rocket and artillery troops with targeting data. (1/5-4)

(2) Army (U).

(u)
~~(S)~~ At army level, the Soviets have both radio and radio/radar intercept battalions (Figure 62). The radio intercept battalion is responsible for intercept and DF of ground-based communications, and radar intercept battalion is responsible for the intercept and DF of radar systems. It also has a communications intercept capability.

(u)
(a) ~~(S)~~ Generally, the VHF and VHF/UHF intercept and DF positions are deployed within 4 to 6 kilometers of the forward edge of the battle area (FEBA). The HF intercept and DF positions are usually deployed approximately 40 kilometers from the FEBA. One radio intercept and two radio intercept and DF companies are organic to the battalion. The battalion's resources are targeted against the same type of VHF FM, UHF AM, and radio relay communications as are the intercept resources of both the motorized rifle and tank divisions. Essentially, this places the battalion's resources in a general support reinforcing role, and allows for continuous intercept coverage when a division is on the move.

(u)
(b) ~~(S)~~ The army level radio/radar intercept battalion is targeted almost exclusively against radars and other electronic signals, and has, in addition, a communications intercept capability for intercept of HF, VHF, UHF, and radio relay communications. The primary mission of the battalion is to detect and locate the radars associated with enemy surface-to-air missile (SAM) units, field artillery units, antiaircraft artillery units, ground surveillance radars, radars used for directing aircraft to ground targets, and drone control stations. (1/2-15)

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(3) Division (U).

(u)
~~(S)~~ At division level, the Soviets have a radio and radar intercept company organic to the reconnaissance battalion. Its mission is to perform both radio and radar intercept and DF of enemy emissions in the forward area. The company's platoons typically deploy 2 to 4 kilometers from the FEBA and can cover a geographical area of approximately 2,000 square kilometers. The company is equipped to intercept and obtain line bearings of HF, VHF, and UHF emissions, and radar systems. It is postulated that the company has a minimum of eight communications intercept and DF positions, and six radar intercept and DF positions. The organizational structure of the radio and radar intercept company is shown in Figure 63. (1/2-18)

c. Airborne Associated SIGINT (U).

(1) Communications (U).

(a) COMINT and DF (U).

(u)
~~(S)~~ The Soviets will continue improving their communications intercept equipment, particularly to increase receiver sensitivity and improve antenna hardware technology. Future COMINT systems should be expected to incorporate automatic tuning and signal recognition features, in order to operate against burst transmissions, spread spectrum signals, and frequency agile communication targets. During this time period, they may have an on-board analytical capability for use with teletype, burst, or digital communications systems. Because of the extreme Soviet awareness of the intelligence value of COMINT, we should anticipate their using airborne data transmissions to expedite intelligence transfer from an airborne COMINT platform to groundbased consumers.

(u)
(b) ~~(S)~~ The improvements anticipated in airborne intercept receivers are expected to be in parallel with improvements in airborne DF capabilities and associated display/presentation aids. The ability to locate a communications emitter is regarded as a prime requirement of Soviet intelligence collection. Acknowledgement of this requirement in the form of hardware, first appeared on the CUB B, whose assessed objective was to provide a COMINT platform with a form of DF capability. This installation has since been removed and not replaced, thus implying that this form of DF'ing was not sufficient to satisfy the established specifications. The introduction of the COOT A SIGINT aircraft represents a possible alternative approach to achieving a direction finding capability in the VHF/UHF frequency range.

(c) ~~(S)~~ b1

b1

(u)

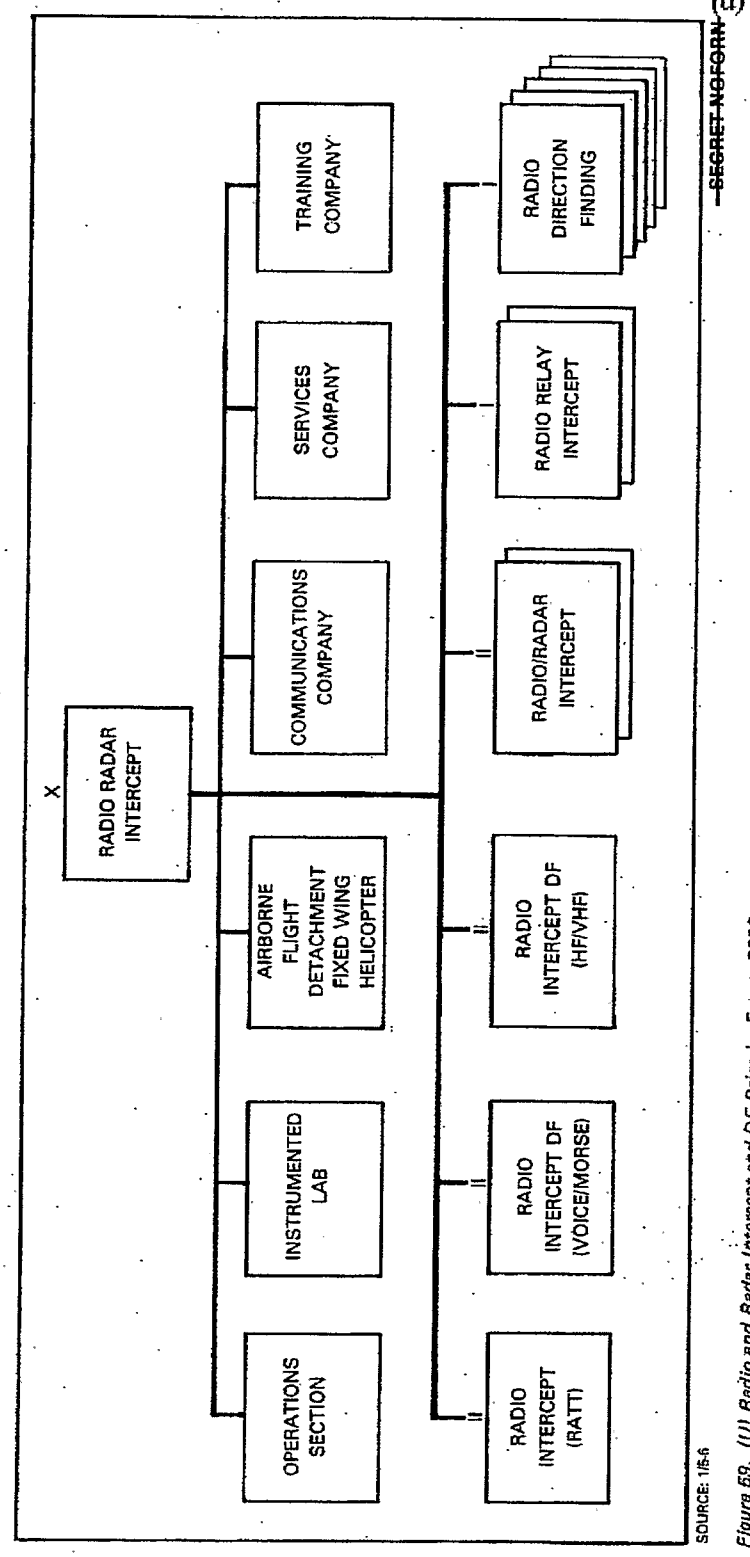

Figure 69. (U) Radio and Radar Intercept and DF Brigade, Front 2000

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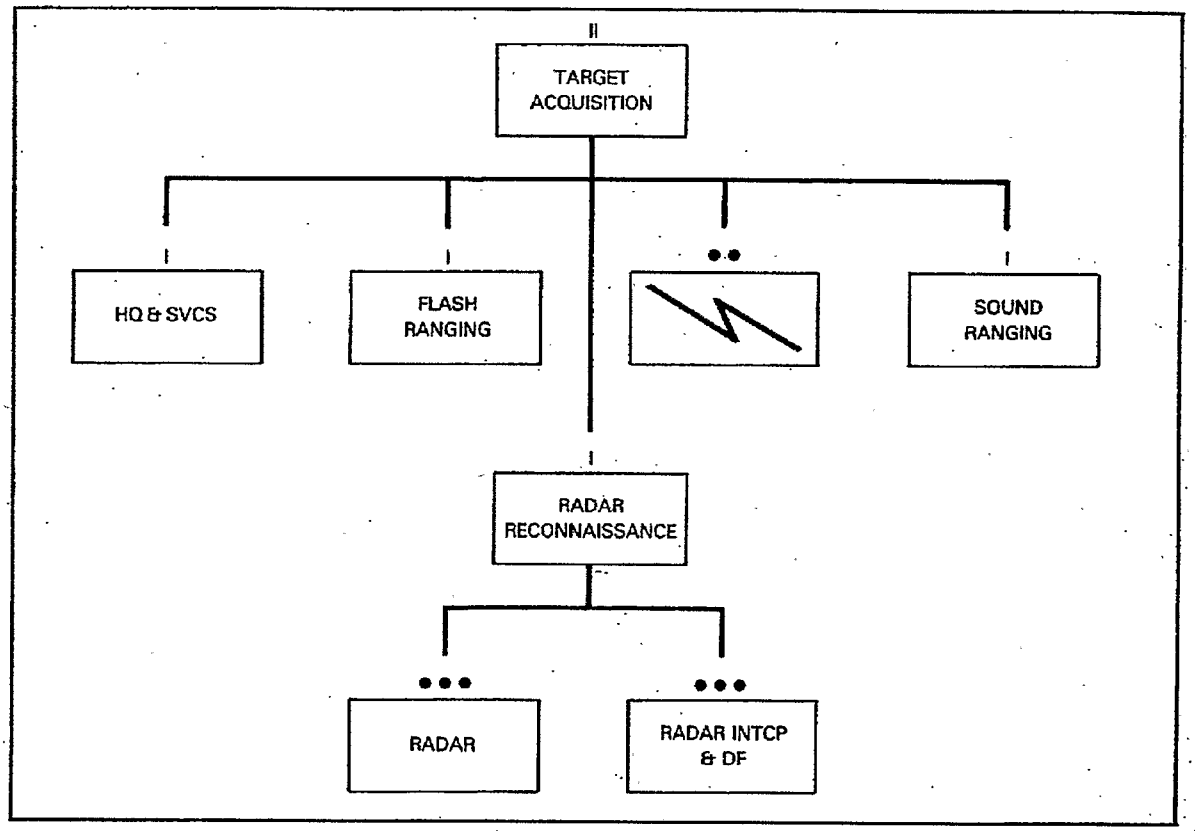

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~~SECRET~~ (u)

Figure 60. (U) Target Acquisition Battalion, Artillery Division, Front 2000

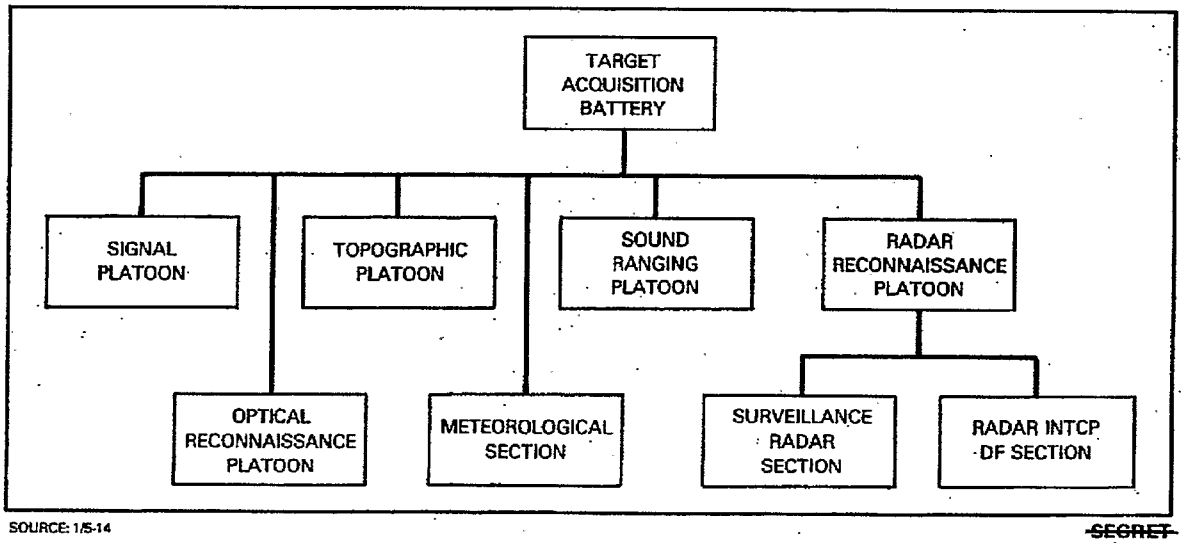

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Figure 61. (U) Target Acquisition Battery, Artillery Brigade, Artillery Division, Front 2000

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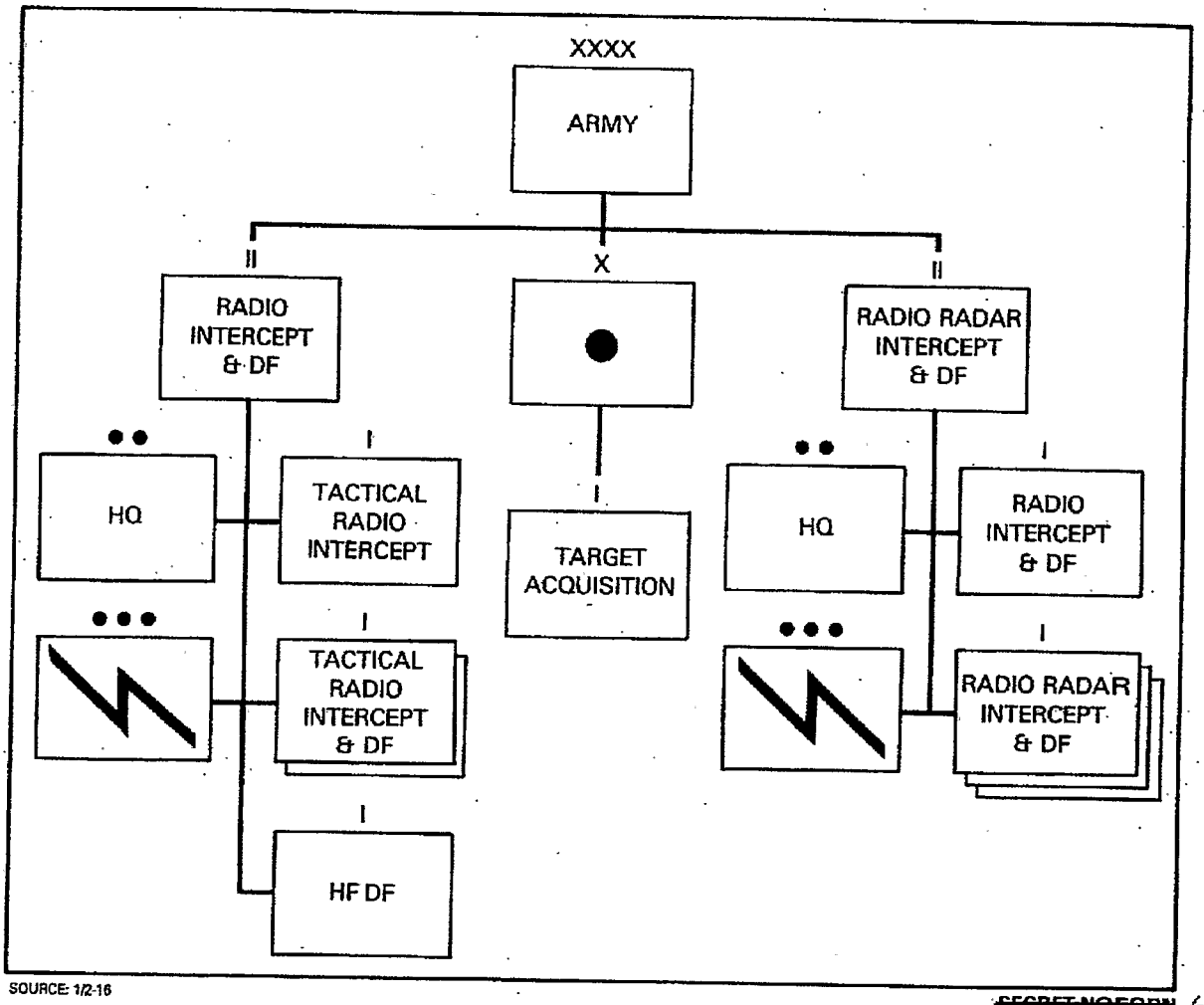

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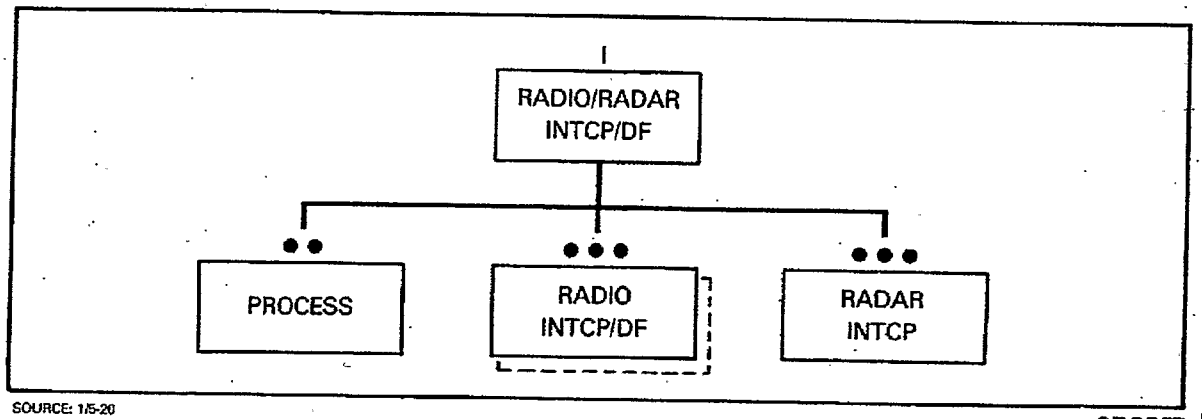
Figure 62. (U) Radio and Radar Intercept and DF Resources Army (2000)



~~SECRET~~ (u)

Figure 63. (U) Radio Radar Intercept/DF Company, Reconnaissance Bn, MRD & TD (2000)

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b1

(2) Noncommunications (U).

(a) ELINT/DF (U).

(u) ~~(S)~~ It is expected that the Soviets will continue to expand their airborne ELINT/DF programs. The continuing appearance of new aircraft subsystems employed for sophisticated ELINT collection, will be observed on specially configured aircraft. These aircraft will incorporate multisensor devices, not only to identify threat signal signatures, but also to include radar area mapping and DF for targeting purposes. In addition, some onboard processing capability will probably be available, as well as real-time data transfer capabilities.

(u) (b) ~~(S)~~ Many of the newer electronic systems that use techniques of coding, both intrapulse and pulse group, pose substantial problems to an intercept system. This can be further complicated by phased array systems or electronically steerable arrays. These streams of signal data must undergo high speed processing and sorting, in order to compact the information into a digestible digital data stream for association, identification, and timely response. Technical intelligence collection requirements demand that the data be sorted and prepreocessed, since there is neither the time nor the storage capacity to record, and analyze, on a real-time basis, the entire electronic environment. Most of these selected data will be reserved for post-mission analysis. ELINT systems of this capability and scope are not currently in the inventory, but they are believed to be in development. (1/5-41,42)

d. Tactical ECM (U).

(1) General (U).

(u) ~~(S)~~ The basic mission of Soviet tactical jamming organizations is to support the ground-gaining arms by disruption of the control of enemy firepower, troop, and reconnaissance resources. Three general types of Soviet jamming organizations, that are best identified by their placement in the Soviet tactical force structure, are:

(a) (u) ~~(S)~~ Ground-based communications jamming units;

(b) (u) ~~(S)~~ Ground-based air defense jamming units; and

(c) (u) ~~(S)~~ Tactical Air Army (TAA) jamming resources.

(2) These resources are centrally held at front echelon regiments or within the TAA. Each type, however, can be divided into general support (GS) and direct support (DS) units. The DS units are allocated to the armies in the main zone of activity, where they become a subordinate resource of the receiving army, and are controlled by the Army EW element, the Radioelectronic Warfare Service (REWS).

e. Ground-Based Jamming (U).

(1) General (U).

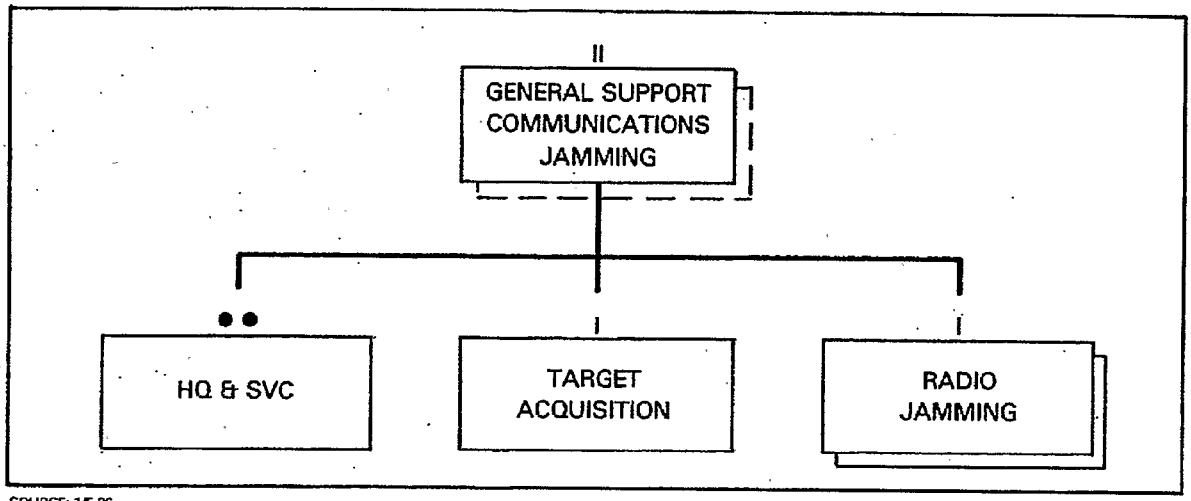
(u) ~~(S)~~ Ground-based communications jamming resources belong to a regiment controlled by the front level REWS. The regiment currently has one or two GS jamming battalions, two or more DS jamming battalions, and a communications deception company for conducting manipulative communications deception (MCD). In peacetime, or "before allocation", the entire regiment is available as a front resource. The supported armies are augmented "after allocation" with a DS jamming battalion, hence use of the term "direct support jamming battalion." By 1980, the Soviets were expected to have the capability to field one DS battalion per army. This force structure has not been met as of 1982; however, this is still believed to be the Soviet goal, with the projected force structure fielded by 1984. (1/3-1)

(2) (u) ~~(S/NOFORN)~~ During the 1990s, the general direction of Soviet ground ECM developments will be largely evolutionary with respect to equipment advances. The respective groundbased ECM organizational structure for the year 2000, is expected to follow very closely that which is postulated for 1986-1990. (See Figures 64 and 65).

(3) (u) ~~(S/NOFORN)~~ The general support communications jamming battalion supports a Soviet front by jamming selected enemy HF nets, primarily to isolate the corps from higher headquarters and subordinate divisions. The primary targets are army and air force HF communication links involving the control of nuclear weapons. The distribution of targets between corps-to-higher communications and corps-to-division communications, is situation dependant. (1/3-1,2)

(4) (S/NOFORN) The direct support communications jamming battalion is to support the army to which it is allocated, by providing HF and VHF jamming, in accordance with plans developed by the army REWS. The primary targets are division and corps-to-division HF nets involving nuclear weapons control and the equivalent air force communications.

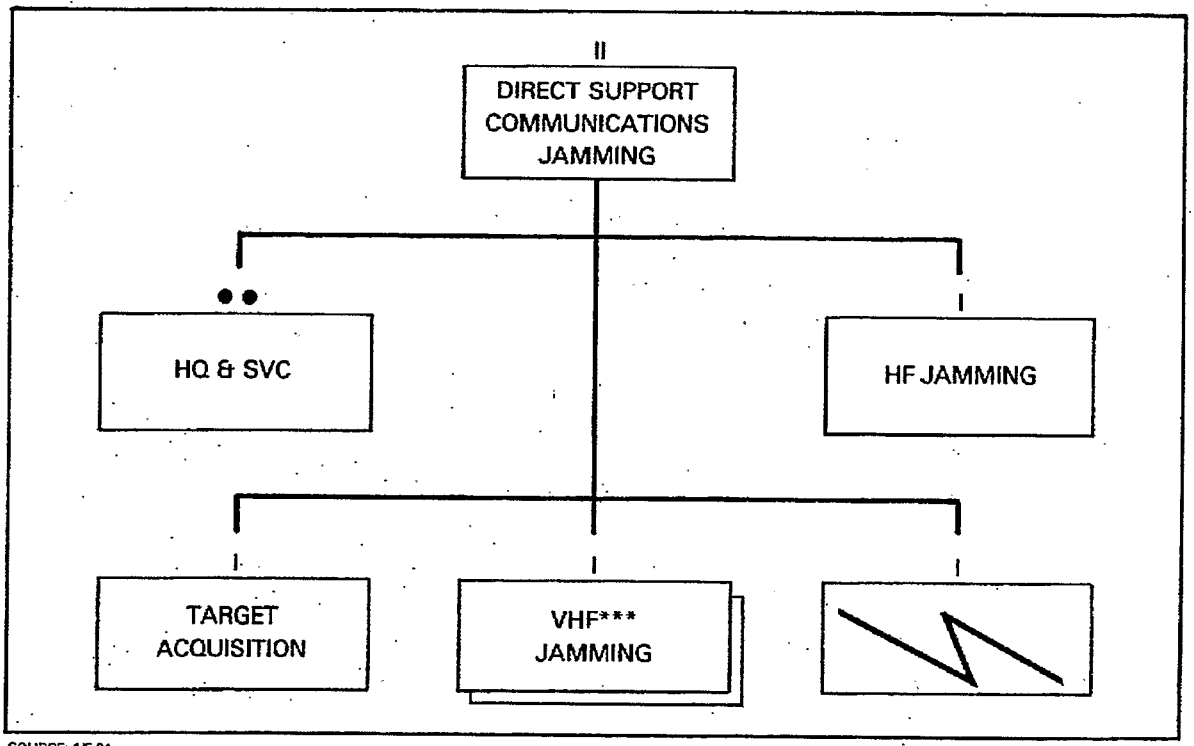
b1



SOURCE: 1/5-26

~~SECRET~~ (u)

Figure 64. (U) General Support Communications Jamming Battalion, Radio Jamming Regiment, Front 2000



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~~SECRET~~ (u)

Figure 65. (U) Direct Support Communications Jamming Battalion, Radio Jamming Regiment, Front 2000

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f. Ground-Based Air Defense Jamming (U).

(1) General (U).

(u) (S) Ground-based air defense jamming resources belong to a regiment controlled by the front REWS. The regiment has one GS battalion (figure 66) and three or more DS battalions (figure 67). The number of DS battalions identified within the USSR, make it possible for any given front to have one DS battalion per army within a few days' mobilization. (1/3-9)

(2) (S) The mission of the GS air defense jamming battalion is to protect front held resources from airborne radar reconnaissance and radar-aided bombing. It has an additional mission to protect march routes of subordinate armies, when directed as part of the front EW plan in support of a major front-level maneuver. Airborne radar jamming targets fall into two categories: side-looking airborne radar (SLAR), to deny reconnaissance; and bomb/navigation radars, to prevent accurate ordnance delivery. b1

b1

(u) (S) (3) The mission of the DS air defense jamming battalion is to protect designated resources of the army from airborne radar reconnaissance and radar-aided bombing, in accordance with plans developed by the army REWS. The targets of the DS battalion are the same as the GS battalion; airborne surveillance radars, bomb/navigation radars, and air-to-air and ground-to-air communications. In addition, the hostile tactical air navigation (TACAN) system is targeted.

g. Army Heliborne Radio-Relay Jamming Squadron (U).

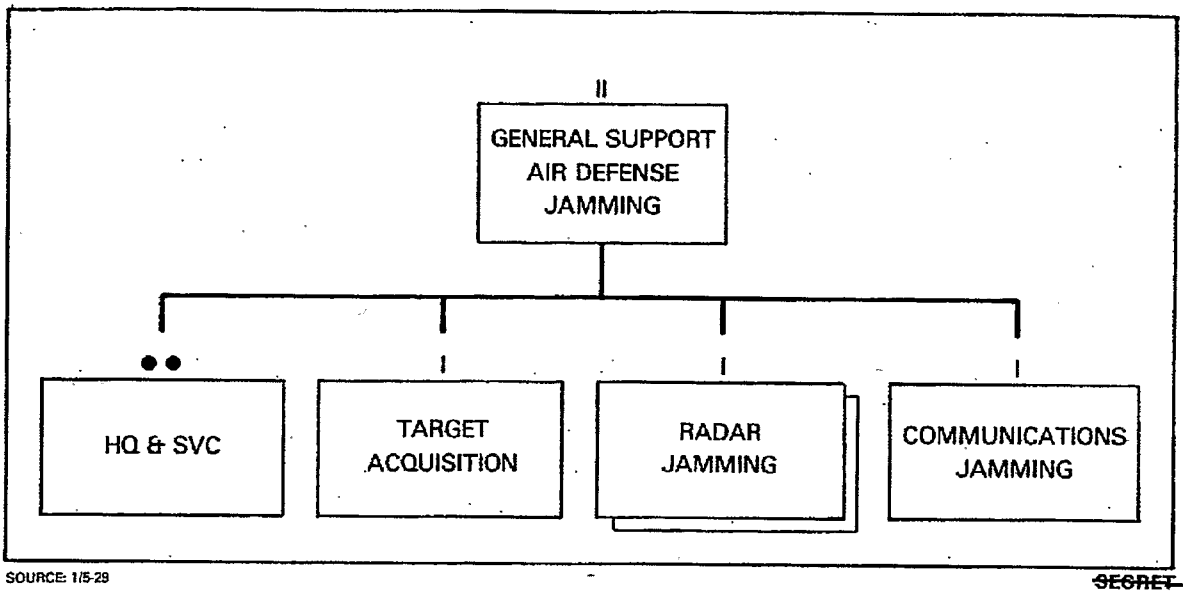
(u) (S) The MI-4 HOUND ECM variant (BIRDWING: 50-600 MHz) has not been seen operational since mid-1980. Its follow-on, the MI-8 HIP K is now being fielded.

h. (S) b1

b1

i. (S) Warsaw Pact helicopters have been seen equipped with antennas that are designed for ECM use against selected ground-to-ground and air-to-ground communications. The Soviets are expected to expand their program of employing helicopters in support of the fixed-wing and ground-based jamming effort against HF, VHF, and UHF communications, as well as ground-based air defense acquisition and tracking radars. b1

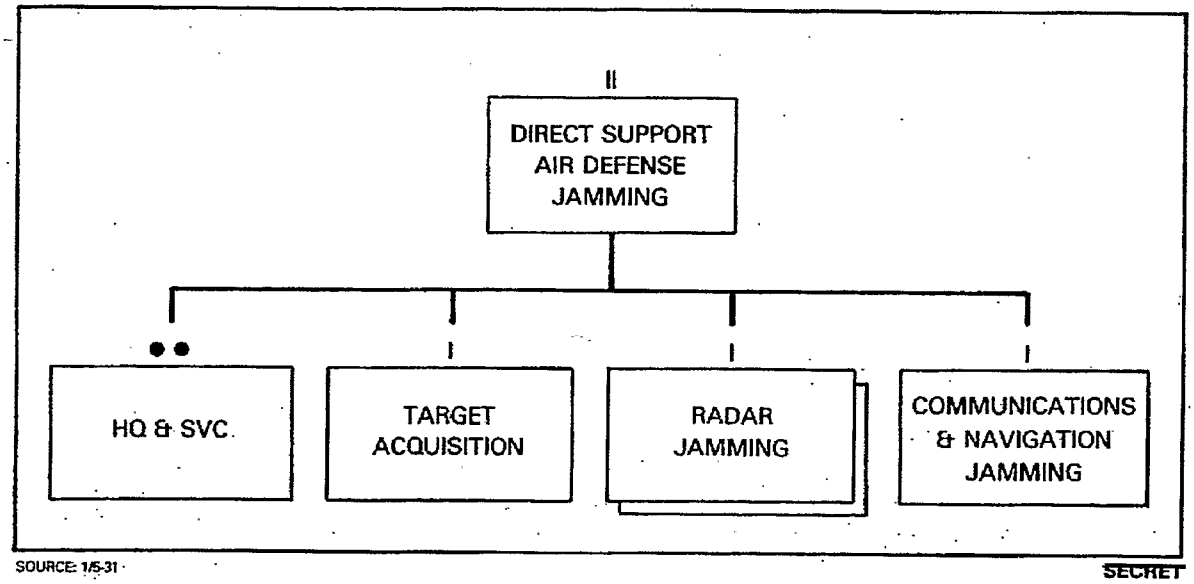
b1



SOURCE: 1/5-29

~~SECRET~~ (u)

Figure 66. (U) General Support Air Defense Jamming Battalion, Air Defense Jamming Regiment, Front 2000



SOURCE: 1/5-31

~~SECRET~~ (u)

Figure 67. (U) Direct Support Air Defense Jamming Battalion, Air Defense Jamming Regiment, Front 2000

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(u)
j. ~~(S)~~ For estimates on postulated parameters and jammer power requirements, see Table 111.

3. Postulated Electronic Materiel (U).

(u)
a. ~~(S/NOFORN)~~ The new or upgraded electronic warfare (EW) and signal intelligence (SIGINT) materiel projected to be available beyond 1991, would reflect the technology of the late 1970's and 1980's. Based upon current trends, which could be projected to be representative of efforts in technology for the mid-range period, the Soviets could emphasize miniaturization of electronic military materiel, design of versatile materiel, development of automation, and incorporation of good levels of computer storage, processing, and computation. The results of this effort could produce, within the next 10 to 20 years, systems that exhibit traditional Soviet ruggedness, are maintainable, and yet sophisticated and advanced in concept and design, when compared with current systems.

(u)
b. ~~(S/NOFORN)~~ Advances in Soviet technology could influence electronic component development. New devices could have greater output powers, wider bandwidths, and a greater range of tunability. Developments in theoretical research, such as information theory, could provide the Soviets with the knowledge and understanding to develop sophisticated modulation formats for their systems. With shortening of the transition period from theory to development, the Soviets could field military communications and noncommunications systems, to include electronic warfare materiel, which would display complex advanced emission formats. Some of the techniques that have been demonstrated or are expected to appear are pulse position modulation (PPM), pulse code modulation (PCM), pulse amplitude modulation (PAM), pulse ratio modulation (PRM), pseudo-noise or spread spectrum, pseudo-random pulsing, and intra-pulse phase modulation.

(u)
c. ~~(S/NOFORN)~~ The projected electronic materiel could be designed to be manportable, vehicular mounted, and installed in aircraft, including helicopters. The varying transport means would not change the intent or function of the equipment but would affect the available ERP. Generally, in man portable equipment the ERP could be less than that from a truck, tracked vehicle, or aircraft mounted system. These, in turn, would radiate less power than a trailer-mounted or semi-fixed site system. One of the constraining factors would be the available energy from the prime power source. The portable systems would use internal low energy batteries, the vehicles and aircraft could use an internal power source or a small auxiliary power unit (APU), and the trailer or fixed site systems could use large trailer mounted generators. Depending on the operating frequency, another constraining factor could be the size of the antenna. Usually the lower the frequency and the smaller the antenna, the lower the ERP because of reduced directivity. Based upon power source and electrical constraint (there are exceptions) the order of increasing effective radiated power is from manpack equipment, to

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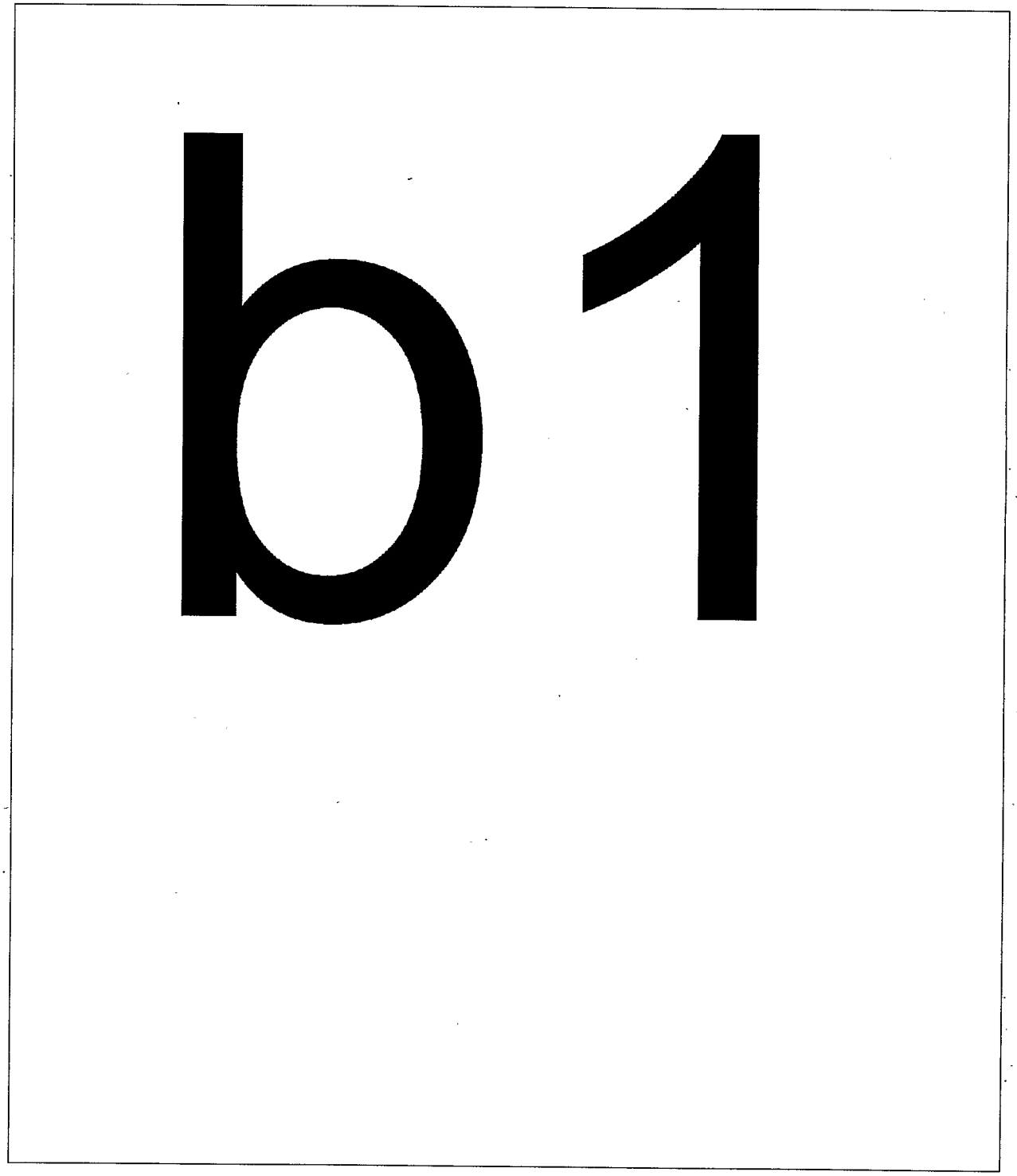
b1

vehicular or aircraft materiel, to trailer mounted, and to semi-fixed stations.

d. (u) ~~(S/NOFORN)~~ The portability of electronic materiel provides another dimension in its flexibility. The reduction of terrain constraints allows the electronic materiel, especially EW and SIGINT equipment, to function in a more effective manner, especially in a tactical environment.

e. (u) ~~(S/NOFORN)~~ Radiation intelligence (RINT) material includes devices for collection and analysis of spurious emissions from electrical and electronic equipment. This information can be used to locate and to identify targets whose spurious radio frequency signatures are known. Information on the Warsaw Pact efforts in this field is not at hand, but, based upon demonstrated Soviet interest in the electronic warfare field and knowledge of the possible utility of RINT, a projected time phasing of developments is presented here. In the mid-range timeframe, the Soviets could conduct feasibility tests and start to collect target signatures. The next step would be to field tactical ground and airborne equipment for gathering RINT and for target acquisition. In the far term timeframe the Soviets may have a variety of ground and airborne tactical RINT equipment. Terminal homing sensors that recognize a RINT signature also may be available for guided munitions and missiles.

f. (u) ~~(S/NOFORN)~~ Beyond 1991, airborne and ground tactical DF systems with automatic tuning and automatic lock-on could be introduced. The addition of computers would significantly reduce time of the intercept and target acquisition process, and could provide either a semiautomatic or automatic response to a selected target signal. Refinements in antenna technology and signal analysis may allow tactical direction finding systems to have an accuracy of down to ± 1 degree of ground systems, and ± 3 degrees for airborne systems.

g. (u) ~~(S/NOFORN)~~ A projected ground or airborne dedicated receiver for intercept, or for support of an ECM transmitter, could have some of the following materiel characteristics by this time period:

(1) (u) ~~(S/NOFORN)~~ The duty cycle of the receiver may be designed for optimum interaction of intercepting the target emissions, analyzing the pertinent parameters, and responding with an ECM transmission. The duty cycle may be reduced to a "continuous look through."

(2) (u) ~~(S/NOFORN)~~ The receiver may have an optimal bandwidth to efficiently process a target's modulation technique. Its bandwidth may have, as a minimum, the intermediate frequency (IF) bandwidth of the target receiver or, as a maximum, the radio frequency (RF) bandwidth of the target receiver.

(3) (u) ~~(S/NOFORN)~~ The receiver's sweep rate across the frequency range of the target's emissions may be equal to or less than a duration

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of the emission. The sweep rate would be adjustable to assure a probability of intercept approaching 1.0.

(4) (u) (S/NOFORN) The projected frequency resolution of a receiver could approach .001 percent.

(5) (u) (S/NOFORN) As the sweep rate increases, the sensitivity of a receiver may remain unchanged until the sweep rate, in hertz per second, approximately equals the square of the IF bandwidth in hertz. Beyond that point, the sensitivity, in power terms, may decrease at the rate of three decibels for every doubling of the sweep rate. The sensitivity of a dedicated receiver may not be affected by the sweep rate as described above. With proper design, the sensitivity of a receiver may be reduced only minimally by a very rapid sweep rate.

(6) (u) (S/NOFORN) As the sweep rate increases, the resolution of a receiver may remain unchanged until the sweep rate, in hertz per second, approximately equals the square of the IF bandwidth in hertz. From that point, the resolution of a properly designed receiver may only be minimally affected by a very rapid sweep rate. (1/6-9,12)

h. (u) (S/NOFORN) Further development of active ECM systems is anticipated during the far term, with emphasis on qualitative rather than quantitative improvement. The post-1986 generation of ECM equipment is expected to address US equipment fielded in the early 1980's. The most important long-term (10 to 20 years) development will be the ability to sort out and jam a number of targets in a multiple emitter environment.

i. (u) (S/NOFORN) This generation of digital transmission jammers is very likely to provide automatic recognition of secure transmission preamble, and pulsed-jamming transmission of a false preamble. Ground-based equipment is likely to trade-off jamming duty cycle to handle more targets. Heliborne jammers are more likely to trade-off duty cycle for increased peak power output.

j. (u) (S/NOFORN) Long-range developments of HF jammers could center on the ability to handle a number of targets on a time-shared basis.

k. (S/NOFORN) b1

b1

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SECTION IX

DIRECTED ENERGY WEAPONS (U)

1. General (U).

a. (u) (S/NOFORN) The Soviets are conducting R&D in technologies that could lead to the development of weapons systems, such as laser and radio frequency (RF) weapons. There is strong evidence that the Soviets are engaged in at least two programs to develop ground-based high energy laser (HEL) weapons systems with an air defense capability. Ground-based HEL weapons systems are expected to be developed for use against both tactical and strategic targets. Low energy lasers (LEL) can also pose a threat in the visible and infrared regions of the spectrum.

b. (S/NOFORN) b1

b1

c. (u) (S) Laser and radio frequency damage weapons (RFDWs) are projected to be deployed in the late 1980s, and will continue to be within the Soviet's threat capability to the year 2000. Because these weapons represent relatively new technology, they will augment rather than replace existing systems.

2. Close Combat Ground Support/Air Defense System - High Energy Laser (CCGS/ADS-HEL) (U).

a. (u) (C) The HEL role here is anti-optics, anti-forward looking infrared (FLIR) sensor, flash blinding, and antipersonnel; thus providing close-combat ground support against NATO armor, helicopters, and low flying aircraft. It probably will augment the ZSU-23-4/SA-9, 13 type air defense system, with dual emphasis against NATO ground and air forces. It should be especially effective against optically-based antitank weapon systems. The HEL would be a fully mobile, armored, tracked vehicle. It will be a focused beam system, but not a "hole-burner". HEL will be used to craze optics and destroy FLIR systems used on helicopters and ground surveillance equipment. (3/3) It is expected to be capable of causing structual damage to aircraft within 2 km and sensor damage within 10 km. (4/2) They could also produce mass casualties by cornea, skin, and clothing burns. (3/3) The system characteristics are shown in Table 112. (4/4-5)

Table 112. (U) Estimated High Energy Laser Weapon Characteristics

Type of Laser	CO_2 Electric Discharge
Effective Range	2 km for structural damage 10 km for sensor damage
Target Acquisition	30 to 50 km (radar)
Track/Fire Control	TV and IR Tracking
Output Energy	10 kJ/Pulse
Repetition Rate	20-40 Hz
Single Pulse Duration	Less than 100 u sec

SOURCE: 2/4-5

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(u)
b. ~~(C)~~ The CO_2 laser weapon is a serious threat to the 8-12 micrometers (um) FLIRs because at 10.6 um, it is in the center of the FLIR band. It is capable of delivering sufficient irradiance at significant tactical ranges, even with beam spreading that relaxes pointing and tracking requirements. The weapon could be used to damage or destroy the detector of FLIRs to ranges beyond 8 km in favorable weather. (3/3)

(u)
c. ~~(S)~~ By increasing the output power for this system, the Soviets might be able to attack light armor instead of just optics and sensors or personnel. But to obtain the increased output power a larger and heavier system will be required, which will decrease the system's mobility. (3/8)

(u)
d. ~~(S)~~ Laser weapons tend to be "fair weather" weapons. Smoke, fog, rain, snow, dust, dirt and battlefield contamination degrade the usefulness of laser weapons. For this reason, a laser weapon may only be an intermediate weapon. (3/2)

3. Close Combat Ground Low Power Laser Weapon System (LPLWS) (U).

(u)
a. ~~(C)~~ The Close-Combat Ground LPLWS operates in the visible/near-IR band, and can be used as an anti-sensor weapon at ranges of .5 to 3 km. It will be fully mobile and could be used as an adjunct to armor, or possibly as a gun, to damage the sensors of TV systems, nightsights, or the eyes of operators of daysights. The LPLWS will not be a focused beam weapon system; therefore, precise location aiming may not be required. The system description is shown in Table 113. (3/5) Use of a CO_2 EDL as a LPLWS would permit damage to FLIRS at a range up to 5 km.

(u)
b. ~~(S)~~ Ideally, the close-combat Ground LPLWS needs to be man portable, similar to the US ground locator designator. The Soviets may, in the 1990s, be able to modify their current laser rangefinders or designators to obtain the required power outputs. It would be used against personnel who do not have their eyes protected. (3/8) A laser weapon of this type would approach the power output of the Nd:YAG and doubled Nd:YAG lasers shown in Table 113. (4/3-4)

4. Radio Frequency (RF) Weapons (U).

a. (U) While the technology required for the laser weapons discussed in the previous section has been available for some time, such is not the case for radio frequency (RF) weapons. These weapons would be based upon high power microwave and millimeter wave sources that have only been developed (in both the United States and the USSR) within the last few years. There does not seem to be any fundamental obstacle, however, to integrating these sources into a weapons system, and it is possible that the Soviets will be able to field RF weapons within this decade. The goal of an RF weapon would be to place sufficient radio frequency energy on a target system to degrade or destroy the electronic

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Table 113. (U) Ground Low-Power Laser Weapon System Description

Type of Laser	Pulsed Nd: YAG (106 um) Doubled-YAG (0.53 um) Ruby (0.69 um) CO_2 (10.6 um)
Effective Range	0.5-5 km
Target Acquisition	TV, Optical Augmentation
Output Energy	3 to 15 J/pulse; 100 J/pulse (CO_2)
Single Pulse Duration	10 usec; 2-25 usec (CO_2)
Repetition Frequency	10-25 Hz
Beam Divergence (Effective)	0.75 mrad; 0.1 mrad (CO_2)
Vehicle	MTLB, BMP

SOURCE: 2/3-4

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circuitry, and thus induce mission failure. Antipersonnel applications may also be feasible. Like the laser, the RF weapon would produce a beam of narrow band, coherent electromagnetic radiation; but, as the name implies, not at optical, but at radio frequencies--nominally 100 MHz to 100 GHz. Unlike the laser, the radiated energy from an RF weapon would be in the form of a wide cone, so that at any significant distance the beam covers a large area making precise pointing and tracking unnecessary. Also, RF radiation is not as severely attenuated in adverse atmospheric conditions (fog, haze, aerosols) as is a laser beam. (4/5-6)

b. (U) Potential targets for a tactical radio frequency weapon intended to cause electronics failure, include fire control systems, surveillance radars, ordnance fuzes, communication systems, avionics, radar or electro-optically guided munitions, and C^3 facilities. There are two paths, or coupling mechanisms, by which RF energy impacts on the internal electronics of its target system. "Front door" coupling is the first, and means that the energy is of proper frequency and format to enter via the receiving antenna. "Back door" coupling, the second, refers to energy coming through an unconventional path, such as the power supply leads or an aperture in the equipment housing; this term includes radio frequency energy entering the domes of IR and optically-guided weapons. (4/6)

c. (S/NOFORN)

b1

d. (U) There has been considerable speculation on the possibility of using radio frequency radiation to kill or incapacitate personnel on the battlefield. Biological effects of RF radiation have usually been divided

into thermal and non-thermal. Thermal effects would result from exposure to relatively high power densities and include skin burns and heating of internal organs. Analysis suggests that causing thermal effects would not be practical, because of the large amount of energy required, and the large size of the antenna that would be needed to radiate at a frequency necessary to efficiently couple energy into the human body. It was postulated that non-thermal effects, including heart seizure or behavioral changes, could be induced by low-power densities, but recent evidence indicates that these alleged effects were due to poor experimental procedure and do not actually occur. It appears that the only feasible tactical RF weapon would employ the process known as thermo-acoustic expansion, in which pulsed millimeter wave radiation of modest power generates a pressure wave in biological tissue. This pressure wave would not be fatal, but should induce effects--such as damage to the cornea that would interfere with vision, or stimulation of carotid baroreceptors that would lower the blood pressure--with consequences inimical to normal functioning of the targeted individual. (4/6-7)

e. (u) ~~(S)~~ Table 114 presents estimates of reasonable operating parameters, at three frequencies, for radio frequency weapons designed to cause electronics damage. It must be emphasized that there is no evidence of Soviet intent to build RF weapons with these characteristics; rather, this table indicates what should be possible by about 1990, given the current status of the requisite technologies. RF weapons operating at lower frequencies (hundreds of megahertz) would most likely direct energy into targets via the back door path, whereas higher frequency weapons (tens of gigahertz) would be optimum for front door damage. At frequencies in the low gigahertz range, both back door and front door coupling may occur. The output power, repetition frequency, and pulse duration of all three systems have been chosen to yield an average radiated power of 100 kW. If the overall efficiency is 20%, the average prime power requirement is 500 MW. This may be supplied by a turbogenerator with a mass of approximately 3500 kg and needing 200 kg of fuel per hour. The antennas are assumed to be dishes with diameters small enough for battlefield use; if larger antennas were used, the corresponding power density at a given distance would increase. The entire RF weapon (including power supply) should fit into a large truck or tracked vehicle. No estimates have been given, however, for the parameters of an RF weapon designed to cause biological damage, via the thermo-acoustic expansion process-primarily because more experimental research must be performed before the best radiation frequency, pulse duration, etc., are known with any degree of confidence. Preliminary data suggest, however, that a Soviet radio frequency weapon for this role is feasible by the end of the decade. (4/7)

f. (U) A tactical radio frequency weapon would probably look much like a battlefield radar--a generator vehicle on which is mounted a radiating antenna (which might be inside a radome). When the weapon is operating, high power RF should be detectable at great distances within

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Table 114. (U) Estimated Radio Frequency Weapon Characteristics

Operating Frequency	500 MHz	3 GHz	35 GHz
Output Power	1 GW	1 GW	100 MW
Repetition Frequency	10 Hz	100 Hz	10 kHz
Pulse Duration	10 μs	1 μs	100 ns
Antenna Diameter	2.7 meters	1.4 meters	1.2 meters
Antenna Gain	20 dB	30 dB	50 dB
Power Density	0.8 W/cm² (1 km) 30 mW/cm² (5 km)	8 W/cm² (1 km) 0.3 W/cm² (5 km)	80 W/cm² (1 km) 3 W/cm² (5 km)
Pointing and Tracking Accuracy	500 mrad	100 mrad	10 mrad

SOURCE: 2/8

~~SECRET~~ (U)

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the main antenna beam, and possibly within the sidelobes. An enhanced IR signature from the power supply is also likely. Because armor shielding for the antenna would not be feasible, the RF weapon should be subject to destruction by conventional munitions. The major difficulty in attacking an RF weapon would be devising a delivery mode that is not, in itself, vulnerable to electromagnetic effects. One candidate is a specially-hardened antiradiation missile that would home on RF emissions. The obvious passive countermeasure to a radio frequency weapon is protection of the electronics, in potential target systems, by means of T/R switches, limiters, filters, RF gasketing, wire screen shielding for view ports, etc. Such protection must be designed to be effective at microwave and millimeter wave frequencies; in particular, shielding against the nuclear electromagnetic pulse would not necessarily be adequate, because the nuclear electromagnetic pulse weapon (EMP) is at lower frequencies. Another possible countermeasure is the use of fiber optics for transmitting information. (4/7-8)

(u)

g. ~~(S)~~ A class of radio frequency weapon that is not truly a directed energy system, but that is included here for completeness, is the non-nuclear EMP weapon. This would use conventional explosives to generate a broad band, high energy EMP intended to damage electronic components in much the same way as the RF weapon discussed above. The non-nuclear EMP weapon would operate in the 10 to 100 MHz frequency range, in an effort to avoid nuclear EMP hardening measures (which are oriented toward lower frequencies). The EMP generator should be small enough to be delivered via bomb or artillery shell. This implies over-the-horizon applications, a significant advantage over other DEW. Upon arrival in the vicinity of the target, the weapon would be detonated, and the resulting electromagnetic pulse would be radiated by an antenna. Because an antenna of reasonable size would be small compared to the wavelength, the radiation would be essentially omnidirectional. The Soviets are known to have performed a considerable amount of research on devices that could be used to generate high intensity EMP; and if this type of weapon is feasible, it may in the Soviet inventory at present. It has not been demonstrated, however, that efficient excitation of an antenna and radiation of an electromagnetic field sufficiently intense to affect electronics at a distance greater than that for conventional warheads (i.e., about 100 meters), is operationally practical. (4/8-9)

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SECTION X

SPECIAL PURPOSE FORCES (SPETSNAZ) (U)

1. Introduction (U).

(U) The USSR has always been aware of the value of clandestine operations as a means to enhance the element of surprise. Even under the tsars, all the practices of deception and undercover operations had been refined to a great degree. The Russian predilection for clandestine practices, ranging from the use of agents infiltrated into European military staffs to the various secret police operations (to include the use of "agents provocateurs"), is a matter of record. The advent of Communism has only increased the importance of political agitation and subversion by providing a universally understood ideology. The concepts of class struggle and of an international proletariat have maintained a popular appeal, especially in the Third World nations, and have thus been powerful weapons in the conduct of worldwide clandestine operations. The ever-increasing predominance of the KGB, as an extension of the Politburo, has maintained the impetus for all clandestine tactics from espionage to disinformation to sabotage.(1/vii)

2. Basic Sabotage Team Concept (U).

a. (U) Due to the Kremlin's success in running sabotage operations with Russian partisan groups behind the German lines in World War II, the Soviets started to recruit for a buildup of partisan assets in European countries during the early 1960's. In 1972, Lyalin's defection from the KGB in London compromised the entire effort. Since then, the Soviets appear to have given up the local partisan concept, and there has been a dramatic increase in the importance of the Special Purpose Force (SPETSNAZ) role. Having become disillusioned with the potential use of marginally reliable local groups, the Kremlin may have decided to rely instead on a concept of "instant" partisan teams in the form of Soviet SPETSNAZ. This concept makes effective, dedicated, behind-the-lines support available to the front commander. The tactical sabotage capability displayed by the General Staff's Intelligence Directorate (GRU)-controlled SPETSNAZ teams presents a critical threat to the battlefield commander. Coordinated employment of these teams in the rear area can have a significant impact on the conduct of military operations and can critically reduce NATO's nuclear reaction capability. The role played by the KGB sabotage teams against strategic objectives will have more of a detrimental impact at the national level, since they will be attacking targets of an economic and political nature rather than purely military targets.

b. (u) ~~(S)~~ Many military, paramilitary, and security forces in the Soviet structure have a potential for unconventional warfare. Their members are very well-trained, qualified both physically and morally, selected for their reliability and devotion to the party, and able to take part in any type of military or police action. These forces, shown in Figure 68,

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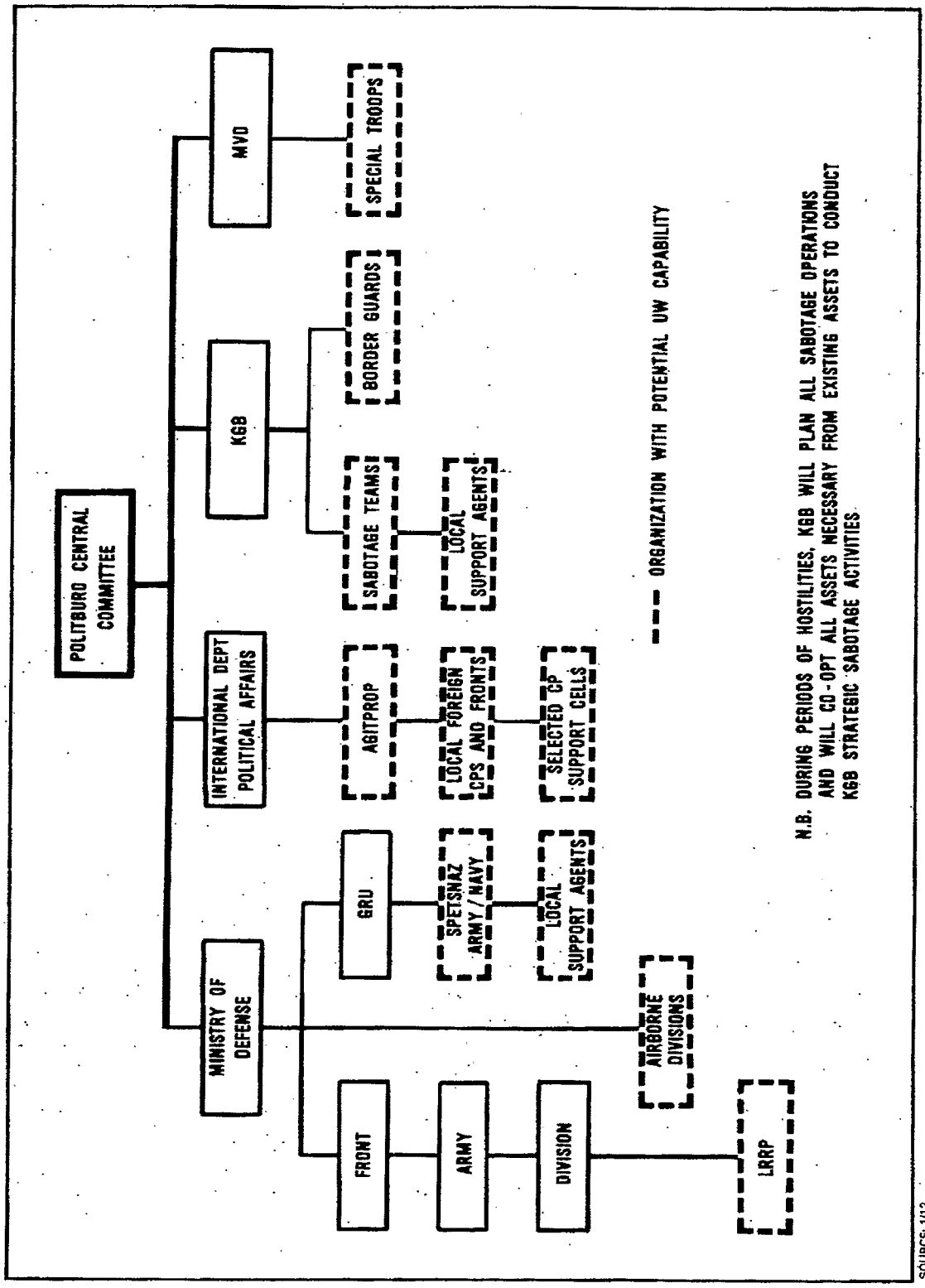
(u)



SOURCE: 1/12

Figure 68. (U) Soviet Unconventional Warfare Assets

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and they include KGB, MVD, GRU, military, and other elements which can be used for clandestine sabotage missions.

3. KGB Role in Sabotage (U).

a. Planning (U).

(u) ~~(S/NOFORN)~~ The KGB is responsible for the planning of sabotage actions in peace and war, with monitoring by the International Department of the Central Committee of the Soviet Communist Party for peacetime actions. While the KGB plans for sabotage operations in wartime, front commanders will assign priorities to targets based on their plan of maneuver. The KGB always exercises some degree of monitoring over all clandestine activities, even when GRU directed. Coordination of agents' and sabotage teams' operations in wartime, especially at the beginning of hostilities, will require close supervision at the highest level to prevent duplication of effort. The KGB can co-opt individuals and units from other organizations to conduct political, intelligence, security, or sabotage missions. In every case, co-opted personnel will remain under direct KGB supervision.

b. Operations (U).

(u) ~~(S/WNINTEL)~~ KGB strategic sabotage teams can be infiltrated in target nations as early as several weeks before D-day and will prepare their operations in conjunction with local support cells. They will be targeted against high visibility objectives, which will have a psychological impact at the national level. Communications centers, power generating plants, POL tank farms, large warehouses, and important landmarks will be attacked with explosives and incendiaries upon signal. TV and radio stations will be neutralized or taken over and used to broadcast propaganda and conflicting orders to the local population, adding to the already existing chaos and confusion. In some countries, local Communist cells will participate in the initial clandestine action and will attempt to take over local key government centers. (See figure 69.)

4. Transition Period (U).

a. (u) ~~(S/WNINTEL)~~ The crucial transition period from peace to war will have to be minutely orchestrated between the International Department of the Political Bureau and the KGB to attain a progressive acceleration in the tempo of sabotage actions. These sabotage actions will, in turn, grow in number and importance but without alerting the local authorities. Shortly before D-day, the KGB will take over all sabotage operations to insure a logical progression which will culminate at H-hour into a nationwide massive attack against strategic targets. Simultaneously, the Soviet General Staff Intelligence Units, which will have parachuted into position from 500 to 1,000 kilometers beyond the FEBA at D-1, will begin their own sabotage attacks against tactical targets. (See figure 70.)

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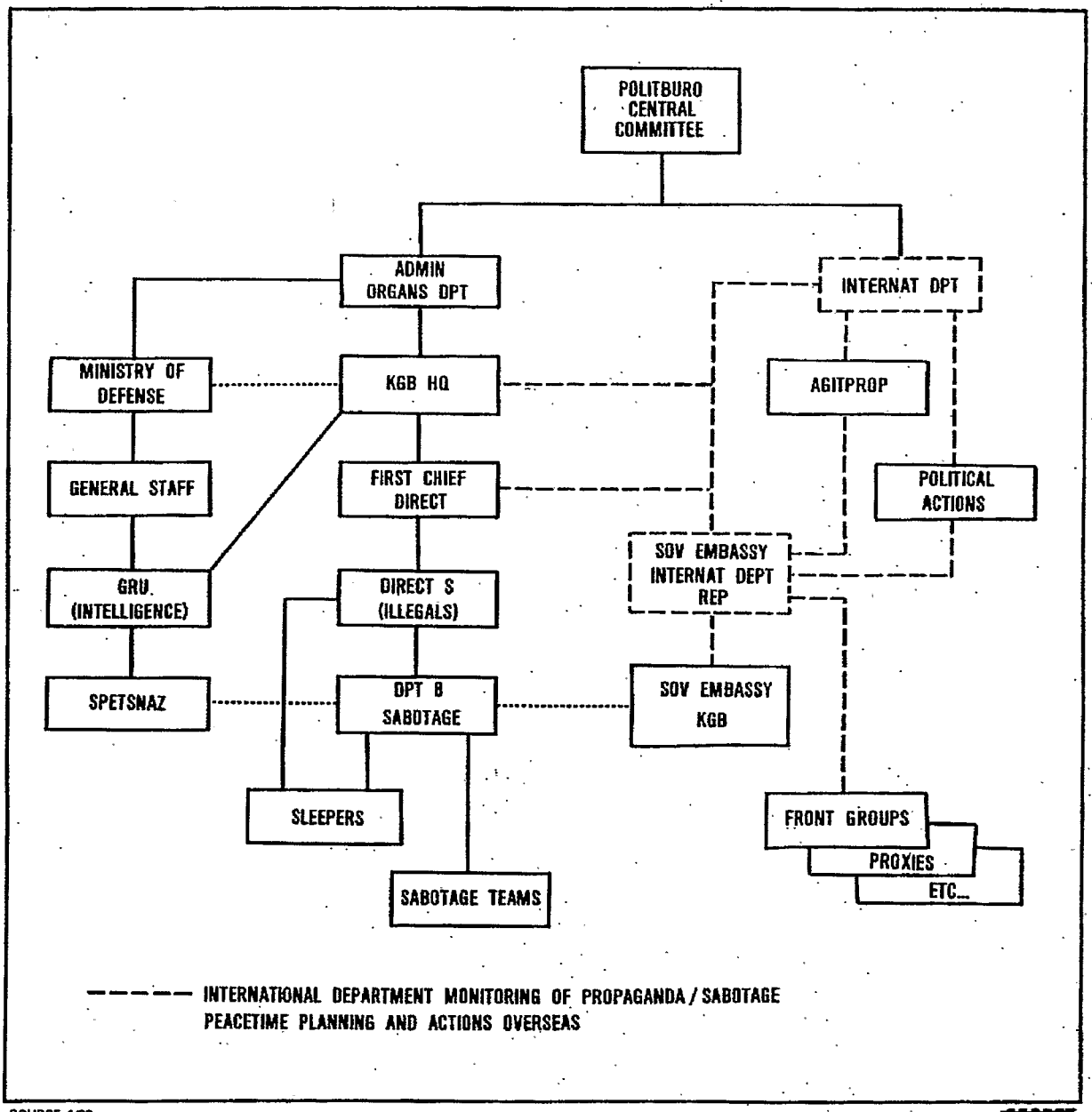

SOURCE: 1/32

~~SECRET~~ (U)

Figure 69. (U) Peacetime Coordination of Sabotage Planning

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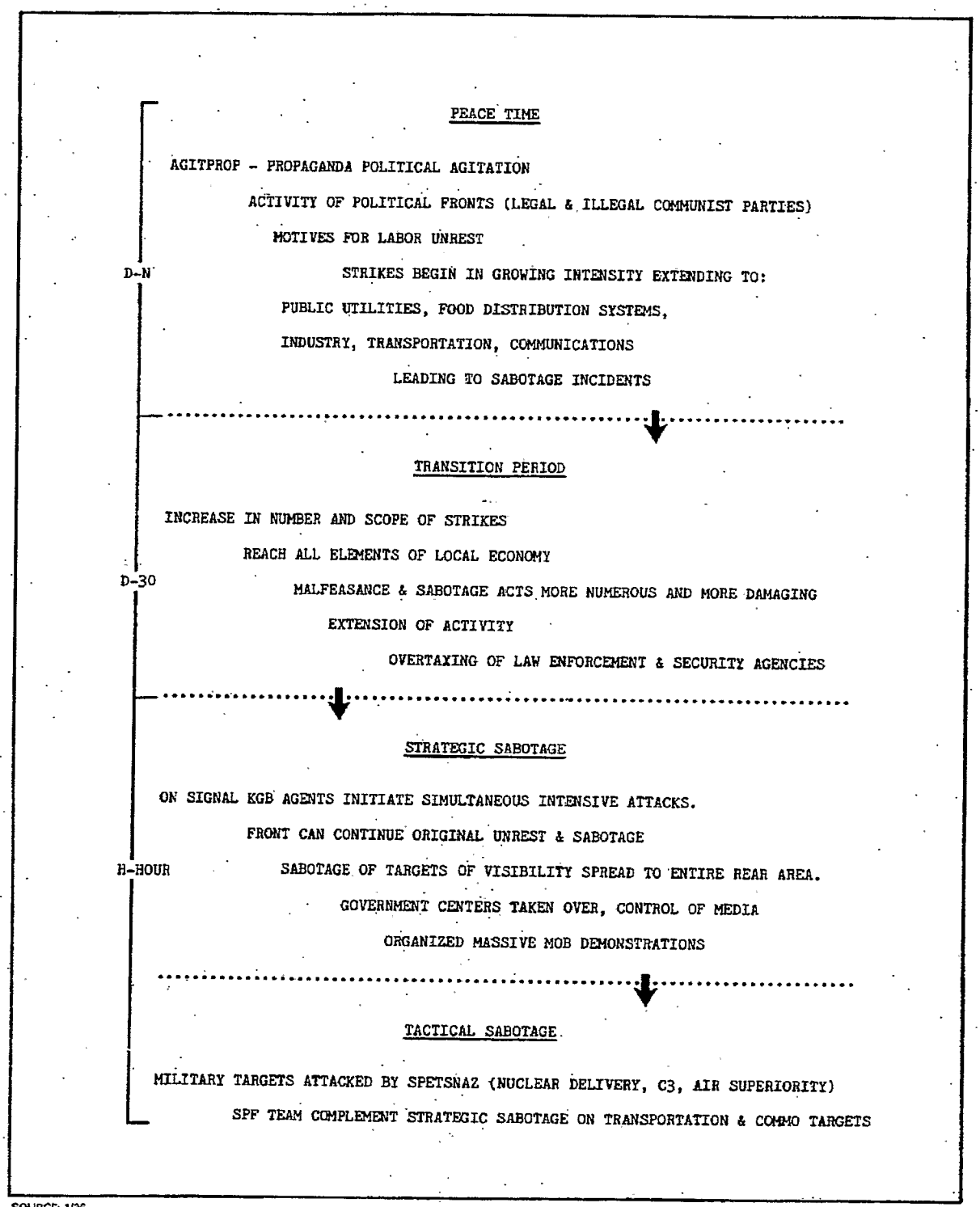

SOURCE: 1/36

Figure 70. (U) Peace-to-War Transition

~~CONFIDENTIAL~~ (u)

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(u)
b. ~~(S)~~ The importance of time in coordinating sabotage operations is vital. Simultaneous actions at both the strategic and tactical levels are essential if the WP wants to maintain the element of surprise. The initial blow must be of such a crippling magnitude as to bring total paralysis to the NATO reinforcement capability. It is not the extent of devastation inflicted on each target, but rather the widely scattered multiplicity of various systems' elements being partially neutralized which can bring the collapse of the rear area transportation, communications, utilities, and military structures (See Figure 71). Simultaneous, devastating actions, occurring from the battlefield all the way to the heart of the target nations and striking at interdependent systems, can exert a synergistic effect which will be enhanced and magnified by the element of surprise. Detailed planning will be required to attain that ultimate end, but, as in all plans, something is bound to go wrong. The transition from peace to war will be very difficult to orchestrate, and some operations may go off prematurely, creating a state of alert which would require postponement of the general attack.

5. Tactical Level Sabotage (U).

(u)
a. ~~(S/NOFORN/WNINTEL)~~ Under the generic term SPETSNAZ, the Soviets cover a multitude of activities which can extend from reconnaissance and sabotage groups to special electronic warfare units. The closest we can come to the interpretation of SPETSNAZ is "Special Purpose Forces"; these are the one type of force especially qualified for unconventional warfare and discussed in this study. SPETSNAZ units have been identified both with the Army and the Navy. To date, we have not been able to determine whether the Soviet Air Forces have a SPETSNAZ unit of their own, but there have been reports that the Soviet airborne commander has organized regular airborne troops into units with unconventional warfare capabilities. (1/40)

(u)
b. ~~(S/NOFORN/WNINTEL)~~ All Soviet and Warsaw Pact unconventional warfare assets would be involved in wartime operations. These might include not only the (Army and Navy) SPETSNAZ, but also the Soviet long-range reconnaissance companies (VYSOTNIKI-commando company), allocated on the basis of one per division reconnaissance battalion, and composed of 65 high-altitude low-opening (HALO) and sabotage-trained personnel. Soviet counterterrorist elements, KGB-controlled airborne clandestine units, and the Commando 0016 personnel (alleged to be transported aboard merchant ships and capable of port and naval sabotage in peace and war) would also have an important role. Reports also mention the existence of special mission units manned by Soviet Border Troops under KGB leadership. The Soviet Border Guards have always had a vital role in the infiltration of enemy borders, and their Warsaw counterparts appear to have the same capability. These units are trained in guerrilla warfare partisan activities in case of occupation of the Soviet territory by the enemy. Any military or para-military formation may be used in wartime for temporary unconventional warfare missions such as sabotage and raids deep into enemy territory at

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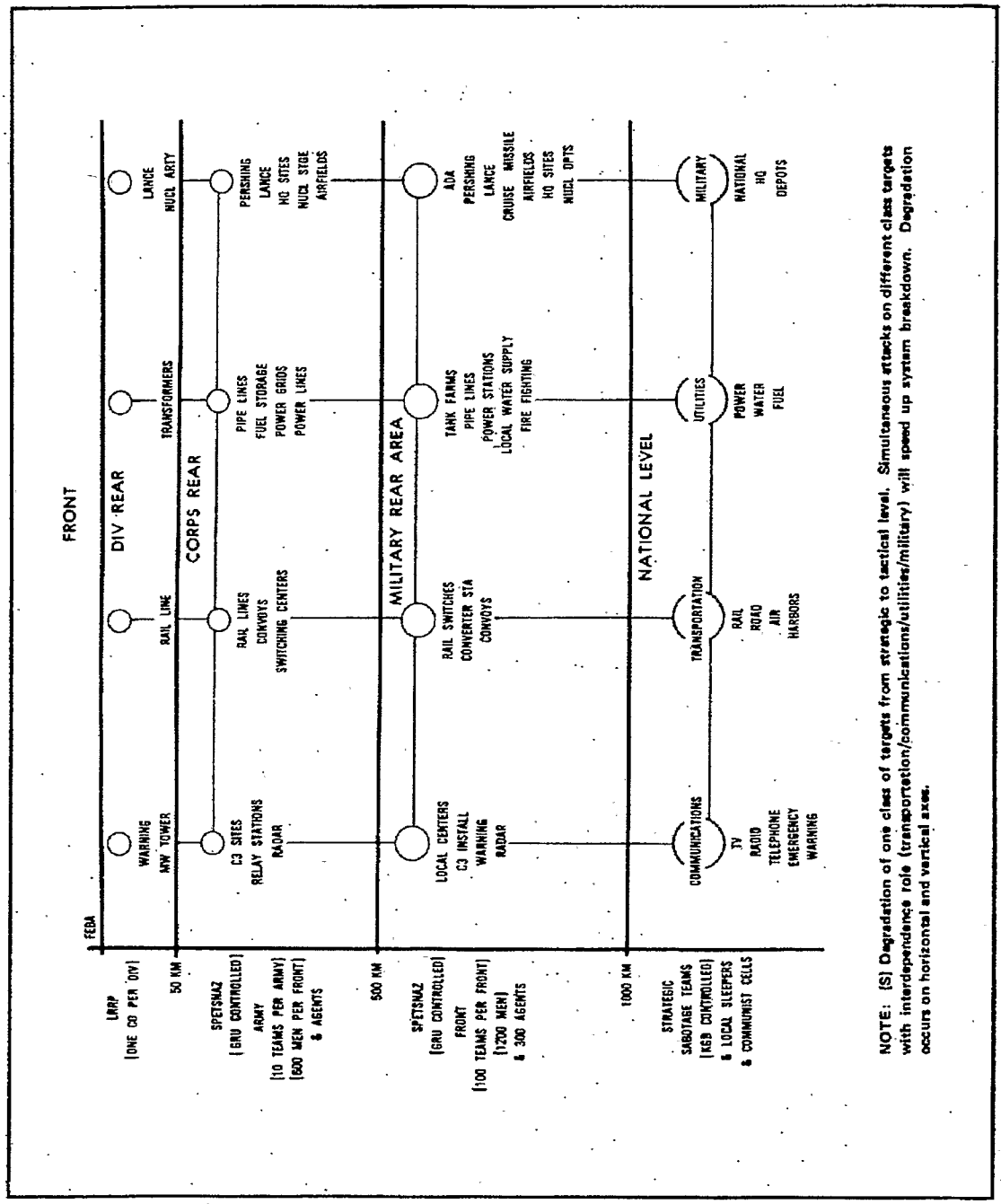

NOTE: (S) Degradation of one class of targets from strategic to tactical level. Simultaneous attacks on different class targets with interdependence role (transportation/communications/utilities/military) will speed up system breakdown. Degradation occurs on horizontal and vertical axes.

~~SECRET NOFORN~~ (U)

SOURCE: 1/25

Figure 71. (U) Interrelationships of Targets

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the beginning of hostilities.

c. (u) ~~(S/RELUK/CA)~~ The most striking characteristics of the SPETSNAZ units is that they are considered to be above all elite troops and, therefore, enjoy a degree of prestige and special privileges not extended to the regular forces. They are also considered totally trustworthy, which presupposes rather stringent security criteria and a thorough check of the individuals' loyalty to the party. Other criteria pertain to physical fitness, willingness to undertake dangerous missions, proficiency in the use of weapons and equipment, thorough knowledge of languages used in target area, ability to perform clandestine missions under any circumstances and in any uniform -- military or civilian, enemy or friendly. Another criterion which becomes clearly apparent is the need for a strong sense of initiative, which may require a total departure from the standard school solution. The ability to think clearly under stress and to come up with field improvisations, as unorthodox as they may be, appears to be a prerequisite for SPETSNAZ units. This, in itself, would constitute a requirement difficult to fulfill from average trained troops and may probably necessitate special batteries of psychological tests to establish the prospects' adequacy.(1/40)

d. (u) ~~(S/RELUK/CA)~~ SPETSNAZ members are generally selected from airborne qualified personnel and must be in top physical condition. Their daily training is designed to increase their strength and toughness and to enable them to withstand any hardships they might encounter while operating behind the lines, cut off from all support from their own troops. Training includes the usual airborne physical conditioning plus a special emphasis on the martial arts and hand-to-hand combat. All SPETSNAZ members have to master judo and silent methods of disposing of opponents. They are taught methods to silently neutralize guards and sentries, while the rest of the team emplaces demolition charges. These methods include knife combat techniques, knife throwing, and use of a special spring-propelled knife which has an effective range of 30 feet. For special clandestine assassination missions, not necessarily connected with normal sabotage operations, a special 3-shot, electrically-ignited handgun, made entirely of plastic (so that it will not be spotted by standard X-ray viewing techniques in Western airports) is made available. Other devices which fire bullets poisoned with cyanide or other lethal elements have been reported as having been used for the elimination of target victims. Part of the training also includes the use of life-size mock-ups of NATO targets, such as the Pershing, Lance, Hawk, radar installations, bridges, pipelines, etc. Troops can thus be shown where to position demolition charges on the actual object obtain maximum effectiveness.

e. (u) ~~(S/WNINTEL)~~ The Soviet Special Purpose Forces, on which we have the most information as to overall organization, functions, missions, training and targets, are the army SPF units, especially those located in East Germany. It should be noted here that the majority of the Soviet

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military are not aware of the existence of the SPETSNAZ, and that only some members of the high-level staff have been exposed to their true capabilities. Those who have been made aware of their potential have been enthusiastically convinced that the SPF constitutes a tremendous asset which will enhance the element of surprise. Some of the SPF team's performances in the field during maneuvers have been commended by the General Staff, and special awards have been given out. Some SPETSNAZ units have been reported in the past as having been co-opted by the KGB to perform specific security and counter-riot missions. Although the teams were led in every instance by KGB officers, the fact that they were selected to work with the KGB is an indication of their reliability.

6. SPETSNAZ Organization (U).

a. (u) ~~(S/RELUK/CA/WNINTEL)~~ The Soviet Special Purpose Forces for reconnaissance and sabotage (SPETSNAZ), which have been designated by the British at one time as "Diversionary Forces," appear to function strictly under a military mode. While it is logical to assume that units presenting those capabilities could be employed in peacetime, there is no evidence that any such teams have been used outside of the USSR.

b. (u) ~~(S/RELUK/CA/WNINTEL)~~ The Soviet General Staff's Main Intelligence Directorate (GRU) is the authority responsible for planning and training of the SPF under the overall supervision of the KGB. As far as we can determine, there should be one SPF brigade assigned to each Soviet military district, with some districts having only a battalion. A brigade is reported to have a peacetime strength of 400 to 600 men, with the capability to expand to 1,000 in wartime after augmentation. It has also been alleged that there are an unknown number of SPETSNAZ brigades, which are not assigned to any specific Military Districts or any other current military headquarters, but which are kept in the Moscow area at the disposition of GRU and the Soviet General Staff. The exact strength, location, and mission of those "reserve" units are not known. It could be assumed that these SPF assets would constitute an adequate reservoir to provide special talent required for peacetime or wartime use in foreign areas which do not fall under any specific geographical front. This special talent could be used by GRU or be co-opted by the KGB for the conduct of highly sensitive plausible denial operations, which could cover any activities ranging from the assassination of key political figures and sabotage, to the preparation of insurgency potential.(1/42) (Table 115)

c. (S/~~RELUK~~/CA/WNINTEL)

b1

While there is still some uncertainty as to whether each Soviet army in the field will have organic SPF teams,

Table 115. (U) Projected Wartime Strength of SPETSNAZ Forces

MILITARY DISTRICTS (16)	*	16x60 FRONT TEAMS = 960 TEAMS (max 12 men team)	= 11,520 men
	**	10x50 Deep Cover Agent Cells = 500 TEAMS (6 men team)	= 3,000 men
GROUPS OF FORCES (4)	***	4x60 FRONT TEAMS = 240 TEAMS (max 12 men team)	= 2,880 men
		4x50 Deep Cover Agent Cells = 200 TEAMS (6 men each)	= 1,200 men
NAVY FLEETS (4)		4x60 FLEET TEAMS = 240 TEAMS (max 12 men team) (Each FLEET SPETSNAZ Brigade will have Deep Cover Agent support specific to targets.)	= 2,880 men
ARMIES (35)		35x10 ARMY TEAMS = 350 TEAMS (max 12 men team) (There is no evidence that Army level SPETSNAZ teams have dedicated Deep Cover Agent Cells.)	= 4,200 men
		TOTAL GRU-CONTROLLED SPETSNAZ FORCES	= 25,680 men +

NOTE: Data estimated on the basis of doctrine and reports. The above figures reflect only GRU-controlled SPF assets dedicated to tactical targets. Strategic targets will be KGB SPETSNAZ's responsibility.

(u) * ~~(S)~~ It is assumed that all Military Districts will have a SPETSNAZ Brigade in wartime.

(u) ** ~~(S)~~ Support Deep Cover Agent Cells would be assigned to other fronts facing areas of eventual conflict: Baltic Front, Balkan Front, Turkestan Front, etc.

(u) *** ~~(S)~~ Northern Front to be supported by the Polish Special Purpose Forces.

SOURCE: 1/88

~~SECRET NOFORN WNINTEL REL UK,CA~~ (u)

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it is believed that each army will have 10 teams assigned. These teams will perform reconnaissance and sabotage missions up to 500km beyond the FEBA deep into enemy lines. They could either report directly to front, with the Army monitoring all traffic to keep abreast of operations, or directly to Army headquarters, which could then forward the information to front. While the respective Soviet armies do not have the capability of monitoring this type of traffic at this time, they could be issued with additional signal equipment in wartime to perform that function.

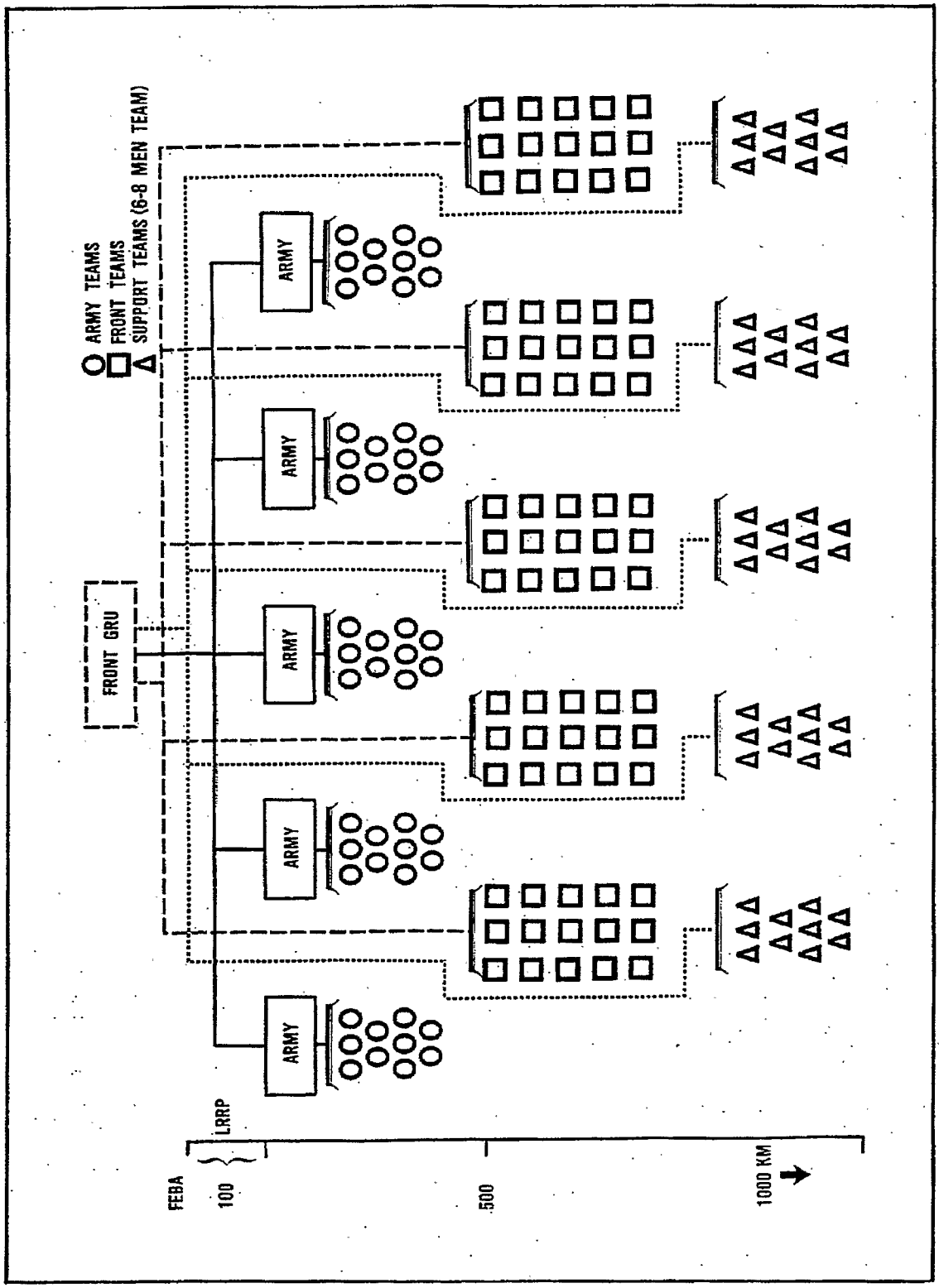
d. (S/RELUK/~~GA/WNINTEL~~) At front level, the front intelligence directorate (RU) controls and tasks, through an independent radio center, all the SPETSNAZ elements assigned to front and army levels. This supervision is exercised all the way down to single individual agents in the field starting as of D-1. This may be the only way to monitor thoroughly the overall sabotage function, and to prevent unnecessary duplication of effort or destruction of an installation which may be very valuable to the Soviet command and which has to be left intact. Indications exist that the RU also controls organized agent nets located deep in enemy territory and which can be activated as early as D-6. These agents would receive instructions as to where to report to assist arriving SPF teams. (Figure 72). They could also be targeted against specific objectives to attack with their own means. The capability to task sabotage assets in place, where they have been residing as sleeper agents over a number of years, or who have been infiltrated in the target area a few weeks before D-day, significantly enhances the Warsaw Pact sabotage potential. b1 Individual agents can be used even for minor sabotage missions, such as the blowing up of an unguarded microwave tower, unguarded pipelines, rail switching sites, power grids, and communications relay centers. All those targets can be put out of action with a minimal amount of explosives, and can be attacked with minimal risks. SPF teams would be reserved for targets more strongly defended. Activities of agents can be controlled by a local center, geographically located in an area where they can radiate to SPF team objectives. These centers can be manned by special RU members, infiltrated into target country at D-6 or earlier, with specific target lists and priorities. The centers would provide an ideal capability to coordinate intelligence collection and sabotage activities. Several months before H-hour support agents can also be assigned selected sabotage targets to be attacked on signal. They can obtain explosives and incendiaries, as well as other material from the caches which can be indicated to them a few hours before H-hour.

7. SPETSNAZ Mission (U).

(u)

a. (~~S/WNINTEL/RELUK/GA~~) The basic mission of SPF units is to conduct reconnaissance deep into enemy territory, to sabotage targets upon command, and to attack objectives of opportunity, within the team's capabilities,

(u)



SOURCE: 1/82

Figure 72. (U) Depths of Operations

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when there is no time for communications with GRU (as in the case of a missile ready to be launched).

(u)
b. ~~(S/RELUK/CA)~~ To assist them in their reconnaissance role, SPF teams are encouraged to take prisoners for interrogation and obtain maximum amount of information, even through means of torture. Since time is of the essence while operating deep in enemy territory, expeditious, if simple, torture measures like the filing down of teeth to the gums are recommended. Use of drugs is a more sophisticated treatment of high-level commanders, who might have more information to communicate. Maps, overlays, and installation lists are also important sources of information which can give accurate and detailed confirmation of target locations.

(u)
c. ~~(S)~~ SPF team members may operate in uniforms of the target country or in civilian clothing. To insure mobility, they will have to commandeer local vehicles, either civilian or military, depending upon the cover they have chosen. While most of the members are required to have a thorough knowledge of the local idiom, it is rather doubtful that all the members of the team will be totally fluent. Whatever contacts have to be made with the local population will probably be made by the most fluent linguists. In operations where the Soviet uniform will be used, standard operating procedure will be to eliminate local witnesses immediately after interrogation.

(u)
d. ~~(S)~~ Priority of objectives for reconnaissance will be similar to the priority for sabotage. First on the list are nuclear delivery means-missiles and aircraft. Air superiority targets, nuclear storage installations, major command centers, communications, and other objectives deemed essential to the front commander, will also be at the top of the list. Teams will be introduced as close as possible to the target area to insure maximum security. They will have to exercise maximum precautions to prevent being detected before hostilities start. Like most long-range reconnaissance patrols, they will do most of their traveling during darkness and will maintain proper camouflage discipline during the day. When wearing civilian clothing or local military uniforms, they will still be careful not to attract undue attention during their movement.(1/47)

(u)
e. ~~(S)~~ As another source of current intelligence, SPETSNAZ teams will have the capability to monitor and intercept NATO communications, including short range traffic difficult to intercept from East Germany. Of course, their capability will be limited to traffic in the clear, since they will have neither the time nor the equipment for decoding encrypted messages. This capability may be important, however, for monitoring the progress of special convoys, the adoption of special security procedures, and the projected deployment of troops in specific directions. Information on activities and locations of higher NATO headquarters will also be significant, since the Soviet front will be able to allocate air strikes on the most important targets.

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8. SABOTAGE (U).

a. (u) ~~(S/RELUK/CA/WNINTEL)~~ While some analysts claim that the primary SPETSNAZ responsibility is reconnaissance, it appears from the type of armament carried, and the capabilities of the teams, that they can be extremely effective in the conduct of sabotage and destruction operations. In addition to the amount of materiel which can be carried by the teams during their infiltration, the existence of local caches may provide supplementary demolition materiel.

b. (u) ~~(S)~~ According to their operational orders, some teams will have specifically designated targets to attack and destroy. This could include air defense sites, Pershing Quick Reaction Alert sites, Lance launching areas, airfields, radar sites, etc. In many cases, teams will also have to engage targets of opportunity, especially if they run into nuclear-capable missiles being prepared for launching. Under those circumstances, there may not be sufficient time to report to, or communicate with, GRU headquarters and get an answer before the launch. In the presence of objectives much too important or too well defended to be attacked by a small team, the SPETSNAZ will report the exact coordinates of the prospective target, leaving it up to the front or army commander as to the method of attack to be used. In cases where an air sortie is preferable, sabotage teams may be required to emplace special beacons beaming a directional signal right into the target. This may represent an advantage when visibility is poor or when the objective is well-camouflaged. Considering the state-of-the-art, we can expect the SPETSNAZ to be equipped in the future with special portable laser designators which can be used to direct all types of strikes (air and missile) with maximum accuracy.

c. ~~(S)~~ SPETSNAZ teams are reported to be equipped with explosives,

(b) (1) & (b) (3) per CIA

Front headquarters would have to decide which targets have to be damaged temporarily and which permanently. In some areas, the Soviet Supreme High Command may prefer to paralyze the rear area systems only temporarily in order to be able to put them back to use with minimum repair and expense. Sometimes, wide-scale multiple sabotage attacks, causing only minor or medium damages, may be more effective than the permanent destruction of very few targets.

d. (u) ~~(S)~~ The Soviets are well aware of the destruction caused by fire and will use incendiaries whenever possible. Flammable targets, such as POL tank farms, chemical storage tanks, lumber yards, warehouses filled

with crates and boxes, coal reserves, tire stocks, plastics, and fabrics can be easily ignited, even without any special equipment. By using delay igniting devices, sabotage teams can plan for fires to start simultaneously over widely scattered areas. Individual sabotage agents already in country can also be issued sabotage materiel and take part in the destruction program. They will be assigned specific targets and will be able to move freely in the area, being able to reach objectives which would be out of the normal range of a regular SPETSNAZ unit. The simultaneous setting of fires over a wide area will overtax the capabilities of the local fire-fighting organizations, allowing the majority of the fire to spread unchecked over large areas, while creating chaos and disrupting reaction capabilities. (1/47-49) (See figure 73.)

(u)
e. ~~(S)~~ Sabotage of missiles can be accomplished through the firing of weapons (rifles, rocket launchers) into the missile itself or into control-launching vans. The Soviets seem more intent in attacking the launching systems than the weapon storage depots. Once the launcher is gone, all the extra missiles will be useless. If the NATO missile sites are not adequately protected, SPETSNAZ members can infiltrate through the security cordon and emplace demolition charges on the launchers. Those charges can be detonated either by timers or by remote control. Destruction of communications centers can be done by either explosives or incendiaries. Some critical parts of the system may be put out of action, thus neutralizing the center for weeks. Individual sabotage agents can be sent on special demolition missions to blow up microwave towers. Isolated, unguarded towers are easy targets to destroy, and will not require significant quantities of explosives. Parabolic antennas can also be easily put out of action by firing a few bullets from an adequate distance. Nuclear storage depots will be easy to attack, but depending on the time required by the reaction force to reach the target area, the team may not have time to neutralize all the warheads. At least some damage can be done which will delay considerably future loading operations.

(u)
f. ~~(S/RELUK/CA/UNINTEL)~~ SPF are also targeted against air defense sites and airfields. According to the priority, airfields with a nuclear delivery capability should be attacked first, but any airfield with a significant role in insuring NATO air superiority will also be a target. Airfields will be attacked surreptitiously by team members infiltrating in the vicinity of the runways and emplacing blocks of three SA-7 (Grail) missiles mounted on a tripod. These missiles are reportedly activated by an acoustic trigger device which will set one missile off at a time when the noise level reaches a certain level of decibels. By orienting the missiles parallel with the runways, they can be ignited whenever a plane lands or takes off, thereby creating maximum damage. Several types of claymore mines, called MON 100 and MON 200 (depending on the range) are also acoustically activated. Once triggered, they fire flechettes which are very effective in an anti-personnel role and which can also penetrate thin-skinned vehicles and airplanes. The emplacement of these devices can be effected under the cover of darkness and can be detonated whenever the

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(u)

- Overall sabotage actions monitored by KBG.
- GRU control extends over all SPETSNAZ units (except when co-opted by KGB).
- Tactical military targets are selected by the Soviet General Staff in direct support of military operations.
- There are two types of SPETSNAZ-controlled activities: the SPF teams organic to each Military District, Front and Army, and the Support agent cells in place in target nations.

MILITARY TEAMS

- Selected from the best military elements. Preferably airborne. Politically reliable.
- Trained and equipped by GRU.

TARGETS

- Nuclear Delivery Capability & Storage
- Air Superiority
- Early Warning Systems, ADA, Radar
- C^3 Nodes
- Transportation & Logistical Systems

SUPPORT AGENTS

- Under GRU Illegals Department and Department 8.
- Recruited, trained, provided documentation/cover by GRU.
- Teams under wartime control of local support center (5 centers, 50 teams per front as of D-8)
- Teams support SPETSNAZ units upon arrival in target area (guides, safe houses, etc.). Individual agents can also accomplish sabotage missions.

SOURCE: 1/72

~~SECRET NOFORN~~

Figure 73. (U) Sabotage Targets — Tactical Level

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noise reaches a certain level. The team can then concentrate on attacking the main part of the base to destroy the control tower, the GCA system, and all other radar and communications installations. Satchel charges and incendiaries can also be placed on parked aircraft, or tires and control surfaces can be shot out. Special contaminating substances can be introduced into the fuel storage tanks to render all jet fuel unusable. SPETSNAZ teams may attack airfields for two purposes; first, to take over control of the base until reinforcements can be landed on the strips, and second, to destroy the base to prevent its use by NATO aircraft. Since their attack cannot create permanent damage to the landing strips, they will call in air or missile strikes on the target. In either case (landing of WP reinforcements or WP air sorties to bomb the field), the SPF teams can use special beacons to beam a signal to the WP aircraft and guide them straight on target.(1/51-52)

g. (u) (S) Once the high priority targets have been neutralized, the SPF can be utilized for other objectives to further disrupt NATO reinforcement and supply lines. Of significant importance will be the destruction of rail lines, rails switching centers, rail electric converter stations, bridges, tunnels, and rolling stock. In that type of activity, which can take place after D+5, SPF teams will have to run the gauntlet of increased NATO security forces as well as a more acute awareness on the part of the local populations as to the threat to the NATO rear area. The sabotage teams will have to rely more on camouflage, on night operations, and on the use of local uniforms to blend with the populace. They can be especially effective in laying ambushes against supply columns, convoys, and especially nuclear warhead movements. They can be resupplied by air at predesignated locations or use the weapons and ammunition caches which allegedly have been stored in the NATO rear area. In this type of operation, they will have to rely more and more on the local individual agents or sleeper cells which have been residing in the target nation for some time. Local sabotage assets have already blended with the native population and will have more freedom of movement, especially during the chaotic period after D-day, when the NATO security services will start looking for suspicious characters.(1/53-54)

9. SPETSNAZ Equipment (U).

a. (S) As stated previously, SPETSNAZ teams will be equipped with the most effective Warsaw Pact explosive and incendiary devices available.

(b) (1) & (b) (3) per CIA

They will have the acoustically detonated SA-7 missiles and MON directional mines for operations against airfields. They have special magnetic limpets which can be used against ships or against POL tanks. These come in several sizes and can be used by the underwater demolition teams for attacking harbors. Most of the demolition charges will be activated timing devices or by remote control, depending upon the circumstances. Rocket launchers of the RPG-7, SPG-9, RPG-16 and 18 are available to the SPF teams. Any new

type of portable weapon, which will increase their firepower, will certainly be made available to them as a matter of priority. With rocket launchers they can attack and effectively control launching vans, signal vans, POL tanks, armored vehicles and vault doors of nuclear storage depots. The new AT-7 is portable, tube-launched, IR-guided, has a 1,000m range, and can penetrate up to 600mm of rolled homogenous steel. SPF teams also have available the airborne multiple rocket launcher (122mm), which is very effective against targets up to 20 km away. The AT-4 is similar to NATO's MILAN and can be carried, with ammunition, by a three-man team.

b. (~~S~~) SPETSNAZ will also be equipped with the most effective silenced weapons, e.g., the assault rifle (AK-74), the RPK-74 light machine gun, and the SVD sniper rifle. The Skorpion machine pistol is an effective Czech manufactured, light, fast-firing weapon very popular among terrorist organizations. The Makarov pistol, a standard Soviet sidearm, is also reported to be equipped with a special silencer. The type of silencer used on the weapons is reported to be extremely functional and makes the weapon inaudible. Silenced weapons are ideal for all clandestine operations, from assassinations to the killing of sentries, without attracting attention. Two other types of clandestine assassination weapons have been reported as available to Special Mission personnel. One is a three-shot, all-plastic pistol with electrically-fired cartridges containing poisoned bullets. b1 The other is a one-shot pneumatic, totally soundless pistol with a range of 10 meters. The SVD rifle, with an 8-power scope, can be used for long range killing of high-ranking officers. It can also be extremely effective to disable missiles, such as the Pershing and Lance, from a distance, since both have a thin skin and are highly vulnerable to perforation. Rifles can be fitted with IR or starlight scopes to improve their night firing. Several types of bullets are available to the Soviets. The 7.62mm AKM has the usual armor-piercing bullet, the tracer incendiary, and one special "rose" bullet, which explodes in a mushroom effect. The SPETSNAZ have been issued the new AK-74 which shoots a high-velocity 5.45-mm bullet. The latest bullet used in the 5.45 ammunition is especially designed to tumble upon impact, thereby creating maximum destruction of tissues. Disabling a missile from 400 to 600m (reported effective range of the sniper rifle) would enable the team to stop a launch without having to penetrate the security screen and reveal its position. The 30mm AGS-17 automatic grenade launcher, although somewhat cumbersome, may be ideally suited to attack troops out in the open and to neutralize security elements guarding missile sites and small installations. SPF troops are also armed with a special spring-propelled knife with which they can allegedly disable an enemy up to a range of 30 feet.

(U)

c. (~~S/WNINTEL~~) Teams could be inserted before D-day by helicopter or by fixed-wing aircraft, depending upon the Warsaw Pact capability to defeat our radar screen at that particular time. Reports indicate that teams can also be landed by submarine or by merchant ships in Allied ports.

Other methods of infiltration can be used, provided NATO is not in a state of alert. The use of TIR (Transports Internationaux Routiers) trucks originating from a Warsaw Pact country could also be utilized in the short period before D-day. Those trucks can depart from any Warsaw Pact country and travel across West Germany or any other NATO nation, totally customs and security inspection free until they reach their final destination. Since the large vans can carry from 20 to 40 tons, they are capable of carrying a 6- to 12-man team complete with equipment. This method can also be used in peacetime to bring into target country the clandestine equipment necessary to store away in caches. Clandestine shipments can also be made by using regular barge traffic through West Germany, Belgium and Holland, or by dropping off packaged materiel from Soviet freighters at predesignated spots, close to the coast but free from observation. (1/54-65)

10. SPETSNAZ Communications (U).

a. (u) ~~(S/WNINTEL)~~ To maintain a tight control on SPETSNAZ activities deep behind enemy lines, the Soviet front headquarters, through its GRU staff, must have available a secure, fast and reliable communications system. In wartime, we can assume that for maximum efficiency the RU net will be tied directly to the army SPF teams, the front SPF teams, the intelligence cell centers, and even the individual agents in the field. This presupposes a sophisticated signal capability permitting the simultaneous handling of hundreds of messages emanating from a widely scattered area. The Soviets have demonstrated that capability by the use of switching equipment, recorders, peripheral devices and computers. Radios in the field also have a satellite retransmission capability which reduces possibilities of interference. The Soviets have designed special vans which give them a total capability to monitor all radio traffic from intelligence agents deep in enemy territory. Those vans contain all the equipment necessary to handle the voluminous number of "burst" type transmissions emanating from the field.

b. (u) ~~(S/WNINTEL)~~ SPETSNAZ teams are all equipped with highly sophisticated, rugged, small-size radio transmitters with an extreme long-range capability. These transmitters can operate in the burst mode, which renders their intercept for direction-finding purposes practically impossible. They can also transmit at normal speeds, using one-time code pads. This type of encryption is secure enough for use in the field, and NATO analysts would not be able to break the code under field conditions.

c. (u) ~~(S/WNINTEL)~~ Each team is constantly in touch with GRU headquarters to keep it informed of the progress of its mission, of the acquisition of new targets, and new developments. Teams must also be able to receive new orders, receive notifications of changes in targets, priorities and objectives, and receive warning of impending local actions which might have escaped their notice. During the first few days of hostilities, the reporting of SPF teams and their ability to engage designated targets effectively will be critically important for the success of the Warsaw

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Pact attack.

d. (u) ~~(S/WNINTEL)~~ SPF teams' radio equipment is also alleged to have an intercept capability to allow them to monitor NATO radio signal nets. This capability should provide them with up-to-the-minute tactical data, information on NATO road convoys, troop movements, security procedures, and future intentions. With their linguistic proficiency, teams can use their transmitters to interfere with NATO radio networks, by cutting into transmissions, injecting false information, misleading traffic, and giving contradicting orders which will add to the general chaos and confusion in the rear area. Some allegations have also been made as to their capability to employ small compact short-range jammers with a highly directional capability. These jammers could be aimed at air defense acquisition radars, ground navigational aids, at radars of the early warning nets, as well as at regular transmissions from security and law enforcement agencies. Due to the short range of these jammers, local jamming operations would not interfere with the Soviet use of the same frequencies in another area. (1/65-67)

11. Underwater Demolition Teams (U).

a. (u) ~~(S)~~ While all the operations we have examined pertain to ground action, we must not forget that naval targets are also extremely important to Soviet planners. Due to a lack of information on this subject, we can only assume that the same priorities are followed for naval as for ground objectives. It appears logical that all nuclear delivery means will be first-priority objectives. In that sense, naval bases capable of supporting nuclear missile submarine operations (berthing, resupply, nuclear warhead storage and maintenance, logistical support, etc.) will certainly be the first attacked. The second priority targets would probably extend to NATO's reinforcement capability and would be aimed at unloading piers, container transloaders, cranes, fuel storage facilities, warehouses, communications systems, and transportation links connecting the harbor area with external rail or highway nets.

b. (S/WNINTEL) It is not clear whether the responsibility for planning underwater demolition operations has been entrusted to the Army General Staff, or to the Navy or Naval Infantry forces. It would appear that several agencies have a "combat swimmer" or "frogman" function, and that their employment must be coordinated at General Staff or, at least, front level. One special group which has been mentioned by several sources is the Detachment "500". This unit is allegedly recruited from regular soldiers and officers who are given additional training, including underwater swimming with a variety of scuba equipment and light underwater vehicles. They can be inserted in the target area by submerged submarine or dropped into the sea using special parachutes which will dissolve upon contact with water. They are reportedly trained to attack the main Western seaports, such as Hamburg, Rotterdam, London, and even New York, as well as other strategic targets. The detachments are generally based near seaports; one is known to be located near Feodosia, on the South Coast of the Crimea.

All the sabotage groups of the 500th Detachment are trained (b) (1) & (b) (3) per CIA (b) (1) & (b) (3) per CIA They can be backed up, when required, by units of Soviet Naval Infantry, and missile or gun fire from the Soviet Navy. Some other reports mention SPETSNAZ sea-capable units under the control of the Soviet Naval Infantry. However, there is evidence that the Soviet Navy has maintained its own Special Purpose capability separate from the ground forces and the Naval Infantry. Each of the four Soviet fleets is assigned one SPF brigade. Each brigade is organized into a parachute company, a midget-submarine company, and frogmen groups which can operate in conventional general support of the fleet. Control of naval SPF activities in the European Theater, appears to be located at Rostock. Navy SPF units have their own communications nets with Navy HQ, which are different than the GRU system used for regular SPETSNAZ units subordinated to army fronts. All those units are alleged to have the same capability to follow the same type of training using similar equipment. This significant sabotage capability constitutes a tangible threat which can play an important part in the degradation of NATO naval and resupply systems.

(u)

c. ~~(S/UK/CA/WNINTEL)~~ We have evidence of underwater demolition training having taken place in many areas of the world, from Denmark to Alaska, involving the use of Soviet manufactured equipment. We also know that the Warsaw Pact nations have the capability to acquire sophisticated SCUBA equipment and underwater scooters, including the non-magnetic varieties. Reports indicate Warsaw Pact "frogmen" units being equipped with limpet mines, explosive and incendiary charges, communications sets, and even special chemical/biological kits containing disabling agents. There have been several unsubstantiated reports referring to the existence of three-men submarines propelled with a special, non-identified engine. Those small submarines would be the ideal means to bring demolition materiel (including mines) closer to the target area when the water depth is insufficient to permit the operation of standard-size craft. The minisubs can be used to tow combat swimmers as close as possible to their targets and to carry greater quantities of equipment than could be carried on underwater scooters. Reserves of demolition materiel can be dropped closer to the target to facilitate the combat swimmers' missions. Sketchy information has been received as to the existence of special underwater demolition teams assigned to Soviet merchant ships (or vessels that present the appearance of being merchant ships). The proximity of these vessels to potential targets, in peace or war, could greatly enhance Moscow's capability to initiate surprise actions, to paralyze NATO's early warning functions, and to deny immediate arrival of reinforcements.

(u)

d. ~~(S)~~ Mention is also made of the role of Naval Special Purpose teams as intelligence collectors to report information directly to naval headquarters. This is, of course, a function which any group with clandestine capabilities will be able to assume, if they possess the means of rapid communication. It is known that these means are available through the use of existing burst-transmission radio sets issued to SPETSNAZ units. Naval Special Purpose teams would need to report to their headquarters immediately when they run into targets which they cannot attack with any

degree of efficiency. However, even in the best of circumstances, European ports will have enough weaknesses that exploitation by small-scale actions will not be difficult, thus denying naval traffic and operations to NATO navies for protracted periods. Some ports in the North Sea can function only through the use of complicated lock systems. Sabotaging of the locks is easily accomplished by a variety of means and can bring all maritime traffic to a complete stop. Ships moored alongside piers in a harbor can be sunk in place by the use of limpet charges. Ships moored or moving within the access channels in any harbor can also be sunk easily to obstruct normal traffic. Cranes and container transporters can be blown up or fused solid by the use of thermite grenades. Fuel stocks and warehouses can be set afire to spread the conflagration throughout the installation. Harbors always contain highly flammable products in the form of oil bunkers, fuel tank farms, coal reserves, lumber, chemicals, all of which can be ignited easily. Destruction of tugs and lighters will prevent the unloading of ships away from the docks. Warning systems and communications centers can be destroyed to prevent local naval personnel from giving the alarm to warn ships at sea not to sail for the port.(1/67-71)

e. (u) ~~(S/WNINTEL)~~ Underwater demolition teams can set up directional beacons (to be possibly replaced by laser designators) to guide Warsaw Pact aircraft or naval gunfire toward the target. Any objective which cannot be engaged within the team's means will be targeted for some other type of attack, through naval surface or air bombardment, to include chemical ammunition. Ports and beachheads can be secured by Soviet Naval Infantry detachments, and by amphibious landing forces brought in by special amphibious landing ships. Air-cushion vehicles capable of transporting tanks and artillery have also been used by Naval Infantry units during exercises. All the naval assets can be used in conjunction with airborne units for coordinated attacks. Soviet training seems to include a certain amount of cross-training between naval and the ground SPF units. Army General Staff reconnaissance units have been trained in SCUBA diving and ejection from torpedo tubes. Naval SPF teams have been trained in parachute techniques. This would indicate a certain level of interchangeabililty and an inherent capability to engage targets of interest to another service in the course of one's mission. Here again we see the decision-making function concentrated at the General Staff level (GRU, and RU for the front). Since a front is an interservice joint headquarters, RU will make the determination as to which service attacks which target, thereby eliminating duplication and preventing a potential danger of crossing areas of responsibility during operations.

12. Unconventional Warfare Capabilities of Other Units (U).

a. (u) ~~(S)~~ Other units mentioned previously, such as the Soviet Border Guards, do not have a regular unconventional warfare mission, but can be and have been used for clandestine infiltration behind the lines just prior to an attack. In peacetime, the Border Guards run intelligence collection operations (and agents) up to 100km depth from the border.

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Their overall capability to effectively use all terrain features and camouflage opportunities and to surreptitiously penetrate into enemy territory makes them an ideal asset for short-range penetration thrusts as early as H-6. Their intimate knowledge of geographical surroundings and of local civilian and military situations gives them a definite advantage in the conduct of clandestine operations. They were used in that specific role, with great effectiveness, in Soviet military operations in World War II (the most striking example being their outstanding success at the onset of the 1945 Manchurian campaign against the Japanese at the end of World War II). Border Guard troops are extremely capable of handling reconnaissance as well as minor sabotage and neutralization missions. While the East German Border Guards' official mission is one of security enforcement and prevention of the infiltration of Western elements, their primary mission is to prevent defection of East German residents into the West. During the course of their duties, they assist East German espionage and subversive agents to pass into West Germany and return without alerting the FRG security apparatus. Border Guard personnel know all trails and paths linking both countries and the many devious routes which can be used to escape detection from FRG border and security authorities. They can cross secretly into West Germany and coordinate with the extensive net of local Communist sympathizers. In wartime, their main purpose is to eliminate the enemy's early warning capability, or at least to delay the alert process. They will concentrate on communications means and neutralize telephone, radio and microwave nets. Wearing the target nation's uniform, they can infiltrate close to enemy regular forces and eventually commandeer enemy vehicles. They then circulate conflicting orders to confuse local defense forces and to insure that no road blocks or strong points are manned which could slow down the initial advance of the Warsaw Pact units. Power stations, main communication centers, and transportation nets can be temporarily sabotaged just long enough to degrade NATO's reaction capability. Once the mass of the Warsaw Pact forces start crossing the border, border guard troops can be used as advance guides to lead the point elements.

(u)

b. ~~(S)~~ Long range reconnaissance companies, belonging to the reconnaissance battalion organic to each Soviet division, are airborne qualified and can be dropped or air landed up to 100km behind enemy lines. Their primary mission is to gather and report tactical intelligence to their unit. Since they are only armed with light automatic weapons, they will have only an incidental sabotage role but can be used to cause minor disruption beyond the FEBA by staging minor ambushes and attacking unescorted convoys. By concentrating on undefended targets of opportunity, they can tie up NATO's rear combat forces in rear area security roles.

(u)

c. ~~(S)~~ Units such as regular airborne or naval infantry troops, while not having a current clandestine sabotage mission, are, nevertheless, manned with adequately trained personnel who can assume SPF functions at any time. Airborne troops may not have the degree of language qualification required for clandestine operations behind the lines, but they can use the same weapons and equipment as the SPETSNAZ and can be incorporated into

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language qualified units as fillers. There have been instances of regular airborne personnel being co-opted for short periods by the KGB for specific security missions. They could be recruited for sabotage operations and serve under the direct supervison of KGB officers. Unsubstantiated reports indicate that 2 of the parachute divisions in the USSR are earmarked for KGB use during a war emergency. Personnel from those two divisions may be undergoing specialized training to qualify them to operate in a SPETSNAZ mode.

d. (u) ~~(S)~~ With the advent of the helicopter and the air-cushion vehicle, any hard hitting unit has the capability of being introduced deep behind enemy lines. Special missions requiring larger numbers of personnel could draw assets from airborne, Soviet Naval Infantry, or even mechanized infantry units. Ideally, airborne troops are never used too deeply into enemy territory since they must linkup as early as possible with the advancing ground units. However, in the case of very important targets, special long range raids might be organized, with the possibility of personnel being exfiltrated by sea or air, or being led to some safe area by SPETSNAZ teams after completion of their mission.

e. (u) ~~(S)~~ Joint use of ground and naval SPETSNAZ teams could have a devastating effect in some remote areas like the northern coast of Norway, or in isolated targets like Iceland which have no significant defense forces. In wartime, the centrally controlled use of SPF assets can provide an extremely effective weapon which can strike anyplace, anytime, and with the right degree of strength required to accomplish the mission. Looking at the NATO battleground, the effectiveness of the regular SPETSNAZ can be enhanced tremendously by the existing agent nets located deep in the NATO rear area which can be mobilized for specific sabotage, intelligence, or other support missions. That effectiveness can also be strengthened by the co-opting of additional forces emanating from other services.(1/71-73)

13. Conclusion (U).

a. (u) ~~(S)~~ The additional capabilities offered by other members of the Warsaw Pact, though in reduced number, would be directed toward their front area of responsibility. The combined strengths of the Polish, East German and Czech SPF will constitute a significant contribution to the tactical sabotage mission. In addition to the tactical mission, we cannot ignore the magnitude of the task reserved for the strategic sabotage mission entrusted to the KGB. The combination of strategic and tactical sabotage operations taking place simultaneously at all levels should create an uncontrollable state of chaos and confusion in the NATO rear area, even if only some of the operations succeed. The very ubiquity of the threat, magnified by the increasing variety of transportation means available to the Kremlin, will be very hard to counter. This capability to carry out clandestine operations world-wide also present a definite danger in peacetime. This world-wide peacetime threat cannot be ignored, and, with the help of the Soviet surrogates, becomes more and more difficult to identify.

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Special Purpose Forces are the ideal instrument with which to conduct plausible denial operations in any area, due to their capabilities, training, and modus operandi.

(u)

b. ~~(S)~~ The insidious quality of the clandestine threat can stretch from the training of local nationals in subversion and terrorism to the usurpation of power by WP advisors. The existence of a sizeable reservoir of UW personnel available to the KGB presents a significant threat for the future stability of Third World nations. In the long run, the destabilizing influence of "plausible denial" operations may prove to be as critical as purely tactical missions. Opportunities for manipulation, population control through propaganda, and agitation will be greater in those countries with only rudimentary security and law enforcement capabilities. By their sheer potential, SPETSNAZ forces are here to stay in the Soviet scheme of things, and the KGB seems to be riding the crest of power at this time. Future operations will see the increase in SPF utilization in peace and war. The advent of more-sophisticated weapons systems offering more lethality for less bulk and weight (to include larger yield ADMs) will increase the effectiveness of the clandestine threat. Use of chemical and biological agents which can be introduced long enough in advance to take effect can also enhance SPETSNAZ capabilities.

(u)

c. ~~(S)~~ Monitoring of KGB and GRU SPETSNAZ activities world-wide may provide reliable indications of warning on Soviet long-range intentions. The SPETSNAZ threat cannot be fought in a vacuum. Total coordination and cooperation in the counterintelligence effort will have to be undertaken by the NATO nations. More-effective security methods to warn of the implementation of a transition period and better trained and equipped reaction forces will be needed. Moscow has refined a new tool in its power projection role, and it will undoubtedly be using it in a multitude of ways as the opportunities arise.

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SECTION XI

ENGINEER SUPPORT (U)

1. General (U).

a. (u) ~~(S)~~ Engineer support has become an increasingly important aspect of Soviet combat operations, this is true because of greater Western capabilities to emplace hasty minefields and barriers, increased urbanization in Western Europe, and the large number of water obstacles that would be necessary to quickly cross. This section will address some aspects of Soviet engineer support, with an emphasis on projected changes for 1990 and 2000.

b. (u) ~~(S)~~ In 1961, the engineers were clearly showing the effects of postwar neglect. Engineer LTG Smirnov-Newitskiy wrote: "And, having forgotten the lessons and mistakes of the initial period of the last war, we are implementing anew the dispersal of [engineer] forces and equipment." Also, "...they [engineer troops] have been reduced in numbers to the point where they cannot accomplish modern missions." Other authors recommended reorganization of engineer units to provide divisions with a variety of up-to-date equipment and capabilities. The deficiencies and requirements were evidently noted and acted upon by the Army and Ministry of Defense. Divisional engineer battalions have become increasingly versatile and mechanized and as new equipment entered service. By 1970, first line divisions had the following capabilities:

(1) (u) ~~(S)~~ Offensive and defensive mine warfare;

(2) (u) ~~(S)~~ Float bridge construction;

(3) (u) ~~(S)~~ Wooden permanent bridge construction;

(4) (u) ~~(S)~~ Assault crossing support (assault bridging, tracked amphibian transporters, and ferries);

(5) (u) ~~(S)~~ Engineer route, bridge, underwater, and terrain reconnaissance;

(6) (u) ~~(S)~~ Temporary route construction and maintenance;

(7) (u) ~~(S)~~ Construction of field fortifications;

(8) (u) ~~(S)~~ Obstacle construction (such as antitank ditches);

(9) (u) ~~(S)~~ Demolitions; and

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(u)
(10) ~~(S)~~ Water purification.

2. Equipment (U).

(u)
~~(S)~~ The above-mentioned basic engineer capabilities were also present in the 1980 division, and there has been less open-source criticism of engineer equipment, operations, or overall capability. There has been no major influx of new engineer equipment during the 1970's, probably because the equipment introduced during the late 1950s and early 1960s is considered satisfactory and no replacement is necessary at this time. For example, the PMP floating bridge entered service in 1964. As of 1980, it remains standard equipment and, although other bridges are occasionally reported in development or service, the PMP will probably remain in the majority of divisions through at least 1990.

3. Current Assessment (U).

(u)
~~(S)~~ The Soviets have not placed major emphasis on updgrading the present structure of the divisional engineers. There has been little criticism of the engineers in open source literature, implying basic satisfaction with the status quo. The engineers' primary mission is to ensure the mobility of the combined arms maneuver force. As NATO's interdiction and obstacle (mine) capability has grown, it appears that the Soviet division now has insufficient engineer equipment available for route clearing, route maintenance, and for countermine warfare.

4. Flamethrowers (U).

a. (u) ~~(S)~~ Flamethrowers have been placed back in service. As the probability of significant fighting in built-up areas increases, a flamethrower unit will probably be added to the division's assets so they can be used where required.

b. (u) ~~(S)~~ Flamethrowers will be of two types. The manpack model will be a light, three-to-five shot weapon using napalm. Additives may be used to increase flame temperatures or produce toxic smoke. The vehicle flamethrower kit will be mounted on tanks or APCs. Firing ranges will be about 100 or 200 meters, respectively. Manpack flamethrowers will probably be phased out after 1990, and be replaced by incendiary grenades and shells loaded with organo-metallic compounds.

5. Equipment Developments (U).

a. (u) ~~(S)~~ Offensive mine warfare is carried out by mobile obstacle detachments using minelayer vehicles, operating along with antitank units. Indirect artillery fire support and smoke screening may also be coordinated with minelaying. Many units are equipped with GMZ armored tracked minelayer vehicles, but their production and introduction has been slow and the towed PMR minelayer trailers remain in widespread use. By 1990, the PMR should be

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replaced in all combat-ready divisions and in most cadre divisions. Product improvements to the GMZ could include a higher operating speed, ability to lay mixed AT and AP mine strips, or fitting of mine trailers or onboard dispensers for scatterable mines.

b. Current Soviet antitank mines are primarily blast-type, single impulse, pressure activated mines, with some provision for tilt rod fuzing and anti-removal devices. These options cannot be used with automatically laid mines. Plate-charge and shaped charge AT mines are also available. Antipersonnel mines include small blast mines adaptable to scattering systems, fragmentation mines (some World War II POMZ-2 are in use), and controlled fragmentation mines similar to, but larger than, the US Claymore. Anticipated mine developments include:

(1) (u) ~~(S)~~ Delayed arming so that tilt-rod, anti-vibration, magnetic, and acoustic fuzing can be adapted to automated minelaying;

(2) (u) ~~(S)~~ Greater use of indirect attack mines, such as those using self-forging slugs, so that minefield densities can be reduced and greater areas blocked with a given number of mines;

(3) (u) ~~(S)~~ Capability to rearm and reuse mines with timed sterilization feature;

(4) (u) ~~(S)~~ Mines with large lethal areas, such as fuel-air-explosive (FAE), incendiary or mixed submunitions;

(5) (u) ~~(S)~~ Modernized chemical mines externally similar to conventional mines; and

(6) (u) ~~(S)~~ Acoustically fuzed anti-helicopter mines.

6. Mine Warfare (U).

(u) ~~(S)~~ Soviet defensive mine warfare equipment is insufficient in numbers and variety. Mine detection at more than a slow walking pace can only be accomplished by three DIM vehicles per division. These are unarmored light trucks which can detect only metallic mines. In many exercises the first indication of mines is an exploding vehicle. Once mines are detected, tanks with rollers, plows, or dozer blades can effectively clear lanes in most terrain. About one-third of the 1980 divisions' tanks may be fitted with mineclearing equipment. The swept lanes cannot be used by mounted motorized rifle troops or accompanying fire support vehicles until they have been widened by hand-placed or vehicle-launched linear explosive charges. However, a division has only two mineclearing vehicles, so most fields must be cleared by hand. A serious deficiency is the lack of mineclearing equipment in motorized rifle units, which limits them to dismounted movement until lanes are cleared. Rear services units have no mineclearing equipment and, during offensive operations, can count on little help from forward-committed engineers. The emerging NATO capability to emplace

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mine obstacles rapidly and repeatedly is probably superior to available Soviet countermeasures. The option to move across minefields regardless of loss is, of course, available to combat units, but is hardly an optimum tactic. Rear services vehicles, some of them road-bound, may be more severely limited, especially by multiple or repeated mining attacks. Several measures may be taken to remedy these deficiencies, which represent one of the few apparent weaknesses in the 1980 ground forces. The following are postulated:

a. (u) ~~(S)~~ Fitting mine detection equipment to armored vehicles at both division and regimental level;

b. (u) ~~(S)~~ Increasing the number of mineclearing vehicles and deploying them at both division and regimental level;

c. (u) ~~(S)~~ Fielding lightweight scraper blades which can be fitted to APC and cargo trucks to clear surface-laid mines; and

d. (u) ~~(S)~~ Increasing the number of dozers at regimental and division level.

7. Bridging (U).

(u) ~~(S)~~ The PMP float bridge is still adequate for its mission. A postulated product improvement would be to add the option to lay it as a submerged (up to one meter) bridge. It would then be more difficult to spot visually or by electro-optically guided weapons, and would provide no radar image. A submerged bridge has been shown in Red Star, but its deployment status in unknown. The bank sections of the PMP may also be reinforced to prevent their deforming when used on firm banks.

a. (u) ~~(S)~~ The construction of permanent wooden bridges to supplement and replace assault and float bridges will probably remain as a division level capability. More use is likely to be made of pre-constructed light metal and wooden components to avoid delay caused by fabricating them on the scene.

b. (u) ~~(S)~~ Assault crossing equipment is a valuable supplement to other bridging and fording operations. It will retain its importance through 2000, with improved equipment.

(1) (u) ~~(S)~~ Both truck and tank-launched assault bridges may be reduced in weight by lowering their capacity from Class 60 to Class 50, which is more than enough for divisional equipment.

(2) (u) ~~(S)~~ As much of the artillery, all motorized rifle, and some other combat vehicles are postulated to be amphibious, the tracked amphibious transporter is less important in the 1990 and 2000 divisions. Its logistic role is also to be assumed, at least partially, by amphibious trucks. There is an even chance that amphibious trucks in divisional and

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regimental transportation units, and a GSP follow-on in engineer units, will make the PT-S type vehicles superfluous by about 1990.

(3) (u) ~~(S)~~ A follow-on to the GSP ferry will probably be a single vehicle, rather than a pair, capable of carrying a 40-50 ton load. The divisional ferry platoon will be able to lift a tank battalion (2 ACV, 40 Tk, 5 SAM Veh) in three trips.

8. Reconnaissance (U).

(u) ~~(S)~~ Engineer reconnaissance teams are a component of most combined arms task forces, and are likely to remain so through 2000. They will have specialized armored reconnaissance vehicles with range finders, soil stability sensors, navigation aids, water sampling and depth-finding equipment.

9. Route Construction (U).

(u) ~~(S)~~ Route construction and maintenance will assume greater importance as NATO's interdiction and mining capability increases. Minesweeping, crater filling, route maintenance, bypass construction, clearing debris, and building or maintaining fords are all missions which will continue to require substantial effort through 2000. More bulldozers, engineer tractors, and countermine equipment will be fielded. Current equipment is satisfactory, and it is unlikely there will be any significant difference between current and future bulldozers, graders, etc., except for higher road speeds and perhaps lighter weight.

10. Obstacles and Fortifications (U).

(u) ~~(S)~~ Obstacle and fortification construction is likely to be deemphasized in the future, since it does not accommodate the Soviet doctrinal view of the high speed offensive. They will be retained for building temporary revetments and firing positions with high speed excavators.

11. Projections (U).

(u) ~~(S)~~ It should be emphasized that the above projections are high-side, and based on inferred Soviet concern about improving engineer capabilities. Despite its critical part in support of combined arms operations, engineer equipment and deployment in 1980 appears to have a rather low priority. Some interest is evident in mineclearing and float bridge equipment, but most other areas appear to be changing very slowly. The equipment now in service is proven and adequate, with the exception of adequate numbers. Satisfaction with equipment performance, along with reluctance to expend resources unnecessarily, could delay considerably the introduction of new equipment. (1/IV-65-IV-70)

12. Tables (U).

(U) Tables 116 thru 119 depict Engineer units in the years 1990 and 2000.

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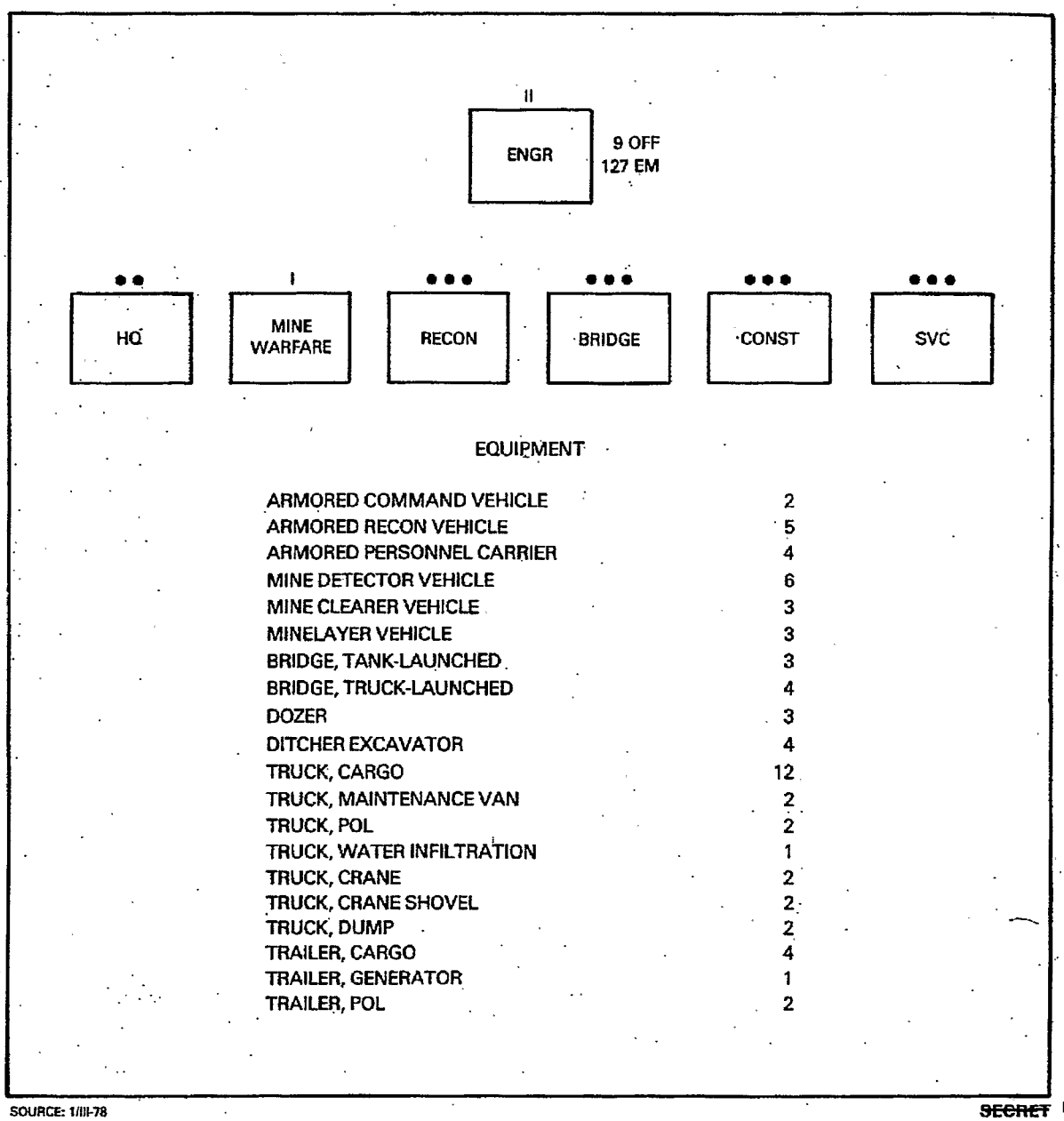
Table 116. (U) MRR/TR Engineer Battalion 1990



EQUIPMENT

ARMORED COMMAND VEHICLE	2
ARMORED RECON VEHICLE	5
ARMORED PERSONNEL CARRIER	4
MINE DETECTOR VEHICLE	6
MINE CLEARER VEHICLE	3
MINELAYER VEHICLE	3
BRIDGE, TANK-LAUNCHED	3
BRIDGE, TRUCK-LAUNCHED	4
DOZER	3
DITCHER EXCAVATOR	4
TRUCK, CARGO	12
TRUCK, MAINTENANCE VAN	2
TRUCK, POL	2
TRUCK, WATER INFILTRATION	1
TRUCK, CRANE	2
TRUCK, CRANE SHOVEL	2
TRUCK, DUMP	2
TRAILER, CARGO	4
TRAILER, GENERATOR	1
TRAILER, POL	2

SOURCE: 1/III-78

~~SECRET~~ (U)

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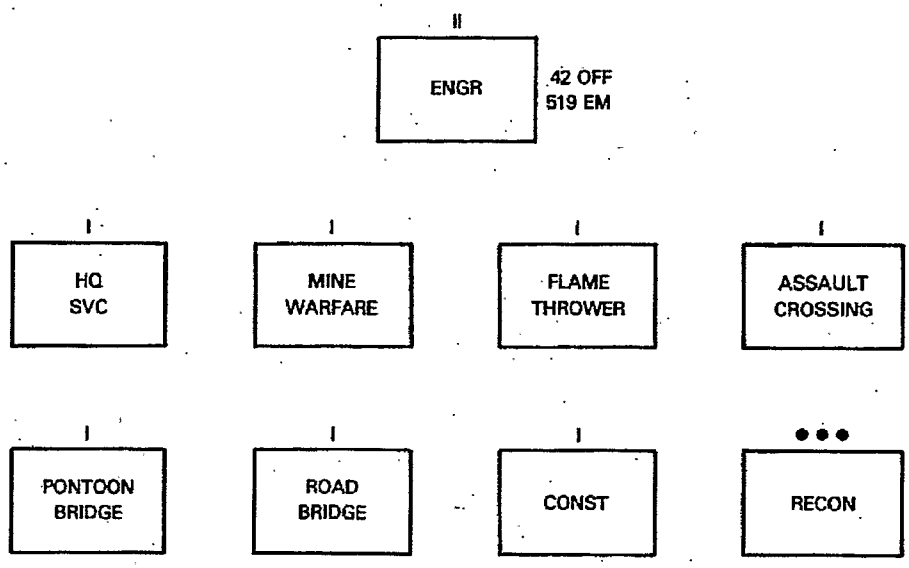
Table 117. (U) MRD/TD Engineer Battalion 1990



EQUIPMENT

ARMORED COMMAND VEHICLE	3
ARMORED ENGINEER TRACTOR	4
ARMORED RECON VEHICLE	4
ARMORED PERSONNEL CARRIER	12
MINE DETECTOR VEHICLE	6
MINE CLEARER VEHICLE	6
MINELAYER VEHICLE	4
FLAMETHROWER, MANPACK	32
FLAMETHROWER, VEHICLE KIT	32
TRACKED FERRY	12-16
TRACKED AMPHIBIAN	0-12
PONTOON BRIDGE SET (100-120M)	1
ASSAULT BRIDGE SET (50-60M)	2
TANK-LAUNCHED BRIDGE	6
DOZER	12
SAWMILL SET	1
PILEDRIVER SET	1
DITCHER EXCAVATOR	4
CRANE SHOVEL	3
WATER INFILTRATION SET	1
TRUCK, CARGO	56
TRUCK, MAINTENANCE	3
TRUCK, POL	4
TRAILER, CARGO	20
TRAILER, POL	4

SOURCE: 1/II/I-80

~~SECRET~~ (u)

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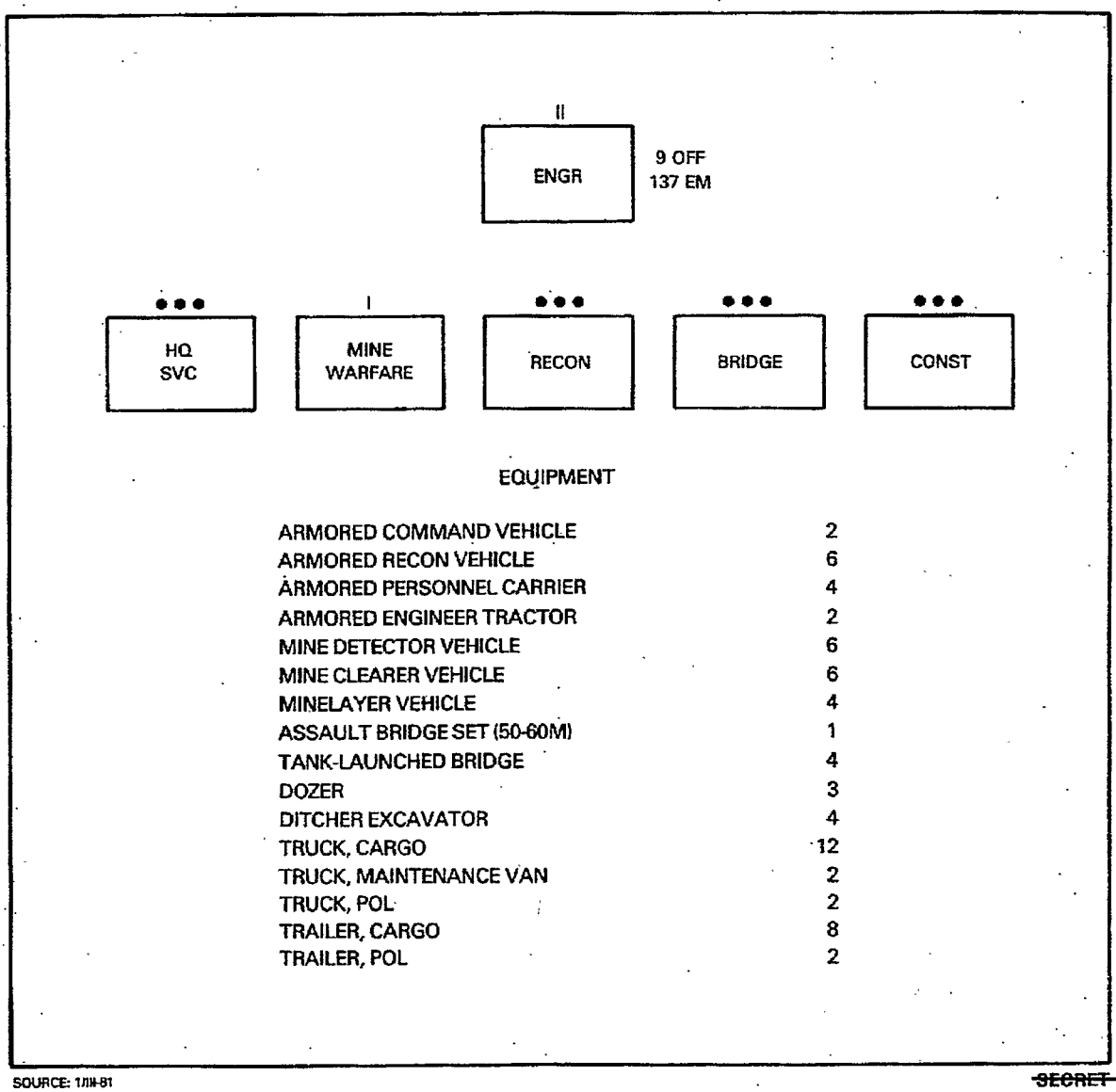
Table 118. (U) MRR Engineer Battalion 2000



EQUIPMENT

ARMORED COMMAND VEHICLE	2
ARMORED RECON VEHICLE	6
ARMORED PERSONNEL CARRIER	4
ARMORED ENGINEER TRACTOR	2
MINE DETECTOR VEHICLE	6
MINE CLEARER VEHICLE	6
MINELAYER VEHICLE	4
ASSAULT BRIDGE SET (50-60M)	1
TANK-LAUNCHED BRIDGE	4
DOZER	3
DITCHER EXCAVATOR	4
TRUCK, CARGO	12
TRUCK, MAINTENANCE VAN	2
TRUCK, POL	2
TRAILER, CARGO	8
TRAILER, POL	2

SOURCE: 1/II-81

~~SECRET~~ (u)

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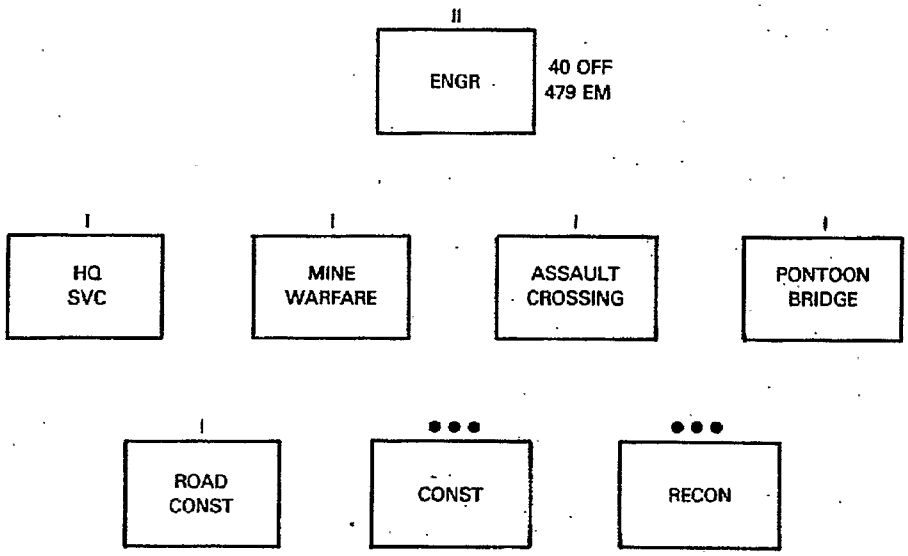
Table 119. (U) MRD Engineer Battalion 2000



EQUIPMENT

ARMORED COMMAND VEHICLE	3
ARMORED ENGINEER TRACTOR	8
ARMORED RECON VEHICLE	6
ARMORED PERSONNEL CARRIER	6
MINE DETECTOR VEHICLE	6
MINE CLEARER VEHICLE	6
MINELAYER VEHICLE	4
TRACKED FERRY	12-16
TRACKED AMPHIBIAN	0-12
PONTOON BRIDGE SET (100-120M)	1
ASSAULT BRIDGE SET (50-60M)	2
TANK-LAUNCHED BRIDGE	6
DOZER	12
DITCHER EXCAVATOR	4
PILEDRIVER SET	1
WATER INFILTRATION SET	1
TRUCK, CARGO	50
TRUCK, MAINTENANCE	3
TRUCK, POL	4
TRAILER, CARGO	30
TRAILER, POL	4

SOURCE: 1/III-79

~~SECRET~~ (u)

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SECTION XII

Aerosols, Smoke, and Other Obscurants (U)

1. General (U).

~~(S)~~ (U) Aerosol, smoke, and obscurant technology is designed solely as a countermeasure to surveillance technology. Surveillance technology has produced significant innovations in the past decade, and it is expected that it will continue to do so at an even more rapid pace in the coming decades. Accordingly, aerosols, smoke, and obscurant technologies will keep pace. Artillery delivery systems are quite capable of building smoke, aerosol, and obscurant screens which will reduce the effectiveness of NATO surveillance systems, regardless of the frequency being used. Because of the diversity in the current technology, smokes, aerosols, and obscurants can block most militarily significant portions of the spectrum. This technology will be refined and is expected to keep pace with fielded surveillance equipment.

2. Doctrine and Tactics (U).

a. General (U).

(1) (U) In warfare, the Soviets would of course, prefer to destroy enemy troops, weapons, and associated systems. But in the real world, this is not an attainable goal. Doctrinally, neutralization, i.e., preventing the enemy from performing specific missions for various periods of time, is acceptable. Obscuration of the battlefield achieves this goal by preventing the enemy from effectively employing various target-acquistion means and associated weapons systems. Ideally, the neutralization of the target's systems would last long enough for the Soviets to accomplish their offensive or defensive missions. There are, however, meteorological and logistical limitations in the use of obscu-- rants. Moreover, the use of obscurants does not, in itself, guarantee mission accomplishment. But, since the use of obscurants is an effective adjunct to weapons and methods of destruction, significant Soviet research and development programs can be expected to continue. By the year 2005, obscurants will be tailored to the threat present on the battlefield.

(2) (U) Tactically, obscurant countermeasures can provide significant benefits to the user. However, if not properly employed, they can lead to surprises that can degrade the effects of a mission. Aerosols are not a cure-all countermeasure to the target acquisition and guidance systems of future weapons. As noted above, meterological, logistical, and other conditions may, at times, preclude their effective use. Aerosols, are part of an integrated approach taken by the Soviets to counter US technological advances in antiarmor weapon systems. Other approaches include camouflage netting, paints and coatings, and active counter-

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measures such as jamming.

(a) (U) Offensively, obscurants can be expected to be used in conjunction with weapons such as mortars, cannons, multiple rocket launchers, short-range ballistic missiles, and aircraft-delivered chemical, biological, and nuclear munitions.

(b) (U) Defensively, obscurants can be used as adjuncts to the means of destruction. However, reliance upon "smoke pots", generators, grenades, and aircraft will be more prominent, if they are available.

(3) (U) The tactical employment of obscurants will depend upon local conditions, and the timely decisions by the Soviet commanders as to whether or not to use this particular means against an enemy system. Mission success will depend on the total orchestration of available means at the appropriate times and with an awareness of their inherent shortcomings. Problem areas to be considered are:

(a) (U) Locally changing meteorological conditions that could dissipate the obscurants and allow enemy target-acquisition systems to function effectively;

(b) (U) Loss of command and control of friendly units within obscured portions of the battlefield; and

(c) (U) Disorientation of friendly adjacent units within obscured areas.

3. Employment (U).

a. (u) ~~(S)~~ Aerosol grenades will be utilized in a defensive role to protect second echelon armored targets from Western millimeter wave (MMW) seekers. They would also be used in a defensive role if Western forces break through the FEBA and the Soviets are forced to engage in hasty battles, in which they would be most vulnerable to Western forward observers using laser designators for weapon guidance. Detectors, both IR and MMW, will aid in defensive employment of aerosols.

b. (u) ~~(S)~~ Aerosols would be used offensively by the Soviets when they are moving to and through the FEBA by laying large-scale aerosol curtains (about 1-to-3 km long by 1 km deep) at selected tactical points. This area coverage would be accomplished by artillery, mortar, rocket, and aerial bomb munitions, and by the TMS-65 and GAZ-66 aerosol generators. Aerosol basic loads would constitute 10 to 15% of the total logistic munition supply.

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*Table 120. (U) Characteristics of a Chemical Aerosol**

Weapon	Chemical compound
Type	Aerosol in the visible, infrared, and microwave region
Size	Artillery, mortar, rocket, and aerial munitions, mobile aerosol generators such as TMS-65 and GAZ-66.
Persistence	2 to 10 minutes
Wind Speed	Less than 5 km/sec
Fall Rate	About 0.1 m/s or less depending upon local meteorological conditions.
Attenuation Capability	10 and 100 m^2/g which equates to tens of hundreds of mg/m^3. Broad band extinction from visible through IR and microwave region.
Area Coverage	1 to 3 km by 1 km deep
Vehicle	APC and tanks
Sensitivity	uw/cm^2 with minimum false alarm.
Defensive Employment	Protect 2d echelon armored targets. Also break through of FEBA
Offensive Employment	Moving to and through FEBA
Basic Load	About 10 to 15% of total logistic munition supply.

SOURCE: 1/20

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*Confidence Levels of Soviet intent is 95%, Confidence level of Soviet capability is 90%.

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4. Characteristics and Capabilities (U).

a. (U) Typically, the chemical compound loaded into an appropriate munition disseminator would be dispersed as an aerosol. The aerosol will absorb sufficient electromagnetic radiation in the visible, infrared, and possibly microwave regions to defeat or seriously degrade military systems using target acquisition or guidance systems operating at these frequencies.

b. (U) ~~(C)~~ The means used to dispense the aerosol could include artillery, mortar, rocket, and aerial munitions, as well as mobile aerosol generators, such as the TMS-65 and GAZ-66 aerosol generating equipment. Grenades and/or armored vehicles could also be used. The aerosol would cause broad-band extinction from the visible through the IR, and possibly through part of the microwave regions. Attenuation capabilities and other characteristics of chemical aerosols are given in Table 120.

5. Automatic Smoke Deployment (Intervisibility Impairment) (U).

a. (U) ~~(S)~~ Both command to line-of-sight (LOS) antitank missiles and missiles guided by laser designators have in common the requirement for an unobscured line-of-sight (LOS) from the firing or designating position to the target. If the LOS is unobscured when the missile is launched but becomes obscured by smoke before the missile hits the target, the probability of a hit drops drastically. The laser-designated missile will detonate when it reaches the smoke cloud and the command-to-line-of-sight missile will lose all guidance after passing through the cloud and, in a high percentage of the firings, strike the ground. (1/19)

b. (U) ~~(S)~~ The automatic smoke system is expected to provide only the amount of smoke necessary to abort a missile firing after the missile is launched, causing the loss of both time and missile by the enemy force. The life of the smoke cloud is brief, projected to be 5 to 8 seconds, and the cloud will dissipate quickly enough to allow near-normal engagement of the enemy. (1/19-20)

c. (U) ~~(S)~~ It is expected that a smoke cloud 50 meters in diameter will be formed following the explosive-initiated burst of a smoke canister. Smoke, as used here, is actually a chemical compound that causes broad wavelength absorption and reflection, much as dense common smoke affects normal sight. It has the characteristic of becoming transparent after 5 to 8 seconds. High-pressure air is used to fire the smoke canisters to the predetermined point for dissemination of the smoke cloud. The range to the burstpoint is controlled by a combination of the amount of thrust provided and the trajectory chosen. Each canister is set to burst at an accurately determined time after firing. Trajectories are established by slewing the smooth-bore lightweight gun tube. (1/20)

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d. (u) ~~(S)~~ A sophisticated radar detection and location system is projected for this system, since it must detect, track, and identify the threat missile, and then aim and fire the canister gun automatically. This form of smoke deployement is not an effective CM for conventional ballistic projectiles. (1/20)

e. (u) ~~(S)~~ The size and weight of the smoke ejector and the smoke canister are projected to remain constant, but the time required to aim the smoke will decrease and the size of the smoke cloud will increase. (1/20) See Table 121 for Baseline Technical Characteristics and Table 122 for Baseline Physical Characteristics of Automatic Smoke Deployment (Intervisibility Impairment). (1/18-19)

6. Projections (U).

(u) ~~(C)~~ Open literature continues to reflect concern with blocking IR and microwave radiation. The search for microwave-absorbing substances and methods for dispersal will continue. Dispersion systems will probably be automated to operate when lased. Projected systems of this type could possibly be deployed in the late 1990s time frame. With the coming of new high-performance fighter bombers equipped with multiple-ejection racks, the Soviets can be expected to provide new or improved smoke munitions for external carriage.

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Table 121. (U) Automatic Smoke Deployment (Intervisibility Impairment) Baseline Technical Characteristics

Smoke	
Type	Very fast expanding particulate.
Rate of Expansion	From canister size to a spherical cloud of 50 m diameter in 300 milliseconds
Wavelength of Total Obscuration	0.1 to 12 um
Life of Smoke Cloud	5 to 8 seconds
Smoke Canister Ejector	
Type	Air charge propellant using a smooth bore cannon tube
Maximum Distance from Launcher	500 meters
Maximum Time to Aim at Desired Smoke Location	1.5 sec
Smoke Loading Technique	Automatic, similar to machine gun.
Maximum Firing Rate	Limited only by aiming time
Maximum Vehicle Load	500 smoke canisters
Angular Field Coverage	±90° of turret forward directions
Detection and Computing System	
Computational System	
Type	High speed digital
Memory	64K words of random access; 8K words of Read Only Memory (ROM) 100 buss with priority interrupt receiver signal demodulation and digitizing, output formatting to data communication system.
Program	Software programmable with radar control in the ROM
Prime Power Required	500 W, 28 VDC
Data Transmission System	
Type	Digital data
Frequency	VHF (80-250 MHz)
Transmitter	Conventional AM pulse modulated
Power	1000 W
Anterina	Omni-directional
Duty Cycle	Less than 10 percent
Cooling	Forced Air
Prime Power Required	1500 W peak, 150 W average, 28 VDC
Data Receiving System	
Receiver	Conventional superheterodyne with very low sensitivity but excellent selectivity.
Data Display	Provides the following data to the tank or artillery commander: Range to target Elevation angle to target Horizontal pointing angle in reference to true (gyroscopic) north. Class of target; i.e., conventional high velocity or howitzer round, short range missile, or long range missile. Actual type of missile if determined.
Prime Power Required	100 W, 28 VDC

SOURCE:1/18

~~SECRET NOFORN~~ (u)

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Table 122. (U) Automatic Smoke Deployment (Intervisibility Impairment) Baseline Physical Characteristics

Smoke Canister	
Dimensions	
Height	10 cm
Diameter	4 cm
Volume	125 cubic cm
Weight	0.1 kg
Smoke Canister Ejector	
Dimensions	
Tube Length	2.0 meters
Breech	35 x 40 cm
Weight	85 kg
Detection and Computing System	
Computation System	
Dimensions	
Length	100 cm
Width	40 cm
Volume	0.16 m^3
Weight	40 kg
Data Transmission System	
Dimensions	
Height	25 cm
Length	30 cm
Width	30 cm
Volume	0.023 m^3
Weight	25 kg
Data Receiving System (Including Stabilization System)	
Dimensions	
Height	25 cm
Length	60 cm
Width	35 cm
Volume	0.053 m^3
Weight	18 kg
Auxilliary Equipment	None
Vehicle	Specially Equipped Medium Battle Tank

SOURCE: 1/18-19

~~SECRET NOFORN~~ (U)

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SECTION XIII

MEDICAL DOCTRINE, ORGANIZATION AND CAPABILITIES (U)

1. Medical Doctrine (U).

a. (U) Soviet combat medical support doctrine was developed during World War II and, to date, there have been no significant alterations of the fundamental concepts. Advances in medical and military technology have been applied toward improving the efficiency and quality of combat medical support, within the existing structure and organization of the military service.

b. (U) The basic principle of Soviet combat medical support is multi-stage evacuation with minimum treatment at each stage. Each echelon, from company through front, has organic or subordinate medical support units with specific responsibilities for patient care. Separate CBR casualty evacuation chains and decontaminating facilities are positioned at lower echelons to minimize the risk to medical personnel. Although combat conditions, and each echelon's organic capabilities, ultimately dictate the limits of medical care provided at any given level, doctrine stresses the timely return of casualties to duty. At each stage of evacuation, medical personnel detain only those casualties whose anticipated period of recovery falls within prescribed limits. The Soviets emphasize that, until arrival at an army level mobile field hospital, only essential lifesaving medical treatment should be afforded casualties not expected to return to duty. As casualties move through the combat evacuation system, medical personnel conduct repeated triage to insure the most effective use of limited combat medical facilities. Treatment beyond simple first aid, is reserved for only those casualties who would not survive further evacuation without immediate medical attention.

2. Organization of Medical Support (U).

a. Command (U).

(U) The Soviet military medical system provides support to the armed (ground, naval, SRF, air and air defense) forces under the direction of the Central Military Medical Directorate (CMMD). The CMMD operates under the direction of the Chief of the Rear of the Soviet Armed Forces — Nachalnik Tyla Vooruzhennykh Sil SSR (NTVS) — a Deputy Minister of Defense, and coordinates its work with the Ministry of Public Health. The Ministry of Public Health is limited in its jurisdiction to purely medical matters, and does not exercise any operational control over the military medical service. CMMD medical support to the ground forces is provided in the form of medical units that are subordinate to troop unit commanders, and under the technical cognizance of the medical commander at the next higher

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echelon. (See figure 74).

b. Field Forces (U).

~~(S)~~ (u) The focus of Soviet combat doctrine upon high-speed offensive operations calls for a highly mobile medical support system which can keep close to advancing combat elements. The disposition of medical elements in a theater of operations is relative to the axis of advance and the FEBA (see figure 75). Figure 76 shows the professional and subprofessional medical personnel organic or subordinate to each level of the combat ground forces. A description of medical support to ground force units from company through front level follows.

(1) Company Level Medical Support (U).

(U) Each motorized rifle company has one medical corpsman who accompanies the combat units. Soldiers assigned additional duties as orderlies or litter bearers travel with their squads. During combat operations, the medical corpsman provides limited first aid and directs his assigned orderlies in the removal of casualties from the battlefield. The medical corpsman selects sheltered casualty collection points along the route of advance, and coordinates medical evacuation transport to the battalion level medical point.

(2) Battalion Level Medical Support (U).

(U) The battalion level medical point follows the combat elements advance very closely, usually within 1.5 to 3.0 kilometers of the front line. A feldsher (physician assistant equivalent) acts as chief of the battalion level medical point, directing ambulance teams, manned by orderlies, in the evacuation of wounded from the company level casualty collection points. Ideally, casualties remain at the battalion level medical point less than an hour. Assigned medical personnel provide only that treatment required to prepare casualties for evacuation to the regimental level medical point.

(3) Regimental Level Medical Support (U).

(U) The regimental level medical point is usually located within 3 to 5 kilometers of active combat formations, facilitating receipt of casualties within four hours of injury. The senior physician serves as administrative medical officer for the regiment, directing evacuation of casualties from battalion level medical points. The direct subordinate to the senior physician serves as chief of the regimental level medical point, directing and participating in patient care. The extent of medical care provided is determined by the combat situation and casualty rate, and may extend to the limit of minor surgery. Medical personnel at the regimental level medical point are responsible for reception, sorting, dressing, treatment, disinfection, decontamination, and isolation of

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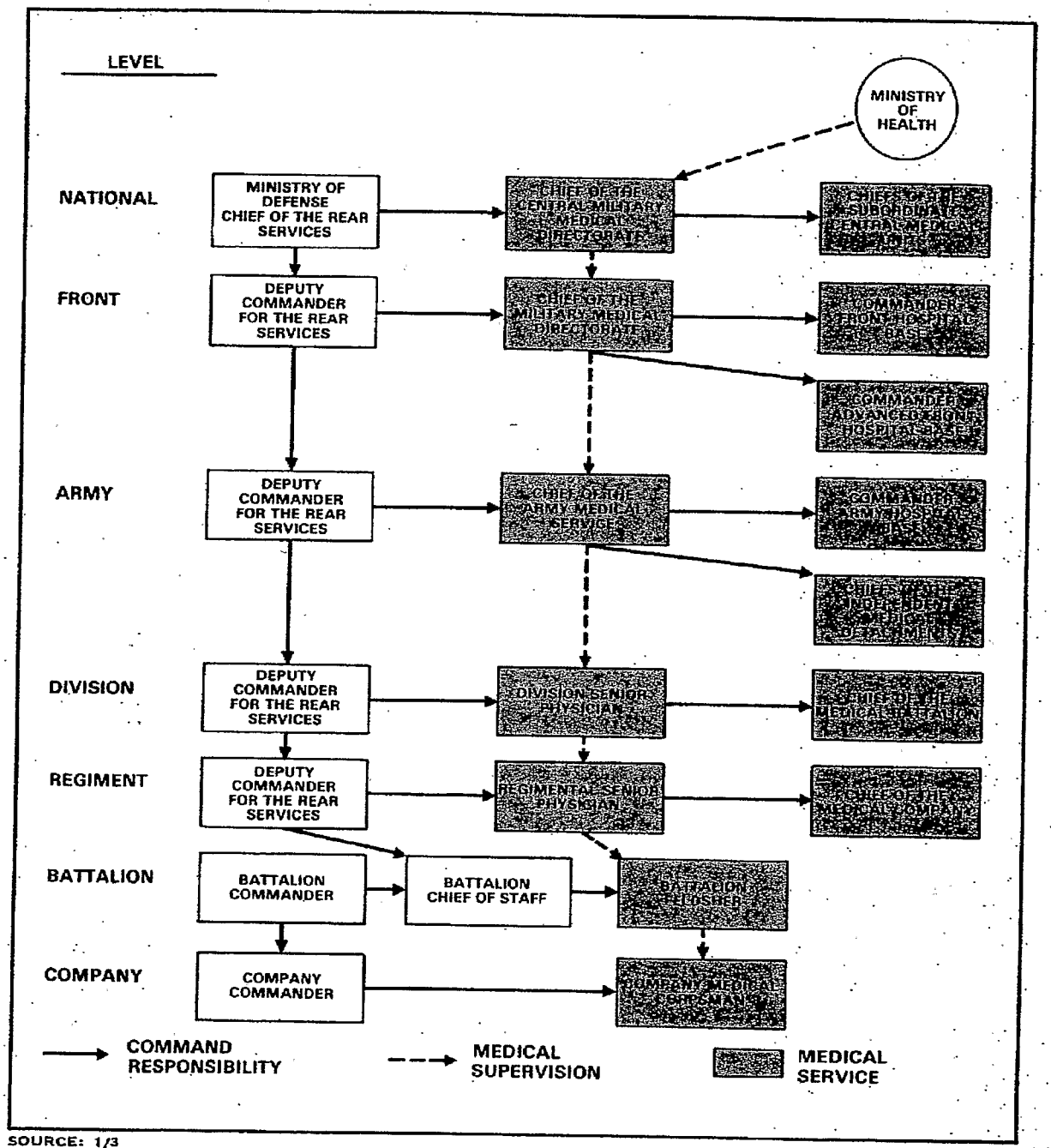

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Figure 74. (U) Command Organization of Medical Support

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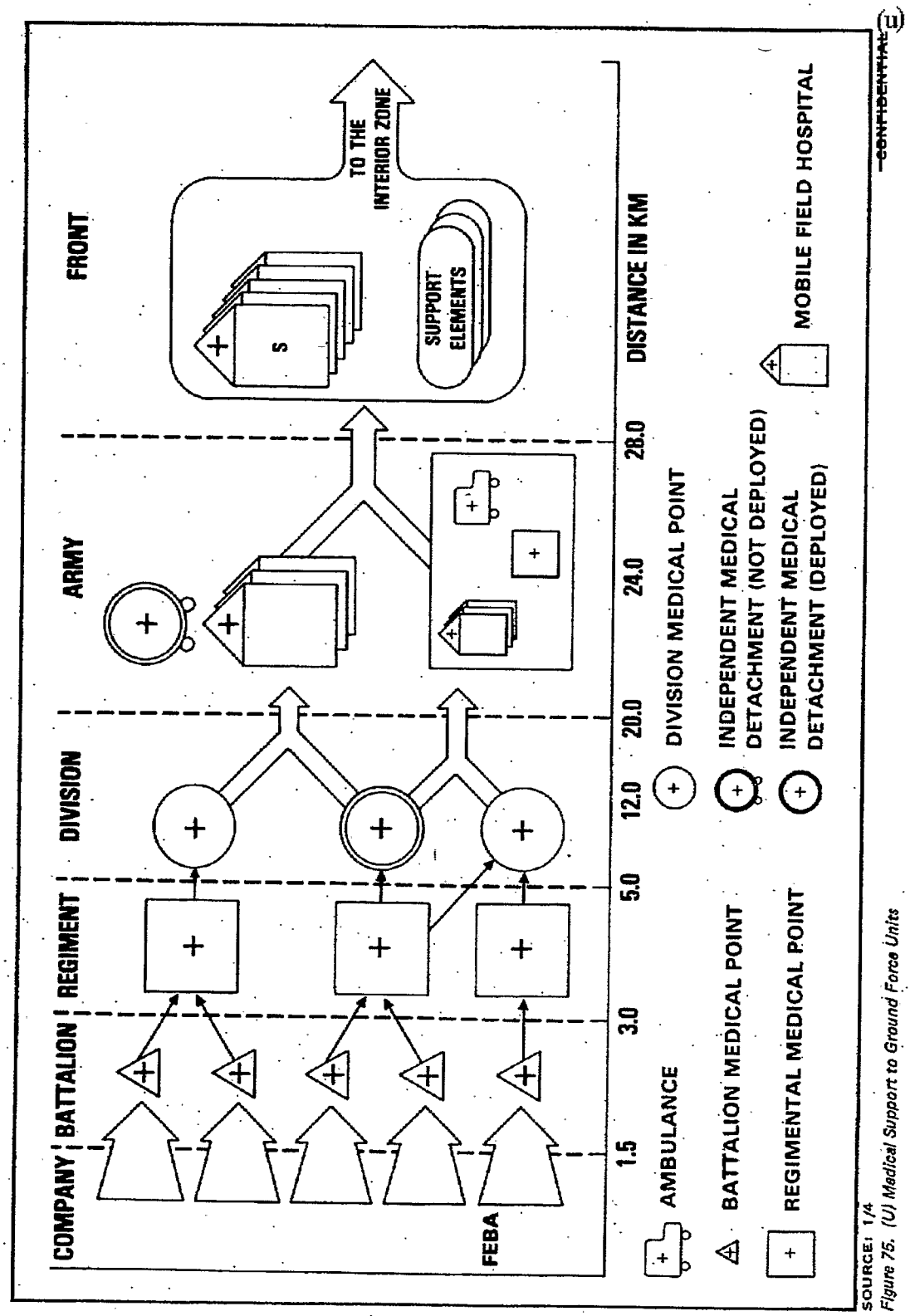

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SOURCE: 1/4

Figure 75. (U) Medical Support to Ground Force Units

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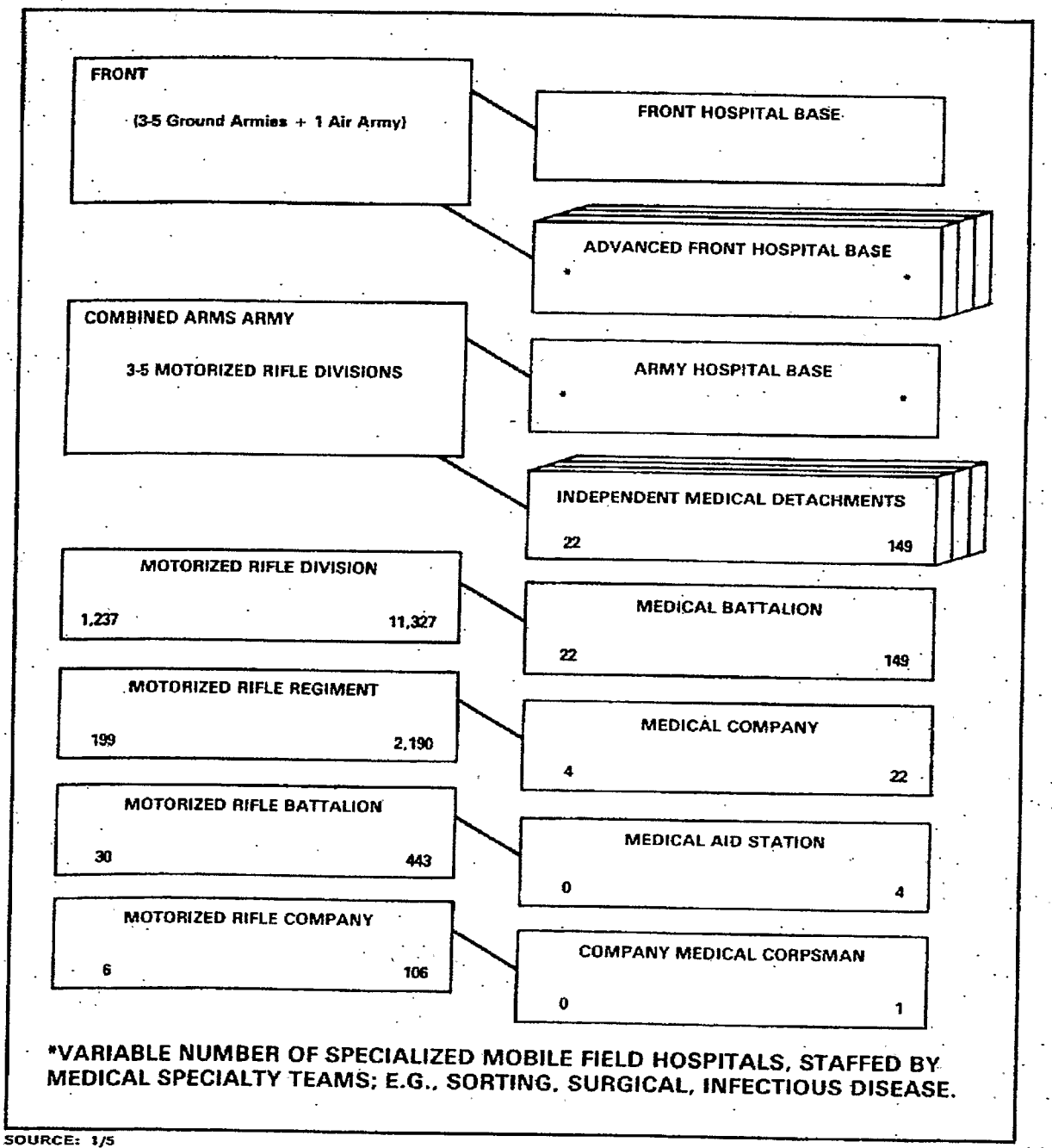

SOURCE: 1/5

Figure 76. (U) Medical Personnel Organic or Subordinate to Ground Force Combat Units

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casualties prior to their evacuation to the division level medical point.

(4) Division Level Medical Support (U).

(U) Battlefield casualties are to reach the division medical point within 12 to 18 hours. Therefore, the division medical point deploys approximately 12 kilometers from the front line during offensive operations, or 20 kilometers in a defensive posture. It will normally deploy along a main supply route and use existing structures when possible. A division medical point is comprised of receiving and sorting facilities, disinfection and decontamination facilities, an operating theater, dressing station, in-patient facilities, an evacuation section, a medical supply section, and accommodations for medical personnel.

(5) Army Level Medical Support (U).

(U) At army level there are two types of medical support elements, the independent medical detachment and the mobile field hospital. Independent medical detachments are medical battalions under the command of the Chief of the Army Medical Service, who uses the units to augment and supplement the divisions medical battalions in mass casualty situations. Independent medical detachments also serve to ease the burden on division medical points during forward deployment. The primary medical support unit at army level is the mobile field hospital base, which deploys along the major evacuation route from division medical points and independent medical detachments. The hospital base deploys close enough to the front line to receive casualties from the battlefield within 24 hours.

(6) Front-Level Medical Support (U).

(U)
~~(C)~~ Two separate elements of medical support are subordinate to a front: an advanced front hospital base and the front hospital base. An advanced front hospital base comprises a number of mobile field hospitals, an ambulance unit, and a medical replacement company, and deploys close to the army hospital base. The front hospital base comprises a large number of specialized military hospitals, a section for administration of military medicine, and a large number of support elements, to include a medical depot, blood banking capabilities, and laundry facilities. The front hospital base also has an extensive evacuation capability with variable numbers of dedicated medical trains, aircraft, and hospital ships.

3. Capabilities of the Field Medical Services (U).

(U) Soviet doctrine emphasizes the importance of individual first aid proficiency. Each soldier is equipped with field dressings and a CBR protection kit. The first medical aid afforded a casualty is self or buddy aid. Further treatment will be provided by company level medical personnel.

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a. Company Level (U).

(U) During combat, the company medical corpsman provides limited first aid and directs his assigned orderlies in the removal of casualties from the battlefield. Medical aid at company level is limited to the application of field dressings and splints, the administration of analgesics and CBR antidotes, and the provision of artificial respiration. Soviet doctrine requires medical personnel to follow advancing tactical units as closely as possible. Consequently, after rendering immediate first aid and assembling casualties at collection points, the medical corpsman and orderlies continue to follow the advance of combat units. Frequently, casualties are left at collection points and must be self-reliant until evacuation transport arrives from the battalion level medical point.

b. Battalion Level (U).

(U) The chief of the battalion level medical point, a feldsher, directs ambulance orderly teams in the evacuation of casualties from the company level casualty collection points. As casualties arrive, the feldsher and battalion medical corpsman identify, isolate, and prepare CBR casualties for separate evacuation. The medical personnel check and renew field dressings, administer CBR antidotes, antibiotics, cardiovascular medications and analgesics, perform basic life support procedures, and assemble the casualties to await evacuation by regimental transport. The battalion medical point is also required to closely follow combat elements. Repeated forward deployment may result in medical personnel leaving casualties before the arrival or regimental transport.

c. Regimental Level (U).

(1) (U) The senior physician at the regimental medical point selects the site for deployment of personnel and equipment, and organizes casualty evacuation from the battalion level. Incoming casualties are monitored for CBR contamination by a medical corpsman-dosimetrist in the sorting element of the regimental medical point. Casualties are sorted into three categories: those who are CBR contaminated, those with virulent infectious diseases, and those who can undergo immediate examination and treatment. CBR contaminated casualties are removed to a special treatment section for partial decontamination. Medical corpsmen and assistants remove contaminated clothing and equipment, shower the casualties, and prepare them to enter into a separate evacuation chain. Casualties with infectious diseases are sent to an isolation section which is staffed by an orderly. Antibiotics and sulfonamides are administered to the casualties, who are then transferred to a specialized field hospital, or higher echelon isolation facility, through a separate evacuation chain. Casualties who can undergo immediate examination and treatment are moved directly from the sorting area to the receiving element. The physician at the receiving element, assisted by orderlies and a registrar, is responsible for the initial medical triage of

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casualties. Casualties are sorted into four categories: those requiring immediate medical attention, those to be evacuated with minimal or no treatment, those to be treated and returned to duty in three to five days, and those for whom treatment is considered futile. Soviet military medical doctrine authorizes the following list of procedures at the regimental medical point if casualty influx permits:

(a) (U) CPR and/or intracardiac injection;

(b) (U) Tracheotomy:

(c) (U) Ventilation and oxygen therapy;

(d) (U) Arrest of external bleeding;

(e) (U) Emergency amputation;

(f) (U) Shock management, to include IV administration of plasma expanders;

(g) (U) Antidote administration for chemical casualties;

(h) (U) Gastric lavage and administration of absorbents for chemical/nuclear casualties;

(i) (U) Administration of analgesics;

(j) (U) Administration of antibiotics, antitoxins, and antihistamines;

(k) (U) Catheterization;

(l) (U) Primary debridgement and dressing of burns; and

(m) (U) Minor surgical repair of soft tissue wounds.

(2) (U) The evacuation element of the regimental medical point has separate holding areas for litter and ambulatory patients. A feldsher supervises the element. Ongoing patient care is provided until evacuation transport arrives from division level. The regimental level medical point is illustrated in figure 77.

d. Division Level (U).

(1) (U) The division medical point (see figure 78) deploys along the main supply route utilizing existing buildings. Its mission is to provide, when possible, personnel and equipment capable of handling up to 400 casualties per 24-hour period from the regimental level. If the casualty influx demands, a 24-hour schedule is adopted. The chief of the division medical point assigns medical personnel to surgical teams, which

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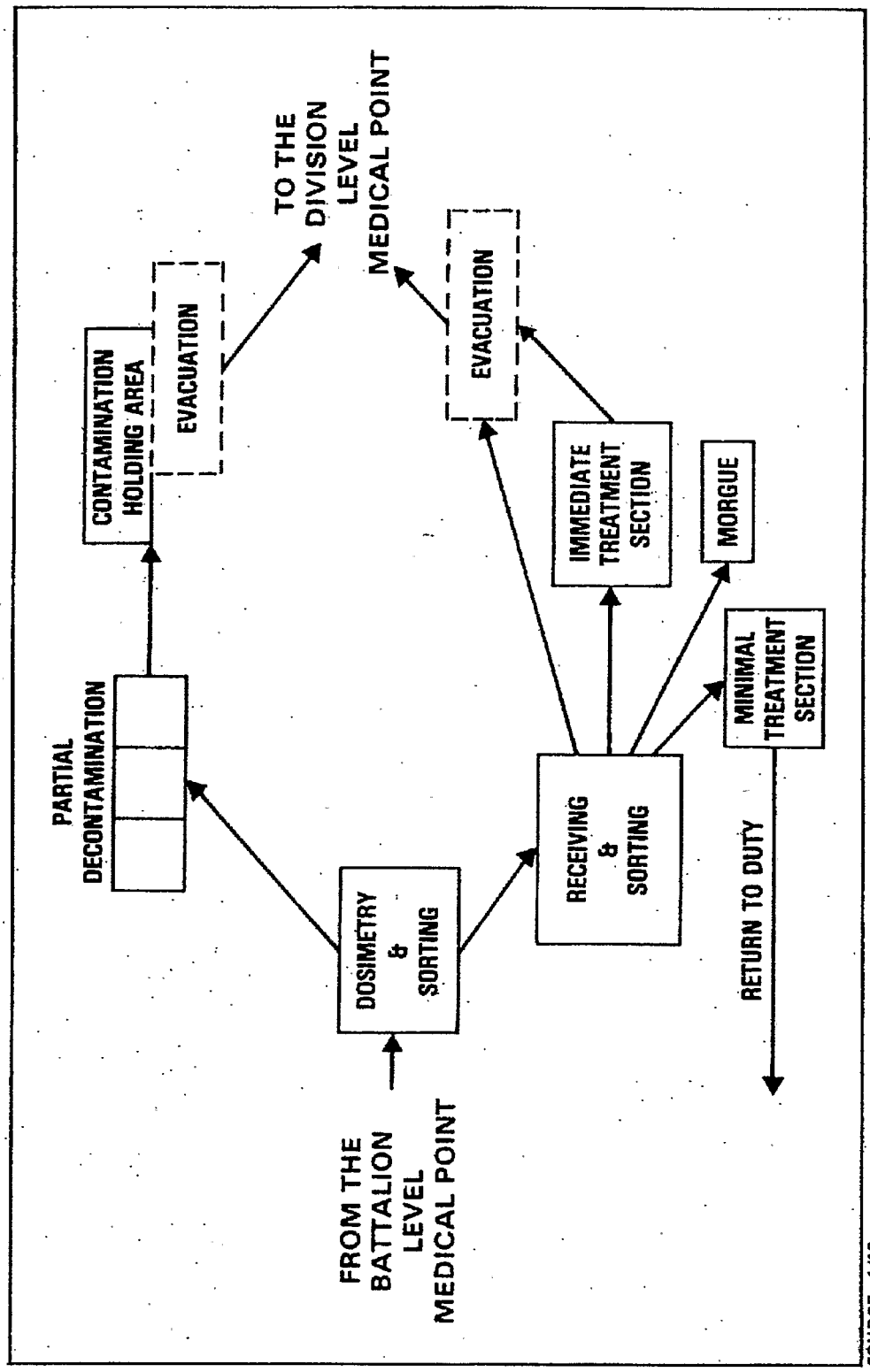

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Figure 77. (U) Regimental Level Medical Point

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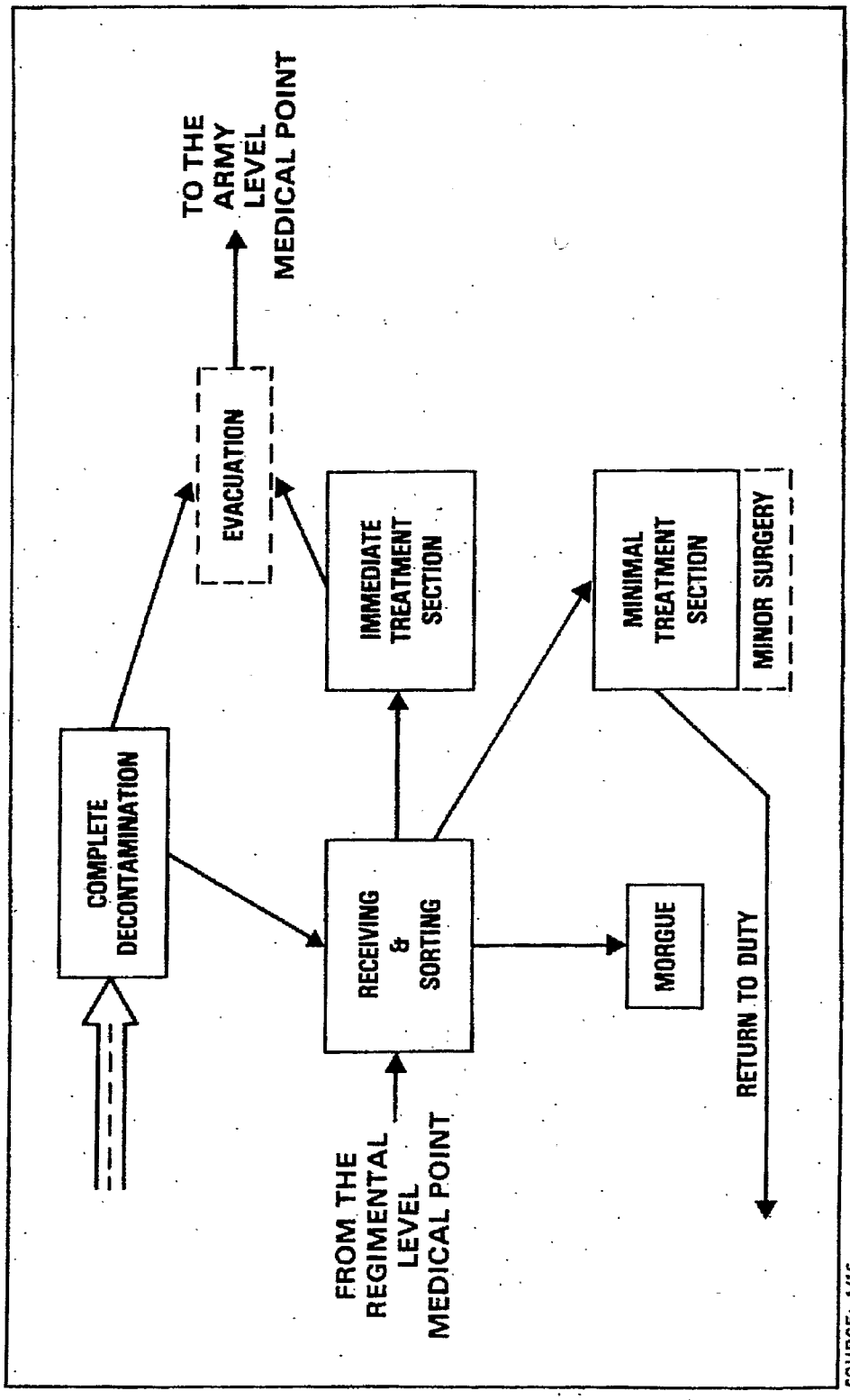

Figure 78. (U) Division Level Medical Point

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work 16- to 18- hour shifts. The basic organization and function of the division medical point are not significantly different from those of the regimental medical point. Despite a more highly specialized staff and larger therapeutic facilities, the primary mission remains one of sorting and evacuation. The initial sorting steps at the division medical point deal with the isolation of casualties who, secondary to CBR contamination, present a hazard to others. CBR casualties are completely decontaminated at a division level disinfection and decontamination element, which is staffed with an epidemiologist and toxicologist. After decontamination and treatment at the division medical point, CBR casualties are sent to mobile therapeutic hospitals. Non-contaminated casualties are sent directly to the receiving area. At the division level, the triage physician uses the same four general categories utilized at the regimental level to sort patients. Most of the wounded receive minimum treatment and are prepared for evacuation. However, the larger staff and facilities allow for a broader range of medical intervention, and a greater percentage of the casualties remains for treatment and convalescence than at the regimental medical point. Casualty rate and battle conditions ultimately determine the range of medical care, which may extend to the limit of minor surgery. Generally, temporary hospitalization and treatment is provided casualties who are expected to return to duty in 10-12 days. In addition to the lifesaving and basic therapeutic measures, which may be provided at regimental level, Soviet doctrine authorizes the following therapeutic procedures:

(a) (U) Administration of cardiac and respiratory analeptics;

(b) (U) Controlled ventilation and oxygen therapy, including the use of mechanical respirators;

(c) (U) Complex surgical procedures for traumatic wounds;

(d) (U) Surgical treatment of burns;

(2) (U) At the division medical point, not only the severity, but also the nature of injuries must be determined, since the triage physician designates to which of the specialized mobile field hospitals casualties will be evacuated.

(3) (U) The evacuation transport organization and procedure is the same as at subordinate levels, with the next higher echelon responsible for the provision of vehicles. The only significant difference is that the relatively rearward position of the division medical point permits the use of aircraft for casualty evacuation.

e. Army Level (U).

(U) There are two types of medical support elements at army level:

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the independent medical detachment and the mobile field hospital (see figure 79).

(1) (U) Independent medical detachments are medical battalions (personnel, equipment, and medical capabilities comparable to the division medical point) under the command of the Chief of the Army Medical Service. These units are used to supplement division medical points in mass casualty situations and in support of forward deployment.

(2) (u) ~~(c)~~ The primary support at army level is the hospital base, which may include any or all of the following types of hospitals: 200-bed-capacity specialized mobile field hospitals (infectious disease, surgical, neurological, therapeutic), sorting hospital, hospital for the lightly wounded, and evacuation hospital. Within the hospital base, a final diagnosis is made and specialized, intensive care is provided to the majority of casualties, who have passed through subordinate echelons with minimum treatment. The range of patient care is dependent on the composition of the hospital base, i.e., the types of specialized mobile field hospitals. Additionally, there are teams of medical specialists, usually surgical specialists, with support personnel and equipment, which can augment the normal staff and extend the medical capabilities of an army level hospital base. The base, together with the capacity of the "advanced front hospital base", may have as many as 5,500 beds and provides stationary care for casualties expected to recover within 30 days.

(3) (U) The evacuation hospital deploys rearward of the main hospital base, and provides care for patients awaiting evacuation by the front level medical support element.

f. Front Level (U).

(1) (u) ~~(c)~~ Front level medical support parallels army level with two types of organic medical elements: the advance front hospital base and the front hospital base.

(2) (u) ~~(c)~~ An advanced front hospital base is set up for each army close to the army hospital base. It is composed of a number of mobile field hospitals, an ambulance unit, and a personnel replacement unit. The types of specialized mobile field hospitals assigned to an advanced front hospital base determine the range of patient care. The duration of treatment is 30 days, the same as that of the army level hospital base.

(3) (u) ~~(c)~~ The front hospital base is composed of a large number of special military hospitals, convalescent and rehabilitation centers, military medicine section, administration, and numerous medical support elements. The total bed capacity may reach 20,000. The front hospital base also has extensive evacuation capabilities; a number of hospital trains, surgical trains, fixed- and rotary-wing aircraft and, if waterways are available, medical transport ships. The maximum duration of

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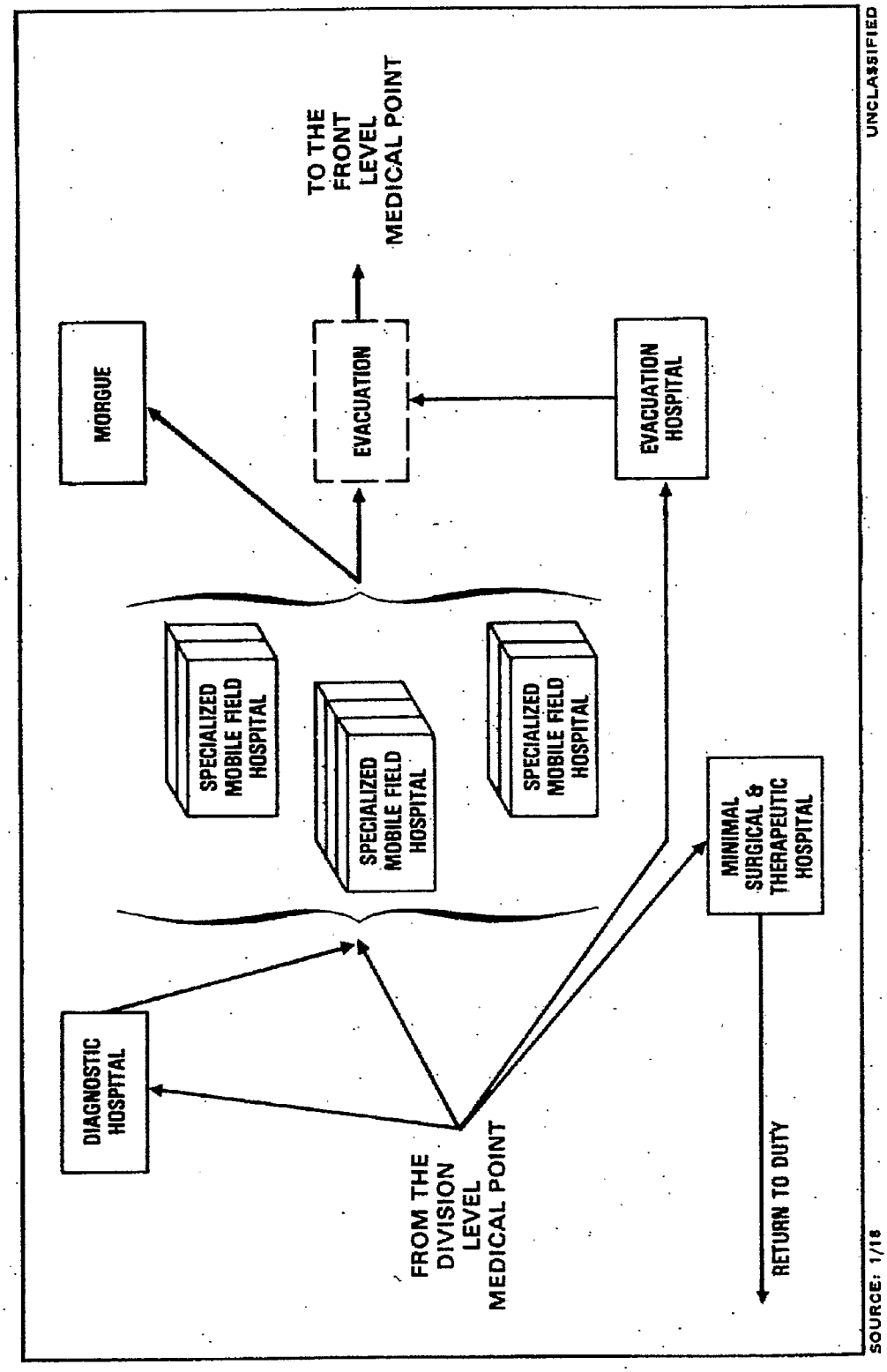

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Figure 79, Army Level Hospital Base

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treatment at the front hospital base is eight months. Casualties requiring evacuation beyond the front hospital base are transported to fixed medical facilities within the zone of the interior.

4. Projections (U).

a. (U) Medical support is organic or subordinate to Soviet field force units from company through front level. For this reason, medical force-structure forecasting will be based on projections of future ground force structure.

b. (U) Since World War II, the Soviets have applied advances in medical and military technology toward improving the efficiency and quality of combat medical support, rather than initiating fundamental doctrinal changes. Because Soviet doctrine stresses evacuation with minimum treatment until casualties reach army level, the success of combat medical support may depend as much on evacuation transport capabilities as it does on medical personnel. There is evidence that increased emphasis is being placed on aeromedical evacuation, particularly by helicopter, which provides for the movement of seriously wounded casualties directly to an echelon capable of providing definitive medical care. (1)

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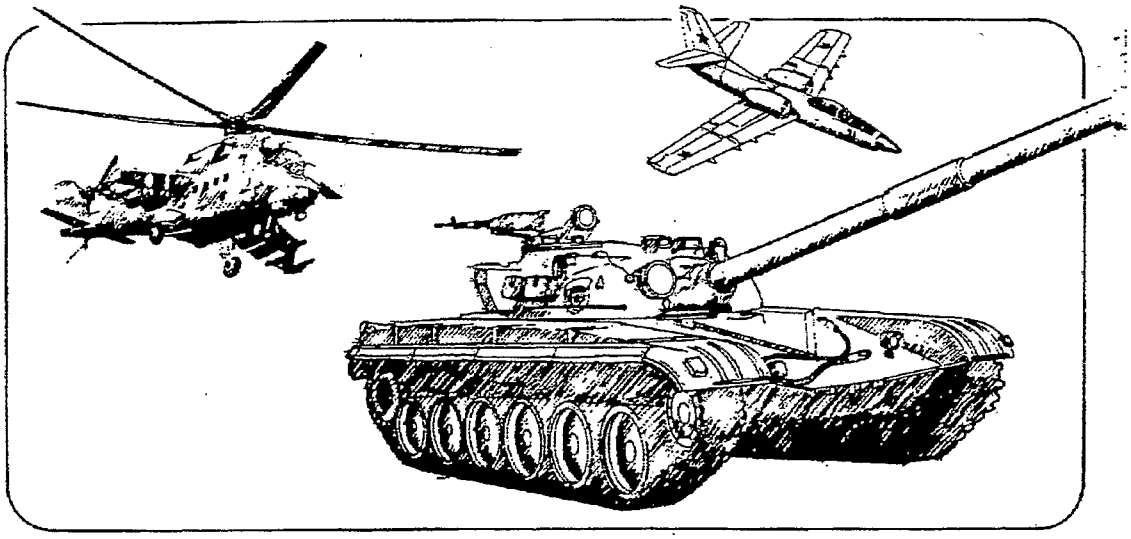

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Missions vs Capabilities (U)

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The Soviet Battlefield Development Plan

(SBDP)

VOLUME VIII

Missions vs Capabilities (U)

AUTHORS
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DATE OF PUBLICATION
1 November 1982

Information Cutoff Date
October 1982

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REPLY TO ATTENTION OF
DAMI-FIR

1 November 1982

SUBJECT: Soviet Battlefield Development Plan (SBDP)

SEE DISTRIBUTION

1. The volume you are now reading is only one part of a multi-volume effort titled the Soviet Battlefield Development Plan (SBDP). The SBDP is an attempt to provide an integrated and comprehensive analysis of Soviet military thinking, doctrine, and combined arms force development for the present and the future, extending out to the turn of the century. Thus, it should allow Army doctrine and combat developers to have a long-range view of the competition they face, so that they may design U.S. Army doctrine and forces in a dynamic perspective. Thereby they can exploit Soviet doctrine and force modernization to give the U.S. Army advantages in equipment, weapons, training, and tactics.

2. The SBDP is a forecast of Soviet force development for "combined arms" operations in land warfare as we believe the Soviet General Staff intends. It is, therefore, not primarily a prediction but rather more an attempt to understand the Soviet General Staff's vision of the next two decades for planning and programming. It is an attempt to provide a Soviet view, not a U.S. mirror image. The Soviet General Staff does not have an "Air Land Battle" doctrine. It has a "combined arms" doctrine of warfare under the conditions of both conventional weapons and weapons of mass destruction. While there is much in common between the two doctrines, the differences are far more important to understand.

3. The basic assumption for the SBDP is the probable Soviet assumption that there will be no significant adverse changes in the present international order which will cause major alterations in the Soviet development strategy for combined arms forces. The SBDP does take into account economic and demographic constraints that are reasonably predictable by Soviet planners. Further, it also tries to anticipate the impact of new technologies on force development.

4. Since combined arms operations in Europe are clearly the central issue for Soviet planners, the equipment, organizational, and operational forecasts contained in the SBDP relate primarily to Soviet forces in the European theater. However, since these planners must also worry about the Far East, Southwest Asia, and power projection to non-contiguous regions, these non-European concerns are also treated but to a lesser degree.

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5. Because Soviet combined arms doctrine is not conceptually restricted to the theater of operations but also concerns the "rear," that is, the entire continental USSR as a mobilization and production base, the SBDP deals with this aspect of force planning. Preparation of the "rear" for both nuclear and non-nuclear conflict is seen by the General Staff as the sine qua non and the first step in an all combined arms force development.

6. The SBDP consists of eight volumes and an Executive Summary. These eight volumes are organized to provide an interpretive framework within which to integrate and analyze the large quantity of intelligence information we have on Soviet ground forces.

7. The following provides a brief overview of this interpretive framework:

a. Volume I explores the ideological and historical heritage which shapes the perspectives of Soviet military planners.

b. Volume II flows logically from Volume I showing how ideology and history combine in the Soviet militarization of the homeland, i.e., the preparation of the "rear" for war.

c. Volume III presents an "order of battle" listing of, and forecast for, the ground force structure which has resulted from the ideological and historical factors reviewed in the two preceding volumes.

d. Volume IV discusses the equipment used by the forces described in Volume III and forecasts developments in these weapons out to the year 2000.

e. Volume V discusses the present organization and operations of the ground forces and also presents long-range forecasts in these areas.

f. Volume VI reviews high level command and control trends for these forces and looks at how the Soviets intend to increase their force projection capability over the next two decades.

g. Volume VII is a study of Soviet exercises and what they might infer about actual war missions.

h. Finally, Volume VIII is an attempt to compare Soviet missions with their present capabilities. Such an analysis gives us a stronger sense of the requirements the General Staff probably sees for building forces over the coming decades.

8. Although the ACSI coordinated the SBDP and designed its structure, all the major Army intelligence production organizations provided the analysis. ITAC, FSTC, MIA, and MIIA were the primary Army contributors. b3 per DIA

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9. Naturally, such a comprehensive undertaking inevitably has inadequacies and contentious conclusions in its first variant. Work on the next version is already under way, and it is directed toward refinements, filling gaps, and improving the analytical forecasts. You can help us in this effort by using the SBDP in your daily work, then answering and mailing the questionnaire which follows this letter.

10. We are developing the SBDP as a tool to assist both intelligence producers and consumers in accomplishing their tasks more efficiently and effectively. We hope you find this and future editions of the SBDP to be of such assistance.

WILLIAM E. ODOM
Major General, USA
ACofS for Intelligence

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SBDP EVALUATION QUESTIONNAIRE

1. The information requested below will help the office of the ACSI develop the SBDP in a way which is most useful to the consumer. If possible, do not detach this questionnaire. We request you photocopy it, leaving the original in the volume for other users. If the spaces provided for answers are not sufficient, please type your comments on additional sheets and attach them to this questionnaire form. We request all classified responses be sent through the proper channels.

2. Please provide your name, rank or position, unit, and a short job description. This information will help us determine the specific way in which you are using the SBDP.

a. NAME _____

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3. Total concept and structure: Do the eight volumes of the SBDP provide the necessary framework for effective integration and interpretation of available information? What improvements would you suggest to the overall organization or concept of the SBDP?

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5. Volume substance: Do you find the overall analysis and forecasts to be sound? How would you correct or improve them?

6. These questions are "wide-scope" by design. If you have other, more specific comments you wish to make concerning the SBDP please include them in your response. Send all responses to: HQDA (DAMI-FIR)
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7. Thanks for your contribution in developing the SBDP.

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CHAPTER 1

WARSAW PACT MISSIONS IN THE WESTERN THEATER (U)

1. (U) General

(U) (~~S/NOFORN~~) The Soviets appear to have divided the Western Theater into at least four theaters of military operations (TVDs). They believe that Central Europe, which is the focus of the Western TVD, would be the decisive arena, and this belief is demonstrated by the priority they give to this region when assigning military manpower and equipment. It is also evident from Soviet doctrine and writings that, if war comes in Europe, they plan to overwhelm NATO in Germany with a massive combined air assault and ground offensive. This principal effort notwithstanding, the Soviets know that the Pact must also be prepared for operations in adjacent land and sea areas identified as the Southwestern and Northwestern TVDs and one or more maritime TVDs. The Soviet view of how these flank operations relate to the main thrust in Central Europe is not well defined. In a Central European scenario, one might expect the Soviets to strike at northern Norway in order to facilitate the deployment of their Northern Fleet, to attack NATO naval forces in the Mediterranean, and to move against the Turkish Straits. Secondary offensives or holding operations probably would be conducted on the flanks of these primary operations in order both to weaken NATO forces in these areas and to keep them from being shifted to Central Europe.

2. (U) The Initial Campaign in the Western TVD

a. (U) (~~S/NOFORN~~) Warsaw Pact planning for the Western TVD envisions offensives along three axes in Central Europe. To carry out these offensives, the Pact probably would seek, at least initially, to organize its forces into three corresponding fronts: the Soviet-East German Front, the Polish Front, and the Czechoslovak-Soviet Front. These fronts would be made up of varying combinations of Soviet and non-Soviet Warsaw Pact (NSWP) forces stationed in East Germany, Poland, and Czechoslovakia. If time permitted, these fronts would be reinforced by two additional fronts--Belorussian and Carpathian Fronts--drawn from military districts in the western USSR. Although a war between NATO and the Warsaw Pact could evolve in several ways, it probably would be preceded by an extended period of rising tension during which both sides take steps to improve their force posture. The Pact would require 2 to 3 weeks to prepare the five fronts discussed above and move them into assembly areas. The force assembled would consist of 80 to 90 ground divisions plus support and tactical air units, and there would be time for most of the active Warsaw Pact naval units to get ready to put to sea. To launch an offensive in Central Europe with less preparation time but also with less than five fronts is, from a Soviet standpoint, feasible but not desirable.

b. (U) (~~S/NOFORN~~) The Soviet-East German Front would attack NATO forces in

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central West Germany, probably between Hannover and Mannheim. Major elements of this front might swing north of Hannover across the North German Plain, but this would demand extensive restructuring of its logistic base. The Polish Front would attempt to defeat NATO forces in northern West Germany and seize Denmark and the Netherlands. The Czechoslovak-Soviet Front would attack toward the Rhine in the area roughly between Mannheim and the Swiss-German border. If the two additional reinforcing fronts from the USSR were available, the Belorussian Front would probably be committed alongside the Soviet-East German Front, probably on its southern flank. The Carpathian Front probably would be used to reinforce the Czechoslovak-Soviet Front.

(u)

c. ~~(S/NOFORN)~~ The success of a Warsaw Pact campaign in Central Europe would depend to a considerable degree on the performance of the NSWP forces involved. Recent events in Poland provide new reasons to question the reliability of these forces, and the Soviets might therefore be planning to accept a larger role in a Central European offensive, particularly in the northern part of Germany. Poland continues to bear the principal responsibility for operations on the northern axis of advance for facilitating the movement of Soviet reinforcements toward West Germany. There is no evidence that the Soviets have decided to relieve the Poles of these responsibllities, but alternative plans must have been considered. One option would be to bring forces forward from the USSR's Baltic Military District to operate jointly with the Polish armed forces.

(u)

d. ~~(S/NOFORN)~~ In the Baltic Sea, Warsaw Pact naval forces would operate as part of the overall campaign in the Western TVD, particularly in conjunction with the ground and air operations of the Polish Front. Their broad objectives in this area would be to gain control of the Baltic Sea and access to the North Sea. If initial sea control and air superiority operations were successful, Pact forces in the Baltic would concentrate on supporting the Polish Front's offensive across northern West Germany and into Denmark.

3. (U) The Initial Campaign in the Southwestern TVD

(u)

a. ~~(S/NOFORN)~~ The Southwestern TVD encompasses a broad area reaching from Italy to the Persian Gulf. The principal focus of the Southwestern TVD is on a war with NATO, in which it would conduct operations in conjunction with the Western and Northwestern TVDs. First among the Pact's objectives in this campaign would be the seizure of the Turkish Straits. The Soviet forces for this operation would be drawn chiefly from the Odessa Military District, and most of them would have to cross Romania and Bulgaria to reach Turkish territory. In Bulgaria, they would be augmented by some Bulgarian forces to form an Odessa Front whose objectives would be to destroy Turkish forces in eastern Thrace, break through the fortifications protecting the land approaches to the Turkish Straits, and seize the Straits.

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b. (u) ~~(S/NOFORN)~~ Probably concurrent with the effort to seize the Straits would be a major ground operation through Austria. The attack would be conducted by a combined Soviet and Hungarian force, forming the Danube Front, which could also be used to protect the southern flank of the Western TVD in West Germany or could move south into Italy.

c. (u) ~~(S/NOFORN)~~ To attack Greece, the Pact would form a Balkan Front on the western flank of the Odessa Front. It would consist of the bulk of the Bulgarian Army and could include some Romanian forces. Because of the size of the Balkan Front, the difficult terrain in Greece, and the questionable commitment of Romanian forces, it seems likely that this front would be used only to engage Greek forces in Thrace and to secure the western flank of the Odessa Front.

d. (u) ~~(S/NOFORN)~~ The Warsaw Pact could conduct a limited offensive into eastern Turkey, the primary objective of which would probably be to keep Turkish forces in this area from aiding in the defense of the Straits. The Soviet forces available for this offensive would be drawn from the Transcaucasus Military District and, if required, from the North Caucasus Military District. Part of this combined force might also be used to move into northwestern Iran and, conceivably, farther south. Although control of this area would be attractive, the effort to seize it--either as a prelude to or in conjunction with a European war--could tie up considerable second-echelon and strategic reserve forces that otherwise would be available for use against NATO.

e. (u) ~~(S/NOFORN)~~ Naval operations to support and extend the Warsaw Pact's ground offensives in the Southwestern TVD would include efforts to consolidate control of the Black Sea, support the movement of Pact forces along its western shore and assist in seizing the Turkish Straits. From the outset of hostilities, Pact air and naval units would attack NATO naval forces in the Mediterranean, and possibly in the Arabian Sea, especially carrier battle groups and ballistic missile submarines.

4. (U) The Initial Campaign in the Northwestern TVD

(u) ~~(S/NOFORN)~~ Initial Soviet objectives in this theater would be to ensure the security of Northern Fleet ballistic missile submarines, guarantee access to the North Atlantic for these and other Soviet ships and aircraft, and protect the Kola Peninsula and the Leningrad region. To achieve these objectives, the Soviets almost certainly would launch a limited ground offensive into northern Norway early in the war. The Soviets probably would be deterred from attempting a larger campaign into central or southern Norway early in the war by the difficult terrain, potentially strong NATO resistance beyond Finnmark, and extended lines of communication from the Pact interior.

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CHAPTER 2

SOVIET REQUIREMENTS FOR THEATER WARFARE IN EUROPE (U)

1. (U) Background

(U) The Soviets' requirements for successful theater warfare in Europe have evolved gradually, in parallel with the development of military capabilities on both sides. These evolving requirements are also deeply rooted in Soviet doctrine, principles of military art, and historical experience.

a. (U) Constant Doctrinal Themes. As elaborated in Volume I of the SBDP, Soviet military doctrine has tended to be stable, and hence to lend stability to force development. The main features of this doctrine include the expected decisive nature of future war between socialism and capitalism; the likelihood that this war will become nuclear; the probable decisive role of nuclear weapons; the need for massive "multi-million man" armies; the highly dynamic, unstable nature of the modern battlefield, requiring extremely violent, fast-paced campaigns; the capability to wage war successfully in either a nuclear or non-nuclear environment; and the need to exert maximum simultaneous offensive pressure throughout the depths of the enemy's territory. It is reasonable to expect these constant doctrinal themes to remain intact thru the year 2000. This assumption clarifies to some extent uncertainities about the nature of the year-2000 battlefield. For example, the Soviets are not likely to discard their concept of a massive conscript army in favor of a small, professional force, or to cease to give priority to the demands of fighting on an "integrated" battlefield. It also argues strongly that force developments will continue to be keyed to a maneuver-oriented, fast-paced, offensive campaign.

b. (U) Principles of Military Art. Besides general doctrinal pronouncements about the nature of the future war they must prepare to fight, Soviet requirements may be inferred from their principles of military art. These principles are modified periodically to keep them compatible with the latest perceptions of the modern battlefield, although in practice they have considerable continuity. The most important of the principles are the following:

(1) (U) High combat preparedness (boyevaya gotovnost') to accomplish the task regardless of the circumstances under which the war is initiated or prosecuted;

(2) (U) surprise (vnezapnost'), decisiveness, and activeness of combat actions;

(3) (U) constant effort to seize and retain the initiative;

(4) (U) complete utilization of the various means and methods of combat to achieve victory;

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(5) (U) coordinated use and close coordination of formations (large units) of all armed services and branches;

(6) (U) decisive concentration of the main efforts at the right moment, on the most important axes, to solve the main tasks;

(7) (U) simultaneous destruction of the enemy to the full depth of his formation, timely intensification of effort, bold maneuver of forces and means for development of combat actions at high tempos, and defeat of the enemy in a short time;

(8) (U) calculation and full utilization of the moral-political factor;

(9) (U) firm and continuous control (upravleniye);

(10) (U) determination and decisiveness in accomplishing the mission;

(11) (U) thorough support of combat actions;

(12) (U) timely restoration (vosstanovleniye) of reserves and combat effectiveness of the forces.[1]

c. (U) Revolutionary Period in Military Affairs. The above doctrinal tenets and principles of military art themselves represent general requirements. Although they have had, and are expected to continue to have, considerable continuity, they are not considered permanent. Marxist-Leninist dialectics assert that military affairs (as are all other phenomena) are in a state of constant evolution, with the future flowing from the present, which in turn had its roots in the past. This natural state of continuous change in military affairs results primarily from changes in weapons and military technology. The Soviet leadership believes that a revolutionary transitional period in military affairs is now under way. This revolution is the result of a combination of numerous breakthroughs in weaponry and military technology that have occurred in recent years or are now on the verge of occurring. The pace of changes brought about by new technology is seen as accelerating, and the leadership is vitally concerned with staying abreast by making the necessary adaptations in a timely fashion. In this context, overcoming natural bureaucratic tendencies toward preparing to "fight the last war" is of concern. The importance of all these issues may be seen in this quotation from MSU Ogarkov's 1982 booklet:

"A deep, in the full sense revolutionary, upheaval in military affairs is occurring in our time in connection with creation of thermonuclear weapons, the vigourous development of electronics, development of weapons based on new physical principles, and also in connection with broad qualitative perfecting of conventional means of armed conflict. This in turn influences all other sides of military affairs, first of all on the development and perfecting of forms and methods of military actions, and

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consequently, on the organizational structure of troops (forces), of the navy, on perfecting systems of armament and control organs.

"Realization of this dialectic process is especially important in the contemporary stage when on the basis of scientific-technical progress the fundamental systems of armament are being renewed practically every 10-12 years. In these conditions untimely changing of views, stagnation in developing and putting into practice new issues of military development are fraught with serious consequences."[2] The following section will present a more detailed description of Soviet requirements as gleaned from writings, exercises, and force development trends. These requirements represent significant current issue areas to Soviet commanders and planners; they have been the subject of considerable attention.

2. (U) Strategic Overview of Theater Warfare Requirements in Europe

a. (u) ~~(S/NOFORN/WNINTEL)~~ Readiness. The Soviets are concerned about reducing the time in which Warsaw Pact forces can convert from peacetime to wartime readiness. This encompasses several tasks. Reduced strength and cadre unit readiness requires improvement, including periodic exercises at high levels of personnel strength. Alerting and mobilization of forces must be accomplished more rapidly, and the resiliency and autonomy of the mobilization system must be improved. Faster deployment into staging areas and battle positions is required. The ability of missile units to fire while moving to alert positions and during short halts requires improvement. The system for providing replacement personnel, especially officers and critical specialities, must be strengthened in light of more sober assessments of the results of nuclear strikes. This is to include enlarging the reserve structure, with special attention to replacement command and control entities. All of these efforts are designed to produce a force able to shift efficiently and quickly to a wartime posture, regardless of how the war might begin. Backing up the military organizaton, the entire national economy must be made more responsive to the war-fighting requirements of the armed forces. This requirement was expressed by MSU N. Ogarkov, Chief of the Soviet General Staff, who wrote in a recent Kommunist article:

"The question of the timely transfer of the Armed Forces and the entire national economy onto a war footing and of their mobilization in a short time is considerably more acute. That is why the supply of trained personnel reserves and hardware to troops predetermines a need for measures planned accurately in peacetime and for coordinated actions by party, soviet and military organs on the spot."

"Coordination in the mobilization and deployment of the Armed Forces and the national economy as a whole, particularly in using manpower, transportation, communications and energy and in ensuring the stability and survivability of the country's economic mechanism, is now needed more than ever. In this connection a constant quest is needed in the sphere of improving the system of production ties of enterprises producing the main

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types of weapons, of enhancing, in the event of war, the autonomy of production enterprises and associations in terms of energy and water supplies, of completely providing them with the necessary stocks, and of creating a reserve of equipment and materials. The actual system of the national economy's mobilization readiness also needs further improvement, proceeding from the premise that the close interconnection between the mobilization readiness of the Armed Forces, the national economy and civil defense is a very important condition for maintaining the defense capability of the country as a whole at the proper level."[3]

b. (U) Integration of Military Operations on a Broader Scale

(1) (U) The focal point of Soviet efforts to modernize military art in order to keep pace with scientific and technical progress is the adoption of a broader, more encompassing viewpoint on integrated theater operations. This endeavor also has received the attention of Marshal Ogarkov:

"It is known that during the great patriotic war the basic form of military operations was the frontal operation. Here, as a rule, the front advanced over a zone of 200-300 km on average, to a depth of between 100 and 300-400 km. After the completion of the front operation there was usually a lull, and not infrequently a prolonged period of preparation for the next frontal operation. At the time that was entirely necessary and justified and was in accordance with the means of destruction then available."

"Now the situation is different. The front's command has at its disposal means of destruction (missiles, missile-carrying aircraft and so forth) whose combat potential considerably transcends the bounds of front operations."

"There has been a sharp increase in the maneuverability of troops; and the methods of resolution of many strategic and operational tasks by groupings and formations of branches of the Armed Forces have changed. As a result earlier forms of use of formations and groupings have largely ceased to correspond to the new conditions. In this connection it is evidently necessary to regard as the basic operation in a possible future war not the frontal form, but a larger-scale form of military operations--the theater strategic operation."[4]

(u)

(2) ~~(S/NOFORN/WNINTEL)~~ The watchword of this requirement is integration. It is applicable across the full spectrum of combat tasks. The Soviets have embarked on a long-range effort to more fully integrate military operations into what they term the theater strategic operation. Some of the principles of operational art, that is of the conduct of army and front level operations, have been modified to correspond to the changing perceptions of theater warfare requirements. Combat operations in the Western TVD are to be integrated into a single campaign. The operations

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of fronts are to be orchestrated at the level of the theater of military operations (TVD) and are to be conducted without pause until the entire campaign is concluded. Each front may be required to conduct two or more operations in suecession with little or no lull between operations. Ongoing modifications to operational art are intended to upgrade the capability to conduct such a campaign. In part, these modifications reflect a concerted effort to bring operational art up to a level commensurate with modern weapons and equipment: to more fully use their inherent capabilities. It is also motivated by recognition of improved Western defensive capabilities--actual and potential--which has prompted concern for finding new methods to accomplish traditional functions more effectively and efficiently. Finally, the elaboration of new elements of operational art is intended to serve as a guide to force, training, and doctrine development.

c. (U) Requirements of the Integrated Theater Strategic Operation. This section will sketch the Soviet perception of what is required to carry out this integrated theater strategic operation, noting significant modifications in operational art. Subsequent sections will detail important facets of the operations.

(u)

(1) ~~(S/NOFORN/WNINTEL)~~ General. A successful integrated theater strategic operation requires the ability to mass combat power on the critical axes, at the critical times, and the flexibility to change the locus of effort quickly in order to take advantage of rapid changes in the battlefield situation. The Soviets speak of the need to orchestrate the massive theater campaign so effectively that the enemy is literally overwhelmed, unable to react adequately to counter the pressure, and collapses under the onslaught. Stress is placed on the need to conduct continuous operations, and to do so simultaneously throughout the depths of the enemy's operational formations.

(2) (U) Historical Precedents--The "Deep Operation." This concept of simultaneous, deep operations is a fundamental tenet of Soviet operational art, dating back to the 1930s when the "deep operation" (glubokiy boy) was first elaborated by Soviet theoreticians. At that time, the Soviets concluded that the main task was to overcome the problem created when forces had broken through enemy defenses and were spent by the effort, and thus were unable to exploit their gains or even hold the ground they had won. The deeper an army moved into the enemy's formations, the more difficult it became for that army to continue its attack, and the more readily could the enemy bring his reserves to bear on the attacking force. Four prerequisites for the successful conduct of deep operations were recognized. These are, the capability to reliably suppress the enemy to the depths of his operational formation, thus preventing him from adequately focusing power on the sector under attack; to penetrate his defending forces; to rapidly exploit the penetration into his operational rear area; and to isolate that portion of the battlefield from outside reinforcement. These requirements guided Soviet force development and operational art to the end of World War II, and have remained conceptually unchanged to this

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day. They led in the 1930s to the creation of separate tank formations, or "mobile groupings", whose primary purpose was to "turn tactical into operational success" by exploiting breakthroughs attained by rifle troops. Multiple echelons of troops were created to overcome the problem of loss of momentum, by providing the means to build up offensive pressure at that critical period when the fighting was being done in the depth of the enemy's formations.

(3) (U) Post-War Innovations. Following World War II, the Soviets reaffirmed the concept of the deep operation and began the process of motorizing their rifle troops to enable them to operate better with tank formations. Soviet acknowledgement of the primacy of nuclear weapons produced the only major doctrinal change since the 1930s and led to the remaking of the Soviet armed forces to fight on the nuclear battlefield. The combination of nuclear weapons, missile delivery means, and guidance and control systems was said to have produced a "qualitative jump," which they called a "revolution in military affairs." The zenith of the Soviet fixation on the exclusively nuclear battlefield was reached in the 1960s. Numerous writings, including all three editions of Sokolovskiy's Military Strategy, issued in 1962, 1963, and 1968, affirmed the preeminent role of nuclear weapons in modern warfare. Throughout this revolution in doctrine, however, the primacy of the deep operation was not challenged. The Soviets saw the use of nuclear weapons on the battlefield as a means to further their ability to conduct deep operations since they would enable a military force, for the first time, to simultaneously and decisively influence the battlefield throughout its "operational and strategic depth". No longer would it be necessary to penetrate enemy defenses in succession in a time-consuming procedure. Nuclear weapons would accomplish the roles of suppression, breaking through enemy positions, and deep interdiction strikes, thus reducing the need for conventional artillery and air strikes and facilitating rapid advance by tank-heavy ground force formations deep into the enemy operational rear. The future battlefield was envisioned as dynamic and highly mobile, without stable front lines and with a blurred distinction between front and rear. Nuclear weapons provided greater opportunities for delivering surprise strikes against both troops and deep rear areas.

(4) (U) Adaptation to the Integrated Battlefield. In the late 1960s, Soviet writings began to discuss the combination of battlefield nuclear weapons with perfected conventional armaments. This led, by the early 1970s, to a minor but important doctrinal modification that accepted the "possibility" of conducting combat actions by units and sub-units (regiments, battalions, and companies) with conventional weapons. The doctrinal pronouncement noted that conventional weapons alone might be used in the initial phases of a world war, and that it would be necessary to employ conventional weapons during and between nuclear exchanges. At this time, Soviet forces were formally charged with the mission of fighting with or without nuclear weapons. The basic concept of deep operations remained essentially unchanged, although the term had fallen into disuse. Soviet

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ground forces were steadily improved to permit them to better carry out the preferred rapid and deep mobile operations. The problem of achieving simultaneous influence throughout the depths of the battlefield, which had been overcome through the use of nuclear weapons, remained inadequately solved in a conventional environment.

(u)

(5) ~~(S/NOFORN/WNINTEL)~~ Recent Organizational Changes. By the late 1970s, a comprehensive review of the requirements of theater warfare under modern conditions seems to have occurred. Changes in organization of air, air defense, and ground forces, took place, all apparently designed to permit better execution of the integrated theater strategic operation under either nuclear or non-nuclear conditions. Bomber and longer range tactical aircraft were operationally integrated to form the core of the strike force for major theater strategic air operations. Previously separate and autonomous air defense elements were unified into a single centralized structure within each military district or wartime front. This reorganization permits better coordination of an integrated theater-wide air defense plan. The rapid growth of attack helicopter forces under front control significantly improves fire support to combined-arms and tank armies, while the formation, since 1979, of air assault brigades at front level demonstrates the requirement for more air assault operations in support of advancing ground forces. Reorganization of both tank and motorized rifle divisions reflects an across-the-board effort to more effectively conduct fast, continuous operations of great spatial scope in the face of anticipated NATO air, air defense, anti-tank, and other improvements. They have been accompanied by increased requirements for all aspects of theater operations, as discussed below.

(u)

(6) ~~(S/NOFORN/WNINTEL)~~ Maneuver. Operations by fronts and armies are to be focused on major theater axes. Greater agility in concentrating efforts on first one and then another major theater axis is sought through enhancing the ability to regroup major air and ground formations over longer distances.

(u)

(a) ~~(S/NOFORN/WNINTEL)~~ Breakthrough Operations. A more modern breakthrough operation is required that employs more flexible and more rapid methods and broader integration across the front. This operation must increasingly substitute rapidly deployable force for massing of troops. A solution to this requirement is being approached gradually through the integration of air power, air mobility, and fires from mobile, dispersed artillery, with ground maneuver forces brought forward rapidly from the depths to quickly concentrate on multiple axes and just as quickly disperse.

(b) (U) Exploitation. Improvement to exploitation operations is also required. They must be made more rapid and continuous in order to more quickly carry the battle deep into the enemy operational rear. Fulfilling this requirement involves careful coordination of maneuver, fire support, air defense, and logistics elements.

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(u)
1. ~~(S/NOFORN)~~ With regard to maneuver, the continuing development of operational maneuver group (OMG) concepts has been the centerpiece of efforts to improve the effectiveness of exploitation operations.[5] The OMG has historical antecedents in the operations of "mobile groups" in World War II, although these earlier concepts were discarded in Soviet military theory following the war, when mechanization of rifle units seemed to eliminate the need for special mobile units. The current establishment of OMG is part of the Soviet response to the requirement to enhance capabilities for deep operations in the face of improvements in the NATO defense.

(u)
2. ~~(S/NOFORN/WNINTEL)~~ OMGs of division to army size are expected to move behind leading attack echelons. As early in the offensive as possible, probably before second echelon divisions and armies are introduced, OMGs would attempt to drive through gaps and weak sectors in NATOs defense toward objectives deep in its operational rear. (i.e., the NATO corps rear area). OMGs would seek to rapidly destroy NATO nuclear weapons and reserves, prevent lateral reinforcement, and destroy supply lines and C^3I , through a series of large raiding operations. Helicopters would be a primary source of air support to the OMGs, conducting route reconnaissance, assisting in command and control, and providing fire support at the objective. Helicopters also would be useful in moving air assault brigade elements forward of the FEBA to enable their close interaction with the OMGs. The coincident creation of air assault brigades indicates that their employment with OMGs is likely. OMG operations within the NATO rear area would be relatively autonomous, although subordinate to the overall front operations plan. All of this activity seems designed to increase the tempo of the advance, disguise the axis of the main effort, draw off enemy reserves, and in general disrupt enemy operational stability. OMG employment could present NATO commanders with a difficult decision as to whether to commit significant forces against the OMGs, thereby diminishing the amount of force available for commitment against the main body and risking collapse of the defense.

(u)
(c) ~~(S/NOFORN/WNINTEL)~~ Improvements in Tactics. At lower levels, there is a requirement to improve maneuver tactics to meet the increased demands posed by enhancements to operational art. Some recurring themes for tactical improvement include searching for better ways to combat antitank defenses, improving coordination with aviation (especially helicopter aviation) and artillery, developing better methods for overcoming areas of mass destruction, obstacles, mountain passes and other barriers, and improving specialized maneuver forms that are roughly analogous, at the regimental and divisional level, to OMG operations. The latter include operations of forward, raiding, and enveloping detachments, and the wide use of tactical air assault operations (parachute and heliborne) in tandem with advancing ground forces. Night offensive combat operations, especially by forward and raiding detachments, are to receive more emphasis. These measures are all intended to improve the overall speed and agility[6] of maneuver divisions and regiments and thereby contribute to maintaining the pace of advance.

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(7) (U) Airborne, Air Assault, Airmobile Assault Forces

(a) (U) The Soviets will retain a full spectrum of specialized units for insertion by fixed-wing transport and/or helicopter into both the enemy combat and rear areas. These specialized units will continue to be supplemented by the airlanding of regular motorized rifle troops as the specific operational situation warrants.

(u)
(b) ~~(S/NOFORN)~~ Air assault requirements will continue to be a major area of focus. The front organic air assault brigade's current primary role is to support the advance of an army-size front operational maneuver group in the deep rear. The Soviets are likely to add to this role by organizing, in many armies, separate air assault battalions whose primary mission would be to support the advance of division-size army operational maneuver groups. Air assault units might be incorporated into the tank division to replace some motorized rifle units.

(u)
(c) ~~(S)~~ Airborne divisions are likely to continue as centrally controlled assets of the Supreme High Command to carry out deep strategic missions in support of theater offensive goals. Some divisions will be subordinated to individual fronts to carry out operational landings to accomplish missions in support of the goals of individual front offensive operations.

(u)
(d) ~~(S/NOFORN)~~ Airmobile assault brigades may continue to exist in some fronts opposite the Near East and Far East regions, possibly because of terrain. Shallow airmobile landings in the tactical zone of the enemy defense will probably continue to be the responsibility of motorized rifle companies and battalions drawn from regular combat divisions. This function may be enhanced by making helicopter lift organic to the existing division or by replacing some motor rifle units with specialized air assault units in a few divisions.

(u)
(8) ~~(S/NOFORN/WNINTEL)~~ Artillery Fire Support. The Soviets are seeking more flexible and more responsive fire support capable of bringing a high volume of fire to bear rapidly on multiple, often fleeting, targets. Key considerations include the integration of artillery fires with all other means of destruction, integration of nuclear with non-nuclear fires, automation of the fire control system, achieving a smooth transition from one phase of support to another, improving ability to attrite enemy nuclear-capable and supporting systems, better antitank suppression, and improved efficiency of ammunition consumption.

(u)
(a) ~~(S/NOFORN/WNINTEL)~~ Integration of All Non-nuclear Fires. The integration of all available conventional means of destruction into a single, flexible concept and plan remains a long-term Soviet requirement. We believe that rocket troops and artillery, front and army aviation, air defense assets (especially for anti-helicopter defense), tanks and ICVs, and radioelectronic warfare assets are all to be included in such a unified

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plan. The wider incorporation of necessary automation and other sophisticated command and control capabilities will more fully resolve this requirement. A basic goal, in keeping with the Soviet emphasis on deep operations, is a near-simultaneous destruction capability throughout the entire enemy operational and tactical depth.

(u)

(b) (~~S/NOFORN/WNINTEL~~) Integration of Nuclear and Non-nuclear Fires. Soviet rocket troop and artillery fire planning seeks to be responsive in an integrated nuclear and non-nuclear battlefield. This requires the ability to organize a system that is suitable for the heavier artillery fire support responsibilities of the non-nuclear battlefield, while being flexible and survivable enough to support troops advancing in the wake of nuclear attacks. The problem of achieving a smoother and more rapid transition to the use of nuclear weapons by rocket troops is of continuing concern. Solutions for effectively supporting breakthrough operations while minimizing risk from sudden nuclear attack emphasize better target acquisition and fire control procedures, improved reconnaissance, greater mobility of artillery units, and more intense concentrations of shorter duration.

(c) (~~S/NOFORN/WNINTEL~~) The Struggle Against Enemy Nuclear Means.

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The anticipated US fielding of enhanced radiation (ER) warheads, especially for 155-mm systems, in view of their numbers, substantially magnifies the problem of finding and destroying enemy nuclear means. The much improved effectiveness of ER rounds over standard nuclear rounds for the 155-mm system makes their effective targeting and destruction in the non-nuclear phase a much more critical requirement. We expect the Soviets to attempt to meet this requirement by focusing more reconnaissance assets on the task, and by enhancing the quantity of nuclear and non-nuclear fire means intended to destroy 155-mm systems. Conventional SS-21 and SS-23 missiles are expected to be included in the assets to be targeted against ER-capable systems.

(u)

(d) (~~S/NOFORN/WNINTEL~~) Fire Support Phases. Soviet offensive procedures divide the destruction of enemy fire into at least three phases: preparatory fire for the attack, fire support of the attack, and close fire support for troops advancing into the depth of the enemy positions. Heightened emphasis on rapid movement forward from deep rear areas and

commitment from the march suggest that specific fire support to that phase of operations is also required. This seems particularly important with respect to formations such as operational maneuver groups, which are intended to move rapidly through gaps formed in enemy formations and operate extensively in enemy rear areas. Whether or not the Soviets perceive a requirement for a fourth phase of fire destruction, they are concerned with transitioning rapidly and smoothly from one phase of support to another. High priority is placed on improving automation of the fire destruction system to permit automated fire commands and selection of the optimum weapon mix.

(u)

(e) ~~(S/NOFORN/WNINTEL)~~ Massive Fires. Because of improved troop mobility, greater armor protection, and better artillery capabilities, the role of massive artillery fire has increased in recent years. Emphasis is being placed on measures to permit a higher volume of fire to strike given targets rapidly. Procedural steps include attention to hasty artillery preparation, using the overlapping fires of several artillery groups on single targets. The need for a single powerful artillery strike on a given target, as opposed to a longer-lasting but less intense attack, has been stressed. Current high mobility offensive operations demand that massive fire be sudden, accurate, fully coordinated with actions of advancing troops and supporting air power, and preceded by minimal preparation time. Principal targets for massive fire would include tactical nuclear weapons, concentrations of tanks, antitank weapons, and mechanized infantry, self-propelled artillery, centers of enemy resistance, counterattacking enemy forces, fire support helicopters in basing areas, and others. Centralized command of reinforcing fires, more self-propelled artillery to permit easier concentration and dispersal, and growth in the quantity of both divisional and non-divisional artillery will help achieve the requirements for higher-intensity fires. Non-divisional artillery batteries are expected to increase from 6 to 8 tubes, and the artillery battalion will probably become the basic firing unit, as opposed to the battery.

(u)

(f) ~~(S/NOFORN/WNINTEL)~~ Fire Support of Mobile Operations. More responsive on-call fire support for troops advancing into the enemy depths is also required. Supporting artillery is to be more mobile and flexible, to permit maneuver units to use more fully their enhanced maneuver capabilities. The concept is to preempt enemy artillery units in opening up artillery fire, and to permit no lulls when fires are being shifted. The increase in tube artillery within maneuver regiments and the introduction of 82-mm mortars and 85-mm antitank guns will help to achieve more-effective suppressive fires for maneuver units operating in the enemy depths. Fuller integration with attack helicopters and more emphasis on direct fire for these functions, to reduce ammunition expenditures, may also be expected.

(u)

(g) ~~(S/NOFORN/WNINTEL)~~ Other Key Requirements. The Soviets pay great attention to the need to find better ways of suppressing enemy antitank systems. This is a primary motivation that cuts across all facets

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of fire support, and it is being approached in an integrated manner. They are also seeking more fire support efficiency through ammunition improvements and better use of SRBM systems in the war's conventional phase, possibly including infrared-seeking sub-bomblets and cratering rockets. Special attention is also to be given to fires under mountain and night conditions. Artillery fire support is among the areas of greatest potential near-term and mid-term improvement, due to the large numbers of new systems and associated capabilities that have recently begun deployment or are awaiting deployment in the near future.

(9) (S/NOFORN/WNINTEL) Air and Air Defense. The Soviets are in the process of integrating field force air defense and national air defense into a single air defense structure that will improve theater capability, increase operational flexibility, and enhance command and control. They perceive a requirement for better theater-level integration of air defense among Warsaw Pact countries. This is motivated by improvements in NATO offensive aviation capabilities and by the expectation that the future battlefield will be increased in spatial scope. Air defense integration is part of a broader strategy that calls for rapid concentration of forces on major theater axes through more responsive regrouping of major air and ground formations over longer distances. Warsaw Pact forces will coordinate both field force air defense operations and national air defense operations along major theater axes in succession. They seek to achieve air supremacy sufficient to maximally reduce NATO nuclear potential.

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Further advances can also be expected in Soviet SAM guidance systems and in missile system containerization.

(10) (U) Rear Services Support

(u)

(a) (S) During the past decade Soviet capabilities for logistical support of their operational concepts have grown steadily. Whereas in the 1960s it may have been accurate to describe Soviet transportation, maintenance, and supply structures as sparse, this is no longer the case today. To some extent, this perception was based on focusing, incorrectly, on the divisional structure and overlooking the fact that the Soviet concept is to concentrate support at echelons above the division. Today Soviet forces are well supported logistically in terms of transportation, maintenance and supply organizations, and equipment.

(b) (U) Nevertheless, Soviet leaders are very concerned about the volume of support required to sustain forces under modern combat conditions. MSU Orgarkov has elaborated recently on the increasing materiel requirements of modern warfare.[7] He notes that current technical and rear services requirements are in no way comparable with those of past wars.

Materiel requirements have risen "tens of times." The volume of repair required has grown many times and the nature of repairs has changed. This, in turn, is said to require improved organization of technical support and to increase the importance of the work of the deep rear of the country, which must be able to more-rapidly replace losses of "an enormous quantity of combat equipment and weapons."

(c) (u) ~~(S/NOFORN)~~ Another chief concern of Soviet logistics planners is to improve the rapidity with which the rear services structure, much of which is in cadre status in peacetime, can be mobilized in a crisis. Other important requirements are to improve standarization of equipment, thereby simplifying maintenance and resupply; to increase the maneuverability of the operational (frontal) rear; and to make use of the latest technology to plan and manage rear services activities.

(d) (u) ~~(S/NOFORN)~~ The Soviets and NSWP have devoted considerable effort toward developing an automated rear service support system. By the late 1980s or early 1990s, a computer network will be established that will tie together Soviet ground force logistics from regiment to MOD-controlled fixed computer centers. This system will permit Soviet logisticians to:

1 (u) ~~(S/NOFORN)~~ Monitor materiel inventories and expenditures.

2 (u) ~~(S/NOFORN)~~ Determine materiel requirements for operational concepts and recommend which plans are most feasible from a logistic point of view.

3 (u) ~~(S/NOFORN)~~ Plan and implement transportation movements using the most efficient modes and routing.

4 (u) ~~(S/NOFORN)~~ Optimize the deployment of support units: maintenance/ recovery, medical, engineer, and others, based on projected requirements.

Full implementation of the rear service subsystem will significantly reduce time requirements and enhance the effectiveness of ground forces support. It is estimated that time may be reduced from 48-72 hours to 6-8 hours for planning materiel support of a front offensive.

(11) (U) Command and Control

(a) (u) ~~(S)~~ The high speed, fluid battlefield envisioned by the Soviets will place great demands on command and control. Increased mobility and weapons effectiveness will result in frequent and radical changes in battlefield situations, particularly when nuclear weapons are employed. Vast amounts of combat intelligence will have to be collected, processed, and disseminated responsive operational courses of action conceived,

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evaluated, and directed and weapons systems targeted--all in a minimum of time if fleeting opportunities for tactical success are not to be lost. The problem is particularly critical for the Soviets if they are to implement successfully their doctrine of preempting a NATO first-use of theater nuclear weapons. Minimizing strike reaction time is essential if elusive targets such as nuclear-capable artillery and missile units are to be destroyed between the time the decision is made to use nuclear weapons and their actual employment.

(b) (u) ~~(C)~~ The Soviets have long been concerned that the efficiency of the decisionmaking and control processes has lagged behind the growth of mobility in maneuver units. Control procedures are thought to have become too slow from the identification of a requirement to the issuance of unit orders. The most prominent means of compressing the required time for planning and control procedures in the 1990s would be an integrated, real-time, automated command support (ACS) system. A fully developed ACS could:

1 (U) Reduce significantly staff planning and command decisionmaking time.

2 (U) Permit more-sophisticated consideration of alternate operational and logistic problems.

3 (U) Improve and speed the collection, processing, and dissemination of intelligence data and expand access to it.

4 (U) Enhance the management of resources.

(c) (u) ~~(C)~~ The Warsaw Pact has been engaged since the 1960s in a multinational effort to provide their forces with automated support of command, control, and communications. Parts of an ACS system are now operational, particularly in the area of air defense and artillery fire control. A completely developed ACS system will probably be deployed to ground force tactical commanders in the early 1990s.

(d) (u) ~~(S)~~ The structure of the Soviet ACS system is likely to be along the lines of a conceptual plan developed by the Czechs, in response to Soviet tasking, in the mid-1960s. This concept, called MODEL, integrated up to 30 operational functions into six groupings supported by a centralized ACS system. These systems are:

1 (U) Strike activities--all means of striking enemy ground forces.

2 (U) Troop maneuver--all ground troop movement activities not included in the strike category.

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3 (U) Reconnaissance--surveillance and reconnaissance activities of individual services including intelligence activities.

4 (U) Supply--materiel support activities and facilities of all branches of service, including logistic transportation.

5 (U) Air defense--activities and facilities of the entire air defense system.

6 (U) Political administration--activities of the political and military service structure.

(e) (U) ~~(S)~~ The ACS system may feature control computers at each operational headquarters from front to division designed to interface with the decisionmaker and pass subtasks to specialized computers. Computers would be at regimental level, but not necessarily for use in a control role. Battalions would transmit and receive data through computer terminals.

(f) (U) ~~(S/NOFORN)~~ In the area of strike activities, a completed ACS system would enable commanders from regimental level on up, through their respective Chiefs of Rocket Troops and Artillery (CRTA), to calculate quickly total fire requirements based on the norms for various targets, weigh the suitability of available strike means, and select the most economical means based on weapons capability. Likely programs would:

1 (U) Formulate and disseminate fire support plans.

2 (U) Furnish the number and readiness condition of friendly strike means.

3 (U) Provide the categories and parameters of enemy targets.

4 (U) Calculate the possibilities for various engagement combinations.

5 (U) Pass logistic status reports and requests.

(g) (U) ~~(C)~~ Intelligence collection, collation, and dissemination is an area particularly suitable for automation. A fundamental problem inherent in the Soviet intention to preempt a nuclear strike is tracking highly mobile delivery systems so they can be attacked prior to employment. By the 1990s, the Soviet ACS system will be much more capable of accepting data directly from a wide variety of sensors, although information from some may require manual input. Target location data will probably be passed quickly and efficiently up and across echelons digitally in the ACS intelligence/reconnaissance (I-R) subsystems. Input and output will be made

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by subsystems used in other functional areas such as strike, air defense, maneuver control, and aviation. Information collected from assets other than those under control of the ground force chiefs of reconnaissance--i.e., from from aviation, artillery units, and maneuver elements--will therefore be readily available to ACS users. Tactical level units down to at least regiment, and probably battalion, will be able to access the system for data.

(h) ~~(S)~~ Sensor systems available to the Soviet ground force commander by the early M90s will include side-looking airborne radar with a real-time downlink. These systems will provide data on moving vehicles and other targets within the tactical commander's area of responsibility, including location and direction of movement. Other sensor systems will also put real-time data into the ground force I-R subsystem. Among these will be TV target acquisition/identification sensors with a low-light-level capability, mounted on a variety of airborne platforms-- e.g., helicopters, tactical aircraft, and drones.

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3. (U) Footnotes

1. "Printsipy Voennovoy Iskusstva" (Principles of Military Art)" by A.A. Sidorenko, Sovetskaya Voennaya Entsiklopediya (Soviet Military Encyclopedia), Volume 6 (Moskva: 1978).

2. Ogarkov,N.V., Always Prepared to Defend the Fatherland, p.31, Moscow, 1982.

3. "For Our Socialist Motherland: Guarding Peaceful Labor," by MSU N. Ogarkov, Kommunist, No. 10, July 1981.

4. Ogarkov, Always Prepared to Defend the Fatherland, p.25.

5. The name "operational maneuver groups of the Army" is found in the Polish open source journal, Review of Air and Air Defense Forces, June 1981. During 1981, discussion of mobile groups, deep operations, operations of groups of fronts, and other related concepts gained currency in Soviet open source literature. See especially the December 1981 issue of Voenno-Istoricheskiy Zhurnal (Military Historical Journal). This open source discussion illuminates the historical roots from which OMG concepts were developed.

6. Agility is used in the sense meant by Beaufre: "....The combination of mobility and the reaction capabilities: information, decision, transmission of orders, execution." See Andre Beaufre, Strategy For Tomorrow, footnote, p.29, Crane, Russak & Company, Inc. (New York: 1974).

7. Ogarkov, N.V., Always Prepared to Defend the Fatherland, p.29.

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CHAPTER 3

SOVIET CAPABILITIES TO MEET WESTERN THEATER REQUIREMENTS (THROUGH 2000) (U)

1. (U) Adequacy of Force Structure to Accomplish Required Operations in the Western Theater.

a. (u) ~~(S/NOFORN)~~ The Soviets appear to be fairly satisfied with the total quantity of the ground forces at their disposal for planned operations against NATO. They are concerned with the readiness of these forces to participate early in offensive operations. This is particularly applicable to the forces in the Western Military districts of the Soviet Union, which are expected to form the initial reinforcing fronts used to extend quickly the success of first echelon fronts that have penetrated deep into NATO rear areas. The nature of Soviet operational concepts, with the premium placed on keeping NATO off balance and unable to react to offensive pressure, demands that offensive momentum be maintained through campaign completion. The Soviets, therefore, must be concerned with the readiness of Western MD forces to conduct effective offensive combat operations early in the war. This concern is heightened by fears about the reliability of their NSWP partners, by the growing gap in capabilities between some NSWP forces and the better Soviet divisions, and by the growing realization of the immense attrition expected to occur.

b. (u) ~~(S/NOFORN)~~ For these reasons, the Soviets probably will undertake a long-term program to gradually heighten the mobilization readiness of their forces opposite NATO. Taking into consideration manpower constraints and the need for force increases in the Eastern Theater, a likely way to increase readiness would be through a combination of measures:

(1) (u) ~~(S/NOFORN)~~ Upgrade selected Category III divisions to Category II status;

(2) (u) ~~(S/NOFORN)~~ Mobilize as low strength Category III divisions some existing inactive or mobilization base divisions;

(3) (u) ~~(S/NOFORN)~~ Upgrade the Vyborg Corps and presently understrength WTVD armies to full size, and establish an additional army in the Baltic MD from available MD forces;

(4) (u) ~~(S/NOFORN)~~ Use equipment becoming available from inventory turnover to establish mobilization bases to replace some or all of the newly activated divisions.

c. (u) ~~(S/NOFORN)~~ Conservatively, such a program might result in 6-10 additional active divisions for combat in the Western TVD (all former mobilization bases) by 2000. It could also result in 4-6 of the present Category

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III divisions being upgraded to Category II. These changes would occur in the Leningrad, Baltic, Belorussian, and Carpathian MDs. Because current force levels in the Northwest and Southwest TVDs are probably considered adequate for planned missions, the force enhancements would be applied in the Western TVD. Coupled with the non-divisional enhancements mentioned above, this program would significantly enhance early-combat fighting capabilities. It could be accomplished with modest resource expenditures if the newly activated divisions were maintained at low peacetime manning and current equipment (T64 tanks, for example) was provided to them as it was replaced in the forward area by new production.

2. (U) (S) Readiness. We consider the overall Soviet ground forces organization to be well prepared to initiate combat operations promptly and to marshall the required support. Soviet requirements to further improve their readiness should be understood to reflect very high standards. In many areas, for example in making the entire national economy more responsive to military requirements, the scope of the issue is so large that only gradual and incremental improvements should be expected. In other areas, such as enlarging the reserve structure with attention to providing replacement command and control entities, significant progress should be attainable by 2000. The fruition of long-term projects such as the automatic command support system and the Warsaw Pact area communications system will significantly enhance overall readiness of Pact forces.

3. (U) Integration of Military Operations On a Broader Scale.

a. (U) (S) Command and Control. Integration of military operations into the "theater strategic operation" is an umbrella concept that depends largely on achieving requisite command, control, and communications capabilities. Completion of the overall automatic command support (ACS) system, projected to occur during the 1990s, will go a long way toward meeting this requirement, providing the Soviets with a capability to plan more rapidly the allocation and deployment of their forces for the changing operational and tactical needs of the highly mobile battlefield envisioned in their doctrine. An increase in their capability to engage fleeting targets would significantly enhance the Soviet ability to preempt nuclear strikes. Senior commanders would have a much greater ability to mass fires against critical sectors and influence tactical situations at key points in the battle.

b. (U) (S) Organizational Changes. Organizational changes in Soviet air, air defense and ground forces already have improved significantly their ability to execute the theater strategic operation.

(1) (U) ~~(S/NOFORN)~~ The new air and air defense organization provides the Soviets with a peacetime structure that more closely approximates their anticipated wartime structure for the employment of air power. The new structure will allow a more rapid transition to a wartime posture and should enhance operational flexibility and coordination through centralized control of air assets at front and theater levels. Continued introduction of new

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technology in command, control, and communications systems, and of large numbers of new, modern weapons with longer ranges, will further enhance the effectiveness of this structure in the coming years.

(2) (S/NOFORN) Organizational changes within maneuver divisions likewise will result in divisions more capable of mounting effective offensive operations against sophisticated NATO defenses, with less likelihood of becoming stalled and being forced to fight an indecisive war of attrition. The reorganized divisions have both greater firepower and improved maneuver capabilities. The ability to overcome antitank defenses will be substantially improved as divisions are equipped according to the new organizational norms. The incorporation of attack and assault helicopter capabilities into the division structure will provide new flexibility for the maneuver division commander. Infusion of greater numbers of cannon, rockets, and mortar artillery into the maneuver regiments will give them better capabilities to react quickly to abrupt changes in the tactical situation with less need of fire support from higher echelons, and specifically to lay down a base of suppressive fire while on the move.

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On balance, by the year 2000, the addition of more weapons and equipment into the tables of organization and equipment of Soviet maneuver divisions will make these divisions substantially more capable of executing the wide ranging, deep mobile operations required by Soviet doctrinal concepts.

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c. (S/NOFORN) Operational Maneuver Group Concepts. The organizational changes mentioned above support, in part, the employment of the operational maneuver group (OMG) as a large, high speed exploitation force designed to move deep into an enemy's operational rear early in the initial period of war. The restructured air forces and increases in firepower and mobility of some new artillery and missile systems also support such rapid, deep exploitation. The OMG concept has been incorporated into Soviet military doctrine and will become a standard feature in the organization and operations of some fronts and many armies. The Soviets have acknowledged that much more training and improved command and control systems will be required to fully implement the concept. Despite probable difficulties in logistics support and command and control, the Soviets would probably make use of OMGs even if hostilities should occur in the near future. By the mid-1980s, the necessary training and command and control to competently implement the OMG concept should be in place. Thereafter, the significant contribution to maneuver capabilities which it provides will be steadily enhanced as improved weapons systems enter the force.

4. (U) Summary Evaluation of Soviet Requirements versus Capabilities in the Western Theater.

(u)

a. ~~(S/NOFORN)~~ Introduction. The Soviets have a range of military requirements in the Western Theater. At the minimum, they require the capability to keep the CPSU in power in the USSR. Next, they must maintain Soviet hegemony over their Non-Soviet Warsaw Pact allies. Third, Soviet forces require the capability to deter or successfully defend against any form of NATO attack on the Pact. Finally, the Soviets require an offensive capability to overwhelm NATO with a massive ground and air assault in Central Europe, while simultaneously conducting secondary offensives or holding operations on the northwestern and southwestern flanks. The Soviets must be capable of achieving all of these objectives in either an NBC or non-NBC war.

(U) This section will contrast the above requirements with actual Soviet capabilities in terms of three essential areas: force structure (numbers, types, and locations of forces); fielded technologies (current equipment); and operational capability (C^3I and logistics). The purpose is to determine areas where Soviet capabilities fall short of requirements in an effort to identify critical factors driving Soviet force developments in the Western theater.

(u)

b. ~~(S/NOFORN)~~ Force Structure. The current structure of Soviet Western Theater forces is sufficient to accomplish the minimum mission of securing CPSU power in the USSR and of ensuring continued Soviet dominance over the Warsaw Pact. Beyond this, from a strictly structural viewpoint, the Soviets seem satisfied that the size and disposition of their theater forces generally meets their extensive offensive operational needs. As it exists now, the Soviet force structure in the Western theater reflects a long evolutionary process of deliberate, systematic improvement designed to meet specific Soviet requirements for high speed mobile operations of great depth. During the next twenty years, the Soviets are likely to continue this process of gradual improvement as they strive to incorporate and maximize the positive impact of technological advances on their force structure and operational concepts.

(u)

~~(S/NOFORN)~~ However, while the Soviet approach to force structure development to the year 2000 is more likely to be one of incremental rather than radical alteration, we cannot rule out their willingness and capability to rapidly and significantly alter their force structure should they perceive a requirement to do so. The key impetus for such a change is technology. The Soviet approach to military technological development is dialectical, emphasizing the evolutionary process by which a technology is developed and introduced, has its impact, is followed by countermeasures that negate or offset its impact, and is then improved or superseded by new technology that negates the countermeasure. In the Soviet view, this process is continuous and ensures the eventual obsolescence of every weapons system. Attentiveness to the impact of military technological

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change, particularly laser and directed-energy technology, and, increasingly effective antitank weapons, will help shape Soviet force structure developments in the coming decades.

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c. (S/NOFORN) Fielded Technologies. Technological inferiority has been a traditional Russian concern. Since the 1920s, the need to import technology has been a driving consideration in Soviet force development decisions. This concern heightened during the early 1950s as the Soviets realized that the pace and impact of military-technological change was accelerating. While technically advanced equipment and operations are needed throughout the Soviet military, the need is most acute in the Western Theater, where the NATO bloc fields the most technologically sophisticated potential adversary force.

(S/NOFORN) In response to these concerns, the Soviets have developed a materiel research, development, and acquisition process that assures the gradual improvement of old equipment and the continued fielding of new technologies. The result is that Soviet Western Theater forces currently possess the technological capability to accomplish all theater missions in a conventional war, and probably in an NBC conflict as well. However, given the highly dynamic nature of military technological evolution, the Soviets are constantly striving to keep pace with the latest developements.

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- further developing the standardization, interchangeability, and unification of Warsaw Pact equipment.

(u)
d. (S/NOFORN) Combat Capability. Soviet operational capability in the

Western Theater is currently sufficient to accomplish the more limited theater missions of maintaining the existing power structure in the USSR and Eastern Europe and of deterring or defending against a NATO conventional or NBC attack on the Warsaw Pact countries. From an offensive perspective, however, the Soviets are concerned about the overall capability of their C^3I and logistic support systems to meet anticipated requirements for an offensive war of the size, speed, scope, and intensity they envision in Western Europe. This is particularly true of their view of NBC warfare in Europe.

(u)
(1) ~~(S/NOFORN)~~ From a C^3I standpoint, the Soviets realize that the extreme dynamism, rapidity, and spatial scope of modern combat has compounded traditional problems by vastly increasing the volume of information required, while simultaneously decreasing the amount of time available to collect, process, evaluate, and disseminate it. This problem is especially evident in Soviet efforts to integrate the command and control of combat operations at the theater level. In their minds, this is an essential step toward ensuring the simultaneous prosecution of the offensive throughout the enemy's operational depth, and toward maintaining the momentum of the offensive, without pause, in a single theater campaign. Accomplishing these objectives requires improvement in two basic areas: command organization, to more efficiently integrate all theater combat and support functions and the introduction of new C^3I equipment, to enhance the collection, processing, and evaluation of combat information and to facilitate the rapid implementation of command decisions. The Soviets realize that without these improvements, combat capability will continue to lag behind combat potential. From their view, this lag seriously threatens their capability to accomplish Western Theater missions within the timeframe they perceive to be necessary.

(u)
(2) ~~(S/NOFORN)~~ Many of the same problems also apply to the Soviet logistical support structure. While Soviet forces are currently well supported logistically, Soviet leaders continue to be concerned with their ability to meet the tremendously expanded materiel requirements they forsee in a European campaign. The enormous geographic distances involved, the increased quantity and complexity of modern weapons and equipment, the heavy losses of equipment and manpower they expect, the increased mobility of maneuver units requiring logistic support, and the problems of converting the rear services from peacetime to wartime readiness, all combine to place an enormous strain on the current logistics structure. In an effort to help alleviate these problems, the Soviets and their NSWP allies have initiated the development of an automated rear services support system to better organize, control, and implement rear service support. The bottom line is however, that although the Soviets are concerned about their logistic capability and perceive a need for improvement, they also believe that they currently possess the capability to do the job.

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(3) ~~(S/NOFORN)~~ Another factor affecting the overall operational capability of Soviet Western Theater forces is the rapidity with which these forces can convert from peacetime to wartime readiness. This is particularly

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true for the reduced-strength and cadre units (particularly in the USSR's Western MDs) that fill the critical wartime mission of reinforcing and exploiting the success of first echelon units. Timely commitment of these forces is necessary to maintain the momentum of the offensive, a key Soviet requirement. This problem takes on added significance with the uncertain reliability of some NSWP allies.

(u)

(4) (~~S/NOFORN~~) On a larger scale, the Soviets continue to emphasize the importance of their entire national economic mobilization system. However, while Soviet concerns over these and other mobilization/readiness issues is chronic, it should be remembered that these concerns reflect their very high standards and that their current mobilization system is sufficient to meet Soviet theater requirements. Still, they are seeking improvement in the following specific areas: better integration of manpower, transportation, communications, and energy to insure the stability and survivability of their economic mechanism; improving the wartime autonomy of enterprises producing the main combat weapons; improving their ability to mobilize rapidly after hostilities have begun; and providing for better secrecy in their mobilization process.

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CHAPTER 4

FAR EAST THEATER

1. (U) Soviet Military Requirements. The Far East is second only to the European Theater in importance to Soviet military policy. The Soviets have numerous requirements in the Far East Theater, including the following:

a. (U) ~~(S)~~ Ensuring Soviet territorial security by deterring potential Chinese aggression or containing a Sino-Soviet conflict.

b. (U) ~~(S)~~ Developing further Soviet offensive military capabilities and options in the region to improve their capability to inflict damage on China's military-industrial capability and seize all or portions of Manchuria.

c. (U) ~~(S)~~ Countering US naval and air forces in the region.

d. (U) ~~(S)~~ Preventing China from taking any advantage of Soviet involvement in a war with NATO.

e. (U) ~~(S)~~ Limiting American, Chinese, and Japanese influence in Asia.

f. (U) ~~(S)~~ Frustrating and delaying the emergence of a "Washington-Beijing-Tokyo axis" with links to NATO.

g. (U) ~~(S)~~ Encouraging the evolution of a Soviet-sponsored Asian collective security system.

2. (U) Soviet Strategy and Capabilities. Defense planners in Moscow must consider several potential conflicts in the Far East, including, for example, a direct confrontation with China; actions against US air and naval forces only; and a simultaneous two-front war with NATO and China.

a. (U) Conflict with China.

(1) (U) ~~(S/NOFORN)~~ Soviet options in a strictly Sino-Soviet conflict--which would be primarily a land and air campaign--could range from large-scale raids with limited objectives to a full-scale invasion of western and northeastern China supported by nuclear strikes. Military as well as political considerations probably would discourage the Soviets from pursuing the total defeat and surrender of China or attempting the long-term military occupation of the Chinese heartland.

(2) (U) The Soviets have the following capabilities:

(a) (U) ~~(S/NOFORN)~~ They could stop a Chinese general ground offensive and could quickly mount a punishing counterattack.

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(u)
(b) ~~(S/NOFORN)~~ They could mount ground incursions, supported by tactical air forces, into northern China with a good chance of initial success. They would have to consider, however, that anything beyond shallow penetrations could lead to protracted guerrilla warfare.

(u)
(c) ~~(S/NOFORN)~~ They could overrun and hold Manchuria if provided substantial reinforcements from elsewhere in the USSR or with the extensive use of nuclear weapons. In most circumstances, however, because of its preoccupation with NATO, it is unlikely that Moscow would draw down its strategic reserves substantially to support a conflict with China. Moreover, once deep into China, Soviet forces would have to fight a well-entrenched enemy in inhospitable terrain at the end of long and tenuous supply lines.

(u)
(d) ~~(S/NOFORN)~~ The Soviets have a substantial advantage over China in chemical warfare capabilities, which, in the absence of a substantial Chinese chemical or tactical nuclear retaliatory capability and because of general Chinese vulnerabilities, provides the Soviets with a credible option to initiate chemical warfare if the situation requires it.

(u)
(e) ~~(S/NOFORN)~~ The Soviets have a vast nuclear superiority and could conduct nuclear strikes throughout China. Nonetheless, sufficient Chinese ballistic missiles would survive a Soviet counterforce attack (because of their concealed and dispersed deployment as well as mobility and hardness) to deliver a small but destructive retaliatory strike. This constitutes a constraint to an unprovoked Soviet nuclear attack.

b. (U) Operations Against US Forces.

(u)
(1) ~~(S/NOFORN)~~ Moscow perceives a direct threat to its security from US naval and air forces in the Far East. The modernization of the Pacific Ocean Fleet represents an attempt to counter this threat. In a NATO-Warsaw Pact war, the most pressing tasks of the Pacific Ocean Fleet's general purpose forces would be to establish sea control in waters contiguous to the USSR and in Soviet ballistic missile submarine patrol areas and to conduct sea-denial operations. Soviet air force elements would have missions against US bases in the region.

(u)
(2) ~~(S/NOFORN)~~ In a war with NATO, the Soviets probably would take actions against US naval forces in the Pacific and probably would not consider such attacks as directly risking wider hostilities with China or Japan. Additionally, the Soviets probably would pressure the Japanese to deny the United States the use of naval and air facilities. Failing this, however, the Soviets probably would attack these facilities. Soviet forces would have the following capabilities:

(u)
(a) ~~(S/NOFORN)~~ The Soviets would pose a substantial threat to any surface force that penetrated their sea-denial area.

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(u)
(b) (~~S/NOFORN~~) The Soviets probably would expect to make limited use of bases in Vietnam, but we do not anticipate large-scale operations because of Vietnam's distance from the USSR.

(u)
(c) (~~S/NOFORN~~) The Soviets would not mount large-scale ground force attacks in the Aleutians or on the Alaskan mainland, but US facilities in Alaska could be targets for air strikes or commando teams. Moscow might anticipate that limited air strikes or nuisance raids on US territory could pin down US forces needed elsewhere.

c. (U) Simultaneous Wars with NATO and China.

(u)
(1) (~~S/NOFORN~~) Simultaneous wars with China and NATO would represent an extreme situation for the Soviets, and Soviet planners have been increasingly occupied with this contingency in the last decade. In such a contingency, the Soviet priority of effort would be against NATO, and Moscow would avoid operations in the Far East that would prevent a quick victory in Europe.

(u)
(2) (~~S/NOFORN~~) The risk of precipitating simultaneous hostilities with China would not preclude a decision by the Soviets to go to war with NATO. Although they would prefer not to fight wars in Europe and Asia at the same time, we believe they could sustain concurrent, large-scale combat in both theaters for a number of months. If a war in both theaters were prolonged, however, Soviet capabilities to support major offensive operations in Asia would be severely strained by logistic, personnel, and material constraints. The Soviets also would consider that an attack on China could develop into a long-term, large-scale commitment of manpower and materiel that would compete with and weaken their European war effort.

d. (U) Other Contingencies.

(u)
(1) (~~S/NOFORN~~) A renewal of fighting between China and Vietnam would lead to increased Soviet support of an important ally. The Soviet reaction would probably be similar to that after the Chinese attack in 1979: an initial propaganda campaign and a substantial increase in material aid to Vietnam. If the conflict were prolonged or were going badly for Vietnam, limited Soviet military actions against China would be a possibility.

(u)
(2) (~~S/NOFORN~~) The Soviet response to a renewal of conflict between North and South Korea would depend heavily on the Chinese reaction and the level of US involvement. The Soviets would perceive a rapid cessation of hostilities to be in their best interest. The Soviets probably would provide some materiel support to the North but probably would conclude that the risks attending direct combat support would far outweigh the possible benefits unless the North were in danger of total collapse.

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3. (U) Future Prospects.

a. (U) ~~(S/NOFORN)~~ Near Term (Through 1985). No development over the next several years is likely to alter appreciably the current Soviet military strategy in the Far East or modify the USSR's effort to maintain and improve the capabilities of its large standing forces in the region. The Soviets will continue their program of gradual but steady force growth and modernization in the Far East. The number of Soviet ground force divisions in the Far East will increase by some 5-8 active divisions through the mid-1980s. The number of fixed-wing combat aircraft also will increase slightly. The Pacific Ocean fleet will continue to be structured primarily to oppose US naval forces, although the Navy also might have to devote more attention and resources to offsetting the gradual growth of Japanese naval capabilities.

b. (U) ~~(S/NOFORN)~~ Mid and Far Term (Through 2000). The Soviets will probably continue to gradually augment the force structure opposite China during the late 1980s and 1990s. The extent of this buildup will depend on such factors as improvement in Chinese military capabilities, the status of Sino-Japanese and Sino-US relations, Chinese success in obtaining Western military assistance, and the ebb and flow of the Sino-Soviet dispute. A conservative estimate, assuming no significant change in Sino-Soviet political relations and steady but unspectacular Chinese military enhancements that do not include marked improvement in their offensive potential, would be that the number of Soviet active divisions in the far east TVD will grow from the present count in the low 50s to 60-65 by the year 2000. This may be accompanied by the upgrading of a corps headquarters in the Far East MD to an army and constituting a corps headquarters in Mongolia. In the face of expected enhancements to PRC ground forces, the additional divisions forecast would give the Soviets the strength to maintain a credible threat to Northern China. It would provide Soviet planners with what we believe they would perceive to be necessary to maintain a threat to rapidly cut off Manchuria. Such a threat would impose a powerful constraint against the PRC's becoming involved either in an escalation of the boarder dispute or in extensive operations into southeast Asia.

4. (U) Summary Evaluation of Soviet Requirements versus Capabilities in the Far East Theater.

a. (U) ~~(S/NOFORN)~~ Introduction. Since the mid-1960s Soviet forces in the Far East Theater have undergone gradual, steady growth and modernization. During this period, Soviet military missions in the theater have evolved from a strictly strategic defensive orientation toward a developing theater offensive capability. Soviet concern with the prospect of a multi-theater war with both China and NATO has been a driving force behind this developmental process, and remains a major Soviet fear today. As a result, Soviet Far East Theater forces face a range of military requirements. These include: securing Soviet borders by deterring, containing, or defeating any Chinese offensive against Soviet territory; further developing an offensive capability to damage China's military-industrial capability and to seize all

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or parts of Manchuria; countering US air and naval forces in the region; and preparing for a protracted multi-theater war with NATO and China.

b. (u) ~~(S/NOFORN)~~ Force Structure. The Soviet force structure in the Far East Theater is currently sufficient to deter, contain, or defeat any form of Chinese aggression against Soviet territory. It is also adequate to mount a limited ground/air offensive against northern China. With regard to Manchuria, the Soviets could invade and damage this area in a conventional ground/air offensive, but could probably not seize and hold Manuchuria without either substantial reinforcement from outside the theater or the use of tactical nuclear weapons. Finally, given their tremendous superiority in nuclear and chemical weapons, the Soviets could inflict serious damage over the entire expanse of Chinese territory in an NBC war.

(u) ~~(S/NOFORN)~~ The Soviets currently have sufficient forces in the Far East to seriously threaten any US surface force entering their sea-denial zone and to attack US bases in Japan. However, in a prolonged simultaneous war with both China and NATO, logistic demands of the European theater would probably preclude Soviet Far Eastern forces from maintaining offensive operations of any depth against China without resorting to NBC warfare. Thus, in a multi-theater war of extended duration, Soviet Far East Theater forces would probably be forced to revert to a strategic defensive posture.

c. (u) ~~(S/NOFORN)~~ Fielded Technologies. Given the relative lack of technical sophistication of the Chinese forces, and the Soviets' overwhelming superiority in tactical nuclear and chemical warfare capabilities, the Soviet Far Eastern forces are adequately equipped to accomplish limited theater objectives. However, the prospect of a multi-theater war with China and NATO is of grave concern to the Soviets, and they will continue to upgrade Far East Theater equipment to meet this ultimate contingency.

d. (u) ~~(S/NOFORN)~~ Combat Capability. Since World War II, the Soviets have gradually upgraded their combat capability in the Far East Theater. In 1978, they reorganized their entire theater command structure along the lines of their Western Theater organization. This reorganization reflected the Soviet perception that the existing theater C^3I structure was inadequate to support expanding theater requirements, particularly to control theater operations in a multi-theater war with both China and NATO. The new system improved Soviet theater war-fighting capability by consolidating under one command all ground, air, air defense, and naval forces. The peacetime implementation of communications links and command facilities facilitates the transition from peacetime to wartime readiness, and provides better C^3I in the initial stages of a war. While the new organization may not yet be fully developed, it is currently capable of handling Soviet theater defensive missions, and it significantly upgrades their capability to meet the expanded C^3I requirements of a protracted multi-theater war.

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CHAPTER 5

SOUTHWEST ASIA

1. (U) Soviet Interests and Objectives.

a. (u) (~~C~~) Soviet interests in Southwest Asia are essentially twofold. At the base is a need to maintain stability on their own borders and to prevent spillover of Moslem extremism. Beyond this essentially defensive objective is a broad offensive objective of promoting and extending Soviet influence in the region. The key feature of this objective is to control Western access to Persian Gulf oil, thereby gaining maximum political leverage over the West. The pertinent questions are: (1) How will the Soviets pursue these objectives? (2) What kinds of circumstances might prompt them to resort to military means in their pursuit?

b. (u) (~~C~~) The Soviets will continue to pursue, in the future, varied diplomatic, propaganda, and military means short of the use of Soviet troops (arms deliveries, covert action, training of guerrillas, etc.) to secure their interests. They will support local nongoverning Communist parties when they perceive it as in their interests to do so and will back certain ethnic factions against others, guided by a broad perspective of Soviet interests. They will use every opportunity to stir up anti-Western feelings, and will attempt to foment instability within nonfriendly states and use this instability to influence the creation of more acceptable governments. Expecting and engendering instability, the Soviets will be alert to take advantage of any opportunities presented.

2. (U) Circumstances that Could Prompt Soviet Military Action. Because of the complexity of the geopolitical environment, it is not possible to predict concrete actions the Soviets might undertake. Under most circumstances, the USSR would seek to avoid military involvement by its own troops, preferring to rely on other tactics to achieve its ends. There are, of course, exceptions to this general rule. The following are events that might prompt a Soviet resort to military force in Southwest Asia.

a. (u) (~~C~~) If a Communist or pro-Soviet regime were to come to power in Iran, and were then in danger of being toppled, it would be characteristic for the Soviets to introduce military force if needed to maintain that government in power. This situation would be analogous to that of Afghanistan. Such an operation would focus initially on Teheran, regional political centers, and Soviet lines of communication. Securing Iranian oil fields might not be of high initial priority in this scenario. It is less likely that the Soviets would intervene merely to support a Communist faction that was competing for power.

b. (u) (~~C~~) In the event that Iran were breaking up, i.e., that the central regime was unable to maintain control over regional ethnic minorities, the

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Soviets might intervene militarily in support of a strong local Communist faction. If, for example, Azarbayjani ethnic sentiments evolved, or could be pushed by Moscow toward insurrection, the USSR could intervene on behalf of a Moscow-oriented contender with the objective of making Tabriz the capital of an allied or client state. De facto Soviet control of Azarbayjan would give the USSR potential land access to both the Mediterranean Sea and Persian Gulf through the sometimes friendly states of Syria and Iraq. A similar situation could arise in Iranian Baluchistan, possibly prompting the Soviets to occupy southeastern Iran in support of Baluchi aspirations.

c. (u) ~~(C)~~ The Soviet presence in Afghanistan provides a base of operations from which they could exploit future opportunities in this volatile area. A possible Soviet intervention in Baluchi areas could extend beyond Iranian Baluchistan into Pakistan. A Soviet-Indian squeeze on Pakistan in which the Soviets trained and armed the Baluchis for activity against the Pakistani and Iranian regimes could provide an opportunity for the USSR to "sponsor" an independent and subservient Baluchistan.

d. (u) ~~(C)~~ The Soviets could be expected to move into Iran if the US were to attempt to occupy a portion of the country. Any US actions, taken in a crisis, that might be perceived as leading toward possible intervention could trigger Soviet military moves.

e. (u) ~~(C)~~ Finally, the Soviets might intervene militarily in Southwest Asia in the event of a general war. Such intervention could follow any of the above scenarios and might also extend to the Persian Gulf littoral. Under these circumstances, worldwide military considerations would dominate Soviet planning. This might lead to limited ventures early in a world war, with larger-scale follow-on efforts deferred, depending on the attainment of objectives in more vital theaters. The Soviets could, for example, intervene in northern Iran with the objectives of toppling the Teheran government, securing a base of operations in the country, and inducing the US to divert resources that otherwise would be available for use in Europe. Having occupied northern Iran, the Soviets could undertake solely defensive and consolidation operations pending the outcome of the war in the larger arena.

3. (u) ~~(C)~~ Illustrative Soviet Invasion Campaigns. This section discusses several campaign scenarios to illustrate Soviet capabilities. They include a full-scale invasion with the objectives of conquering all of Iran; seizure of the Persian Gulf littoral and its oil-producing areas after occupying Iran; and seizure of limited areas of Iran.

a. (U) Full-Scale Invasion of Iran.

(1) (u) ~~(S)~~ This scenario envisions a full-scale Soviet invasion to seize all of Iran. Total Soviet force requirements would be decided more by the vast territory to be covered and by the possibility of outside interference than by the threat from Iran's armed forces. Iran is approximately

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be to seize sufficient territory to allow the maneuver room necessary for the employment of additional forces.

(7) (u) (~~S~~) The initial attack in northwestern Iran might be led by the 4th and 7th Armies of the Transcaucasus Military District, with each army consisting of four or five divisions. The principal axis of advance probably would be Jolfa-Tabriz-Zanjan. Secondary attacks probably would be launched on the coastal Astara-Rasht axis and on the more mountainous Jolfa-Urumiyeh-Saqqez axis. These attacks would be supported by airborne and airmobile operations aimed at seizing important airfields and strategically located mountain passes and surrounding Iranian defenses. Small-scale amphibious landings might also be made along Iran's Caspian Sea coast to assist the drive on the Astara-Rasht axis.

(8) (u) (~~S~~) Once initial operations in northwestern Iran had secured sufficient maneuver room, larger numbers of divisions would be committed. We believe that the Soviets would drive as far south as Kermanshah, Hamadan, and Qom during the first major phase of offensive operations to seize the key road and rail lines leading south. These would be essential for transporting the supplies necessary to support follow-on operations.

(9) (u) (~~S~~) In northeastern Iran, Soviet forces from the Turkestan MD and from Afghanistan would probably form an army of four or five divisions. This army would eventually operate under the command of the Transcaucasus Front but initially would be controlled from the Turkestan MD. It probably would mount its initial attack to capture Mashhad and link up with advancing forces from the Transcaucasus in the vicinity of Tehran and Qom. Alternately, a separate Turkestan front, including all those forces committed to the operation from Afghanistan, might be formed to control operations throughout Eastern Iran.

(10) (u) (~~S~~) During this initial phase of the offensive, one or two divisions from the Soviet 40th Army in Afghanistan--supported by Soviet airborne forces--might launch a thrust toward the ports of Bandar-e-Abbas and Chah Bahar to forestall the introduction of Western or Middle Eastern forces into Iran. The Soviets would probably assess such an operation by their forces as carrying high risks, however, because adequate support for them would be difficult against attacks by Western naval airpower. During the first phase of the invasion, the forces from Turkestan and Afghanistan probably would attempt to seize airfields in eastern Iran--such as the ones at Zahedan and Kerman--for providing air support to subsequent operations along the Persian Gulf and the Gulf of Oman. The actual seizure of Bandar-e-Abbas and Chah Bahar might be delayed until later in the Soviet offensive.

(11) (u) (~~S~~) Following the seizure of northern Iran and limited areas of eastern Iran, the Soviets would conduct a logistics and air buildup to support subsequent operations to seize the rest of the country. An examination of the distances, terrain, and forces involved suggests that the Soviets would require three to four weeks to seize northern and eastern Iran and prepare for subsequent operations.

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one-third the size of the continental United States. If the Soviets believed that the situation and time allowed, they would prefer to take at least a month--possibly six weeks or more--to prepare about 25 motorized rifle, tank, and airborne divisions for this operation. The invasion could be carried out by using divisions already in Soviet military districts near Iran and in the strategic reserve, and possibly, some divisions and support units drawn from other military districts.

(u)
(2) ~~(S)~~ Preparations for such an operation would be extensive. The command, control, and communication systems necessary to direct a force of this size would have to be established and a logistics support system set up. Forces would be mobilized and the reservists necessary to fully man these units would be called up. Thousands of civilian trucks also would be mobilized. Because several hundred thousand reservists would be required to fully man the 25-division force, the Soviets probably would conduct at least a week of refresher training and exercises prior to committing these units to combat. The estimate of the time required to prepare the forces reflects this perception.

(u)
(3) ~~(S)~~ A full-scale invasion probably would be conducted in several phases. The first phase would be an attack into northern Iran having as its initial objective the capture of Iranian territory as far south as Kermanshah, Qom, and the salt desert of eastern Iran. It might also include the capture of two key airfields in southeastern Iran--Zahedan and Kerman.

(u)
(4) ~~(S)~~ Small special-purpose units probably would attempt to sabotage key facilities (such as airfields) some 12 to 24 hours before the invasion and would conduct last-minute reconnaissance for ground and air strikes against Iranian forces. The Soviets probably would conduct a large-scale air operation to destroy Iranian aircraft and would conduct air strikes against Iranian ground force units immediately before beginning the ground attack. The Soviets could support the initial large-scale invasion with over 400 combat aircraft and up to 200 helicopters. Several hundred additional aircraft could be made available for reinforcement if needed.

(u)
(5) ~~(S)~~ Forces assembled in the Transcaucasus and North Caucasus MDs from these and more distant MDs would be organized into a front of up to 20 motorized rifle and tank divisions that would carry out the main ground attack into northwestern Iran. Although the ultimate objective of this front would be to seize the Khuzestan oilfields and key ports on the Persian Gulf, the distances involved make it likely that the Soviets would phase their operations, with the first major phase extending on a line roughly from Kermanshah to Qom.

(u)
(6) ~~(S)~~ In northwestern Iran the initial ground attack by the front would probably be made by less than half of its divisions. Attack routes into northwestern Iran are few, and movement would be restricted to a small number of highways. The purpose of the initial ground attacks would

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(u)
(12) (~~S~~) The final phase of the invasion would be directed toward seizing the oil-producing regions of Khuzestan and all of the important ports along the Iranian shore of the Persian Gulf and the Gulf of Oman. Some Soviet forces would probably be tasked to secure the Iran-Iraq border and guard against possible actions by Iraq. At this time, additional Soviet troops would probably move into Iran to secure lines of communication and be available for reinforcements if needed.

(u)
(13) (~~S~~) After Soviet forces reached the Iranian shore of the Persian Gulf and the Iran-Iraq border, they would probably again halt to consolidate their positions and perhaps to prepare for further operations against the states on the Persian Gulf's southern littoral. The Soviets would probably plan to complete their conquest of Iran in six weeks. The distances, terrain, and likely resistance involved tend to support four to six weeks as a reasonable estimate for completing a compaign against Iranian forces alone.

(u)
(14) (~~S~~) A desire to capture the oilfields before possible sabotage by the Iranians or seizure by a third country might tempt the Soviets to conduct an airborne assault in the Khuzestan area at the outset of the invasion. Several significant military factors, however, make such an attempt unlikely. These include the distance of the oilfields from Soviet territory, the inability of Soviet air forces to provide air cover for the transports, and the presence in the area of major Iranian and Iraqi armored forces.

(u)
(15) (~~S~~) Airborne troops might be used to help capture the oilfields after Soviet forces had captured airfields in the Kermanshah and Hamadan area. Soviet ground forces would then have control of forward airfields from which tactical aircraft could support an airborne assault. This operation, however, would still carry a high risk because of the concentration of Iranian and Iraqi units in the region. In any case, even a large-scale (up to a full division) and successful airborne operation probably would be unable to prevent destruction of oil pumping, storage, and refining facilities before the arrival of Soviet main forces, should Iran make a determined attempt to destroy them.

b. (U) Invasion of the Persian Gulf Littoral.

(u)
(1) (~~S~~) Following a period of consolidation along the Iranian shore of the Persian Gulf, and a logistics buildup, the Soviets might decide to launch another attack to seize the oil-producing areas in Kuwait, Saudi Arabia, Baharain, Qatar, UAE, and Oman. A key question in the minds of Soviet military planners would be the likely reaction of Iraq. Iraqi military forces are insufficient to prevent a determined Soviet effort to cross their southeastern border to Kuwait, but concerted Iraqi resistance would force the Soviets to employ a much larger combat force and would slow the Soviet advance.

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(2) (u) (~~S~~) The Soviets probably would attack using one army of about five divisions, with air support provided by aircraft flying from captured advanced bases in Iran. Ground forces involved in the attack on the Persian Gulf states would probably have been brought into Iran during the final phase of the conquest of Iran. The line of advance probably would parallel the Arab shore of the Gulf and not move inland into the desert except to secure oil-related facilities. Soviet forces would probably begin their attack near the Iraqi-Iranian border and advance along a line through Kuwait, the UAE, and up to the Strait of Hormuz and to Muscat.

(3) (u) (~~S~~) Even with a promise of Iraqi cooperation, the Soviets would want to maintain sufficient force in and near southeastern Iraq to deal with any shift of Iraqi allegiance. Most of the remainder of the original Soviet force used to invade Iran would be occupied in attempting to pacify Iran and in guarding the Soviet lines of communication through Iran.

(4) (u) (~~S~~) The Arabian Peninsula states alone would not be able to mount significant resistance to a Soviet attack. These countries could, however, destroy their oil facilities before they were overrun by the Soviets.

(5) (u) (~~S~~) Assuming that Iraq did not contest the passage of Soviet forces through southern Iraq and that assistance from Western and other Middle Eastern powers to the Arabian Peninsula countries was ineffective, such a campaign probably would take an additional two weeks (a total of perhaps eight to nine weeks). Long lines of communication would cause resupply problems for a Soviet move along the southern Gulf shore. Water scarcity would also be a serious problem if retreating Arab forces destroyed a large portion of the region's desalinization and pumping facilities. If Iraq resisted the Soviet advance across southeastern Iraq toward Kuwait, the Soviets' problems would be significantly greater. They probably would build up more forces before beginning their attack and would take more time both in preparing the attack and in accomplishing their objectives.

(6) (u) (~~S~~) Assuming that the Soviets simply seized a blocking position in southern Iraq, the actual campaign against the Arabian Peninsula countries would be essentially the same as if Iraq had allowed the passage of Soviet forces. Unless major forces from Western or other Middle Eastern countries had been moved to the Arabian Peninsula by this time, the campaign probably could be completed within four weeks following the capture of Iran (a total of perhaps 8 to 10 weeks).

(7) (u) (~~S~~) If, however, major ground and tactical air forces from Western and other Middle Eastern countries had moved to the Arabian Peninsula earlier, had cooperated with Iraqi forces in resisting the Soviets, and had pursued an active interdiction campaign against Soviet lines of communication in Iran, the Soviets would probably calculate the force requirements for such a situation as being in excess of the forces they were prepared to allocate to this theater.

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c. (u) ~~(C)~~ Seizure of Limited Iranian Territory. These examples include two possible Soviet methods of preparing for and conducting a seizure of Azarbayjan along with two campaigns aimed at seizing part of Eastern Iran.

(1) (U) Seizure of Azarbayjan.

(a) (u) ~~(S)~~ The Soviets could seize Iranian Azarbayjan using either a hastily prepared, initially small force or a larger, better prepared force. Initially, a hastily or covertly prepared surprise attack probably would be limited to the two motorized rifle divisions currently stationed directly on the border, an airborne and airmobile force of approximately division strength, and supporting tactical air forces.

(b) (u) ~~(S)~~ Such an attack could be prepared in less than a week, and the Iranians (and Western intelligence) might get little or no warning--perhaps only the day or two needed to marshal the airlift and set up a command and communications structure. The Soviets might calculate that initial combat operations could be concluded in 10 days or so, with an eventual total of six Soviet divisions committed. Such a weak initial attack, however, probably would be undertaken only if the Soviets were confident that limited Iranian forces in the area would not be effectively reinforced, that the Iranians would receive no outside assistance, and that the low-strength Soviet units in this area could accomplish this demanding operation.

(c) (u) ~~(S)~~ Probably, even if its objective were limited to seizing Azarbayjan, the Soviets would plan to use a more deliberately prepared and somewhat larger initial invasion force including portions of two armies (about five motorized rifle divisions, 135 aircraft, and two helicopter regiments). An airborne and airmobile force of up to division strength would probably also be used to secure key facilities in Tabriz as well as a few key airfields and passes.

(d) (u) ~~(S)~~ The total Soviet forces eventually committed to this operation would probably not be significantly greater than those used in the more hastily prepared attack previously discussed. With virtually all of their invasion force fully prepared and immediately available from the beginning of the operation, however, Soviet planners would be more confident of their ability to rapidly overcome even relatively stiff Iranian resistance. The Soviets probably would not make major increases in the size of their invasion force or in the times projected for preparing and carrying out the operation unless major increases were made in the strength of Iranian forces stationed in Azarbayjan or unless significant outside assistance were expected. The Soviets probably could complete the most necessary arrangements for such an invasion of Azarbayjan within two weeks. These would include mobilizing reservists and preparing mobilized units for movement, assembling the necessary transportation means (including requisitioned civilian vehicles), moving the units to attack positions, and establishing a command and control communications structure. In this case, the US could expect about a week of warning.

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(2) (U) Seizure of Iranian Baluchistan.

(a) (u) ~~(S)~~ The Soviets might decide to use support of Baluchi nationalism as a cover for seizing a warm-water port near the Persian Gulf. The objective of this campaign would be to quickly defeat the understrength Iranian armored division stationed in Zahedan, seize control of the Iranian Province of Baluchistan and the Baluchi ethnic areas of two adjoining provinces, and guard the area against Iranian or outside efforts to dislodge them.

(b) (u) ~~(S)~~ The Soviets probably would calculate that one army of approximately three maneuver divisions and one airborne division would be sufficient to seize the area and defend it against the forces that Iran would be able to deploy. In addition, they would want to maintain or reestablish current force levels in Afghanistan and in the Turkestan MD. Units in both areas would be readied to provide reinforcements if required. An additional division or two might be deployed into southern Afghanistan to provide a reserve force should it be needed.

(c) (u) ~~(S)~~ Many of the military difficulties that the Soviets would encounter if they undertook this campaign stem from the area's location and primitive transportation network. The Baluchi areas of Iran share only a very short border with a remote and undeveloped area of Afghanistan. They are distant from and have no common border with the Soviet Union. Any invasion would have to be launched from the Zaranj area of southwestern Afghanistan and supplied by road through western Afghanistan from Kushka in the Turkestan MD. This road is already extensively used to supply Soviet forces conducting counterinsurgency operations in Afghanistan and is subject to attack by Afghan rebels. In addition, a bridge would have to be constructed near Zaranj, and almost 300 kilometers of loose-surface road in the same area would have to be improved to allow military operations and resupply.

(d) (u) ~~(S)~~ Because of the distances involved and the poor roads, the Soviets probably would need at least three weeks to prepare for such an attack. The development of facilities in southwestern Afghanistan would be observable and should provide about two weeks warning.

(e) (u) ~~(S)~~ The main axis of advance for such an attack would be from Zaranj through Zahedan toward Chah Bahar, a distance of over 1,000 kilometers. Smaller forces would seize positions to the east, on the Pakistani border, and to the west, on the border of Iranian Baluchistan. Initial air support for the operation would be provided from Soviet bases in Afghanistan--particularly Shindand and Kandahar.

(f) (u) ~~(S)~~ Airborne operations might well be undertaken in the Chah Bahar area, but probably not at the outset of the campaign. Soviet tactical air forces could not support an airborne operation there from currently existing bases in Afghanistan. The airborne troops would thus be

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open to attack by Iranian aircraft at Bandar-e-Abbas or potentially by US naval air forces. In addition, the long road distance from Afghanistan to Chah Bahar would preclude a quick linkup with advancing ground forces. Thus, the Soviets probably would wait until the airfield at Zahedan had been seized before attempting to seize Chah Bahar.

(g) (u) ~~(S)~~ Because of the distance involved, this campaign probably would take at least 10 days to complete even if resistance were light. If the Iranian forces were able to conduct an effective delaying action, the campaign could be considerably longer. Western forces could alter the situation by seizing Chah Bahar before Soviet airborne operations against it became feasible.

(3) (U) Seizure of Eastern Iran.

(a) (u) ~~(S)~~ The Soviets might decide to seize all of the four easternmost provinces of Iran (Baluchistan, Khorasan, Kerman, and Hormozgan) to control the Iranian side of the Strait of Hormuz and direct road links between the USSR and potential warm-water naval facilities at Bandar-e-Abbas and Chah Bahar. The Soviets probably would calculate that, even though there are only limited Iranian forces currently stationed in the area, the size of the area and the possibility of a strong Western reaction to a Soviet seizure of the Iranian side of the Strait of Hormuz would require the eventual commitment of at least two armies totaling about nine divisions. In addition, they would want to maintain current force levels in Afghanistan and in the Turkestan MD.

(b) (u) ~~(C)~~ Most of the same problems of distance, poor roads, and limited water sources described for the seizure of Iranian Baluchistan also apply to this campaign. The Soviets would have the advantage of being able to use at least one additional route into the area--from the Soviet border at Ashkabad south through Mashhad to Kerman and Bandar-e-Abbas, or to Zahedan and Chah Bahar--that avoids Afghanistan. Major sections of the road through the mountains just south of the Soviet border and through the desert north of Kerman, however, have loose surfaces that would need substantial improvement or continuous maintenance to handle heavy traffic.

(c) (u) ~~(S)~~ Preparation and warning times would be at least as long as for a Baluchistan campaign because almost all of the invasion force units would have to be moved into the Turkestan MD and Afghanistan from distant MDs. In southeastern Iran, the axis of advance would initially closely resemble that described for the seizure of Iranian Baluchistan; however, the thrust from Zahedan to the west would continue on to Kerman and Bandar-e-Abbas.

(d) (u) ~~(S)~~ The Soviets might conduct airborne operations against Bandar-e-Abbas, but probably only after the seizure of the airfields at Zahedan and Kerman. In northeastern Iran, elements of another Soviet army probably would attack Mashhad both from the direction of Ashkabad in

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Turkestan and from Herat in Afghanistan. These forces would then seize control of the remainder of northeastern Iran and link up with the Soviet army operating to the south. Tactical air could support the operations in the northeast, flying from existing Soviet bases in the Turkestan MD. This campaign probably would take at least fifteen days to complete even if resistance were light. If the Iranians were able to redeploy major ground forces to the area before the Soviet attack--for example, by returning to its original garrisons the Iranian infantry division stationed in the Mashhad area before the Iran-Iraq war--the campaign could be much longer. The Soviets probably would conclude that such a campaign would carry a high risk of US intervention because of the threat it would represent to Western oil supplies moving through the Strait of Hormuz. US seizure of Bandar-e-Abbas and Chah Bahar before the introduction of Soviet airborne forces would jeopardize the main Soviet goal of the campaign.

4. (U) Future Prospects.

a. (U) Near Term (Through 1985).

(1) (u) ~~(S/NOFORN)~~ All indications are that the war in Afghanistan will be resolved slowly and that the Soviets will continue to maintain substantial forces there throughout the near term. The Soviets seem inclined to continue the moderate level of effort (around 100,000 men in-country) observed to date, rather than to build up considerably larger forces in an effort to achieve an early, decisive military victory. Long-term Soviet presence in Afghanistan gives them a base of operation from which to exploit future opportunities that may arise. Most Soviet forces deployed to Afghanistan have been replaced in their home military districts by newly activated forces. It is believed that an airborne division will be reconstituted in the Turkestan MD by 1985, while the combined deployment of smaller, tailored air assault units to Afghanistan will eliminate the need for an airborne division there.

(2) (u) ~~(S/NOFORN)~~ The Soviets are expected to continue to regard Southwest Asia as a secondary area as far as peacetime forces are concerned. Priority will be given to other theaters--particularly NATO areas and the Far East--that represent greater threats to Soviet interests. One or two mobilization bases might be activated in the North Caucasus MD as low strength cadre divisions, and an attack helicopter regiment might be added to the inventory of the Turkestan MD. The area will continue to lag behind other theaters in receipt of most new equipment items, although it may be among the early recipients of certain new systems, such as new mortars, that are well suited for mountain warfare.

(3) (u) ~~(S)~~ The Soviets will continue their efforts to insinuate themselves into other states through such programs as technical assistance, base building, weapons delivery programs, and other advisory activities. They will seek to obtain Persian Gulf port and base rights in Iran at a location such as Chah Bahar, at which they are now building facilities for the Iranian government.

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b. (U) Mid and Far Term (Through 2000).

(1) (u) ~~(S/NOFORN)~~ The trend of peacetime force deployment described above for the near term will probably continue into the far term. An additional one or two mobilization bases may be activated and another attack helicopter regiment formed as part of an overall pattern of force growth. Most active divisions will continue to be held at low strength; but one or two existing divisions may be upgraded to reduced-strength ready status in order to enhance the present capability for quick reaction.

(2) (u) ~~(S/NOFORN)~~ Although the specific emphasis placed on this area for peacetime force development may not be high, the wartime potential of these forces will be enhanced simply as a spinoff of overall force development activities. A significant increase in attack helicopter regiments the growth in the quantities of modern fighter aircraft having greater range, loiter time, and payloads and the introduction of SU-25 ground attack fighters and MI-28 future attack helicopters all will markedly improve the critical air element of Soviet military capabilities in this region. Growth in the number of IL-76 transport aircraft will facilitate airborne operations at increased ranges. Finally, the projected development of sufficient forces along the Sino-Soviet border to carry out an offensive campaign against the PRC, coupled with expected increases in the number of divisions in strategic reserve MDs, will provide additional forces to support contingencies that might arise in Southwest Asia.

5. (U) Summary Evaluation of Soviet Requirements versus Capabilities in the Southwest Asian Theater.

a. (u) ~~(S/NOFORN)~~ Introduction. The Soviets have a range of military options in Southwest Asia (SWA). At the minimum, they require the capability to stabilize and secure their southwestern borders and to deter or successfully counter both an NBC or non-NBC attack against Soviet territory. Beyond this, they have developed a number of offensive military requirements in SWA, including the capability to seize portions of northern or eastern Iran, to conduct a full-scale invasion of all of Iran, and to stage an operation through Iran, Iraq, Kuwait, and Saudi Arabia to Oman.

b. (u) ~~(S/NOFORN)~~ Force Structure. The existing Soviet force structure in SWA (forces based in the Transcaucasus, North Caucasus, and Turkestan MDs and those in Afghanistan) is sufficient to accomplish the defensive mission of securing Soviet borders against any currently expected form of attack. In addition, it is large enough to seize northern and eastern Iran, and possibly all of Iran, particularly if we assume no US opposition and no simultaneous war with China and/or NATO. If they expected to encounter any sizable US opposition, it is likely that the Soviets would seek to upgrade their current force structure at least qualitatively (if not quantitatively) before attacking. Moreover, we judge the current force structure insufficient to achieve the more ambitious goal of seizing first Iran and then the southern shore of the Persian Gulf without a major (army-sized) reinforcement from outside the theater.

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(u) c. ~~(S/NOFORN)~~ Fielded Technologies. Except for those forces currently in Afghanistan, Soviet forces opposite SWA are poorly equipped compared to their Western and Far Eastern Theater counterparts. This reflects the historical Soviet perception that the SWA Theater is of secondary importance both strategically and in terms of the threat they might expect to encounter there. While there are some indications that this perception is changing, significant improvements in the numbers and types of equipment available to most Soviet SWA forces have not yet been achieved. Thus, we believe that current Soviet SWA theater equipment holdings provide Soviet forces in SWA with a strong enough capability to accomplish the limited objectives of securing their borders and of seizing parts or all of Iran without US opposition. However, the threat of US intervention would probably prevent the Soviets from undertaking extensive operations in Iran without first carrying out a major effort to fill out and modernize their current equipment holdings. This type of major equipment upgrading is considered essential if the Soviets intend to launch a major offensive against US forces through Iran and down the southern littoral to Oman.

(u) ~~(S/NOFORN)~~ Another key concern of Soviet planners is the inability of their limited-range aircraft based in the USSR and Afghanistan to ensure air superiority over the southern portions of Iran. While US airpower alone could not prevent the Soviets from taking Iran, it would seriously delay the pace of the Soviet advance and would take a substantial toll in equipment and manpower. Early Soviet employment of nuclear or chemical strikes against US airbases could offset this US advantage. Moreover, the Soviets are currently upgrading their theater air assets by replacing older, shorter range aircraft with newer, longer range models. Additional capability could be attained by the introduction of AWACS-type aircraft into the theater.

(u) d. ~~(S/NOFORN)~~ Combat Capability. In SWA, as in all other theaters, the Soviets are constantly seeking to improve their combat capability. However, given the proximity of this theater to the USSR, the structure and sophistication of opposition forces, the type of terrain involved, and the size, speed, and scope of Soviet operations, the existing C^3I system and the logistical support structure are adequate to accomplish even the most elaborate theater missions if we make the following assumptions: that the Soviets are opposed only by indigenous SWA forces; that, if opposed by the US, it is only on the southern shore of the Persian Gulf; and that there is no simultaneous war with China and/or NATO.

(u) ~~(S/NOFORN)~~ In our judgement, throughout the forecast period the Soviets will seek to improve their combat capability in SWA in accordance with their strategic military-political goals and priorities. If SWA is a priority theater, and if the Soviets deem it a military requirement to build the capability to seize all of Iran, or even the southern shore of the Persian Gulf, in the face of any opposition, then we can expect, in the next decade, to see evidence of a substantial upgrading of theater force structure, equipment, C^3I, and logistics support mechanisms. However, lacking this type of strategic priority, we expect Soviet improvements to their SWA forces to be incremental.

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CHAPTER 6

SOVIET POWER PROJECTION

1. (U) Goals, Objectives, and Policies

a. (u) ~~(S)~~ As self-designated leader of the communist world and as a superpower with global ambitions, the Soviet Union practices an expansionist policy abroad aimed at spreading and solidifying USSR political, economic, and military influence, and drawing other nations into its orbit. Soviet leaders continue to view the Third World as fertile ground for the expansion of Soviet political, military, and, to a lesser degree, economic influence. The United States and China are seen as the main opponents of this expansion. The primary objectives in aligning the Soviet Union with states and insurgent movements in Third World conflicts are to assert the USSR's legitimacy as the ideological vanguard of world "national liberation" movements, to secure a major role in Third World affairs, to affect the outcome of regional conflicts in favor of Soviet interests, and to neutralize Western and Chinese political and military influence.

b. (u) ~~(S)~~ Soviet leaders have no illusions about the immense difficulties of attaining these objectives, but neither are they in any particular hurry, for they remain convinced--or at least conditioned by Soviet ideology to believe--that time and history are on their side. Although they see their struggle with the United States as rooted in ideology, they view its practical manifestations in terms of territory, in which the tide of battle is measured in political control and influence. Their struggle is relentless, and is pursued aggressively where conditions permit but patiently when resistance stiffens. Setbacks, which they view as the inevitable accompaniment of a forward policy, do not deter them from pursuing long-term objectives.

c. (u) ~~(S)~~ Soviet policy constantly seeks, through exhortation, covert action, and the coordinated application of diverse means, to exploit opportunities to expand Soviet power in the Third World, to secure new beachheads of influence, and to continue to press the limits of Soviet power projection. Soviet policy, therefore, is both assertive and opportunistic, exploiting and manipulating events and situations that arise independently of Moscow's control and vigorously pursuing competitive advantages where circumstances permit.

d. (u) ~~(S)~~ While broad political objectives are paramount, the Soviets pursue specific military objectives as well. These include acquisition of overflight clearances and access to facilities abroad. The Soviet Navy requires overseas facilities in order to the ease logistics problems of operating at great distances from Soviet waters. The Soviets deploy naval and naval air forces in distant areas to promote and defend the USSR's interests abroad. Soviet leaders believe that the presence of their naval

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forces can serve as a visible symbol of Soviet concern and military capability, and can inhibit Western military initiatives in areas of the Third World during periods of tension.

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e. (~~S~~) Other objectives of Soviet Policy in distant Third World areas are to promote trade and secure access to certain raw materials. In addition, just as Moscow, through its military assistance, seeks to make nations dependent on the USSR for their military security, so it also attempts through a variety of means to foster economic dependence. Moscow also seeks the ability to control, disrupt, or deny Western access to raw materials in the Third World. This strategy of denial of oil and strategic minerals encompasses various means, including physical disruption, market manipulation, and attempted domination of producing or neighorboring states. By undermining western ties with oil and raw materials producers and exacerbating differences in the Western alliance over policies toward these regions, the Soviets seek to erode both the economic health and the political cohesion of the West.

(u)
f. (~~S~~) Soviet leaders see military force, augmented by persistent diplomatic and political efforts, as the main propellant of fundamental changes in the Third World. Military strength is crucial not only in exploiting future opportunities to extend Soviet influence, but also in preserving past gains. It is the foundation of the USSR's status as a global superpower and will remain the key to Soviet behavior in the world arena. Military assistance and support have become demonstrably effective forms of projecting Soviet influence abroad.

(u)
g. (~~S~~) The Soviets have gained from the expansion of their military activity in the Third World. The policy has established a Soviet military and economic presence in some Third World countries and has enabled the Soviets to exercise some influence over the course of events there. Moscow has expanded its political influence in some countries at the expense of the West and, to a lesser extent, of the People's Republic of China. Soviet interventions in Angola and Ethiopia enhanced the USSR's image as a great power capable of projecting military force far from its own shores and demonstrated the feasibility of using Cuban forces to assist in such actions. Military assistance to Africa and the Middle East has demonstrated the value of Soviet support, especially under emergency conditions. Moscow has also benefitted from the international perception that the military balance has changed to the detriment of the West and from the seeming US reluctance to use military force to counter the expansion of Soviet and Cuban presence in the Third World.

(u)
h. (~~S~~) Despite its successes, Soviet policy suffers from a number of vulnerabilities that have contributed to setbacks in the USSR's relations with the Third World. The Soviets have persistently underestimated nationalism as a counter to the expansion of Soviet influence. Third World states resent the heavy-handed behavior of Soviet representatives and advisers, whose prejudice against Third World peoples and cultures, especially black

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Africans, is sharply felt. The Soviets have also misjudged resentment and suspicion among Third World leaders against Soviet motives and have overestimated military assistance as a mechanism of control over Third World political leaders. Moreover, the Soviet policy falters where economic considerations become the priority interest of Third World nations. The Soviets have tended to do well in countries that have been recently decolonized or that need Soviet assistance to create a viable armed force. But where security concerns become less paramount and emphasis shifts to economic progress, the Soviets have much less to offer. These factors often combine to undermine the achievement of Soviet policy goals and thus to make the preservation of whatever influence they might have gained the most pressing problem facing the Soviet leadership in its efforts to project power and influence in the Third World through military means.

2. (U) Instruments of Power Projections. The Soviets view the projection of power in comprehensive terms. Their programs seek to integrate all instruments at their disposal toward the pursuit of their goals. The Soviets believe that military force is the major vehicle of change in international affairs. They see growing Soviet military strength as providing a favorable backdrop for the conduct of a progressive foreign policy. A general discussion of the instruments of Soviet power projecton is presented below; a more detailed discussion is contained in Chapter 4, SBDP Volume VI.

a. (U) Arms Sales. Soviet arms sales form the basis of Soviet penetration of a number of Third World countries, providing Moscow access to nations over which it previously had little or no influence. The Soviet Union's willingness to provide low-cost arms to almost any customer has been an important inducement to newly independent former colonies eager to improve their military capabilities. The favorable financial terms (deferred payments at low interest) coupled with free training and maintenance services and fast delivery schedules prove to be important enticements in gaining early contracts.

b. (U) Military Advisors.

(1) (U) In 1980, approximately 20,0000 Soviet military personnel were stationed in 28 countires, where they have played a central role in organizing, training, and penetrating client armed forces. Heavy concentrations of advisors are found in those countries that have acquired large amounts of Soviet arms: Cuba, Algeria, Libya, Ethiopia, Iraq, Syria, and South Yemen. Important missions are often headed by one or more Soviet flag or general officers. Since 1955, some 52,000 military personnel from the less-developed countries have been trained in the USSR and Eastern Europe. Soviet advisors are able to cultivate pro-Soviet sentiments, influence local military policies and pinpoint promising candidates for recruitment training and indoctrination in the USSR.

(2) (U) Soviet advisory personnel are assigned to Third World combat units, principally to assist in command and control functions but

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also in logistics and other activities. Since 1967, Soviet personnel have seen combat in at least five Third World countries (North Yemen, Egypt, Syria, Iraq, and Afghanistan) and have played a direct combat advisory role in two others (Angola and Ethiopia).

(3) (U) ~~(S)~~ Aside from their combat support role, military advisors and technicians perform other functions. Because most Soviet equipment guarantees are not valid unless the equipment is maintained by Soviet specialists, a substantial number of Soviet military personnel are involved in delivery, assembly, and maintenance of military equipment. A large number of Soviet specialists are involved under military aid agreements in construction of military airfields, electronic installations, and military training centers. The Soviets and East Germans are involved in support of client military intelligence activities. The East Germans specialize in training of police and security cadres and in intelligence operations, penetrations of local governments, and devolopment of communist parties and front organizations.

c. (U) Economic Aid. Selective economic aid often follows arms sales in Soviet efforts to increase its influence in the Third World. However, total Soviet economic aid is well below arms aid, amounting to only $18 billion given to 67 countries in the last 25 years. The USSR has achieved a number of important benefits from its small economic assistance program at a very small cost to the Soviet economy. By concentrating on a number of highly visible showcase projects such as the Aswan Dam in Egypt, the Bokaro Steel Mill in India, and the Tigris-Euphrates Dam in Syria, the Soviets have gained maximum political benefits. The economic aid program has also resulted in an expansion in Soviet trade with the nations of the Third World, and has enabled the Soviets to provide training for Third World nationals in the Soviet Union.

d. (U) Proxies. The use of proxy forces has significantly augmented Soviet power projection capabilities. The Soviets have drawn on the political, military, and economic dependence of such allies as Cuba and East Germany in order to promote anti-Western causes and extend the USSR's own influence. The use of proxy military forces and advisers in areas of contention minimizes the USSR's risks and defuzes charges of imperialism. Since the large-scale introduction of Cuban troops into the Angolan civil war in 1975, Cuban units and military advisers have grown in numbers in sub-Saharan Africa and have also appeared in the Middle East. There are now approximately 35,000 Cuban military personnel in nearly 20 countries--about 20 percent of Cuba's regular forces. In addition to Angola and Ethiopia, substantial numbers of Cubans are in Mozambique and South Yemen. Among the East Europeans, the East Germans are the most active proxies. To a lesser extent, Hungarian, Czechoslovakian, and Bulgarian involvement has been noted in Africa and the Middle East.

e. (U) Treaties. As a major component of its efforts to consolidate its ties with less-developed nations, the USSR has signed 12 treaties of

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friendship and cooperation since 1971; ten are still in force. The signing of these treaties occurred at different stages of Soviet relations with the countries in question. With Angola and Ethiopia, treaties were signed after the principal objectives of military operations were achieved and the Soviet presence was entrenched. Moscow signed pacts with New Delhi and Hanoi shortly before they launched invasions of Pakistan and Kampuchea, respectively. The ruling regimes in the Congo, Syria, and Afghanistan signed partly because they needed a tangible indication of Soviet backing against domestic opponents. All of these treaties contain a general provision calling for military cooperation in the face of threats to peace and security. The USSR has used this article as justification for military intervention (Afghanistan) and support to a client at war (Vietnam).

f. (U) Subversion. Overt Soviet foreign programs are paralleled by covert action. The principal instrument for these activities is the KGB. The foreign operations of KGB are of two types: destabilization and penetration. The destabilization of target countries is accomplished by such techniques as economic disruption, labor strikes, sabotage, assassination, clandestine aid, and training of local groups for terrorism, guerrilla activity, and "national liberation" struggles. The KGB and GRU recruit local nationals and place their own agents in vital areas of a nation's social and political structure, such as the military, ruling and opposition parties, the press, labor, key industries, local intelligence services, and student groups.

3. (U) Soviet Forces Available for Deployment to Distant Areas. The Soviet Union has vast ground, air, and naval forces on which it can draw for deployments to distant areas. The deployment of a large segment of these forces to distant areas is, however, constrained by the practical difficulties of moving large forces over long distances and by the requirement to retain the bulk of these forces in the USSR and Eastern Europe in readiness for their primary mission--waging war with NATO or China. On the other hand, these factors do not restrict the deployment of smaller units.

4. (U) Other Soviet Resources for Distant Operations.

a. (U) ~~(S/NOFORN)~~ Overseas Facilities. Access to naval and air facilities abroad is a main objective of Soviet policy in the Third World. It has played a key role in the projection of Soviet power and influence in the Third World and is important for its potential to sustain higher levels of naval and air activity. Access, however, is not to be confused with formal base rights, which the Soviets have never held in any Third World nation. The Soviets have been reluctant to become overly dependent in distant areas on shore support that might suddenly be denied them in time of crisis or major war. For this reason, naval auxiliaries for fuel, water, supplies, and repairs are usually deployed with Soviet combatants even in areas where shore support is available. Access to foreign ports greatly facilitates diesel submarine operations in the Mediterranean, but these operations are not dependent on that access. The same level of deployment could probably be

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maintained through the use of international anchorages and more frequent deployments of shorter duration. Surface combatants are the least reliant on overseas facilities, and such reliance is heaviest in the case of air operations. These facilities enable long-range aircraft to conduct military airlifts and reconnaissance over large parts of the world that could not otherwise be reached from Soviet territory.

b. (u) (S/NOFORN) Merchant Marine. As the principal means of transporting Soviet arms and military equipment destined for friendly forces and insurgent movements, the merchant marine is vital to Moscow's effort to influence developments in the Third World. Most of the USSR's general-purpose fleet consists of ships with at least two decks that carry their own cargo-handling gear (cranes or booms). Roll-on/roll-off (ro/ro) ships, which the USSR is currently stressing in modernizing its cargo fleet, were introduced in 1974 and reflect the latest technology for fast loading and offloading of wheeled and tracked vehicles.

c. (S/NOFORN) Fishing Fleets. b1

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5. (u) (S/NOFORN) Command and Control of Distant Operations. Soviet command and control capabilities are diverse and well developed and can meet stringent requirements for control of distant military operations. This control is extended both over small military advisory groups and large military contingents. All Soviet military activities abroad, including military sales, military assistance and training, military use of foreign facilities, and direct involvement of Soviet military personnel in local conflicts, are controlled--from planning, to implementation, to termination --by the General Staff.

6. (U) (u) (S/NOFORN) Capabilities for Distant Operations.

a. (u) (S/NOFORN) Military Airlifts. Soviet Military Transport Aviation (VTA) has undertaken several major airlifts to Third World countries, providing critically needed equipment, ammunition, and medical supplies. They also have helped overcome logistic bottlenecks in some smaller Third World ports and have resupplied isolated proxy forces. These operations represent to both the recipients and to the rest of the world a dramatic demonstration of Soviet commitment. They also demonstrate that VTA can mount and sustain

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a major, unopposed airlift in a short time. But they also have revealed limitations. The profiency displayed has been uneven, and in some cases even relatively low levels of effort have taxed VTA's capabilities. VTA could have serious problems in intensive airlifts of long duration requiring the transport of heavy payloads over distances greater than 2,000 nmi. The VTA inventory of 693 transport aircraft consists of 495 AN-12 Cubs, 57 AN-22 Cocks, and 141 IL-76 Candids. Airlift capabilities are increasing as Candids steadily enter the force.

b. (u) ~~(S/NOFORN)~~ Aeroflot. The Aeroflot civil fleet constitutes a substantial reserve that enhances the capability of VTA to airlift personnel to areas of the Third World: Aeroflot IL-62s played a major role in both the Angolan and Ethiopian airlifts. Aeroflot currently has some 1,300 medium- and long-range transports. Many of Aeroflot's crews and much of its equipment are available to support VTA, and in fact are used whenever needed. This capability is demonstrated each spring and fall when Aeroflot makes over 1,000 flights transporting more than 100,000 Soviet troops to and from bases in East Germany, Poland, Hungary, and Czechoslovakia. At present, most VTA airlifts out-of-country use only a small percentage of the Aeroflot fleet.

c. (U) Intervention of Combat Forces in a Local Conflict. The Soviets have significant forces capable of intervention in distant areas, have introduced forces into combat situations in distant areas in the past, and would be willing to use forces for this purpose in the future. Elements of all Soviets conventional forces--ground, air, and naval--are potential resources for use in intervention situations.

(1) (u) ~~(S/NOFORN)~~ The effectiveness of any intervention of Soviet combat units in a local conflict would depend on scenario-related factors, of which two are probably the most important--the level of opposition and the location. Naturally, the kind of opposition the Soviets would expect to encounter would determine the feasibility of the operation and the composition of the intervention force.

(2) (u) ~~(S/NOFORN)~~ Interventions against substantial opposition, would probably require conventional ground forces. If they could not be moved overland into areas contiguous to the USSR, they would depend in large part on movement by sea. The sealift to the Middle East of substantial intervention forces--a combat-ready motorized rifle division from the Odessa Military District, for example--would take about two weeks. This includes assembly, movement to Black Sea ports, loading, crossing the Mediterranean, and offloading in a Middle East port. Deployment of larger forces--for instance, the equivalent of two combined-arms armies totaling at least 120,000 men--would require two to three months.

d. (U) Airborne Assault Operations.

(1) (u) ~~(S/NOFORN)~~ In many areas of the Third World, a Soviet airborne

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division would be more than a match for any indigenous military forces. There are more men with better equipment in a single Soviet airborne division than in the armies of most African nations. Thus, there are, potentially, numerous situations in which an airborne division could be highly effective.

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(2) ~~(S/NOFORN)~~ Situations in which airborne forces might be used range from anti-guerrilla operations like those conducted by the French and Belgians in Zaire in 1978 to more conventional operations. The suitability of an airborne force in each instance would vary. The Soviets might also be tempted to deploy an airborne unit if they believed the likelihood of combat were low and that the mere presence of an armed Soviet contingent would be sufficient to compel the opponent to adopt a policy more favorable to Moscow.

(u)
(3) ~~(S/NOFORN)~~ An important factor affecting the feasibility of airborne operations is the extent to which the transport aircraft are threatened by opposing air defense forces. Soviet fighter aircraft could escort the transports to a distance of about 700 nautical miles from their bases, either inside or outside the USSR. In the absence of fighter support, the slow-moving transports would be extremely vulnerable to attack from both interceptors and surface-to-air missiles. Unless the Soviets believed they could land and resupply an airborne force without serious interference to their transports, the option to deploy the units would be foreclosed.

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(4) ~~(S/NOFORN)~~ The speed with which the Soviets could deploy an airborne force would depend on a number of factors: the distance to be flown, the level and type of opposition expected at the destination, the granting of overflight clearances, the logistic support available, and the degree to which preparation had already been accomplished before the decision to deploy.

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(5) ~~(S/NOFORN)~~ If the Soviets had no time to make advance preparations, they would be hard put to airlift a division-size force to, say, Syria in less than a week. If, however, they chose to make preparations in anticipation of, or during the development of, a crisis, they could theoretically lift a slightly reduced airborne division there in one to two days. This would require about 600 flights, full acquiescence of Turkey or Iran for overflight clearances, and full use of three Syrian airfields.

(u)
e. ~~(S/NOFORN)~~ Amphibious Assault Operations. Soviet amphibious forces were developed to conduct assault landings on the maritime flanks of the USSR in support of ground theater operations. With augmentation by naval combatants and auxiliaries, these forces could undertake assault operations against light opposition in many areas of the the Third World. Limited seaborne tactical air support could be made available using the Forger V/STOL (vertical/short takeoff and landing) fighter-bombers deployed aboard Kiev-class aircraft carriers. An amphibious task force might also receive

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tactical air support from neighboring countries, possibly by Soviet landbased aircraft deployed there. Even with substantial augmentation, however, it is doubtful that a Soviet amphibious task force could carry out a landing abroad against heavy opposition, due to the lack of adequate sea-based tactical air support, the absence of sufficient naval gunfire support, and the vulnerability of air and sea lines of communication.

f. (u) ~~(S/NOFORN)~~ Interdiction of Sea Lines of Communication (SLOC). Soviet naval doctrine generally considers SLOC interdiction only within the context of a NATO-Warsaw Pact war. The Soviets do not anticipate fighting a major naval war in other contexts, and they realize that military operations against such vital Western interests as the sea lines would probably lead to war with NATO.

7. (U) Future Force Capabilities for Distant Operations.

a. (U) Navy.

(1) (u) ~~(S/NOFORN)~~ The capability of the Soviet amphibious forces for distant operations is expected to improve through the continuation of current building programs and the introduction of new designs. Of particular importance is the deployment of the modern Ivan Rogov-class amphibious ship. This ship is a significant departure in amphibious ship design for the Soviets. With its limited shore bombardment and air defense capabilities, capacity for six Hormone naval helicopters, space for carrying air cushion assault craft, and accommodations for a fully equipped 500-man battalion landing team, the ship is well able to maintain a self contained assault unit in forward deployments a capability the Soviets lacked previously.

(2) (u) ~~(S/NOFORN)~~ A deficiency that limits Soviet capabilities for distant intervention is tactical air support, a prerequisite for successful assault operations. The production of the Navy's YAK-36 Forger V/STOL fighter-bomber, carried aboard Kiev-class aircraft carriers, somewhat improves Soviet capabilities in this area. This aircraft gives the Soviets an initial, though limited, capability for sea-based ground attack as well as some air defense. The aircraft would, however, perform poorly against high-performance Western aircraft and against Soviet-built aircraft found in the inventories of many Third World countries. The normal complement of aircraft on the Kiev-class carriers is about 20 to 30 helicopters and about 15 Forger fighter-bombers.

(4) (u) ~~(S/NOFORN)~~ The Soviets will certainly undertake a program over the long term to replace the Forger with more advanced, probably supersonic aircraft, which may be operational by the mid-1980s. The Kiev-class aircraft carriers probably will be followed in the late 1980s by a larger class of ship capable of carrying more aircraft. The Soviets are expected to have a total of five fixed-wing aircraft carriers by 1988, in addition to their two Moskva-class helicopter cruisers. There is a good chance that by

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the late 1980s, the Soviets will have adapted existing helicopters, or developed new ones, for a number of amphibious warfare tasks, including beach assault by vertical envelopment.

b. (U) Air Forces.

(u)
(1) (S/NOFORN) The transport arm (VTA) of the Soviet Air Force is expected to undergo a significant modernization during the next 10 years. VTA's capabilities will continue to be enhanced by the acquisition of IL-76 Candid jet aircraft--a total of 315 by 1990. The Candid can carry twice the payload and has three times the range of the AN-12 Cub, which it is replacing.

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(2) (S/NOFORN) The Soviets are reportedly developing a new wide-body jet transport that will probably be roughly equivalent to the C-5A. This program, if successful, will improve VTA's capability to transport outsized cargo such as medium tanks. This aircraft will become operational in the mid-1980s. (u)

(3) (S/NOFORN) The Soviets perceive a requirement to replace the Cub transport in VTA in both numbers and mission. By the mid-to-late 1980s a new medium transport will become operational.

(b) (1) & (b) (3) per CIA

(5) (S) VTA has a principal combat mission of providing air transport support for VDV (airborne) operations. In order to perform this mission, VTA must be capable of paradropping or air-landing personnel, battle equipment, and materiel behind enemy lines. VTA aircraft--Cub, Cock, and Candid--are rugged and reliable, and all have rear loading capability. Overall, the force composed of a mix of these aircraft gives VTA a good capability to transport and airdrop the men and all of the equipment assigned to airborne divisions.

(b) (1) & (b) (3) per CIA

Using both paradrop and air-landing methods, the Soviets can simultaneously land

soldiers, combat equipment, and materiel, thereby enabling the VDV to carry out combat operations immediately after the landing.

(6) ~~(S)~~ At present, VTA is capable of lifting, simultaneously, roughly one full airborne division or the assault elements of two divisions (six airborne regiments). Over the next decade, several factors could improve the ability of VTA to lift airborne forces. First, the increased cargo capabilities of Candid, the projected wide-body transport, and of the projected new medium transport would enable the Soviets to move any specified amount of men and materiel with fewer aircraft, thus providing an increased capabiltity for simultaneous lift of more than one VDV division. Further, incorporating pressurized cargo cabins would enable VTA aircraft to fly at their optimum cruising altitudes, thereby increasing their range. (b) (1) & (b) (3) per CIA While these factors will improve the VTA lift capability, especially to longer distances, equipping airborne divisions entirely with BMDs increases the lift requirement for operations in which BMDs are transported, somewhat offsetting the increase in lift capability.

(u)

8. ~~(C)~~ Regional Outlook. The Soviet Union will probe for opportunities to project power and influence wherever these opportunities may be found. Certain states and geographical regions are especially susceptible to Soviet penetration. This section focuses on three regions were significant Soviet power projection is likely: southern Africa and Zaire; the Caribbean; and Southeast Asia. Southwest Asia is discussed at length in Chapter 5.

a. (U) Southern Africa.

(1) (S/NOFORN/NOCONTRACT) Over the past five years, the Soviets, East Europeans, and Cubans have considerably expanded their military deliveries to southern Africa. Since 1975, Moscow has supplied (b) (1) & (b) (3) per CIA arms. (b) (1) & (b) (3) per CIA But the political influence of the Soviets and their allies is restricted to the states confronting South Africa--Angola and Mozambique. Several factors constrain their influence in the other countries of the region.

(u)

(2) ~~(S/NOFORN/NOCONTRACT)~~ The suspicions of Soviet intentions harbored by Tanzania, Zimbabwe, and others are to a considerable extent the result of fundamental differences between Soviet and African interests and perspectives. Moscow tends to anatagonize southern African leaders by dealing with their countries in the larger context of East-West and Sino-Soviet competition. Moscow's basic aims in the region are to undermine Western and Chinese influence, to promote pro-Soviet regimes, and to increase Soviet access to air and naval facilities.

(u)

(3) ~~(S/NOFORN/NOCONTRACT)~~ Soviet objectives in southern Africa also include the denial or complication of Western access to the strategic mineral resources of the region. Under current political and economic conditions,

this Soviet objective is unlikely to be realized. Even if white rule ended in South Africa, the Soviet "denial strategy" would encounter serious obstacles--particularly, Western reaction and resistence from the African leaders who depend on the hard currency generated by the sale of mineral resources.

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(4) ~~(S/NOFORN/NOCONTRACT)~~ The Soviets have an interest in continued tension, and even military confrontation, in the region because their influence and position are founded largely on military assistance. African governments by and large want a negotiated settlement in Namibia, as they did in Rhodesia, to hasten the end of minority rule and to ease the economic and military burdens such issues create for them. And they know that only the West is in a position to help them attain such a settlement with the South Africans.

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(5) ~~(S/NOFORN/NOCONTRACT)~~ In theory, the economic troubles that prevail in most of black southern Africa--food shortages, inflation, unemployment, stagnant growth, low export earnings, and massive debt obligations--should enhance Moscow's prospects in the region through their aid to hard-pressed governments, as well as to dissident groups. In practice, however, the Soviets have done little to meet African needs for aid and capital. Only Western governments and private institutions, and Western-sponsored multinational organizations such as the World Bank and the International Monetary Fund, are in a position to address southern African requirements. Even the Marxist regimes in Angola and Mozambique have recognized the need to establish economic relations with the West and, in the case of Mozambique, to maintain with South Africa economic ties that were established during the Portuguese colonial period.

(u)

(6) ~~(S/NOFORN/NOCONTRACT)~~ In all probability, Moscow's failure to compete with the West in addressing the economic needs of various countries in the region is largely due to the USSR's own economic constraints and its recognition of African economic dependence on the West. Rather than compete on Western terms, the Soviets have tried to turn the situation to their advantage. This is readily apparent in Angola. Despite the extensive Soviet role there, only about 8 percent of Angola's trade is with Communist countries. The only successful sector of the economy, oil production, is operated by US and other Western firms and the oil industry's capital needs are met in Western financial markets. It is the hard currency earned by its Western-run oil industry that enables Angola to pay for Soviet arms and Cuban troops.

(u)

(7) ~~(S/NOFORN/NOCONTRACT)~~ In Mozambique, Western economic assistance dwarfs Communist aid despite the country's close ideological and military ties with Moscow. In the rest of the region as well, Western economic aid far outstrips that of the Soviets and their allies. The West is also a much more important trading partner. This is vividly illustrated in the key area of minerals marketing: in addition to Angola's dependence on oil sales to the West, Zambia, Zaire, and Zimbabwe rely heavily on Western purchases of copper, cobalt, and chrome to generate foreign exchange.

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(u)

(8) (~~S/NOFORN/NOCONTRACT~~) Southern Africa will remain an area of conflict over the next several years. Collapse of the Namibia settlement effort would be certain to sharpen tensions between Pretoria and its neighbors. An internationally accepted settlement in Namibia would reduce tensions but would not end the hostility between black Africa and South Africa. The black Africans, prompted by opposition to apartheid, will continue their support of anti-South African insurgents, although they will try to avoid direct armed conflict with Pretoria.

(u)

(9) (~~S/NOFORN/NOCONTRACT~~) South Africa has the resources and the will to punish neighbors who appear to threaten it. Its weapons include economic pressure, sponsorship of insurgencies, and military operations. Whatever the outcome in Namibia, Pretoria will not relinguish its option to use these weapons. Indeed, with terrorist incidents and domestic unrest likely to increase inside South Africa, the government will probably step up its actions against neighboring countries harboring South African insurgents.

(u)

(10) (~~S/NOFORN/NOCONTRACT~~) Given these conditions, the Soviets will find ample opportunity to increase their influence and presence. They will continue to rely on the means of entry that they have found most effective in Africa--weapons sales, military training, and associated technical expertise. The level and character of Soviet military aid programs will vary from country to country, but on the whole the USSR will probably increase its efforts in the region.

(u)

(11) (~~S/NOFORN/NOCONTRACT~~) Moscow has several further options. It could facilitate a sizable increase in Cuban combat forces in Angola and Mozambique, deploy additional Soviet naval units to southern African waters, or provide advanced air defense equipment requiring Soviet manning.

(u)

(12) (~~S/NOFORN/NOCONTRACT~~) Final military victory in southern Africa will elude both sides in the near future. South Africa can hold off the Southwest Africa Peoples Organization (SWAPO), the African National Congress (ANC), and other domestic black dissident groups. But it cannot crush all of them. An all-out effort to do so would precipitate enormous domestic and international pressures. Similarly, while the black insurgents and the black southern African countries seem committed to fight as long as necessary to bring about a settlement in Namibia and an end to apartheid, they cannot defeat South Africa militarily without large-scale outside assistance, including troops. There is no evidence at present that the USSR, Cuba, or any other power is prepared to provide the necessary forces.

b. (~~S/NOFORN/CONTRACT~~) Zaire. Economic problems, popular discontent, a history of tribal and regional conflicts, and resistance to needed reforms will keep mineral-rich Zaire on the verge of major violence and disintegration. Mobutu's shaky rule will face the constant threat of a military coup, a popular uprising, or armed attack from such exiled opposition groups as the National Front for the Liberation of the Congo (FLNC). Mobutu's departure, whenever and however it occurs, is likely to precipitate

a bloody power struggle and perhaps attempts at secession in Shaba. The instability and pro-Western orientation of Zaire make it a target for Soviet-inspired machinations.

(b) (1) & (b) (3) per CIA

c. (U) Caribbean.

(1) (u) (S) The key threat to the Caribbean results from the Soviet-Cuban military relationship. This relationship impacts on US military capabilities and requirements for general war, on regions such as Africa where Soviet-Cuban forces have been used, and on the peace and stability of the Caribbean basin itself. As a strategic base in the Western hemisphere, Cuba will use its military capabilities to support Soviet interests. Cuba affords the Soviets ports and repair facilities for Soviet ships and submarines; airfields for Soviet air and reconnaissance forces; a base for Soviet intelligence collection; and indirect support for insurgencies throughout Latin America. In wartime, Cuban or Soviet forces operating from Cuban bases could interdict movement of troops, supplies, and raw materials. Over 50 percent of regional oil deliveries pass through sea lanes that could be threatened by Cuba.

(2) (u) (S) The growing fighter-bomber force in Cuba presents the US with an air defense problem of increasing size. This threat is exacerbated by a growing Cuban Naval Fleet, presenting the Americas with the first Communist naval threat based in the Western Hemisphere. Finally, the modernization of Cuban ground forces makes Cuba a significant threat in the event of a general war.

(3) (u) (S) Soviet and Cuban objectives and priorities in the Caribbean for the near term are as follows:

(a) (u) (S) Defend the communist government of Cuba.

(b) (u) (S) Consolidate Marxist control over Nicaragua and Grenada.

(c) (u) (S) Support insurgent movements in El Salvador, Guatemala, Honduras, and Colombia.

(d) (u) (S) Foster state-to-state ties while promoting local communist interests.

(e) (u) (S) Exploit new opportunities as they become available.

(4) (S) The Sandinista victory in Nicargua in 1979 brought Cuba back into the business of visibly exporting revolution. An elaborate logistics system was established in Central America to transfer arms and ammunition to the rebels. In the later stages, the bulk of this material

was furnished by Cuba, with smaller amounts coming from other countries. Cuba also provided the training for the guerrilla cadres. Equally important, however, was the role Cuba played in bringing about cohesion among the various insurgent groups. It championed cooperation among competing leftist leaders, threatening to withhold further assistance from those that refused to cooperate. Vulnerable as they were, the insurgents had little choice but to agree. Without Cuba's support, it is extremely unlikely that the Sandinistas could have succeeded as quickly and completely as they did. The consolidation of Marxist gains in Nicaragua is now one of the highest Soviet/Cuban priorities for the region. This consolidation process includes supplying Nicaragua with T-55 tanks and with modern fighter aircraft to be flown by Nicaraguan pilots, (b)(1)&(b)(3) per CIA

(5) ~~(S)~~ The Cubans and Soviets are also involved in consolidating Communist control in Grenada. Cuban technical assistants are involved at all levels of government, (b) (1) & (b) (3) per CIA (b) (1) & (b) (3) per CIA Grenada has shown its gratitude by firmly voting with the USSR and Cuba at the United Nations and other international organizations. It has also granted Cuba permission to install a powerful radio and television transmitter designed to broadcast to the Eastern Caribbean. Work on the Point Salines airport continues. When completed in 1983, the 10,000 foot runway will be able to accomodate Soviet Bear bombers. Cuba is also continuing to provide Grenada with arms and training for its 1,500-man army in order to ensure that domestic opponents do not remove the present regime.

(6) (u) ~~(S)~~ Concerning the third Soviet/Cuban objective in the region --support of insurgent movements--current and near-term targets are El Salvador, Guatemala, Honduras, and Columbia. Cuban assistance to insurgents in El Salvador includes providing insurgency training in Cuba and Nicaragua; promoting mechanisms for domestic and international support; furthering unity; and providing arms and ammunition. Central American insurgents have stated that Guatemala and Honduras are next in line for insurgency. In Honduras, the initial efforts of radical leftist groups to mount terrorist attacks against soft targets have recently been noted. In Columbia, Cuban support for the 19th of April movement has demonstrated that countries outside of Central America are also targets for subversion.

(7) (u) ~~(S)~~ The prospects for continued Cuban/Soviet initiatives in the Caribbean, and elsewhere in Latin America, are high. Their approach is multipronged and flexible enough to appeal to a wide range of target groups or states. The strategy is opportunistic, designed to take advantage of the most likely targets as they present themselves. There is no shortage of willing participants ready to interest them in new undertakings. Dissidents in several countries await greater Cuban assistance. However, the Cubans and their Soviet patrons have opted for a selective, cautious, and more gradual approach than their clients and prospective clients sometimes want. Soviet interest in the Caribbean area has been whetted by the increase in

the number of politically and economically vulnerable mini-states. The USSR will continue to exploit national assertiveness, political turbulence, and growing economic frustrations in this area in the foreseeable future.

d. (U) Southeast Asia.

(1) (U) The Vietnamese Threat.

a. (u) (~~S~~) The primary destabilizing influences in Southeast Asia today are the Socialist Republic of Vietnam's alignment with the USSR, its hostility toward China and Thailand, and its continued occupation of Kampuchea. The enmity of China, a failed economy, and the financial drains imposed by military operations in Kampuchea, will keep the SRV heavily dependent on Soviet aid and vulnerable to Soviet influence. Moscow has secured significant benefits from its relationship with Hanoi, including access to Vietnamese naval and air facilities, and these gains have enhanced Soviet ability to project power into the region. Vietnamese dependence on the USSR will continue so long as Sino-Vietnamese hostility remains high. Soviet support will enable Vietnam to retain, and probably improve, its existing military capabilities. In a crisis, Moscow would probably step up its aid to Vietnam as necessary.

(b) (u) (~~S~~) Vietnamese aggression in Kampuchea threatens the security of Thailand and could lead to a conflict with wider international military involvement. Due to the concentration of Vietnamese troops, Khmer refugees, and resistance forces along the Thai-Kampuchean border, and Thai support for the resistance, there is high a potential for Vietnamese incursions across the Thai border, either in pursuit of resistance forces or in punitive actions against Thailand. The quantitative and qualitative military superiority of the Vietnamese could enable them to quickly deal a crippling blow to the Thais. A large-scale Vietnamese invasion would likely cause Thailand to call for US support under the terms of the Manila Pact and, provoke Chinese military retaliation against Vietnam. This, in turn, could precipitate Soviet military involvement.

(c) (u) (~~S~~) The SRV possesses by far the largest and best-equipped military force in Southeast Asia. Vietnam's military flexibility, however, is limited by the deployment of its forces on several fronts. The extent of Soviet support will be crucial to Vietnam's future military capability, as will be its capacity to absorb Soviet assistance. In any event, the prospects are for a prolonged period of instability in Southeast Asia, with a high potential for military incidents that could expand into conflicts involving the major powers.

(2) (U) The Soviet Threat.

(a) (u) (~~S~~) Moscow has increased its influence and its presence in Vietnam. The SRV depends on Soviet aid to help defend itself from China and to prosecute the war in Kampuchea. The Soviet-Vietnamese Friendship

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Treaty of November 1978, the expansion of Soviet involvement in Vietnam, and the continuing Soviet access to Vietnamese air and naval facilities demonstrate the foothold Moscow has gained in Southeast Asia. A Soviet-supported Vietnam furthers the Soviet policy of containing China, and simplifies Soviet maritime surveillance and intelligence collection against the US surface fleet and ballistic missile submarines.

(b) (U) (S) Materiel is the primary form of Soviet support to the Vietnamese military forces. This aid increased tenfold from 1978 to 1979. Currently, such aid is projected to be slightly above 150 percent of the peak wartime aid, in 1966. These deliveries have resulted in significant improvements in Vietnam's military capabilities, especially in the northern military regions opposite China.

(c) (S/NOFORN) b1

b1

(d) (U) (S) Soviet naval operations, especially transits to and from the Indian Ocean, would be further facilitated if access to refueling, repair, or support facilities beyond Vietnam could be acquired in non-Communist Western Pacific countries. However, those countries have deep suspicions about Soviet intentions and will probably continue to rebuff Soviet initiatives. Over the long term, the Soviets might seek the use of air and naval facilities in Taiwan, but Taipei would probably not agree.

(e) (U) (S) Moscow's initiatives concerning Thailand will be designed to complement those of Hanoi. Soviet influence in Thailand is not likely to grow unless the Thais are convinced that the United States and China lack sufficient commitment to Thailand's security and that a more balanced policy toward Vietnam and the USSR is required. The USSR has little influence with insurgent movements in Southeast Asia, most of which reflect Chinese influence. The USSR is perceived as militarily powerful but geographically remote, and lacking in ties of race and culture.

(3) (U) Internal Threats. Prevailing economic, social, and political conditions in many of the underdeveloped non-Communist countries of the region have contributed to popular discontents that could be exploited by subversive elements. The political and socio-economic environment in many East Asian and western Pacific countries is characterized by an imbalance in the distribution of wealth, a failure of industrialization to keep pace with high rates of population growth, and the failure of some governments to make significant headway in land reform and public works. There is widespread poverty in the countryside and extensive unemployment and underemployment in many urban areas. Corruption and favoritism abound in governments that often are dominated by wealthy, conservative oligarchies and military elements functioning behind democratic facades.

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(4) (~~S/NOFORN~~) Outlook for Soviet Involvement.

(u)
(a) (~~S/NOFORN~~) Since the US withdrawal from Vietnam, Hanoi has become totally dependent on Moscow for political, economic, and military assistance. In return for this support, the Soviets have gained access to Vietnamese naval and air facilities, concentrating their military activities at Cam Ranh Bay. Although no formal basing agreement has been revealed, the improvements made to these facilities indicate that the Soviets plan to remain at Cam Ranh Bay and take full advantage of the stragetic value of this fine natural harbor.

(u)
(b) (~~S/NOFORN~~) The relationship between the two allies has not been entirely smooth. Vietnam's need for protection from the Chinese was the major reason for granting greater access to Soviet military forces, and the Soviets will continue to exploit Hanoi's fears in order to keep their influence intact. Their most notable differences have occurred over economic issues. The Vietnamese have complained about the inadequate amount of Soviet aid, while the Soviets have criticized Hanoi's inefficient use of it. These differences may have resulted in a slight cutback in Soviet aid, to demonstrate Moscow's tremendous economic leverage. Also, Vietnamese xenophobia applies as much to the Soviets as to other foreigners and remains a chronic irritant in relations between the two nations. Finally, the Soviets have had to accept poor relations with the ASEAN states because of Moscow's support for Hanoi's occupation of Kampuchea. The Soviets are quite aware of these problems, but Moscow thinks the benefits far outweigh the costs.

(u)
(c) (~~S~~) The Soviets will not pressure the Vietnamese concerning Kampuchea, but they will continue to support Vietnamese efforts to split ASEAN unity and promote a regional solution that would result in a firmly Communist Indochina. Finally, Moscow has used and will continue to use its military power in the region to support its aims and those of its clients.

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CHAPTER 7

SUMMARY EVALUATION OF SOVIET MILITARY REQUIREMENTS VERSUS CAPABILITIES

1. (U) Introduction.

a. (u) ~~(S/NOFORN)~~ As long as Soviet political thought is dominated by Marxist-Leninist doctrine, the Soviet Union will continue to rely heavily on military power in pursuit of its international interests. The Marxist view of history as a series of conflicts underscores the importance of military power and compels the Soviet leadership to view war as a probable, and in some cases desirable, occurrence for which it must be continually prepared. Soviet belief in the irreconsilability of socialism and capitalism, and their conviction that the final solution to this conflict will necessarily involve military force, are the foundations upon which Soviet military theory rests. Moreover, the historical benefits derived from the Soviet use of military power have practically reinforced these doctrinal tenets.

b. (u) ~~(S/NOFORN)~~ Essentially, Soviet military power serves two functions, internal and external. In its internal function, the CPSU relies on military force to maintain its power in the USSR and to ensure continued Soviet hegemony over the Warsaw Pact nations. Its external function is threefold. First, Soviet military power has the defensive mission of deterring or defeating any form of attack on the Warsaw Pact nations and other Soviet allies. Second, from an offensive perspective, Soviet forces must have the capability to carry the destructiveness of war into the enemy's heartland. Third, and most important from a political viewpoint, Soviet military power must be able to directly or indirectly advance the cause of socialism worldwide. Underscoring this last objective is the Soviet realization that military power, or the threat of its use, has been an essential element in every situation in which socialist revolutions have succeeded. Thus, we should expect the continued growth of Soviet military power throughout the forecast period, and its continued employment by Soviet leaders to meet these internal and external requirements.

c. (u) ~~(S/NOFORN)~~ Another constant in Soviet military planning to the year 2000 will be the key adversary role played by the United States. In the Soviet view, the US is and will remain to the turn of the century, the principal obstacle to their achieving their worldwide ambitions. This fact will continue to dominate the Soviet concept of the role and nature of future war and their perception of their geopolitical and strategic position in relation to the West, China, Japan, and the Third World. All other military and political initiatives will directly or indirectly support the ultimate Soviet objective of undermining and isolating US power.

d. (u) ~~(S/NOFORN)~~ From a military perspective, the key requirement of this strategy is to minimize or eliminate the US ability to resist Soviet advances,

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by negating US retaliatory capability. The essential components of this policy are to keep US intercontinental and theater nuclear forces in check, while expanding the Soviet advantage in conventional military power. If this can be accomplished, US power will be largely negated and the Soviets could continue their efforts to isolate the US from its allies, challenge US interests by fomenting revolutionary war in the Third World, and still avoid a potentially catastrophic East-West world war.

e. (u) ~~(S/NOFORN)~~ A key element in the Soviet capability to accomplish these objectives is their ability to continue to offset Western technological superiority. Historically, they have done this by fielding numerically superior military forces and by obtaining either overtly or covertly whatever Western technology they required. If they are unable in the future to continue to obtain the West's defense-related technology, it will be much more difficult for them to meet their expanded global military requirements.

f. (u) ~~(S/NOFORN)~~ Another key element in this strategic concept is Soviet support of revolutionary warfare in the Third World. Historically, the Soviets have relied on military aid and the use of Soviet-equipped proxy forces for this purpose. It is expected that they will continue to do so where applicable in the future. At present, however, this proxy capability is becoming too limited to accomplish expanded global requirements, and the Soviets are expanding their own power projection capability, principally through the addition of more and better naval and air assets. This trend will continue throughout the forecast period. Another area in which improvement is expected is in Soviet penetration methods, particularly their psychological and economic warfare capabilities.

2. (U) Western Theater.

a. (u) ~~(S/NOFORN)~~ Introduction. Current Soviet requirements in the Western Theater are: to secure CPSU power in the USSR; to maintain Soviet hegemony over the Warsaw Pact nations; to deter or defeat any attack on the Warsaw Pact nations; and to field an undoubted capability to overwhelm NATO with a conventional ground and air offensive in Central Europe. These theater requirements will remain essentially unchanged throughout the forecast period, although the Soviets will continually strive to expand and improve their offensive capability to go deeper, faster, and with more firepower. The ultimate aim of Soviet Western Theater offensive capability is to convince the Western European nations of the futility of resisting the Soviets in a European war. If this "Finlandization" of Western Europe can be accomplished, then Soviet military forces will have achieved their highest possible level of effectiveness. As a result, the US will be isolated from its major allies.

b. (u) ~~(S/NOFORN)~~ Force Structure. The Soviets seem confident that their current Western Theater force structure is sufficient to accomplish all of their theater objectives. The existing numbers, types, and locations of

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Soviet forces in the Western Theater are the result of a well-planned force development process that has gradually evolved over the years to meet specific theater requirements. This gradual evolution is expected to continue, over the next twenty years, a natural result of the Soviets' dialectic approach to military affairs. During this period, we expect Soviet Western Theater force structure alterations to be incremental rather than radical, and to reflect the continual Soviet concern for the speed of technological advances and the potential impact of these on force structure and operational concepts. Still, we must not rule out the Soviets' capability and willingness to effect radical force structure changes should they perceive these necessary.

(u)

c. ~~(S/NOFORN)~~ Fielded Technologies. Soviet Western Theater forces are currently sufficiently well equipped to accomplish all theater missions in a conventional war, and possibly in an NBC war. We expect the Soviets to continue throughout the forecast period to view the Western Theater as decisive, and thus we expect that Soviet Western Theater forces will continue to receive more of the best available Soviet military technology. These forces will continue to benefit from a well developed materiel research, development, and acquisition program that assures the steady improvement of old equipment and the systematic introduction of new technology. Throughout the remainder of the century, the Soviets will strive to maximize their use of technological advances that improve their capability to project their theater military power farther, faster, and with more firepower. Technologically, the following areas have been identified by the Soviets as requiring immediate improvement:

- Fielding an automated command system.
- Improving reconnaisance capability, particularly against NATO's mobile nuclear delivery systems.
- Defeating NATO's significant and expanding antitank capability.
- Improving antiair capability, particularly against low-flying targets.
- Improving their radioelectronic capability.
- Improving the standardization, interoperability, and unification of Warsaw Pact equipment.

(u)

d. ~~(S/NOFORN)~~ Combat Capability. The Soviets currently possess the required operational capability to accomplish their defensive requirements in the Western Theater. However, from an offensive perspective, they are concerned about their ability to provide C^3I and logistic support structures that will maximize their theater combat potential. The tremendous geographic distances involved in their theater plans, the size of the forces involved, and the speed and intensity of the operations envisioned requires C^3I and

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logistic support mechanisms currently at the limit of Soviet capability. While the Soviets have plans to improve these systems, particularly through automation, until these improvements come on line, in the mid-1990s, Soviet theater combat capability may lag behind their combat potential. Still, it should be emphasized that Soviet concern for their C^3I and logistic support structures reflect very high standards, and that the Soviets currently believe they have the capability to accomplish their theater offensive plans.

(u) ~~(S/NOFORN)~~ The Soviets have shown concern about the time required to convert their Western Theater forces to a wartime footing. They require the capability to mobilize large numbers of forces rapidly in order to fulfill the critical time requirements of their offensive plans. The theater strategic concept outlined by Ogarkov emphasizes the need to maintain the momentum of the offensive thrust in a single, continuous theater campaign. The Soviets stress that mobilization capability must meet this demand. Specific improvements are required in order to achieve better integration of resources, to insure the survivability of the industrial mechanism, to improve the autonomy of enterprises producing main combat weapons, to improve the ability to mobilize under enemy attack, and to provide for greater secrecy in the mobilization process.

3. (U) Southwest Asian Theater.

a. (u) ~~(S/NOFORN)~~ Introduction. Soviet military requirements in SWA include: stabilizing and securing their SW borders; deterring or defeating any form of attack against Soviet territory; maintaining the offensive capability to seize all or portions of Iran; and developing the capability to conduct offensive operations through Iran, Iraq, Kuwait, and Saudi Arabia to Oman. These requirements are likely to remain unchanged throughout the forecast period.

(1) (u) ~~(S/NOFORN)~~ Force Structure. The existing Soviet force structure in SWA is sufficient to accomplish all theater defensive missions. In addition, it is probably sufficient to accomplish the limited offensive requirement of seizing all or parts of Iran. However, given the high probability of US or other Western intervention, the Soviet SWA force structure is currently inadequate to achieve the ultimate theater aim of seizing the southern shore of the Persian Gulf to Oman, particularly in the event of a simultaneous war with China and/or NATO. It is estimated that to accomplish this mission an additional army-sized force from outside the theater would be needed.

c. (u) ~~(S/NOFORN)~~ Fielded Technologies. Except for those forces currently in Afghanistan, Soviet SWA forces are relatively poor in both numbers and technological sophistication of their equipment holdings. Still, given the inferior status of opposition forces, the Soviets SWA theater forces could meet their minimum defensive theater missions and, if they did not encounter US opposition, could probably seize all or portions of Iran. However, the threat of US intervention is probably sufficient to deter the Soviets from

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launching an offensive to seize Iran without first undertaking a major filling-out and modernization of their theater equipment stocks. Moreover, this type of major equipment upgrading is considered absolutely necessary before the Soviets would undertake the ultimate theater mission of attempting to drive south to Oman.

(u)
d. ~~(S/NOFORN)~~ Combat Capability. In terms of C^3I and logistics support, Soviet SWA theater forces currently possess the capability to maximize their combat potential and to successfully accomplish all theater missions, under the following circumstances: if they are opposed only by indigenous SWA forces or by US forces only on the southern shore of the Persian Gulf; and if there is no simultaneous war with China and/or NATO. If SWA becomes a priority theater for the Soviets, we should expect to see conclusive evidence of substantial upgrading of force structure, equipment, and overall combat capability during the forecast period. Otherwise, we can expect incremental theater improvements.

4. (U) Far East Theater.

(u)
a. ~~(S/NOFORN)~~ Introduction. Since the mid-1960s, Soviet military requirements in the Far Eastern Theater have been evolving from a strictly defensive orientation to a limited offensive one. As a result, Soviet Far East theater forces currently face a range of requirements, which include: securing their borders by deterring, containing, or defeating any Chinese offensive; further developing the offensive capability to damage China's military-industrial base and to seize all or parts of Manchuria; countering US air and naval forces in the region; and developing a theater capability to wage a protracted war against NATO forces in the West and the forces of a Chinese, Japanese, US axis in the East.

(u)
b. ~~(S/NOFORN)~~ Force Structure. The Soviet force structure in the Far East Theater is currently sufficient to deter, contain, or defeat any form of Chinese aggression, and to mount a limited ground/air offensive against northern China. In addition, Soviet superiority in nuclear and chemical weapons gives them the capability to destroy or seriously damage China's military-industrial production base. However, without the use of NBC weapons, it is unlikely that the Soviets could conduct extended operations into Manchuria without major reinforcement from outside the theater. The Soviets also possess the capability to seriously threaten any US surface force entering their sea-denial zone and to attack US bases in Japan. However, in prolonged, simultaneous conventional war in both the Western and Eastern theaters, logistic demands of the European theater would probably preclude Soviet Far Eastern forces from maintaining offensive operations of any depth against China or the Western Pacific. Thus, in a multitheater war of extended duration, Soviet Far Eastern theater forces would probably be forced into a strategic defensive posture.

(u)
c. ~~(S/NOFORN)~~ Fielded Technologies. The Soviets are engaged in the lengthy process of upgrading their Far East Theater equipment to meet the

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ultimate contingency of a theater war against both Chinese and NATO forces. On the other hand, their theater forces now possess the requisite technology to accomplish all of their more-limited objectives, particularly those directed against China, which lacks the nuclear, chemical, and conventional sophistication of the Soviet forces.

d. (u) (~~S/NOFORN~~) Combat Capability. In 1978, the Soviets reorganized their Far East Theater command structure to meet expanding theater requirements. While the new organization may not yet be fully developed, it is currently capable of handling Soviet theater defensive missions and it significantly upgrades their capability to meet the expanded C^3I requirements of a protracted multitheater war. Moreover, their growing force structure in the East suggests a developing strategic concept calling for extending operations into the Western Pacific. Such strategic demands will require further developments in command and operational capabilities.

5. (U) Global Strategy.

a. (u) (~~S/NOFORN~~) Introduction. The integrated theater-strategic operation introduced by MSU Ogarkov can be viewed as a primary planning goal driving Soviet force developments to the year 2000. In our judgement, the Soviets will try, during the next twenty years, to acquire the force structure, equipment, and operational capability needed to conduct such operations simultaneously in each wartime theater. In general, they will strive to improve their ability to conduct offensive operations at greater depth, more quickly, and with more firepower, under all conditions and against any enemy. We can therefore expect the Soviets to continue to introduce weapons, equipment, organizational changes, and operational concepts emphasizing enhanced mobility, battlefield survivability, and autonomous operations on the fully integrated battlefield. Combined arms operations will continue to be stressed.

b. (u) (~~S/NOFORN~~) Strategic Concept. While developing the force structure, technology, and operational capability to conduct the theater-strategic operation may be the immediate goal for the Soviet military, it must be remembered that the Soviets view the world from a global-strategic perspective. In their eyes, the principal characteristic of the present international situation is the irreconcilable struggle between socialism and capitalism, which, while it may not always take the form of military conflict, is nevertheless continually being waged by political, economic, psychological, ideological, and other means. From this perspective, it is clear that the Soviet efforts to integrate inter-theater military operations into a single theater-strategic concept are only part of a larger worldwide effort to synthesize and coordinate various theater operations, and perhaps even space operations, into an integrated global-strategic concept. The goal of this strategy is to marshall all of the resources of the socialist camp into an organized worldwide offensive against capitalism. The global expanse of the military, economic, and political power of capitalism's leader, the United States, requires the Soviets, as leaders of the socialist

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camp, to obtain similar power on a global scale. Thus, while our analytical efforts for the remainder of the century may concentrate on the Soviet effort to meet their individual theater requirements, we must not lose sight of the truly global nature of Soviet strategy.

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