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# Readiness of Soviet Forces in Central Europe: Implications for a Rapid Transition to War

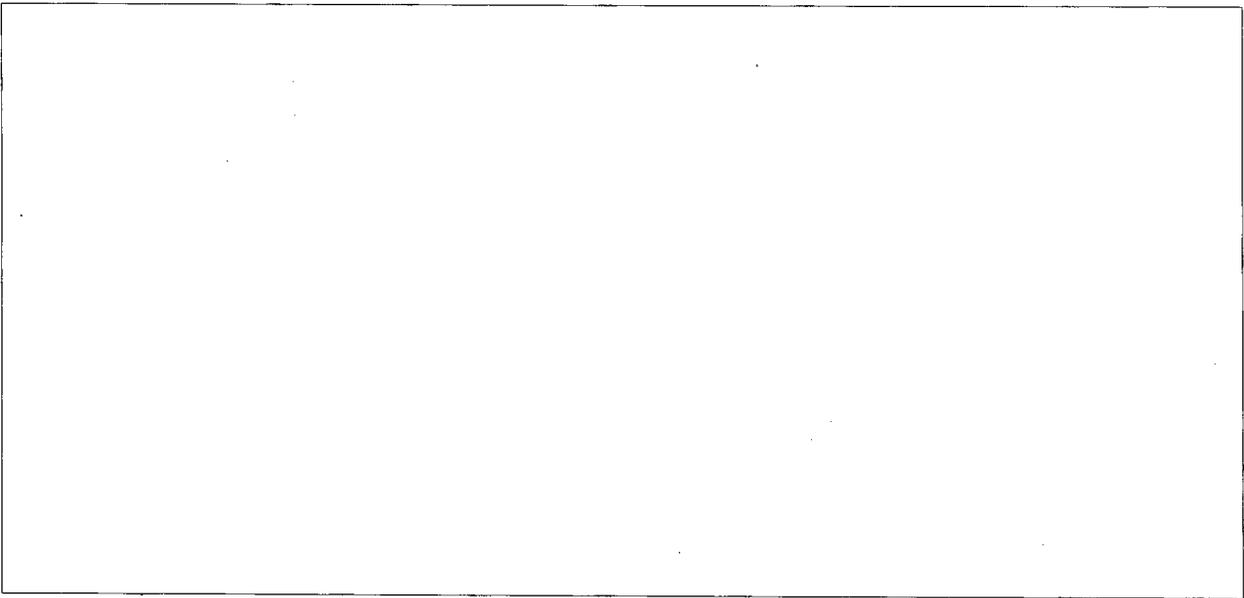
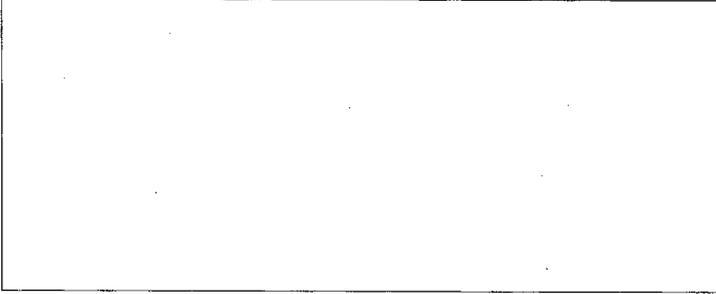
An Intelligence Assessment

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# Readiness of Soviet Forces in Central Europe: Implications for a Rapid Transition to War



An Intelligence Assessment

This paper was prepared by [redacted] and  
[redacted] Office of Soviet Analysis. Comments  
and queries are welcome and may be addressed to  
the Chief, [redacted] SOVA [redacted]



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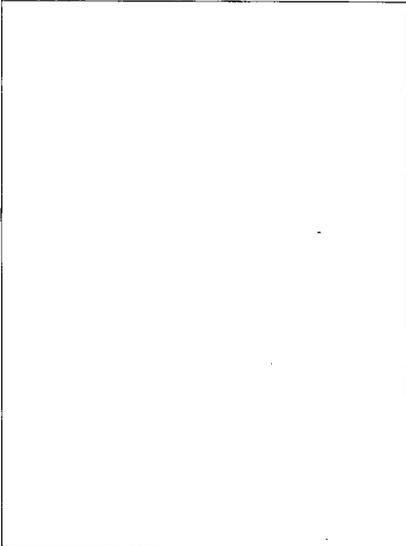
September 1987



**Readiness of Soviet Forces in  
Central Europe: Implications  
for a Rapid Transition to War**



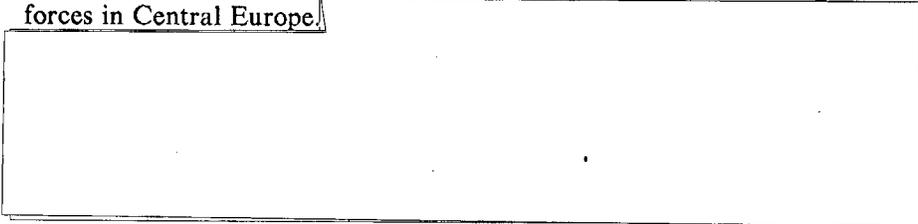
**Scope Note**

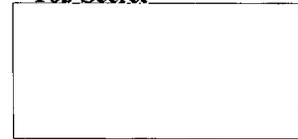


This paper focuses on the peacetime readiness posture of Soviet air and ground forces in East Germany, Poland, and Czechoslovakia—that is, those Warsaw Pact forces opposite NATO considered to be the most ready. East European forces and Soviet forces in the western USSR, which the Soviets also consider essential to the success of a large-scale offensive against NATO, will be treated in subsequent studies on Warsaw Pact theater forces readiness.



This assessment is based on an extensive review of all-source intelligence information on the military preparedness of Soviet air and ground forces stationed in East Germany, Poland, and Czechoslovakia. It also draws from a number of Intelligence Community studies published over the past five years—such as the Interagency Intelligence Memorandums on the readiness of Soviet air and ground forces and, especially, CIA studies on military rear services and manning practices and patterns of Soviet ground forces in Central Europe.

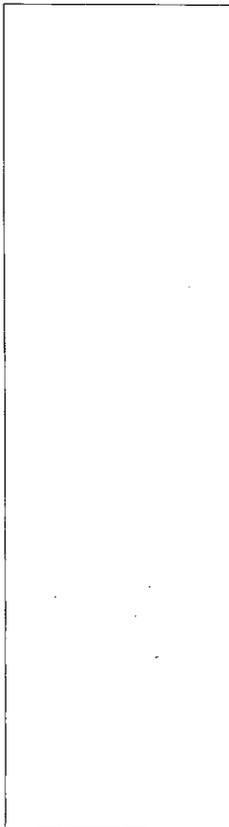




### Readiness of Soviet Forces in Central Europe: Implications for a Rapid Transition to War

#### Key Judgments

*Information available as of 31 July 1987 was used in this report.*

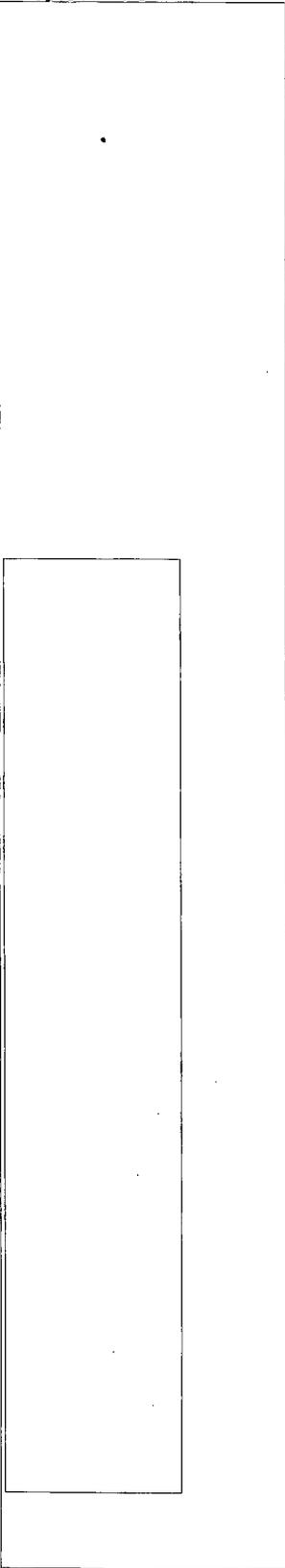


Since the mid-1960s, and especially in the last decade, the Soviets have made significant improvements to their forces in Central Europe. These improvements are designed to raise the peacetime readiness posture and combat power of the forces and to make them more suitable for protracted nonnuclear war. Progress has been most pronounced in weapons modernization, logistics, and command and control:

- The Soviets have established  the command structure (that is, the High Command of Forces) necessary to direct the full preparation of all theater forces in the Western Theater of Military Operations. This headquarters—which would, in time of emergency, assume command of all forces, Soviet and non-Soviet, in the theater—would relieve the Soviet General Staff of much of the burden of managing the mobilization and deployment of these forces.
- The combat power of Soviet theater air and ground forces has improved markedly through the introduction of larger numbers of more modern weapons. In East Germany the typical Soviet maneuver division has roughly 25 percent more combat power than in 1975, and Soviet tactical air regiments there are currently being reequipped with the newest generation aircraft.
- Since the mid-1970s the Soviets have augmented their logistic stockpiles in East Germany to a level that, by Soviet standards, is sufficient to support combat operations of a force twice as large as that now in place for 60 to 90 days. These levels are such that the Soviets would probably not need to burden their lines of communications with large quantities of bulky supplies before hostilities began. 

In part, these improvements in preparedness were made because the Soviets had come to believe that a war with NATO was likely to be fought initially with only nonnuclear weapons and that conventional conflict might be protracted. During the early 1960s, the Soviets had expected war to either begin with large-scale nuclear exchanges or to escalate quickly from conventional to nuclear conflict. Thus, the forces of that period were configured mainly to fight a nuclear war. But with the development of a NATO doctrine stressing "flexible response" and the advent of NATO conventional force modernization during the early and mid-1970s, the Soviets began to view a war with the West as increasingly likely to involve





a protracted conventional conflict. Their military writings indicated that they saw the changes in NATO strategy and force improvements as threatening the USSR's security position in Central Europe, because their forces in the region were not sufficiently prepared to take part in sustained conventional operations—a condition they undertook to correct. [redacted]

One consequence of the changes they have made to their forces in Central Europe, however, has been a sizable increase in the manpower that must be mobilized to bring these forces to full strength. We estimate that Soviet air and ground forces in Central Europe total slightly more than 500,000 men. This is about 25 percent less than intended wartime strength. While the number of personnel assigned to these forces has remained roughly constant during the last 10 years, the number of wartime personnel slots has grown substantially with the enlargement of the structure of divisions and the addition of more support units. As a result, the gap between the force's intended wartime strength and its peacetime assigned manpower has widened significantly over the past decade. [redacted]

Although Soviet aircrews, tank battalions, and surface-to-air and surface-to-surface missile units are close to their wartime manning levels, and are fully equipped, most of the other units, which are also fully equipped, have sizable personnel shortages ranging from 15 to 85 percent of their intended wartime manpower. For example, motorized rifle and tank divisions today are manned at 80 to 85 percent of intended wartime levels, compared with about 90 percent in the 1970s. Peacetime manning levels in support units such as front-level hospital bases, ammunition depots, and heavy engineer construction brigades are considerably lower—typically ranging from about 15 to 30 percent of intended wartime strengths. [redacted]

By distributing their peacetime manpower in Central Europe as they have, the Soviets are able to maintain the structure for a larger wartime force in a status that permits the force to be fleshed out with reservists in less time than would be needed to transport whole new military units from the USSR. The Soviets' decision to maintain theater forces in peacetime substantially below full wartime readiness levels is consistent with their appreciation of NATO's modest level of peacetime military preparedness and their expectation that an extended period of rising political tension would precede hostilities with NATO, providing the Pact with enough time to mobilize and integrate reservists and deploy forces in the region. [redacted]



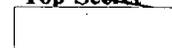
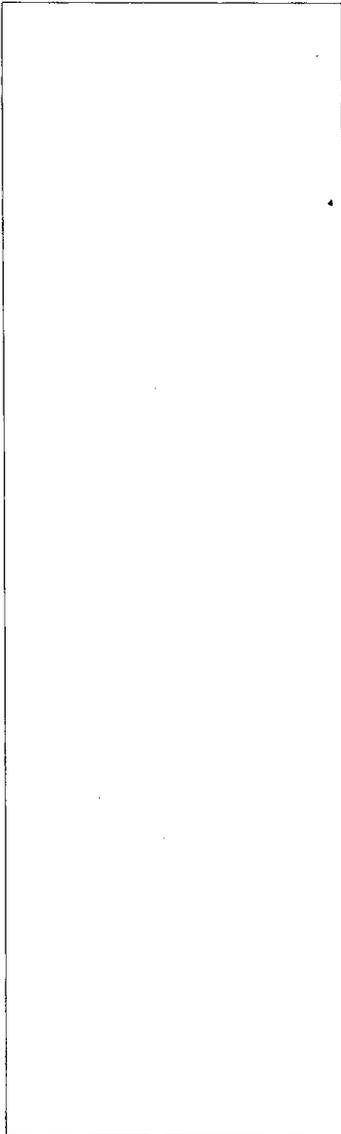


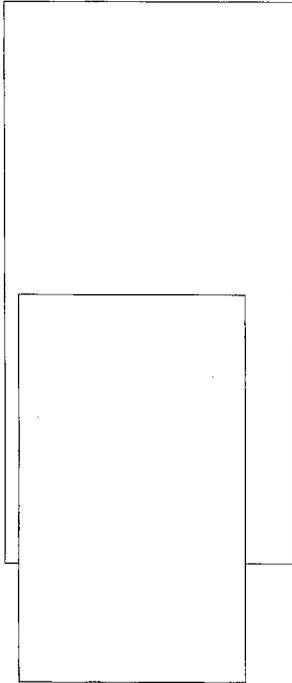
To fully prepare Soviet forces in Central Europe for combat operations at full wartime strength, we estimate the Soviets would need to augment them with some 170,000 reservists, most of whom would be called up inside the USSR and transported to Central Europe. This process would take from one to two weeks, depending primarily on the extent to which it received priority for use of airlift. Furthermore, to achieve an acceptable degree of coherent military organization and effectiveness, the Soviets would need at least an additional week or so to integrate the reservists into the force and conduct some training. Given these considerations and assuming the relatively smooth functioning of the mobilization process, we estimate that the Soviets would need at least two to three weeks to prepare fully their forces in Central Europe for sustained offensive operations at planned wartime strength.



The Soviets would attempt to conceal preparations for a general war in Europe in order to achieve some degree of surprise. We think, however, that, unless they feared an imminent attack or believed that further delay would permit NATO to achieve a potentially decisive strategic advantage in mobilization, they would be unwilling to accept the risks of committing to combat unprepared, understrength forces lacking sufficient size and logistic infrastructure to sustain large-scale offensive operations. Consequently, we judge that they would be unlikely to go to war without completing most, if not all, of these steps required to flesh out and prepare their forces.

We cannot rule out the possibility that during a crisis the Soviets might choose to launch a preemptive attack on NATO without taking time to prepare fully their forces in Central Europe. They might, for example, mistakenly conclude that precautionary military steps taken by NATO during a period of political tension were precursors to a short-warning attack against the Warsaw Pact. Available Soviet military writings do not indicate that the Soviets either have plans for or rehearse preemptive conventional attacks with little or no time given to prepare their forces.





Soviet theater forces now in place in the region give the Warsaw Pact the ability to meet a sudden attack with formidable military power. We judge that, without prior warning, the Soviets could alert these forces, arm and supply them with essential materials, and organize and deploy them for combat in a hastily constituted but effective defensive posture in about one or two days. 





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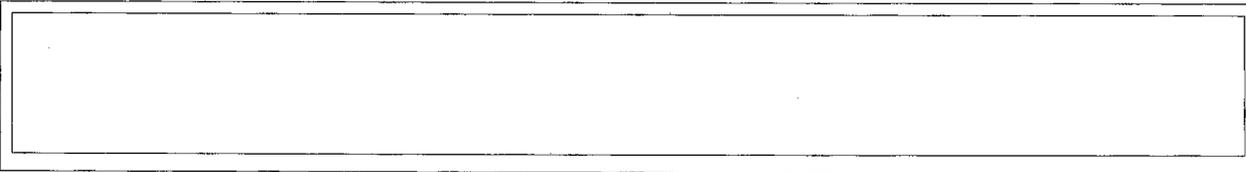
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Implications for Warning

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## Readiness of Soviet Forces in Central Europe: Implications for a Rapid Transition to War

### The Strategic Context of Soviet Readiness Policy

#### Soviet Military Posture

The Soviet military posture has evolved over the past two decades along with changes in the Soviets' perception of the likely nature of a NATO-Warsaw Pact conflict. Voluminous Soviet writings confirm that by 1960 the Soviets had adopted a military doctrine that assumed war would be nuclear from the outset or at least would quickly escalate to massive nuclear exchanges. This doctrine was used by Nikita Khrushchev to justify massive cuts in conventional theater forces at the same time that the development of large strategic nuclear attack forces was being emphasized.

By the late 1960s, after the ouster of Khrushchev and in response to NATO's adoption of its "flexible response" strategy, which called for a capability to defend (at least initially) with conventional weapons alone, the Soviets began to modify their own concepts for war with NATO. They judged that there was an increased possibility that such a war could begin and go on for some time without nuclear weapons being used. In reaction to these shifts in doctrine, the Soviets initiated the restoration of their conventional war-fighting capabilities that they had abandoned about 10 years earlier. By the mid-1970s this trend was accelerated, both because of the Soviets' growing expectation that conventional conflict might be protracted and also in response to a substantial buildup in NATO's own conventional capabilities. The major improvements in Soviet conventional war capabilities were strongly supported by the late Marshal Ustinov as Minister of Defense and Marshal Ogarkov as Chief of the General Staff, both of whom made improved combat readiness a priority issue from the beginning of their tenure.

#### Buildup of Soviet Conventional Capabilities

The importance of developing staying power for fighting a protracted conventional war, with the resulting emphasis on maneuver and fire-support units (both

ground-based and aerial), can be seen in the changes in the size of Soviet theater forces' weapon inventories in Central Europe (see figure 1).<sup>1</sup> Since the mid-1960s, for example, the Soviets have embarked on a number of reorganizations of their ground maneuver divisions designed to protect and complement the tanks in these formations and to provide maneuver unit commanders with a balanced, lethal array of mobile weapons necessary for combined-arms operations against NATO's antiarmor forces.

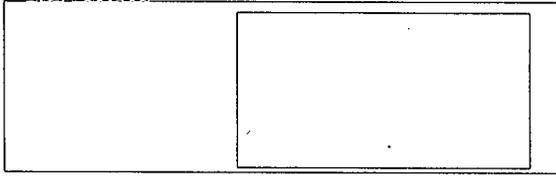
Through restructuring and reorganization, the Soviets have nearly doubled the amount of armored infantry troop carriers and artillery pieces fielded with their ground forces in Central Europe since the mid-1970s. Complementing these ground forces trends, the proportion of Soviet fixed-wing aircraft dedicated to ground attack (as opposed to air-to-air) roles has increased since the mid-1970s from about one-third to one-half of the inventory. Also, starting in the early 1970s, one of the more dramatic developments in Soviet aviation in Central Europe has been the introduction of attack helicopters to expand the aerial fire-support capabilities of theater forces in this region.

#### Readiness System

##### Definition of Readiness

The Soviet military encyclopedia defines combat readiness as the degree to which a unit or force is prepared in peacetime to carry out its wartime combat missions and functions. The Soviet readiness system prescribes that, in peacetime, formations and units have an extant command and control structure and

<sup>1</sup> We use the term "Central Europe" to define the western part of the Warsaw Pact's Western Theater of Military Operations—Poland, East Germany, and Czechoslovakia. It excludes Hungary, where Soviet theater forces are also stationed.

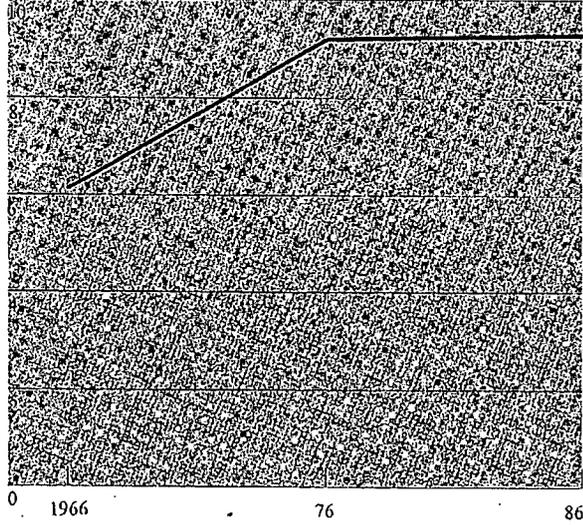


**Figure 1**  
**Growth of Soviet Combat Equipment in Central Europe**

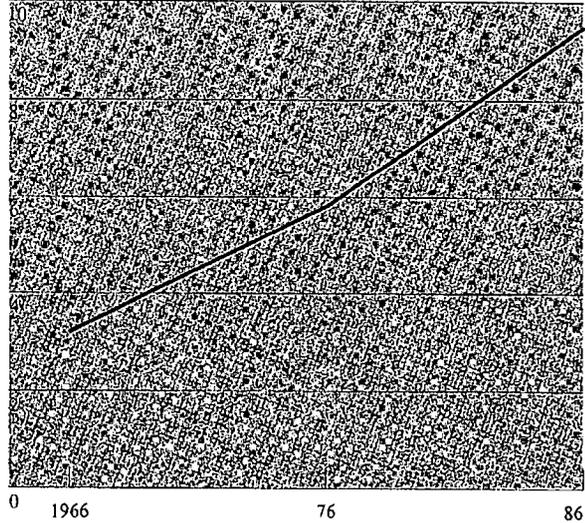
Thousands

Note Scale Change

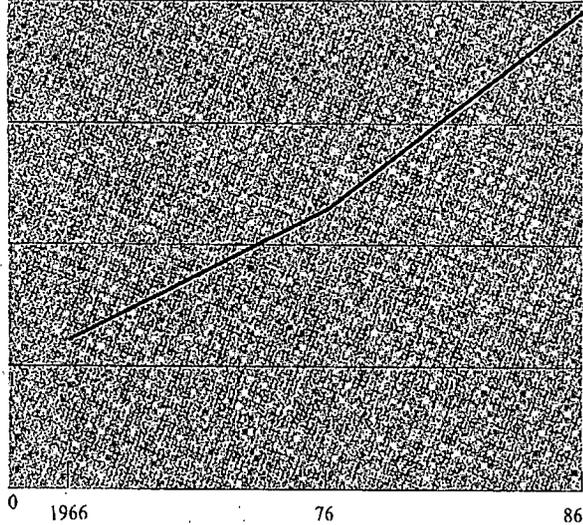
Tanks



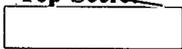
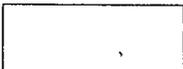
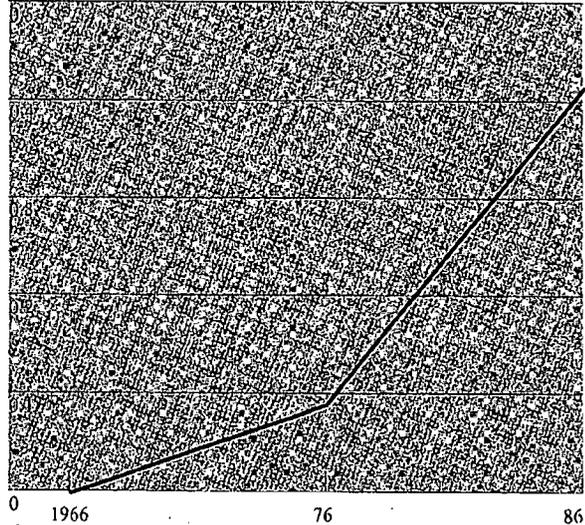
Troop Carriers



Artillery



Attack Helicopters



certain levels of weapons and equipment, logistic stocks, manpower, and combat and political training. The Soviets measure combat readiness according to these interrelated factors, which they consider to be crucial elements of a unit's or force's readiness to undertake combat operations. Soviet practice is to maintain a force at relatively high readiness opposite areas of threat—such as Central Europe—while holding a large number of less ready units, which could be prepared for war as time permits, within the USSR.

The Soviets divide ground forces into two broad readiness categories: units that are "ready" in peacetime and those that are not (see table 1). Their military writings indicate that a ground combat unit is considered ready if it has a full set of combat equipment, sufficient personnel to commit at least 70 percent of its major weapon systems to battle, and has conducted a full or nearly full unit training program. The manpower associated with fielding about 70 percent of a unit's major weapons would represent about half of the unit's intended wartime strength. "Not-ready" ground forces units have fewer men assigned in peacetime (typically less than 50 percent of wartime strengths) and generally fewer and less modern weapon systems. Also, because of lower peacetime manning levels, not-ready ground units are not able to conduct a full training program. The Soviet system can be roughly compared with the Western practice of maintaining a standing army and a reserve force. The Soviet ready units constitute a standing army, and the not-ready units are analogous to a reserve army.

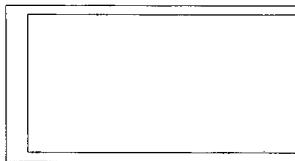
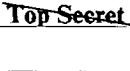
#### **Structure of the Western Theater of Military Operations**

The Soviets divide the large geographic zone in the west into several theaters of military operations.<sup>3</sup> A

land theater of military operations is a specific territory within which armed forces conduct strategic operations. Soviet forces currently located in Central Europe are part of the Western Theater of Military Operations (WTMO). (See figure 2.)

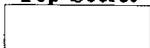
Theater forces in the WTMO—both Soviet and non-Soviet Warsaw Pact (NSWP)—would be controlled by a High Command of Forces. This is an intermediate command between the Supreme High Command in Moscow—which would be activated for war—and the front commands. In peacetime the High Command of Forces in the WTMO links the Soviet General Staff with Soviet forces in Central Europe and two western military districts in the USSR.

Soviet planning for the WTMO envisions offensives along three main axes of advance (see figure 3). Military writings suggest that, at least initially, the Warsaw Pact might organize its air and ground forces into three fronts in the first strategic echelon (the Soviet-East German, the Polish-Soviet, and the Czechoslovak-Soviet fronts), and those forces in the western USSR into two fronts in the second echelon (the Belorussian and the Carpathian fronts). The number of fronts would vary: in extreme circumstances fewer fronts would be available; if time permitted the Soviets might concentrate more than five. The five-front force would have some 94 active ground maneuver divisions (of which two-thirds would be Soviet) plus naval and air forces support involving some 5,800 fixed- and rotary-wing aircraft, counting possible reinforcements. A force of this size probably would fulfill the Soviets' conservative doctrinal requirements. It would consist of Soviet and East European ground and air forces units in East Germany, Poland, and Czechoslovakia and Soviet ground and air forces from the Belorussian and Carpathian Military Districts. Soviet air and ground forces in the Baltic Military District could serve as a reserve for the WTMO.



**Table 1**  
**Characteristics of Soviet Ground Forces Maneuver Divisions**

Russian Terminology and Translation	Description	Manning	Equipment	Training Program
<i>Razvernuta</i> (ready or deployed; literally, expanded)		55 to 100 percent	Full equipment sets	Full or nearly full
<i>Diviziya pervogo otryada</i> (first-line division); <i>diviziya polnogo sostava</i> <sup>a</sup>	First-line division at full strength outside USSR; Type 1, A, A1	Full or nearly full manning	USSR's most modern equipment types	Full
<i>Diviziya vtorogo otryada</i> (second-line division); <i>v postoyannom sokrashchenny</i> <sup>a</sup>	Second-line division near full strength inside USSR; in constant readiness but at reduced strength inside USSR; Type 2, A2, or B	55 to 85 percent		At least 75 percent of full program
<i>Pridvornaya</i> <sup>b</sup> (elite)	Level 1	About 70 to 85 percent; motorized rifle divisions may have one motorized rifle regiment near full strength, others at reduced strength	Has the USSR's most modern equipment types; often receives new equipment before first-line divisions	At least 75 percent of full program
Unknown	Level 2	55 to 70 percent; motorized rifle divisions may have one motorized rifle regiment near cadre strength, others at least at reduced strength	Adequate equipment of recent vintage	All except the cadre motorized rifle regiment conduct at least 75 percent of full program
<i>Nerazvernuta</i> (not expanded; not deployed; not filled up)	Not ready	Up to 40 percent	Often has equipment shortages; generally has older equipment types	Curtailed
<i>Kadrirovannaya diviziya</i> (cadre division); <i>Tipa V</i>	Type 3, B, C	5 to 40 percent; officer slots at company level and above are filled; FROG battalion is "expanded"		
Unknown <sup>c</sup>	High-strength cadre	25 to 40 percent; in motorized rifle divisions with this manning, one motorized rifle regiment will be manned at reduced-strength "expanded"	Often has shortages of support equipment and armored personnel carriers; tank divisions in western military districts are equipped with modern T-64 and T-72 medium tanks	Limited to battalion level or below except in the "expanded" motorized rifle regiment, which can conduct regimental training





**Table 1**  
**Characteristics of Soviet Ground Forces Maneuver Divisions (continued)**

Russian Terminology and Translation	Description	Manning	Equipment	Training Program
Unknown	Low-strength cadre	10 to .20 percent	Units in this category tend to be motorized rifle divisions; tend to have shortages of support equipment and armored personnel carriers; older equipment predominates; few currently have modern T-64 or T-72 medium tanks	Limited to company level or below
<i>Polnostyu kadrirovannaya</i> (completely cadre)		About 5 to 10 percent; officers predominate, enlisted personnel available primarily to maintain equipment	Most units in this category are motorized rifle divisions; major equipment deficiencies, few wheeled support vehicles and armored personnel carriers; older equipment	No unit training, some individual training
<i>Diviziya vtorogo formirovaniya</i> (second-formation divisions)	Mobilization-base divisions	No manning; officers predesignated from collocated manned divisions	Major shortages of equipment, including combat equipment; equipment is older, obsolete	No peacetime training

<sup>a</sup> These are among the terms most frequently used [redacted] in describing *razvernutyaya* units.

[redacted] further identified these divisions as *polu-kadrirovannaya* (half cadre) and *polu-razvernutyaya* (half deployed).

<sup>c</sup> One division in this group was identified [redacted] as *polu-kadrirovannaya* (half cadre).

Note: The agreed NATO categorization system for all Warsaw Pact divisions is as follows:

[redacted]	US Categories	Percent of Manning
Ready	A	75 and above
	(A1)	(95 and above)
	(A2)	(75 up to 95)
Not ready	B	50 up to 75
	C	5 up to 50
	(C1)	(25 up to 50)
	(C2)	(5 up to 25)
	D	0 up to 5

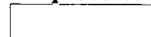
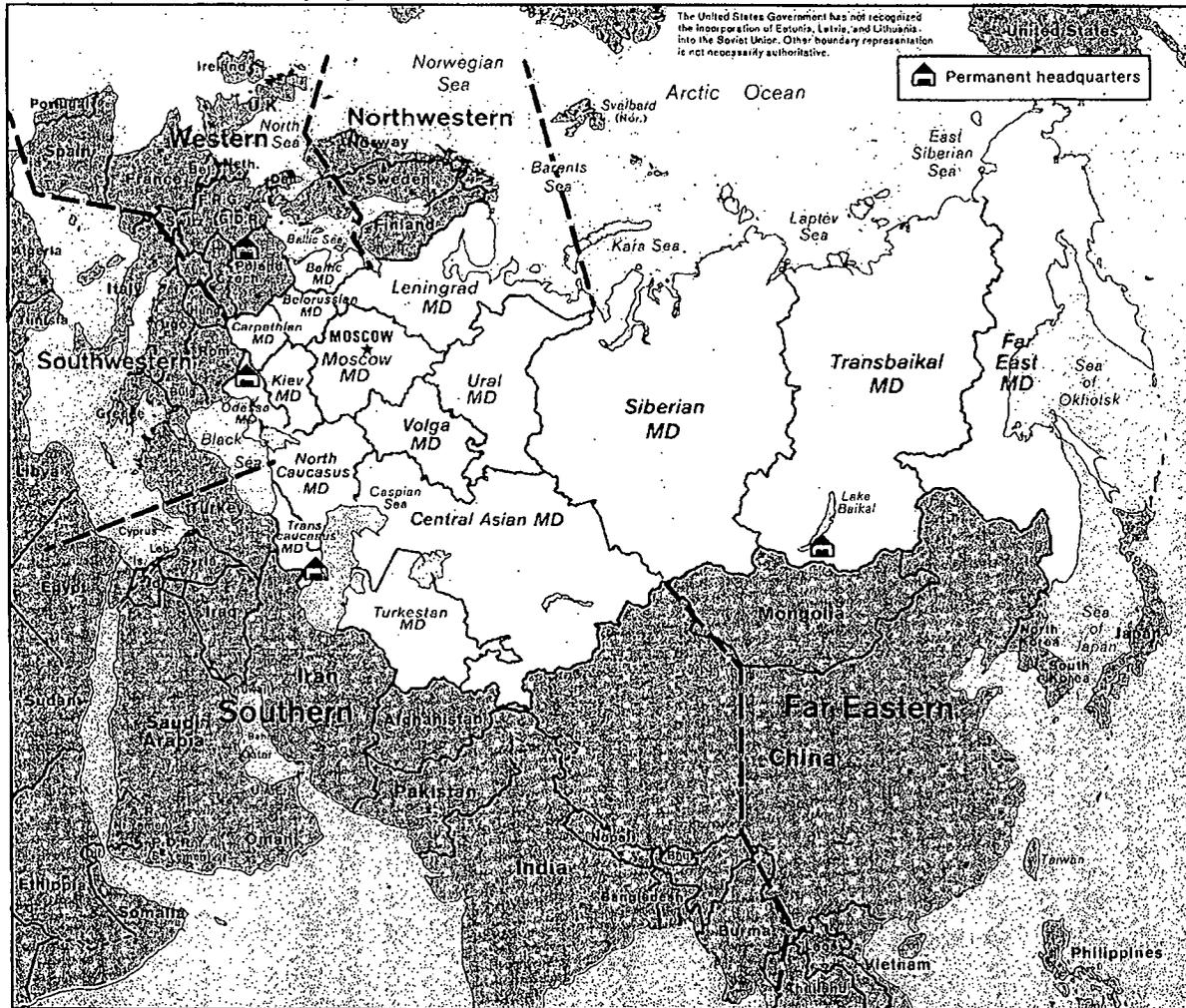




Figure 2  
Soviet Theaters of Military Operations

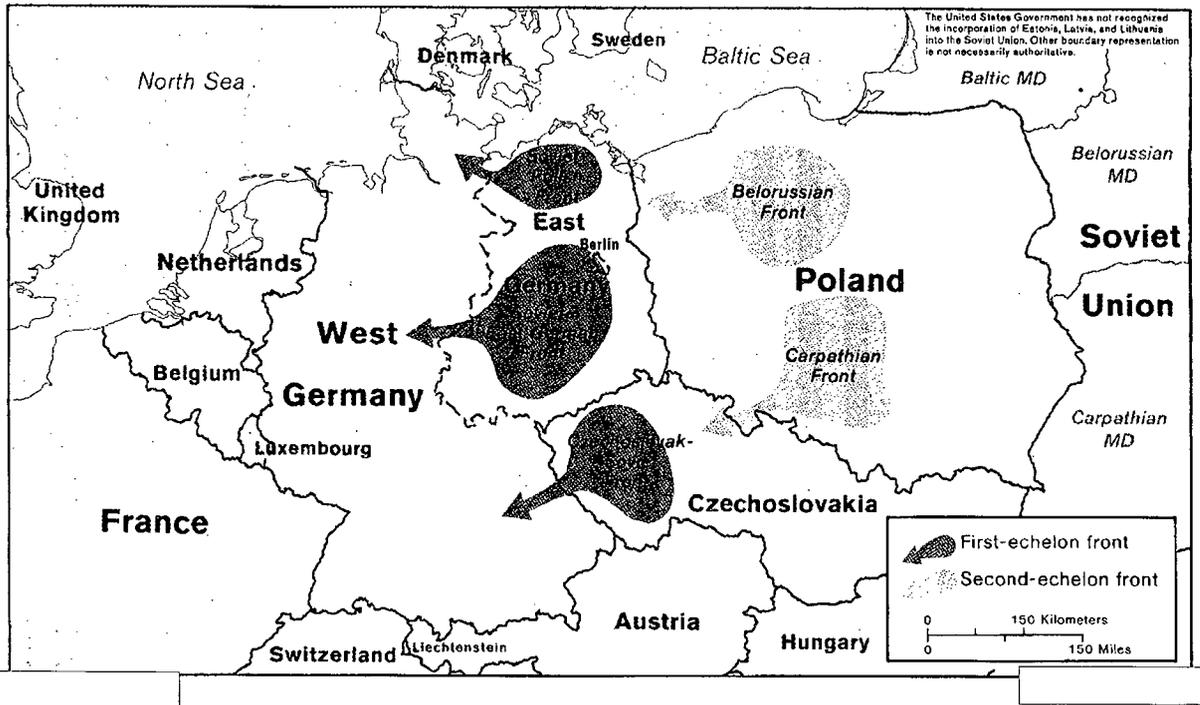


High Commands for Soviet Theaters of Military Operations (Peacetime Organization)

Theater:	Western	Southwestern	Southern	Far Eastern
CINC:	Marshal Ogarkov	General Gerasimov	General Zaytsev	General Voloshin
Location:	Legnica	Kishiněv	Baku	Ulan-Ude
Forces: <sup>a</sup>	<ul style="list-style-type: none"> <li>• Belorussian MD</li> <li>• Carpathian MD</li> <li>• Soviet forces in Ger. Dem. Rep. Poland</li> <li>• Czechoslovakia</li> <li>• Baltic Fleet</li> </ul>	<ul style="list-style-type: none"> <li>• Odessa MD</li> <li>• Kiev MD</li> <li>• Soviet forces in Hungary</li> <li>• Black Sea Fleet</li> <li>• Mediterranean Flotilla</li> </ul>	<ul style="list-style-type: none"> <li>• Transcaucasus MD</li> <li>• North Caucasus MD</li> <li>• Turkestan MD</li> <li>• Central Asian MD</li> <li>• Soviet forces in Afghanistan</li> <li>• Caspian Sea Flotilla</li> </ul>	<ul style="list-style-type: none"> <li>• Siberian MD</li> <li>• Transbaikai MD</li> <li>• Far East MD</li> <li>• Soviet forces in Mongolia</li> <li>• Pacific Fleet forces with theater missions</li> </ul>

<sup>a</sup> Forces in the remaining military districts are under the direct control of the General Staff.

Figure 3  
Warsaw Pact Five-Front Attack Force in the Central Region



Each of the several fronts designated to participate in the WTMO's strategic operations would have a subordinate air force made up of fighter, ground attack, and reconnaissance aircraft. These front air forces would include the front- and army-level army aviation forces. The composition of the individual fronts' air forces could vary through allocation of air regiments among them by the High Command of Forces in the WTMO.

On the basis of an extensive review of satellite imagery, [redacted] we judge that in the Western Theater of Military Operations 33 of the 63 Soviet motorized rifle, tank, and airborne divisions are in the "ready" category. Of these, the best prepared are the 26 in Central Europe, where Soviet interests are critical and where an indigenous Soviet population is not available for mobilization.

Our analysis of [redacted] classified military writings indicates that the 23 Soviet tactical air regiments already in place in Central Europe are intended to support wartime operations of the three first-echelon fronts in the WTMO. These regiments have nearly 900 fixed-wing tactical aircraft. They account for approximately 90 percent of the front aviation component of the combined air forces for the Soviet-East German front and more than 25 percent of those for the Czechoslovak-Soviet front. Analysis [redacted] indicates that Polish tactical air forces will constitute nearly all Polish-Soviet front aviation during wartime.

In addition to the front aviation forces, major elements of the 4th Tactical Air Army of the Soviet High Command based in Poland in peacetime also

would be committed with first-echelon forces in a war with NATO. These six regiments have some 230 fighter and light bomber aircraft, which we assess are at the same level of readiness as Soviet aviation regiments in East Germany. [redacted]

**Key Elements of Readiness**

The Soviets' concept of readiness incorporates observable criteria—encompassing all the key components of command and control, equipment, logistics, manpower, and training—by which a unit's readiness status can be judged. These criteria, in turn, are further broken down into those activities that can be timed, counted, or measured. The Soviets have established and published training directives, service manuals, and catalogues of detailed standards that govern how commanders should manage their units' readiness relative to these criteria. [redacted]

**Command and Control**

**Theater High Command.** To ease the process of preparing for war against NATO, the Soviets have established in peacetime the command structure necessary to direct and coordinate the preparation of the entire Western Theater of Military Operations. The establishment in 1984 of the High Command of Forces in the WTMO ensures that the theater commander can focus from the outset on preparing and deploying forces for war, rather than having to direct his attention to the formation of the theater's wartime command structure. [redacted]

[redacted] we expect its commander and staffs to develop the kind of operational expertise over the next few years that would be necessary for the headquarters' effective deployment of its large subordinate force groupings in wartime. [redacted]

Without the formation of the High Command of Forces in the WTMO, the responsibility for managing the process of going to war would fall mostly on the commands of the three groups of forces in Central Europe and of at least two, possibly three, of the

military districts in the western USSR. With only the Headquarters of the Supreme High Command and its executor—the Soviet General Staff—available to coordinate and direct the efforts of these five commands (as well as major commands in other regions), the large span of control would impede the ability of the Supreme High Command<sup>4</sup> to effectively manage the full range of preparatory activities required by the forces. Furthermore, the Soviets argue in their military writings that an excessive span of control would not permit the Supreme High Command to focus on strategic questions that might arise during war. [redacted]

**Fronts.** In the Western Theater of Military Operations, in addition to the High Command of Forces, the essential parts of front headquarters and all components of army-level headquarters are in place in Central Europe and actively direct and coordinate the peacetime functions of subordinate forces. [redacted]

<sup>4</sup> Normally, this general headquarters does not exist in peacetime. During World War II, the Supreme High Command was the highest military authority, formed from selected senior political and military leaders, and was tasked with fulfilling the strategic goals set by the Soviet political leadership. On the basis of Soviet practice during World War II, we would expect any future Soviet Supreme High Command to assume full responsibility for developing and carrying out the strategic plans for all Soviet and non-Soviet Warsaw Pact armed forces. Some of its more important tasks probably would include the assignment of strategic objectives to theater high commands, the determination of the size and composition of the large strategic formations responsible for accomplishing these objectives, and the formation and preparation of strategic reserves and national-level logistic support. The Supreme High Command's executive agent, through which it would both plan and implement its decisions in wartime, would be the Soviet General Staff. [redacted]



the newest equipment models in significant numbers. Because of the priority accorded Soviet forces in the region, equipment for combat units is maintained in peacetime at intended wartime levels and requires no augmentation.

Over the last 10 years, the Soviets have markedly improved the combat power of their air and ground units by introducing increasingly more capable weapon systems. The typical Soviet division in Central Europe today has roughly 25 percent more combat power than the average ground maneuver division of the mid-1970s.<sup>7</sup> This has been achieved by:

- Fielding tanks that are capable of firing a missile through the main gun and that incorporate special armor to enhance survivability.
- Increasing the number of infantry fighting vehicles equipped with both a main gun and an antitank guided-missile launcher.
- Including 122-mm artillery howitzers in the standard organization of tank regiments.
- Increasing the size of weapon holdings in some units.

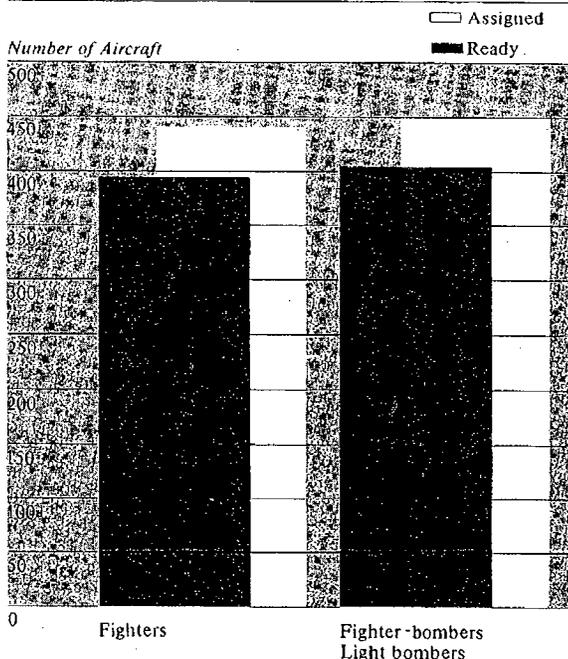
Also, fighter regiments are being reequipped with aircraft such as the MIG-29 Fulcrum that have true lookdown/shootdown radars and missiles, an adverse-weather capability, and considerably better maneuverability than those fielded in the mid-1970s.

The Soviets assure the immediate availability of unit combat equipment in their theater forces through two primary means: low peacetime equipment utilization rates (due in large part to both training and storage practices) and, apparently, satisfactory maintenance procedures. Although there is some evidence that these practices and procedures are not always enforced, we believe most Soviet units are prepared to meet wartime equipment requirements.

**Tactical Aircraft.** Soviet tactical air regiments in Central Europe are normally equipped with their full wartime complement of 40 to 45 aircraft.

<sup>7</sup> The typical division's combat power was calculated using a methodology that takes into account both the number of weapon systems and their "qualitative" value.

**Figure 4**  
**Soviet Aircraft Readiness in Central Europe\***



\* These levels reflect Soviet perceptions of readiness and are not necessarily comparable to US categories of readiness (mission capable and full mission capable).

reports since the mid-1970s indicate that by Soviet standards these regiments have consistently maintained an aircraft operational readiness rate of 90 to 95 percent, suggesting that they would have a large force of aircraft available for operations on short notice (see figure 4). Moreover, the maintenance and operating practices in these units are well suited for keeping a high percentage of their aircraft combat ready by limiting operations to three flying days per week, separated by at least one

maintenance day, and by limiting unit maintenance to scheduled inspection and replacement of parts and equipment.

Despite the Soviets' apparent success in maintaining high operational readiness rates, they have been searching for ways to further improve unit readiness and increase the amount of maintenance work performed in regiments. Unclassified Soviet writings indicate that the current system of scheduling routine inspections and maintenance on the basis of hours flown has two major shortcomings:

- Over the course of the annual training cycle, aircraft operating rates fluctuate substantially because of seasonal and operational constraints. Periodically this leads to a surge in maintenance requirements that maintenance units have difficulty meeting. The Soviets complain about the consequent large backups of aircraft awaiting required inspections and maintenance.
- As a result of these backups, regimental commanders are forced to fly the few remaining aircraft more frequently to meet operational requirements, and this causes these aircraft to accumulate operating hours more rapidly than normal, thus compounding maintenance problems.

In their writings the Soviets indicate that they believe the solution is to adopt maintenance and repair procedures based on equipment condition and a calendar timetable—rather than hours of operation. The Soviets also expect to alleviate their problems by fielding more modern, new-generation aircraft with modular engines and avionics components that extensively incorporate built-in test systems. Systems of this design generally improve field maintenance capability by allowing fault diagnosis and component replacement to take place directly on the aircraft. Soviet writings, however, cite the high cost of sophisticated testing equipment and the increased level of technical understanding required of both officer and enlisted personnel as two of the major problems in maintaining sophisticated combat aircraft at the squadron level.

Unclassified Soviet writings indicate that, because of high annual personnel turnover rates and the lack of equipment, it is virtually impossible to establish permanent maintenance and inspection teams within the squadrons. This suggests that maintenance of newer combat aircraft will be more centralized at the regimental level, where sophisticated testing equipment, adequate stocks of replacement components, and more skilled technicians are likely to be found, leaving squadron personnel to focus on rapid aircraft turn-around. According to Soviet writings, a recent panel of senior air force maintenance and engineering officers indicated that abbreviating the time required to prepare combat aircraft for training sorties was being seriously considered by air force commanders and service chiefs. Of particular concern was the greatly increased labor required to prepare newer generation aircraft for flight. This was due, in large part, to increases in payload capabilities and the complexity of armament systems.

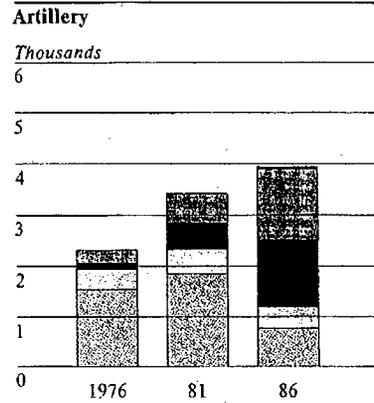
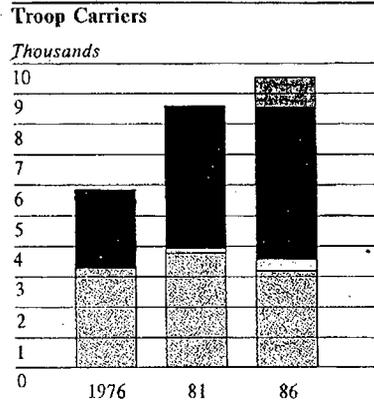
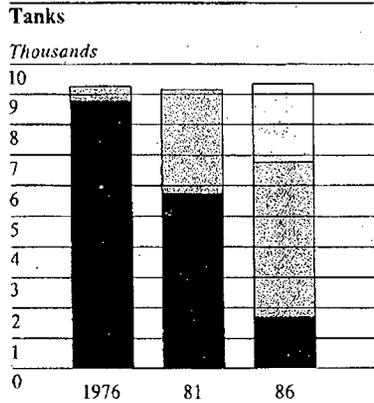
**Ground Forces Weapons.** Soviets ground forces equipment historically has been relatively simple to maintain and operate, and proven older equipment types are kept in service in Central Europe over extended periods as illustrated by the continuing use of such weapon systems as the T-62 medium tank and towed 122-mm howitzer. Although the Soviets attempt to maintain equipment homogeneity, the large size of the ground forces requires an incremental approach to modernization. Invariably, this results in a mixture of equipment throughout the force as well as in individual formations and units—particularly in lower strength units—which complicates equipment maintenance and the task of ensuring adequate stockage of spare parts and ammunition.

The impact of recent modernization programs on the Soviets' capabilities to maintain weapon homogeneity in their ground forces in Central Europe is shown in figure 5. For example, the conversion of field artillery from relatively simple-to-maintain towed pieces to more complex self-propelled systems greatly increases the number and type of spare parts that need to be

Figure 5  
Soviet Ground Forces Weapon Trends in Central Europe

Note Scale Change

- T-64B/80
- T-64/64A/72
- T-55/62
- BMP-2
- BMD-1/BMP-1
- BTR-70/BMD M1979
- BTR-152/50/60
- 203-mm SP
- 152-mm SP
- 122-mm SP
- 130-mm/152-mm towed
- 122-mm towed



stocked. The problems with spares and ammunition stockage that could attend the lack of weapon homogeneity would not prevent the ground forces in Central Europe from making a rapid transition to a wartime footing, but would impair Soviet ability to sustain combat operations over an extended period of time in a campaign against NATO.

The Soviets try to ensure their ground forces weapon systems are fully operational by maintaining stringent combat equipment conservation and storage practices. In Central Europe, they place about 60 to 85 percent of a unit's equipment in storage for varying periods during peacetime. This practice is designed to minimize consumption of petroleum, oil, and lubricants (POL) and ammunition, as well as reduce the wear

and tear on combat equipment. It also ensures the likelihood that combat equipment is maintained in a condition that permits it to be committed to sustained combat operations at any time. To ensure that equipment is prepared to operate for extended periods in combat, the Soviets require major weapon systems to have—at any given point in their life cycle—a certain reserve capacity for operations before they must undergo major scheduled maintenance or be replaced. Soviet military writings indicate that tracked armored vehicles, for instance, should reach the final departure area with a "reserve operating capacity" of about 2,000 to 3,000 kilometers.

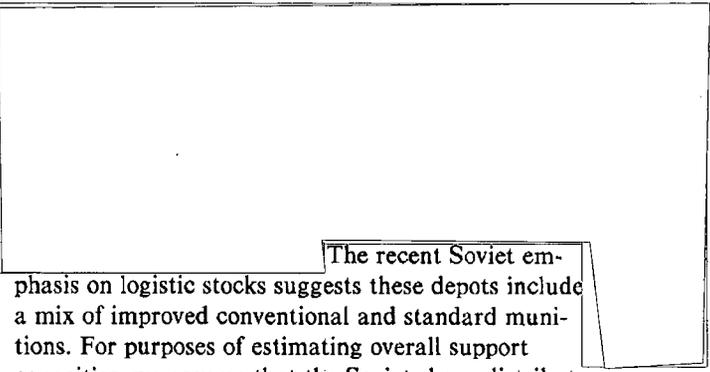
**Logistic Buildup**

The Soviet approach to military logistics in Central Europe is determined largely by two factors: the geographic separation of forward-based forces from their national logistic stocks and the Soviet belief that the initial stage of conventional war against NATO would require a substantial expenditure of munitions and supplies. Men, supplies, and equipment would have to move considerable distances, and the Soviets would have to rely on their allies for both railroad rolling stock and security of the lines of communication.

Soviet military writings indicate the Soviets expect a war with NATO would be fought at a high level of intensity, with both sides incurring large personnel and material losses. Soviet theater forces during initial wartime operations, especially if the war began with little warning, would rely almost exclusively on stockpiles of ammunition, POL, and other material already in place in Central Europe. Therefore, since the mid-1970s, the Soviets have emphasized the build-up of their forward-based stockpiles and their overall logistic capabilities.

**Front Support.** During the past decade in East Germany, the Soviets have expanded the overall logistic support base (including front-, army-, and unit-level stocks) of both air and ground forces in the area by:

- Building seven front-level fuel depots and expanding 34 others, providing a storage capacity of 600,000 metric tons (see figure 6).
- Constructing seven front-level ammunition depots and expanding nine others for an estimated storage capacity of 700,000 metric tons (see figure 7).
- Doubling the equipment available to form mobile equipment-repair units.
- Increasing their mobile field hospitals from 37 to 65.
- Modernizing their motor transport units with new trucks built with Western technology and establishing a reserve of as many as 12,000 older trucks.



The recent Soviet emphasis on logistic stocks suggests these depots include a mix of improved conventional and standard munitions. For purposes of estimating overall support capacities, we assume that the Soviets have distributed ammunition and POL stocks proportionately among their air and ground forces.

Using Soviet planning factors and assuming that the depots are filled to capacity, we estimate that the Soviets have enough combat supplies in East Germany alone to support more than twice their current in-place forces for two to three months during the initial phase of a campaign against NATO. These levels are such that logistics should not be a constraint on the rapid transition to war of these forces. This systematic investment in service support facilities and stocks reduces the Soviets' need to burden their lines of communication before hostilities begin with large quantities of bulky supplies. The availability of pre-positioned logistic stocks in the theater would facilitate the early movement to Central Europe of combat and combat support units and personnel from the USSR needed for the initial stages of a war against NATO.

**Combat Unit Stocks.** According to our calculations, Soviet tactical air regiments and ground maneuver divisions in East Germany could hold in their own depots as much as one-fourth of all ammunition and POL stocks stored in the area. By locating a substantial portion of the stocks with their combat units, the Soviets have provided these ground and air units with

Figure 6  
Front and Army POL Depots in East Germany

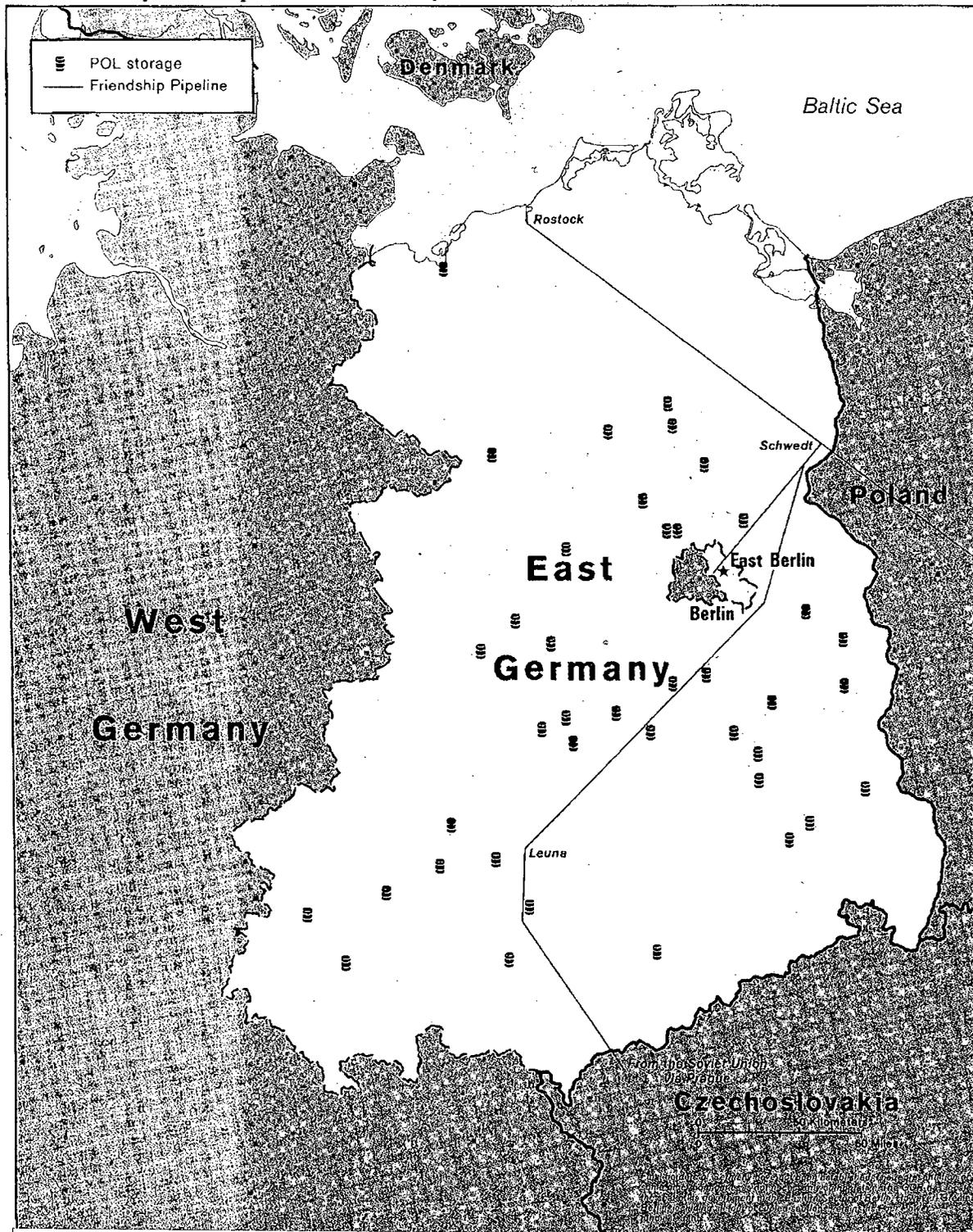
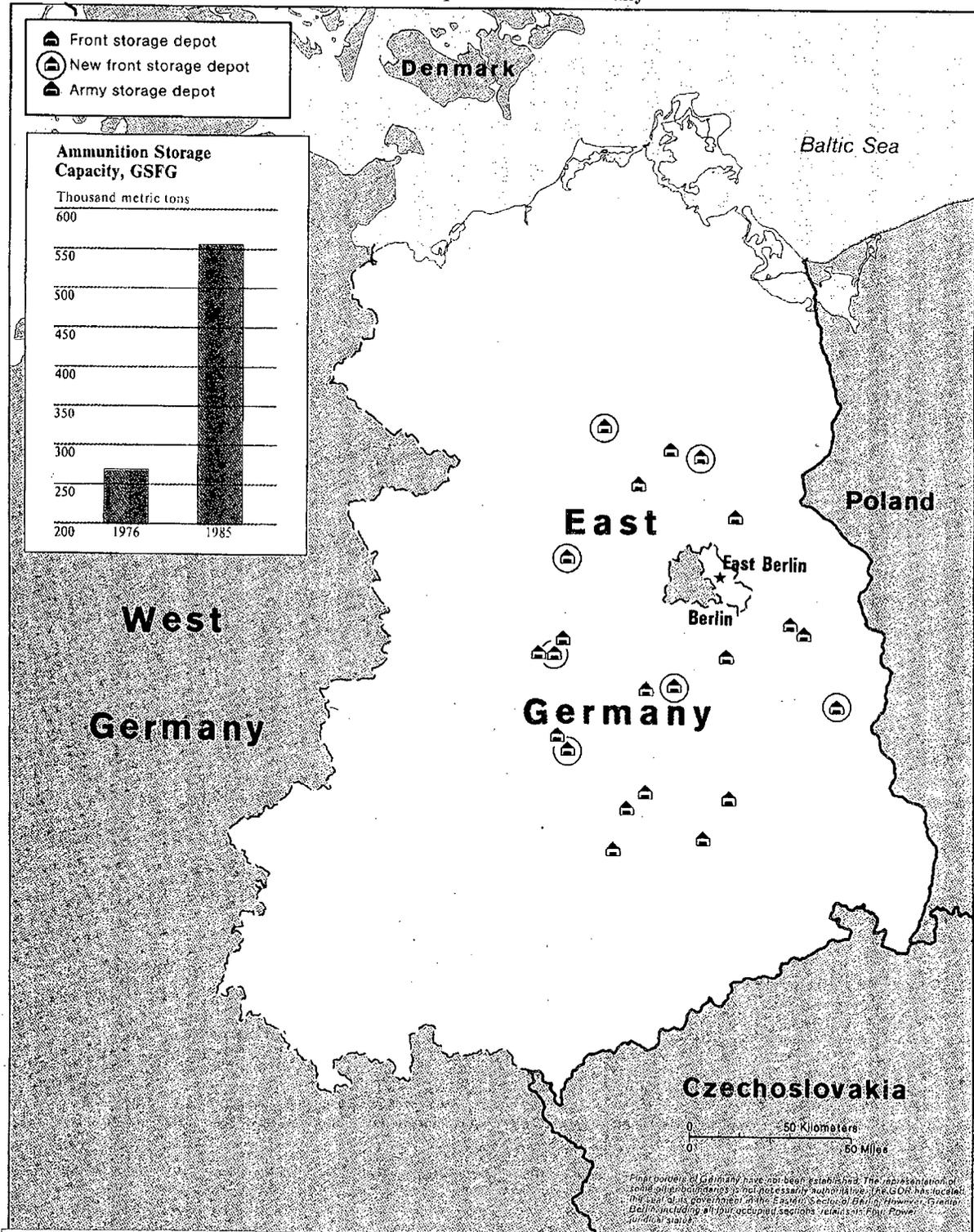


Figure 7  
Front and Army Conventional Ammunition Depots in East Germany



**Table 2**  
**Munitions and Fuel on Hand at**  
**Typical Soviet Tactical Air Regiment**

Air-to-air munitions	3 to 5 loadouts per aircraft
Air-to-surface munitions	5 to 7 loadouts per aircraft
Aviation fuel	5 refuelings per aircraft (about 7 sorties per aircraft)

the capability to sustain operations independent of higher echelon support—a capability that is critical for dealing with emergencies—for as long as a week:

- *Soviet air forces* in Central Europe would rely—during initial wartime operations—on stockpiles of ammunition, POL, and other expendables already in place at main operating bases. According to classified writings, tactical air regiments at these bases could sustain three to seven days of combat operations independent of front-level logistic support (see table 2).
- Ammunition stocks for *ground maneuver divisions* in Central Europe are stored in fixed facilities and may be kept loaded on vehicles. Satellite imagery of the Soviet divisions in East Germany indicate that ammunition depots are located at or near all division and regiment installations. A rough estimate of the total capacity of these depots suggests they could contain as much as 30,000 metric tons. Additionally, when taking into consideration the calculated capacities of cargo trucks, trailers, and combat vehicles that could be loaded with ammunition, the estimate could increase to as much as 154,000 metric tons.
- Maneuver division POL stocks in East Germany could amount to about 75,000 metric tons, given the number of POL depots assigned to divisions and the likelihood that these POL facilities probably hold enough fuel to fill the vehicles in the units.

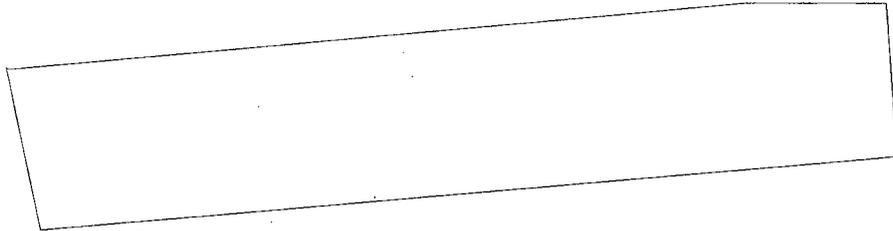
Using these estimates of POL and ammunition stockage levels and Soviet planning factors for rates of consumption, we estimate that Soviet ground maneuver divisions could sustain themselves without any

material support from higher headquarters for at least three to five days—depending on the intensity of conflict.

**Manpower**

**Managing and Monitoring Manpower.** An unclassified Soviet military manual reveals that unit commanders and their chiefs of staff are personally accountable to higher authority for manpower availability and mobilization planning. Most Soviet commanders directly monitor all aspects of manpower readiness, while leaving equipment readiness to their technical specialists. Manpower levels are monitored through unit rosters and readiness reports that focus on authorized and on-hand strength and training results. These status reports are prepared monthly and are reviewed and used by the mobilization and personnel directorates of the higher headquarters to determine whether forces have met specified readiness goals.

The peacetime manning levels of Soviet theater forces in Central Europe vary considerably depending largely on whether the units involved are combat or rear services support units. Combat units—such as ground maneuver divisions, surface-to-air missile (SAM) and surface-to-surface missile (SSM) brigades, and tactical air forces combat regiments—are normally kept at relatively high manning levels. Supporting units and many rear services units—for example, airfield technical battalions, POL and ammunition depots, and heavy construction units—are manned at much lower levels, in many cases below one-half of their intended wartime strengths.



forces. They are typically manned near full wartime levels. Furthermore, at least part of the SSM and SAM force is kept at a sufficiently high alert stage to respond within minutes to a launch order from higher authority.

Ground forces tank units up to regimental size are more fully manned and, correspondingly, more ready than the other maneuver units, such as motorized rifle

Similar manning practices have been noted in Soviet ground combat forces. The most ready Soviet ground force units in Central Europe are the SSM and SAM

**Table 3**  
**Estimated Manpower Changes in Typical Soviet Tank Division**

Manpower Category	Mid-1970s			1987		
	Peacetime Strength	Percent of Wartime T/O	Wartime Strength	Peacetime Strength	Percent of Wartime T/O	Wartime Strength
Combat maneuver units	5,000	93	5,350	5,850	89	6,600
Combat support units	2,750	89	3,100	2,500	85	2,950
Service support and headquarters	1,100	85	1,300	1,100	79	1,400
<b>Total</b>	<b>8,850</b>	<b>91</b>	<b>9,750</b>	<b>9,450</b>	<b>86</b>	<b>10,950</b>

battalions and regiments. The least ready units are in the rear services. Infantry, artillery, signal, and engineer units are at intermediate levels.

motorized rifle divisions are now maintained at about 80 percent of intended wartime strength and that tank divisions are manned at about 85 percent.

Like Soviet air forces in the region, most of the troops assigned to a ground force maneuver division are concentrated in critical skilled positions. For example, documentary evidence on tank crews—which are typically made up of three specialists: a driver/mechanic, a gunner, and a commander—shows these crews to be generally complete. The motorized rifle components and other supporting units of divisions, on the other hand, are manned at only 50 to 70 percent.

During the early 1980s, in a continuing effort to develop more powerful combined-arms formations, the Soviets expanded the structure and weapon holdings and, correspondingly, the prescribed wartime manpower or table of organization (T/O) of their ground maneuver divisions in Central Europe. This increase in structure was accompanied by an increase in the number of troops assigned to the units, but this

manpower growth was less than proportional to the growth in T/O (see tables 3 and 4). As a consequence the number of men required to bring the divisions to their full wartime strength has increased by about one-half, to about 50,000 men, since the mid-1970s (see table 5).

**Support Units.** In the air forces, peacetime manning gaps are particularly significant in the signals and radiotechnical battalion (OBSRTO) and the airfield technical battalion (OBATO).<sup>9</sup> These units are collocated with combat regiments at each tactical airfield and provide support to the combat operations of the regiments but are administratively subordinate to other authorities.

Many nondivisional ground forces rear services units also are manned at or below 50 percent of their intended wartime strength, according to documentary

<sup>9</sup> The signals and radiotechnical battalion provides communications and navigational support to regimental aircraft during flight operations, and the airfield technical battalion maintains runways, provides airbase logistic support to flight operations, and carries out routine airfield maintenance.

**Table 4**  
**Estimated Manpower Changes in Typical Soviet**  
**Motorized Rifle Division**

Manpower Category	Mid-1970s			1987		
	Peacetime Strength	Percent of Wartime T/O	Wartime Strength	Peacetime Strength	Percent of Wartime T/O	Wartime Strength
Combat maneuver units	7,200	89	8,100	7,400	83	8,900
Combat support units	2,900	88	3,300	2,800	81	3,450
Service support and headquarters	1,100	85	1,300	1,100	79	1,400
<b>Total</b>	<b>11,200</b>	<b>88</b>	<b>12,700</b>	<b>11,300</b>	<b>82</b>	<b>13,750</b>

**Table 5**  
**Summary of Manpower Changes in Soviet Maneuver**  
**Divisions in Central Europe**

Manpower Category	Mid-1970s			1987		
	Peacetime Strength	Percent of Wartime T/O	Wartime Strength	Peacetime Strength	Percent of Wartime T/O	Wartime Strength
Tank divisions	123,900	91	136,500	132,300	86	153,300
Motorized rifle divisions	145,600	88	165,100	135,600	82	165,000
<b>Total</b>	<b>269,500</b>	<b>89</b>	<b>301,600</b>	<b>267,900</b>	<b>84</b>	<b>318,300</b>

Note: The increase of some 8,400 men in the manpower assigned to tank divisions in peacetime over the past 10 years was more than offset by the decrease in the number of motorized rifle divisions from 13 to 12, a reduction of some 10,000 men.

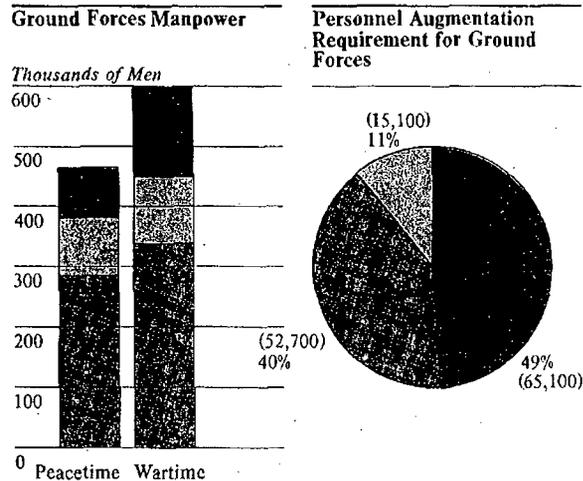
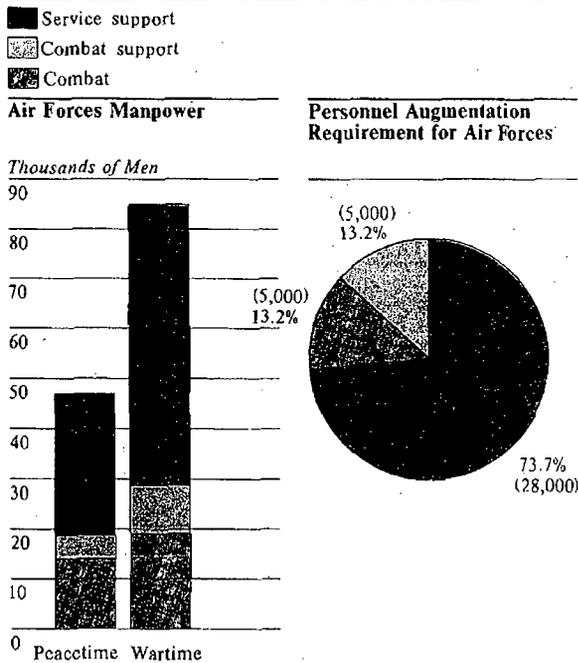
evidence, manpower rosters [redacted] Sensitive Soviet military writings from the late 1960s and 1970s, furthermore, indicate that the logistic units responsible for moving army- and front-level supplies from depots to combat forces could be manned in peacetime at approximately 45 to 50 percent and 30 to 40 percent of prescribed wartime strengths, respectively. [redacted]

[redacted] we estimate that Soviet air and ground forces in Central

Europe total slightly more than 500,000 men. This is about 25 percent less than their intended wartime strength. [redacted]

The evidence from all these same sources indicates that these forces will require substantial personnel augmentation to achieve full wartime readiness. We calculate that some 170,000 men would be required to bring Soviet air and ground forces to prescribed

Figure 9  
Soviet Forces in Central Europe: Manpower  
Distribution and Augmentation Requirements



wartime strength. The 26 maneuver divisions in Central Europe would require about 50,000 and the 29 tactical air regiments about 4,500 additional men to reach intended wartime levels. An additional 115,000 men would be needed to fill out other combat, combat support, and service support units (see figure 9).

### Preparations for War

#### The Soviet Force Posture Rationale

The manning levels and posture of Soviet forces in Central Europe reflect Moscow's assessment of the urgency of the NATO threat and its calculation of the Warsaw Pact's capacity to meet the threat in an emergency and to mobilize additional forces in sufficient time and numbers to accomplish its wartime strategic objectives. We have had access to Pact intelligence assessments confirming that the Soviets have a fairly accurate appreciation of the current strengths and the readiness of NATO's forces, although they tend to exaggerate West German and US capabilities to mobilize and build up additional forces in Central Europe. Soviet classified military writings indicate they know that NATO's peacetime preparedness position is also a compromise and that NATO would require a period of at least several weeks, if not months, to develop a capability for sustained offensive operations against the Pact. This perception supports a fundamental assumption of Soviet strategic planning; that is, a conflict in Central Europe would probably be preceded by a lengthy period of increasing tension—perhaps lasting weeks or even months—during which both sides would have the opportunity to improve their military posture.

The current distribution of peacetime manpower of Soviet forces in Central Europe enables the Soviets to achieve, with a few weeks of warning, a substantially larger overall force there than would be the case if the same number of troops were used to maintain units in the region at full wartime strength. Moving reservists to flesh out partially manned units would be easier and could be done faster than transporting new military units—both men and associated combat equipment—from the Soviet Union. At the same

time, however, the present manning levels of Soviet forces in the region are sufficient to permit the Soviets to meet the most urgent threats and to mount rapidly a credible defense against any aggressor. [redacted]

Maintaining full manning of the entire force structure designed to serve as the first strategic echelon in an all-out war with NATO, on the other hand, would mean keeping some 170,000 men in a contingency status for duties and activities that would not be carried out in full measure in peacetime. For example, the full complement of support personnel in the air regiments are needed in wartime to achieve their planned sortie rate of about 500 to 550 per week. The peacetime training schedule, however, results in only about one quarter of this sortie rate. Thus, the full wartime complement of air forces maintenance personnel would be underutilized in peacetime. [redacted]

#### Short-Term Contingencies

The Soviets have adopted [redacted] a plan for preparing their air and ground forces for war that stresses the capability to respond quickly to an imminent military threat from NATO. Their military writings indicate that the overriding concern is to ensure that sufficient air and ground forces are available in Central Europe to blunt a NATO attack and to cover large-scale preparations of forces in the USSR. The Soviets have developed a schedule for bringing most of their theater forces in Central Europe to combat readiness and preparing them to defend against a sudden attack that would take only about one or two days to complete (see figure 10).<sup>10</sup>

Military writings [redacted] indicate that, during an emergency, preparations would be reduced to the extent possible without seriously affecting the capability of Soviet forces to mount an effective defense. The Soviet commander's focus under this scenario would be only on the most essential parts of

<sup>10</sup> Soviet planners have even drawn on Western planning methods such as Program Evaluation and Review Technique (PERT) and network diagramming to lend quantitative rigor to the management of the process [redacted]

#### Soviet Alert Stages

**Constant combat readiness:** The normal peacetime readiness status of the Soviet armed forces. Routine training and activity take place. Leaves and passes may be granted at commanders' discretion. [redacted]

**Increased combat readiness:** Unit personnel are recalled from leave or TDY, and division subunits conducting field training return to garrison. Mobilization and contingency plans are reviewed and updated by staffs. Unit personnel remove equipment from storage and begin to prepare reception points for reservists. The division's field command post (CP) is partially manned and deployed to a dispersal area. Staffing of the garrison command center is increased. [redacted]

**Threat-of-war combat readiness:** Units deploy from garrison to dispersal or assembly areas. The control of the division is transferred from the garrison command center to the field CP. Selected reservists with specialized skills may join the unit. [redacted]

**Full combat readiness:** Full mobilization takes place and reservists join their units. If required, equipment mobilized for the units also arrives. Units establish their wartime command, control, and communications structure. At this point the alert, dispersal, and mobilization process is complete. Subsequent steps such as training, final preparations, and deployment would take place after this stage in the alert process is complete. [redacted]

this process (not all of which are applicable to air forces), as generally described below:

- **Alert and Dispersal.** Notifying units and personnel, recalling personnel temporarily absent from the unit, returning units to garrison from training areas, making preparations within garrison, and moving

units to dispersal or assembly areas. Activities include removing equipment from storage; loading supplies; preparing for calling up reservists and mobilized transport vehicles; receiving, reviewing, and/or updating operational plans; and, in some cases, *selective recall* of reservists with specialized skills.

- **Final Preparation for Combat.** The replenishment of fuel and other material consumed during movement to dispersal or assembly areas; replacement of equipment and personnel losses that occurred during movement; final maintenance checks; and the integration of units into the command structure of the front, army, and division in which they are to serve.
- **Deployment to Combat.** The movement of ground forces units from assembly or concentration areas to final defensive positions. Initially, the emphasis for ground forces would be on those maneuver divisions that were closest to the region of conflict.

**Air Forces Preparations.** Readily apparent in their writings is the need for their tactical air regiments to be prepared sufficiently in peacetime to launch air defense operations within the first hour and a half of having been alerted. Both classified and unclassified Soviet military writings indicate that air defense plans allow for contingencies ranging from preemptive to retaliatory air defense operations. These writings further indicate that, while preemption is most desirable, warning time sufficient to prepare adequately for this option probably would not be available. A "meeting strike" intended to engage enemy aircraft before they reach their targets probably would be the best option available.<sup>11</sup> The Soviets estimate that, in a meeting strike, aircraft losses by the aggressor would be two to two and a half times greater than in a Soviet retaliatory strike.

The primary focus of tactical air regiments during initial defensive preparations would be on moving aircraft into hardened shelters, loading them with

<sup>11</sup> Classified Soviet writings indicate that a meeting strike is a coordinated engagement of an enemy air assault with Soviet (and presumably East European) aircraft before the enemy assault has reached its target.

ordnance and fuel, and tuning their avionic equipment (as well as other electronic support equipment at the airbase) to wartime frequencies. Classified writings indicate that aircrew briefings and the elevation of crews to higher levels of alert would parallel the preparation of aircraft for their first sorties.

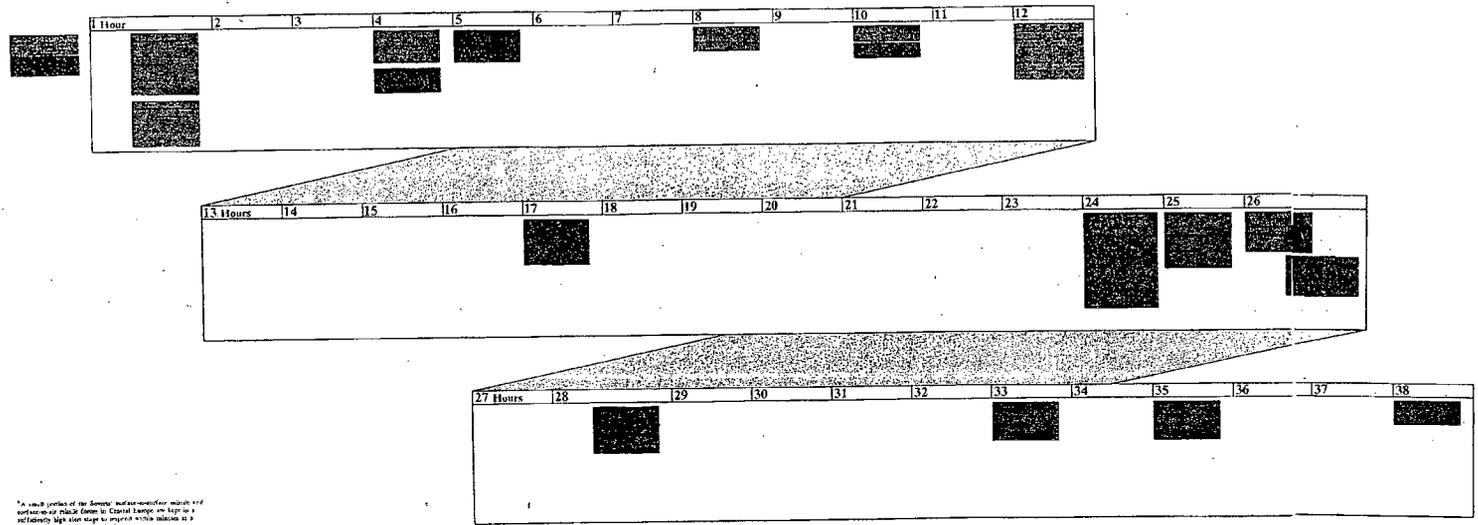
At the completion of these minimal steps, squadrons and regiments would be ready to undertake air defense missions controlled at regiment or division level. Air defense operations coordinated at the front level, however, would not be possible for some eight to 12 hours, when at least some of the front air and air defense command posts had moved into position and begun operating.

**Ground Forces Preparations.** The Soviets classified writings indicate that they believe their ground forces in Central Europe need substantially more time to prepare themselves for defensive action than do their air forces. Whereas the air units would be ready for coordinated defensive operations within 12 hours, ground forces would require about 24 hours more. This is due largely to the greater size of these forces, the magnitude of their preparatory process, and the physical limitations of moving overland.

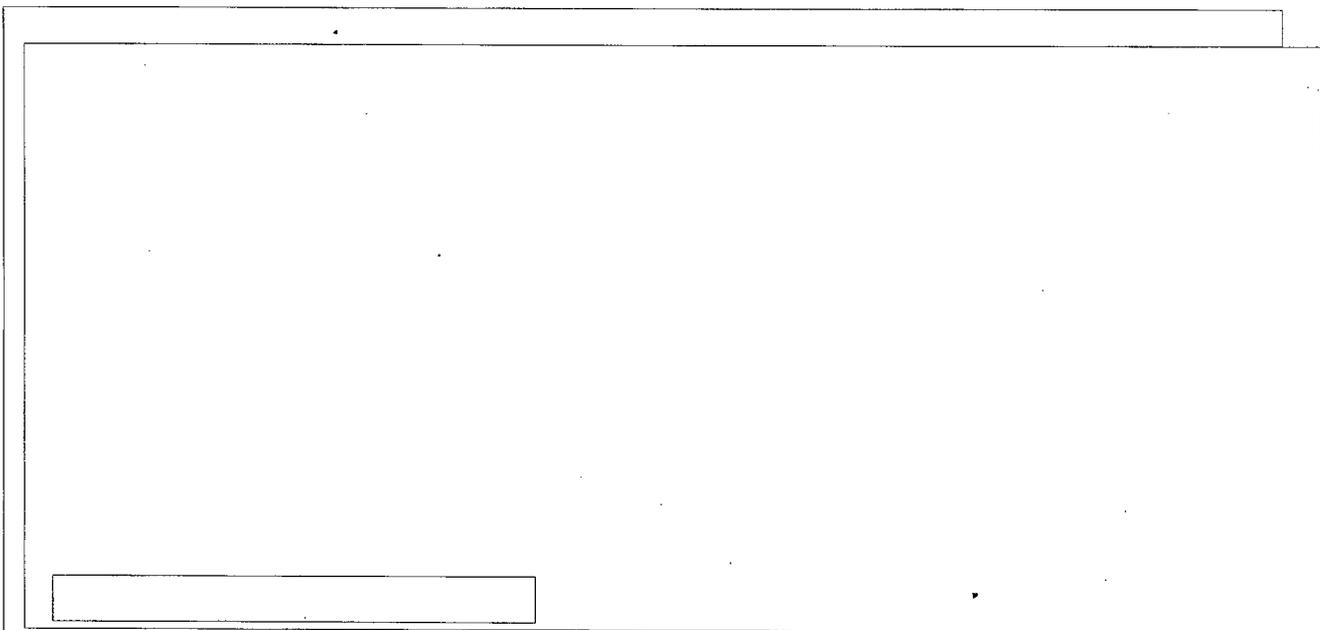
Key to this process are the actions that, during the first 20 to 24 hours, would be necessary to bring ground combat maneuver formations and units to a ready status—such as the removal of weapon systems from storage and the preparation and loading of ammunition and material stocks.<sup>12</sup> Accepting the rather optimistic Soviet planning assumptions and taking into consideration the distances units would have to travel to reach the border, we calculate that the Soviets could prepare and move almost one-third of their combat maneuver regiments in East Germany

Figure 10  
Representative Process of Preparing Soviet Theater Forces  
in Central Europe for Emergency Defense

▨ Air Force activities  
▨ Ground Force activities

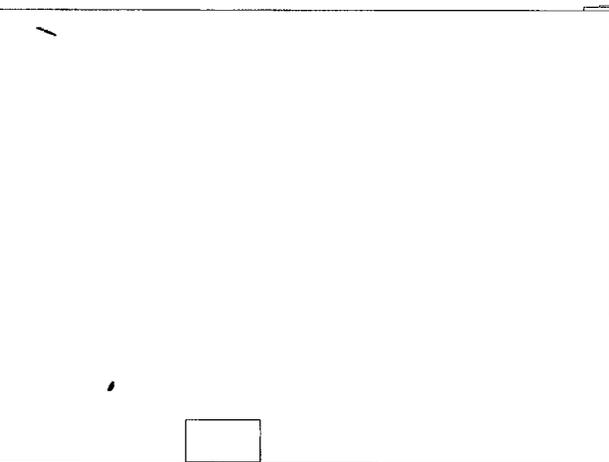


\* In some copies of the Soviet' mainframe-for which and surface-to-air missile from to Central Europe are kept in a readiness high state ready to respond within minutes to a launch order from higher authority

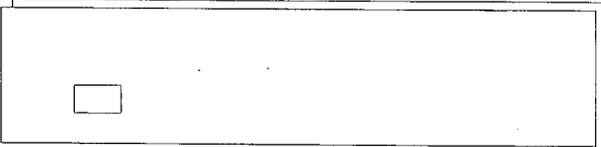
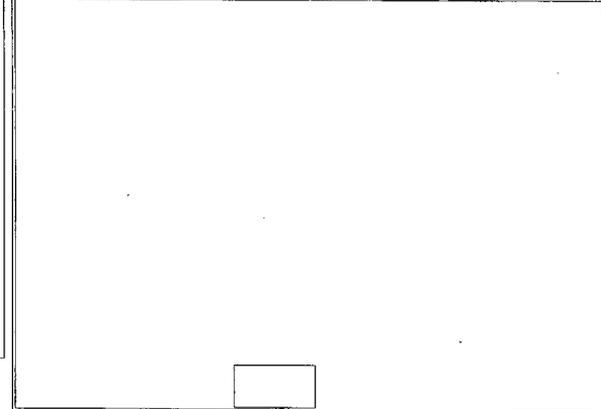
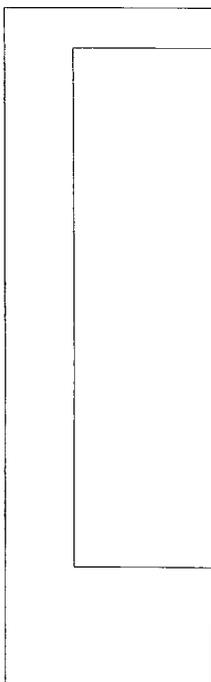


to defensive positions within the first day, and nearly two-thirds of these regiments within the first 32 hours (see table 7). This schedule would permit the Soviets to have some 3,000 tanks, over 3,500 armored troop carriers, and nearly 1,500 artillery pieces in a hastily constituted defensive posture along the inner-German border within the first day and a half after having initiated emergency preparations.

It is difficult, given the limited availability of evidence, to assess confidently the Soviets' ability to realize this schedule for preparing their ground forces.



*Impact of Undermanning on Theater Forces.* The effect of personnel shortages would be felt in a number of ways if the Soviet ground forces in Central Europe were to enter combat without a prior buildup. The mechanized infantry would be handicapped in its efforts to take and hold ground and to protect the tanks from ambush by short-range antitank weapons. Artillery units would not be able to sustain a high level of fire support, because of gun-crew shortages.



**Table 7**  
**Readiness of Soviet Ground Forces**  
**Maneuver Regiments in East Germany**

Hours Since Alert *	Regiments in Defensive Positions		
	Motorized Rifle	Tank	Total
26	16	6	22
30	20	16	36
32	24	24	48

\* Estimated time.

In general, the ground forces combat units would lack staying power, especially if they took heavy casualties or encountered determined resistance.

Low manning of Soviet air forces support units has only a limited impact on the modest tempo of peacetime operations and training. During wartime, however, these shortages would become critical if they remained unfilled, partly because of operational requirements imposed on these units to rebase and disperse, but, more important, because of the significant increase in the pace of airbase operations required to sustain sortie rates three to four times peacetime operating levels.<sup>14</sup>

normal air forces regimental operations require most (60 to 70 percent) of the 200 to 275 men assigned to the OBATO to support peacetime operations from a single airfield. Analysis of peacetime manpower levels indicates that without augmentation only about 90 men from the OBATO would be available to support wartime operations at its likely two dispersal airfields or operating areas. This clearly would be inadequate to support wartime operations from a single airfield.

<sup>14</sup> A sortie is a single flight by a single aircraft. Sortie rates represent the number of sorties flown in a given time period (generally one day). The Soviet Air Forces often count sorties in terms of a military unit (that is, regimental sortie, division sortie). This means that as a planning factor the aircraft typically assigned to a unit of that size are to be available for one flight during the course of a specific operation.

Information on Soviet manning practices in air forces maintenance units indicates there would be comparable problems associated with expanding the maintenance structure. Maintenance personnel available in peacetime from the aviation engineering services unit of a regiment would be too few—only two-thirds of the 100 men required—to support flight operations from two dispersal areas during wartime and maintain adequate support to the regiment at the main operating base. Without a mobilization of reservists, these manpower shortages would severely limit the ability of air regiments to maintain enough aircraft to generate the sorties necessary to meet the requirements of an extensive air campaign against NATO.<sup>15</sup>

Soviet ground and air forces rear services units would be essential to establishing the front- and army-level logistic network required for sustained combat operations and extensive rebasing and dispersal—tasks that would be extremely difficult at typically low peacetime manning levels. Although this manning practice does not adversely affect the ability of these forces to perform their peacetime duties and to conduct training, it would significantly restrict their capacity to provide continuous material and technical support to combat units during wartime. Before this logistic network could be fully established prior to operations the Soviets would need to bring these units to full or nearly full wartime strength. This would be especially true for POL and ammunition depots, which in wartime would be dispersed from their normal peacetime locations and configured in echelons to provide the logistic infrastructure necessary to support the advancing Soviet armies.

The Soviets have attempted to minimize the impact of reduced peacetime manning by generally manning skilled billets and leaving some lesser skilled billets vacant. Nonetheless, the magnitude of reduced manning in peacetime does have a pronounced effect on

<sup>15</sup> The vulnerability of these personnel in wartime makes their ability to support a high level of operations even more suspect.



**Demographic Trends**

The ethnic mixture of Soviet conscripts is another factor that influences theater forces readiness. According to numerous unclassified and classified Soviet writings, the increasingly large percentage of non-Slavic conscription from the shrinking pool of 18-year-olds has intensified the military leadership's longstanding concerns about unit proficiency. Soviet open-press articles cite three ethnic problems that the Soviets believe degrade unit proficiency and discipline: Russian-language deficiencies, lower educational achievement, and antipathy between Slavic and non-Slavic nationalities. Limited documentary evidence shows an increase in the share of non-Slavic nationalities in Soviet motorized rifle units in Central Europe. If these conscripts in Central Europe manifest some or all of the deficiencies mentioned, their training program—especially on complex weapons—will be difficult to conduct and unit proficiency will be lower. The Soviets have attempted to reduce the effect of these adverse demographic trends on unit integrity and proficiency by assigning non-Slavs to positions having lower skill requirements.

the integrity and proficiency training of some types of units that would seriously affect the immediate ability of Soviet ground forces to effectively carry out large-scale offensive operations in a war with NATO.

Motorized rifle companies, for example, routinely train with only 50 to 65 percent of their full wartime complement. If brought quickly to full strength in an emergency, between one-third and one-half of the company would not have had recent training in individual or crew skills, or in small-unit tactical operations. The Soviets probably would view the lack of full unit proficiency and cohesiveness in their

ground forces as a critical liability and would prefer to remedy some of these shortcomings before going to war with NATO. Commanders would want to have as much time as possible for remedial training after their units were brought up to wartime strength, and probably would prefer at least one week to raise the skill levels of the reservists and ensure their units have sufficient unit integrity to perform combined-arms maneuvers.

We cannot, however, rule out the possibility that during a crisis the Soviets might choose to launch a preemptive attack on NATO without taking time to prepare fully their forces in Central Europe. The Soviets might, for example, mistakenly conclude that precautionary military steps taken by NATO during a period of political tension were actually precursors to a short-warning attack against the Warsaw Pact.

Available Soviet military writings, however, do not indicate that the Soviets either have plans for or rehearse preemptive conventional attacks with little or no time given to prepare their forces.

**Deliberate Preparation for War**

Soviet military writings indicate that, in a slowly developing crisis with sufficient strategic warning to allow time for deliberate, phased preparations for war, Soviet forces in Central Europe would probably emphasize building their air and ground forces to achieve a decisive advantage in mass (see figure 11).



**The Five Steps.** Our calculations of the size of the augmentation requirement for the air and ground forces indicate that systematically preparing them for war against NATO would consist of two more steps than the three required during an imminent crisis—full-scale mobilization and limited training. The pace of these preparations would be largely set by ground forces. Not all of the five basic steps would be applicable to air forces, although air units would have the additional requirement of large-scale rebasing. Soviet behavior in past crises suggests that the Soviets would not necessarily carry out these steps sequentially, but might call up and train reservists at a deliberate pace before dispersing combat units to their assembly areas. The preparations include:

- **Alert and Dispersal.** Notifying units and personnel, recalling personnel temporarily absent from the unit, returning units to garrison from training areas, making preparations within garrison, and moving units to dispersal or assembly areas. (During deliberate preparations, units probably would not move out to assembly areas until mobilization had been completed.) Activities include removing equipment from storage; loading supplies; preparing to call up reservists and (if required) mobilized transport vehicles; receiving, reviewing, and/or updating operational plans.
- **Mobilization.** Calling up, receiving, and integrating reservists and (if necessary) equipment to achieve wartime manning and equipment levels. During a slowly developing crisis, incremental or phased mobilization of the forces in Central Europe probably would occur within garrison.
- **Training and Preparation.** Training mobilized personnel—possibly to include some small-unit tactical training—and preparing units to conduct operations. In a slowly developing crisis, the Soviets probably would take the time to ensure that both the individual and unit skills of their forces in the region were adequate to accomplish assigned missions.
- **Final Preparation for Combat.** The replenishment of ammunition and fuel consumed during movement to dispersal or assembly areas; replacement of

equipment and personnel losses that occurred during movement; final maintenance checks; and the integration of units into the command structure of the theater, front, and army in which they are to serve. These steps would not be expected to require more than a few hours for Soviet ground maneuver divisions in Central Europe.

- **Deployment to Combat.** The movement of ground forces units from assembly or concentration areas to final attack positions. The Soviets believe that this phase could be completed in about one to three hours for the combat units in the first echelon.

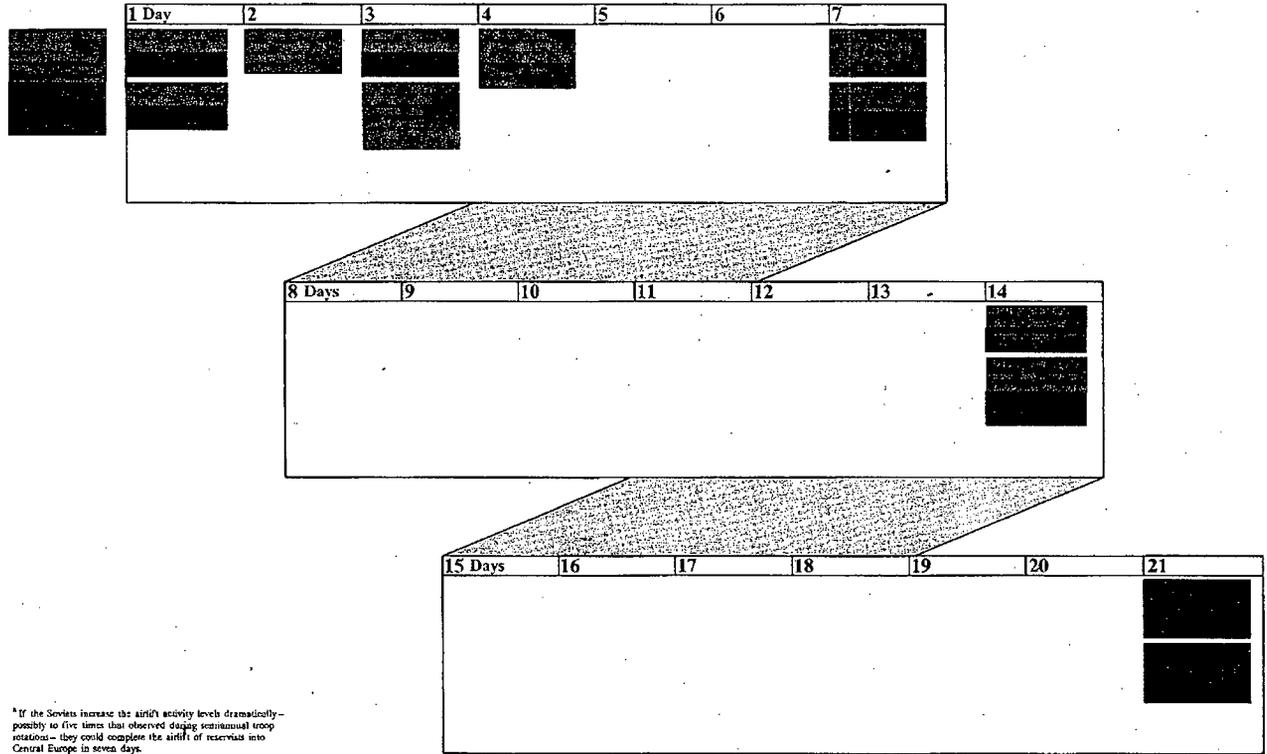
**Reservist Augmentation and Movement.** Of these five steps, the activity that most influences the time required to prepare sufficiently Soviet theater forces in Central Europe for sustained offensive operations would be the mobilization and movement of reservists. There are three primary sources of personnel augmentation available to Soviet theater forces in Central Europe:

- Soviet civilians currently employed by the groups of forces in Central Europe. These civilians could be quickly mobilized and incorporated into in-place forces.
- Soldiers assigned to Soviet units and facilities in Central Europe—such as sports battalions and retail stores—that are active in peacetime but could be disbanded in wartime. These troops could simply be transferred to active wartime units.
- Reservists or active-duty soldiers in the western USSR, who could be mobilized or transferred to Soviet units in Central Europe.

We lack sufficient information to estimate with confidence the number of personnel that could be drawn from local sources, but the fragmentary information available suggests it would not exceed 20,000 to 30,000 men.

Figure 11  
Representative Process of Systematically Preparing Soviet Theater Forces  
in Central Europe for Offensive Operations

■ Air forces activities  
■ Ground forces activities



\* If the Soviets increase the air's activity levels dramatically—possibly to five times that observed during semiannual troop rotations—they could occupy the airfield of reserves in Central Europe in seven days.

Although the Soviets theoretically could use East European reservists as another source of augmentation, Soviet military writings [redacted] suggest that the augmentation of both Soviet combat maneuver and supporting units stationed in Central Europe would be drawn exclusively from Soviet resources. The differences in Soviet and East European unit organization, equipment, training practices, and especially language, cultural, and historical factors probably have ruled out Soviet consideration of East European reservists as an acceptable source of augmentation. Even if the Soviets were to use them on a limited basis, the magnitude of the remaining requirement for Soviet forces in the region would still dictate the movement of large numbers of reservists from the USSR. [redacted]

With so few men available from local Soviet sources and a combined air and ground forces augmentation requirement estimated at some 170,000 troops, we expect the preparation of Soviet theater forces would include the mobilization and movement of some 150,000 men from the western USSR—about 120,000 for ground forces and 30,000 for air forces. [redacted]

The fastest means of moving reservists from the USSR would be by aircraft. The Soviets conduct troop movements of this type and approximate scale during semiannual troop rotation in Central Europe. Typically, they take some two to three weeks to move some 65,000 to 80,000 conscripts using civilian aircraft to this region. The time required to move some 150,000 reservists to Central Europe as part of prewar preparations could be as little as a week, depending on the urgency of the situation and the availability of both military and civilian transport aircraft. [redacted]

Moving some 150,000 reservists to the region in about a week assumes that the Soviets would dedicate as many aircraft as necessary to complete a rapid airlift. The only appreciable constraint that Soviet military planners would face, therefore, would be the rate at which they could service aircraft landings and departures and personnel processing at the various airfields in Central Europe. By conducting flight activity 24 hours a day (the typical daily period during troop rotation is 12 hours), the Soviets probably could

accelerate flight activity to nearly five times that observed during troop rotation and compress the time from about three weeks to one. [redacted]

Alternatively, the Soviets could choose to use troop trains that regularly run between the western USSR and Central Europe. The movement of large troop contingents with standard-size troop trains operating on routine schedules might go undetected by the West but could only be accomplished over one to two months. [redacted]

**Rebasing Tactical Air Regiments.** In addition to bringing forward and integrating reservists into these forces, a key step in Soviet preparations for war would be the rebasing of tactical aircraft. Classified Soviet writings indicate that tactical air regiments would simultaneously begin two tasks critical to conducting a sustained offensive: the forward rebasing of units already in Central Europe and preparations for rebasing reinforcement and follow-on units from the western USSR. [redacted]

In their military writings the Soviets acknowledge that tactical aircraft in Europe do not have adequate range to accomplish their theater objectives by operating exclusively from peacetime airbases, a problem exacerbated by the increased depth of the battlefield and mobility of many critical targets. The speed at which rebasing can be accomplished will depend on the distance the unit must move and the type of aircraft the unit supports. Classified Soviet writings indicate the process will take two or three days for units in East Germany and Czechoslovakia and three to seven days for units coming from eastern Poland. [redacted]

Rebasing forward also provides the necessary means for enhancing the initial in-place striking power of Soviet air forces in Central Europe and improves the correlation of forces. For example, the rebasing of Soviet regiments from the 4th Tactical Air Army based in Poland to airfields in East Germany would increase the Fencer light bomber force opposite NATO by 90 aircraft, for a total of 150, and fighter

**The Rebasing Process**

Classified writings indicate that Soviet rebasing plans are divided into three distinct phases designed to maintain the combat integrity of the air regiments and their support elements and allow a reduced level of operations to continue throughout the rebasing process (see figure 12).

The first phase is intended to establish initial combat support at the new location by moving in advance detachments from the airfield technical battalion (OBATO) and the signals and radiotechnical battalion (OBSRTO). The equipment and supplies these groups are to use in preparing the new base for initial operations are to be prepackaged and ready for loading onto vehicles. Within 24 hours of the arrival of the OBATO and OBSRTO groups, the new airfield should be ready to support limited combat operations. Unclassified Soviet writings, however, indicate that as late as May 1985 tactical units participating in rebasing exercises had to gather up tools and equipment to be loaded aboard trucks before departure and that lists of required material for establishing initial operational support at the new location were incomplete.

The second phase of the rebasing process is intended to establish initial combat capability. Classified Soviet writings indicate that during this phase most of the regiment's combat aircraft, the command staff, and approximately half of each squadron's flightline and maintenance sections are to deploy to the new airfield. These writings also indicate, however, that the manpower, parts, and equipment on hand at the new airfield early in the second phase would probably be sufficient to support only limited combat operations by a single squadron.

Phase three of the rebasing plan is intended to bring the regiment up to full strength at the new airbase. Classified Soviet writings indicate that during this phase the remainder of the regiment's support equipment, as well as the rest of the OBATO, OBSRTO, and TECH manpower will be moved to the new location by motor convoy. In some cases, as many as 50 men from the regiment and a total of up to 200 men from the OBATO and OBSRTO may remain behind to ensure a limited capability for operations at the original airfield.

by 40 percent, for a total in excess of 400 planes. This would be vital should the situation erode rapidly, forcing an earlier than anticipated commitment to war. Given Soviet preference for a preemptive offense, the balance of forces also would be a key factor in the Soviet decision of when sufficient preparation for initiating an offensive had been achieved.

Classified writings indicate that Soviet planning requirements for initial wartime operations generally include the following for each of the 66 Soviet and NSWP tactical air regiments in East Germany, Poland, and Czechoslovakia (see figure 13):

- One main operating base.
- One alternate airfield or highway landing strip within 5 to 15 kilometers of the main operating base for a squadron or subunit.

- One "hop" airfield some 20 to 40 kilometers from the forward edge of the battle area (FEBA) to facilitate longer operating ranges and serve as a regimental divert field.

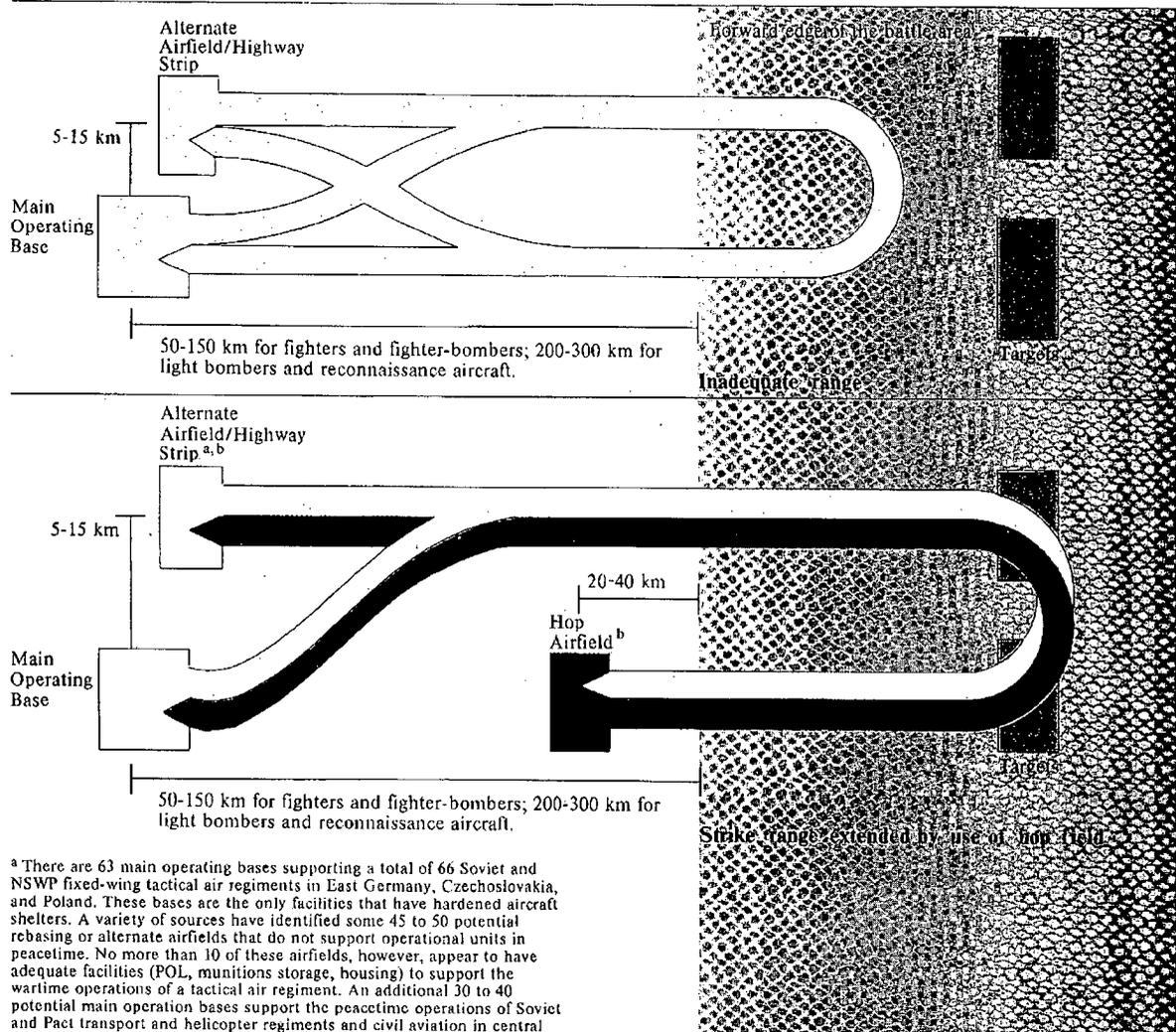
Subsequent requirements are likely to be determined by weather and field availability, but ideally each regiment would have a primary airfield and two-thirds of them also would have alternate landing strips or "hop" fields. The Soviet rebasing goal is to maintain tactical aircraft within 50 to 150 kilometers of the FEBA, and light bombers and reconnaissance planes within 200 to 300 kilometers.

Figure 12  
Phased Rebasing of a Soviet Tactical Air Regiment in Central Europe

	Orders to enter	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Headquarters Staff		Command staff rebases by air		Remainder of staff rebases by air (local units) Remainder of staff rebases by air (incoming units)				
Combat Squadrons	Regiments without adequate sheltering capacities to local areas (survivability measures)		Local squadrons complete re-basing Incoming fighter squadrons complete re-basing	Incoming light bomber squadrons complete re-basing	Fighter Light bomber			
Aircrew Engineering Services (TECH) and Squadron Maintenance		1st echelon of squadron maintenance sections (20%) depart by air	2nd echelon of squadron maintenance (10%) rebases by air (local units)	Remainder of squadrons and TECH rebase by motor transport/air (incoming units)	Fighter Light bomber			% of TECH maintenance may remain at main operating base (local units)
Airfield Technical Battalion (OBATO)	Advance team (15%) departs for new airfield-local unit by motor transport, incoming unit by air	2nd echelon (10%) rebases by motor transport (local units)	3rd echelon (35%) rebases by motor transport (local units)	2nd and 3rd echelons rebases by air (incoming units)	Fighter Light bomber			20% of OBATO may remain at main operating base (local units)
Signals and Radio-Technical Battalion (ORSRTO)	Advance team (15%) departs for new airfield-local unit by motor transport, incoming unit by air	2nd echelon (15%) rebases by air (local units)	Remainder rebases by motor transport (local units)	3rd echelon rebases by air/motor transport (incoming units)	Fighter Light bomber			20% of ORSRTO may remain at main operating base (local units)

Note: Timing of phased deployment is approximate and intended only as an illustration of Soviet planning; the actual timing is dependent upon overall travel distance to the deployment airfield and the conditions of the deployment airfield as well as weather, opposition and other unquantifiable factors.

**Figure 13**  
**Role of Aircraft Basing Areas in Tactical Air Operations**



<sup>a</sup> There are 63 main operating bases supporting a total of 66 Soviet and NSWP fixed-wing tactical air regiments in East Germany, Czechoslovakia, and Poland. These bases are the only facilities that have hardened aircraft shelters. A variety of sources have identified some 45 to 50 potential rebasing or alternate airfields that do not support operational units in peacetime. No more than 10 of these airfields, however, appear to have adequate facilities (POL, munitions storage, housing) to support the wartime operations of a tactical air regiment. An additional 30 to 40 potential main operation bases support the peacetime operations of Soviet and Pact transport and helicopter regiments and civil aviation in central Europe.

<sup>b</sup> East Germany, Czechoslovakia, and Poland each have a total of 125-150 potential hop airfields or highway landing strips.

**Implications for Warning**

Soviet military writings [redacted] confirm that the Warsaw Pact concept for offensive operations against NATO in Central Europe requires a large-scale buildup of Soviet and East European forces that would approximately double the concentration available there in peacetime. Moreover, if the Soviets anticipated war in Central Europe, they would not only prepare the forces intended to fight there but would also prepare for hostilities on the flanks of NATO by building up forces in the northwestern, southwestern, and southern regions of the USSR. These activities, which amount to full mobilization of the Warsaw Pact, would provide strategic warning. [redacted]

In addition to these strategic warning indicators, the preparation of the forces now stationed in Central Europe—especially those in East Germany—would be an indicator that a Pact attack might be imminent. The rapid movement of an additional 150,000 men into Central Europe from the USSR probably would be detected by NATO intelligence, as would other indicators such as major changes in the training routines that probably would occur during integration of such a large personnel increment into the existing force. [redacted]

One special case could provide the means for clandestine reinforcement: semiannual Soviet troop rotation, in which about one-fourth of the conscripts are replaced by newly inducted personnel. The Soviets could conceivably bring new personnel into Central Europe without returning any, thus building their forces to full wartime strength. In the context of a crisis, however, our collection would be intensively focused on troop rotation. Because Western intelligence has some capability to differentiate between empty and loaded aircraft, we are confident that we could detect

a one-way rotation or measures taken to prevent us from observing it—such as restrictions on Allied military personnel travel and on Allied flights in the three designated air corridors to Berlin and in the Berlin Control Zone. Either would alert us. The use of flights to move the augmentees during periods other than when troop rotations usually occur would be uncharacteristic of Soviet normal activity patterns and would provide warning to NATO of possible hostile Soviet intent. [redacted]

To reduce substantially the time it would take to complete a rail transfer of the some 150,000 reservists required to bring Soviet theater forces in Central Europe to wartime strengths, the Soviets could increase the length of the trains and the frequency of the schedule. These increases, however, would result in abnormal rail activity levels that probably would be detected by Western observers. In any case, the Soviets would be unlikely to take such provocative steps except in the circumstance of serious East-West tension, which already would have provided some strategic warning to the West. [redacted]

Another, less likely, possibility is a slow clandestine reinforcement outside a period of crisis. In such a case, we would be less likely to detect the one-way rotation immediately, but over time we probably would recognize the changes in training activities that would be necessary to take full advantage of the reinforcement. Moreover, anything but an unlikely, very high-risk, bolt-from-the-blue attack with these forces would still require at least five to six days of final preparations for adequate command and control and logistic support, as well as the mobilization and deployment of non-Soviet Warsaw Pact Forces that would need to participate in an attack to give it a reasonable prospect of success. [redacted]