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Manning Practices and Patterns in Soviet Ground Force Units

A Research Paper

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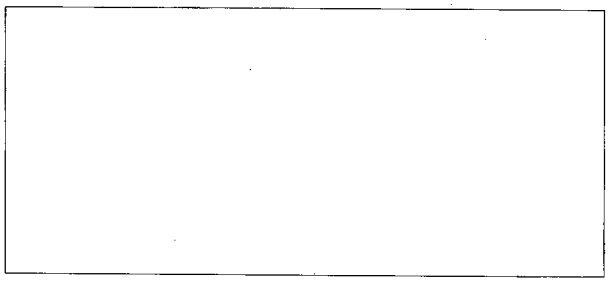

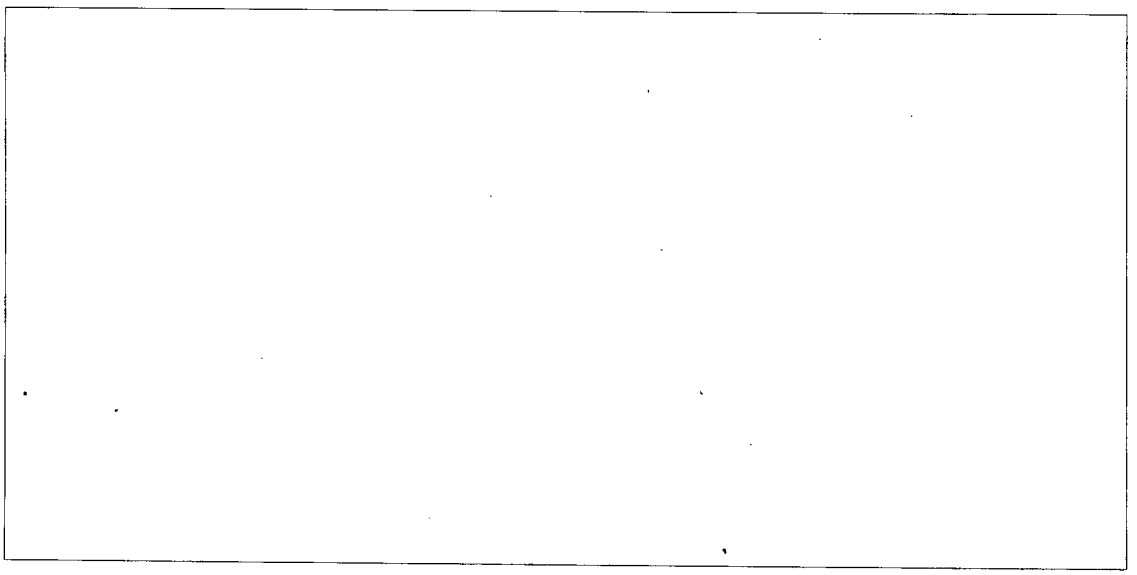

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Manning Practices and Patterns in Soviet Ground Force Units

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This paper was prepared by of the Office of Soviet Analysis. It was coordinated with the Defense Intelligence Agency. Comments and queries are welcome and may be directed to the Chief, SOVA

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Manning Practices and Patterns in Soviet Ground Force Units

Key Judgments

Information available as of 1 April 1983 was used in this report.

Analysis of reports shows clearly that Soviet manning practices are intended to provide (1) a well-trained, well-equipped, and highly manned ready force capable of combat operations on short notice and (2) a far larger, poorly trained, low-manned not-ready force capable of rapid mobilization. Ready Soviet ground forces consist primarily of those units located outside the country and—within the USSR—airborne divisions and certain motorized rifle and tank divisions, as well as nondivisional units with special offensive or defensive missions. Not-ready (cadre-manned) units—the bulk of the force—are manned in peacetime below 50 percent of authorized wartime strength and are stationed within the USSR.

The most highly manned, best trained, and best equipped ground force units are located in geographic areas of highest threat, such as East Germany. About 40 ready tank, motorized rifle, and airborne divisions compose this group. Other ready units, located principally in military districts along the Soviet border, are less highly manned but are well trained and equipped. This second set of units—over 35 tank and motorized rifle divisions and certain nondivisional units such as signal regiments—is essentially ready for operations.

The not-ready force includes about 130 tank and motorized rifle divisions and most nondivisional units within the Soviet Union. These represent a relatively small manpower investment in peacetime but provide the basis for mobilizing a large wartime force.

Manning practices vary among units, reflecting differences in local missions for the most part but also the preferences of individual commanders. In assigning available personnel within the units manned at lower levels, the Soviets concentrate them in a few subunits, where they fill critical positions such as tank driver/mechanic, rather than support positions such as ammunition loader and handler.

As a result of this practice, there may be ready, highly manned motorized rifle regiments in not-ready divisions and not-ready battalions manned at low levels in ready motorized rifle regiments. The Soviets apparently consider that these mixtures provide enough ready units throughout their forces to serve as organizational nuclei for rapid expansion to wartime strength. They also provide improved training for personnel in the ready, highly manned units and ensure that at least one major element within the larger unit can engage in combat or local security operations on short notice.

We believe the Soviets derive certain clear benefits from these manning practices. Critical positions are always manned, but the number of soldiers on active duty at any one time is limited, because only the ready units need full or almost full complements. A full training program is followed only where there are sufficient troops to make it realistic; this economizes training resources. These practices also allow flexibility in personnel management, in that commanders of military districts or divisions have some control over manning. Finally, the existence of a trained ready force replenishes the reserve system. Since the mid-1970s about 650,000 ground force troops—many of whom have served in ready units with a full training program—have been released to the reserves every year.

Nevertheless, these manning practices burden the Soviet reservist training program and mobilization system. Reserve personnel must be provided refresher training during peacetime and may need further training after mobilization. Also, the sheer magnitude of a full-scale mobilization—which could involve up to 2.5 million reservists and large quantities of equipment—would create unique problems the Soviet Union has not faced since World War II.

Because the lack of manpower in peacetime causes relative inactivity in the Soviet not-ready units, these units might provide the clearest indications of a large-scale mobilization. Activity associated with mobilization in cadre units would be intense, and we believe it would be readily detectable

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Manning Practices and Patterns in Soviet Ground Force Units

Introduction

The Soviet Ground Forces include some 1.8 million active-duty personnel in peacetime. They are allocated among more than 200 maneuver divisions (tank, motorized rifle, and airborne divisions) and a wide range of nondivisional combat and service support units.[1] To describe Warsaw Pact tank, motorized rifle, and airborne divisions, US and NATO intelligence estimates currently use three standard categories, expressed as percentages of full wartime strength: 75 to 100 percent (Category I), 50 to 75 percent (Category II), and below 50 percent (Category III). An additional unnumbered category consists of sets of equipment with which to equip a division but without assigned personnel; mobilization divisions would be formed from them in wartime. (Warsaw Pact nondivisional combat and service support units—missile brigades or signal battalions, for example—have not been categorized by the United States or NATO.)

These categories provide a rough appreciation of the peacetime posture of Soviet and non-Soviet Warsaw Pact divisions. However, a systematic analysis of information received indicates that, as they pertain to Soviet ground divisions, the three categories are incomplete. They do not describe fully the divisions' peacetime manning structure, and they omit entirely those variations in the equipment and training which, together with manning strength, determine these units' readiness to perform wartime missions. In addition, the omission of nondivisional units from the US and NATO categories leaves undefined the peacetime posture of an important component of the force.

This study is intended to fill those gaps. It examines peacetime manning practices in both large and small ground force units. It also describes patterns and regional variations in manning of ground force units.

[redacted]

General Features of Ground Force Manning

The peacetime manning level of a Soviet ground force unit is closely and consistently linked to its peacetime readiness status, as reflected in evidence concerning Soviet readiness terms, variations in unit equipment, and differences in training schedules. The Soviets do not keep their entire ground force structure manned at the level (nearly 4.5 million men) needed for wartime operations. This would be prohibitively expensive in both money and manpower. Instead, they allocate personnel so as to ensure that those units which are most important and are located in areas of highest threat are the most highly manned, trained, and equipped.

According to [illegible] are reporting, Soviet ground units are divided into two broad groupings: those considered ready *(razvernutaya;* literally, expanded) for operations and those considered not ready *(nerazvernutaya).*

[redacted]

[1] Nondivisional units encompass a variety of combat and support elements that are subordinate directly to an army or front command. These units may be assigned to support a division during a particular operation or may perform missions to support the overall objectives of the army or front.

Table 1
Characteristics of Soviet Ground Force Maneuver Divisions

Russian Terminology and Translation	Description	Manning	Equipment	Training Program	Equivalent US Category [a]
Razvernutaya (ready or deployed; literally, expanded)		55 to 100 percent	Full equipment sets	Full or nearly full	I and II
Diviziya pervogo otryada (first-line division); *diviziya polnogo sostava* [b]	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 (second-line division); *v postoyannom sokrashchennii* [b]	Second-line division near full strength inside USSR; in constant readiness but reduced strength inside USSR; Type A2, 2, or B	55 to 85 percent		At least 75 percent of full program	Some I and some II
Pric'vornaya [c] (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	Some I and some II
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	Equipment of recent vintage and adequate	All except the cadre motorized rifle regiment conduct at least 75 percent of full program	Most II
Nerazvernutaya (not expanded; not deployed; not filled up)	Not ready	Up to 40 percent	Often has equipment **shortages; generally** has older equipment types	Curtailed	III
Kadrirovannaya diviziya (cadre division); *Tipa V*	Type B, C, 3	5 to 40 percent; officer slots at company level and above are filled; FROG battalion is "expanded"			III
Unknown	High strength [illegible]	[illegible] 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	III

Table 1
Characteristics of Soviet Ground Force Maneuver Divisions (continued)

Russian Terminology and Translation	Description	Manning	Equipment	Training Program	Equivalent US Category [a]
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	III
Polnostyu kadrirovannaya (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	III
Diviziya vtorogo formirovaniya (second-formation divisions)	Mobilization divisions	No manning; officers predesignated from colocated manned divisions.	Major shortages of equipment, including combat equipment; equipment is older, obsolete	No peacetime training	Mobilization divisions

[a] I = 75 to 100 percent; II = 50 to 75 percent; III = less than 50 percent. NATO uses the letters A, B, and C instead of Roman numerals to designate the categories.
[b] These are among the terms most frequently used in describing *razvernutaya* units.
[c] have further identified these divisions as *polu-kadrirovannaya* (half cadre) and *polu-razvernutaya* (half deployed).
[d] One division in this group was identified as *polu-kadrirovannaya* (half cadre).

The two groupings exhibit observable variations in equipment and training as well as specific differences in manning strength. Table 1 summarizes our information on these variables.

ready units must be manned at sufficient peacetime strength to complete the entire training program and to operate 70 percent of their major equipment items—tanks, artillery pieces, and armored personnel carriers. They describe a unit with manning of over 50 percent of its full authorized wartime strength as ready for combat without augmentation by reservists.

Units with manning lower than 50 percent are identified as not ready for combat without mobilization. Both broad groupings are further divided into subgroups on the basis of their manning levels.

Ready Divisions

The Soviet Ground Forces have over 200 divisions. About 80 (or 40 percent) are ready divisions, and of these 39 (about half) are stationed outside the USSR. The ready divisions inside the USSR are located largely in border areas.

Outside the USSR. the Soviets try to man all division outside the USSR at or near full authorized wartime strength. who have had some knowledge of such units refer to them variously as "fully deployed divisions" *(razvernutaya diviziya)*, "first-line" divisions *(diviziya pervogo otrayaaa)*, or "full strength" divisions. Each is fully equipped, usually with the most modern weapons in the Soviet inventory, and each conducts a full training program.[3]

The tank and motorized rifle divisions in the Group of Soviet Forces, Germany, are typical of ready divisions outside the USSR. They are in a high-threat area and are isolated from the Soviet reserve manpower pool; we assume they are nearly fully manned in peacetime, in part because they would be unable to mobilize reservists quickly during a crisis.

Inside the USSR. Ready divisions inside the USSR are characterized as "second line" *(diviziya vtorogo otryada)*, as "partial," "semicadre" *(polu-kadrirovannaya)*, or "half-deployed" *(polu-razvernutaya)*, and as Type "B." These are maintained at reduced strength, somewhere between 55 and 85 percent.[4]

Certain noncritical support positions (such as ammunition loader and handler, rifleman, and assistant driver) are not filled, but the division maintains a roster of readily available reservists for them. , in the event of mobilization most of the "second-line" divisions could be augmented with reservists in 48 to 72 hours. All of these ready divisions within the USSR are fully equipped, some (the elite divisions) with the most modern equipment. All conduct at least 75 percent of the training program prescribed for the "first line" or "fully deployed" divisions.

Not-Ready Divisions

The remaining 60 percent of Soviet ground force divisions are considered not ready. refer to two general groups of *nerazvernutaya* divisions—"cadre" *(kadrirovannaya)* and "second formation" *(vtorogo formiyovannaya)*.[7] A cadre division may have as much as 40 percent of its wartime strength or as little as 5 percent.

"Second-formation" divisions are those referred to as mobilization divisions by the Intelligence Community. They are not manned at all, but predesignated officers in nearby active divisions are assigned to them at the time of mobilization.

Cadre Divisions. In ground force cadre divisions the manning is limited to command positions at company level and above, essential specialist positions (principally driver/mechanics), and the divisional tactical missile battalion. Each of these divisions would have to mobilize large numbers of reservists—6,000 to 12,000 men—to attain its wartime authorized strength. We estimate that most cadre divisions could mobilize their reservists and move to dispersal areas in three to six days, but they would need a period of training before they could perform efficiently in high-intensity combat.

this category as having three different levels of manning. For these levels, we use the terms high-strength cadre, low-strength cadre, and completely cadre.

[3] Soviet airborne divisions—with the exception of one airborne training division—also are manned in peacetime at or near full wartime strength, even though all but one are located within the USSR. We believe they are maintained at this level because they are the main Soviet quick-reaction and intervention force.

[4] Within the second-line subgroup, identify two distinct manning levels (one called elite), as shown in table 1.

Cadre divisions often lack some transport vehicles and armored personnel carriers but have their basic combat equipment. This equipment is often old, and most of it is maintained in conservation storage by assigned enlisted men. Training in these divisions is reduced to match the manning level; in many of them it is restricted to company level.

Mobilization Divisions. Mobilization or "second-formation" divisions are unmanned in peacetime. They consist of division-configured equipment sets with tanks, artillery, and engineer equipment predominating. The equipment is usually obsolete. We estimate that mobilization divisions would need at least a month to mobilize and train the reservists before they could be committed to combat.

Nondivisional Units

Manning in nondivisional units appears to be directly related to type of unit rather than to location. Thus, there are nondivisional units manned at or near full strength both inside and outside the Soviet Union.

Our analysis shows that the Soviets consider nondivisional units to be ready if they are manned over 50 percent, while those under 50 percent are not ready. We estimate that less than one-third of all Soviet nondivisional units are ready.

Ready Units. Within the ready nondivisional units, two distinct manning levels are discernible. The first level ranges from nearly full wartime strength to about 70 percent. Units kept at this level are those requiring technical training and having major battlefield offensive or defensive capabilities—such as Scud, Scaleboard, and SA-4 missile brigades. Such units would require only limited augmentation in case of war and are considered ready for immediate combat operations.

The second level of ready nondivisional ground force units is made up of those that are typically manned at about 50 to 85 percent of wartime strength. Examples are command and control units—such as radio relay battalions and signal regiments. They probably require that a large number of technical positions be manned in peacetime to support routine command post and field training exercises. Efficient signal units are also essential in the preparation for and support of wartime mobilization. Consequently, these nondivisional units have relatively high peacetime manning and form part of the ready force.[1]

Not-Ready Units. The not-ready nondivisional units are manned at much lower levels during peacetime—ranging from 10 to 50 percent of wartime strength. Even within this group, however, there are differences:

- The more specialized units, such as multiple rocket launcher regiments and heavy artillery brigades, appear to have manning levels ranging from about 20 to about 50 percent of full wartime strength.
- Various combat and service support units, such as pontoon bridge regiments, engineer regiments, and chemical battalions, are manned at 15 to 40 percent.
- Units such as artillery divisions and artillery brigades, which have high wartime manning requirements and many relatively unskilled positions, are manned at about 10 to 20 percent.

Manning Patterns Within Maneuver Divisions

In those ground force divisions that are within the USSR (ready "second line" and not-ready divisions), manning patterns are designed to husband personnel and training resources. The majority of active-duty soldiers in these divisions are concentrated in a small number of ready subunits. Such a subunit is well trained, because it has adequate peacetime manpower to warrant a full training program, even if it is part of a division that as a whole is either ready "second line" or not ready. The ready subunits could be made available for combat operations on short notice.

Not-ready divisional subunits require a relatively small manpower investment in peacetime but provide the framework for a large potential wartime force. Personnel on active duty in these units spend most of

[1] Exceptions to this pattern are signal regiments subordinate to special military groupings such as army corps and the Reserves of the Supreme High Command (RVGK). These are manned at about 20 to 40 percent of full wartime strength. Apparently these units have lower peacetime manning because they have fewer peacetime responsibilities and directly support fewer units than other signal regiments.

their time maintaining equipment rather than training. Most of the unit's equipment stays in storage, reducing expensive use of fuel and diminishing equipment breakdown.

Upon mobilization, the active-duty troops in the not-ready subunits would provide the organizational nucleus for rapid expansion to wartime strength. Nevertheless, the expansion would rely heavily on reservists—most of whom would be unfamiliar with the specific unit to which they were assigned when mobilized and many of whom would not have been on active duty for several years. Upon mobilization, therefore, the not-ready divisional subunits would lack the training and the unit cohesion of their ready counterparts and would have lower potential combat proficiency unless they were given postmobilization training.

While the overall manning level of a tank or motorized rifle division reflects its general readiness status as a whole, manning patterns within it also appear to reflect such factors as local missions, the idiosyncracies of the commanders, and different local concepts of how to fulfill training requirements. Regiment-size units *(chasti)* are the building blocks of all Soviet divisions, and regiments of the same type may show a wide variety of manning patterns.

At the regimental level, manning varies from a low of about 5 percent to a high of 100 percent of authorized wartime strength. The commander of a highly manned regiment can conduct a continuous training program as well as maintain equipment. In a regiment manned at a low level, personnel may be fully occupied with maintenance duties and unable to train adequately.

The large number of variations in manning patterns at the regimental level suggests that division commanders and military district staffs probably have some latitude in allocating their authorized manpower. However, we believe that manning ceilings for each military district and group of forces probably are set by the Ministry of Defense. The appendix provides our estimate of the manning ranges for subunits of motorized rifle and tank divisions as well as a discussion of our statistical techniques.

Full-Strength Motorized Rifle and Tank Regiments

Soviet full-strength motorized rifle and tank regiments are most commonly found in divisions posted outside the USSR, but a number of them are scattered among less-than-full-strength tank and motorized rifle divisions within the USSR. the manning of a full-strength motorized rifle regiment (MRR) varies from about 1,900 to 2,300 personnel, depending on its equipment and organization. Full-strength tank regiments vary from about 900 to 1,000 personnel.

All regiments at full strength carry out a complete training program. Although the expense of their maintenance and training is significant, full-strength ready regiments may be found even in not-ready (cadre) divisions.

The principal advantages of maintaining a full-strength regiment within a cadre division are:

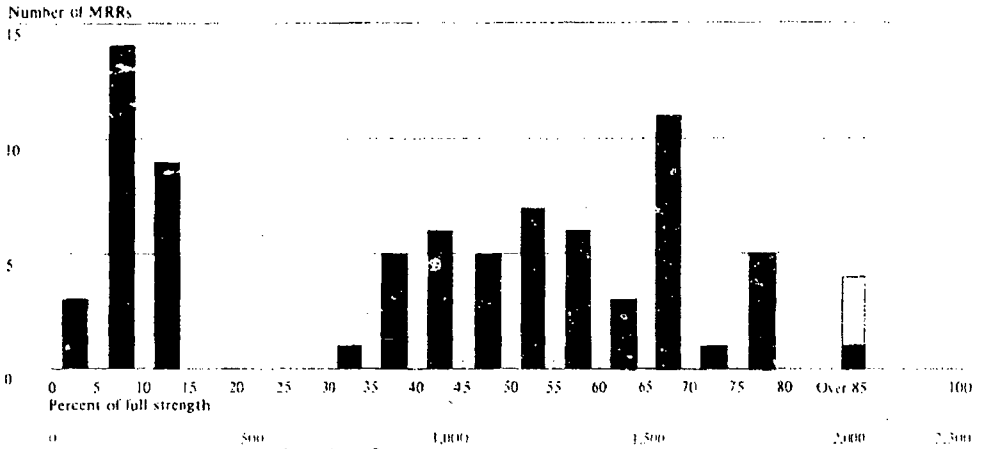
- Realistic troop training is possible in that one regiment.
- The division staff can learn the art of exercising control over at least one full regiment.
- The division can field a combat-ready subunit on short notice.

Reduced-Strength Motorized Rifle and Tank Regiments

Although reduced-strength motorized rifle and tank regiments obviously are not as capable as fully manned regiments, they are still considered to be ready units. The commanders maintain the highest readiness possible by concentrating their available soldiers in the most useful slots.

Motorized Rifle Regiments. MRRs described as at reduced-strength manning may have from less than 1,000 to about 1,500 personnel, about 40 to 80 percent of estimated full strength. suggests that many of

Figure 1
Frequency Distribution of Peacetime Manning in 80 Motorized Rifle Regiments Sampled



Full-strength manning of MRRs is estimated at 2,300.

Note: Seventeen MRRs are indicated as being ready, although their manning as shown here is less than 50 percent. Seven of these MRRs are located in either the Leningrad or the Transcaucasus Military District, and their wartime authorizations are less than 2,300. Their peacetime manning, therefore, is probably above 50 percent of their specific wartime authorizations. For ease of presentation, we have calculated their peacetime manning on the basis of 2,300, which is standard elsewhere.

these regiments are manned at between 1,500 and 1,600 personnel. This amounts to about 65 percent of a typical MRR's authorized wartime strength of about 2,300. Figure 1 summarizes this information for the 80 regiments sampled.

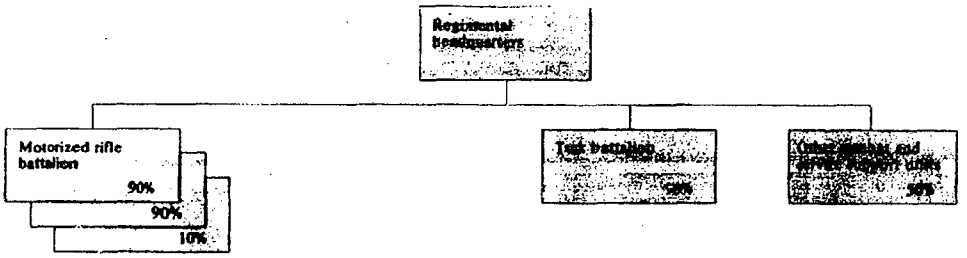
In reducing their manning in MRRs, the Soviets appear to concentrate most of their personnel into a few battalions or companies that are nearly fully manned. For example, a reduced-strength MRR might have two motorized rifle battalions maintained at nearly full strength with the third battalion being assigned officers and armored personnel carrier (APC) crews but no riflemen (figure 2). Another observed pattern maintains the three battalions at equal strength, keeping two of the three motorized rifle companies in each battalion at nearly full manning but assigning to the third company in each battalion only the company commander, a few senior noncommissioned officers or warrant officers, and the APC crewmen.

Distributing the available personnel in such ways probably facilitates battalion and regimental training by permitting at least some of the [illegible] companies or battalions to carry out the full training program. Companies or battalions manned only by cadre, however, would not attempt to do so.

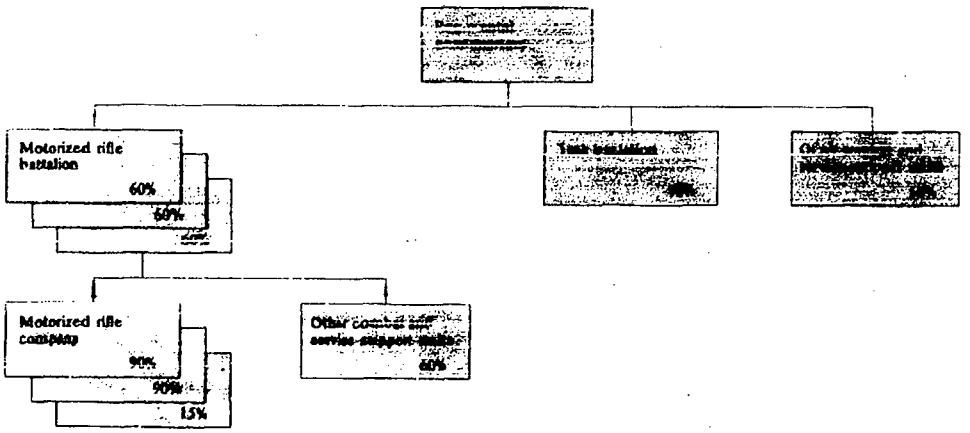
The MRR commander applies the same procedures to the regimental artillery battalion and, to a lesser degree, the subordinate tank battalion.

Figure 2
Manning Options in Reduced-Strength Motorized Rifle Regiments

Example 1

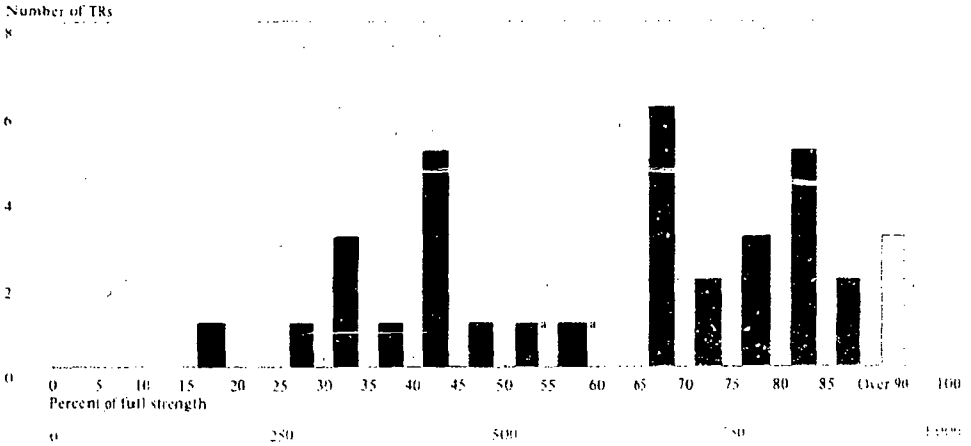


Example 2



Note: The average manning in each example is 60 percent. All percentages are rounded to the nearest 5 percent.

Figure 3
Frequency Distribution of Peacetime Manning in 35 Tank Regiments Sampled



Tank Regiments. In ground force divisions described as ready at reduced strength, the manning reductions in tank regiments (TRs), as shown in figure 3, appear to be less extensive than in motorized rifle regiments (figure 1). In reduced-strength TRs the manning varies from about 65 to nearly 90 percent of estimated full strength,[1] whereas MRRs in the same category had between about 40 and 80 [illegible]. This difference may indicate that the Soviets assign a high priority to their tank forces; but it probably also reflects the greater need of tank crew members for technical training, which prevents the Soviets from relying heavily on reservists in TRs.

[1] In most reduced-strength tank regiments, every tank was manned with at least the driver/mechanic, gunner, and commander.

Ready (reduced-strength) motorized rifle regiments and tank regiments occasionally are found in not-ready (cadre) divisions. In these cases, much of the division's authorized manpower is concentrated in a single regiment; this allows improved training and ensures that at least one major element within the division is able to engage in combat operations on short notice. (C)

Cadre-Strength Motorized Rifle and Tank Regiments

Cadre-strength motorized rifle and tank regiments have substantial peacetime manning shortfalls. Manning varies from as few as about 150 for motorized rifle regiments to nearly 500 for tank regiments.

Motorized Rifle Regiments. Individual MRRs manned at cadre strength (figure 1) rarely have more than 15 percent of the required wartime personnel, and most only have 5 to 10 percent. These manning reductions severely restrict training and would require units to mobilize large numbers of reservists in order to conduct operations.

Many personnel in cadre motorized rifle regiments are officers. all officer slots in command positions at company level and above, as well as most officer positions in headquarters, are filled. This comes to about 65 officers—about one-third to one-half of all the personnel (up to 250) assigned in peacetime.

in cadre MRRs most of the enlisted soldiers are assigned to one of the regiment's three motorized rifle battalions and to the regiment's tank battalion. Usually those in the manned motorized rifle battalion— from 20 to 60 enlisted men—are further concentrated into one of its three motorized rifle companies. Their primary function is to maintain the equipment in conservation storage for all three motorized rifle battalions.

About 40 soldiers usually are assigned to the MRR's one tank battalion as driver/mechanics or commanders. The regiment's support units (signal, maintenance, and service companies) usually have 10 to 20 soldiers each.

Tank Regiments. **Cadre tank regiments, on the other** hand, usually are not as severely undermanned as the cadre motorized rifle regiments. Manning (as shown in figure 3) varies between 280 and 425—about 25 to 45 percent of full wartime manning. The methods used to allocate these personnel within the tank regiment resemble those seen in motorized rifle regiments. all command positions at company level and above, as well as officer positions in headquarters, are manned. This gives the tank regiment a minimum of about 60 officers, plus enlisted manning of about 220 to 365. the majority of these personnel are assigned to the tank battalions. As a rule each tank battalion has approximately 90 enlisted men—or about three men per tank.[12]

Because most personnel belong to the tank crews, only about 70 to 95 enlisted men are available for the tank regiment's support units. In these units, as in cadre motorized rifle regiments, about 10 to 20 soldiers are found in each of the signal, maintenance, motorized rifle, and service companies. Other support units are manned with smaller numbers or are unmanned. Such personnel reductions severely restrict training in these regiments.

Combat Support Units

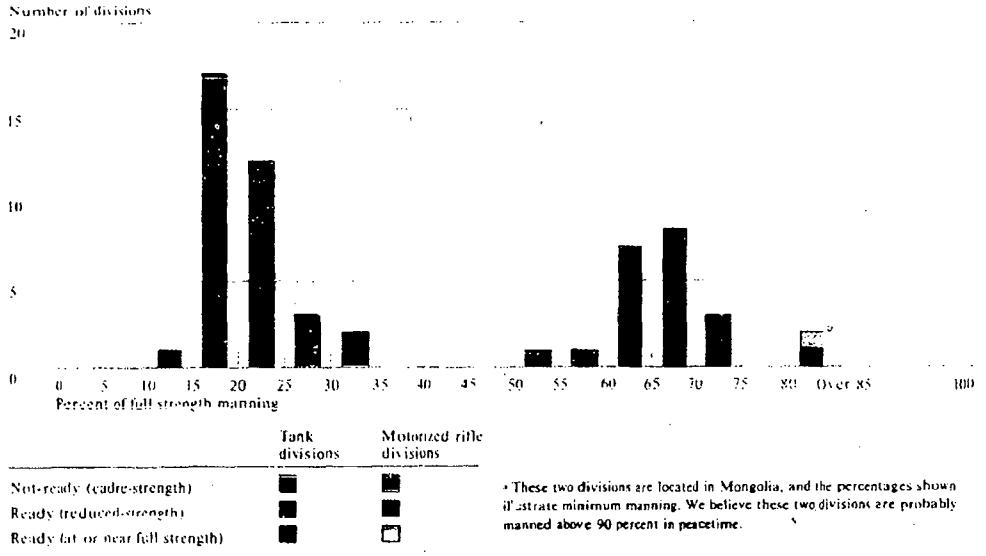
The manning level in combat support units generally reflects the manning authorization for the maneuver division as a whole.

For example, cadre-strength divisions, in most cases, have cadre-strength support units such as engineer and artillery units. This general practice, however, does not apply to certain highly specialized combat support units. Surface-to-air missile and tactical rocket (FROG) units apparently are manned at ready levels, even in cadre divisions. Such units need highly skilled specialists not only to operate their equipment in wartime but also to maintain it in peacetime. This apparently accounts for their high peacetime manning levels.

Manning practices in cadre artillery and antiaircraft artillery regiments are similar to those described in **cadre-strength motorized rifle and tank regiments.** Officer positions at battery level and above, as well as in headquarters, are manned, and most of the enlisted men are concentrated in one battery. This practice enables commanders to train one battery in a realistic manner; but the troops spend most of their time on the maintenance of equipment in conservation storage. Therefore, as in

[12] In a few tank regiments either one or two of the tank battalions was manned at a low level, with only the driver/mechanic and perhaps commander assigned to each tank.

Figure 4
Frequency Distribution of Average Peacetime Manning of 57 Divisions Sampled



a These two divisions are located in Mongolia, and the percentages shown illustrate minimum manning. We believe these two divisions are probably manned above 90 percent in peacetime.

the cadre MRRs and TRs, the availability of soldiers for training is severely restricted in cadre-level support units.

Constructing the Division Total

Despite the wide differences in manning in motorized rifle and tank regiments discussed above, manning for divisions as a whole shows less variation and tends to cluster around a limited number of manning levels or ranges (figure 4). We found that, when a division deviated from the clusters and, in effect, widened the manning range, the reason lay in manning variations in its subordinate motorized rifle regiments.

In ready divisions the clearest distinction occurs between divisions manned near full strength and those manned at reduced strength. Manning in divisions at reduced strength tends to cluster at between 60 and 70 percent of full strength. Those reduced-strength MRDs that are manned at somewhat higher or lower levels usually have individual motorized rifle regiments that are manned at either higher or lower relative strengths than the division as a whole.

Figure 4 shows that a sharp break exists between ready divisions (both categories) and not-ready (cadre-manned) divisions. No divisions were identified with manning between 40 and 50 percent of full strength. We believe that this break indicates a perception by the Soviets that, if a division is to achieve a ready

status, it requires a minimal manning floor—that is, sufficient personnel to permit at least two of the three MRRs to complete the semiannual training program.

Although the largest grouping of not-ready divisions includes those with manning levels between 15 and 25 percent, about 50 of the approximately 130 not-ready divisions are manned at between 25 and 35 percent of full strength. This manning variation is similar to that seen in reduced-strength ready divisions and, similarly, results from their having individual motorized rifle regiments more highly manned than the division as a whole. Such a regiment creates a more highly manned cadre division. Our sample of reports includes no division manned below 10 percent.

Examples of Manning Patterns

To illustrate the ways in which the Soviets have organized divisions, using the wide range of regimental manning variants available to them, we have selected several specific divisions for examination.

the *24th Motorized Rifle Division*, with headquarters at L'vov in the Carpathian Military District (MD), is a reduced-strength MRD that appears to have one motorized rifle regiment at or near full wartime strength. The division's other subordinate units are manned at reduced-strength levels of about 65 percent. The one high-manned motorized rifle regiment, however, raises the division's average manning to between 65 and 75 percent of full wartime strength.

An example of a ready (reduced-strength) MRD in which one motorized rifle regiment is manned only at a cadre level is the *68th Motorized Rifle Division*, headquartered at Sary Ozek in the Central Asian MD. One of its subordinate motorized rifle regiments is located near the town of Taldy Kurgan. At least have indicated that this regiment is cadre manned by approximately 200 to 300 personnel. This is about 10 to 15 percent of its wartime strength.

Because one motorized rifle regiment is maintained at only cadre strength, the average manning of the 68th MRD is about 55 to 60 percent of full wartime strength. This is about the lowest acceptable level for a Soviet ready division.

Within cadre divisions, manning variations can occur if one of the motorized rifle regiments is manned above 50 percent of wartime strength. Figure 5 shows two cadre-strength MRDs: in one, all the divisional units except the FROG battalion and tank regiment are manned below about 25 percent of full strength; in the other, the overall manning is higher because one MRR is more highly manned.

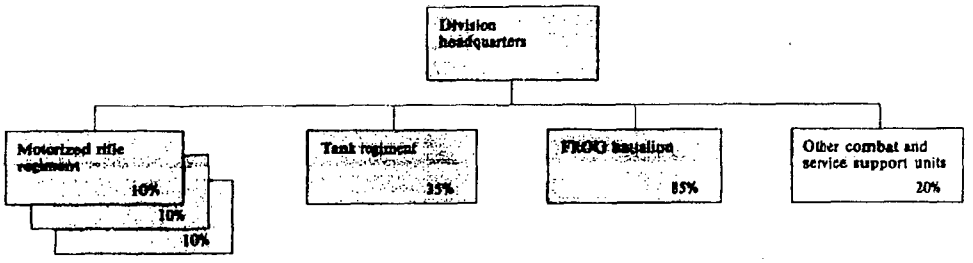
An example of a cadre MRD with one higher manned motorized rifle regiment is the *72nd Motorized Rifle Division* at Belaya Tserkov in the Kiev MD its regiment equipped with the BMP infantry combat vehicle is manned near 1,500—about 65 percent of wartime strength. This increases the average manning of the division from a typical cadre level of about 15 percent to about 25 percent of full strength.

Geographic Variations in Manning Practices Within the USSR

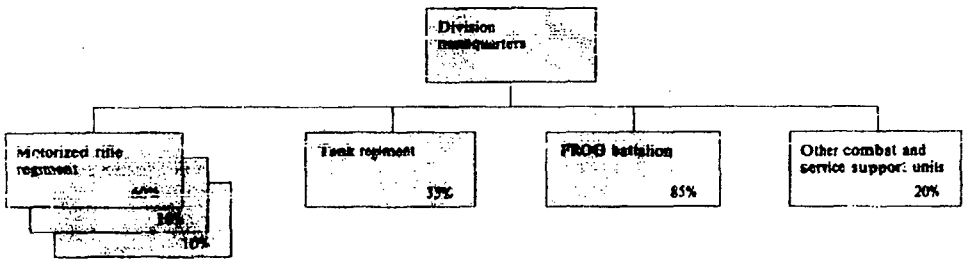
The kind of variation in regimental and divisional manning discussed above (highly manned subunits appearing in cadre-strength divisions) exists throughout the Soviet Union but is particularly evident in units near the Soviet borders. The local population is relatively sparse in many such areas, and this constraint is reflected in low overall manning and in a limited pool of readily available reservists. The immediate proximity of the border, however, causes the Soviets to maintain some number of combat-ready subunits for quick reaction.

Figure 5
Manning Options in Cadre-Level Motorized Rifle Divisions

Example 1: A motorized rifle division manned at 15 to 20 percent



Example 2: A motorized rifle division manned at 25 to 40 percent



Note: All percentages are rounded to the nearest 5 percent.

The principal exception to this pattern is the uniformity found among units in the three western military districts—the Belorussian, Carpathian, and Baltic. Manning in regiments and divisions within these three districts appears to be internally consistent, without variations among the regiments in a division. (Among the 20 divisions studied, only one regiment had a manning level different from that of its division as a whole.) We believe the Soviets perceive less need for highly manned units in cadre divisions in the three western military districts, probably for two reasons: a large pool of reservists is available in the area for speedy mobilization when needed; and other Warsaw Pact countries (plus Soviet ready divisions stationed there) lie between the western border and the principal [illegible]

Western Border

Among the ground force divisions we examined in the western military districts, seven are ready (reduced-strength) and 13 are cadre manned. Manning practices are uniform within and between these divisions, but differ from the practices observed in other regions of the USSR in that there are fewer variations (table 2).

Table 2
Estimated Manning in Divisions Along Western Border

Identification and Location	Military District	Estimated Manning	Approximate Percent of Full Strength
Ready divisions			
24th Motorized Rifle Division L'vov	Carpathia	8,095-9,335	65-75
128th Guards Motorized Rifle Division Mukachevo	Carpathia	7,760-8,670	62-70
1st Guards Motorized Rifle Division Kaliningrad	Baltic	7,710-8,270	62-66
120th Guards Motorized Rifle Division Minsk	Belorussia	7,400-8,285	59-66
23rd Tank Division Ovruch	Carpathia	6,265-7,515	64-77
1st Guards Tank Division Kaliningrad	altic	6,105-7,365	63-75
40th Guards Tank Division Sovetsk [a]	Baltic	6,050-7,125	62-73
Not-ready divisions			
26th Guards Motorized Rifle Division Gusev	Baltic	1,465-1,915	12-15
3rd Guards Motorized Rifle Division Klaipeda	Baltic	1,635-2,140	13-17
51st Guards Motorized Rifle Division Vladimir-Volynskiy	Carpathia	1,490-2,390	12-19
161st Motorized Rifle Division Izyaslav	Carpathia	1,490-2,390	12-19
97th Guards Motorized Rifle Division Slavuta	Carpathia	1,490-2,390	12-19
17th Guards Motorized Rifle Division Khmel'nitskiy	Carpathia	1,490-2,390	12-19
70th Guards Motorized Rifle Division Ivano-Frankovsk	Carpathia	1,490-2,390	12-19
30th Guards Tank Division Novograd-Volynskiy	Carpathia	1,740-2,790	18-29
3rd Guards Tank Division Lepel	Belorussia	2,230-2,540	23-26
37th Guards Tank Division Polotsk	Belorussia	1,740-2,790	18-29
193rd Tank Division Bobruysk	Belorussia	1,740-2,790	18-29
46th Guards Tank Division Slonim	Belorussia	1,740-2,790	18-29
34th Tank Division	Belorussia	1,740-2,790	18-29

[a] Recent reports indicate that manning in this division was reduced to a cadre level in the spring of 1979. If so, manning in the division is probably between 1,500 and 3,000.

Ready Divisions. The reduced strength divisions (four motorized rifle divisions and three tank divisions) are manned at about 60 to 75 percent of full wartime strength. All but one of the motorized rifle regiments in these seven divisions were reported to have 1,000 to 1,500 personnel. The exception was a motorized rifle regiment in the 24th MRD at L'vov that appeared to be at or near full strength. This division often is among the first in the Soviet Ground Forces to test new equipment, and the test role probably requires a higher level of manning in peacetime.

Cadre Divisions. The 13 cadre divisions show a similar uniformity (with the distinction between rifle and tank divisions discussed above). Cadre-level manning in motorized rifle divisions varies between about 10 and 20 percent and in tank divisions between 15 and 30 percent of full wartime personnel strength. Cadre divisions in the west apparently do not maintain one ready motorized rifle regiment, as many of them do in other areas; no such regiments have more than 500 soldiers—20 percent of full strength. Perhaps because each of the districts has two or three ready divisions (manned at a reduced strength level), the Soviets do not perceive a need to maintain individual ready motorized rifle regiments in cadre-strength divisions in the area.

The 15- to 30-percent manning in tank divisions enables at least two of the three tank battalions in each tank regiment, as well as the tank battalion in the division's subordinate motorized rifle regiment, to assign three men to each tank.

Sino-Soviet Border

Nineteen of the divisions in our sample were on the Sino-Soviet border (table 3). Two are stationed in Mongolia, and they appear to be manned at or near full strength, as is generally the case with maneuver divisions located outside the USSR. The rest are in the four eastern military districts—Central Asia, Siberia, Transbaikal, and Far East. Eleven of the 19 are ready divisions and eight are cadre manned. Manning shows greater variability in these divisions than in those in the west, probably because of their geographic location near the border with China and the resulting Soviet security concerns.

Of the 11 *ready divisions* examined, the MRD and TD in Mongolia are the most highly manned. The 68th, located at Sary Ozek in the Central Asian MD, has a unique manning pattern. All but one of its elements are at ready (reduced) strength—over 55 percent of full strength; the exception is a cadre-level MRR, manned at only 10 to 15 percent, with 200 to 300 personnel.

All eight of the *cadre divisions* examined were motorized rifle divisions. (Until 1982 all tank divisions in the Sino-Soviet border areas—with the exception of one tank training division—were ready divisions.) In at least five of these eight MRDs, however, one or even two motorized regiments are manned at a ready (reduced-strength) level. Therefore, manning in these five divisions ranges between about 20 and 40 percent of full wartime strength. Two of these cadre divisions—the 38th Guards Motorized Rifle Division at Sretensk and the 272nd MRD at Babstovo—have ready regiments at reduced strength deployed forward within 50 kilometers of the Sino-Soviet border. The cadre-level elements of these two divisions are consolidated at one installation about 200 kilometers to the rear of the forward regiments.

Northern and Southern Borders

Our study included 14 divisions in the Leningrad, Turkestan, and Transcaucasus MDs—all of them motorized rifle divisions (table 4). In three cases, manning could not be estimated with confidence because the emigre reports were insufficient or conflicting. Where manning practices can be estimated, however, they resemble those seen along the Sino-Soviet border, which result in greater variations than are found in the western military districts.

Table 3
Estimated Manning in Divisions Along Sino-Soviet Border

Identification and Location	Military District or Country	Estimated Manning	Approximate Percent of Full Strength	Remarks
Ready divisions				
41st Motorized Rifle Division Sumber Suma	Mongolia	Minimum manning 10,580	At least 85	Probably manned at or near full strength (about 12,500)
2nd Guards Tank Division Choybalsan	Mongolia	Minimum manning 8,230	At least 82	Probably manned at or near full strength (about 10,000)
40th Motorized Rifle Division Smolyaninovo	Far East	7,590-8,730	61-70	
29th Motorized Rifle Division Kamen' Rybolov	Far East	8,165-9,510	65-76	Two of its three motorized rifle regiments are at or near full strength (about 2,300), one near 1,000
Unidentified motorized rifle division Lesozavodsk	Far East	7,490-8,730	60-70	
123th Guards Motorized Rifle Division Barabash	Far East	7,955-9,360	64-75	One motorized rifle regiment is at or near full strength
277th Motorized Rifle Division Sergeyevka	Far East	7,435-8,750	60-70	
122nd Guards Motorized Rifle Division Dauriya	Transbaikal	6,985-8,365	59-67	Referred to as a Type "B" division
68th Motorized Rifle Division Sary Ozek	Central Asia	6,590-7,375	53-59	One motorized rifle regiment is at cadre strength
5th Guards Tank Division Kyakhta	Transbaikal	5,735-6,760	57-68	The motorized rifle regiment is manned near 1,000
78th Tank Division Ayaguz	Central Asia	5,735-6,930	57-69	The motorized rifle regiment is manned near 1,000
Not-ready divisions				
272nd Motorized Rifle Division Babstovo	Far East	3,285-4,120	26-33	One motorized rifle regiment is at or near full strength. It is deployed forward within 50 km of the Sino-Soviet border
73rd Motorized Rifle Division Komsomol'sk	Far East	1,505-2,340	12-19	
38th Guards Motorized Rifle Division Sretensk	Transbaikal	3,780-4,650	30-37	Two motorized rifle regiments are at reduced-strength manning. These are deployed forward within 50 km of the Sino-Soviet border
8th Guards Motorized Rifle Division Pereval Kurday	Central Asia	2,330-3,055	19-25	One motorized rifle regiment is at reduced-strength manning

Table 3 (continued)

Identification and Location	Military District or Country	Estimated Manning	Approximate Percent of Full Strength	Remarks
203rd Motorized Rifle Division Karaganda	Central Asia	1,805-2,245	14-18	
201st Motorized Rifle Division Dushanbe	Central Asia	1,565-2,245	12-18	
Unidentified motorized rifle division Abakan	Siberia	2,350-3,120	18-25	One motorized rifle regiment is at reduced-strength manning
85th Motorized Rifle Division Novosibirsk	Siberia	2,685-3,520	21-28	At least one motorized rifle regiment is at reduced-strength manning

At least four of the 14 are *ready divisions* at reduced strength. One of these four has at least one motorized rifle regiment manned at or near full wartime strength, and another appears to have one motorized rifle regiment at cadre strength. Both of these divisions are in the Leningrad MD.

Of the seven MRDs that we are confident are *cadre divisions*, five have typical cadre manning—from 10 to 20 percent of full wartime strength. The other two, located in the Transcaucasus MD, have estimated manning of about 20 to 25 percent of full wartime strength, with one motorized rifle regiment at ready reduced strength.

Both peacetime and wartime authorized manning in the Leningrad and Transcaucasus MDs appears to be somewhat lower than that identified in other regions of the USSR. This probably reflects the slightly different and somewhat smaller divisional structures prevalent in the Transcaucasus MD and to a lesser extent in the Leningrad MD. For example, in many of the MRDs in both districts, the tank element in the motorized rifle regiment is a company rather than a battalion.

Interior

Five cadre motorized rifle divisions and one cadre tank division were examined in the interior military districts (table 5). Manning practices vary among divisions in these military districts as they do elsewhere in the USSR; in contrast to other regions, however, very few divisions in the interior are highly manned in peacetime. The cadre-level manning ranges from about 10 to 30 percent of full wartime strength. At least two of the MRDs, however, have one ready motorized rifle regiment manned at a reduced strength level. These two MRDs have estimated divisional manning of 20 to 30 percent during peacetime.

Manning Patterns in Nondivisional Units

Manning in Soviet ground force nondivisional units also varies widely, but appears to exhibit more consistent patterns than those found in maneuver divisions. Where variations occur, they arise from the nondivisional unit's mission and requirement for technical expertise, whereas those in maneuver divisions seem primarily related to geography.

Table 4
Estimated Manning in Divisions Along Northern and Southern Borders

Identification and Location	Military District	Estimated Manning	Approximate Percent of Full Strength	Remarks
Ready divisions				
54th Motorized Rifle Division Alakurtti	Leningrad	8,070-8,860	65-71	One motorized rifle regiment is at or near full strength
45th Motorized Rifle Division Murmansk	Leningrad	6,795-8,170	55-66	One motorized rifle regiment is at or near full strength and one at cadre strength
127th Motorized Rifle Division Leninakan	Transcaucasus	6,180-7,105	50-55	All three motorized rifle regiments are manned near 950
164th Guards Motorized Rifle Division Yerevan	Transcaucasus	7,410-8,645	59-69	
Not-ready divisions				
64th Guards Motorized Rifle Division Sapernoye	Leningrad	1,490-2,390	12-19	
77th Guards Motorized Rifle Division Arkhangel'sk	Leningrad	1,490-2,390	12-19	
Unidentified motorized rifle division Sortavala	Leningrad	1,490-2,390	12-19	
147th Motorized Rifle Division Akhalkhalaki	Transcaucasus	3,935-4,550	31-37	Two motorized rifle regiments are at reduced-strength manning
293th Guards Motorized Rifle Division Baku	Transcaucasus	2,395-2,935	19-24	One motorized rifle regiment is manned near 950
145th Motorized Rifle Division Batumi	Transcaucasus	2,335-3,015	19-24	One motorized rifle regiment is manned near 950
108th Motorized Rifle Division [a,b] Termez	Turkestan	1,490-2,390	12-19	Data are limited but consistent with typical cadre manning practices
58th Guards Motorized Rifle Division	Turkestan	1,490-2,390	12-19	
Indefinite				
75th Motorized Rifle Division [b] Nakhichevan	Transcaucasus	Indefinite		Appears to have at least one motorized rifle regiment at reduced-strength manning
60th Motorized Rifle Division [b] Lenkoran	Transcaucasus	Indefinite		Appears to have at least one motorized rifle regiment at reduced-strength manning

[a] This division was mobilized and deployed into Afghanistan in December 1979–January 1980 and is still there.
[b] Manning could not be estimated with confidence. We believe the 108th MRD was a cadre division.

Table 5
Estimated Manning in Divisions in the Interior

Identification and Location	Military District	Estimated Manning	Approximate Percent of Full Strength	Remarks
Ready divisions				
None				
Not-ready divisions				
72nd Guards Motorized Rifle Division Belaya Tserkov	Kiev	2,830-3,410	23-27	One motorized rifle regiment is manned near 1,500
36th Motorized Rifle Division Artemovsk	Kiev	1,490-2,390	12-19	Data are limited but consistent with typical cadre manning practices
75th Guards Tank Division Chuguyev	Kiev	1,740-2,790	18-29	Data are limited but consistent with typical cadre manning practices
28th Guards Motorized Rifle Division Odessa	Odessa	2,880-3,470	23-28	One motorized rifle regiment is manned near 1,500
59th Guards Motorized Rifle Division Tiraspol'	Odessa	1,490-2,390	12-19	
32nd Guards Motorized Rifle Division Kalinin	Moscow	1,490-2,390	12-19	

Generally, technical units that are capable of making an important contribution to the capabilities of the overall force—such as signal and missile units—are manned in peacetime above 50 percent of full wartime strength—in some cases, at nearly 100 percent. We believe that these units—along with reduced-strength and full-strength maneuver divisions—constitute the ready Soviet force, which is available on short notice for operations with little or no mobilization.

Most Soviet nondivisional units require only modest technical skills, however, and these are manned below 50 percent and are considered by the Soviets as being not ready for immediate operations. As with the divisions, the key to understanding the overall manning of nondivisional units lies in identifying and understanding the manning practices of their subunits. Whereas regiments are the key elements of maneuver divisions, the building blocks of nondivisional units are the companies and battalions. Tables 6 and 7 show our estimated manning of nondivisional units.

Full-Strength Units

In general, the only nondivisional units to be manned at or near full strength are those that have critical missions and require technical expertise.[14] These include SA-4 air defense brigades and Scud and Scale board tactical missile brigades. Much of these units'

[14] Current Intelligence Community estimates indicate that some types of nondivisional units within the groups of Soviet forces in other Warsaw Pact countries also are manned at or near full strength. These include low-technology units such as the 34th Guards Artillery Division, army artillery brigades, and numerous combat and service support units. Like the tank and motorized rifle divisions in those areas, these nondivisional units are stationed far from the Soviet reserve manpower pool and could not be expanded quickly.

Table 6
Estimated Manning in Nondivisional Units at or Near Full Strength and at Reduced Strength

Unit	Subordination	Estimated Manning	Approximate Percent of Full Strength
Scud brigade	Army, corps, or military district	805-1,105	75-100
Scaleboard brigade	Military district	805-1,105	75-100
SA-4 surface-to-air missile brigade	Army, corps, or military district	795-1,050	70-95
Signal regiment	Army	495-795	55-85
Signal regiment or brigade	Military district	700-1,045	60-85
R-400/404 radio relay battalion	Military district	165-270	45-70

equipment is sophisticated and requires highly skilled operators, and intensive training and high peacetime manning levels are required to maintain unit proficiency. Reservists generally cannot maintain sufficient skills to make units with this equipment proficient soon after mobilization.

at least some of these highly technical units need augmentation by selected reservists in time of war. For example, the manning ranges for Scud, Scaleboard, and SA-4 brigades vary between 70 and 100 percent of estimated full wartime strength. Some of the brigades are about as highly manned as maneuver divisions at or near full strength—that is, above 95 percent. But, because some of these units have somewhat lower manning, we believe they would need a limited mobilization of reservists in a wartime situation.

Reduced-Strength Units

Analysis suggests that certain nondivisional units are manned at a reduced-strength level that varies from 50 to about 85 percent. This grouping includes at least three different nondivisional types: army-subordinate signal regiments, military district–subordinate signal regiments or brigades, and R-400/404 radio relay battalions. All three are command and control units. The signal regiments and brigades subordinate to both the army and the military district are manned at about 55 to 85 percent of full wartime strength. The military district radio relay battalion is manned at about 45 to 70 percent of full strength.

several of these command and control units maintain additional equipment in storage and would expand in wartime. This is true especially of the R-400/404 radio relay battalions and to a lesser degree of signal regiments. Also, several of the signal regiments reportedly provide refresher training to reservists at regularly scheduled intervals. This practice appears to correlate well with the reduced strength of these units and indicates that the Soviets plan to mobilize additional personnel for signal regiments in time of war.

It is probable that these high manning levels occur in command and control units because of their importance in both the mobilization and the peacetime training of Soviet ground forces. These units pass mobilization orders down from the General Staff to the subordinate commands and pass information on the status of the mobilization back up the same control network to the General Staff.

Another reason for keeping signal units highly manned is that some of their equipment is highly technical and requires more intensive training for its operation than can be provided to reservists through periodic refresher training.

Cadre-Strength Units

we judge that most cadre-strength nondivisional units are manned at less than 40 percent of full wartime strength, though a few

Table 7
Estimated Manning in Nondivisional Units at Cadre Strength

Unit	Subordination	Estimated Manning	Approximate Percent of Full Strength	Remarks
Artillery brigade	Army or corps	195-310	10-20	
Artillery division	Military district	1,030-1,360	10-15	
Multiple rocket launcher regiment	Army or corps	400-450	45-55	
Heavy artillery brigade	Military district	180-450	20-50	
Engineer battalion	Army or corps	175-330	15-35	Expands to regiment in wartime
Engineer regiment	Military district	465-570	30-40	Possibly expands to brigade in wartime
Pontoon bridge battalion	Army or corps	90-255	10-30	Expands to regiment in wartime
Pontoon bridge regiment	Military district	550-745	40-55	Possibly expands to brigade in wartime
Chemical battalion	Army, corps, or military district	165-270	30-50	Expands to regiment in wartime
Signal battalion	Corps	200-250	20-25	Expands to regiment in wartime
Signal regiment	Reserves of the Supreme High Command	460-800	25-40	Possibly expands to brigade in wartime

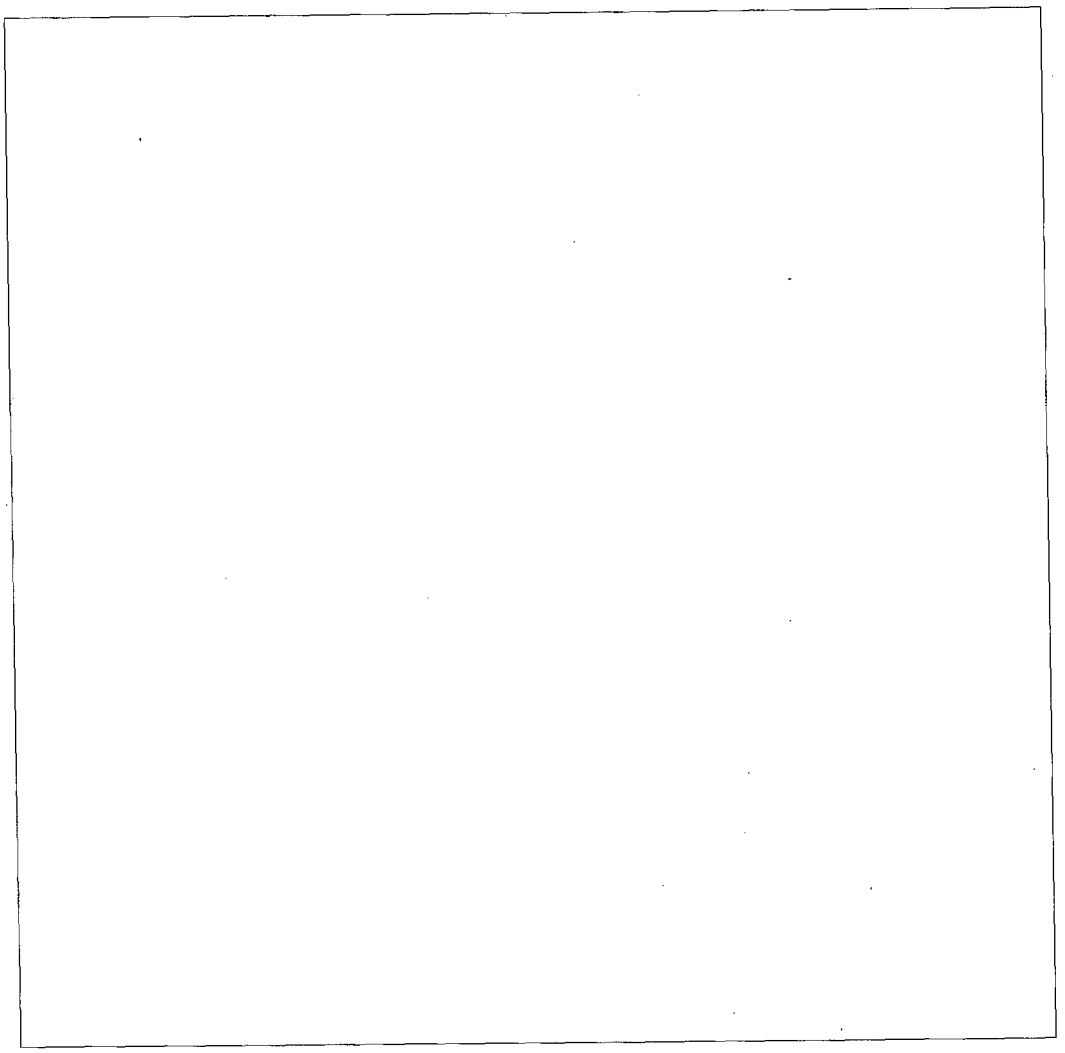
have almost 50 percent. All these units would require an extensive mobilization of reservists to begin to become ready for combat. Units in this cadre-level group at army or corps level include artillery brigades, multiple rocket launcher regiments, engineer and pontoon bridge battalions, and signal and chemical battalions. Cadre-level units at the military district level include artillery divisions, heavy artillery brigades, engineer and pontoon bridge regiments, and chemical battalions.

Artillery Units. Among nondivisional artillery units, brigades and divisions have the lowest peacetime manning. Manning in artillery brigades is low (10 to 20 percent of full strength), but manning in artillery divisions is even lower (10 to 15 percent).

The Soviets achieve this large reduction in artillery units as they do in cadre-strength maneuver division regiments and subunits. Emigres report that all line officer positions at battery level and above are manned, whereas active-duty enlisted men are concentrated either in one firing battalion or in one firing battery in each battalion.[1]

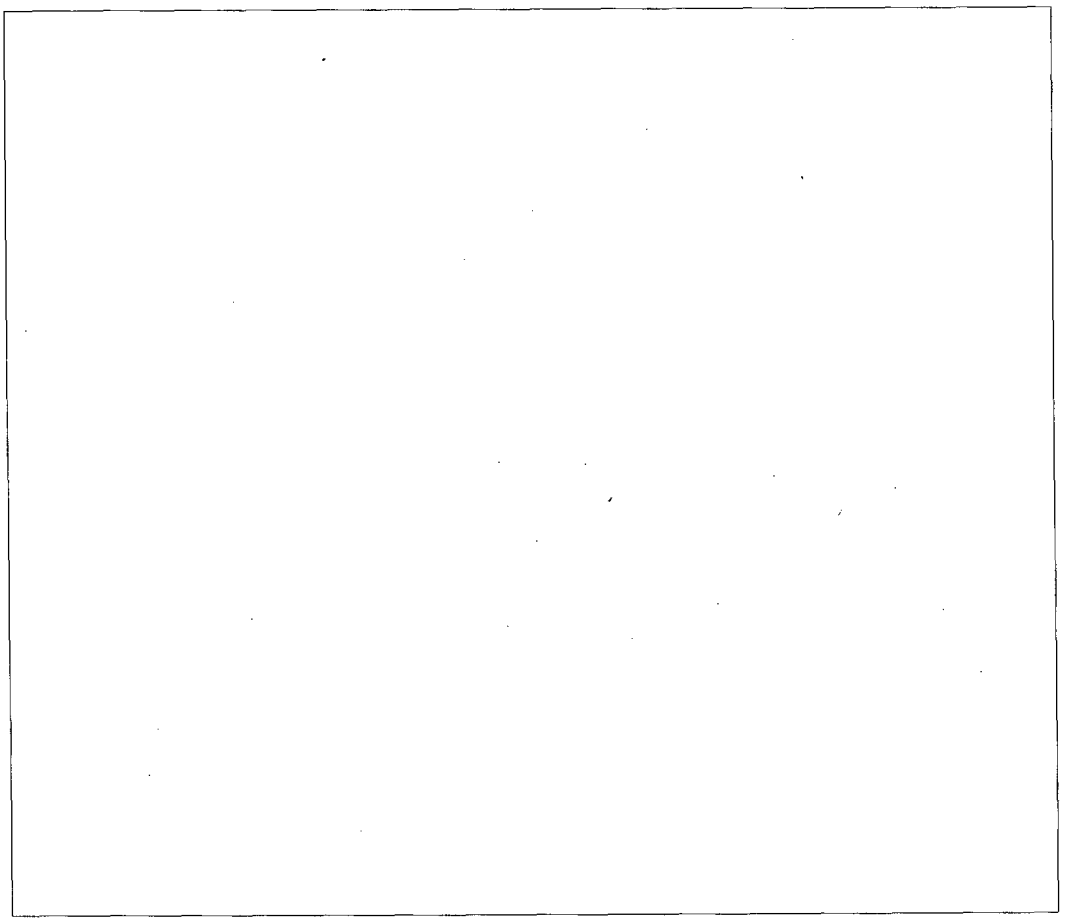
In order to facilitate training, these well-manned subunits may have a full mix of the weapons used in the parent unit. A primary mission of assigned enlisted men is maintenance of equipment in conservation storage. As in the cadre tank and motorized rifle units, training suffers because of the lack of personnel and the heavy maintenance demands on those personnel who are available.

[1] A few enlisted men are also assigned to necessary support units.



In specialized nondivisional artillery units such as heavy artillery brigades and army-subordinate multiple rocket launcher (MRL) regiments, manning is usually higher than in artillery brigades or divisions—between 20 and 50 percent of full strength. As in the artillery brigade and division, at least one battalion is highly manned and other battalions are manned at cadre level, with commanding officers and a few enlisted men. Because the heavy artillery brigade is equipped with two major weapon systems—203-mm howitzers and 240-mm mortars—the artillery battalion manned in peacetime consists of firing batteries of [illegible] weapons.[18]

[18] reports were available only on heavy artillery brigades equipped with older towed weapons and not on those with the new self-propelled weapons.



Other Units. Other types of nondivisional combat support and service support units examined included:

- Engineer units, pontoon bridge units, chemical battalions, and signal regiments subordinate to armies or corps.
- Engineer and pontoon bridge regiments and chemical battalions subordinate to military districts.
- Signal regiments subordinate to the Supreme High Command (RVGK).

Analysis of reports indicates that these diverse units are manned at a cadre level and maintain major equipment inventories in conservation storage. In most instances, the unit has enough equipment available to virtually double in size when mobilized. Within these units the Soviets concentrate their manpower in nearly full strength companies or battalions.

Figure 8
Selected Nondivisional Units: Peacetime and Wartime Organization and Manning

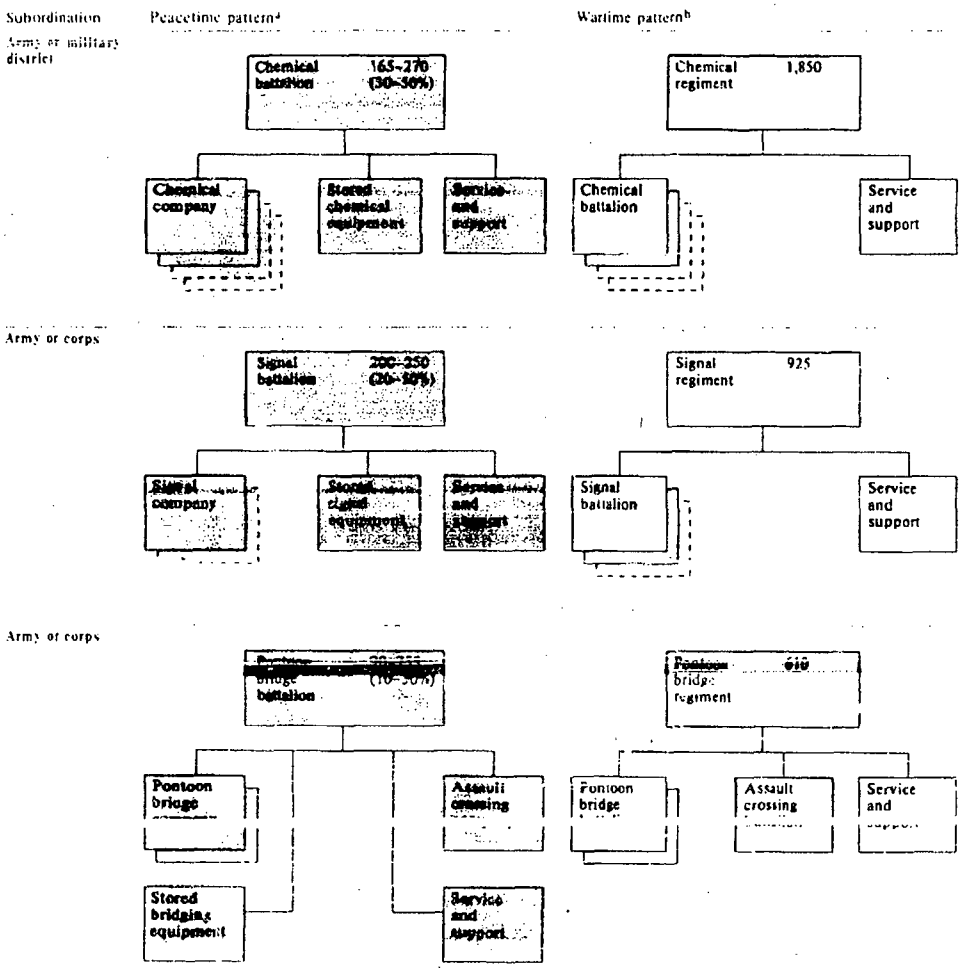
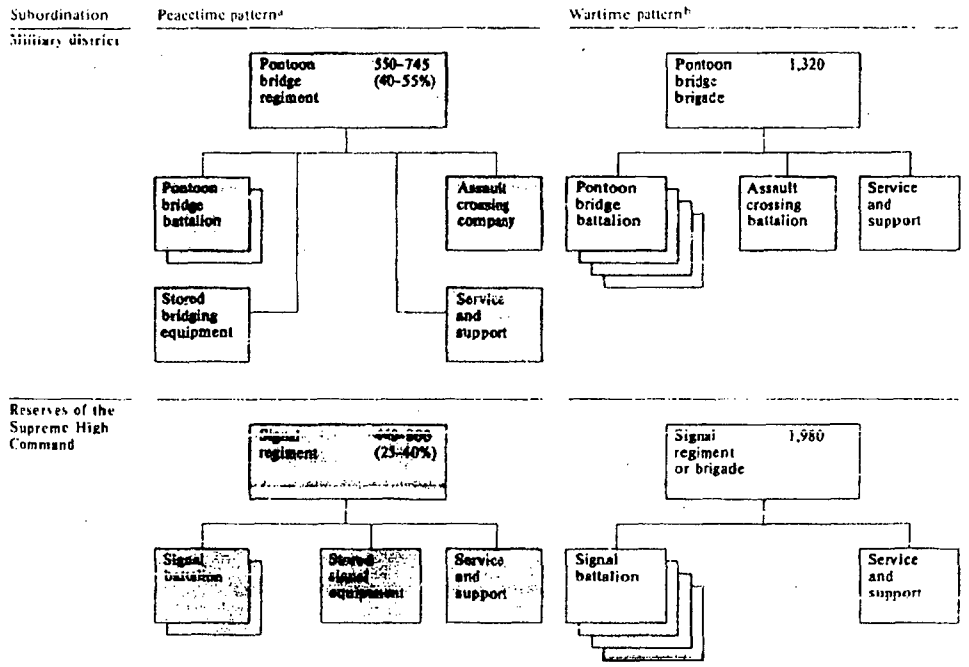


Figure 8 continued



[a] Numbers indicate peacetime manning ranges.
[b] Numbers indicate full wartime manning.

Note: The possible expansion can occur in two ways. In one, the individual unit simply expands to the next larger size as its subunits expand in size. Thus, for example, a chemical battalion with two chemical companies in peacetime would become a regiment with two battalions in wartime, and as noted above, one that had four companies in peacetime would become a four-battalion regiment in wartime. In the other mode of expansion, the number of basic units increases. An individual unit (for example, a peacetime pontoon bridge regiment with two battalions) becomes a larger unit (brigade) with four battalions in wartime.

By concentrating resources during peacetime the Soviets ensure effective training for their specialists, because most personnel are serving in what could be described as ready units. Most nondivisional units manned in this manner are programed to expand upon mobilization. Thus, a pontoon bridge battalion manned at full strength in peacetime would become a pontoon bridge regiment in wartime.

Figure 8 illustrates the peacetime organization and estimated manning ranges of various nondivisional units and their wartime expansion using these manning practices.

Consequences of Manning Practices

We have advanced certain hypotheses, such as mission and location, to explain the Soviet manning patterns identified, although we have little direct evidence on the reasons for any particular manning pattern or on specific factors influencing the Soviets when they establish overall manning policies. Even if our knowledge of the motivation is scanty, however, we can examine the effect that particular manning patterns and policies have on certain combat factors such as training, reservist requirements, and mobilization procedures.

Training

In formations manned above 50 percent, most of the subordinate subunits have adequate personnel on hand for peacetime training. In these formations, the Soviets deliberately fill their skill positions in peacetime but leave noncritical support positions unmanned. Because available personnel are concentrated into higher manned subunits, small-unit training (at battalion level and below) is virtually unaffected. Furthermore, most formations manned above 50 percent need to call up only a small number of reservists to conduct a full regimental field exercise.

In units with cadre manning, however, the manning practices extensively affect training, especially training involving larger formations such as motorized rifle, tank, and artillery divisions. In some of the larger formations, manning reductions in subordinate elements are so severe that only one company, battery, or battalion is able to undertake routine training. Therefore, training probably is restricted to company or battalion level, at best, with no larger unit training unless extensive mobilization of reservists is carried out. In addition, this single manned company or battalion of enlisted personnel must maintain all of the larger formation's equipment in conservation storage, stand guard duty, and perform other details common to their ranks. These nontraining tasks further degrade the unit's readiness or proficiency.

Cadre-level tank units, although not exempt from personnel reductions, are affected less than other types of cadre units. This appears to be intentional and probably relates to their greater maintenance needs.

Reservist Requirements

By designing a large force structure consisting in peacetime principally of units with reduced manning, the Soviets have linked their full combat potential to the quality of their reserve training program. We estimate that they would need about 2.5 million reservists to bring up to full strength all their reduced-strength ready and their not-ready units. Peacetime manning practices dictate a greater demand for reservists with certain specialties—artillerymen, riflemen, and ammunition handlers, for example—than for reservists such as tank driver/mechanics and communicators. The Soviets have developed an extensive program of reservist callups in an attempt to ensure that adequate reserve personnel are available during peacetime. The principal training agent is the peacetime Soviet ground forces in the USSR—sometimes called the school for reservists.

We have seen several patterns of reserve training conducted by active units. indicated that reservists reported every six months to their units for refresher training, and others mentioned a callup

of reservists each summer or once a year. Mobilization of reservists, however, is not necessarily confined to military training. Our analysis indicates that reservists are more frequently called up to perform maintenance on equipment or to help with harvests than they are for refresher training. In addition to recalls of reservists for refresher training, several sources indicated that their units (1) conducted a full mobilization exercise every three to five years or (2) conducted such an exercise while they were serving. These mobilization exercises often involved as many as 10,000 reservists, who could be called up for 10 to 40 days of training.

Because of the extensive dependence on reservists, the reservist training program has several important weaknesses that would affect the combat potential of mobilized units. We have identified important differences in the availability of certain skills, particularly of skilled electronics technicians. Furthermore, some types of units, such as artillery and engineer units, are manned at low levels and yet train far fewer men than they would need upon mobilization. A cadre division that could fill its rifle and tank regiments with recently trained reservists might have to call up some gunners and engineers who had been in civilian life for six years or more. With this possibility for reduced performance, the mobilized artillery and engineer units would have an impact relatively greater than that of the rifle and tank units on the potential combat effectiveness of the division as a whole.

The reserve system can fill out all existing units upon mobilization, but some specialist slots would have to be filled by reservists who have not been trained for many years. Because many reservists are not recalled for the required refresher training, their proficiency upon mobilization would be questionable. Although units conduct regular training for reservists, different groups are called up each time, and an individual reservist may be assigned to a different unit each time he is called up. This procedure hampers the development of unit cohesion—a handicap that reduces a mobilized unit's combat proficiency.

Mobilization Procedures

Given the Soviets' dependence on mobilization to create full-strength ground force units, mobilization procedures would be critical to their success in a wartime crisis. Two and one-half million men and several hundred thousand pieces of equipment would be incorporated into the active force in the event of general mobilization. Standard, well-rehearsed guidelines and procedures are used to help ensure the smooth transition of the ground forces to a wartime footing. each unit maintains a roster of assigned reservists. These reservists, who generally live nearby, are required by law to report within a certain time after notification—often within 24 hours.

Reduced-strength units that lack only 20 to 40 percent of their wartime strength would have enough men and vehicles to collect many of the reservists selected for mobilization and take them to assembly points where they would pick up personal gear. In cadre-manned units, however, the low peacetime manning makes this impossible except for the most essential reservists, such as driver/mechanics. Soldiers with these skills are mobilized first so that they can move unit equipment from garrisons to assembly points. Other reservists mobilized at this time—the bulk of the divisional manpower—would be notified by the local reserve authorities (the *voyenkomat*) and would use public transportation to reach assembly points.

Because of the manning practices and the applicable mobilization procedures, the clearest indications of large-scale mobilization probably would come from cadre-manned nondivisional units with equipment in conservation storage and from cadre-level motorized rifle divisions manned between 10 to 20 percent of full strength. Their mobilization would require up to six days and would probably occur in distinctive phases. Activity levels associated with these cadre units during peacetime is low because of the lack of manpower. Activity associated with mobilization would be intense, and we believe it would be readily detectable

Conclusions

Soviet manning practices allow for a broad range of patterns in both divisional and nondivisional units. These manning practices provide (1) a well-trained, well-equipped, and high-manned ready force capable of combat operations on short notice and (2) a far larger, low-manned, not-ready force able to mobilize rapidly in an emergency. Ready units can engage in operations after alert if necessary or, more likely, can cover the mobilization of the not-ready forces. The many not-ready units contain some ready regiment- or battalion-size subunits, a practice that provides a number of small but ready units throughout the force. Such units provide a trained nucleus of personnel who can manage the mobilization effort of the parent unit.

The Soviets derive certain clear benefits from their manning practices. These include:

- *Effective use of personnel.* Critical positions are manned. Personnel reductions occur first in less critical, and usually less skilled, support or service functions. The greatest concentration of ready units is found in border areas. They ensure that well-trained, high-manned units are available for quick reaction in case of an emergency along the Soviet borders.

- *Limited need for active-duty personnel.* Only units at full strength or reduced strength require large numbers of troops, and they make up less than 50 percent of all units in the Soviet ground forces. In cadre units, small numbers of personnel, concentrated into small ready subunits, can satisfy the training and maintenance demands and provide effective mobilization nuclei.

- *Optimized training resources.* Training is very similar in full-strength and reduced-strength units but is sharply curtailed in cadre units. Thus, a full training program is followed where there are sufficient personnel to make it realistic.

- *Flexible personnel management procedures.* In reduced-strength and cadre divisions, subordinate units with similar strength group their enlisted personnel in several different ways. This implies that the application of the overall policy is left to the discretion of local military representatives, such as military district or division commanders.

- *Replenishment of reserve system.* Each year about 650,000 troops—most of whom served in well-trained ready units—are released to the reserves, thus constantly replenishing the reserve manpower pool. Many reduced-strength and cadre units conduct both mobilization and refresher training during the year. This activity familiarizes the reservists with mobilization procedures and refreshes their military skills.

These manning practices are not without drawbacks, however. The cadre units would have to mobilize a large number of reservists to reach full strength. These men must be given refresher training during peacetime and would need further training after mobilization, if the cadre units are to be proficient and cohesive fighting entities. Furthermore, during a general mobilization the active-duty cadres would face a tremendous training burden, for which they apparently have no specialized preparation. Finally, the sheer magnitude of the mobilization effort—involving up to 2.5 million men—and the assimilation of these personnel into the force would create unique problems that the Soviet Union has not faced in the post–World War II era.

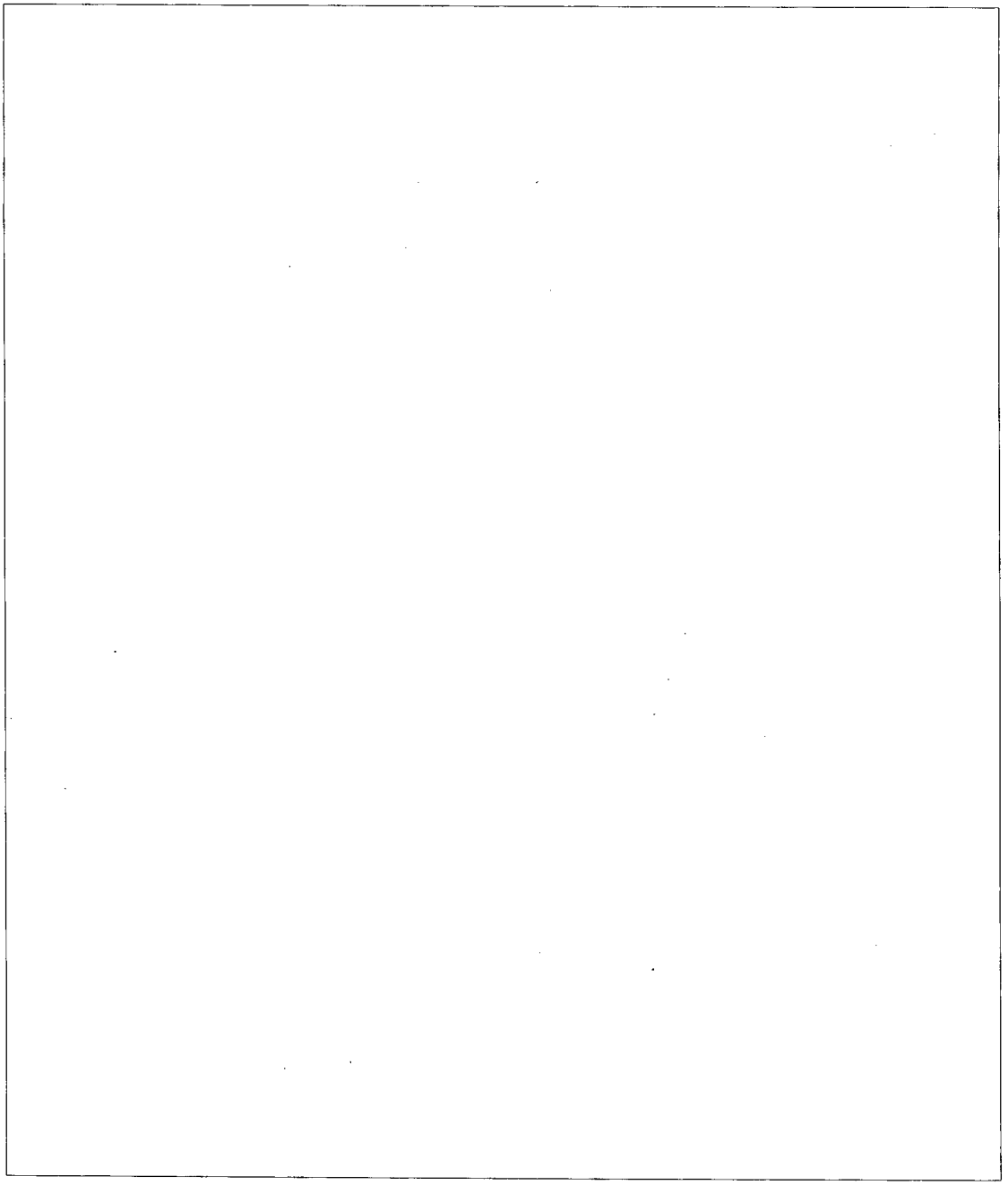


Table 8
Estimated Manning Ranges in Subunits of Reduced-Strength Motorized Rifle Divisions and Tank Divisions

Unit	Estimated Manning Range	Approximate Percent of Full Strength
Tank regiment	735-875	75-90
Motorized rifle regiment	1,000-1,800	40-80
Artillery regiment	500-690	50-70
Multiple rocket launcher battalion	115-220	50-90
Antitank battalion	100-200	50-99
FROG battalion	90-165	55-95
Surface-to-air missile regiment	350-460	70-95
Reconnaissance battalion	130-220	40-65
Signal battalion	205-220	75-85
Chemical battalion	65-190	30-85
Engineer battalion	215-380	55-95
Motor transport battalion	200-305	55-85
Maintenance battalion	165-215	70-95
Medical battalion	50-110	30-65
Headquarters and other	355-475	75-99

Table 9
Estimated Manning Ranges in Subunits of Cadre-Strength Motorized Rifle Divisions and Tank Divisions

Unit	Estimated Manning Range	Approximate Percent of Full Strength
Tank regiment	280-425	25-40
Motorized rifle regiment	155-220	5-10
Artillery regiment	105-150	10-15
Multiple rocket launcher battalion	100-125	40-50
Antitank battalion	80-100	40-50
FROG battalion	85-175	50-100
Air defense regiment	100-200	25-50
Reconnaissance battalion	10-45	5-15
Signal battalion	50-105	20-35
Chemical battalion	5-20	5-10
Engineer battalion	40-75	10-20
Motor transport battalion [a]	20-60	5-15
Maintenance battalion	40-130	15-55
Medical battalion	10-20	5-10
Headquarters and other	100-110	20-25

[a] Only one company of the battalion is manned and equipped in peacetime.

Table 10
Interval Estimate for Motor Transport Battalions in Reduced-Strength Motorized Rifle and Tank Divisions [a]

Unit	Military District	Manning From Source Reports
40th Motorized Rifle Division Smolyaninovo	Far East	275
29th Motorized Rifle Division Kamen' Rybolov	Far East	240
78th Tank Division Ayaguz	Central Asia	300
40th Guards Tank Division Sovetsk	Baltic	200
40th Guards Tank Division Sovetsk	Baltic	270
40th Guards Tank Division Sovetsk	Baltic	165
24th Motorized Rifle Division L'vov	Carpathia	250
1st Guards Motorized Rifle Division Kaliningrad	Baltic	250
120th Guards Motorized Rifle Division Minsk	Belorussia	240
127th Motorized Rifle Division Leninakan	Transcaucasus	400
54th Motorized Rifle Division Alakurtii	Leningrad	200