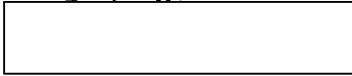


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DIRECTORATE OF
INTELLIGENCE

Intelligence Report

*The Soviet Motorized Rifle Division and Tank Division:
Organization, Size, and Logistic Capability*

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November 1970

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
November 1970

INTELLIGENCE REPORT

The Soviet Motorized Rifle Division and Tank Division:
Organization, Size, and Logistic Capability

Introduction

In the early Sixties Warsaw Pact ground forces were structured to optimize their effectiveness for operations in conjunction with theater nuclear war. In particular, artillery was sharply reduced--in part because it was assumed that nuclear weapons would perform the breakthrough role formerly assigned to those weapons. Logistic support was also reduced to improve mobility and reduce vulnerability.

Since the mid-Sixties, articles in the Soviet military press and the scenarios of military exercises have indicated that Soviet military doctrine now accepts the possibility of nonnuclear hostilities between NATO and the Warsaw Pact. This same evidence suggests, however, that the Soviets expect that NATO would initiate tactical nuclear strikes if a Pact nonnuclear offensive achieved initial success.

This report evaluates those changes in the organization and strength of two representative first-line Soviet divisions in the Group of Soviet Forces in Germany since they were last analyzed in depth in 1967. It assesses in detail their logistic capabilities, measures to what extent Soviet divisional organization has been affected by the shift in tactical doctrine, and projects likely future developments.

The conclusions drawn from this analysis are summarized beginning on page 25. Sources and methodology, together with detailed data, are presented at Annex beginning on page 28.

Note: This report was produced solely by CIA. It was prepared by the Office of Strategic Research and coordinated with the Office of National Estimates.

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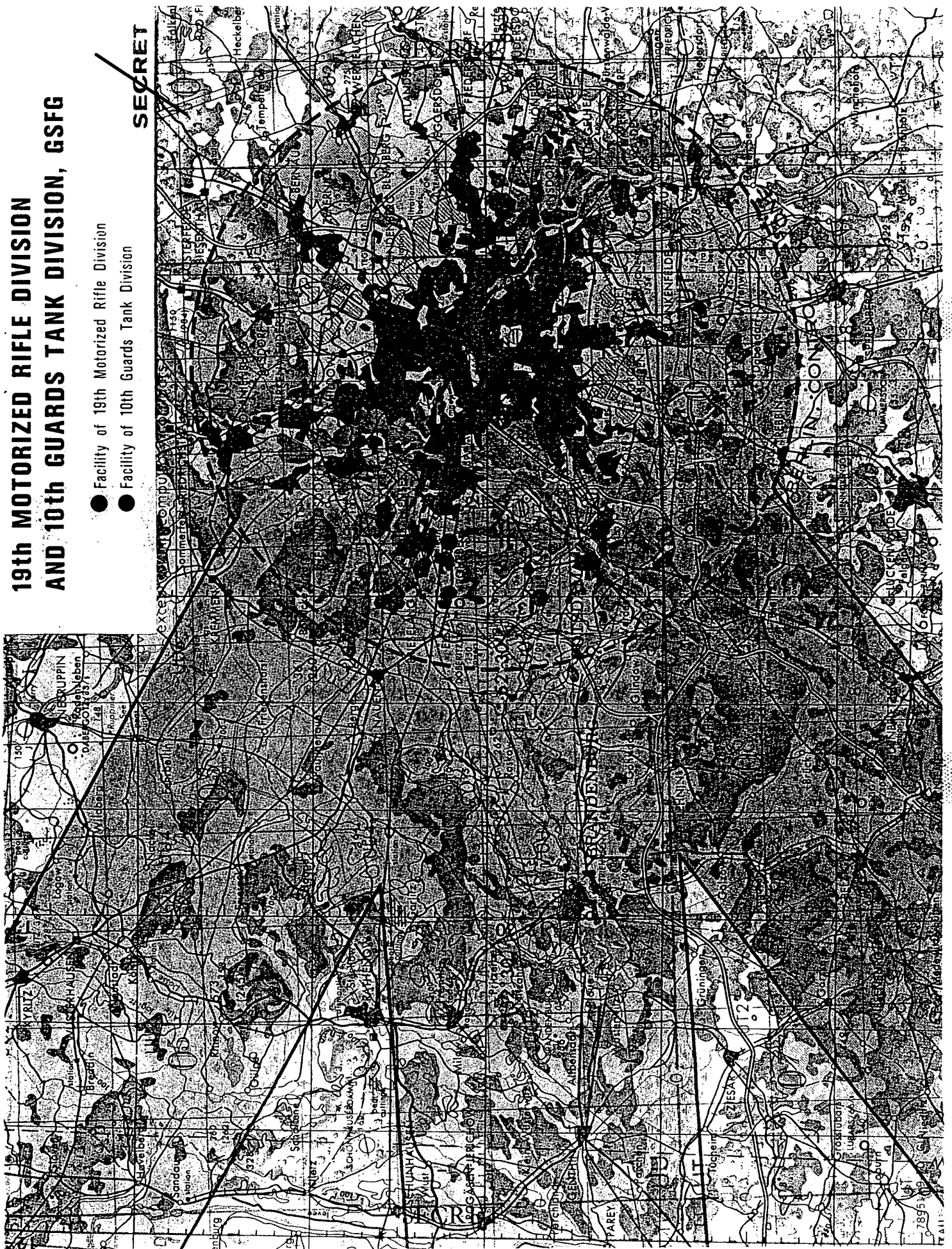
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19th MOTORIZED RIFLE DIVISION AND 10th GUARDS TANK DIVISION, GSFG

- Facility of 19th Motorized Rifle Division
- Facility of 10th Guards Tank Division

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Organization and Equipment

Two divisions in the Group of Soviet Forces in Germany (GSFG)--the 19th Motorized Rifle Division and the 10th Guards Tank Division--are believed to be representative of first-line Soviet divisions and serve as a standard against which all other Soviet line divisions can be measured. (See the map, facing.) The field artillery strengths in both of the divisions have been substantially augmented during the past several years. Aside from this change, however, and gradual improvements due to modernization, the general organizational structures of both remain essentially what they have been since the early Sixties (see the charts on pages 6 and 7).

The overall equipment strength of each division has been increased by about 100 major items since 1967, mostly as a result of the artillery augmentation. The current equipment totals are about 2,300 for the tank division and 2,400 for the motorized rifle division.

The results of the analysis of the organization and equipment of these two combat ready divisions are summarized in this section and in the tables at Annex, beginning on page 28.

19th Motorized Rifle Division

The 19th Motorized Rifle Division (MRD), garrisoned in the Dallgow-Doeberitz area, has increased in size since early 1968. Some 100 vehicles and major items of equipment have been added, increasing the total equipment count from about 2,300 to about 2,400 (see Table 1 at Annex on page 32). This growth is largely attributable to increases in organic divisional and regimental artillery and consequent increases in supporting vehicles.

The artillery regiment of the 19th MRD was increased from eight to nine batteries in mid-1968 with the addition of a six-gun 152mm howitzer battery. This brings the regiment to a total of 54 guns--18 152mm howitzers and 36 122mm howitzers.

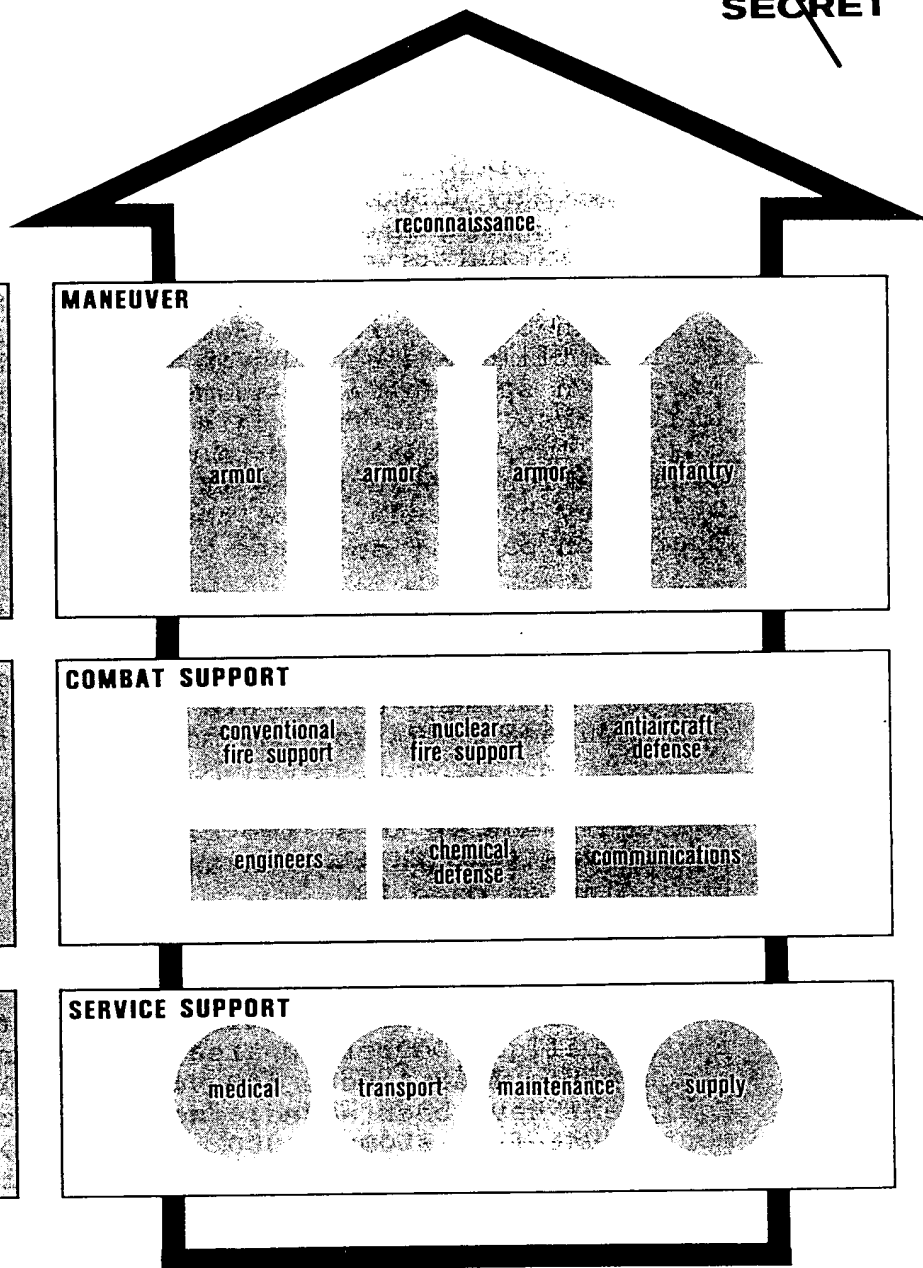
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SOVIET TANK DIVISION

reconnaissance battalion
 tank regiment
 tank regiment
 motorized rifle regiment

artillery regiment
 multiple rocket launcher battalion
 FROG battalion
 artillery reconnaissance battery
 antiaircraft artillery regiment
 engineer battalion
 signal battalion
 chemical defense company

headquarters company
 motor transport battalion
 maintenance battalion
 medical battalion
 traffic control company
 field bakery



Soviet ground forces consist mainly of tank divisions and motorized rifle divisions. Tank divisions are optimized to achieve a rapid breakthrough of enemy positions. Motorized rifle divisions are structured for use against heavily defended areas and in terrain not suitable for tanks. Their organic armored infantry transport, however, allows them to keep pace with the offensive tempo set by the tank divisions.

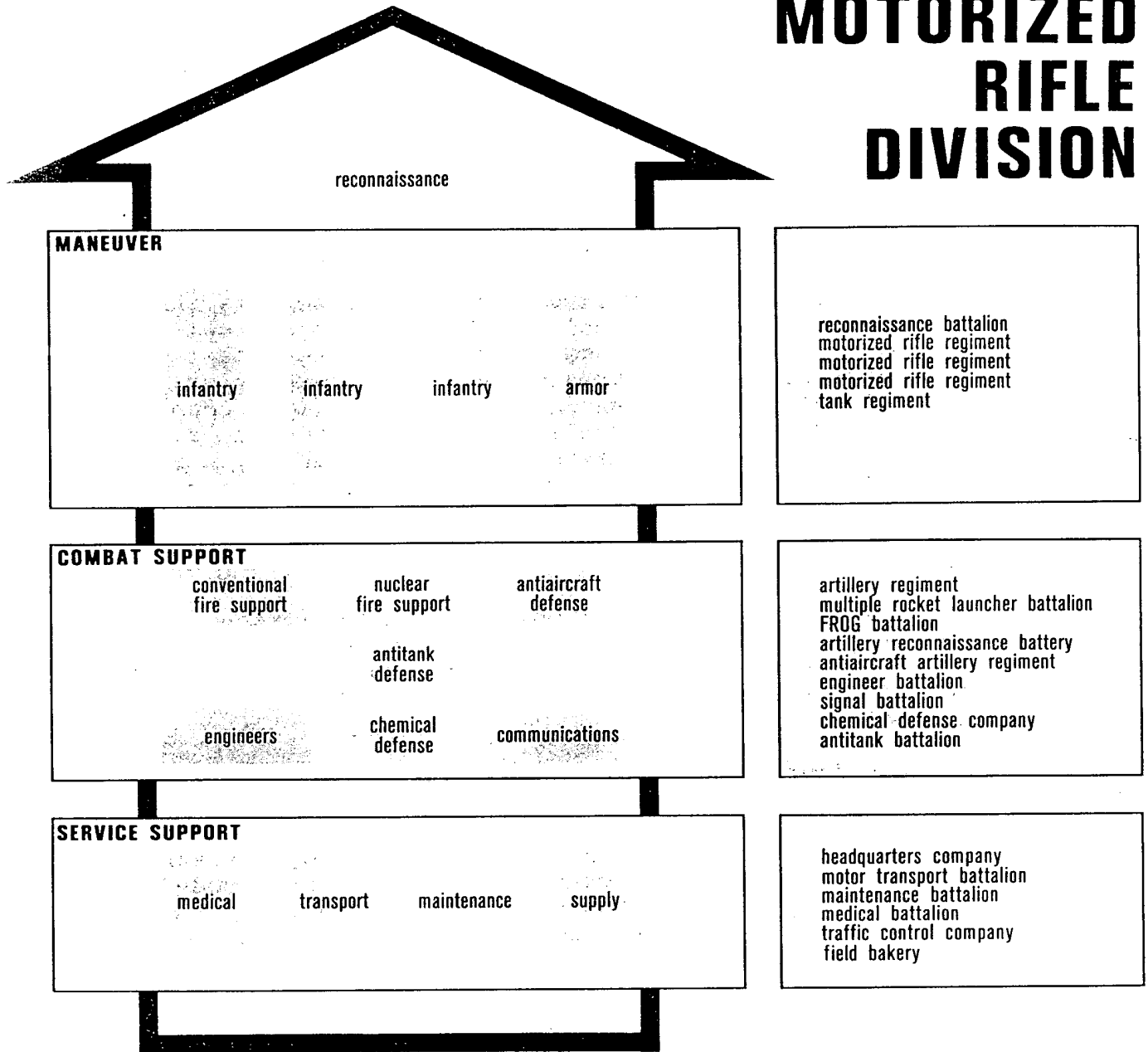
Organizationally, both tank and motorized rifle divisions are comprised of three basic functional elements:



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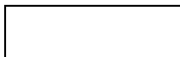
SOVIET MOTORIZED RIFLE DIVISION



The maneuver elements—the direct combat force—are the motorized rifle and tank regiments and a reconnaissance battalion. These elements receive combat fire support from rocket and tube artillery units.

The combat support elements—such as the engineers who provide a river and stream crossing capability, the signal units, the anti-aircraft defenses, and chemical and biological defense units—are common to both types of divisions. The rifle division also contains an antitank unit.

The service support elements provide the supply, maintenance, and general housekeeping activities for the division in peacetime or war.



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Before the introduction of the additional howitzer battery, a Soviet artillery regiment had an estimated 205 vehicles and pieces of equipment. Current analysis indicates that this regiment has about 210 major equipment items. This total includes the six additional howitzers and the newer ZIL-131 cargo trucks which replaced older model trucks as prime movers and general transport vehicles for their logistic support.

This new artillery organization incorporates what appears to be an important tactical and logistical trend. Formerly, the supporting elements of the regiment included a cargo vehicle which had a carrying capacity of no more than 2.5 metric tons (mt). Many of these trucks have apparently been replaced on a one-for-one basis by the newer ZIL-131 truck with a capacity of 3.5 mt, increasing the load carrying capability of the regiment to provide for the additional howitzer battery without increasing the number of trucks.

The division's rocket units, the FROG (free-rocket-over-ground) battalion and the multiple rocket launcher battalion, have also been increased in size, adding to the division's nuclear and nonnuclear fire support.

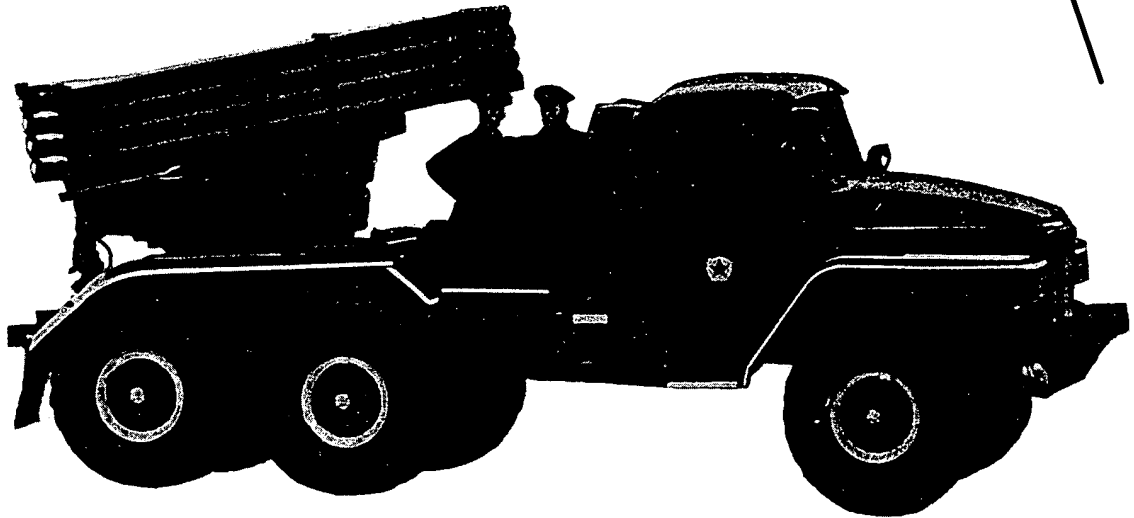
One launcher has been added to the FROG battalion and there are now four launchers organized into two firing batteries of two launchers each. In addition, the new wheeled FROG-7 has replaced the older, tracked models (see lower photograph on page 9). The FROG-7 system includes a new resupply vehicle, built on the same chassis as the launcher and carrying three rockets rather than one. The new resupply vehicle has not yet been observed in the FROG units of the 19th MRD but has been supplied to other Soviet units in Germany. One of these resupply units per launcher would increase the total number of rockets available in the division from the present 8 to 16 (four on the launchers and three on each resupply vehicle).

A major increase in total division firepower has been achieved by the introduction of a battery of 6

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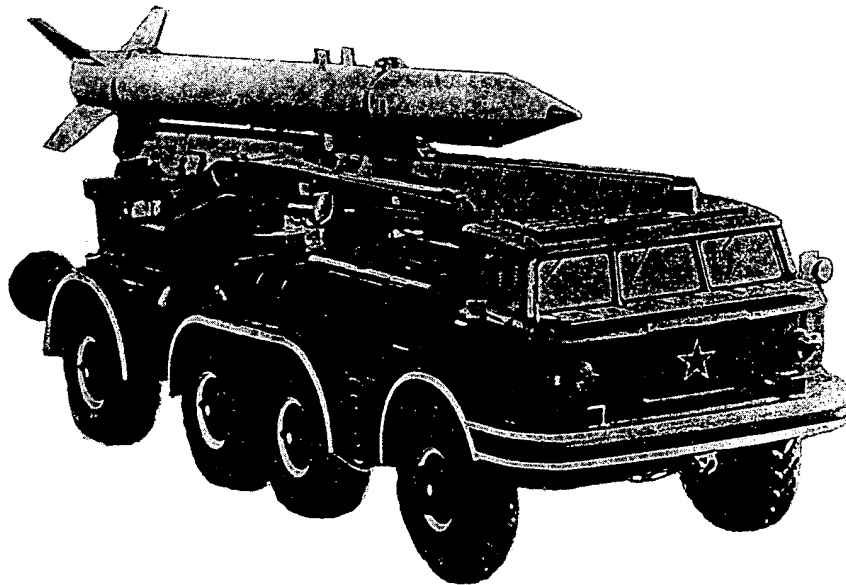
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122 mm Rocket Launcher (40-round) BM-21

Weight with launcher and rockets	13 metric tons
Vehicle speed	47 miles per hour
Vehicle cruising range	252 miles
Reload time	10 minutes
Crew	Six men
Rocket range	16,410 yards



Free Rocket Over Ground (FROG-7)

Weight with launcher and rocket	20 metric tons
Vehicle speed	41 miles per hour
Vehicle cruising range	311 miles
Rocket range	37 nautical miles



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122mm BM-21 rocket launchers (see top photograph on page 9) in the multiple rocket launcher battalion, augmenting the 12 older 140mm BM-14 rocket launchers. The BM-21 is a 40-round launcher which rapidly expends large amounts of ammunition, calling for extensive mobile stocks.

The antitank battalion has undergone a greater transformation over the past several years than any other element of divisional artillery. Before 1968 the antitank unit was a six-gun battery probably attached to divisional artillery headquarters for administrative and logistic support. Since that time it has been increased to three six-gun batteries, probably organized as a separate battalion administratively subordinate to the division headquarters. This new organization was first observed in early 1969 after the division returned from Czechoslovakia in late 1968. (Previous estimates of the equipment holdings of the antitank battalion have included a battery of antitank guided missile vehicles. There is no current evidence to indicate that the antitank battalion of the 19th Motorized Rifle Division does in fact have guided missiles. There is, however, a battery of nine antitank guided missile vehicles in each motorized rifle regiment.)

The heavy mortar support was increased to a total of 18 tubes for each motorized rifle regiment, with a six-tube battery directly subordinate to each of the three rifle battalions. Formerly the mortar units were subordinate to the regiment, and each regiment had 15 tubes. In addition, a six-gun 122mm howitzer battery was added to each motorized rifle regiment, providing additional fire power.

Recently the 19th MRD has begun receiving the BTR-60 armored personnel carrier (APC), replacing the obsolescent BTR-152. Some other Soviet divisions in Germany have been equipped with the BTR-60 since about 1963, but it was not until late 1969 that the 19th MRD, formerly fully equipped with the BTR-152, was observed with the newer BTR-60. The BTR-60 is amphibious and has significantly better mobility and armament than the BTR-152. It is not yet known how many

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BTR-60s will be allocated to each regiment, but in any case the combat effectiveness of the division's infantry is being increased.

The 19th MRD evidently has not been issued any of the newest model Soviet APCs--the tracked amphibious squad fighting vehicle called the infantry combat vehicle, which mounts a 76mm smoothbore cannon and an antitank missile launcher. This vehicle is being introduced into motorized rifle units in the USSR but has not yet been identified with Soviet forces in Germany.

The currently estimated equipment holdings of the 19th MRD are shown at Annex by number in each subordinate unit in Table 3 on page 36 and by type of equipment in Table 4 on page 37.

10th Guards Tank Division

The 10th Guards Tank Division (GTD), garrisoned at Krampnitz and Potsdam, has also been strengthened by the addition of about 100 vehicles and pieces of equipment since early 1968. The total of major items of equipment in the tank division is now about 2,300 (see Table 2 at Annex on page 34). The increases, like those in the 19th Motorized Rifle Division, consist largely of additional divisional and regimental artillery and supporting logistics vehicles.

The artillery regiment of the 10th GTD previously had 36 guns, 12 fewer than the artillery regiment of the rifle division. Since 1967, 18 122mm howitzers have been added to the tank division's artillery regiment, raising its total to 54 guns--the same number now found in the motorized rifle division's artillery regiment. This increase probably reflects a Soviet perception of a greater need for conventional supporting fire for the tank division. The FROG and multiple rocket launcher battalions of the tank division were increased to the same levels as those now found in the motorized rifle division. The multiple rocket launcher battalion of the tank division has been fully equipped with 18 of the new BM-21 rocket launchers, replacing the 12 240mm BM-24s. To meet the ammunition supply needs of the BM-21,

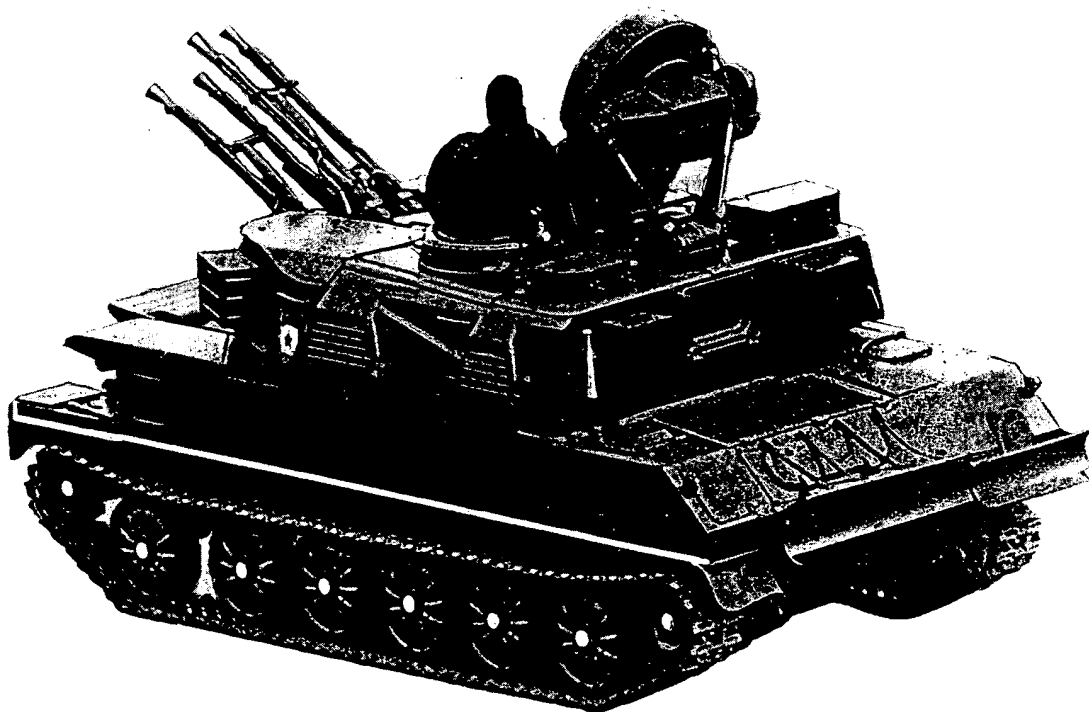
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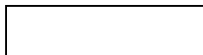
the Soviets have provided the battalion with at least 20 Ural-375 trucks and 20 two-axle cargo trailers, each with a 5-mt capacity. The Ural-375 is the largest of the general purpose transport vehicles now being introduced into either the tank or motorized rifle division.

Two of the four line regiments of the tank division have been observed with the ZSU-23-4, a self-propelled AA weapon which mounts four 23mm cannons and has an integral radar direction system (see photograph below). According to [redacted] the addition of the ZSU-23-4s to the existing AAA battery forms a battalion. The rifle regiment of the tank division now has its original six-gun battery of ZPU-4s (towed quadruple 14.5mm guns) and two four-gun batteries of ZSU-23-4s. In the three tank



ZSU-23-4 23mm Self-Propelled Antiaircraft Gun

Weight	14 metric tons
Vehicle speed	25 miles per hour
Vehicle cruising range	155 miles
Crew	Four men
Maximum rate of fire	1,200-1,400 rounds per minute
Effective range (slant)	6,600 feet



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regiments, two four-gun batteries of ZSU-23-4s were added to the four-gun battery of ZSU-57-2s, self-propelled dual 57mm AA guns.

At least two of the four line regiments of the tank division have also received some Ural-375s as part of their motor transport, probably replacing older and lighter cargo vehicles.

The currently estimated equipment holdings of the 10th GTD are shown at Annex, by number in each subordinate unit in Table 3 on page 36 and by type of equipment in Table 4 on page 37.

Personnel Strengths

Although the equipment levels of these Soviet divisions can be determined with a high degree of accuracy, no comparable methodology has been developed to accurately determine the absolute levels of personnel strengths of Soviet units. There is reliable recent evidence, however, that the authorized wartime strength of a Soviet motorized rifle division is about 10,000 men and that of a tank division about 8,000. Small personnel increases which have resulted from the subsequent artillery reorganization have probably not affected these totals significantly.

Actual peacetime manning levels of Soviet divisions in East Germany are probably significantly less than 100 percent of wartime strength at most times. There is good evidence that Warsaw Pact planners assume that first-line Soviet and East European divisions might enter combat at effective strengths ranging between 80 and 95 percent, suggesting both that some personnel shortages are normal in peacetime and that these are deliberate.

In the case of Soviet divisions, these shortages may result in part from personnel attrition in the intervals between conscript callup periods. But at

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least some divisional units are probably regularly undermanned. [REDACTED]

[REDACTED] unit was consistently kept at 60 percent of its authorized strength. If the condition [REDACTED] applied to other divisional support elements--both combat support and service support--the division could have been as low as 80 percent of its authorized wartime strength.

It would be more consistent with known Soviet manning practices, however, if combat support units such as artillery were closer to full strength than service support units such as the maintenance battalion. A more likely manning level--assuming only minor shortages in combat elements (the tank and motorized rifle regiments) and combat support elements with the bulk of the shortages in service elements--is between 90 and 95 percent.

Logistic Capabilities

Background

The service support organization at division level appears to have been reduced substantially in the early Sixties as part of a general streamlining designed to optimize the Soviet ground forces for high speed armored combat on a nuclear battlefield. This action was reflected in the classified debates of that period, with the advocates of the reduction--led by then Minister of Defense Malinovskiy--claiming that the cuts enhanced the ground forces' capability to maintain high rates of advance in nuclear war and proposing even further reductions.

Others such as Colonel General Malykhin, deputy chief of the Rear Services, complained that the cuts had already dangerously reduced mobile supplies and argued for keeping the stocks at least at the then current levels. These same writings indicated that the actual mobile stock level in a division was sufficient for some three to five days of offensive combat.

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Analysis confirms that the logistic capacity of the Soviet division has been maintained at essentially the same level as in the early Sixties, although the trend toward the replacement of light cargo trucks and trailers with new medium cargo carriers on a one-for-one basis may eventually result in increased overall logistic capacity if it continues beyond the point of compensating for the increased requirements of the artillery weapons added to the divisions.

The Evidence

The [redacted] [redacted] enabled the identification of POL (petroleum, oil, and lubricants) and ammunition transport units for many of the combat regiments and battalions of the divisions as well as the mobile stocks in division reserve.

In four of the eight line regiments of the two divisions studied, mobile stocks of ammunition are kept in vehicles in open sheds separately secured within regimental and battalion areas. The same is true for the POL stocks in three of the line regiments. These sheds are [redacted]

[redacted]

[redacted]

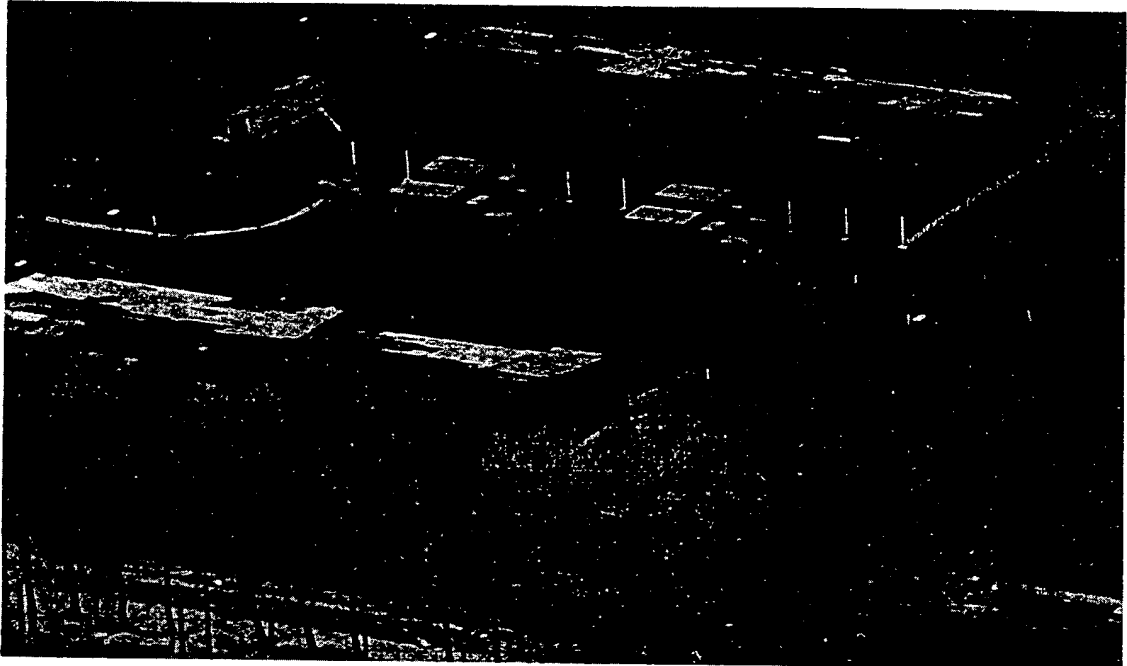
All four tank regiments and the four motorized rifle regiments in the two divisions are about the same size, however, and mobile stocks of ammunition and POL are probably present in the remaining regiments at the same level as they are in those regiments for which mobile stocks were identified and analyzed.

Division POL Capacities

The POL transport at division level and lower is provided by tank trucks and trailers and cargo trucks and trailers carrying bulk containers. A tank truck

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These photographs are of POL elements of the motor transport battalion of the 10th Guards Tank Division at Krampnitz 261. The top photograph shows four Ural-375s which are used for transport of bulk POL products. [REDACTED]



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can hold about 1,000 gallons of fuel and tow a tank trailer of 1,000 gallons. The cargo trucks and trailers can also transport about 1,000 gallons each.

As shown in the following tabulation, the tank division has an estimated 328 POL-carrying vehicles, with a total capacity of about 328,000 gallons. A motorized rifle division has an estimated 297 POL carriers, with a capacity of about 297,000 gallons.

	<u>POL vehicles in Soviet divisions</u>	
	<u>Tank</u>	<u>Motorized rifle</u>
	<u>division</u>	<u>division</u>
Tank regiment	20	25
Tank regiment	20	--
Tank regiment	20	--
Motorized rifle regiment	25	26
Motorized rifle regiment	--	26
Motorized rifle regiment	--	26
Artillery regiment	5	5
FROG battalion	2	2*
Motor transport battalion	236	187
Total vehicles	<u>328</u>	<u>297</u>

The amounts of fuel carried in the on-board fuel tanks of division vehicles were calculated from Soviet data on fuel tank capacities. These amounts plus the

** Mobile POL stocks were not identified in the FROG battalion of the motorized rifle division and were assumed to be at the same level as in the tank division.*

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capacities of the POL supply vehicles equal the total POL supply which a division can carry as follows:

	<u>POL capacity in gallons</u>	
	<u>Tank division</u>	<u>Motorized rifle division</u>
Total capacity	<u>508,000</u>	<u>451,000</u>
POL carriers	328,000	297,000
On-board fuel tanks	180,000	154,000

Assessment of POL Capabilities

When the data on fuel-carrying capacities is used in conjunction with vehicle inventories, vehicle fuel consumption rates, and Soviet planning factors for combat fuel consumption, the probable number of days of sustained intensive combat of which a Soviet division is capable without POL resupply can be calculated.

Soviet military writings of the early Sixties referred to an expected rate of advance in nuclear warfare of 80 to 100 kilometers (km) per day. Recent Soviet writings, however, suggest that this planning factor has been reduced to a more realistic 60 to 80 km per day in nuclear warfare and 40 to 60 km per day in nonnuclear combat. The days of effective combat for four different rates of advance are:

<u>Rate of advance per day</u>	<u>Days of combat</u>	
	<u>Tank division</u>	<u>Motorized rifle division</u>
80-100 km	3.0	3.5
60-80 km	4.0	4.0
40-60 km	5.5	6.0
20-40 km	8.5	9.5

Thus the supplies of POL within a division advancing between 60 and 80 kilometers per day would permit

intensive combat for only about four days. At this point the mobile POL stocks would have been expended to keep the vehicle tanks full and only the fuel in the vehicle tanks would remain. Resupply from a higher echelon would have to start by this time or the division would begin to lose effectiveness.

Division Ammunition Capacities

The approach to estimating mobile ammunition stocks is different from that for estimating POL.* Virtually all the types of vehicles used to carry POL have the same capacity. Ammunition carriers, however, are measured by weight capacity rather than by volume capacity so it is necessary to identify the type of carriers as well as enumerate them.

The major ammunition transporters in the tank division are currently the new 5-mt Ural-375 and the 2.5-mt ZIL-157 and ZIL-164. The newer 3.5-mt ZIL-131 and 4-mt ZIL-130 are replacing some of the older ZIL models and have been observed transporting ammunition. Mobile ammunition stocks in the rifle division are also transported in Ural and ZIL trucks, but the proportion of the smaller 2.5-mt vehicles is higher in the rifle division than in the tank division.

[Redacted]

By these methods, the tank division has an estimated 337 vehicles transporting mobile stocks of ammunition, with a total capacity of about 1,315 mt. The motorized rifle

* Information on Soviet planning factors for the supply, distribution, and consumption of ammunition is contained

[Redacted]

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<u>Unit</u>	<u>Mobile ammunition stocks (Capacity in metric tons)</u>	
	<u>Tank division</u>	<u>Motorized rifle division</u>
Total capacity	<u>1,315</u>	<u>1,060</u>
Tank regiment	125	125
Tank regiment	125	0
Tank regiment	125	0
Motorized rifle regiment	50	50
Motorized rifle regiment	0	50
Motorized rifle regiment	0	50
Artillery regiment	115	121
Antiaircraft artillery regiment	75*	75*
Multiple rocket launcher battalion	220	118
Antitank battalion	0	47
Motor transport battalion	500	425

* *The AAA regiment was the only ammunition consumer for which no ammunition area was identified in either division. The amount of ammunition for this regiment was assumed to be at a level consistent with current Soviet planning factors.*

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division has an estimated 303 vehicles carrying a total of about 1,060 mt. The distribution of mobile ammunition stocks within these divisions is shown in the tabulation on page 20.

The total ammunition supply is derived by adding the amounts of ammunition estimated to be stored with each weapon or in the direct possession of the troops to the ammunition in mobile stocks as follows:

	Ammunition capacity in metric tons	
	<u>Tank division</u>	<u>Motorized rifle division</u>
Total capacity	<u>2,107</u>	<u>1,685</u>
Mobile stocks	1,315	1,060
With weapons or personnel	792	625

Assessment of Ammunition Capabilities

The data on ammunition carrying capacity can be combined with estimated expenditure factors to determine the total probable days of intensive combat which a division could sustain without resupply. The evidence on Soviet ammunition supply and consumption planning factors is incomplete and much of it is old. There is recent evidence, however, that planned allowances for artillery weapons and tanks have not been changed for some time. The allowances for artillery are still about one-third of those used by US planners.

The division level mobile ammunition stocks are sufficient, under nonnuclear attack conditions (expending ammunition at the rate of 0.4 unit of fire per day*), for about 2 to 2.5 days of effective

* *The unit of fire is an arbitrary quantity of ammunition established by the Soviets for each type of weapon and used as a planning factor in calculating requirements and allowances.*

combat. At this point the mobile ammunition stocks would have been exhausted in supplying the combat elements; only ammunition with the weapons or troops would remain, and resupply from a higher echelon would have to begin by this time. The days of effective combat at various expenditure rates are:

<u>Expenditures per day</u> <u>(unit of fire)</u>	<u>Days of combat</u>	
	<u>Tank</u> <u>division</u>	<u>Motorized</u> <u>rifle</u> <u>division</u>
Attack -- 0.40	2.5	2.5
Defense -- 0.44	2.0	2.0
Delay -- 0.25	4.0	3.5
Average -- 0.27	3.5	3.5
Pursuit -- 0.09	11.0	10.0
Inactive -- 0.10	10.0	9.0

Division Capacities for Other Supply Categories

Of the major military supply categories, ammunition and POL have the largest requirement for transport. These expendables require about 90 percent of the total transport capacity available within the division. Requirements for rations and what the US Army categorizes as Class II, IV, VIII, and IX supplies amount to about 10 percent of total divisional mobile stocks.* The actual amounts of these supplies in the 19th MRD and 10th GTD are subject to considerably more uncertainty than are ammunition and POL

[redacted] These other supply categories, however, are less important than ammuni-

* The US categories include: replacements and parts for weapons, vehicles, and engineer and signal equipment; construction materials; and quartermaster and medical equipment and supplies. Soviet requirements are derived from current Defense Intelligence Agency estimates of consumption of these expendables per man per day. See [redacted]izational [redacted]

[redacted]

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tion and POL to the short-term combat capabilities of the division.

Future Trends

The standard organization and equipment structure of Soviet divisions is largely a product of the prevailing tactical doctrine, but is also influenced strongly by technological developments and economic considerations. The Soviet tactical doctrine of the early Sixties had evolved from the German blitzkrieg, with important modifications resulting from the assumption that any major hostilities involving the Warsaw Pact and NATO would probably lead to theater nuclear war.

These factors have resulted in a division which is characterized by high mobility and firepower but which is optimized for relatively short duration combat. These characteristics are achieved by heavy emphasis on tanks--which are expected to survive well in nuclear war--with a relatively light infantry component and logistic tail.

The Soviets began in the mid-Sixties to modify their doctrine of inevitable nuclear escalation by recognizing that conventional war between the Warsaw Pact and NATO is possible. But they almost certainly believe they would have the advantage in any non-nuclear conflict, and they apparently have little expectation that NATO would refrain from using tactical nuclear weapons if the Pact succeeded in an initial conventional offensive. They probably expect a theater nuclear war would develop from such a situation.

With this background, the recent artillery increases in Soviet divisions can be viewed as an effort to improve their capabilities for conventional combat--particularly in the initial breakthrough phase in which theater nuclear weapons were formerly relied on to penetrate NATO's defenses. But the increases also enhance the divisions' capacity for effective operations in the wake of theater nuclear strikes as do the concurrent increases in FROG launchers. The divisions can be said, therefore, to have been made more capable for either type of combat.

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The Soviets probably consider their divisions to be appropriately structured for short-term conventional conflict, and they evidently do not expect a conventional conflict to be protracted. There appears, therefore, to be little incentive for them to restructure their divisions radically for war with NATO. Moreover, the new Soviet divisions being formed on the Chinese border are reportedly identical in structure to the divisions in Germany. The Chinese have no capability for tactical nuclear combat. If the Soviets considered their Warsaw Pact division organization unsuited for combat against a foe using conventional weapons they probably would develop a different organization for the new divisions on the Sino-Soviet border.

Given the absence of any identifiable incentive for the Soviets to radically change their division structure--and the reported similar organization of the newly formed divisions on the Chinese border--it is not likely that the size and structure of the current Soviet tank and motorized rifle divisions will change significantly within the next three to five years.

Minor changes in organization and equipment will probably continue to occur as new equipment is introduced and small improvements are made. For example, [redacted] tank battalions in the motorized rifle regiments on the China border have been increased from 31 medium tanks to about 40--an overall increase from 186 to 213 in the division. [redacted] this change would indicate a reinforcement of the Soviet predilection toward tank-heavy divisions and further evidence that the current division structure will persist.

Also, the Soviets may increase the logistic load-carrying capacity of the divisions by replacing old model cargo trucks with new trucks of larger capacity. If all the cargo trucks in current divisions were replaced on a one-for-one basis, the overall increase in ammunition logistical capability would amount to about 28 percent in the tank division and 43 percent in the motorized rifle division. Even so, the Soviets

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have a strong interest in keeping their divisions' logistic tail as small as possible. They may seize the opportunity to shorten the tail by keeping the same load-carrying capacity with fewer but larger trucks. This is what appears to have happened in the division artillery regiment, where the increase resulting from replacing the older trucks was only about enough to make up for the increased requirement resulting from the additional guns.

* * * * *

Summary

Shifts in Soviet doctrine for theater warfare in Europe since the mid-Sixties suggest an acceptance of the possibility of at least a short period of non-nuclear war between NATO and Warsaw Pact forces. However, they evidently believe that NATO would resort to tactical nuclear warfare if a Warsaw Pact conventional offensive achieved major initial successes.

Analysis [redacted]

[redacted] or two combat ready Soviet divisions in Germany--the 19th Motorized Rifle Division and the 10th Guards Tank Division--has provided a means for measuring the influence of the prevailing tactical doctrine on the organization, strength, and logistic capabilities of divisions.

The analysis [redacted]

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[] yields an accurate accounting of the major items of equipment contained within each installation, the level of mobile logistics stocks, and some measure of relative manning levels.

A combat ready motorized rifle division currently has about 2,400 major equipment items and a tank division about 2,300. These totals represent an increase of about 100 items in each type of division since early 1968, resulting mainly from increases in artillery.

Nonnuclear artillery in the divisions has increased by about 50 percent in the past three years. The motorized rifle division now has 90 artillery pieces--72 howitzers and 18 multiple rocket launchers. The tank division has 78 artillery pieces--60 howitzers and 18 multiple rocket launchers. Additionally, heavy mortars were increased from 15 to 18 in each motorized rifle regiment, antitank artillery in the motorized rifle division was increased from 6 to 18 tubes, and the regimental air defense artillery in the tank division was increased from 4 to 12 weapon batteries.

Nuclear delivery capability is being increased by the addition of a fourth FROG launcher to each Soviet division in East Germany and by replacing older models with the newer FROG-7 transporter-erector-launcher, an eight wheeled vehicle with good mobility.

[] indicates that a combat ready Soviet motorized rifle division in East Germany probably has some 90 to 95 percent of its authorized wartime personnel strength of about 10,000 and a tank division has 90 to 95 percent of an authorized 8,000. The shortfalls probably occur primarily in support units, although minor shortages of combat personnel are also likely. The authorized strengths have probably increased slightly as a result of the artillery augmentation, but no other increases have been detected.

The overall logistic capacity of the Soviet division has remained essentially unchanged since the early Sixties. The divisions carry mobile stocks of ammunition sufficient for about two to three days of

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intensive combat under nonnuclear conditions or three to five days under nuclear conditions. Under nuclear conditions the ammunition stocks would probably only permit artillery rates of fire in fluid situations at about one-third the level of planned US rates for similar situations. The mobile stocks of POL are sufficient for three to six days of intensive combat.

The logistic capacity of the divisions may increase moderately in the next five years as the Soviets replace old model light cargo vehicles with newer model medium capacity vehicles. Such an increase would be particularly applicable to ammunition capability and might raise the overall logistic capability of the division.

It is believed that with the increases in conventional artillery and nuclear capable rockets, the Soviets consider their divisions to be appropriately structured for short-term conventional conflict and they evidently do not expect a conventional conflict--or the conventional phase of a conflict escalating to theater nuclear war--to be protracted. There appears to be little incentive, therefore, for them to radically restructure their divisions for war with NATO. The Soviet divisions being formed on the Chinese border are reportedly identical in structure to the divisions in Germany. If the Soviets considered their division organization unsuited for combat against a foe with only a conventional capability, they probably would develop a different organization for the Sino-Soviet border.

Given the absence of any identifiable incentive for the Soviets to change their division structure, and the reported similar organization of the newly formed divisions on the Chinese border, it is not likely that the size and structure of the current Soviet tank and motorized rifle divisions will change significantly within the next three to five years.

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Annex

Sources and Methodology

The 19th Motorized Rifle Division and the 10th Guards Tank Division of the Group of Soviet Forces in Germany (GSFG) are both garrisoned within the Berlin Air Control Zone.

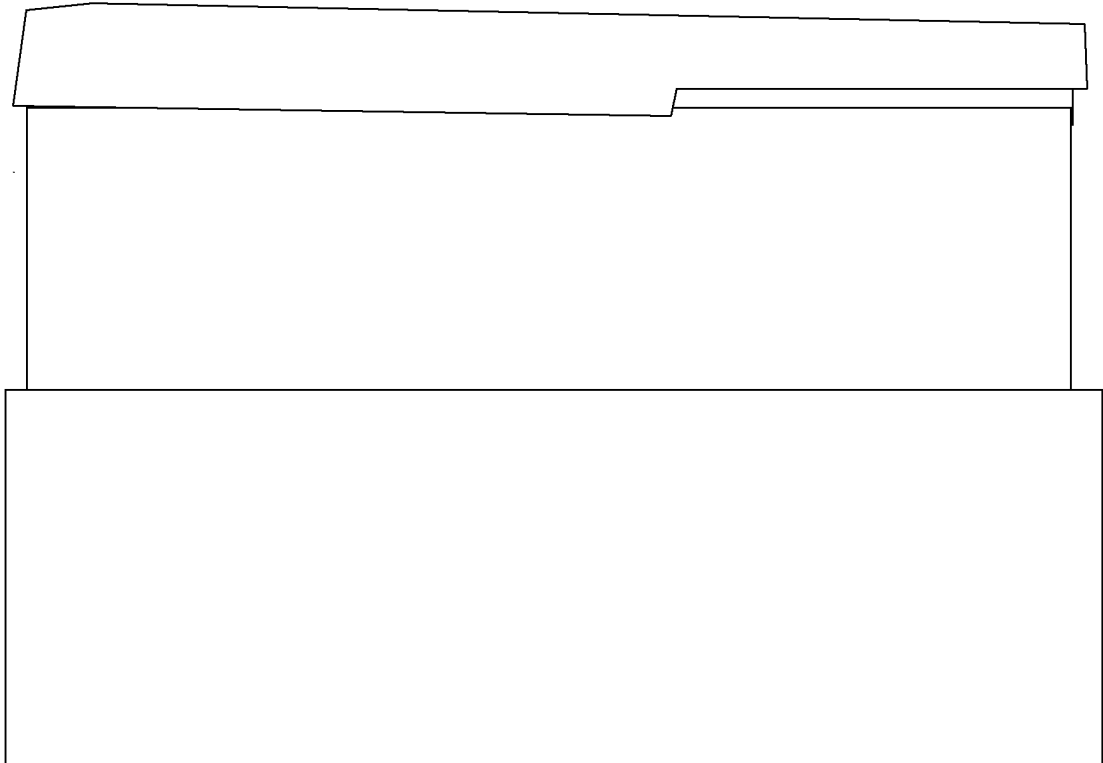
[REDACTED] is the primary basis for estimates of the equipment levels and organization of these divisions and of the type and models of equipment they hold.*

These estimates have been used as a standard against which all other Soviet line divisions are compared. Analysis of the other Soviet divisions in East Germany supports the judgment that these two divisions exemplify the highest peacetime readiness level in the Soviet forces. There is good evidence that the Soviets consider these divisions combat ready.

* The methodology used in this analysis is described in detail in a CIA/DIA joint study.

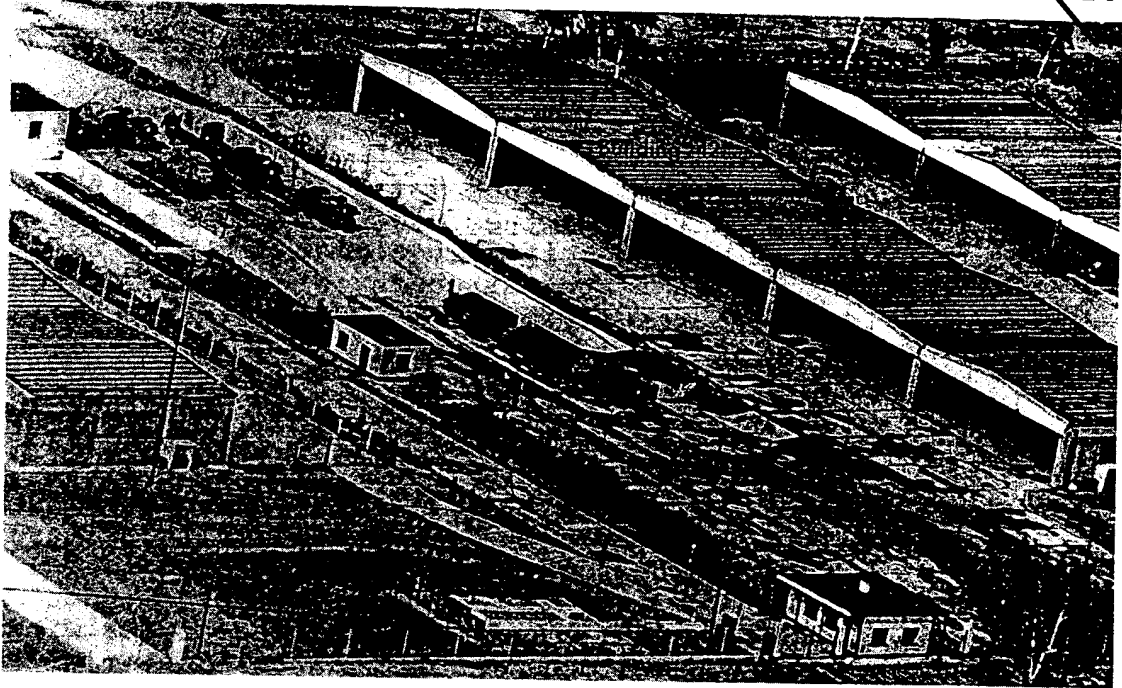
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This study presents the latest results of the continuing analysis of these two divisions to determine to what extent shifts in Soviet doctrine are being manifested in the strength, organization, equipment, and logistic capabilities of first-line divisions.

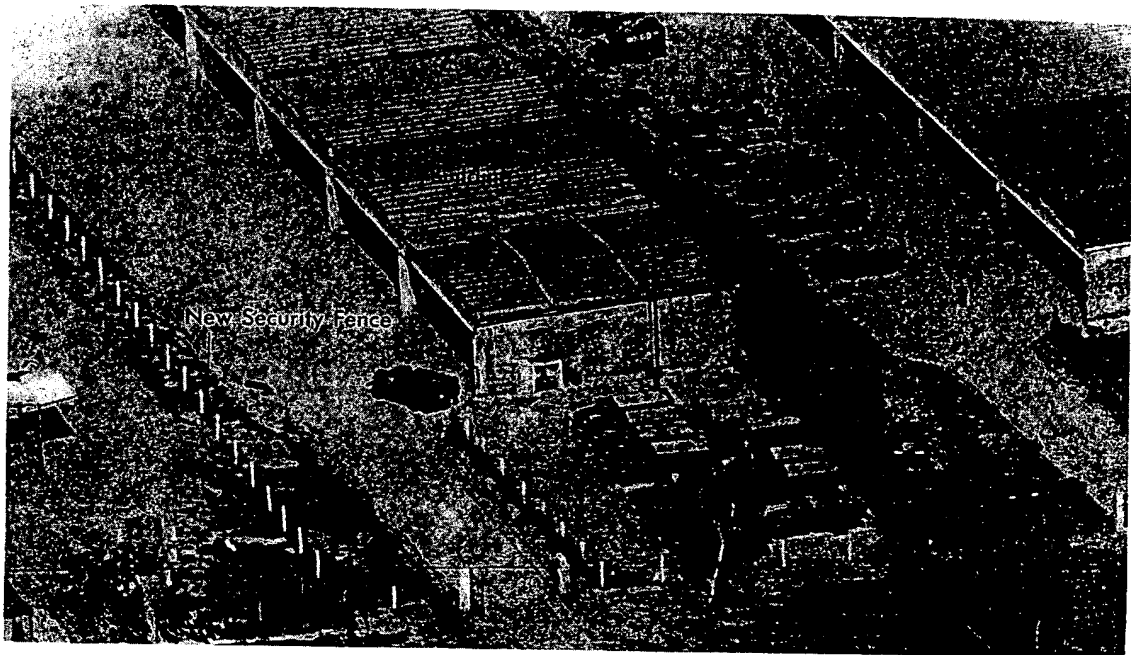


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These photographs of building 42 at Dallgow-Doebritz 263 [redacted] [redacted] The top photograph shows building 42 with vehicle storage for a tank regiment. In the photograph below the same building has been separately secured from the tank regiment facilities. This new fence [redacted]



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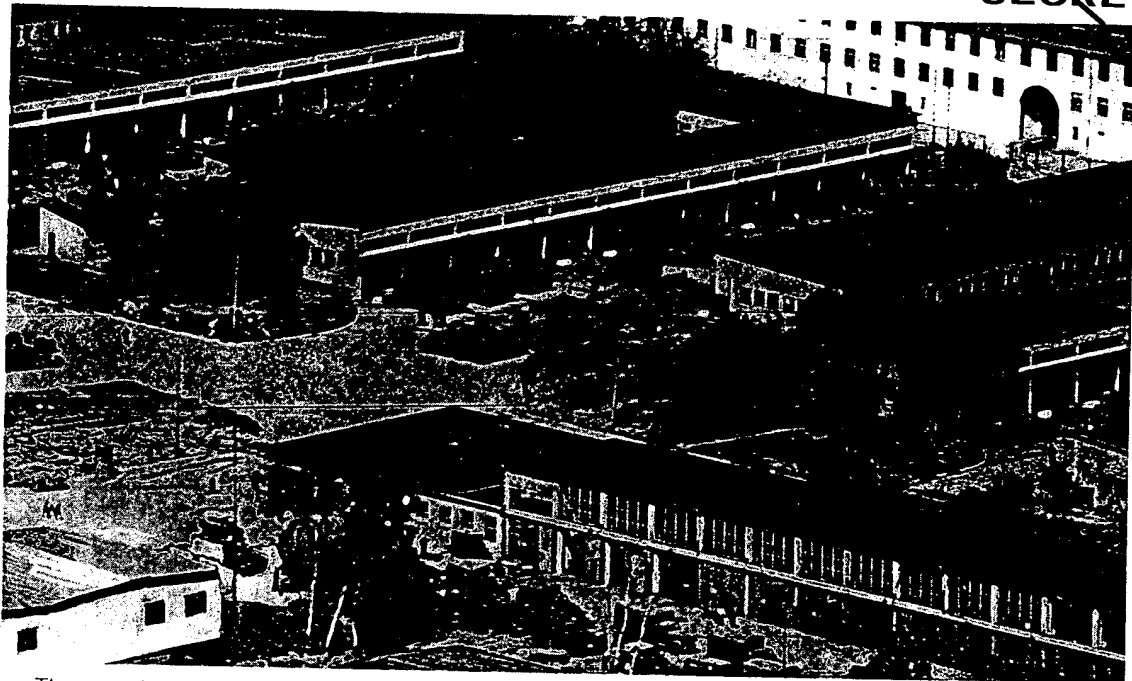
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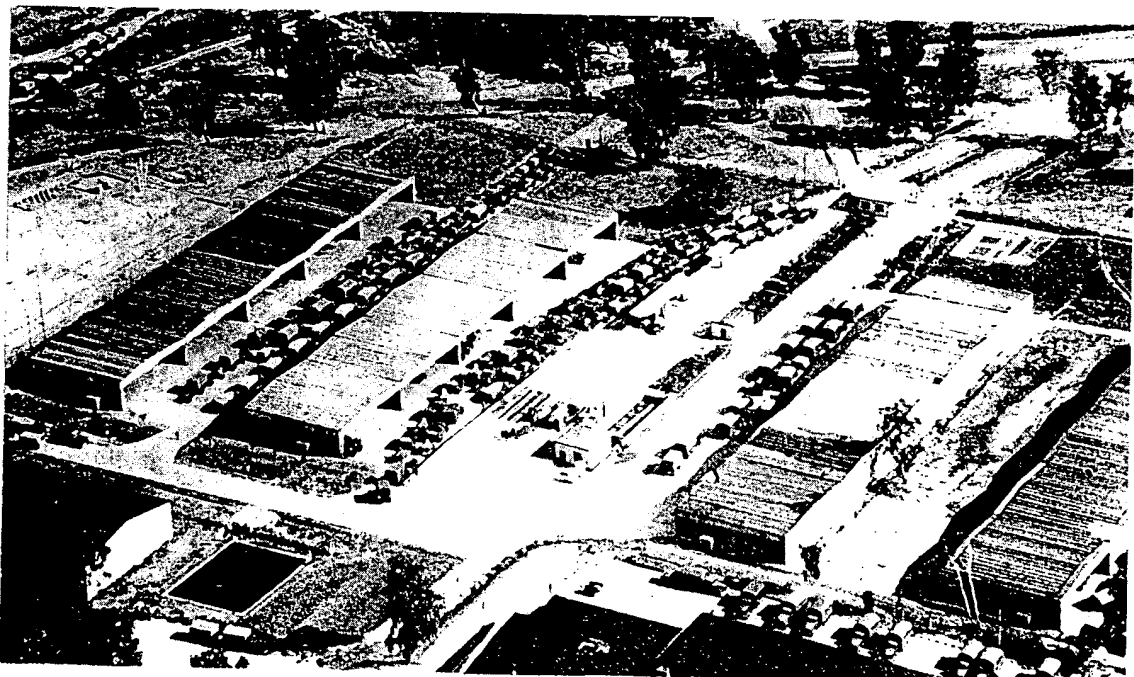
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The top photograph, of the tank regiment at Dallgow-Doeberitz 263, shows how vehicles frequently can be matched with their individual parking bays. Less frequent but much more valuable is the sighting of grouped vehicles, as in the photograph below of elements of the motorized rifle regiment in Dallgow-Doeberitz 263 preparing to move out for the invasion of Czechoslovakia. This allows a more complete equipment count.



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Table 1

Vehicle Storage and Holdings of Major Equipment
Items of the 19th Motorized Rifle Division

<u>Installation</u>	<u>Maximum capacity</u>	<u>Probable holdings</u>
<u>Dallgow-Doeberitz 261-262</u> <i>a</i>	<u>652</u>	<u>495</u>
Multiple rocket launcher battalion	150	99
Chemical defense company	30	30
Reconnaissance battalion	60	50
Signal battalion and unidentified <i>b</i>	137	90
Motor transport element	245	196
Unidentified <i>b</i>	30	30
<u>Dallgow-Doeberitz 263</u> <i>a</i>	<u>679</u>	<u>676</u>
Motorized rifle regiment	312	309
Tank regiment	271	271
Antitank artillery battalion	70	70
FROG battalion	26	26
<u>Dallgow-Doeberitz 264-75</u>	<u>1,109</u>	<u>1,068</u>
Motorized rifle regiment	306	300
Motorized rifle regiment	345	310
Artillery regiment	207	207
Engineer battalion	135	135
Motor transport element	24	24
Unidentified <i>b</i>	92	92
<u>Dallgow-Doeberitz 268</u>	<u>162</u>	<u>116</u>
Antiaircraft artillery regiment	162	116
<u>Dallgow-Doeberitz 578</u>	<u>75</u>	<u>75</u>
Motor transport element	75	75
Division total	<u>2,677</u>	<u>2,430</u>

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Notes to Table 1

The maximum capacity is derived mathematically and does not reflect practical vehicle storage restraints such as working areas, access aisles, and, in certain cases, unit integrity. The estimate of probable holdings is derived from a combination of actual holdings [redacted] and calculations of practical storage capacity and utilization. Major items of equipment include all self-propelled vehicles (except motorcycles) and large towed items such as artillery and two-axle trailers.

- a. Current order-of-battle holdings identify some nondivisional units in this installation. The areas occupied by these units are excluded from the analysis.
- b. Units not identified by type but believed to be subordinate to the division. These units probably include [redacted] division headquarters, the artillery instrumental reconnaissance battery, the maintenance battalion, the medical battalion, the traffic control company, and a small part of the motor transport.

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Table 2

Vehicle Storage and Holdings of Major Equipment
Items of the 10th Guards Tank Division

<u>Installation</u>	<u>Maximum capacity</u>	<u>Probable holdings</u>
<u>Potsdam 287</u>	<u>407</u>	<u>365</u>
Tank regiment	277	277
Motor transport element	60	60
Unidentified <i>a</i>	70	28
<u>Potsdam 288</u>	<u>784</u>	<u>707</u>
Artillery regiment	262	232
Tank regiment	306	272
Antiaircraft artillery regiment	126	116
Motor transport element	90	87
<u>Krampnitz 261</u>	<u>1,346</u>	<u>1,146</u>
Headquarters	38	26
Chemical defense company and signal battalion	74	60
FROG battalion	39	28
Tank regiment	336	269
Multiple rocket launcher battalion	153	126
Artillery instrumental reconnaissance battery and engineer battalion	147	130
Maintenance battalion	75	63
Reconnaissance battalion	52	43
Motorized rifle regiment	341	310
Motor transport element	91	91
<u>Krampnitz 567</u>	<u>100</u>	<u>100</u>
Motor transport element	100	100
Division total	<u>2,637</u>	<u>2,318</u>

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Notes to Table 2

The maximum capacity is derived mathematically and does not reflect practical vehicle storage restraints such as working areas, access aisles, and, in certain cases, unit integrity. The estimate of probable holdings is derived from a combination of actual holdings [redacted] and calculations of practical storage capacity and utilization. Major items of equipment include all self-propelled vehicles (except motorcycles) and large towed items such as artillery and two-axle trailers.

- a. Units not identified by type but believed to be subordinate to the division. These units probably include [redacted] the medical battalion and the traffic control company.

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Table 3

Estimated Holdings of Major Equipment Items of the
19th Motorized Rifle Division and the
10th Guards Tank Division, By Unit

<u>Unit</u>	<u>Estimated holdings</u>	
	<u>19th Motorized Rifle Division</u>	<u>10th Guards Tank Division</u>
Headquarters	26	26
Motorized rifle regiment	310	310
Motorized rifle regiment	310	0
Motorized rifle regiment	310	0
Tank regiment	275	275
Tank regiment	0	275
Tank regiment	0	275
Reconnaissance battalion	50	45
FROG battalion	28	28
Artillery regiment	210	230
Multiple rocket launcher battalion	99	126
Antiaircraft artillery regiment	116 ^a	116
Antitank artillery battalion	70	0
Artillery instrumental reconnaissance battery	15	15
Engineer battalion	135	115
Signal battalion	30	30
Chemical defense company	30	30
Motor transport battalion	332	338
Maintenance battalion	63	63
Medical battalion	10	10
Traffic control company	5	5
Field bakery	6	6
Total major items	<u>2,430</u>	<u>2,318</u>

Note: Major items of equipment include all self-propelled vehicles (except motorcycles) and large towed items such as artillery and two-axle trailers.

a. Information for the AAA regiment in the motorized rifle division is not as good as that for the same unit in the tank division, but the holdings are probably the same.

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Table 4

Estimated Holdings of Major Equipment Items of the
19th Motorized Rifle Division and the
10th Guards Tank Division, By Type of Equipment

	Estimated holdings	
	<u>19th Motorized Rifle Division</u>	<u>10th Guards Tank Division</u>
Tanks	205	329
Medium	<u>186</u>	<u>310</u>
Light	19	19
Antitank weapons	45	9
100mm field gun	<u>18</u>	<u>0</u>
ATGM vehicle	27	9
Antiaircraft weapons	46	74
14.5mm AAMG (ZPU-4)	<u>18</u>	<u>6</u>
23mm quad self-propelled AA gun (ZSU-23-4)	0	32
57mm AA gun (S-60)	24	24
57mm twin self-propelled AA gun (ZSU-57-2)	4	12
Artillery, rockets, and mortars	148	100
FROG launcher	<u>4</u>	<u>4</u>
120mm mortar	54	18
122mm howitzer (M-30/D-30)	54	60
152mm howitzer	18	0
Multiple rocket launcher	18	18
Transport vehicles	1,986	1,806
APC	<u>198</u>	<u>80</u>
Armed scout car	68	41
Light command vehicle (UAZ-69)	64	61
General purpose vehicle a	1,178	1,108
Special purpose vehicle b	200	177
Trailer (two-axle)	278	339
Total major items	<u>2,430</u>	<u>2,318</u>

Note: Major items of equipment include all self-propelled vehicles (except motorcycles) and large towed items such as artillery and two-axle trailers.

a. Van trucks, POL tankers, and cargo trucks.

b. Decontamination vehicles, engineer equipment, and ambulances.

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