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Intelligence Report

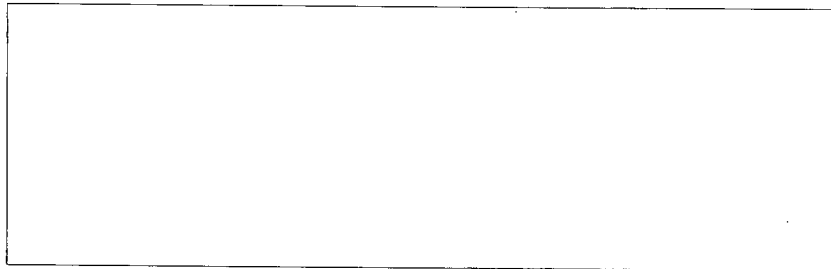
Logistic Posture of Soviet Forces in East Germany

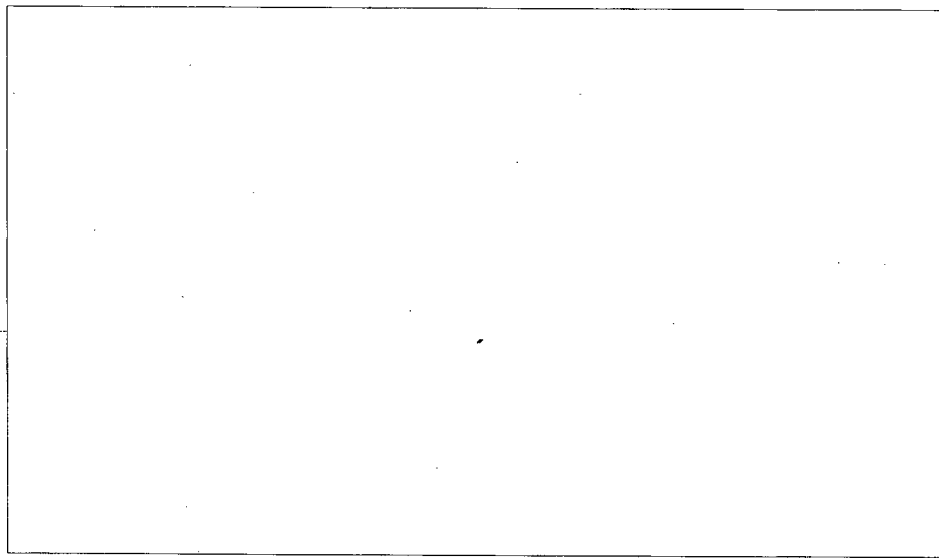
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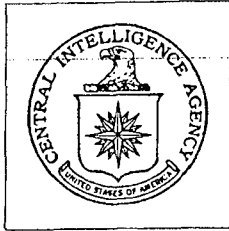
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Logistic Posture of Soviet Forces in East Germany

The current logistic posture of Soviet forces in East Germany could seriously limit their capabilities for conventional offensive operations. The Soviets apparently have provided their forces with supplies for a few weeks of large-scale conventional combat, but they lack the motor transport necessary to support a rapid advance.

Alternative scenarios constructed to test the logistic capabilities of the Soviet forces in East Germany lead to the following conclusions:

- The ammunition stocks currently available in East Germany appear sufficient for some 20 to 40 days of large-scale offensive operations against the NATO Central Region, depending on the intensity of combat.
- POL stocks held by Soviet forces in East Germany appear to be sufficient for some months of campaigning.
- The motor transport currently available to Soviet forces in East Germany is inadequate to support the high-speed, intensive operations called for by Soviet doctrine. Some 6,500 more cargo vehicles would be required to meet Soviet needs under one of the scenarios. This shortage could force the Soviets to halt or reduce the tempo of combat operations in the critical early days of a campaign.

If the Soviets recognized a period of growing tension between the Warsaw Pact and NATO, they could move additional supplies and transport vehicles from the USSR into East Germany. Such an action, however, would probably be part of a larger mobilization and reinforcement.

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
July 1973

INTELLIGENCE REPORT

Logistic Posture of Soviet Forces
in East Germany

The Report in Brief

The Soviets apparently have provided their forces in East Germany with supplies for a few weeks of large-scale conventional conflict, but these forces lack the motor transport necessary to support a rapid advance.

Ammunition Stocks. Analysis of alternative scenarios indicates that Soviet forces now in East Germany might use up about one-half of their currently available ammunition stocks in ten days of intensive attack against the NATO Central Region. Their total ammunition stockpile in East Germany would be sufficient for some 20 to 40 days of large-scale offensive operations, depending on the intensity of combat. The size of the ammunition stocks in the Group of Soviet Forces in Germany (GSFG) is consistent with the Soviet doctrinal position that a campaign to seize Western Europe would be concluded in a short time--probably after escalation to theater nuclear war.

POL Stocks. Stocks of POL held by Soviet forces in East Germany appear to be adequate for some months of campaigning. Estimates of the capacity of available storage facilities indicate a supply of some 320,000 metric tons. Storage of this amount of POL is in keeping with Soviet views of the requirements of a front operation, but the results of the scenarios suggest that the amount is excessive. The heaviest POL requirements for either scenario considered in the

Note: Comments and queries regarding this publication are welcomed. They may be directed to [redacted] of the Office of Strategic Research, [redacted]

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study were only about 23,000 metric tons, some 7 percent of the total.

Motor Transport. The motor transport available in East Germany is not adequate to support the high-speed, intensive operations called for by Soviet doctrine. In both scenarios considered in this study, the Soviets are faced with serious shortages in transport vehicles. In one scenario--a 10-day campaign in which Soviet forces encounter heavy resistance and are forced to halt some 140 kilometers short of their objective, the Rhine--they would require some 6,500 more cargo vehicles than are currently available.

The shortage in the other scenario--a 10-day advance to the Rhine which encounters less effective resistance--is considerably smaller, some 3,300 cargo vehicles. In both instances, however, the shortages develop in the critical early days of the campaign and could force the Soviets to halt or reduce the tempo of combat operations. A shortage of some 1,600 POL transport vehicles also develops in the scenario postulating a successful advance to the Rhine, but it occurs late in the campaign and would not prevent Soviet forces from reaching their objectives. At the end of the tenth day, however, the mobile POL stocks of the divisions would be nearly depleted.

The shortage of transport vehicles for the GSFG probably reflects the general shortage of transport vehicles in the USSR. The Soviets may count on a period of tension before the start of hostilities that would permit them to mobilize and deploy forward more trucks from the western military districts of the USSR. A shift of the magnitude required to meet the deficiencies--some 6,500 cargo vehicles and about 1,600 POL vehicles--would probably be a part of a larger mobilization and reinforcement. As such, it would almost certainly be observed by Western intelligence.

The current Soviet logistic posture constitutes a constraint on Warsaw Pact capabilities for offensive action against NATO. The possibility that logistic limitations and vulnerabilities could contribute significantly to the bogging down of a Pact offensive would probably be a serious consideration in Soviet calculations of relative NATO-Warsaw Pact military capabilities in central Europe.

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Sources of Information

The analysis of Soviet logistic doctrine and procedures in this study is based on a variety of sources: articles in *Military Thought*, the chief journal of the Soviet Ministry of Defense; lecture notes of [redacted] [redacted] a staff course at the Frunze Military Academy in Moscow; Warsaw Pact documents which discuss logistic concepts and requirements for ground and air operations against NATO; [redacted]

[redacted]

[redacted] [redacted]

[redacted] substantial information on Pact logistic doctrine. Available evidence indicates that logistic doctrine and practice in all Warsaw Pact countries follow the Soviet model.

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The Soviet View of Logistics

Analysis of Warsaw Pact []
writings since the mid-Sixties indicates that Soviet military doctrine for the conduct of a war in Europe envisages a phase of conventional warfare, probably lasting only a few days, followed by escalation to a theater-level nuclear conflict. This is in contrast to the earlier doctrine of immediate escalation to intercontinental nuclear war. The change in concept has developed out of a Soviet appreciation of the NATO flexible response doctrine first discussed in the early Sixties, introduced in 1967, and since practiced in NATO exercises.

The Soviets would prefer that a war in Europe remain conventional throughout. They consider that the Pact would have the advantage in a nonnuclear war. They apparently see little possibility of avoiding escalation, however, once large-scale war has begun.

Although the tempo of military operations in a conventional war is likely to be slower than in a nuclear one, Soviet doctrine calls for high rates of advance. The Soviets evidently hope to complete even a nonnuclear land campaign in Western Europe in a matter of weeks.

The modification of Soviet military doctrine to include an initial nonnuclear phase has caused the Soviets to increase the amount of artillery, antitank guns, multiple rocket launchers, and tanks in their divisions, partly to compensate for the nuclear firepower withheld in the early phase. These extra weapons have enlarged the requirements for supply and transport, and the Soviets have apparently augmented the motor transport for their divisions accordingly. The divisions now have greater logistic staying power than Soviet divisions of the early Sixties.

Through the early Sixties, the Soviets planned to rely heavily on railroads, supplemented by motor transport, to support their forces. In the mid Sixties,

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however, they instituted changes in their doctrine on lines of communication, calling for extensive use of motor transport on a Pact-wide basis. The goal is "to keep supplies on wheels"--to provide logistic support that would keep pace with Pact forces advancing at the rate of 30 to 100 kilometers (about 20 to 60 miles) per day under either nuclear or non-nuclear conditions.

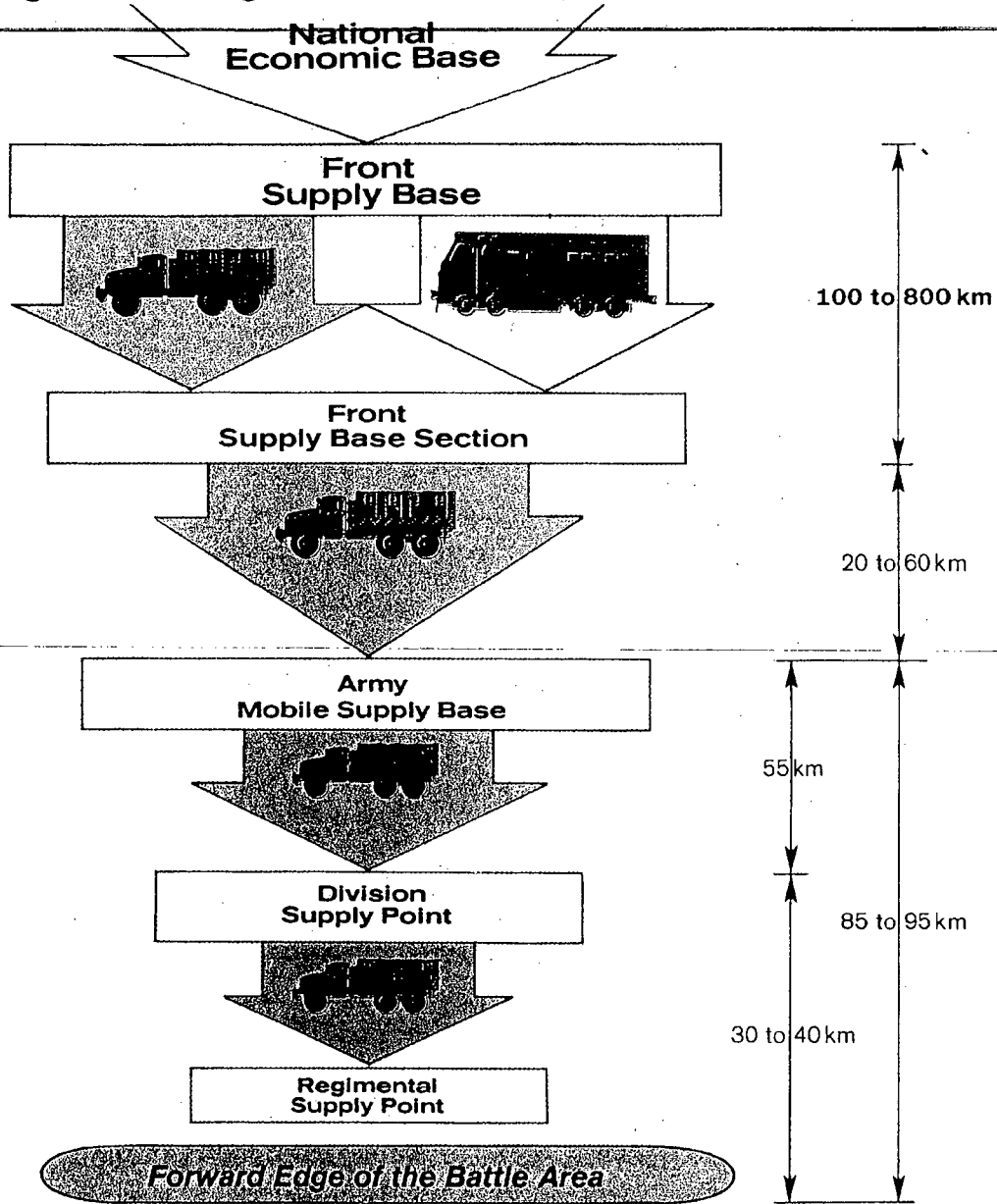
Current Pact doctrine uses the system of "supply forward." At each major command echelon supplies are held in fixed depots and mobile stocks, and organic motor transport units provide for movement of these supplies. Higher level commands use their transport to move supplies to the next lower subordinate unit, which in turn uses its transport to deliver supplies to units subordinate to it. [REDACTED]

[REDACTED] the Pact plans for a "front supply base" deep in the rear area of each front.* From 80 to 100 percent of the supplies for the front supply base are delivered by rail.

Soviet planning calls for a subordinate element, designated a "front supply base section," to be established behind each committed army in the front. Initially, these base sections would be placed 100 to 150 kilometers forward of the front supply base. As a campaign progressed, however, each base section would move forward, using its own vehicles, so as to remain at the rear boundary of the army it supported. For planning purposes, the Pact assumes that about half the supplies moved to the base section from the

* The front is the highest Soviet wartime field command for the operational control of general purpose forces. A front would consist of 3 to 5 armies plus various support units.

Soviet Logistic Planning: Movement of Supplies Within a Front



Distances within the division and from the army mobile supply base to the division supply point are constant. All other distances vary in the course of combat operations.

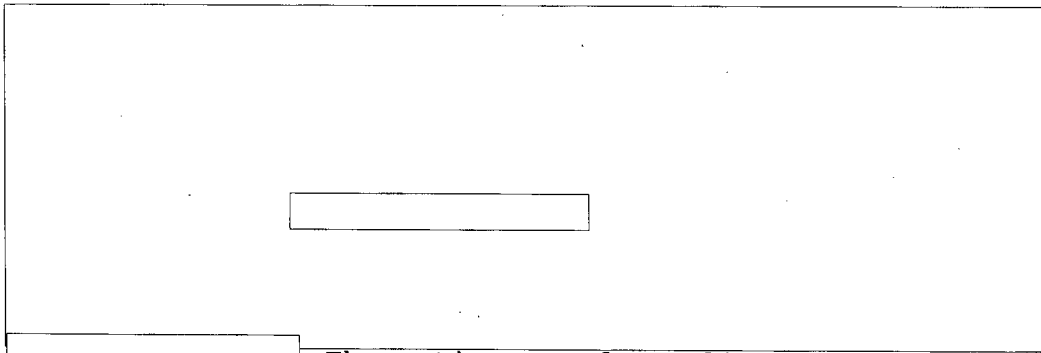
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front supply base would be delivered by rail and the other half by motor transport.

From the front supply base section forward, all supplies would be delivered to army units and divisions by motor transport. According to Pact planning, these supplies are to be stored aboard vehicles. Doctrine does not preclude the use of railroads and barges, where feasible, to supplement motor transport.

Soviet Ground Force Stocks and
Transport in East Germany



[redacted] The estimates of supplies available to the GSFG at these depots are as follows, in metric tons:

<u>Depot category</u>	<u>Ammunition</u>	<u>POL</u>
Front-level	130,000-147,000	177,000
Army-level	87,000-104,000	45,000
Division-level	29,000- 35,000	70,000
Totals	<u>246,000-286,000</u>	<u>292,000</u>

These figures represent maximum storage capacity,
with all depots assumed to be stocked to capacity.

Soviet ground forces probably have access to POL over and above their own stocks. In wartime both East German and Soviet military forces probably would use POL stored in East German state reserve and other civilian depots. Civilian depots are estimated to have a total capacity of some 500,000 metric tons.

Mobile Stocks

In addition to stocks kept in fixed depots, each division and army maintains mobile stocks of ammunition, POL, and other supplies so that the unit can continue combat operations during a temporary disruption of its lines of communication. In Pact terminology, mobile stocks include supplies carried by the soldier (rifle ammunition, hand grenades) or stowed aboard unit vehicles (ammunition, food, fuel). Based on analysis of selected Soviet divisions and non-divisional units in East Germany, mobile stocks of ammunition and POL with Soviet ground forces in East Germany are estimated as follows, in metric tons:

	<u>Ammunition</u>	<u>POL</u>
Front	6,000	1,700
Army	16,000-17,000	1,600
Divisions	50,000	25,000
Totals	<u>72,000-73,000</u>	<u>28,300</u>

The estimated total of Soviet stocks in East Germany is therefore 318,000 to 359,000 metric tons of ammunition and some 320,000 metric tons of POL.

Motor Transport

Non-divisional Motor Transport Units

Analysis of overhead photography indicates that front and army motor transport units in East Germany have some 7,000 cargo vehicles of about five metric tons' capacity each. Approximately half of these trucks are located at front ammunition depots or in large front-level motor pools. The remainder are at army ammunition depots or in smaller truck units. Most of the vehicles located at ammunition depots are loaded with mobile stocks.

Non-divisional POL vehicles number about 950, with a capacity of 3.35 metric tons each. These normally are not kept at POL depots but are maintained in separate motor transport installations.

Divisional Motor Transport Units

Each Soviet division in East Germany has a motor transport battalion. Each of the six combat and combat support regiments subordinate to Soviet divisions has a motor transport company. These motor transport elements are intended to deliver ammunition and other supplies directly to the consuming units.

Repetitive large-scale photography of two Soviet divisions located in the Berlin control zone has provided the basis for estimating the transport capabilities of full-strength Soviet divisions. The organic motor transport units have a capacity for about 1,800 metric tons of cargo, mostly ammunition. In addition, POL transport capacity is 530 metric tons for a motorized rifle division, and 580 for a tank division. The relatively small difference in POL capacity between the two types of divisions stems

Cargo Capacities of GSFG Divisional Motor Transport Units

Motor Transport Battalion of Motorized Rifle Division		Motor Transport Battalion of Tank Division		Motor Transport Company of Tank, Motorized Rifle, Artillery, or Antiaircraft Regiment	
Unit	Capacity (metric tons)	Unit	Capacity (metric tons)	Unit	Capacity (metric tons)
Cargo Transport Company		Cargo Transport Company		Cargo Transport Platoon	
60 trucks	300	60 trucks	300	12-13 trucks	40-44
45 trailers	225	45 trailers	225	6 trailers	20
Cargo Transport Company		Cargo Transport Company		Cargo Transport Platoon	
60 trucks	300	60 trucks	300	12-13 trucks	40-44
45 trailers	225	45 trailers	225	6 trailers	20
POL Transport Company		POL Transport Company		POL Transport Platoon	
60 trucks	200	60 trucks	200	9 trucks	30
45 trailers	150	60 trailers	200		
Total Capacity		Total Capacity		Total Capacity	
Cargo	1,050	Cargo	1,050	Cargo	120-128
POL	350	POL	400	POL	30

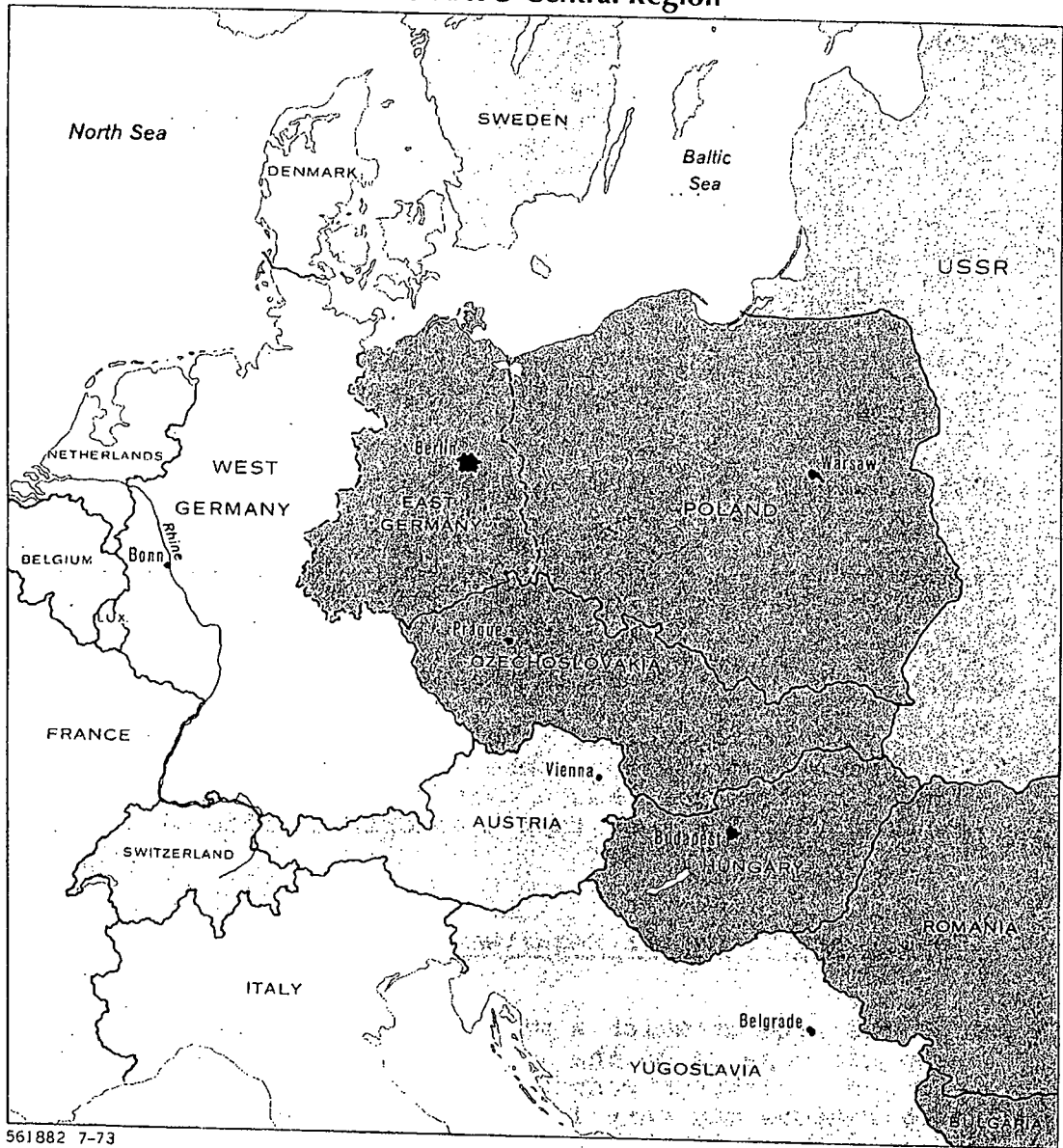
from offsetting factors--the amount of POL required to support the greater number of tanks is nearly balanced by the fact that a tank division has several hundred vehicles less than a motorized rifle division.

Supply and Transport Requirements

The rate at which a military unit in combat uses supplies depends on the type of action in which it is engaged. Although consumption of some items such as food rations may vary little, ammunition expenditures range from negligible amounts under static conditions to substantial amounts on days of heavy fighting. Similarly, POL consumption can be increased many times



Warsaw Pact Forward Area and NATO Central Region



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beyond that required for routine housekeeping operations ~~if long-distance movement is involved.~~

To calculate logistic requirements, US and NATO planners use factors which correlate rates of consumption on a day-to-day basis to the assumed level or type of combat in the case of ammunition, or to assumed distances traveled in the case of POL.

Classified Warsaw Pact documents [redacted]

have indicated that Warsaw Pact planners use similar methods to calculate ammunition expenditures. From this information it is possible to infer what planning factors the Soviets use to calculate ammunition requirements. Soviet methods of calculating POL expenditures are not known in detail, but apparently are based on the type of combat engaged in rather than distance traveled.

Scenarios

--- To illustrate the demands which might be placed on the logistic system of the Group of Soviet Forces in Germany (GSFG) in wartime, two scenarios for Pact offensives were developed. In both scenarios, Soviet forces in East Germany, constituting a front, launch an offensive against the NATO Central Region using only conventional weapons. The GSFG represents nearly a quarter of the estimated 90 Warsaw Pact divisions that would be deployed against the NATO Central Region in the event of hostilities. It consists of 20 divisions organized into five armies and front-level units.

Both scenarios envision an attempt by the GSFG to advance to the Rhine. There is good evidence that the Soviets consider the Rhine a major strategic objective in a European campaign. The primary goal of their forces in East Germany probably is to reach and secure bridgeheads over the Rhine before these forces are replaced by units deploying from the western military districts of the USSR.

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Alternate Scenarios for GSFSG Offensive Operations
in a Nonnuclear Attack on the NATO Central Region

Scenario A

Day	Situation	1st Echelon	2nd Echelon
1	Attack on	attack	not engaged ^a
2	NATO's initial	attack	not engaged
3	defensive	attack	not engaged
4	position	breakthrough	not engaged
5	Exploitation after breaking through NATO's initial defensive position	exploitation	not engaged
6	Attack on NATO's	withdrawn ^b	attack
7	second defensive	withdrawn	attack
8	position	withdrawn	breakthrough
9	Exploitation after	withdrawn	exploitation
10	breaking through NATO's second de- fense line, and pursuit to the east bank of the Rhine River	withdrawn	exploitation
		<u>Average total distance covered by GSFSG units from days 1 through 10 is 315 km.</u>	

Scenario B

1	Attack on NATO's	attack	not engaged ^c
2	initial defensive	attack	not engaged
3	position	attack	not engaged
4	Breakthrough of NATO's initial de- fensive position	breakthrough	not engaged
5	Attack on	withdrawn	attack ^d
6	NATO's second	withdrawn	attack
7	defensive	withdrawn	attack
8	position	withdrawn	breakthrough
9	Exploitation after	withdrawn	exploitation
10	breaking through NATO's second defensive position	withdrawn	exploitation
		<u>Average total distance covered by GSFSG units from days 1 through 10 is 175 km.</u>	

a. In Scenario A, second-echelon units do not provide fire support to first-echelon forces.

b. No estimates are made for rations or POL requirements of units after withdrawal.

c. In Scenario B, second-echelon units not engaged provide AAA and artillery support to first-echelon units.

d. In Scenario B, front reserves are committed with the second echelon; in Scenario A, front reserves are never committed.

Scenario A postulates a 10-day advance to the Rhine involving an average movement of some 315 kilometers for the participating units under conditions requiring relatively low ammunition expenditures after the initial days of attack. Scenario B involves much heavier fighting and ammunition expenditures, with the Soviet forces forced to halt 140 kilometers short of the Rhine after 10 days of much slower advance. The table at left details the combat situations in both scenarios and the engagement of Soviet forces.

The scenarios do not encompass all the ways in which a Warsaw Pact - NATO battle might develop. They do not, for example, play out NATO's defense of the Weser-Lech line, because its proximity to the East German border would not test the adequacy of Soviet POL stocks and transport for fluid operations. Neither are the scenarios meant to imply any judgment about the degree of success that an actual Pact attack might achieve. They are, however, consistent with Soviet concepts as to how such an offensive might be conducted. They do not consider factors such as interdiction, attrition, and bad weather, which would reduce the capabilities of the logistic systems. Other factors, such as the quality of command judgment--specifically the ability to alter plans and practices to meet unforeseen situations--are also excluded.

Calculation of Ammunition Requirements

For planning purposes, the Pact assumes daily expenditure rates of ammunition for five different types of combat:

- *attack*--that phase of operations involving formal assault on prepared defenses
- *breakthrough*--the final penetration of the enemy's tactical defenses
- *exploitation*--rapid advances to pursue retreating enemy forces or seize territory
- *passive defense*--an inactive combat situation with only limited exchanges of fire

-- *active defense*--defense of prepared positions
against a determined enemy assault.

To facilitate calculations, ammunition requirements are measured in "units of fire," each unit representing a fixed number of rounds per specific weapon. One unit of fire for one 122mm D-30 howitzer, for example, is 80 rounds. Thus, one unit of fire for the 36 D-30 howitzers in an artillery regiment of a Soviet motorized rifle division would be 2,880 rounds (80x36). The Warsaw Pact unit of fire is a planning factor only and is not comparable to the US Army "basic load" which is the amount of ammunition a combat unit is required to have on hand at all times.

The table at right shows the units of fire Warsaw Pact planners use to calculate ammunition expenditures during one day of various types of combat, both by a single division and by an army containing four divisions.

To determine logistic requirements, the units of fire (number of rounds of each type of ammunition) must be determined and converted into metric tons of ammunition to be transported forward. For example, a Soviet tank division during one day of attack would expend some 2,100 metric tons of ammunition of all types:

	<u>Units of fire</u>	<u>Metric tons</u>
Small arms	1.00	96
Arty/mortar/multiple rocket launcher	2.00	813
Tank/antitank	1.50	820
AAA	2.00	245
Miscellaneous	1.00	117
Total		<u>2,091</u>

Daily Ammunition Expenditures,
by Type of Combat

Army	Units of fire ^a				
	Attack	Break-through	Exploitation	Passive Defense	Active Defense
Small arms	0.75	0.50	0.25		0.75
Arty/mortar/ multiple rocket launcher ^b	2.00	1.25	0.25		2.00
Tank, antitank, self-propelled arty	1.25	1.00	0.25		1.00
AAA ^c	2.00	2.00	1.25		2.00
Miscellaneous ^d	0.75	0.50	0.25		0.75
<u>Division</u>					
Small arms	1.00	0.75	0.25	0.10	0.75
Arty/mortar/ multiple rocket launcher	2.00	1.50	0.25	0.10	2.00
Tank, antitank, self-propelled arty	1.50	1.25	0.25	0.10	1.50
AAA ^c	2.00	2.00	1.25	0.25	2.00
Miscellaneous ^d	1.00	0.75	0.25	0.10	0.75

a. A Warsaw Pact unit of fire is a fixed number of rounds per weapon. The unit of fire for a command is the total of all units of fire counting every weapon in every subordinate unit. For example, the unit of fire for an army includes the weapons of all its divisions and additional non-divisional units directly subordinate to the army.

b. It is assumed that the artillery of army second-echelon divisions, as well as army artillery units, is constantly engaged in support of first-echelon combat regiments.

c. It is assumed that antiaircraft artillery at all echelons is always engaged, as the operations of enemy tactical air forces are considered constant.

d. Includes explosives, mines, and hand grenades. Because of a lack of information about their expenditure rate, the rate of expenditures is considered to be the same as for small arms.

The ammunition requirements of the GSFG computed according to the foregoing expenditure rates are as follows, in metric tons. The figures indicate total requirements based on the combat situation on each of the 10 days of operations.

	<u>Scenario A</u>	<u>Scenario B</u>
Small arms	8,000	9,000
Arty/mortar/multiple rocket launcher	64,000	109,000
Tank/antitank	43,000	50,000
AAA	18,000	23,000
Miscellaneous	8,000	10,000
Total	<u>141,000</u>	<u>201,000</u>

Calculation of POL Requirements

Since the Soviet methodology for calculating anticipated POL expenditures for ground forces is not known in detail, [redacted]

The technical and operating characteristics of most Pact military vehicles are known [redacted]

It is estimated that under Scenario A the Pact force would require about 23,000 metric tons of POL, and under Scenario B, 17,000 tons. These POL requirements are far short of the 320,000 metric tons of POL stored in the GSFG. Storage of this amount of POL is in keeping with some Soviet views that a front operation requires some 300,000 metric tons of POL. That view was stated in 1960 by General F. M. Malykhin, then deputy chief of the Rear Services, and subsequently was cited by other authorities, including Marshal V. D. Sokolovskiy in *Military Strategy*. Malykhin's rationale is unknown, but in light of the POL requirements suggested by this analysis, the figure seems excessive.

Requirements for Other Items of Supply

Ration requirements are calculated on the basis of 2 kilograms per man per day. For the GSFG, this amounts to a daily rate of about 650 metric tons, indicating a total requirement of some 6,500 metric tons for the 10-day campaigns under both scenarios.

Classified Warsaw Pact documents

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indicate that the Warsaw Pact estimates its requirements for all other supplies--spare parts, replacement equipment, engineering supplies, etc.--at 20 percent of the total weight of ammunition, POL, and rations required. Considering the wide variety of items covered, the 20 percent figure appears to be a general guideline for preliminary planning and transport purposes, rather than an exact planning factor.

Total Supply Requirements

Using the methods described above, the supply requirements for all items of combat supply for Soviet forces in East Germany under Scenarios A and B are estimated to be as follows, in metric tons:

	<u>Scenario A</u>	<u>Scenario B</u>
Ammunition	141,000	201,000
POL	23,000	17,000
Rations	7,000	7,000
Subtotal	<u>171,000</u>	<u>225,000</u>
Other supplies (20% of above)	34,000	45,000
Total	<u>205,000</u>	<u>270,000</u>

Motor Transport Requirements

The transport organization and the distances over which supplies at all levels would have to be moved were determined to compute the motor transport delivery requirements for both scenarios. Based on

observation of GSFG units, all cargo vehicles were assumed to be either trucks or two-axle trailers with a capacity of 5 metric tons each. POL vehicles were assumed to be trucks and trailers with a 3.35-metric-ton capacity.

the daily non-divisional vehicle requirements for Scenarios A and B. The calculated requirements are shown below.

Day	Scenario A		Scenario B	
	Cargo vehicles	POL vehicles	Cargo vehicles	POL vehicles
1	4,459	206	6,361	303
2	10,335	372	13,487	678
3	10,077	402	13,511	805
4	5,399	819	12,713	781
5	3,055	935	6,611	392
6	5,449	548	6,135	622
7	6,904	808	5,878	606
8	4,153	1,906	3,314	717
9	1,887	2,102	3,104	852
10	2,118	2,594	3,049	847

Logistic Endurance

A comparison of the estimated stock levels in East Germany with the logistic requirements derived from study of the two scenarios suggests that the Soviet forces in East Germany have on hand sufficient supplies for some 20 days of large-scale conventional fighting at the intensive rates assumed in Scenario B, or for some 40 days at the moderately intensive rates in Scenario A.

Under Scenario A some 141,000 metric tons of ammunition and about 23,000 metric tons of POL are required. In Scenario B the requirements are about 201,000 metric tons of ammunition and about 17,000 metric tons of POL. Assuming all GSFG mobile stores

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and depots are filled to capacity, the 320,000 metric tons of POL which have been identified easily meet the requirements of the GSFG in both scenarios. Similarly, the 318,000 to 359,000 metric tons of ammunition in the GSFG would be sufficient to satisfy the requirements of the scenarios. The amount of ammunition remaining after the conclusion of Scenario A would be on the order of 177,000 to 218,000 metric tons and after Scenario B, about 117,000 to 158,000 metric tons.

In both scenarios, however, the expenditure of ammunition and other supplies in the first two or three days of combat significantly exceeded the re-supply capacity of the non-divisional motor transport currently in the GSFG. The deficiency proved to be most serious in Scenario B, which assumes that GSFG forces are held up by heavy opposition. To maintain the initial supply level during the first three days would require some 6,500 additional cargo vehicles. The stores of ammunition in the hands of troops are depleted at the end of the first three days.

In Scenario A, which assumes a rapid advance to the Rhine following the initial assault, some 3,300 additional cargo vehicles would be required to maintain the initial mobile stock levels. The forces in the scenario entered the exploitation phase with only small amounts of ammunition and other supplies remaining. The shortage of about 1,600 non-divisional POL vehicles in the latter stages of the campaign would not prevent Soviet forces from reaching the Rhine. At the end of the tenth day, however, the divisional mobile POL stocks would be nearly depleted.

Soviet Tactical Air Logistics
in East Germany

Available Storage Capacity

The aviation POL, conventional air ordnance, and air-to-air missiles held in storage for Soviet air units in East Germany have been estimated from a study of photography. These estimates are as follows:

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Aviation POL	151,000 metric tons
Ordnance	46,000 metric tons
Air-to-air missiles	16,000-17,000

Air War Scenario

To illustrate the demands which might be placed on the GSFG air logistics system in wartime, an air war scenario was developed. The scenario is based on Pact concepts for an air war in Europe.

The Air Operation. In a conventional war the primary mission of Soviet and Pact air forces during the first three days is the destruction of NATO's nuclear-capable air forces. This battle for air superiority--termed the "Air Operation"*--is intended to be carried out by Frontal Aviation (tactical air forces) and medium bomber units of Long Range Aviation. For the Air Operation, the Soviet air force in East Germany, the 16th Tactical Air Army, would be reinforced by light bomber units from the Baltic Military District, the Soviet 37th Tactical Air Army now stationed in Poland, and the Polish Tactical Air Army. This results in a total force of about 925 fighters and fighter-bombers and some 100 light bombers.

For the duration of the Air Operation--about the first three days of the campaign--tactical fighter aircraft are expected to fly three sorties per day: two to support the Air Operation and one in support of ground troops. The ground forces would rely, for the most part, on their own firepower and air defense weapons to make up for the lack of air support.

After the conclusion of the Air Operation, the primary mission of the tactical air forces in East Germany would be to provide air support to the ground forces. Tactical support would consist of bomb,

cannon, and rocket attacks against tactical ground targets as well as air defense of the combat zone. During the tactical support phase, combat aircraft are expected to fly 1.5 sorties per day.

Supply Requirements

The air scenario above consists of three days devoted to the Air Operation and the remaining seven to tactical air support of ground troops. During the Air Operation, fighters are assumed to fly three sorties per day and light bombers, two sorties. For the ground-support phase all tactical aircraft in East Germany are assumed to fly 1.5 sorties per day. Total sorties for the 10-day operation are 19.5 for all fighters, 16.5 for light bombers. Reinforcing Soviet and Polish air units are to fly, and draw their supplies, from air bases in East Germany now under Soviet control.

Estimated supply requirements for the air scenario are as follows:

Aviation POL	50,000 metric tons
Ordnance	5,000 metric tons
Air-to-air missiles	15,000

Adequacy of Air Force Supplies

There are more than enough aviation POL, conventional ordnance, and air-to-air missiles in East Germany to satisfy the supply requirements of the scenario, as indicated below:

	<u>Aviation POL</u> (metric tons)	<u>Ordnance</u> (metric tons)	<u>Air-to-air</u> <u>missiles</u>
Air force stocks	151,000	46,000	16,000- 17,000
Requirements for scenario	<u>50,000</u>	<u>5,000</u>	<u>15,000</u>
Surplus	101,000	41,000	1,000- 2,000

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Implications of Soviet Logistic Posture

Because of the major uncertainties inherent in any projection of logistic consumption rates in combat, in this case complicated by uncertainty about the extent to which Soviet supply depots and supply vehicles are currently stocked, the foregoing analysis provides only a rough appreciation of the status and adequacy of Soviet logistics. The results also give a rough measure of the Soviet logistic posture.

The Soviets have evidently provided their forces in East Germany with enough supplies for a few weeks of large-scale conventional conflict. Factors such as the cost of maintaining large ammunition stocks may have limited the amount of ammunition in the GSFG. The more likely explanation is that the size of GSFG ammunition stocks is consistent with the Soviet view that a campaign to seize western Europe would be concluded in a short time--probably after escalation to theater nuclear war.

The Soviet forces in East Germany are deficient in the motor transport required to move supplies on the battlefield at the rates which would be necessary to maintain the tempo of offensive operations called for by a conventional war strategy. This shortage probably reflects the general shortage of transport vehicles in the USSR. As a result, they could be forced to halt or reduce the tempo of combat operations in the critical early days of the campaign unless measures were taken to augment their motor transport.

The Soviets may count on a period of tension before the start of hostilities that would permit them to mobilize and deploy forward more trucks from the western military districts of the USSR. They maintain civilian transport organizations (*avtokolonna*) in the USSR with military mobilization assignments, to be used to augment the motor transport of the armed forces in an emergency.

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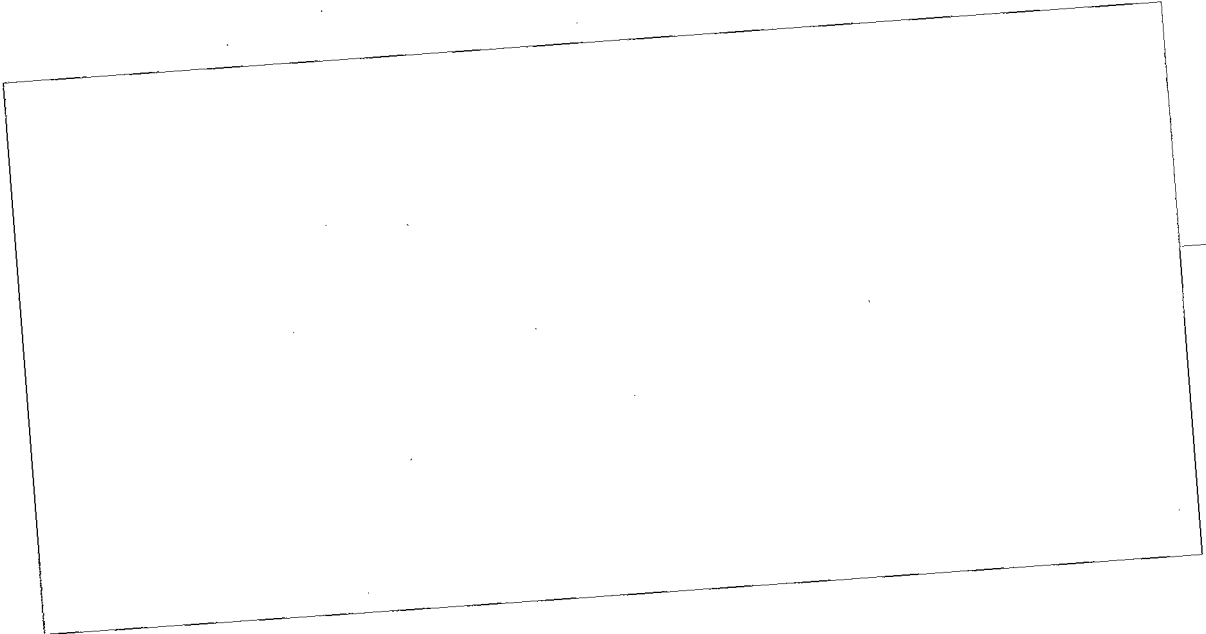
The foregoing analysis indicates that to support the logistic requirements implied by their offensive doctrine, the Soviets would need to add some 6,500 cargo vehicles and about 1,600 POL vehicles to their forces in East Germany. The mobilization and subsequent movement to East Germany of a force of this magnitude probably would be part of a larger mobilization and reinforcement. As such, it would almost certainly be observed by Western intelligence. On the other hand, a gradual augmentation of GSFG motor transport in small increments would be difficult to detect except in its later stages.

The current Soviet logistic posture constitutes a constraint on Warsaw Pact capabilities for offensive action against NATO. The possibility that logistic limitations and vulnerabilities could contribute significantly to the bogging down of a Pact offensive would probably be a serious consideration in Soviet calculations of relative NATO-Warsaw Pact military capabilities in central Europe.

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