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Dear Mr.Greenewald,

This responds to your Freedom of Information Act (FOIA) request dated April 08, 2016; you submitted this request to the Defense Technical Information Center (DTIC). DTIC forwarded your request to the Defense Intelligence Agency (DIA) for our review and direct response to you. You requested a copy, electronic or otherwise, of the following:
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Personal Author(s): Houy, Sharon A
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I apologize for the delay in responding to your request as DIA continues its effort to eliminate the large backlog of pending request.

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Sincerely,

(for)
Cheryl Cross-Davison
Chief, Records and Open Government

DEFENSE
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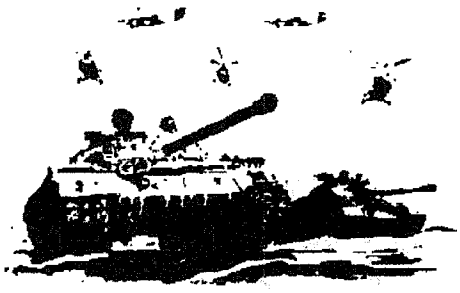
Review of the Soviet Ground Forces

Original contains color plates; All DTIC reproductions will be in black and white

AUGUST 1983

REVIEW OF THE SOVIET GROUND FORCES



RSGF 2-83
AUGUST 1983

ARTICLES

FEATURES

Additional contributions: Major James H. Brusstar, Major Kenneth Keating, Mr. Richard Oden, Mrs. Natalie Prissovsky, Mrs. Dorothy Warner

EDITOR
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PREFACE

The *Review* is published by the Soviet Warsaw Pact Division, Directorate for Research, Defense Intelligence Agency, to provide the widest dissemination of material relating to the Soviet Ground Forces based upon information from the Soviet military press and DIA unclassified works. Contributors to the *Review* are skilled in carefully reading and interpreting articles from the Soviet press, as such articles are published for specific purposes. Often they are used to provide good examples for emulation, to motivate officers and soldiers to do their jobs better, to reward outstanding personnel, and so on. Each article is reviewed by the Soviets before publication to insure that it conforms to official Communist doctrine and that each contains an element of official Soviet propaganda. But the material is well worth reading because it is an important part of Soviet professional literature. Items included in the *Review* are selected carefully to present a realistic view of the Soviet Ground Forces and to provide insight based on readings from the Soviet press. This is accomplished, in part, by screening out the propaganda and adding background information and analysis to place the Soviet material in perspective.

THE OPERATIONAL MANEUVER GROUP: THE DEBATE AND THE REALITY

INTRODUCTION

Beginning in the spring of 1981, matter-of-fact discussions about the composition and employment of a combat formation called the "operational maneuver group" (*operacyjna grupa manewrowa*) began to appear in the Polish military press. From the several articles published over the past 2 years, a picture of this new combat formation has begun to emerge.

The operational maneuver group (OMG), as described by the Poles, appears to be a large (at least a division), one-way raiding force composed of tanks and a heavy air assault component. As early in the offensive as possible, this large raiding group will penetrate ahead of the main attacking forces to destroy or seize specific, high-value objectives deep in the enemy rear, thereby facilitating a more secure and rapid advance of the main body. Primary objectives include nuclear weapon, command and control, and river-crossing sites. Local air superiority for the OMG and air support to the OMG appear to be essential requirements for successful mission execution.

THE DISCUSSION IN THE SOVIET/WARSAW PACT PRESS

Within the last 2 years there have been several articles in Soviet/Warsaw Pact military writings which refer to the concept — if not the formation itself — of an OMG. Problems of support and employment of the OMG have been discussed in the Polish military press in at least six articles since May 1981. These articles generally have assumed a basic knowledge about the OMG on the part of the reader, strongly suggesting that Polish forces have been working with the concept for some time prior to 1981.

In addition, the Soviets have expressed a growing public excitment over the past 4 years about reviving the World War II "mobile group." "Mobile Group" (*podvizhnaya gruppa*) appears to be a historical-revisionist "code word" that Soviet military writers may be required to use for discussing the OMG in the open press. This may be the result of traditional Soviet reluctance to discuss openly operational or organizational innovations of any kind. Moreover, the OMG is an especially aggressive, offensive concept that might unnecessarily provoke Western military planners if it were discussed openly as anything other than an updated version of a safe, traditional type of combat formation. The Soviets are especially sensitive to being accused of recreating the Nazi *blitzkrieg*.

There is considerable evidence that the "mobile group" as discussed today in the Soviet military press is, in fact, the OMG described by the Poles. First, the Poles themselves explain that the "new" operational concept is called the operational maneuver group and that this modern concept "derives its origin from the so-called mobile group...widely applied by the Soviet Army in the Second World War."

A later report in a Polish military newspaper summarized an issue of the normally restricted Polish journal *Military Thought*. In the lead article in the issue summarized, a Polish military scientist, Lieutenant Colonel S. Kolodziej, expressed reservations that applications of the World War II "mobile group" concept to the modern battlefield in the form of the OMG was always appropriate and complained that the OMG was being used somewhat indiscriminately in exercises. This report subsequently mentioned that a condensed version of an article by Soviet Major General Kurkov appearing in the same issue "corresponded perfectly" with the Polish lead article.

The Soviet entry on "Mobile group" in Volume 6 of the *Soviet Military Encyclopedia* (published in 1978 in Russian only) listed the term as a historical concept. Moreover, the entry concluded that since all forces were now mobile, formation of special mobile groups no longer was required, and the missions of the group would be performed by the second echelon.

Despite this official purging of the term "mobile group" from modern usage, in March 1981, Soviet Colonel General D. A. Grinkevich, then Chief of Staff of the Group of Soviet Forces, Germany (GSFG), published a review of a book entitled *Troop Control in the Offensive*. In this review he criticized the authors for failing to deal with troop control as it relates to the use of computers, the integration of Army Aviation (a very recently resurrected organizational concept), and the control of mobile groups.

In addition, there are many examples from the recent Soviet military press of high-level endorsement of the use of mobile groups in modern warfare. Moreover, in September 1981, a military reporter for the Soviet newspaper *Red Star* enthusiastically praised the highly effective use of airborne troops in support of "mobile group" operations in the large-scale ZAPAD-81 exercises held that month in the western USSR. It is obvious that, although the term "mobile group" is obsolete, the concept that it now stands for -- the OMG -- is very much a current and dynamic issue.

DEVELOPMENT OF THE OMG CONCEPT

In the mid-1970s, when the force structure of the Soviet Armed Forces began to match more closely military thinkers' operational ambitions, Soviet planners began to place great emphasis on raiding[1] operations by battalion- and regiment-size forward detachments. This increased emphasis on preliminary tactical raids was accompanied by a corresponding increase in concern about the achievement of high concentrations of conventional fires, while at the same time reducing the vulnerability of fire support weapons systems.

Apparently, the Soviets enjoyed considerable success with tactical raiding, leading to an attempt at raiding on an operational[2] scale. This concept of operational raiding had already been discussed in some detail by Colonel I. Vorob'yev in a key article in the Soviet journal *Military Thought* in 1965.

The article, entitled "Forward Detachments in Offensive Operations and Battles," focused on the issue of whether forward detachments still had utility on the modern battlefield. He explained that in the "preatomic" period forward detachments were designed primarily to move out ahead of the main body and seize important tactical and operational objectives in the depth of the enemy's rear and hold them until the approach of the main forces.

Colonel Vorob'yev concluded that, given the increased maneuverability and dynamics of combat operations on the nuclear threatened battlefield, the use of forward detachments actually would increase, as would the tactical and operational significance of their activity. Under modern conditions they must act more decisively, at greater depth, and under more complex conditions. Their objectives must be expanded to include the enemy's nuclear capability and air defense weapons. Moreover, the range of their missions would be expanded to the extent that the activity of these detachments would "exceed the scope" of a supporting role for the main forces. He predicted, in fact, that there would be a trend toward larger raid forces, which he proposed be called "operational forward detachments."

Polish Lieutenant Colonel Koldziej, cited earlier, explained that the development of the operational maneuver group concept arose "precisely out of the need for finding new solutions" to the problem of applying the concept of achieving rapid penetration of the enemy rear by forward detachments..." In the process, "...theory was, in a sense, surprised by practice. The first analyses and attempts of solving this problem were made during exercises. The findings that were arrived at served merely as a point of departure for more comprehensive reflections and formulation of more broad theses."

It could be that subsequent references in the late seventies to raiding by mobile groups was an attempt to legitimize an operational concept that was already gaining acceptance.

WHAT IS THE OMG?

Analysis of the Polish military press in conjunction with Soviet military writings about the modern "mobile group" provides a fairly clear picture of the OMG as it probably would be used today.

The OMG would be a special force, task-organized for the raid mission it was to perform. The types of units and attachments normally associated with the formation of the OMG at army and *front* levels would include an air assault unit, army aviation, self-propelled artillery, mobile service units, and engineer support (see figure 1). The OMG is a specially tailored combat formation and not a fixed structure. It does not constitute an augmentation of Soviet army or *front* forces and, hence, its formation probably requires a redistribution of existing forces.

The OMG normally would be drawn from forces of the first or second echelon. It probably would be formed from the first echelon if the enemy was weak or if the Soviets were to use nuclear weapons at the outset of the conflict. It would be formed from the second echelon or the reserves if the enemy defenses were strong and nuclear use was to be avoided or after the first echelon's strength had decreased significantly.

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[1] The Soviet raid normally is conducted along a designated route against preplanned targets, although it may strike targets of opportunity along the way. The raiding force usually will avoid decisive engagment with large enemy forces, although it may launch disruptive surprise attacks against the enemy's flanks, rear, and reserves. The Soviet raid normally does not involve the return of the raiding element to the main body of the attacking force. Instead, the main body catches up with the raiding elements.

[2] The term "operational" has special significance in Soviet doctrine. In contrast to "tactical," which relates to the mission, activities, and depths of operations associated with units of division size and below, "operational" refers to missions, activities, and depths of operations associated with formations on the scale of army and *front*.

FRONT LEVEL	ARMY LEVEL
TANK OR COMBINED ARMS CORPS (ARMY)	1 TK OR MR DIV

TYPE OF ATTACHMENTS
(VOLUME OF TYPE ATTACHMENTS ARE EXPECTED TO DIFFER BETWEEN FRONT AND ARMY)

- AIR ASSAULT UNIT
- AIR AVIATION (i.e. HELICOPTERS)
- SELF-PROPELLED ARTILLERY
- MOBILE AIR DEFENSE UNITS
- MOBILE REAR SERVICE UNITS
- ENGINEER SUPPORT (BRIDGING/ROAD CLEARING)

Figure 1. Probable OMG organization for combat.

An OMG drawn from the second echelon or reserve elements would be expected to be better prepared for prolonged deep raid operations, and therefore, would be expected to be able to achieve deeper operations than an OMG drawn from the first echelon. It is realistic to expect that formation of the OMG from second-echelon resources may reduce the second echelon to the size of a smaller combined-arms reserve.

As mentioned earlier, the use of the term operational in the operational maneuver group suggests employment at army and *front* levels. Although the term OMG may be applied at both levels, it is likely that the manner in which deep raids by OMGs are executed will vary considerably depending on whether the concept is being applied at army or *front*.

At army level, the OMG is to be committed on the first day of the offensive, if possible, and normally not later than the third day. The mission of the army-subordinated OMG is to rapidly penetrate the enemy's defenses as early as possible after initiation of the offensive (normally with first-echelon assistance) and conduct deep attacks against multiple, dispersed, preplanned objectives and targets of opportunity in the enemy's rear area.

Figure 2 represents a division-size operational maneuver group subordinated to a first-echelon army of a first-echelon *front*. This is how the Soviets would expect a successful first-echelon army operation to appear on about day three of the offensive.

On the other hand, the larger *front*-subordinated OMG probably would focus on deeper, larger targets than the smaller army-subordinated OMG. Because of its size (at least a two-division corps) and the timing of its commitment (normally after 3 to 4 days of combat by first-echelon forces) the *front* OMG would not be expected to have to expend much of its combat power nor a great deal of time on seizure of multiple targets in the first 100 kilometers of the enemy defenses. As a consequence, it can be expected that the larger *front*-subordinated OMGs will often have the major additional mission of seizing or isolating objectives of major military, political, or economic sigificance deeper in the enemy's rear area very early in the offensive.

Figure 3 portrays two OMGs subordinated to adjacent *fronts* moving on converging axes toward the same deep objectives as part of an effort to effect operational encirclement. In such an operation, reduction of encircled enemy forces on the interior *front* would normally be left to follow-on forces.

In the timing of its commitment and the nature of its activity, the large *front*-subordinated OMG may look very much like the second-echelon divisions of a first-echelon army. It is important to remember, however, that even at this level the OMG should behave essentially as a raiding force in that it would focus more on the early seizure of specific objectives rather than on the destruction of enemy forces.

Consistent with the raid concept, it should be noted that despite its large size, the OMG normally does not constitute any more than 20 percent of the main force at any level. The OMG normally would be too large for the defender to ignore, but its destruction would not necessarily constitute failure of the Soviet offensive in a given sector, especially if its destruction required a major diversion of enemy resources from the main battle.

In fact, ultimate loss of the OMG, though certainly not desired, would not be necessarily inconsistent with the primary purpose of the OMG. The two elements of the purpose are related: the OMG is to shift the focus of combat from the FEBA to the depths of enemy territory; the result of such a major diversion of enemy resources should increase the tempo of the Soviet advance.

OMG MISSIONS

There are three primary missions for the OMG; however, the depth of activity and manner of execution would vary depending on whether they were executed at *front* or army level. One mission would be the destruction of enemy weapons systems. Priority would be assigned to those weapons systems (especially nuclear) that were most threatening to the main Soviet first- and second-echelon forces. A second mission would be disruption of the enemy's in-depth defense to reduce the effectiveness with which enemy forces could engage attacking Soviet first-echelon and follow-on forces. Actions would include destruction of enemy C^3I and

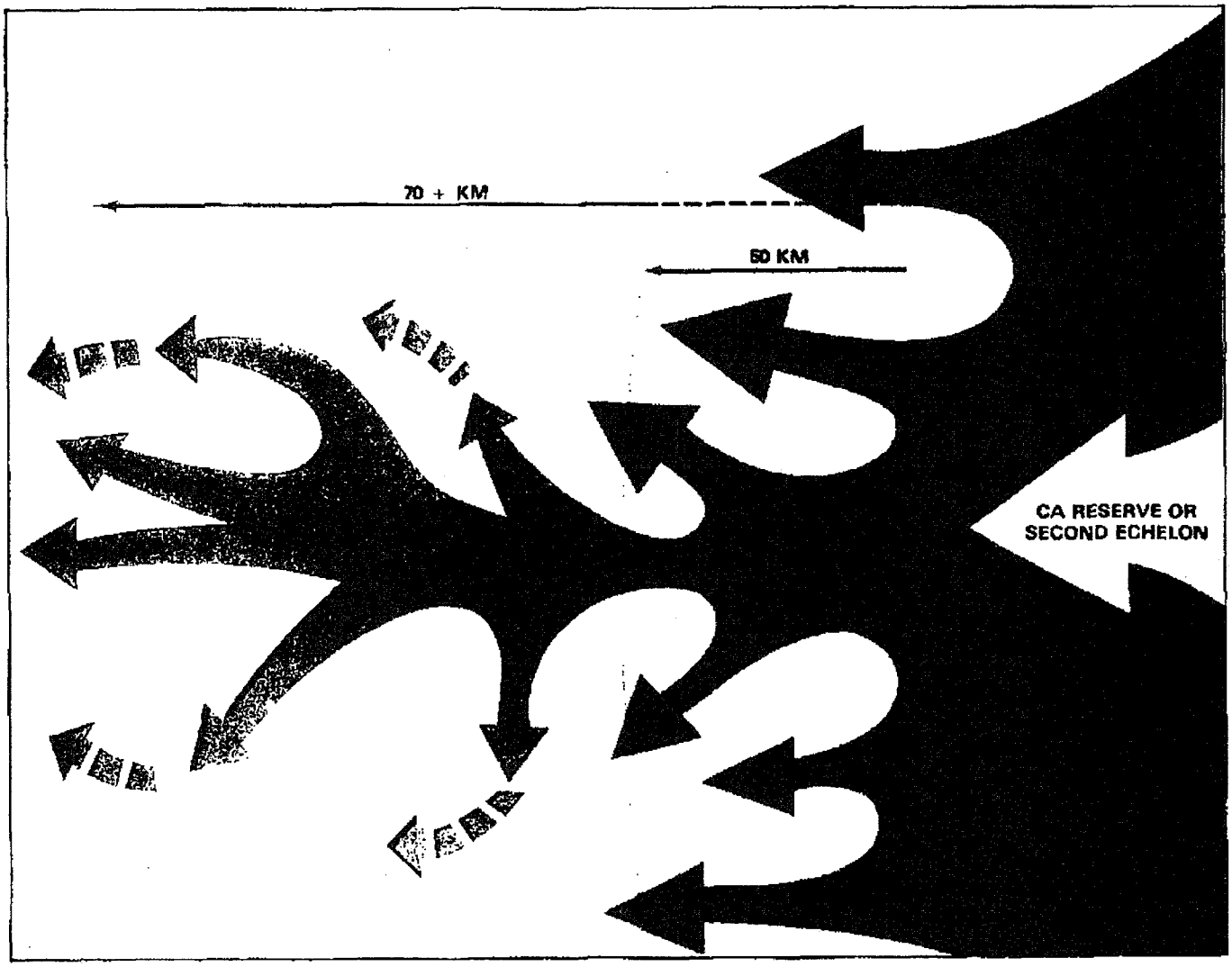


Figure 2. Position of army OMG on D+2-4.

logistic assets, surprise attack on the flanks and rear of enemy units and advancing reserves, interdiction of the defender's lines of communication, and general operations in the enemy rear area to divert command attention and combat resources away from the main battle against Soviet forces at the FEBA. A third mission would be seizure of those objectives and terrain features that would facilitate the rapid advance of the main forces; primary objectives include bridges, fording sites, road junctions, airfields, and landing sites for helicopters and fixed-wing aircraft.

The army OMG is assigned an ultimate objective but attacks numerous critical intermediate objectives along the way with subunits detached for this purpose. In figure 4, initial OMG objectives are shown to the east of the river, subsequent objectives to the west of the river, and the ultimate objective is indicated by the broken line farther west. The OMG shown here is division size, subordinated to a first echelon army. In this case, these smaller detached raiding elements would be regiments and possibly even battalions. While assigned army helicopters provided close air support, fixed-wing aircraft would isolate the battlefield from enemy aviation and ground counterattacks. The larger *front*-subordinated OMG normally would not be committed until day three or four, and hence would probably move more directly to a deeper objective.

Soviet military planners stress that air assault by airborne and heliborne units is essential to the early success of deep operations by operational maneuver groups. Airborne and airmobile units must be inserted in sufficient numbers to disrupt the cohesiveness of the enemy's forward de-

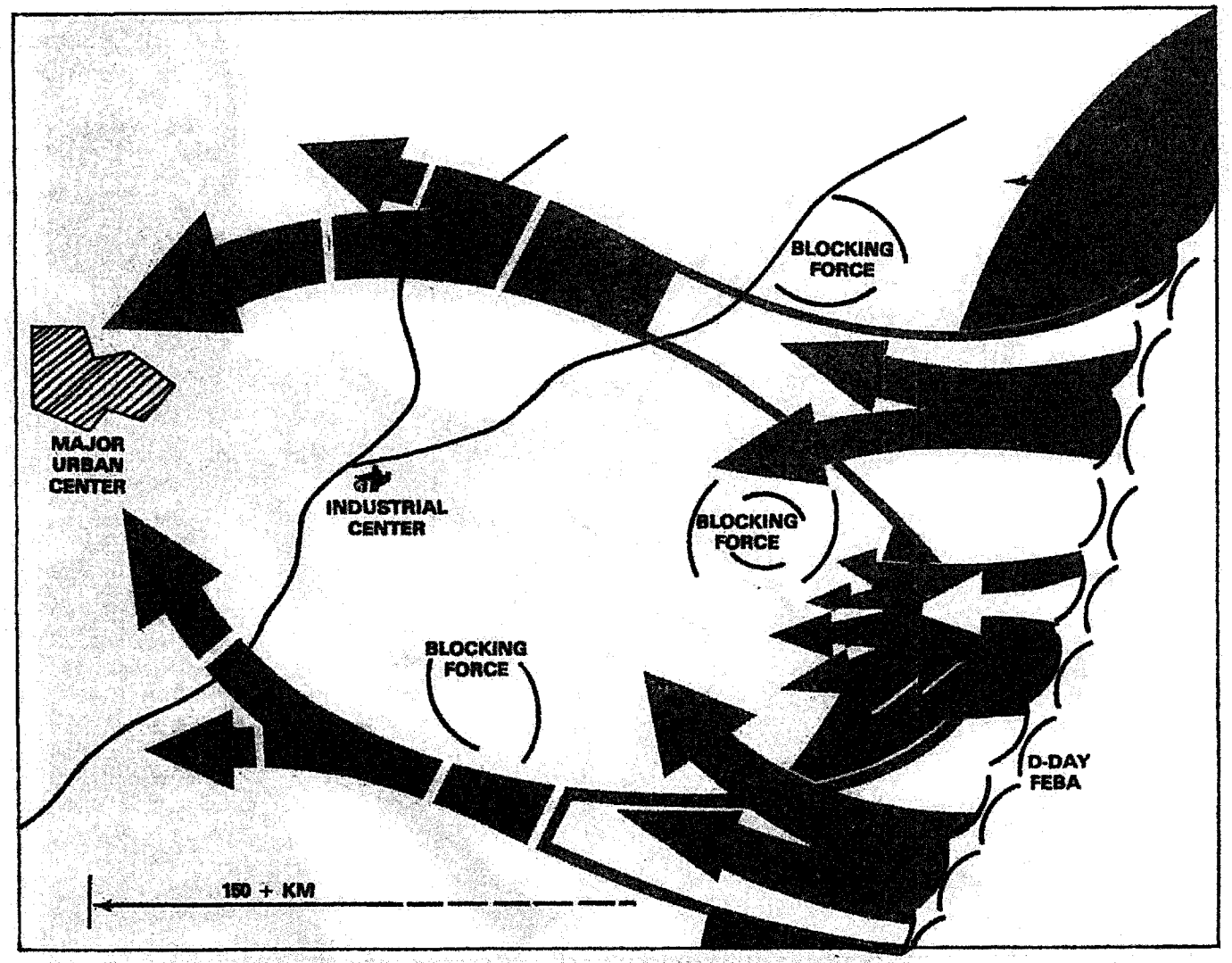


Figure 3. Front-subordinated OMG deep operations.

fending units by forcing them to divert command attention and combat resources to the defense of their rear area. The Soviets anticipate that this activity would facilitate the early penetration of the enemy's tactical defensive zone. To insure that an OMG can maintain its momentum once it has pentrated the enemy's forward defense, air assault units also secure critical road junctions, bridges, and fording sites along the principal routes of advance. In addition, air assault and airborne units are to destroy enemy weapons systems (especially nuclear) that might seriously threaten the continued survival of the advancing operational maneuver group. Finally, airheads are to be established on airfields and other suitable airlanding sites to facilitate resupply, troop replacement, and medical evacuation for the OMG by both transport helicopters and fixed-wing military transport aviation aircraft. To enhance effective command and control, airmobile assault units will be subordinated to the OMG commander.

The Soviets apparently believe that successful OMG operations could severely disrupt the enemy rear area, thereby increasing the chances of maintaining the rapid advance of *front* / army main forces without use of nuclear weapons. By using the larger *front*-subordinated OMGs to rapidly seize and retain control of key military political and economic centers in the enemy's rear area early in the conflict, the Soviets would hope to reduce the perceived utility of continued resistance and to reduce further the likelihood of nuclear use. Operationally, the OMG would facilitate commitment of follow-on forces by inhibiting the enemy's efforts to reinforce its defense and by securing

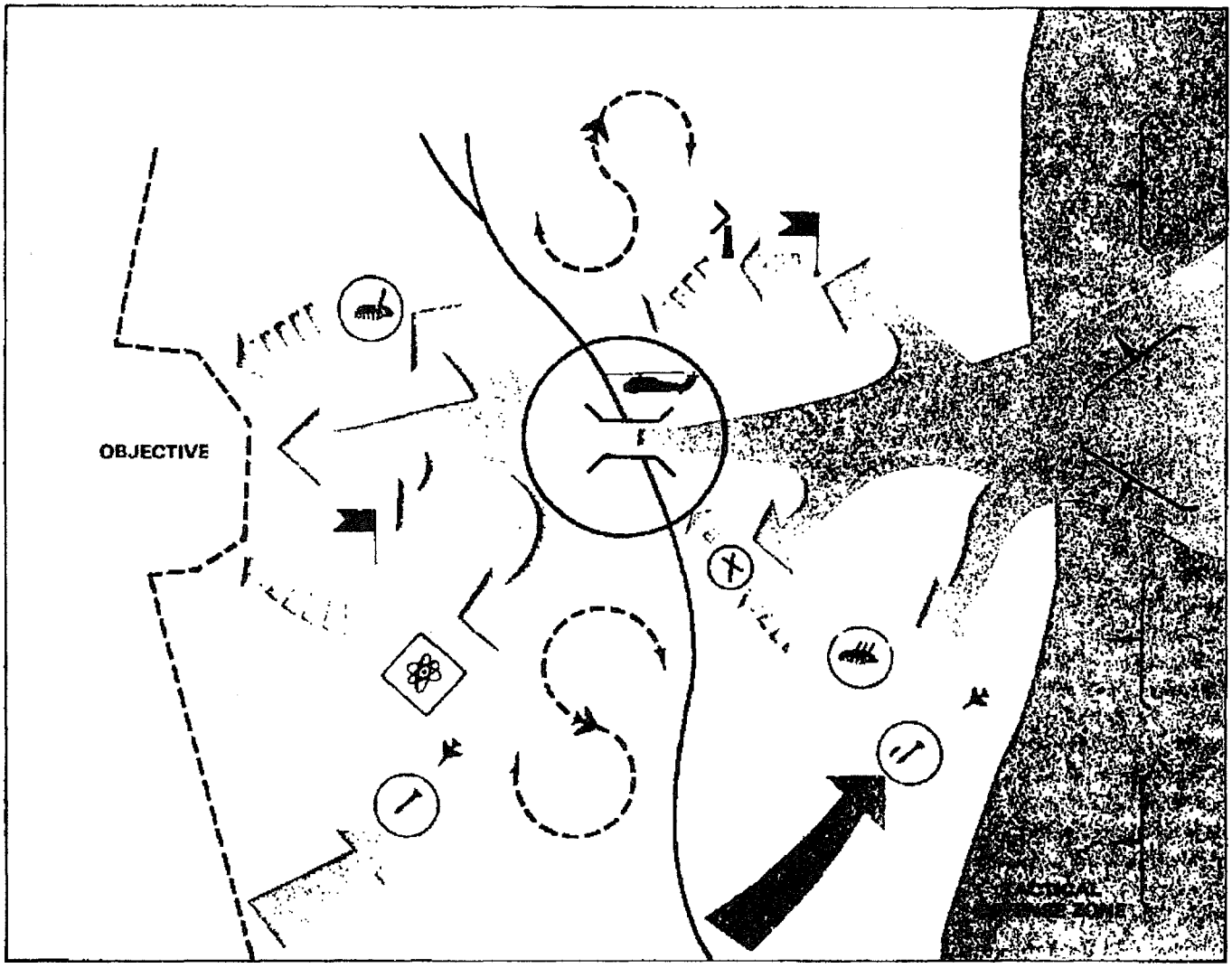


Figure 4. Attacking numerous critical intermediate objectives as it executes its assigned missions.

critical terrain over which exploitation forces must maneuver. Finally, although the operational maneuver group concept was developed primarily for conventional offensive operations, the OMG is well suited for exploitation of nuclear strikes should a theater war become nuclear.

CHANGING REALITY

The Soviet Army has been employing variants of this concept throughout its history. It employed large "operational" forward detachments in World War II. Reputable military thinkers have been considering application of the concept in the postwar period since at least 1965. Despite this long conceptual history, the OMG is different in several respects, as it affects the Soviets' method of warfighting.

First, the technology the Soviets can apply to its implementation make it qualitatively different from any raiding force the Soviets have previously fielded. The modern raiding force has the BMP, better tanks, maneuverable self-propelled artillery, and, most important, helicopters for improved command and control, reconnaissance, fire support, and greatly increased mobility of the air assault component of the force. Moreover, the Soviets now have the fighters, fighter-bombers, and transport aircraft to protect and support a deep raiding force and to deliver airborne forces for early seizure of primary objectives.

Second, if we examine the history of Soviet operations during the postwar period and the more immediate past, it is clear that the organization and use of a modern raiding force at

the operational level represents significant qualitative change in Soviet military art. In this context, although the *tactical* forward detachment has been improved, the *operational* maneuver group is new.

Moreover, the OMG is different from the second echelon and combined-arms reserve. As early as possible, the OMG is to penetrate ahead of the main forces to seize and destroy a diverse set of objectives, so as to create the conditions required for the rapid advance of the main first- and second-echelon forces. Decisive engagement with the enemy is to be avoided. The second echelon or reserves are to develop or exploit the success of the first echelon (and OMG) by attacking enemy objectives, especially forces, in depth and thereby maintaining the momentum of the attack.

Not only is the OMG different from the second echelon, in most cases it probably is competing with the second echelon for combat resources. Reallocation of resources from the second-echelon mission to the OMG mission represents an anticipated redistribution of forces from the Soviet rear area much earlier in the hostilities than was previously the case. To the extent that formation of OMGs represents a forward posturing of Soviet armies and *fronts*, it must be anticipated that Western defenders will have to deal with greater numbers of Soviet forces sooner than previously thought, and that a significant percentage of that force will be attempting to achieve dispersion *in our depth* almost from the outset of hostilities.

Although the OMG does represent a different kind of threat, it also represents different opportunities. In the first few days of combat, many elements of the OMG (especially *front*-subordinated) still may be "follow-on forces" (not engaged) and could be attacked with long-range weapons systems. Furthermore, when the OMG penetrates and breaks down into smaller raiding elements, these smaller forces could be defeated by large reserves properly organized and appropriately deployed. Third, the OMG concept is extremely ambitious and places great strain on the command, control, and communications (C^3) of the attacking force. Effective exploitation of this vulnerability could be sufficient to impede seriously an OMG's mission accomplishment. Finally, if these three measures were to succeed in reducing Soviet first-echelon successes, Soviet army and *front* commanders would have fewer second-echelon or reserve forces immediately available to bolster a faltering first-echelon attack as a result of force redistribution into the OMG.

Those who contend that "the Soviets *can't do it*" *should* be mindful that the Soviets obviously are doing it, at least in their training. The example from the large ZAPAD-81 exercise already has been cited. Moreover, in the 1982 Polish *Military Thought* article cited earlier (confirmed by a Soviet companion piece in the same issue), the author complained about "a certain tendency... to 'write in' an operational maneuver group somewhat *a priori* into the model of every operation, without previously completing a comprehensive analysis of the need and justification for its use. In other words, there is a tendency to defer to a sort of operational fashion." The complaint about "overkill" of the use of OMGs may or may not be valid, but it is a clear indication of the intensity and persistence with which the Warsaw Pact is exercising the OMG concept.

It is safe to assume that such intensity in practice indicates an intention to employ the concept in wartime. It also indicates that the ability of Soviet forces to execute the concept should be improving over time.

MEDEVAC IN SOVIET MANEUVER FORCES

Evacuation of the sick and wounded from the battlefield to proper medical care is the most important activity of the Soviet military medical service. Medical personnel help to provide timely and continuous medical assistance, treatment, and evacuation of the sick and wounded to the rear. Due to the development of weapons of mass destruction (nuclear, chemical), great numbers of casualties are anticipated in a future high-intensity war, making medical evacuation a significant problem.

Medevac in Soviet maneuver forces is based on a multistage process of evacuation in which the medical services are repeatedly brought forward to the wounded. This is done primarily for two reasons. In some cases battlefield conditions may not allow the injured to be transported to rear areas. More important, the farther forward the lightly injured can be treated, the sooner they can rejoin their units. The process of repeated forward redeployment of medical units and continuous rearward evacuation of the more serious casualties demands close communication and coordination between medical echelons and between medical and combat commanders. Soviet medical assistance available in forward areas is restricted to minor wounds; if the seriously wounded are to receive care, they will have to be evacuated rearward to more fully staffed medical facilities.

Each echelon, from company to *front*, has specific responsibilities for care of the sick and wounded. The combat conditions and each echelon's organic capabilities ultimately dictate the limits of medical care provided at any given level. In more serious cases and during periods of heavy casualties, the Soviets emphasize that only essential lifesaving medical treatment should be administered to casualties before they reach an army-level field hospital.

MEDICAL TRAINING OF THE TROOPS

The Soviet troops are trained in basic medical procedures including first aid for hemorrhage, contusions, and fractures; evacuation of wounded from the battlefield; rescue of personnel from disabled vehicles and collapsed structures; and establishment of priorities for the evacuation of the wounded. With this knowledge, the soldiers can give medical assistance to the lightly wounded, freeing the medical personnel to deal with more serious cases.

Each soldier is equipped with an individual first aid kit, an individual chemical and biological decontamination kit, and a bandage kit. The first aid kit contains an analgesic syrette, an antiematic (antivomiting agent), a chemical agent antidote syrette, and antibiotic tablets. These items are carried in an orange box approximately the size of a cigarette case and are color coded. The decontamination kit includes decontamination solution and gauze pads, as well as inhalant ampules to be inserted into a protective mask to counteract the effects of irritant smoke or gas. The bandage kit contains one 10 cm x 70 cm bandage, with one attached and one extra 17.5 cm x 32 cm gauze pad.

Medical Personnel

In combat, the physicians, feldshers (physician's assistants), and medical corpsmen are the key personnel of the medical support system. They are assisted by orderlies, stretcher bearers, and drivers.

Each motorized rifle company has one medical corpsman responsible for training enlisted personnel as his orderlies and stretcher bearers. Each platoon has a minimum of two orderlies. A battalion possesses four medical personnel: a feldsher, a medical corpsman, an orderly, and a driver. A regimental medical point has about 30 men, including 2 surgeons, a dentist, warrant officers, medics, nurses, and drivers.

Each division has a medical battalion of about 175 men, including battalion headquarters, a medical company, a collection and evacua-

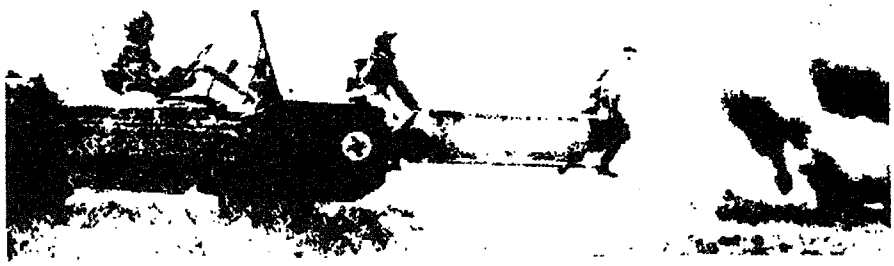


Photo 1. Stretcher bearers on the run.

tion company, a disinfection and decontamination platoon, a transport platoon, and a supply and service platoon (see figure 1). At army level there are two types of medical support elements: independent medical detachments (medical battalions under the command of the chief of the army medical service) and mobile field hospitals (organized into a hospital base which deploys along the major evacuation route from the division medical points and independent medical detachments).

Stages of Medical Care

In combat operations, the military medical service recognizes four stages of medical care below *front* level: company/battalion, regiment, division, and army (see figure 2).

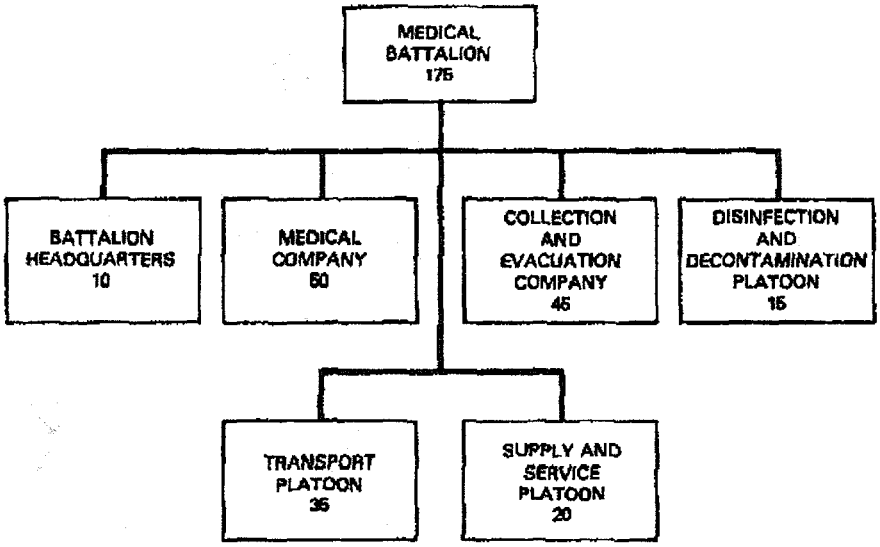


Figure 1. Division Medical Battalion.

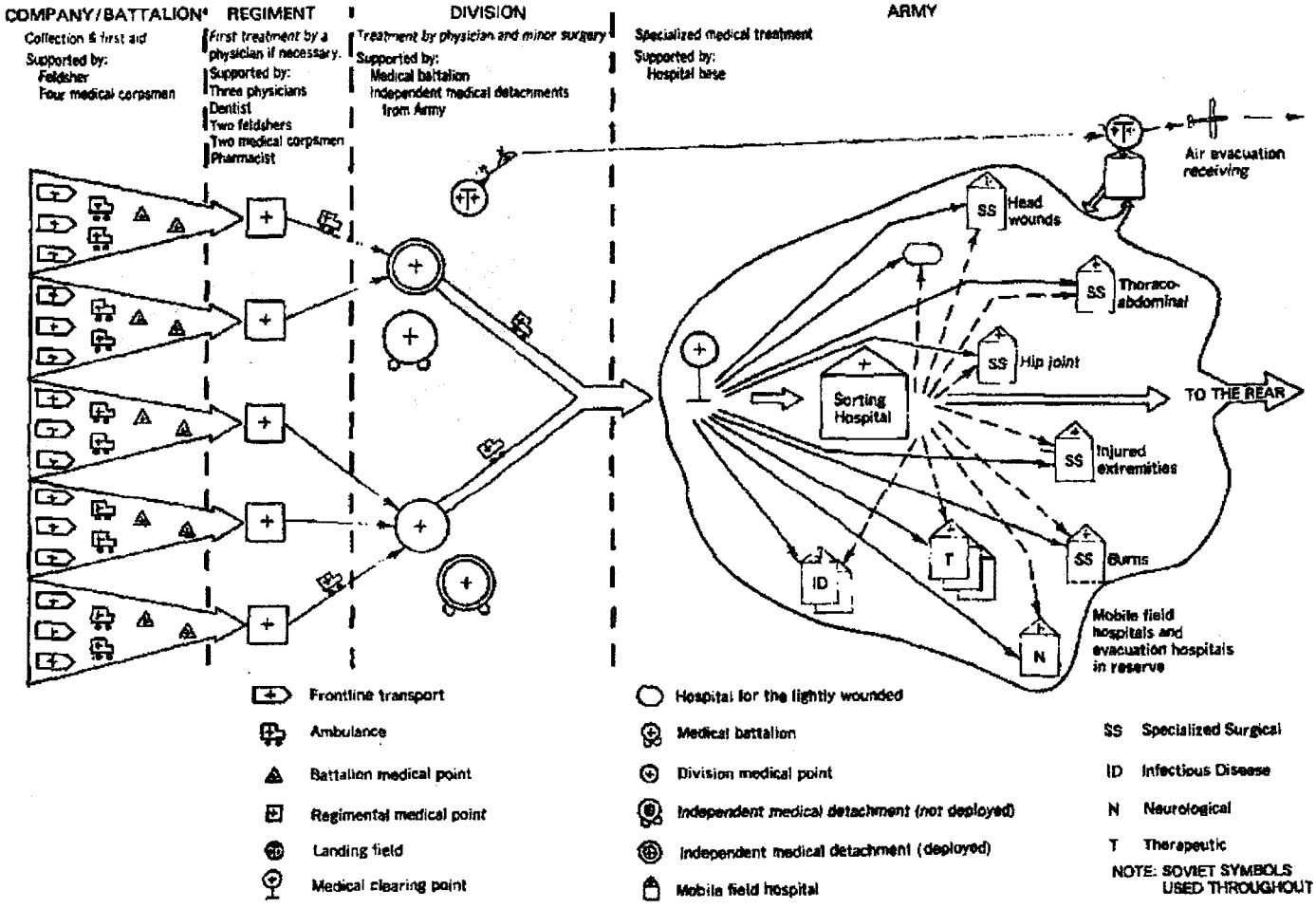


Figure 2. Schematic of the Soviet Army's Combat Medical Support.

Company and battalion medical personnel fall within the category of immediate battlefield support. At this level, the primary concerns are the location and collection of casualties and the provision of basic first aid in order to return them to combat or to prepare them for evacuation to the regimental medical point.

At the regimental medical point, the seriously wounded casualty may first expect to be examined and provisionally treated by a physician. It is not, however, until casualties reach the division medical point maintained by the medical battalion that medical personnel attempt any but the most unavoidable medical treatment. About 200 casualties can be treated at this level per day. Even at the division medical point, the limitations of personnel and facilities dictate the postponement of all but minor surgical operations until the casualty's arrival at a mobile field hospital.

The army-level mobile field hospitals, established as detachments of a hospital base, form the fourth stage of the military medical evacuation process. This is the first level of the combat evacuation system capable of conducting major surgery and providing extended therapeutic care. These mobile hospitals are capable of forward employment. In the offensive, an army hospital may be found as far forward as 40 kilometers behind the division medical battalions.

Air and Rail Transport

Beyond the army level, various modes of transport may be employed to evacuate the seriously wounded to *front* hospitals. (*Front* hospitals are usually housed in existing civilian hospitals.) Two such modes are by air and by rail.

Air is the quickest method of transporting casualties in wartime. It is thereby possible to transport casualties quickly to stages of skilled and specialized medical aid. Ambulance airplanes and helicopters, military-transport planes, and specially equipped airplanes of the USSR Ministry of Health may be used for air evacuation. Helicopters are capable of evacuating seriously wounded troops directly from the battlefield to the army hospital base. However, air assets are extremely valuable to maneuver commanders at all levels and may not be allocated in large quantities for medical evacuation.

Rail transport was used successfully in World War II, and the Soviets plan to use it for medevac in possible future wars. Permanent military medical trains (PMMT) were the main rail transport used in that war. On a PMMT, wounded were given first aid and qualified medical treatment. The trains supported various distribution evacuation points and evacuated casualties from assigned groups of *fronts*. A typical PMMT composition is shown in figure 3. Under good conditions, the trains could cover 500-600 kilometers per day.

Photo 2. Removing a wounded soldier from a precarious situation.

Photo 3. The LUAZ 1976M.

CAR	FUNCTION
1	Refrigerator car
2	Generator and material storage
3	Galley
	Officers (staff)
	Crew
	Moderately wounded and sick
12	Pharmacy and bandages
	Severely wounded and sick
	Isolation
18	Food and storage

Figure 3. The permanent military medical train. In World War II, activities on a PMMT included changing dressings, surgery, blood transfusions, infusion of blood substitutes, setting fractures, applying splints and immobilizing bandages, and physical therapy.

CONCLUSIONS

Medical evacuation is a responsibility of Soviet maneuver force commanders. The Soviet approach of forward deployment of medical units will greatly aid the fighting forces by quickly returning the wounded to battle. Additionally, the soldiers are trained to help each other so as to take some of the burden off the medical personnel. However, because Soviet doctrine stresses evacuation with minimum treatment until the wounded reach army level, the success of medical support may depend as much on the availability and coordination of evacuation transport as it does on the professional skills of the medical personnel.

Photo 4. Loading the wounded into a LUAZ 1976M.

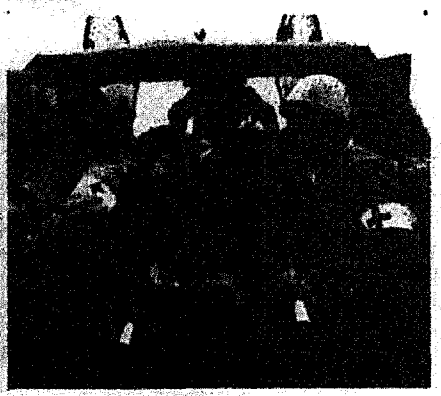


Photo 5. The Soviet Armed Forces use the red cross symbol to indicate medical personnel and vehicles.

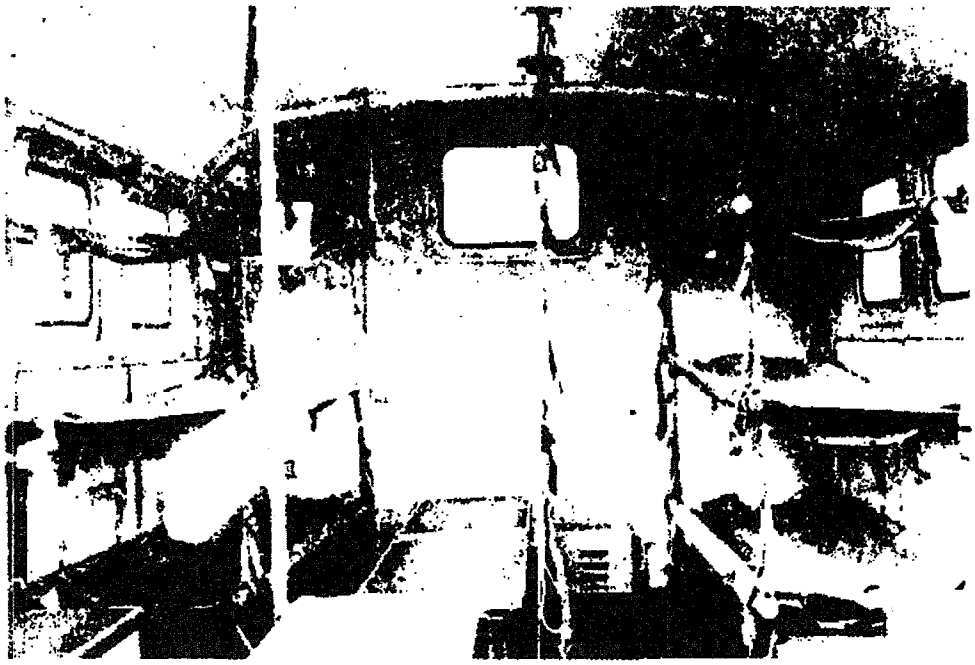


Photo 6. This ambulance evacuates the wounded to higher stages of treatment.

Photo 7. A lieutenant colonel in the medical service performs surgery with the assistance of a nurse.

SOVIET APPROACHES TO DEALING WITH BATTLEFIELD ATTRITION

INTRODUCTION

Contemporary combined-arms operations between opposing theater forces possessing unprecedented firepower and mobility will result — in the Soviet view — in extremely high rates of personnel and equipment loss. Soviet planners believe that those forces which can most effectively preserve the combat effectiveness of maneuver and support units suffering such battlefield attrition will substantially increase their chances for victory. As a consequence, the Soviets have devoted considerable attention to the development of approaches and procedures designed to deal with the impact of battlefield attrition. This article addresses overall Soviet approaches to the reconstitution of attrited units with particular emphasis on weapon system replacement concepts.

Development of Soviet Approaches To Maintaining and Restoring Combat Effectiveness

Concerns with the problems of replacing losses in mechanized armies have been highlighted in the earliest of Soviet theoretical military writings. It was during World War II, however, that the USSR developed approaches to loss replacement that to a great extent continue to shape current Soviet thinking on this important component of what Soviet planners refer to as "maintaining and restoring combat effectiveness." During the war, Soviet tank, mechanized, infantry, and support units operated with frontages and depths of unprecedented scope and were subject to high rates of equipment attrition, particularly weapon systems. While placing heavy demands on rear service and other units tasked to replace these losses, Soviet planners also gained a wealth of experience in formulating and implementing a wide spectrum of replacement approaches.

For example, weapon system replacement, together with other measures, was used to "maintain" or "restore" combat capabilities. Replacement activity designed to "maintain" units at specified levels of strength was carried out during the course of an operation and was designed to offset losses inflicted as the operation progressed. When units suffered such heavy losses that they were no longer combat effective, replacement activity to "restore" unit capabilities was conducted after the unit was withdrawn from combat. Replacement items were also introduced into units during operational pauses or between operations.

Sources of replacement equipment were varied but came principally from damaged equipment repaired and returned to units; *front* depot stocks; resources assigned to the Reserve of the Supreme High Command (RVGK); and, ultimately, armaments production by the national economy. Even in combat operations of relatively brief duration, the repair system was capable of providing large numbers of replacement equipment items. For example, in 11 tank army operations averaging 17 days, nearly 90 percent of the damaged tanks and self-propelled artillery were repaired and returned to units. In some operations, each piece of armor was put out of action statistically two or three times, repaired, and returned to its unit or subunits. Losses were replaced during operations also from *front* depots, a supply system component established during the course of the war. Major end item replacements from this source were principally guns and mortars. Armor, with the exception of that repaired and returned to units, was apparently not often introduced *into* tactical units during an offensive operation. Weapon system replacements, both artillery and armor, from RVGK sources were usually introduced into attrited units during periods of operational preparation, lengthy pauses, or upon the withdrawal of attrited units into the reserve.

In some cases, surviving assets of a severely attrited unit would be incorporated into, or merged with, another formation. Such assets constituted an additional source of weapon system (and other) replacement items. There are also instances where partially mobilized units were incorporated into fully operational but attrited formations. While not replacement in the normal understanding of the term, it does indicate the kind of flexibility that characterized Soviet resource utilization.

Prior to and during World War II, the Soviet Armed Forces formulated, modified, and sometimes radically changed procedures and mechanisms designed to facilitate the requisition and supply of weapon systems. In general, the procedures specified the requisitioning of equipment through

technical, staff, and command channels from lower to higher levels. The supply of equipment was to be carried out in accord with a developing "delivery forward" principal in which higher echelons were to supply the next two lower echelons. In practice, World War II replacement operations, particularly in the early stages of the war, saw innumerable variations from specified doctrinal approaches in response to operational requirements. For example, factories sometimes provided new equipment directly to tactical units rather than through the military depot system. By the end of the war, however, a well-organized logistic system and doctrine had been developed which forms the basis of today's rear service establishment from strategic to tactical levels. While the current Soviet logistic system and associated procedures are well defined, the need for modifications to meet wartime operational requirements is recognized in Soviet principles of operational art.

In carrying out World War II weapon system replacement operations, Soviet planners recognized that engaged units could not often be maintained at full TOE levels, if indeed they began operations at that strength level. Restoring attrited units and formations to precombat strength levels presented many problems in the area of equipment availability, competition for rail transportation resources, allocation difficulties, and time constraints. The Soviets desired, however, to achieve two basic goals. First, Soviet commanders and staffs sought to provide replacement items in quantities sufficient to maintain tactical-operational units and formations at combat effective levels even if substantially understrength. Second, they attempted to concentrate units and weapon systems along key strategic, operational, and tactical axes with sufficient superiority to enable attacking Soviet forces to achieve their designated objectives. In large measure, the Soviets were successful in meeting these goals, particularly in those major offensives carried out during the 1943-45 period. World War II approaches to replacement underwent a major reevaluation within a decade of the war's end, however, sparked by the perceived impact of nuclear weapons on all areas of military operations.

In the 1950s, the growing introduction of nuclear weapons into modern armies and the perceived likelihood of their widespread employment on future battlefields, prompted Soviet planners to examine critically many areas of their military art. Among the doctrinal innovations arising as a result of this examination was the introduction of a new independent principle of operational art and tactics called "preservation of troop combat effectiveness." This principle encompasses the many measures integral to maintaining and restoring the combat effectiveness of units subject to wartime attrition, and it is here that weapon system and other replacement activities fall. The application of this principle to military operations has continued to evolve since its formulation in the 1950s.

Current Soviet Reconstitution Options

The Soviet approach to restoring combat effectiveness in contemporary operations is well reflected in the following statement from a *Military Herald* article:

> Modern combat where the enemy employs weapons of mass destruction entails simultaneous and, at times, great losses in manpower and equipment. However, no matter what these losses are, they cannot serve as a justification for halting combat operations. In all cases, the commander must, without interrupting the carrying out of his assigned mission, take measures to restore combat capabilities of subordinate units.

Whatever reconstitution option (or combination of options) is carried out, it is implemented with the aim of insuring that combat operations continue uninterrupted — or more practicably, perhaps, with as short an interruption as possible. Though Soviet planners continue to regard the number of losses suffered from weapons of mass destruction to be those most difficult and demanding to deal with, they nevertheless regard the procedures and measures developed for dealing with such losses to be as applicable for eliminating the effects of nonnuclear losses as well, supplementing more traditional replacement procedures. Bearing this in mind, then, the Soviet options for reconstituting attrited formations can be divided for purposes of discussion here, into three categories, all of which are associated with a number of related procedures:

- Whole unit replacement.
- Incremental replacement.
- Composite unit formation.

Whole Unit Replacement

Looking first at whole unit replacement, a number of Soviet military theoreticians have expressed the view that in a future war entire units may have to be replaced and that replacement units must be "ready to step into battle immediately after their arrival at the front." The most commonly envisioned type of whole unit replacement involves the replacement of companies, battalions, regiments, and divisions from the resources available in the second echelon or combined-arms reserve of committed formations, with resources held at higher levels also being available for use in a whole unit replacement role.

That is, replacement units are taken from the second echelon or combined-arms reserve of tactical units suffering losses; from the second echelon or combined-arms reserve of higher level operational commanders; and from units assigned to the RVGK. To reduce a complex operation to simplified form (see figure 1), a Soviet first-echelon unit which had suffered such heavy losses that it was no longer capable of carrying out its mission would be withdrawn into the second echelon or reserve and replaced by a second-echelon or reserve unit. The Soviet commander could then reform, replenish, or reinforce the withdrawn attrited unit using his own resources or those allocated by a higher commander. The whole unit option would be employed most often in instances where first-echelon formations had suffered nuclear strikes or otherwise been subjected to sudden massive losses of personnel and equipment.

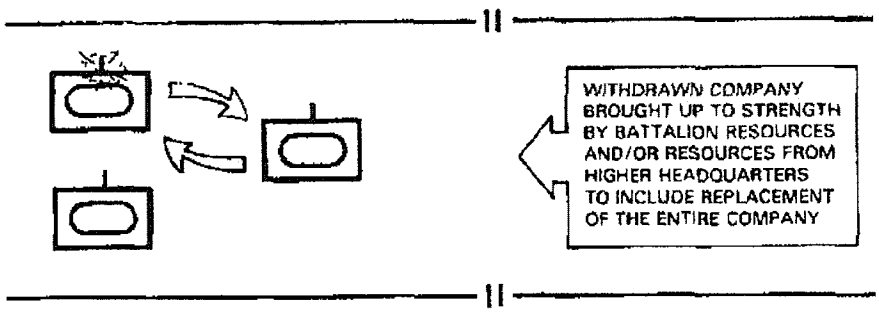


Figure 1. A tank battalion replacing a first echelon tank company with a tank company from the second echelon.

Incremental Replacement

Incremental replacement, as defined here, consists of the introduction of individual replacement items or replacement "packets" of various sizes, e.g., individual crew-served weapons or increments of perhaps squad or platoon size. The greatest source of weapon system replacement items are those damaged items repaired and returned to units. As noted earlier, the Soviets were quite successful in this regard, even over relatively short periods of time. Other sources of incremental replacements include resources held in second echelons and combined-arms reserves at tactical and operational levels, so-called "mobilization reserves" in depots which the Soviets have explicitly identified as being intended "to replace combat losses in the course of theater operations," and strategic reserves of equipment which are employed on a contingency basis. While incremental replacement would certainly be important in helping to maintain and restore combat effectiveness in nuclear operations, it is clear that this form of replacement would have its greatest impact in a nonnuclear environment where losses would be incurred at relatively slower rates and where the opportunity to introduce replacements into attrited units would be potentially greater.

Composite Unit Formation

In noting the impact of weapons of mass destruction on replacement procedures, Soviet military theoretician Colonel A. Sidorenko observed that "after the enemy's employment of weapons of mass destruction, in a number of cases it will be necessary to create composite units from the surviving personnel and armament which are capable of accomplishing the assigned missions." A composite unit will be created, then, from the surviving personnel and equipment of other units that have suffered heavy losses. Thus, for example, the surviving subunits of a battalion that has suffered heavy losses may be joined together to form a composite company, which, together with other battalion elements, will be expected to perform a combat mission — quite likely a modified version of the mission originally assigned to the battalion. Similar measures can be taken with regiments and divisions as well as with larger formations. Composite units will be formed when a formation has suffered heavy casualties in a short period of time, and when it is essential that combat operations be continued.

The creation of composite formations in maneuver units is an especially complex undertaking. This complexity is illustrated in one reported tactical exercise involving a tank battalion hit by a nuclear strike while on a march. The developing situation was described as follows:

> In the course of the march the battalion was subjected to a "nuclear attack." The epicenter of the low-power explosion in the lower atmosphere was near the tail of the column (figure 2). According to the concept of the director of the exercise, in two companies many crews and 13 tanks were put out of action, 7 of the tanks being damaged beyond the possibility of running repairs, and the number of wounded ran as high as 50%.

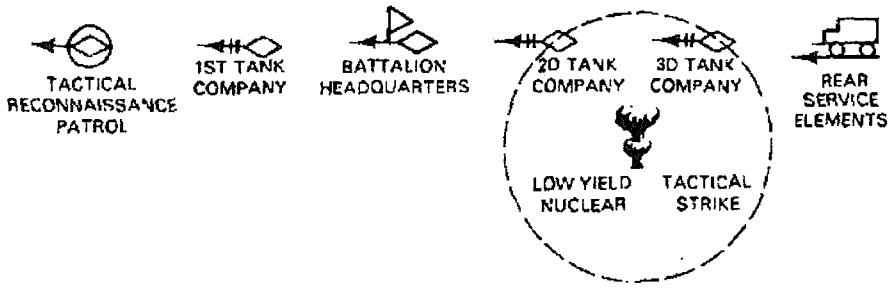


Figure 2. Tactical march by a tank battalion in preparation for a meeting engagement.

Assuming the tank battalion was composed of three 10-tank companies, the battalion had — in 2 of the companies — suffered an initial loss of 13 out of 20 tanks. After current (or "running") repairs, 6 of the damaged tanks could be made operative (by battalion personnel), thus giving the 2 companies a total of 13 operative tanks. Personnel casualties, as noted, were "as high as 50%." Uninjured troops were assigned to perform emergency first aid and to pull out undamaged tanks and those that required only current repair. As always, attention was given first to those detachments that required the least amount of aid to become combat ready. The recovery work was organized by the battalion chief of staff, who was sent to the strike area by the battalion commander. The chief of staff appointed new commanders "to replace those who had been put out of action," had the chemical measurement technician determine the extent of the contamination zone, and himself determined the amount of damage to the two companies in order to clarify initial estimates. The chief of staff reported to the battalion commander the number of personnel in need of medical care, as well as the vehicles requiring evacuation for repair, first by radio and subsequently by written report. To carry out the necessary restoration procedures, the battalion chief of staff decided to use the tank company that had been at the head of the column and therefore not subject to the damage inflicted on the two rearmost companies (figure 3). After the chief of staff had indicated to him the method of conducting the recovery work and the areas in which to concentrate his resources, the company commander (of the undamaged company) himself designated evacuation routes and collection points. Two groups were created from the company's personnel, which were to perform the following tasks:

One was instructed to seek out soldiers "unable to move on their own," get them out of the tanks, carry them beyond the bounds of the "contaminate" zone, give them first aid, and send them to an assembly point. The other group was engaged in putting out fires, clearing away obstacles on the routes, and evacuating the materiel. First the undamaged tanks whose crews had been put out of action were driven out under their own power, and then the damaged vehicles were towed out.

In some cases, a "composite unit formation area" (such as that shown in figure 4) will be designated. Such rescue and recovery work measures as those cited above will, when possible, be carried out of the resources of the unit which has incurred the losses. This was done in the case above (with only limited help from regiment level). However, when a unit has sustained heavy losses throughout, such missions are often carried out by special detachments from higher headquarters that are called OLPs (a Russian acronym from *otryad likvidatsii posledstviy yadernykh i khimicheskikh udarov protivnika*, which translates to "detachment for damage control and rescue operations in areas of enemy nuclear and chemical attacks"). An OLP typically would be composed of motorized rifle, maintenance, engineer, medical, and CBR personnel, and led by a

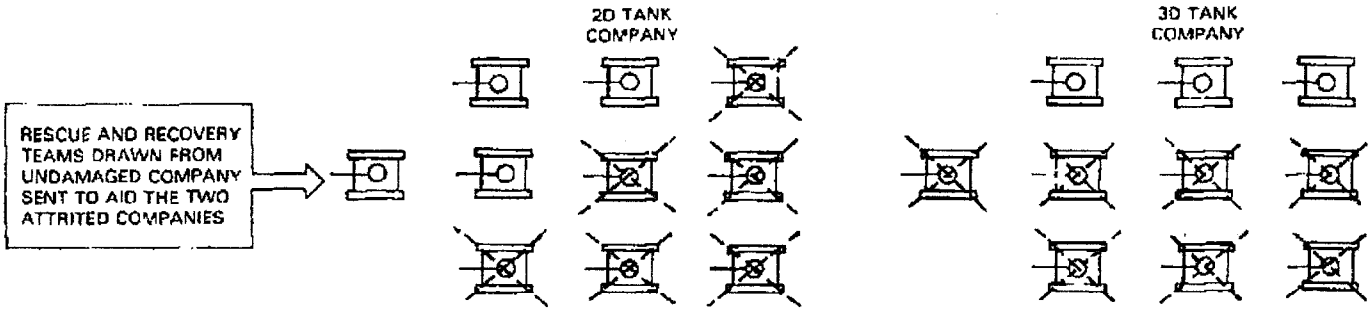


Figure 3. Thirteen out of 20 tanks damaged. Personnel losses of about 50 percent.

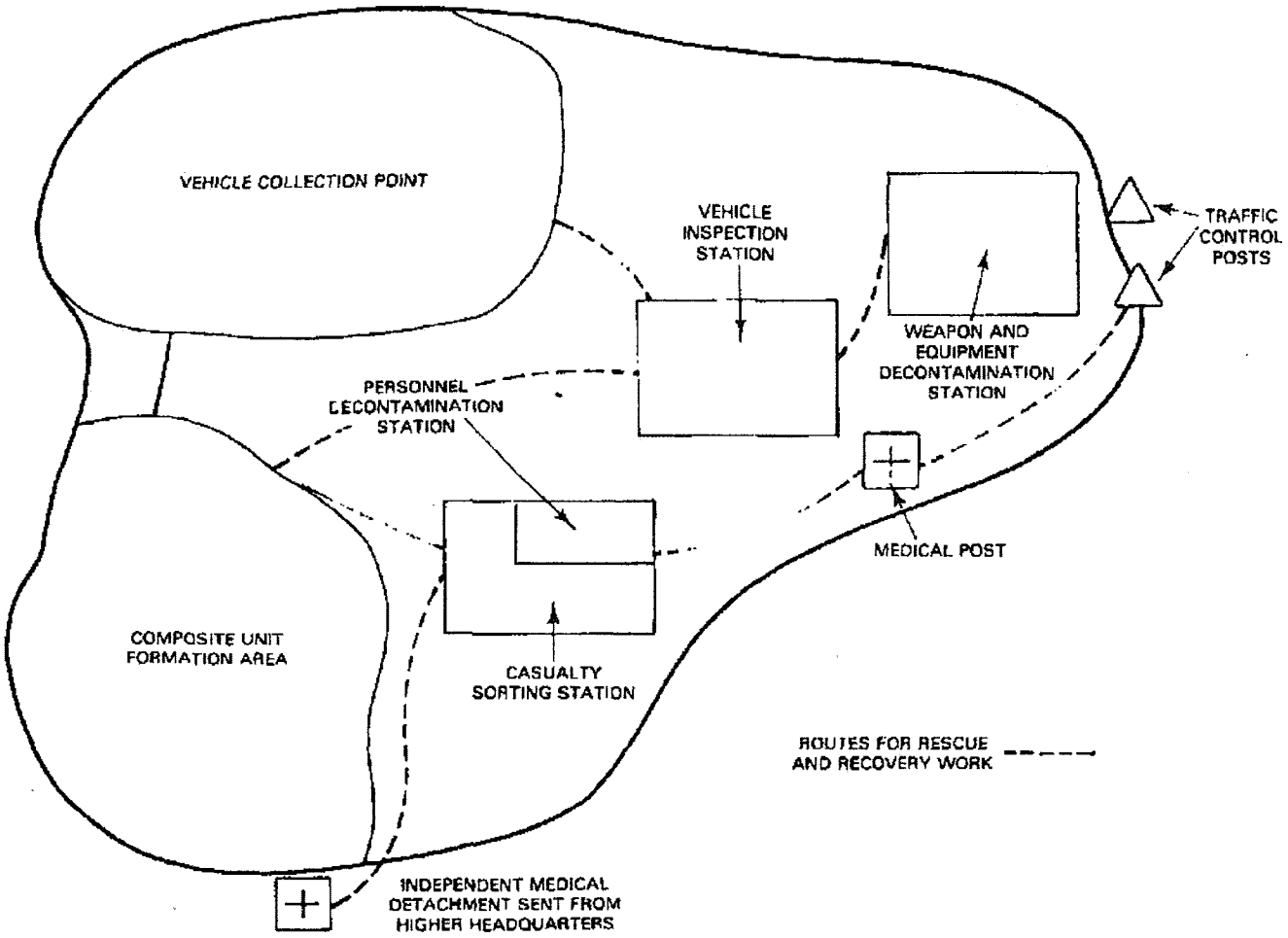


Figure 4. Typical area used by Soviets for the creation of a composite unit.

senior staff officer. OLPs are task-organized detachments created from subunit resources available to the formation commander. After completing their mission, OLP elements may return to their parent subunits or be otherwise employed at the discretion of the formation commander.

In the exercise under discussion, the next steps to take in restoring the combat capabilities of the damaged battalion rested with the battalion commander. The following took place:

The battalion commander, after evaluating adjusted figures on losses, reached a decision on restoring the combat capacity of the companies. To bring the crews of undamaged tanks and those subject to running repairs up to strength, he redistributed personnel among the companies. Corresponding jobs were given to the repair specialists, who had arrived on the orders of the superior commander. Reports were presented to the regimental staff on losses and on the measures taken to eliminate the effects of the enemy nuclear attack. Reduced crews were assigned to the undamaged and the repaired tanks. As a result, the battalion commander formed a composite company and made up a combat roster.

The battalion commander had formed, then, a composite tank company of 13 tanks, operating with less than full crews, from the surviving personnel and equipment of 2 tank companies. The battalion, now composed of one TOE tank company and one composite tank company, at this point could be assigned a mission and committed to combat (figure 5). It should be stressed that composite units are formed to prevent lengthy pauses before the resumption of combat operations.

CONCLUSIONS

Overall, Soviet planners have sought to develop a range of reconstitution options. They recognize that the type of conflict and operational situation will, in large measure, determine which option — or combination of options — should be selected and implemented by commanders and staffs. Current Soviet approaches — based on a focused study of historical and contemporary ways to preserve combat effectiveness — appear to provide their large combined-arms formations with at least the potential to meet the demanding reconstitution requirements of future theater battlefields.

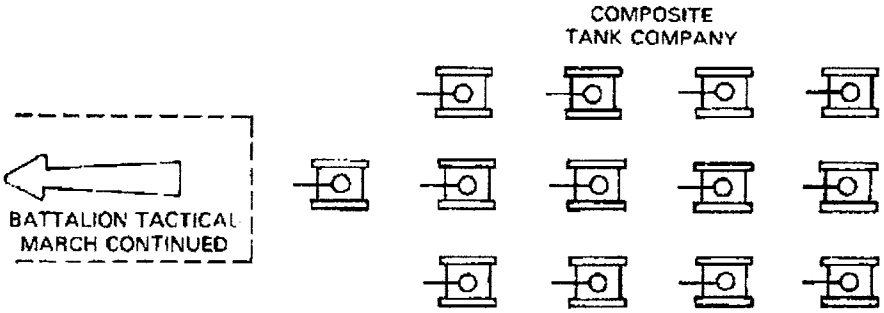
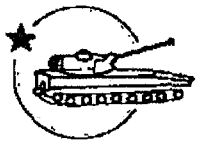


Figure 5. Composite tank company of 13 operative tanks with reduced crews formed.



ACTING INDEPENDENTLY FROM THE MAIN FORCES

INTRODUCTION

Articles have been appearing in the Soviet military press concerning battalion-size and smaller units operating independently of the main force. The units frequently are assigned missions to destroy enemy command posts (CPs), communication centers, and nuclear missile sites. An example of this type of operation was given in the October 1982 issue of *Voyennyy vestnik (Military Herald)*.

Battalion-size and smaller units are used independently of the main force because their small size allows them to move quickly, thus reducing the chance of detection. The battalion usually is reinforced with company- or battalion-size elements, such as artillery and tank units. Such independent operations have objectives located in the tactical depths of the enemy's defense.

According to the Soviets, careful planning and coordination are essential in independent operations, especially regarding the units rejoining the main force after completing their mission.

HISTORY

Operations separate from the main forces were common in World War II. Reinforced tank and rifle battalions or regiments often were employed to destroy or neutralize objectives in the enemy's rear, to seize important objectives, and to hold them until the main forces arrived. The combat action of such a unit did not last more than a day. The total moving distance was about 50 to 60 kilometers per day, and the units operated 20 to 30 kilometers from the main forces.

TACTICAL SITUATION

The article in the October 1982 issue of *Voyennyy vestnik*, entitled "Separated from the Main Forces," provides details of a present day exercise. The situation was presented as follows.

From midnight to approximately 0200, Soviet first-echelon subunits inflicted serious damage to the enemy, forcing him to begin to withdraw. Based on reconnaissance information, the senior commander made the decision to destroy the enemy CP and nuclear missile sites by assigning an independent objective to the 2d Motorized Rifle Battalion (MRB). At this time, the 2d MRB was located in the second echelon.

For this mission, the 2d MRB was reinforced with a tank company, an artillery battalion, an AA battery, and an engineer platoon.

Within 10 hours, the 2d MRB had moved several dozen kilometers into the rear of the enemy and destroyed its CP and nuclear missile sites. Having completed its missions, the 2d MRB rejoined the main forces, which had already moved into the enemy's depth.

PLANNING AND COORDINATION

The exercise scenario and tactical procedures were based on World War II experiences.

In this instance the commander of the 2d MRB was given significant forewarning of the likelihood of such a mission and was allowed to prepare ahead of time. Basic loads of ammunition and fuel were available, officers had been allocated topographic maps of the entire depth of the operations, and all combat equipment had been serviced.

The following information was given to the battalion commander:

- the battalion's mission
- timeframe of its completion
- the task organization
- general direction of the main forces' operation
- available fire support for the battalion's passage of lines and commitment against the enemy
- available helicopter support for the attack on the objectives
- starting point of the operation
- transit times
- line of attack
- sequence for rejoining the main force

The location of the objectives was carefully studied before the mission was undertaken.

In this exercise the battalion was successful because it took advantage of weak points and gaps in the enemy's defense in order to penetrate rapidly into the depth; actively conducted reconnaissance in the enemy's depths, as well as on its own flanks; reached the designated objectives without being confronted by enemy forces; coordinated the maneuver of the attacking units and supporting artillery and AA units in detail; and skillfully employed a support air assault.

THE INDEPENDENT OPERATION

The battalion penetrated a gap in the defensive line of the withdrawing enemy. The battalion reconnaissance patrol began its activities 20 minutes before the main force started its attack. At that time, the forward security patrol of the advanced guard — the 3d Motorized Rifle Company of the 2d MRB — went into action. Directly behind this forward patrol followed the movement protection detachment — a road engineer platoon with mine detectors, a topographic-meteorological instrument, and an artillery tractor/dozer.

The march column was protected on two sides: by a flank security element (a BMP motorized rifle squad) on the right, and by a rear security element consisting of a motorized rifle platoon. The remaining subunits formed the main forces.

To disseminate the available direct firepower of the task force, all motorized rifle companies were reinforced with tank platoons, located at the head of their march columns. The antiaircraft battery was split: one platoon supported the 1st Motorized Rifle Company; the other, the 2d Motorized Rifle Company.

OBJECTIVE ONE: COMMAND POST

The main forces of the 2d MRB delivered a mounted strike from the march in a southerly direction. The artillery battalion supported the strike. The combat reconnaissance patrol simultaneously attacked the enemy from the south. Additionally, one motorized rifle platoon with one tank attached was designated to carry out an ambush, with the goal of hindering the approaching enemy reserves.

The attack from two directions confused the enemy and resulted in a quick destruction of the enemy CP. At the decisive moment of the attack, a specially designated group of 10 men, located at the head of one attacking platoon, seized the enemy's operational planning documents.

OBJECTIVE TWO: NUCLEAR MISSILE SITES

The battalion completed the second mission — destroying enemy nuclear missile sites — in daylight. The Soviet companies received helicopter support during this attack. An air support controller was collocated with the battalion commander to guide the helicopters to designated targets.

At this point, having completed its assigned missions, the reinforced battalion made its way back to the main force, which was in pursuit of the withdrawing enemy. Linkup was completed by 1200 on the same day.

CONCLUSIONS

Based on the information provided in this article, the level of the command issuing the orders to the battalion can be deduced. The battalion was brought in 2 hours after the attack began. The first echelon had made gaps and the enemy had begun to withdraw.

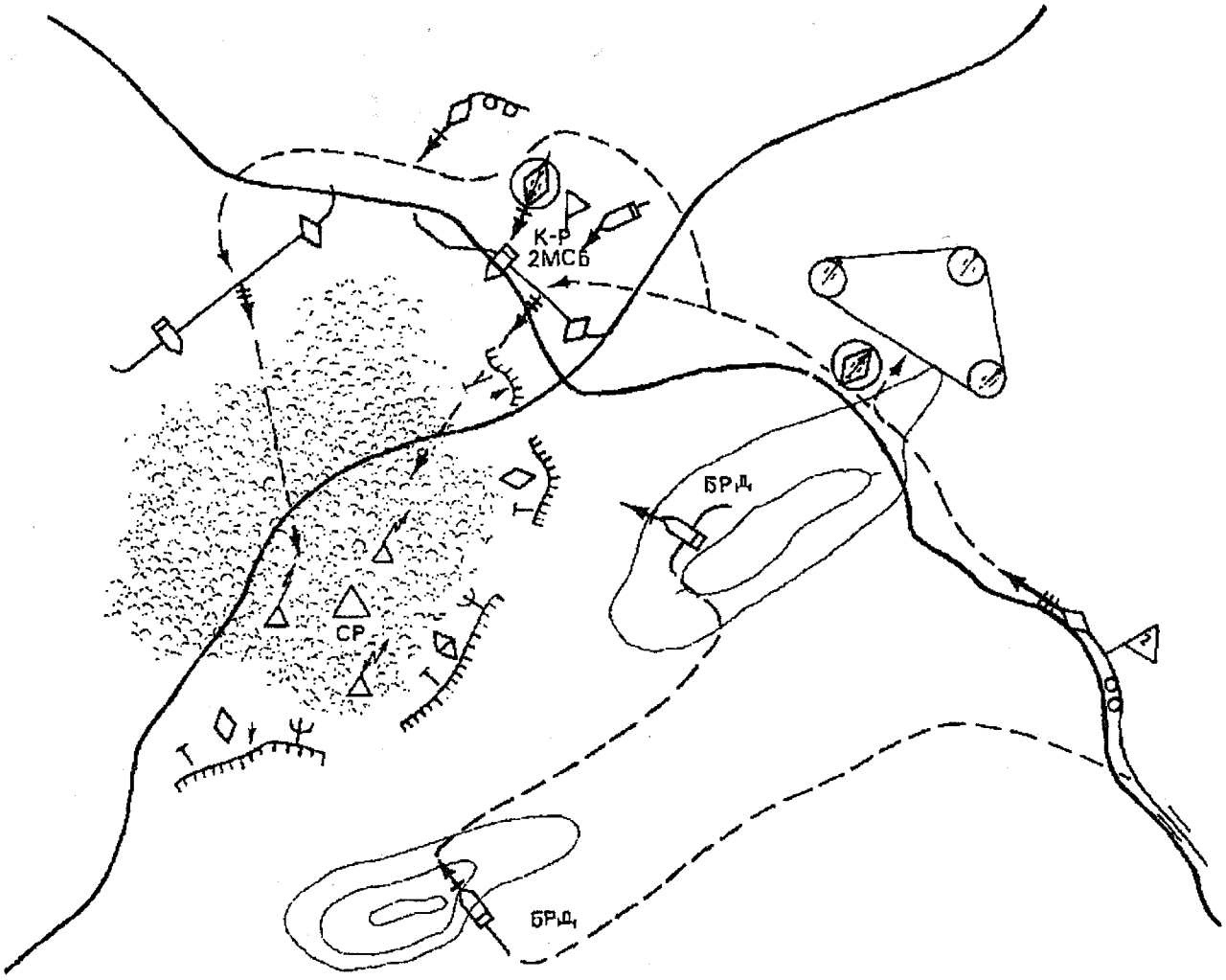
Since the first-echelon regimental commander at this point had already put in his second echelon, it is likely that this battalion was part of a regiment acting in the division's second echelon. Consequently, the battalion commander received his orders for the independent missions from the division commander.

Soviet use of small units in independent missions can be expected in many combat situations. The Soviets consider the completion of missions independently from the main forces as an "objective necessity." Such missions can be facilitated by gaps in the combat formation of the enemy; growing Soviet combat capabilities, especially in cross-country performance; and increased maneuverability and firepower.

There are, however, serious problems in employing this type of an operation. The planning must be detailed to keep the Soviet forces from accidentally firing on their independent unit. There may not be sufficient time — as there was in this exercise — to make elaborate plans. Also, the possible dangers to the unit are great; it is likely that such a unit may never rejoin its main forces.

Yet, this general trend toward independent operations has been appearing in the Soviet press. An article depicting a company-level independent operation appeared in the September 1982 issue of *Voyennyy vestnik*.

These articles appear in *Voyennyy vestnik* to educate and further train Soviet junior officers, to whom greater responsibility falls in independent operations. More articles of this nature can be expected in future issues.



Reinforced motorized rifle battalion in march column

Motorized rifle company in the attack reinforced by tanks

БРД — Motorized rifle platoon as combat reconnaissance patrol

Artillery battalion in firing position

Self-propelled antiaircraft gun

2МСБ — CO of the motorized rifle battalion

Command post

Radio station

Tank

Antitank grenade launcher

Heavy machinegun

Light machinegun

Figure 1. The tactical scenario: destroying the enemy CP.

HELIBORNE OPERATIONS IN MOUNTAINOUS REGIONS

In the December 1982 issue of *Aviatsia i kosmonavtika (Aviation and Cosmonautics)*, an article appeared describing a Soviet heliborne training operation in the mountains. It emphasized the importance of close cooperation among all branches of troops involved in the operation. The training most likely is based on Soviet experience in Afghanistan, since it began by naming several helicopter pilots who recently received orders and medals for their outstanding achievements in "combat and political training." Additionally, although the location of this exercise was not given, some of the named pilots were identified in other articles of the Soviet military press as being from the Turkestan Military District. This military district is a primary staging and support area for Soviet troops in Afghanistan. Generally, the article is written for Soviet aviation personnel; however, it does focus on the problems of working with motorized rifle units.

The airmobile operation consisted of a helicopter regiment landing motorized rifle troops in the "enemy's" rear. The article attributed the success of the operation to close coordination between aviation personnel and the landing troops. It stated that prior to their service in this region, the pilots had "some" experience in working with motorized rifle troops. However, in a mountainous desert region, that experience proves to be insufficient.

This particular operation was successful primarily because the pilots had received additional training in landing troops in mountainous settings. These helicopter crew chiefs were well acquainted with maneuver unit commanders down to company and platoon levels. This factor played an important role in coordinating the actions of the helicopter crews and motorized rifle units.

In the operation described, two groups of helicopters carried the motorized rifle troops, while a third group of helicopters provided fire support for the landing operation. During the flight to the landing area, the heliborne troops fired on enemy positions. They did this by using machineguns and firing through open windows.

During the landing process, the commander of the helicopter regiment personally provided "control over the operation" from a separate helicopter. A fourth helicopter group was assigned an evacuation and rescue mission.

After the troops landed and while they were engaged in fighting the "enemy" for control of the area, the helicopters provided fire support. Once the enemy dispersed and retreated deeper into the mountains, the helicopters returned to their airfield.

The article concluded that such missions are now common and that the pilots "would fly a similar mission on the following day."

Photos 1 and 2. The debarkation of heliborne troops.

CONCLUSIONS

Problems encountered in mountainous areas such as Afghanistan have persuaded the Soviets to take a new look at their combat training. The article stated that when some pilots achieved a high proficiency rating ("class" rating), they felt that they no longer needed to train seriously. However, now it is necessary for pilots to be much more diligent at improving their skills, since experience has shown that operations in the mountains are unique and require greater proficiency.

Additionally, the Soviets have realized the absolute necessity of close cooperation between branches of troops when flying joint airmobile operations. Both helicopter pilots and maneuver unit commanders are being told that such an operation can be successful only if there is close cooperation with each other.

Photo 3. Close coordination is essential between maneuver and heliborne units.

TACTICS, TRAINING, AND EQUIPMENT

POLISH TROOPS READY

According to Issue 37, 1982, of *Zolnierz Polski* (Polish Soldier), Polish troops continued to train despite their occupation with "civilian duties" (martial law). For every two or three soldiers sent into martial law duties, another soldier replaced them in their military preparedness training sessions. The Polish military claims that its military readiness during this period was as high as ever (photo 1).

Photo 1. Polish troops demonstrating their combat readiness.

A NEW RED STAR RUBRIC

On 10 November 1982, *Krasnaya zvezda* (Red Star) began a new rubric, entitled *"Boyevaya gotovnost' vooruzhennykh sil SSSR"* (Combat Readiness of the Armed Forces of the USSR), as a result of late President Brezhnev's comments to military leaders on increasing the readiness of the troops. This series of article in *Krasnaya zvezda* concentrates on the growing demands on the qualitative condition of the Armed Forces, the strengthening of the material and morale foundations of their combat readiness, and methods for their long-range improvement.

The first article in the series was written by Lieutenant General N. Tetekin. He states that the need for increased combat readiness stems from the US arms buildup and US rhetoric on first strike usage. By increasing combat readiness, according to Tetekin, the Soviet Armed Forces will be prepared to take all possible measures to keep a conflict from going nuclear. Combat readiness is achieved by having high morale and good-quality personnel who are well-educated, self-disciplined, organized as a unit, and physically fit. Combat readiness is enhanced by modern weapons and combat equipment and teaching the troops to use and maintain them effectively, insuring that officer cadre are well trained, insuring that the management of troop activities is well organized, and training units to be highly responsive.

In this article, two important factors are considered: the ability of the economy to absorb the cost of increasing readiness, and the ability of the system to produce and deliver new weapon systems and military equipment to the troops in a timely fashion. These two points are considered to play a major role in the decision to build any given system.

This new rubric in *Krasnaya zvezda* is indicative of a renewed concern in combat readiness. The Soviets are showing where their shortcomings lie, why they need to be resolved, and how they plan to make their troops more combat-ready. This article also emphasizes the importance they place on being able to fight effectively at the conventional level.

LASER RANGEFINDER

This photo (No. 2) appeared on the front page of *Krasnaya zvezda* (Red Star) on 14 October 1982. It depicts a rocket artillery unit in a training exercise in the Far East. On the right side of this photograph appears a rangefinder, which may be the Soviet artillery laser rangefinder known as the DAK-1. If it is this particular rangefinder, this is the first photograph of the DAK-1 to appear in the Soviet open press.

Photo 2. Artillery observers using a rangefinder, aiming circle, and plotting board in the Far East Military District.

It is anticipated that as laser rangefinders (LRF) are further developed, they will be used widely with field artillery. In general, LRFs have improved greatly the accuracy of locating targets and reference points by the forward observers. Calculations can be made with significantly increased speed and accuracy. Also, ranging operations are simple and do not require extensive operator training.

The observers in this photo are part of a multiple rocket launcher unit. They are using an aiming circle in conjunction with the laser rangefinder for fine-tuning calculations and possibly as a backup in the event of a DAK-1 malfunction.

DEFINITION OF "CH" (TIME)

In the November 1982 issue of *Voyennyy vestnik* (Military Herald), a precise definition of "Ch" (time) is provided for its audience, the Soviet junior officers. "Ch" is the transliteration of a Russian letter for which there is no counterpart in the Latin alphabet. It is the first letter of the word *chas* (hour) and is equivalent to our H (hour). This is the most detailed definition of "Ch" printed in the open press to date, exceeding the definition provided in the Soviet Military Encyclopedia.

"Ch" is a conditional marking of time established to coordinate activities by units participating in combat. Its purpose is to assure a simultaneous strike against the enemy. Calculations of activities taking place before "Ch" are designated in negative numbers ("Ch" – 0.27); those after "Ch," in positive numbers ("Ch" + 1.50).

Based on "Ch," the commander and staff plan various combat activities. The real time of "Ch" is kept secret even from the officers planning and conducting combat operations. Once given the actual time of "Ch," all planning calculations must be reworked in real time.

Three primary designations for "Ch" were given in this article that more clearly define the exact moment of the start of the attack. First, in an offensive, "Ch" would be the moment at which tank and motorized rifle units simultaneously reach the enemy FEBA. Second, in crossing water obstacles, "Ch" would be the moment when the first units leave a friendly bank. Third, in an airlanding, "Ch" would be the beginning of the airlanding itself.

SA-8 ON PARADE

These parade photos (photos 3 and 4) of the SA-8/GECKO surface-to-air missile system appeared in *Krasnaya zvezda* (Red Star) on 8 November 1982.

The photos clearly show the six sealed canister-tubes, which have replaced the four exposed missiles. The canisters are mounted on the 6x6 chassis of a ZIL-167 truck with three wheels per side. The vehicle carries four additional missiles inside, with a reload time of 5 minutes.

"VYSTREL" FIELD ACADEMY

The dual nature of the "Vystrel" courses -- the "Field Academy of the Ground Forces" -- was explained in an article from Issue 45, 1982, of the East German newspaper *Volksarmee* (The People's Army). They are used both to retrain officers and to test new equipment. The Vystrel Field Academy was founded by Lenin in 1919 and is located about 52 kilometers northwest of Moscow.

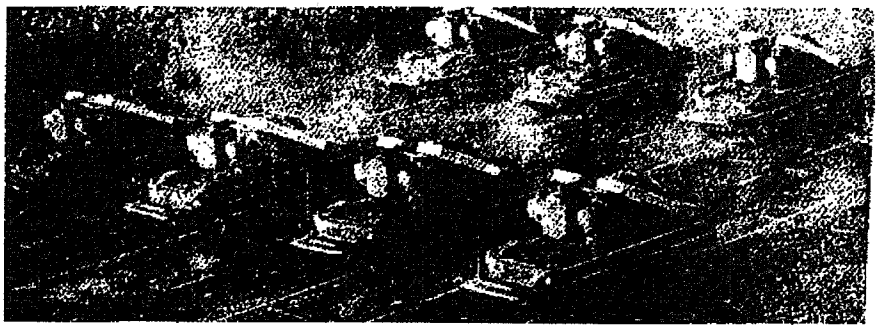


Photo 3. The SA-8b/GECKO in the November parade.

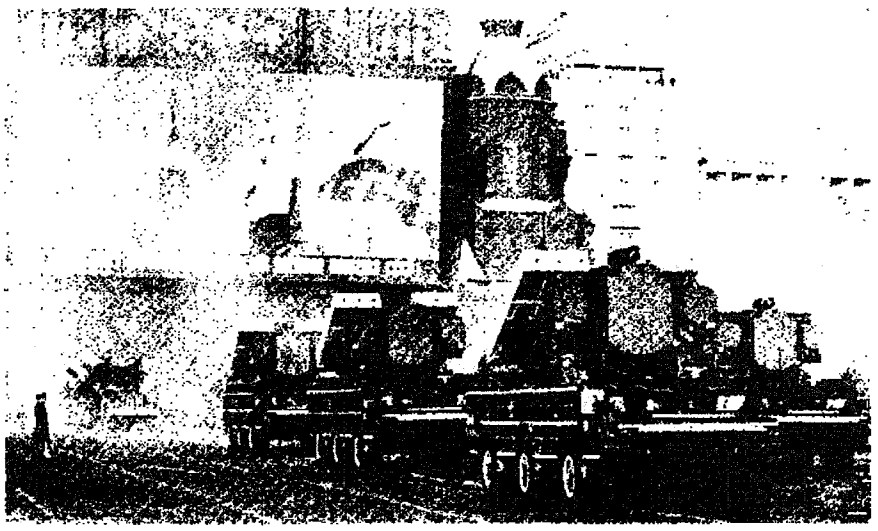


Photo 4. Note the six sealed canister tubes.

After World War II, the "Vystrel" courses were used to train officers from socialist countries in command and control in modern combat, giving them practical experience in the operation and employment of the latest armament, combat equipment, and command and communication equipment. Twenty-four countries participated in the program.

Currently, the "Vystrel" Field Academy retrains and provides field training to battalion and regiment commanders, political and technical deputies, and reconnaissance and operational officers from higher staffs. Most of these officers have already completed a military academy before reaching "Vystrel." The instructors for these courses are generals and other officers with combat experience. The coursework offered is in tactics and firing practice and the courses last from 3 to 10 months.

The "Vystrel" Field Academy also tests prototypal armaments before series production begins. By testing a particular piece of armament using the officers in the course, feedback on the actual field application can be provided to the designers, and modifications can be made prior to production. In photo 5, the AGS-17 is being used in the "Vystrel" Field Academy.

Figure 1. "Armed Forces of the USSR: 'Vystrel' Field Academy Courses."

Photo 5. Field training with an AGS-17 at "Vystrel."

COMBAT USE OF AVIATION

The December 1982 issue of *Soviet Military Review* has provided clear definitions of the various stages of support to maneuver formations by aviation. In brief, they are as follows:

— Air Preparation: "Combat operations of aviation before the beginning of an attack by land forces and before the landing of amphibious or airborne units, with the purpose of destroying the enemy in the direction of the main blow." This stage is conducted in conjunction with artillery preparation and ends with the beginning of the attack. Forces involved may include *frontal* naval and long range aviation.

— Air Support: The stage following air preparation, beginning "when the forces assume either the offensive or the defensive." Forces involved include fighter-bombers.

— Air Accompaniment: "Combat operations of air force units attached to combined-arms formations." The purpose of this stage is "to render continuous support to advancing troops in the depth of enemy defenses by attacking his reserves, tanks, missile launchers, artillery, and strong points." This stage is the final component of air cover.

— Air Cover: Defensive support used "to prevent the enemy from conducting aerial reconnaissance and delivering attacks by... planes against troops, warships, and rear installations." It is also used to protect other fighting elements against attacks by enemy fighters. Soviet forces are able to accomplish this air cover through the close cooperation of ground and sea-based air defense weapons.

LOADING THE SA-6/GAINFUL

In this photo (photo 6) from the September 1982 issue of *Wojskowy Przeglad Techniczny* (Military Technical Review), the soldiers are

practicing loading the SA-6/ GAINFUL surface-to-air missile launch vehicle. Although the reload vehicle can carry three missiles, only two are being used in this training session. NOTE: that the launch vehicle is facing forward and the missiles face the rear of the vehicle, indicating that the launch vehicle will be facing away from combat activities when its missiles are fired.

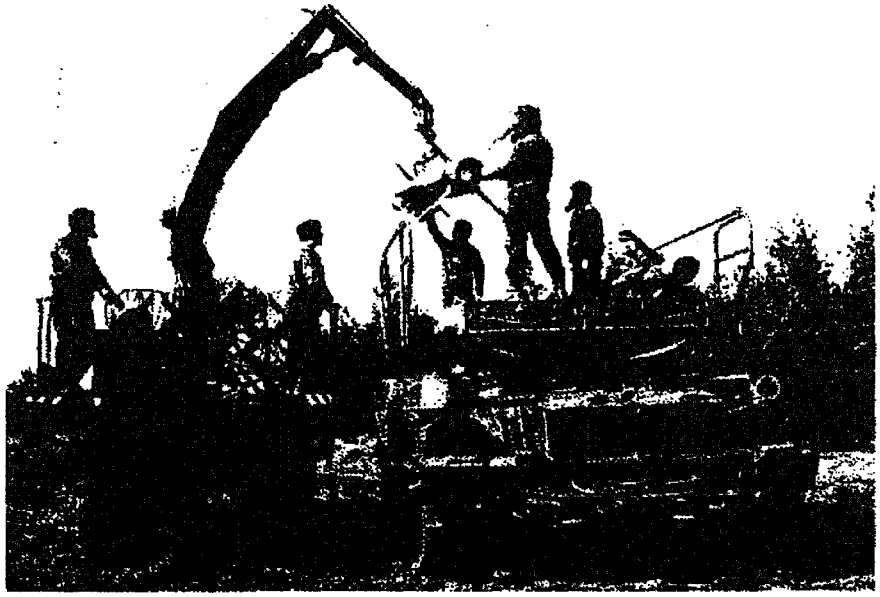


Photo 6. Polish soldiers practice their loading techniques with the SA-6/GAINFUL.

SOVIET ARMED FORCES PERSONALITIES
ARMY GENERAL PETR GEORGIYEVICH LUSHEV
COMMANDER, MOSCOW MILITARY DISTRICT

(b)(3):10 USC 424; (b)(6)

General Lushev, born in 1923, began his military career at the age of 18, when he joined the Soviet Army. During World War II, he served as an infantry platoon leader and a company commander and fought on the Volkhov and Leningrad *fronts*. He was wounded during the war.

Since the war, he commanded a number of military organizations from battalion to military district size. He was in charge of the Volga and Central Asian Military Districts before being appointed Commander of the Moscow Military District in December 1980.

Lushev joined the Communist Party of the Soviet Union (CPSU) in 1951. He also served as a delegate to the 25th and 26th Party Congresses. He is a member of the Central Committee of the CPSU and was elected as a deputy to the USSR Supreme Soviet in March 1979.

As a district commander, General Lushev is responsible primarily for the training of military units and the management of the force generation process within his district. Civil defense and air defense are two of his major areas of concern during peacetime as well as in war.

General Lushev has authored many articles on the role of the commander in combat, on field training, and, most frequently, on combat readiness. His most recent article, "The Art of Troop Control," can be found in the January 1983 issue of the *Soviet Military Review*.

In his current position, General Lushev is also responsible for overseeing the planning, organization, and execution of the military parades held in Moscow. His name frequently appeared in the Soviet press prior to the 7 November 1982 Revolution Day Parade held in Moscow. He directs the rehearsals for the parade, as well as the parade itself (see photo 2).

Photo 1. Army General Lushev.

Photo 2. Colonel General Lushev giving orders during a rehearsal for the November 1981 Revolution Day Parade in Moscow. This photo was taken shortly before he was promoted to Army General.

MILITARY CAREER:

1941	— Entered the Soviet Army.
WWII	— Commanded a platoon and a company.
?	— Graduated from the Military Academy of Armored Troops in the name of Marshal R. Ya. Malinovskiy, and the Military Academy of the General Staff.
1969	— Major General, Commander, Guards Katemirovka Tank Division, Moscow Military District, February.
1973	— Lieutentant General, First Deputy Commander in Chief, Group of Soviet Forces, Germany, September.
1975	— Commander, Volga Military District, August.
1976	— Identified as a Colonel General, March.
1977	— Commander, Central Asian Military District, December.
1980	— Commander, Moscow Military District, December.
1981	— Promoted to Army General, November.

MEMOIRS AND WRISTWATCHES

"The Minister of Defense personally conducting negotiations to obtain wristwatches for Soviet Army commanders?" This story was published in Army General M. Petrov's (current Commander in Chief of the Soviet Ground Forces) memoirs, *In the Days of War and Peace*.

The Soviet Minister of Defense at the time was Marshal R. Ya. Malinovskiy, for whom Petrov was serving as Executive Assistant. When Malinovskiy heard that a certain "Chistopolskiy" factory would be a likely candidate for producing special "Komandirskiy" watches, he ordered Petrov to call the factory and request that its representatives stop by the Ministry the next time they were in Moscow on business.

No sooner said than done. Within 3 to 4 days, the chief designer and the production manager of the "Chistopolskiy" factory arrived in Moscow to talk to Malinovskiy. The Minister of Defense told them of his plan to have special watches made for his commanders and asked if their factory could produce them. The representatives responded that they could and inquired about the specifications Malinovskiy had in mind.

He replied, "The watches must be, as you can surely understand, of the highest quality and extremely precise. The commanders and political workers must be able to use them in any weather condition, from rain to sandstorm, and they must also be shockproof."

An agreement was made and the watches were produced as promised. They were of superb quality and were distributed to the commanders.

According to Petrov, this was the kind of leader Malinovskiy was. Through his concern for people, he personally scrutinized every detail.

But this is not the end of the tale of the "Komandirskiy" watches. In 1975, in celebration of the Thirtieth Anniversary of the victory over fascist Germany, each World War II veteran was presented with a "Komandirskiy" wristwatch. In addition, 8,723 gold-plated "Komandirskiy" watches were manufactured and given to heroes of the Soviet Union and cavaliers of the Order of Glory.

Such were the results of the Minister of Defense's personal efforts to obtain quality wristwatches for his men.

NEW RELEASES

Requests for additional copies of these publications should be forwarded from holders of DIA Customer Account Numbers, through command approval channels, to DIA: ATTN: RTS-2A, using DD Form 1142, Interagency Document Request, in accordance with DIA Manual 59-3, *"DIA Reference Library."*

THE SOVIET TANK DIVISION

DDB-1120-19-82, cover date September 1982.

This unclassified DIA study provides detailed information on the Soviet tank division. Changes in organization and equipment, as well as an analysis of tactics and operations, are presented in this study.

In aggregate terms, the Soviet Union has formed approximately 50 tank divisions and possesses an inventory of about 50,000 tanks. The Soviets, however, have not been content with simple quantitative superiority. Recent efforts have been directed to upgrade the quality of established weapon systems in the tank division.

Currently, the Soviets are replacing older model tanks with the T-64 and T-72. The D-30 122-mm towed howitzers in the motorized rifle regiment's artillery battalions are being replaced by the 122-mm self-propelled howitzer. For the first time, the tank regiments are receiving a battalion of 122-mm self-propelled howitzers. In the artillery regiment of the tank division, one of the artillery battalions is now being equipped with the 152-mm SP howitzer, replacing the 122-mm towed howitzer. Furthermore, as improved air defense weapons become available, the air defense regiments in tank divisions are replacing their air defense weapons with improved systems.

In terms of organizational changes (see figure 1), the tank division's tank regiments have been authorized a motorized rifle battalion in place of the motorized rifle company.

The result of both quantitative and qualitative changes in the tank division's table of organization and equipment has been the creation of a powerful combined-arms formation.

Concurrently with these organizational developments, the Soviets have been devoting attention to improving methods of employing their forces. Thus, the Soviets not only have formed a powerful combined-arms formation but thay have also developed modes of using it to its full potential.

The Soviet Tank Division is an excellent guide to the Soviet tank division, as well as to Soviet military concepts, tactics, and equipment in general.

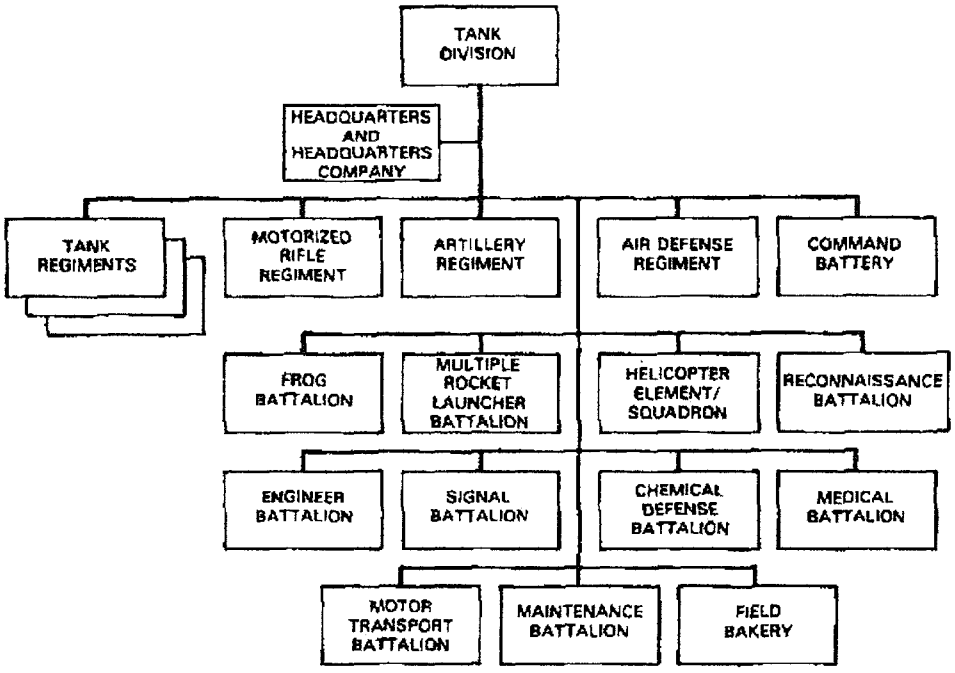


Figure 1. Tank Division Organization.

SOVIET FRONT FIRE SUPPORT

DDB-1150-8-82, cover date September 1982

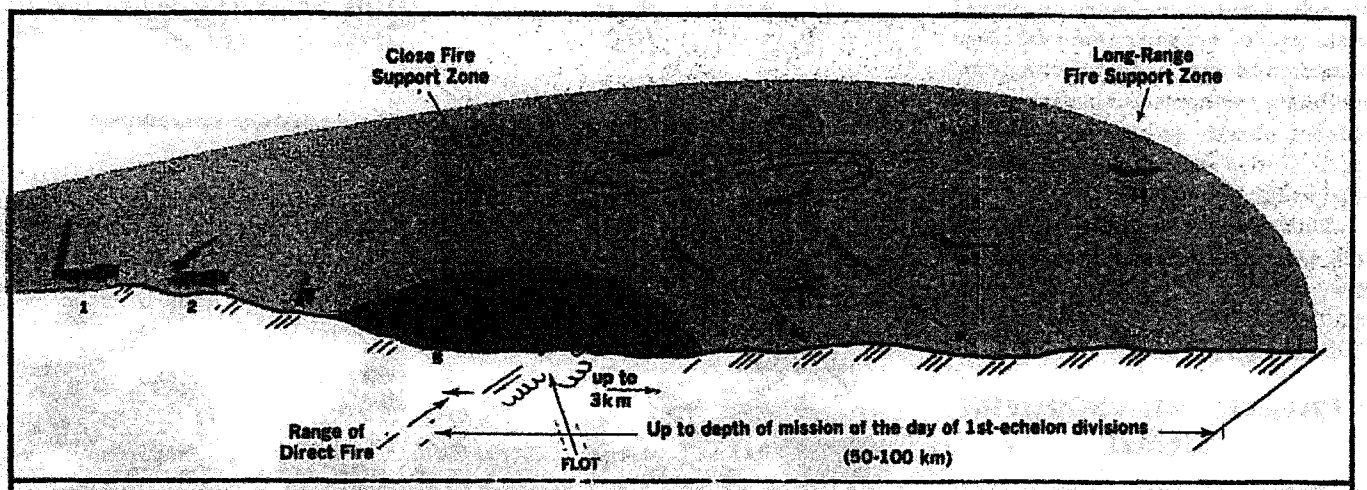
This unclassified DIA study provides information on the organization, equipment, and employment concepts for fire support assets at *front* and below. The focus of the study is fire support as an integral component of the Soviet combined-arms concept. It was prepared in response to a US Army Training and Doctrine Command requirement and can be used by all Services.

Throughout the post-World War II period, the Soviets have steadily expanded and upgraded fire support assets designed to support their *frontal* forces. Particular attention has been directed toward providing their forces designated for the European theater with multiple and flexible fire support options for any level of conflict.

The Soviet modernization effort has been particularly intense over the past 15 years. Modern mobile field artillery and air defense weapons, with improved target detection and fire control equipment, have been fielded in large quantities. The addition of a new family of nuclear warheads and delivery systems has greatly increased theater nuclear firepower and enhanced weapon survivability. The deployment of large numbers of advanced ground-attack aircraft and helicopters has reoriented tactical aviation from a basically defense-oriented force to one with significant offensive capability.

The qualitative and quantitative improvements in *front* fire support assets have been accompanied by an intense effort to upgrade employment doctrine. The control of combined-arms commanders over supporting assets, in general, has been visibly increased. Constant emphasis is placed on careful and complete integration of all elements of the combined-arms force into a single, coordinated effort that affords greater depth of penetration and freedom of maneuver to tank and motorized rifle formations.

The thrust of the Soviet effort has been, and continues to be, to realize overwhelming fire superiority at all levels over an opponent from the onset of a conflict until its conclusion in a Soviet victory.



1. Operational/tactical missiles of army.
2. Tactical missiles of division.
3. Long-range artillery of division and army.
4. Regimental and divisional artillery.
5. Antitank artillery and ATGMs in direct fire.
6. Combat helicopters executing close support strikes.
7. Combat helicopters conducting long-range fire strikes.
8. Tanks in direct fire role.
9. BMP-mounted and other infantry weapons in direct fire role.
10. Fighter-bombers striking targets located deeper in enemy defenses.
11. Interceptors providing air cover.
12. Tactical bombers.
13. Support from aviation strike groups.

Figure 2. Fire support battle zones.

THE SOVIET SOLDIER

KEEPING FIT

Despite the publicity given to the physical training which the Soviet soldier receives and the competitions in which he participates, some Soviet military personnel have problems staying in good physical condition. The October 1982 issue of *Vestnik protivovozdushnoy oborony* (Air Defense Herald) points out that this is the result of increased mechanization. Button-pushing has been replacing manual labor, and activities which used to help the personnel stay in shape — both physically and mentally — no longer fulfill this role.

Therefore, additional exercises have been developed and promoted to help prevent the deterioration of muscles. In this article, the exercises consisted of a series of stretching and pulling movements using a gymnastic rubber band, measuring 35-mm wide, 3- to 4-mm thick, and about 2 meters long (see figure 1).

These exercises were designed specifically for personnel at headquarters and command posts who may not have time for a complete physical fitness program.

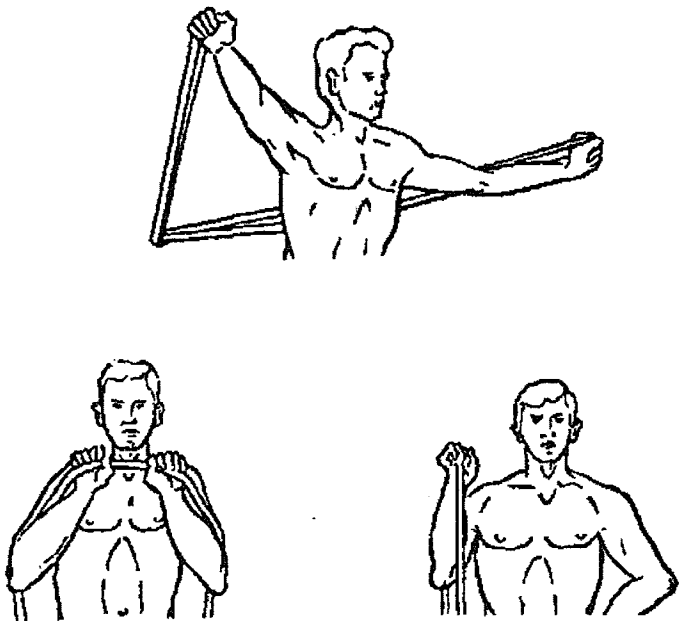


Figure 1. Supplemental exercises for out-of-shape personnel.

"FRESH" NEWS FROM HOME

Another photograph (photo 2) depicting the happy Soviet soldier in Afghanistan appeared in *Krasnaya zvezda* (Red Star). In this photo, the soldiers have just received a rare treat — the latest edition of *Izvestiya* (News), the official newspaper of the Council of People's Deputies.

Photo 2. Sharing Izvestiya in Afghanistan.

LEISURE TIME

The Soviet military press has made an effort to stress the overall cultural and personal development of the Soviet soldier. In the November 1982 is-

sue of *Soviet Military Review*, the activities of the soldiers in their off-duty time were discussed, showing the "cooperation and support of the military in their personal hobbies and cultural interests."

The article boasts of 1,180 hours of free time per soldier per year. This figure could be misleading. On a daily basis, a soldier is allotted 1½ hours to himself. The remaining hours include whatever leave time and free Sundays each soldier may have.

The Soviet Armed Forces stress (at least in the press) the importance of this time for the soldiers to "satisfy their spiritual interests and develop their artistic and creative abilities." According to this article, each unit or ship has a soldiers' (sailors') club and small units are supposed to have a Lenin Room for recreation and meetings. Some soldiers devote their free time to amateur activities within their unit which may later become their careers, such as acting, art, and writing (see photo 3). Others use their off-duty time to expand their knowledge in their field of expertise, such as technology, and participate in exhibitions. Sports also play a major role in the off-duty time of the soldier, and games and competition are frequent. In addition, this time must also be spent for personal chores: ironing, polishing boots, and writing letters.

Photo 3. A Soviet sailor pursues his cultural interests during his free time.

Periods of rest (between training sessions, after the day's training, on Sundays and holidays) are filled with short games, entertainment, and informal talks (see photo 5). The following excerpt from this article provides a "typical" Sunday in a motorized rifle unit:

"One group of men made an excursion by bus, another went to the theater, and some men were permitted to go into town on a pass.

"Those who stayed in the unit gathered in the Lenin Room to see the television program 'I Serve the Soviet Union!' Some men went to the gymnasium, where weightlifting competitions were held.

Photo 4. A soldier receiving instructions in his close living quarters.

Photo 5. Soviet soldiers take a musical break with an East German comrade.

"In the afternoon the men were visited by amateur artists from local industry. In the packed club they performed songs, dances, and acrobatic feats, and gave recitations. After the concert, all present left for the soldiers' teahouse in a cheerful mood. The day of rest ended with dancing in the club's foyer."

Although the article presents this as a typical Sunday, the reader must be cautioned that this probably represents an ideal assortment of activities and not the norm. It might be expected that a few of these activities would take place, but certainly not all of them. The article also does not state how many soldiers actually participate in planned unit activities. While many soldiers would be interested in the various cultural activities due to the emphasis on culture in Soviet society, there will always be soldiers who will choose not to participate.

TRAINING SCHEDULE

A typical weekday training schedule for a soldier in the Soviet Armed Forces would be as follows:

0600-0605	Reveille
0610-0630	Cleanup
0630-0650	Personal hygiene
0650-0720	Political information or inspection
0725-0755	Breakfast
0800-1400	Training
1400-1440	Lunch
1440-1510	Afternoon rest
1510-1530	Care of personal equipment
1530-1830	One of the following: political education, maintenance, or organized sports
1830-1940	Study period
1940-2010	Supper
2010-2140	Free time
2140-2155	Evening walk and roll call
2200	Taps

CRITICISM OF SUPERIORS

Can a Soviet officer disagree with those who outrank him? The December 1982 issue of *Voyennyy vestnik* indicates that he can.

In the May 1982 issue, a lieutenant general wrote an article stating that artillery battery commanders should remain in the battery firing position when the unit is engaged in battle.

In the December issue, a colonel has challenged the general's conclusions. The colonel wrote, "during the organization of combat, the commander must conduct reconnaissance from the Command Observation Point (COP)." With the beginning of the attack, which may hinder the passage of troops, he needs to be in the battle formation of the attacking forces. In short, the COP is the most important place for the battery commander, not the battery firing position.

Based on this and similar articles, it is clear that Soviet officers can openly disagree with their superiors under some circumstances, such as during formal debates on tactics.

MILITARY COOKING

The type of meals a Soviet soldier might be served depends on the training of the cook and the environment in which he is cooking. Photos 6, 7, and 8 show the typical military cook who can be found in any Soviet messhall. The training diet for the Soviet solider is bleak and monotonous: soup, bread, and a little meat. The Soviet military press claims that the food in many units is tasted by the commander or one of his deputies before each meal. Unit soldiers' cafes provide another source of food for the men.

Workers of both the food and medical service take part in apportioning the food. The caloric content of meals is closely monitored. Photo 12 shows a *perevyazochno-pitatel'nyy punkt* (PPP) — a first aid and mess point set up in a forest for the ZAPAD-81 exercise. The cooking pots reportedly contained potatoes, cucumbers, and cabbage; bread was also plentiful.

Photos 13 and 14 demonstrate an attempt to improve the quality of food in the Soviet Armed Forces. While the "gourmet" food prepared by these Soviet cooks in East Germany is not representative of the typical fare, it does show that some cooks are given encouragement and help in developing their culinary skills.

Photo 6. The happy cook, PFC Derevyanko.

Photo 7. Two cooks prepare the unit's meals.

Photo 8. Privates Savchenko and Bernadskiy in the midst of pots and pans.

Photo 9. Bread: the staple of the Soviet soldier's diet.

Photo 10. Soldiers wait with spoons in hand for their soup.

Photo 11. Soldiers' cafes bring a little pleasure and variety into an otherwise repetitive diet.

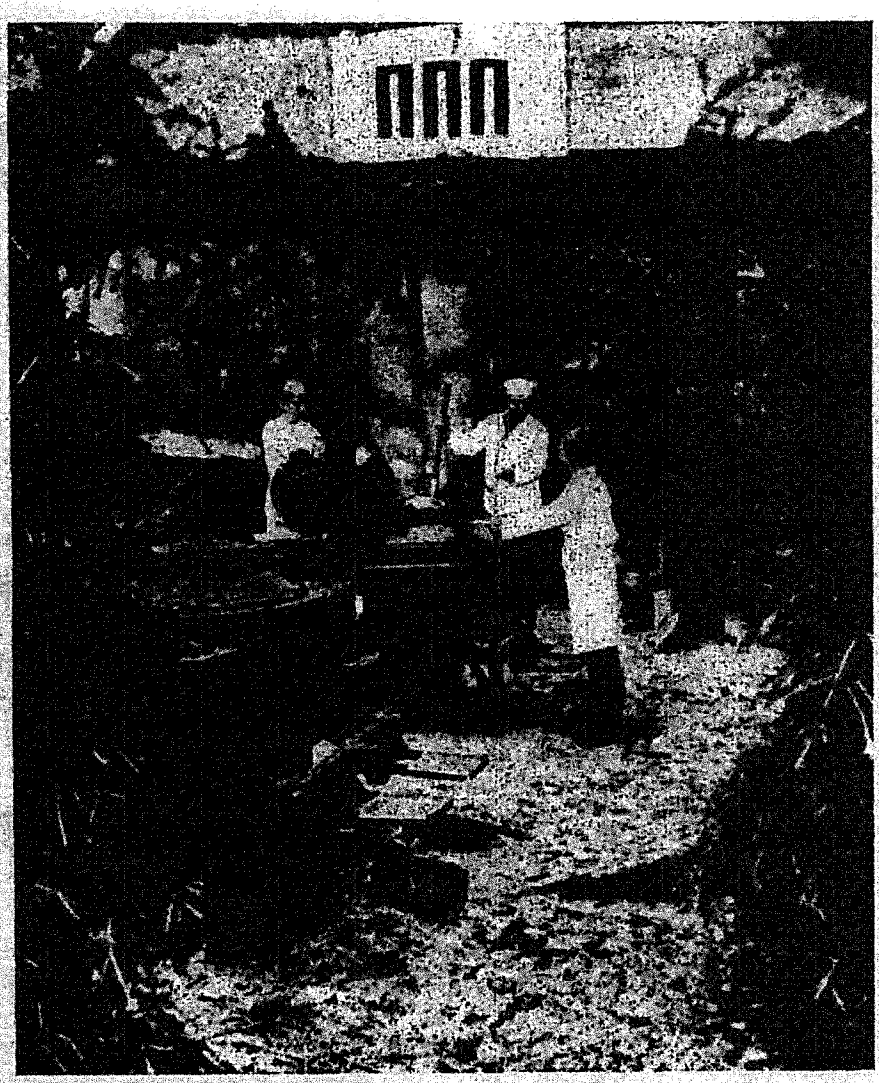


Photo 12. The PPP (first aid and mess point) for this exercise was located in a forest.

Photos 13 and 14. Haute cuisine: a rare treat for the Group of Soviet Forces in Germany.

SOVIET TANKERS

The Soviet press typically presents the job of a tanker as one of honor and prestige (see photo 15). Yet any young man who chooses this career has a long, difficult road ahead of him.

In an article in Issue 17, 1982, of *Sovetskiy voin* (Soviet Soldier) magazine, Major General of the Tank Troops Yuriy Fedorovich Kutenkov stated, "If you want to understand better the significance of physical training for tankers, pick a seat in a tank, sit down, and experience for yourself the habitat in a modern armored fighting vehicle, and imagine that you must complete a multikilometer march in this position."

The limited "living" space in a tank requires that the tanker possess a high level of physical conditioning to avoid "fatigue from not moving." The author of this *Sovetskiy voin* article points out that office workers can always push themselves away from their desk and walk around, but the tanker has no place to go. "Without strength and endurance, you cannot be a tanker!" stated Kutenkov. Therefore, the rigorous training undertaken is vital to a tanker.

Tankers reportedly are tested for strength, agility, and endurance. They must be able to finish an obstacle course (photo 16), ford waterways, run a hundred meters, complete the horizontal bars (photo 17), and run a 1-kilometer cross-country race. In addition, tank drivers and loaders do special weight-lifting exercises, while the tank commander and gunner do exercises to develop quick reactions.

Photo 15. The caption on this photo from Sovetskiy voin: "I'm going to be a tanker."

The officers in photo 18 are commanders of tank subunits in the Moscow Military District who were given recognition for their achievements in their field of expertise. Note the tank emblems on their uniforms.

Photo 16. Tankers running an obstacle course.

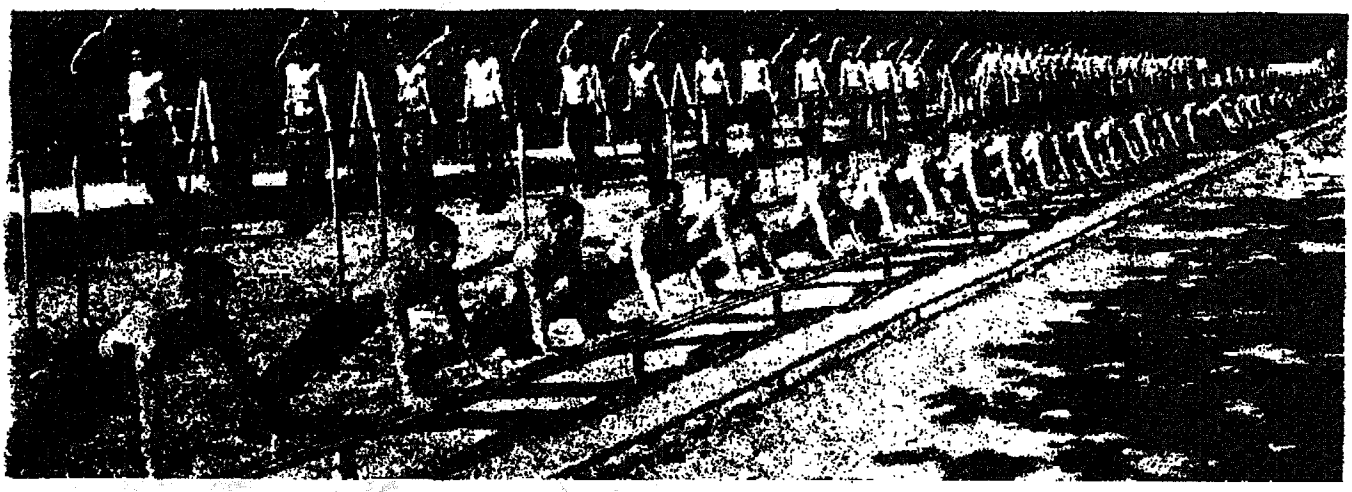


Photo 17. Tank crews during a rigorous training competition.

Photo 18. Outstanding tank officers from a unit in the Moscow Military District. From left to right: company commander 1st Lieutenant Sorokin, platoon commander 1st Lieutenant Karelin, and company commander Captain Sheburov.

THE BMP FAMILY OF VEHICLES

Since its introduction in 1967, the BMP infantry combat vehicle has proved so successful that it has developed into a family of vehicles. In addition to being a combat vehicle, it has been modified in several variants for reconnaissance and command purposes.

As a combat vehicle, the BMP normally is equipped with a 73-mm recoilless main gun, a 7.62-mm coaxial machinegun, and an antitank guided missile (see figure 1 below for complete specifications). The squad may also fire its weapons while the vehicle is "buttoned up" through the use of gun ports on the sides of the vehicle and on the left rear door.

Various BMP seating arrangements are depicted in figure 2 and are described below.

A BMP squad normally consists of 10 men, though the vehicle capacity is 11 men. The driver sits at the left front of the BMP. The squad leader is immediately behind the driver. The gunner sits in the turret and operates the vehicle weapon systems. On either side of the vehicle will be an RPK machinegunner, who will fire from the large machinegun ports below the turret. The RPG antitank grenade launcher operator/rifleman sits at the right rear of the vehicle. The assistant squad leader sits at the left rear. The assistant RPG operator/rifleman sits next to the RPG operator. The senior rifleman sits on the right side of the vehicle and the rifleman on the left side. In cases where an SA-7 operator is in the vehicle, he will sit next to the assistant squad leader. It should be noted, however, that the SA-7 operator is not an integral part of the squad but is detached from the antiaircraft platoon of the battalion for operational purposes.

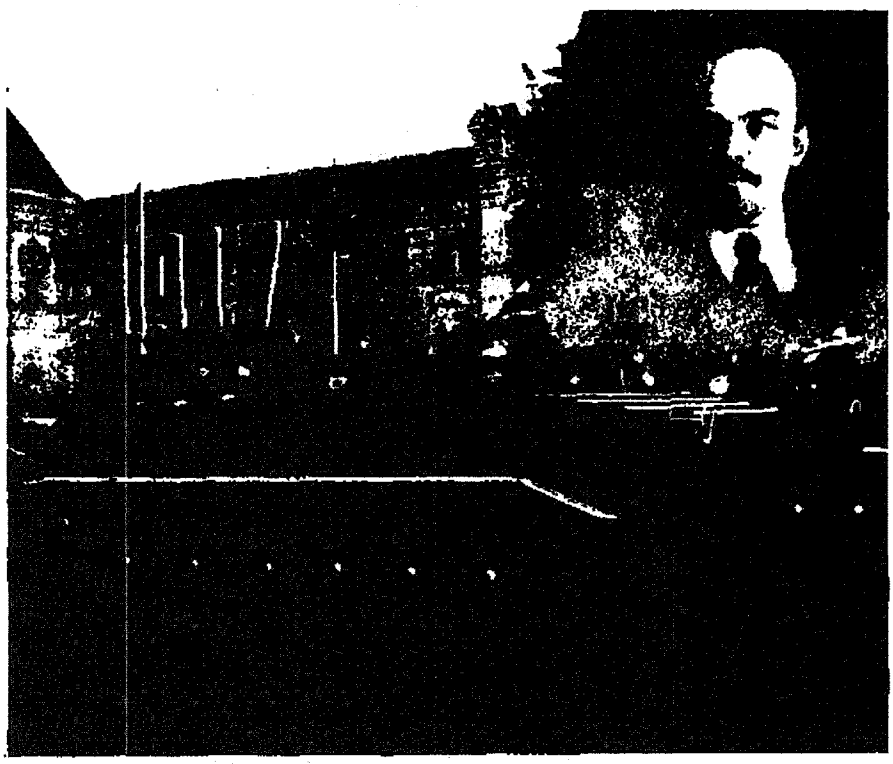


Photo 1. The BMP on parade.

A BMP platoon consists of three vehicles — a platoon leader's vehicle and two squad vehicles. The seating in the platoon leader's vehicle is similar to the squad vehicle, except that the platoon leader sits behind the driver, and the squad leader sits at the right rear of the vehicle. The BMP company consists of three platoons (nine vehicles), plus a company commander's vehicle. The company commander's vehicle is arranged differently from the squad vehicle. The driver and the gunner are in the same positions, and the company commander sits behind the driver. However, the company commander's vehicle has a medic and a radioman (detached from the battalion's medical aid station and communications platoon, respectively). The company sniper sits in the position occupied by an RPK machinegunner in a squad vehicle. The two deputy company commanders sit at the right rear of the vehicle, and the squad leader at the left rear.

Vehicle characteristics:

Crew	3 (commander, driver, gunner)
Passengers	8
Weight, combat (mt)	13.5
Length	
gun forward (m)	6.74
w/o gun (m)	6.74
Width, overall (m)	2.94
Height, overall (m)	2.15
Ground clearance (m)	0.35
Ground pressure (kg/cm²)	0.57
Ground contact (m)	3.53
Speed (maximum)	
road (km/hr)	70
water (km/hr)	6
Fuel capacity (liters)	460
Road range (km)	500
Trench crossing (m)	2.00
Vertical step (m)	0.80
Gradeability (°)	30
Fording (m)	amphibious
Engine	
type	V-6, diesel
output (hp)	290
cooling	liquid
location	front right
Transmission	mechanical
Gears (fwd/rev)	5/1
Steering	clutch & brake
Tracks	
type	steel with double pin
width (m)	0.30
Suspension	
type	torsion bar, 3 return rollers
wheels per side	6-single
Armor (maximum)	
hull (mm)	19
turret (mm)	23
Infrared	
driver	yes
gunner	yes
commander	yes
CBR protection	filtration and overpressure system

Armament characteristics:

Armament (main)		
caliber (mm)	73	30
number	1	1
type	smoothbore	INA
traverse (°)	360	360
elevation (°)	-4 to +33	approx -4 to +33
rate of fire (rd/min)	8	INA
stabilization	no	no
fire control	periscopic sight	periscopic sight
Ammunition (main)		
type(s)	HEAT-FS, HE-FRAG(FS)	INA
muzzle velocity (m/s)		
HEAT-FS	700	INA
HE-FRAG(FS)	700	
maximum ballistic capability (m)*	2,200	INA
effective range, 50% P_h (m)	800	INA
armor penetration (mm @ 0° obliquity @ any range)	300 (HEAT-FS)	INA
basic load (rd)	40	INA
Armament (secondary)		
model	PKT	INA
caliber (mm)	7.62	
number/type	1/coaxial	
maximum ballistic capability (m)*	4,000	
effective range (m)	1,000	
armor penetration (mm @ 0° obliquity @ 500m)	8	
rate of fire		
cyclic (rd/min)	650	
practical (rd/min)	250	
basic load (rd)	2,000	
Armament (auxiliary)		
type	ATGM	ATGM
model	AT-3/SAGGER	AT-5/SPANDREL
launch rails/tubes	1	1
range		
maximum (m)	3,000	4,000
minimum (m)	500	250
approx. time of flight to maximum range (sec)	25	30
warhead type	HEAT	HEAT
armor penetration (mm @ 0° obliquity @ any range)	400	500
guidance	manual	semiautomatic***
command link	wire	wire
basic load (rd)**	4	INA

* Gun at 45.

** Total load on vehicle.

*** Semiautomatic guidance requires that the gunner only maintain his sighting point on the target. The missile is automatically flown into the line-of-sight where it is captured and held all the way to the target.

Figure 1. BMP characteristics.

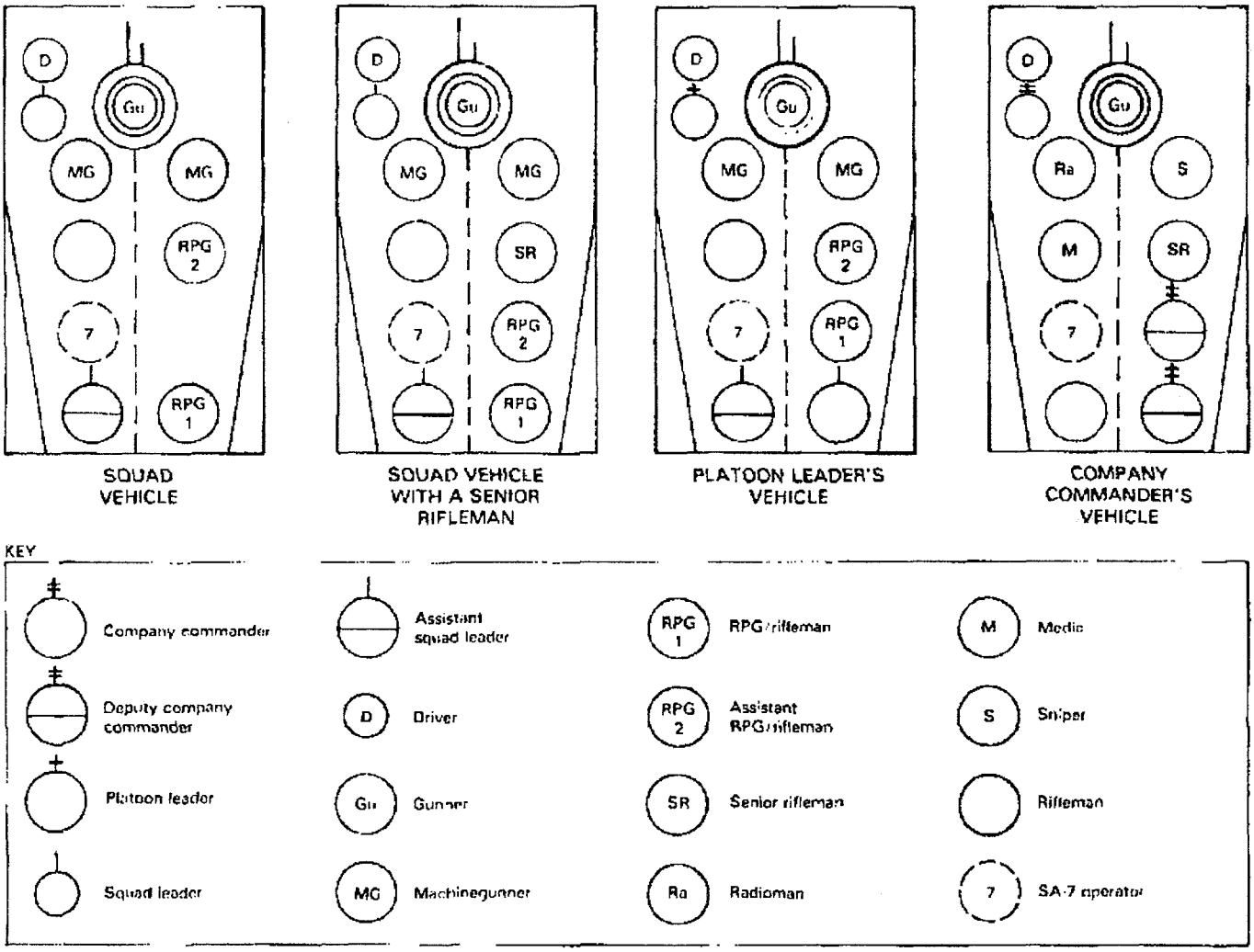


Figure 2. BMP seating arrangements.

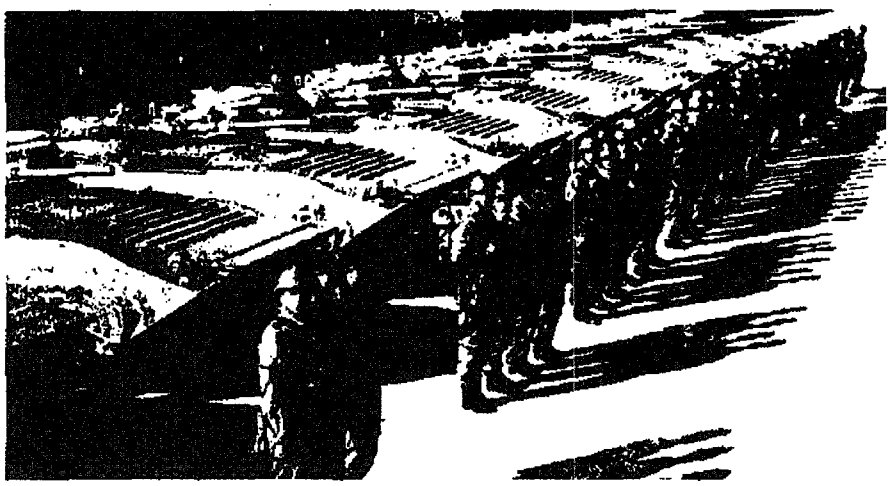


Photo 2. Soviet soldiers teach their GDR counterparts how to use this BMP, equipped with a 72-mm recoilless gun and antitank missile launchers.

Recently, a variant of the BMP has appeared in which the 73-mm gun is replaced with a 30-mm gun. While the 30-mm gun does not have the penetrating power of the 73-mm gun, the 30-mm gun has a far higher rate of fire and the penetrating power is sufficient to penetrate soft-skinned vehicles or the sides of most APCs. The AT-5/SAGGER ATGM has also been replaced by an AT-5/SPANDREL. The SPANDREL is not mounted above the main gun, but is on the turret roof. The turret itself is somewhat larger on the 30-mm variant and may be occupied by two men rather than a single gunner. While the 30-mm variant retains the larger

machinegun ports below the turret, the troop compartment has only two of the smaller ports per side. This may indicate that the squad itself has been decreased by one or two men, or it may be simply a realization that not all squad members need to engage in firing at any given time.

The concept of the infantry fighting vehicle as developed in the BMP was so successful that the Soviets adapted it to the airborne force and developed the BMD. In many respects, the BMD serves the same purpose for the airborne forces as the BMP does for motorized rifle elements. In some ways, the BMD is a more sophisticated vehicle (e.g., it has a variable hydropneumatic suspension system), but the crew compartment is smaller.

At least five reconnaissance/command vehicles have been developed from the BMP. The M1974 is a command vehicle with additional radio equipment and antennas. Its firing ports are welded shut. The M1975 is a surveillance vehicle mounting a large turret with a 7.62-mm machinegun in place of the standard BMP armament and mounting battlefield radar. The M1976/1 is a reconnaissance vehicle with a large two-man turret similar to the turret on the M1975 but with the original 73-mm gun as armament. The M1976/2 is a command post vehicle. The M1978 is a command and communications vehicle mounting a large telescoping antenna and more radio equipment than the M1974. The M1978 has no armament in the turret.

The BMP is a light, fast, highly maneuverable combat vehicle able to deliver a great deal of firepower. It is well suited for the modern battlefield and has been deployed in large numbers. It can be expected to remain in the Soviet inventory for many years to come.

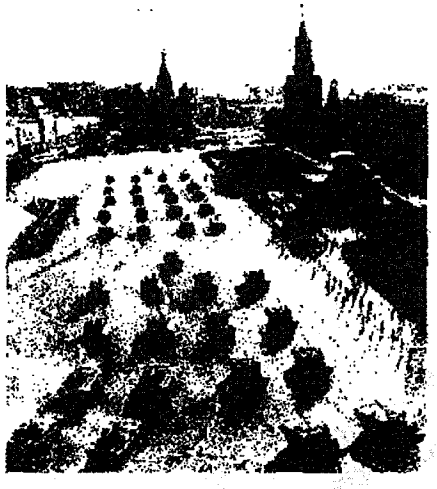


Photo 3. This is the first photo of the BMP M1981 (in the foreground) to appear in the Soviet press.

Photo 4. A parade photo of the BMP M1981 from the West German magazine, Soldat und Technik.

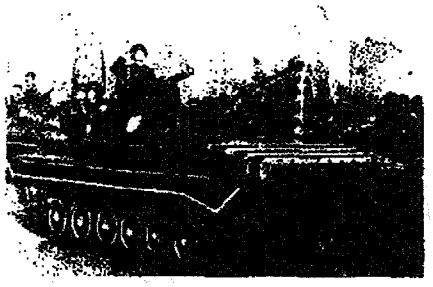
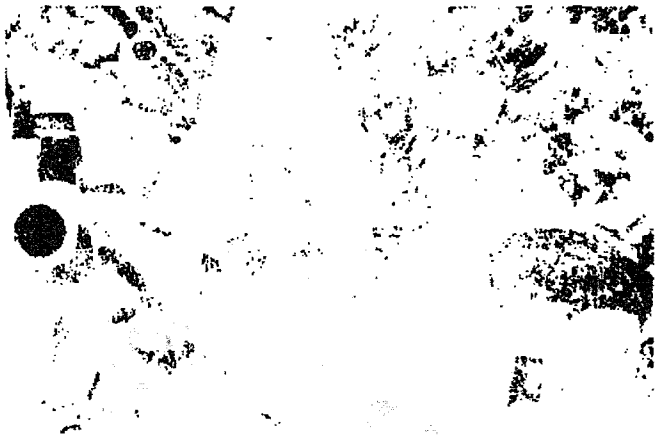


Photo 5. The new BMP has a 30-mm gun, and the AT-5/SPANDREL has replaced the AT-3/SAGGER.

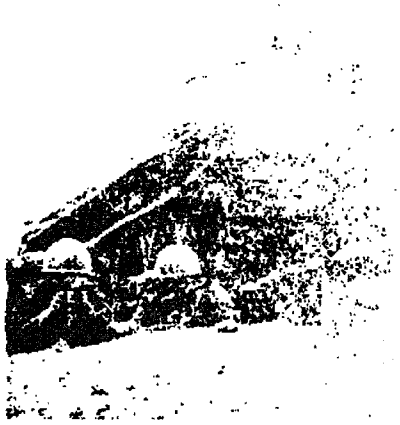
Photo 6. A closeup of the standard BMP's 73-mm gun and AT-3/SAGGER.

IDENTIFICATION QUIZ: TANKS

This quiz consists of 10 tank photographs taken primarily from the Warsaw Pact military press. Two other interesting photos have been added at the end of the quiz.



1.



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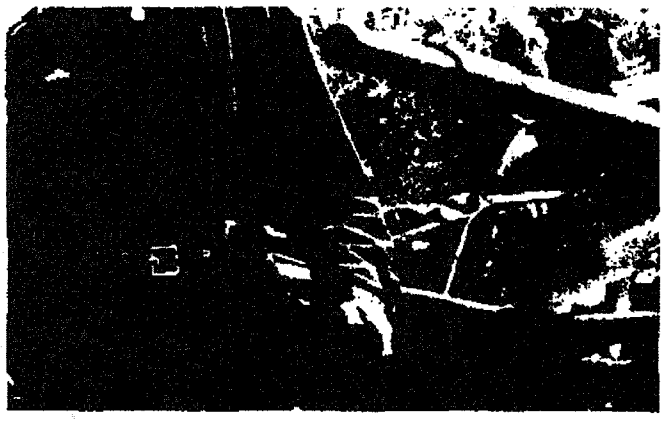

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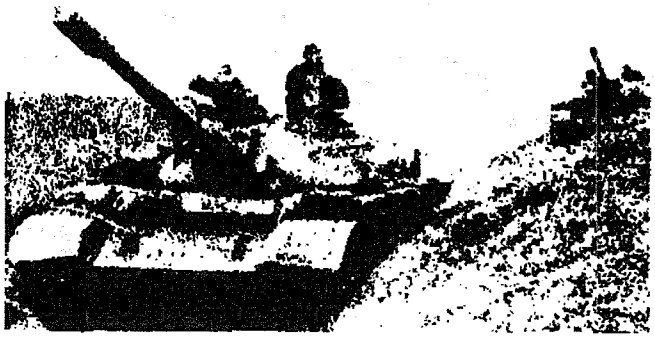

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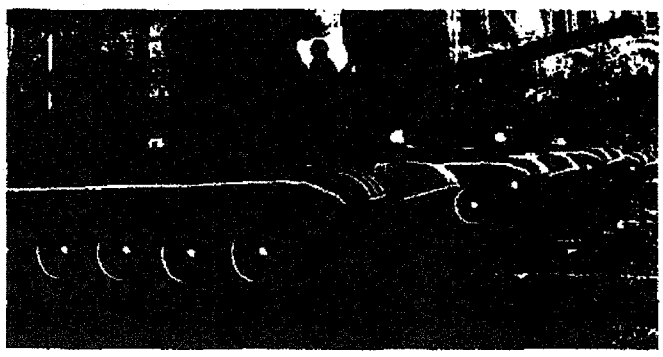
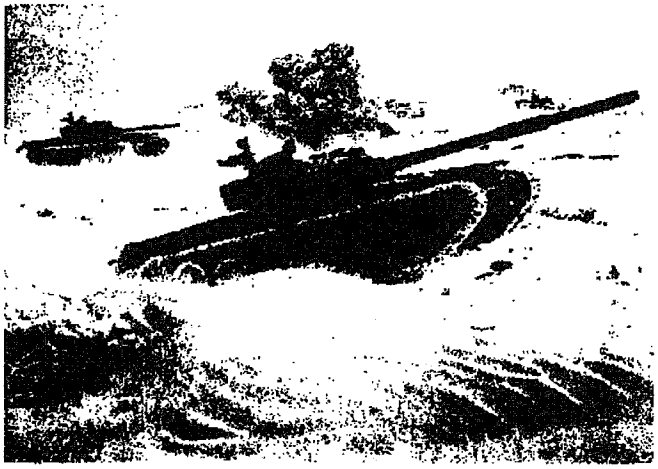


6.

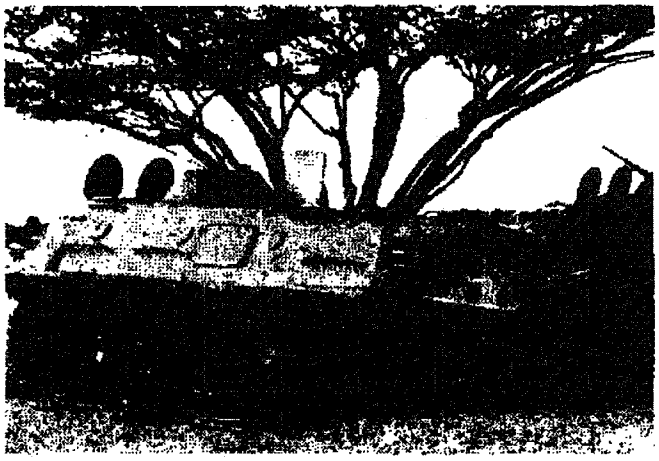
7.

8.

9.



10.



11. This Soviet vehicle was sighted in Somalia with a flat tire.

12. Can you identify this vehicle based on the small section shown?

GLOSSARY OF SOVIET MILITARY TERMINOLOGY

TACTICS

The following Soviet definition of tactics was recently printed in an issue of *Voyennyy vestnik* (Military Herald). It is translated and reprinted in its entirety. While the definition does contain some propaganda statements, it is nevertheless a good explanation of the present-day Soviet concept of tactics.

TACTICS — (from the Greek word *taktika* — the art of the formation of troops) — the theory and practice of the preparation for and conduct of combat by subunits, units, and formations of all branches of arms and components of the Armed Forces. A component of military art, it is subordinate to *operational art* and *strategy*, acts in their interests, and serves to achieve the goals which *operational art* places before it.

The theory and practice of the organization and conduct of combat operations of Soviet troops were established in the years of the Civil War and military intervention of Russia from 1918 to 1920. "Tactics of the Red Army," noted M. V. Frunze, "was and will be saturated with activity in the spirit of brave and energetically conducted offensive operations. This comes from the class nature of the worker-peasant army and at the same time coincides with the demands of military art." The absence of continuous *fronts*, the low density of the forces and means, and the offensive formation of troops without reserves considerably influenced tactics, especially at the beginning of the war.

An offensive was conducted along selected axes, with strikes at the weakest points — flanks and the rear of the enemy, turning movement and envelopment of its groupings in conjunction with strikes from the *front* forming the basis of the attack.

In the thirties in the Soviet Armed Forces, the theory of deep offensive battle as a component of a deep operation was developed as a result of the extensive introduction of new military equipment and the motorization of units and subunits.

All aspects of tactics of Soviet troops evolved in the Great Patriotic War of the Soviet Union (World War II) from 1941 to 1945. A combined-arms formation achieved success in combat through the combined efforts of the subunits, units, and formations of all branches of arms, aviation, and special troops. At the beginning of the war, a deep echelonment was used during a breakthrough of the enemy's forward defense with minimum reserves. But this (deep echelonment) was a mistake, because it weakened the first strike of the attacking forces. Therefore, in the fall of 1942, single-echelon combat formations in companies, battalions, regiments, and divisions were introduced in order to provide a simultaneous active participation of all forces and means from the beginning to the end of the operation. The combat formation of infantry platoons and companies made up an infantry line. Moreover, a massing of tanks in the main direction and their use in close cooperation with infantry and other branches of arms were established. When the quantity of artillery and tanks increased (in 1943) in the units and formations in the Red Army, the troops had to penetrate not the enemy strongpoint but the deep echeloned defense of the enemy; the combat formations in the battalion, regiment, and division began again to be organized in two, and sometimes three, echelons. Also, zones of attack were reduced, increasing the density of forces and means. Thus, the division in the winter of 1941-42 attacked in a zone of 7 to 14 kilometers; in the fall of 1942, 4 to 5 kilometers; in the summer of 1943, 2 to 2.5 kilometers; in 1944-45, 2 kilometers.

Artillery support of the offensive played an important role in the development of tactics. Night operations were widely used. Methods of crossing water obstacles were perfected which, as a rule, were implemented from the march, with the extensive use of forward detachments.

In the years of the Great Patriotic War, Soviet tactics was characterized by flexibility. In contrast to the routine operations of the Nazi troops, who tried to fit each combat into a paragraph of the regulations, Soviet troops creatively made use of the statutes of the regulations and instructions, adjusting their operations to the specific situation.

In the postwar period, tactics was developed based on the experience of World War II in conjunction with the availability of new, more contemporary equipment for arming the troops and the full motorization and mechanization of the Ground Forces. With the introduction of nuclear weapons, the theory of offensive and defensive combat underwent significant changes. Its dynamics increased. Nuclear and artillery fire strikes, in conjunction with the maneuver and attacks of troops, created the basis for a combined-arms conflict. In order to avoid massive losses due to the great power of nuclear weapons, the necessity for the dispersion of troops on the battlefield arose. Along with this, as before, is retained the principle of massing forces and means on the most important axes.

In a situation in which opponents use nuclear weapons, an attack from the march with the troops moving forward from the assembly area located outside the range of the (enemy's) basic fire means is considered the most desirable. The introduction of infantry fighting vehicles to motorized rifle subunits made it possible to neutralize dependably the enemy's defense to bring about a mounted attack and, along with the tanks, to develop an offensive at a high tempo. At the same time, the defending forces developed the capability to deliver a decisive strike against the enemy during his preparation for an offensive and, similarly, in the course of mass destruction.

In such a way, tactics analyzes the regularity, character, and content of battle; develops its methods of preparation and conduct; and studies the combat characteristics and capabilities of subunits, units, and formations.

Modern tactics provides for the operation of troops not only under conditions of the use of nuclear weapons but also with the use of conventional means of destruction alone. It includes the theory and practice of combat with the use of many new means of armed conflict in combined-arms combat and new forms of combat security, more precisely, protection against weapons of mass destruction.

Tactics of the Ground Forces (combined-arms tactics) studies and develops methods of the training for and conduct of combat of combined-arms battles, the contents of types of military operations, the role of strikes by nuclear, fire, and other means of destruction. It also develops forms of troop maneuvers; tactical march, prebattle, and attack formations; defines the place and role of formations, units, and subunits of all branches of arms (or armed forces) and special troops in combined-arms combat; missions, which will be completed in the course of a military operation; methods of their combined combat application and the formation of cooperation between them. Studying offensive combat through illustration, tactics develops methods of organizing and conducting breakthroughs of a defense; pursuit of a retreating enemy; an offensive requiring the crossing of water obstacles; methods of organizing and conducting offensives at night, in a city, on coastal lines, in mountains, deserts, in forests, etc.

Tactics of the Ground Forces (combined-arms tactics) also examines questions regarding the movement of troops and their disposition on the terrain.

ТАКТИКА

ТАКТИКА (происходит от греческого taktika — искусство построения войск) — теория и практика подготовки и ведения боя подразделениями, частями и соединениями всех родов войск и видов вооруженных сил. Являясь составной частью военного искусства, она занимает подчиненное место по отношению к оперативному искусству и стратегии, действует в их интересах и служит для достижения целей, которые ставятся перед нею оперативным искусством.

Теория и практика организации и ведения боевых действий советских войск складывалась в годы гражданской войны и военной интервенции в России в 1918 — 1920 гг. «Тактика Красной Армии, — отмечал М. В. Фрунзе, — была и будет пропитана активностью в духе смелых и энергично проводимых наступательных операций. Это вытекает из классовой природы рабоче - крестьянской армии и в то же время совпадает с требованиями военного искусства». Существенное влияние на тактику, особенно в начале войны, оказывали отсутствие сплошных фронтов, низкие плотности сил и средств, неглубокое построение войск.

Наступление велось по избранным направлениям, а основу его составляли удары по наиболее слабым местам — флангам и тылу противника, обход и охват его группировок в сочетании с ударами с фронта.

В 30-х годах в Советских Вооруженных Силах с учетом широкого внедрения новой военной техники и моторизацией частей и подразделений была разработана теория глубокого наступательного боя как составная часть глубокой операции.

Всестороннее развитие тактика советских войск получила в Великой Отечественной войне Советского Союза 1941—1945 гг. Успех в бою достигался совместными усилиями подразделений, частей и соединений всех родов войск, авиации и специальных войск при ведущей роли общевойскового соединения. В начале войны практиковалось глубокое эшелонирование при прорыве неглубокой обороны противника. Но оно себя не оправдало, так как приводило к ослаблению первоначального удара наступающих. Поэтому осенью 1942 года были введены одноэшелонные боевые порядки в ротах, батальонах, полках и дивизиях с тем, чтобы обеспечить одновременное активное участие всех сил и средств от начала до конца боя. Боевой порядок стрелковых взводов и рот составляла стрелковая цепь. Кроме того, устанавливалось массирование танков на направлении главного удара и их использование в тесном взаимодействии с пехотой и другими родами войск. Когда в частях и соединениях Красной Армии возросло количество артиллерии и танков (1943 г.) и войскам пришлось прорывать не очаговую, а глубоко эшелонированную оборону противника, боевые порядки в батальоне, полку и дивизии вновь стали строиться в два, а иногда и в три эшелона. Были сужены и полосы наступления, что увеличило плотности сил и средств. Так, дивизия зимой 1941/42 г. наступала в полосе 7—14 км, осенью 1942 г. — 4—5 км, летом 1943 г. — 2—2,5 км, в 1944—1945 гг. — 2 км.

Важную роль в развитии тактики сыграло артиллерийское обеспечение наступления. Широкое применение получили боевые действия ночью. Совершенствовались способы форсирования водных преград, которые, как правило, осуществлялись с ходу, с широким использованием передовых отрядов.

В годы Великой Отечественной войны советская тактика характеризовалась гибкостью. В отличие от шаблонных действий немецко-фашистских войск, старавшихся подогнать каждый бой под параграф устава, советские войска творчески использовали положения уставов и наставлений, сообразуя свои действия с конкретной обстановкой.

В послевоенный период тактика развивалась на основе опыта второй мировой войны с учетом поступления на вооружение войск новой, более совершенной техники, полной моторизации и механизации Сухопутных войск. С внедрением ядерного оружия претерпела значительные изменения теория наступательного и оборонительного боя. Возросла его динамичность. Основу общевойскового боя стали составлять ядерные и огневые удары в сочетании с маневром и атаками войск. В связи с огромной мощностью ядерного оружия во избежание массовых потерь возникла необходимость рассредоточения войск на поле боя. Вместе с тем по-прежнему сохраняется принцип массирования сил и средств на важнейших направлениях.

В условиях применения сторонами ядерного оружия наиболее целесообразным считается наступление с ходу с выдвижением войск из исходного района, расположенного вне досягаемости основных огневых средств поражения противника. Принятие на вооружение мотострелковых подразделений боевых машин пехоты создало возможность при надежном подавлении обороны противника осуществлять атаку без спешивания, совместно с танками и развивать наступление в высоком темпе. В то же время обороняющиеся получили возможность наносить решительное поражение противнику как при подготовке им наступления, так и в ходе массового поражения.

Таким образом, тактика исследует закономерности, характер и содержание боя, разрабатывает способы его подготовки и ведения, изучает боевые свойства и возможности подразделений, частей и соединений.

Современная тактика предусматривает действия войск как в условиях применения ядерного оружия, так и с использованием только обычных средств поражения. Она включает теорию и практику боя с применением многих новых средств вооруженной борьбы в общевойсковом бою и новые виды боевого обеспечения, в том числе защиту от оружия массового поражения.

Тактика Сухопутных войск изучает и разрабатывает способы подготовки и ведения общевойскового боя, содержание видов боевых действий, роль ударов ядерными, огневыми и другими средствами поражения. Она разрабатывает также формы маневра войск, походные, предбоевые и боевые порядки, определяет место и роль соединений, частей и подразделений всех родов войск (сил) и специальных войск в общевойсковом бою, задачи, которые они выполняют в ходе боевых действий, способы их совместного боевого применения и порядок взаимодействия между ними. Изучая, к примеру, наступательный бой, тактика разрабатывает способы его организации и ведения при прорыве обороны, преследовании отходящего противника, наступлении с преодолением водных преград, способы организации и ведения наступления ночью, в городе, на приморском направлении, в горах, пустынях, в лесу и т. д.

Тактика Сухопутных войск рассматривает также вопросы передвижения войск и расположения их на месте.

Figure 1. Taktika (tactics).

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MILITARY PUBLICATIONS

AIR DEFENSE HERALD *(Vestnik protivovozdushnoy oborony)*

The monthly journal of the air defense troops. It covers general training, tactics, new technology, political and party information, mostly from the air defense viewpoint.

AVIATION AND COSMONAUTICS *(Aviatsiya i kosmonavtika)*

This publication is the official monthly journal of the Soviet Air Forces. It concentrates on technical and ideological issues of interest to the Air Forces.

MILITARY HERALD *(Voyennyy vestnik)*

This monthly Soviet journal is a "general" military publication directed primarily at junior officers. It includes articles covering all branches of arms, focusing on theory, training exercises, and equipment of the various branches of the Ground Forces, with emphasis on combined-arms operations.

MILITARY MEDICAL JOURNAL *(Voyennyy meditsinskiy zhurnal)*

This Soviet monthly publication is a professional medical journal dealing primarily with illness found among military units, as well as the treatment of wounds from the battlefield and general surgery techniques.

PEOPLE'S ARMY *(Volksarmee)*

This German Democratic Republic Army's weekly newspaper presents news and information on selected units within the GDR forces and reserves as well as other Warsaw Pact forces.

PEOPLE'S DEFENSE *(Obrana Lidu)*

This Czechoslovak official military newspaper, like the People's Army, covers the military activities of both Czechoslovakia and other Warsaw Pact countries.

POLISH SOLDIER *(Zolnierz Polski)*

A weekly Polish military publication similar to *Soviet Soldier (Sovetskiy voin)*, published by the Polish Main Political Administration and the Main Department of Civil Defense.

RED STAR *(Krasnaya zvezda)*

This four-page military newspaper is published six times a week for the Soviet Armed Forces by the USSR Ministry of Defense, and is devoted principally to armed forces topics.

SOVIET MILITARY ENCYCLOPEDIA *(Sovetskaya Voyennaya Entsiklopediya)*

A comprehensive, eight-volume Soviet encylopedia dealing with military matters. It was published during the years 1976-80.

SOVIET MILITARY REVIEW

This general military publication is published monthly in various foreign languages. Although it is partially a propaganda tool showing how well trained Soviet troops are and pointing out the evils of the imperialist forces, it also is an excellent source on Soviet tactics, equipment, and the training of the Soviet soldier.

SOVIET SOLDIER *(Sovetskiy voin)*

Soviet Soldier magazine describes itself as a "sociopolitical and literary/arts magazine of the Main Political Directorate of the Soviet Armed Forces." Its contents include fiction, poetry, political essays, sports, and leisure features, as well as photo reports focusing on the exploits of selected Soviet military units, crossword puzzles, and even military sheet music.

ANSWERS

1. T-72 (in Poland).

2. T-55 tank and Czechoslovak soldiers on the attack during the SHIELD-82 exercise in Bulgaria.

3. PT-76 — the swimming tank. This is Model 2. Note the bore evacuator and the double baffle muzzle brake. The turret is placed forward on the hull.

4. T-62 and a Soviet tanker. Note the bore evacuator is one-third of the tube length from the muzzle.

5. T-54. Note that the bore evacuator at the end of muzzle and the turret-mounted machinegun both are covered here.

6. T-72 on parade in 1980. Note that the wheels are evenly spaced.

7. An East German Pioneers tank for the Pioneer maneuvers held in August 1982.

8. T-54 used in SHIELD-82 exercise in Bulgaria.

9. T-62. Note the stars on tubes, probably denoting awards from a socialist competition. Of special interest is the forward tank with two special emblems and a specially awarded name, replacing the usual numbers. Although barely legible, the first word in this special name is "Revolutionary." The second cannot be determined from this photo.

10. T-72 in the desert.

11. BTR-60PB.

12. 122-mm SP howitzer.

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