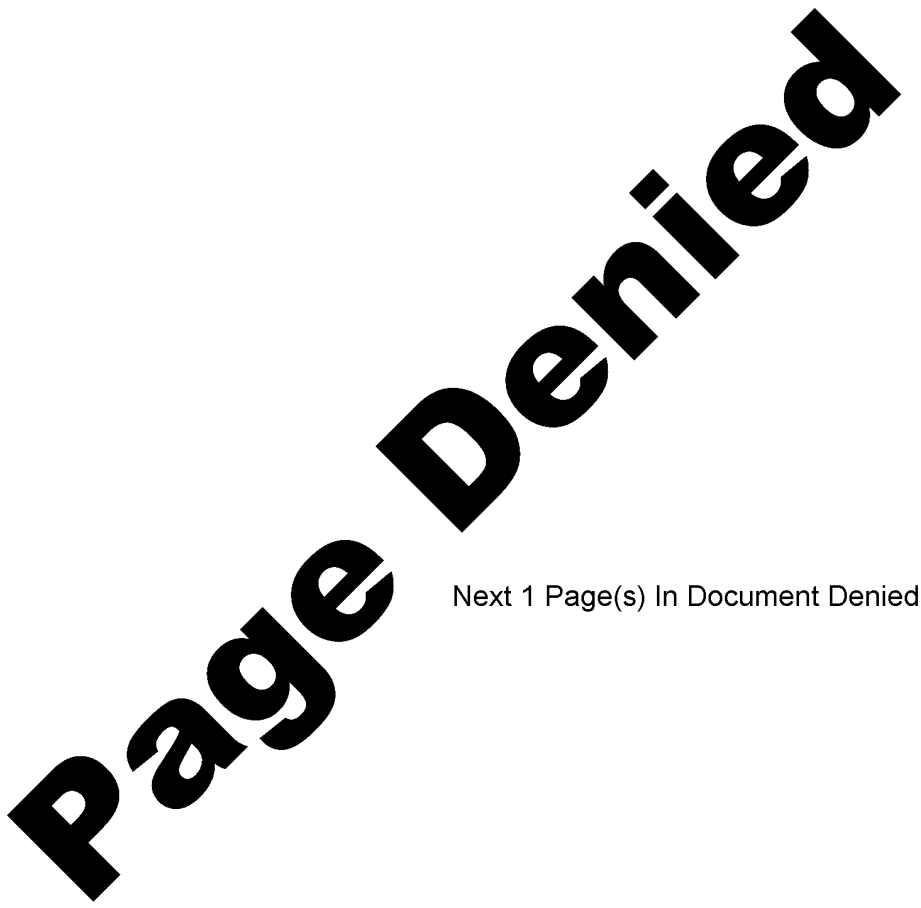

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The Cutting Edge: Soviet Mechanized Infantry in Combined-Arms Operations [redacted]

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The Cutting Edge: Soviet Mechanized Infantry in Combined-Arms Operations [redacted] 25X1

A Research Paper

This paper was prepared by [redacted] the Office of Soviet Analysis. Comments and queries are welcome and may be directed to the Chief, Theater Forces Division, SOVA, [redacted] 25X1
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The Cutting Edge: Soviet Mechanized Infantry in Combined-Arms Operations [redacted] 25X1

Summary

Information available as of 1 June 1987 was used in this report.

The Soviets consider mechanized infantry essential for sustained success on the nuclear or conventional battlefield. Mechanized infantry would be critical not only for uniquely infantry roles such as close assault, but also for operations in urban areas and rough terrain and for exploiting breakthroughs by defeating NATO reserves and preventing NATO from reestablishing a coherent defense. [redacted] 25X1 combined-arms formations based on mechanized infantry and tanks supported by artillery have replaced predominantly tank formations as the main component of Soviet land combat power. [redacted] 25X1

These changes are driven by the Soviet belief that improvements in NATO's defensive capability, especially the increased stability of its tactical defensive zone, threaten the ability of tank formations to operate independently. The Soviets attribute NATO's enhanced defensive capability to technological advances such as antitank guided missiles and to improvements in force structure. [redacted] 25X1

The growing role assigned to Soviet mechanized infantry has been made possible by improvements in force quality and organization, including:

- A substantial increase in the combat power of a motorized rifle division (MRD) through the fielding of new and better infantry vehicles and more artillery, antiaircraft, and antitank systems. Classified writings indicate that the Soviets now consider an MRD at least as powerful as a tank division.

- A significant increase in the amount of motorized infantry within tank divisions. Since the mid-1970s, motorized rifle battalions have been added to tank regiments. Along with additional artillery, this has transformed tank regiments into more capable combined-arms units and has substantially increased the total number of motorized infantry units in the Soviet forces.

- The replacement of wheeled infantry vehicles with more powerful and better protected tracked infantry vehicles. The Soviets have apparently decided to convert many MRDs, especially in the groups of forces in Central Europe and the western military districts of the USSR, to an all-tracked structure, discarding the traditional mix of wheeled and tracked infantry vehicles. This process has just begun. Because of cost constraints, we do not expect all Soviet forces to adopt the all-tracked structure.

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- The experimental formation of new organizations that use even more mechanized infantry in combined-arms operations. Two new army corps, with an unprecedented combination of infantry and tanks at battalion level, have been developed over the last four years. Up to three additional army corps of this type may be formed by the end of the decade.

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A number of constraints, however, serve to limit the capability of Soviet mechanized infantry to fulfill demanding tasks assigned to it:

- Longstanding problems with command and control will limit the effectiveness of mechanized infantry forces. Writings by senior Soviet officers indicate serious concern about the capability of combat officers (battalion to division) to master the complexities of directing combined-arms operations. The mixing of mechanized infantry and tanks at battalion level in the new army corps probably is an attempt to simplify command and control of combined-arms operations.

- The basic element of Soviet mechanized infantry—the squad—has declined in size from 14 to 10 men over the last three decades and can now deploy only seven men for dismounted assaults. The need to provide a crew for the infantry vehicle and the increase in the number of fire-support weapons have been among the factors responsible for the shrinkage in the number of riflemen available for dismounted assaults. Soviet military writings indicate that the decrease in the size of mechanized infantry squads comes at a time when the dismounted assault role of infantry has become increasingly important. The reduction will make sustained operations of this type more difficult.

- Deficiencies in specialized and realistic training will make it difficult for infantry to implement more flexible tactics and to operate in urban and rough terrain. Training problems will also hinder battalion-level combined-arms integration. New tactics and organizations developed since the mid-1970s will place additional burdens on already overworked and undertrained junior officers and senior noncommissioned officers.

- Shortcomings in the number of infantry vehicles would limit the rapid concentration of divisions to provide capable reinforcements for operations in Central Europe and to conduct operations in secondary theaters. Production of modern infantry vehicles has been sufficient to almost completely equip Soviet MRDs in Central Europe and the western USSR with their authorized complement. But nearly half of the remaining MRDs lack their full complement of infantry vehicles and probably would make up the shortfall with civilian trucks. We project that infantry vehicle production over the next 10 years will be sufficient to maintain already modernized forces and to expand slowly the number of fully equipped MRDs in the rest of the USSR. 25X1

Despite these shortfalls, in a conventional war in Europe, NATO soldiers would be faced with large numbers of Soviet mechanized infantry equipped with well-protected, heavily armed, and maneuverable infantry vehicles. The firepower and protection margins of Pact infantry vehicles will put most current NATO infantry vehicles at a significant disadvantage. 25X1

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Contents

	Page
Summary	iii
Introduction	1
Soviet Pessimism Concerning the Conventional Battlefield	1
Soviet Solutions	2
Mechanized Infantry Missions	2
Assaulting Prepared NATO Defenses	3
Assaulting Urban Defenses	4
Assaulting in Rough Terrain	6
Organization and Structure	7
Limitations of Soviet Mechanized Infantry	9
The Shrinking Soviet Squad	9
Shortfalls in Infantry Mechanization	11
Problems of Command	13
Outlook for Soviet Mechanized Infantry	13
Change in Mission	13
Signs of New Organizational and Structural Approaches	14
Retaining the Motorized Rifle and Tank Division	14
Universal Division	14
Corps/Brigade	14
Continued Shortfalls in Infantry Mechanization	16
Developing Soviet Assault Tactics	16
Implications for NATO	17

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The Cutting Edge: Soviet Mechanized Infantry in Combined-Arms Operations

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Introduction

Since the late 1960s the Soviets have become increasingly concerned with conventional war fighting. Authoritative Soviet writings indicate that the Soviets no longer feel confident that war in Central Europe against NATO would begin with, or quickly escalate to use of, nuclear weapons. They now believe that a conventional conflict might be protracted or even terminated without ever going nuclear. This has prompted the Soviets to devote greater attention to conventional operations and the capability to conduct such operations on the European battlefield.

This doctrinal reassessment was influenced by two other developments that led the Soviets to attach greater importance to mechanized infantry on the modern battlefield. First, and most important, was the Soviet perception of the increased capability of NATO defenses, given technological advances such as antitank guided missiles and improvements in NATO force structure. These have caused the Soviets to reinforce the role of infantry in combined-arms operations.

Second were Soviet evaluations of combat during the 1973 Arab-Israeli war. The Israeli army, one of the most experienced in armored operations, lost hundreds of tanks in the first days of the war because it failed to properly deploy its infantry forces. Operating without infantry support, Israeli tank units counterattacked Egyptian infantry that had crossed the Suez Canal and were repulsed with heavy losses. Israeli tactics were later adjusted to place greater reliance on combined-arms formations, which reduced Israeli tank losses and allowed for greater overall success.

The Soviets call their infantry "motorized rifle" units. In fact, their firstline units meet the Soviet definition of *mechanized infantry*, that is, combined-arms units composed of infantry equipped with armored infantry vehicles, tanks, and artillery. The lack of infantry vehicles in many of the Soviets' rear-echelon divisions, however, would compel them to employ truck-mounted infantry units or *motorized infantry*. This type of unit is transported in trucks or lightly armored vehicles, generally without tanks. A modern example of a motorized infantry unit is the British Territorial Army brigade, which is equipped with the Saxon armored personnel carrier (APC). There are also *light infantry* units, which do not have organic motor transport. An example is the US 82nd Airborne Division. The Soviets do not field any light infantry units.

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Soviet Pessimism Concerning the Conventional Battlefield

Soviet military planners have become increasingly concerned with NATO's growing conventional defensive capability. They believe that NATO exploitation of new military technology and improvements in its force structure are increasingly calling into question their ability to dominate the conventional battlefield. The Soviets consider the vastly improved hit-and-kill probabilites of such modern weapons as the Hellfire antitank guided missile (ATGM) and Copperhead precision guided munition to represent a qualitatively new threat to their forces.

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The almost complete mechanization of NATO ground forces in Central Europe is a major concern of Soviet planners. NATO armored formations now possess greatly increased firepower and could quickly react to Soviet thrusts, rapidly altering force ratios on the Soviets' main axis, thereby disrupting their operational planning.

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Warsaw Pact analyses of modern NATO defenses exhibit a particular concern about the greatly increased threat to Pact tank forces. In a 1978 unclassified article in *Voennyi Vestnik (Military Herald)*, Soviet Major General Biryukov (a professor at the Frunze Combined-Arms Academy) projected that a Soviet tank battalion independently attacking a NATO mechanized infantry company would suffer casualties of at least 50 percent without a guarantee of success.

There is ample precedent for such projections and concerns. As a result of their study of World War II combat operations, for example, the Soviets found that in an attack, on average, they lost 30 to 40 percent of tanks committed. The bulk of these losses (88 percent) were the direct result of German antitank fire. Of course, modern NATO antitank weapons are not only more numerous but more effective as well.

the comparison in the table of average NATO antitank weapons densities to World War II German densities shows the destructive potential of NATO defenses. Clearly, the number of tanks and antitank weapons in a kilometer (km) of front has increased significantly. The increased capability of these systems as well provides a general appreciation of the kind of problem the Soviets foresee.

Soviet Solutions

General Biryukov recommended that infantry, supported by tanks and artillery, be used to clear away NATO antitank defenses before tank units were committed. From our analysis of the Soviets' military writings we believe they have adopted precisely that solution. In the last 10 years,

Weapons Densities in Select Battalions (per kilometer of front)

	Tanks	Antitank Weapons	Machineguns
1944 German battalion	5 to 7	8 to 10	12 to 15
NATO battalion	12 to 17 [a]	30 to 45 heavy	50 to 75 [b]

[a] Excludes 50 to 60 APCs or infantry fighting vehicles (IFVs).
[b] Excludes 50 light machineguns.

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Soviet fire-support weapons have improved and become much more numerous. Artillery (including self-propelled pieces) at division level and below has been increased in both numbers and in weight. Soviet army- and front-level [1] artillery has been expanded and strengthened with the addition of such new systems as the BM-27 multiple rocket launcher. The Soviets have also developed innovative concepts such as the reconnaissance fire complex—designed to provide more timely and accurate support—to exploit the increase in available fire-support weapons. There has been a similar growth in the fire support provided by Soviet fixed- and rotary-wing aircraft.

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In addition to increasing the numbers and quality of offensive weapons, the Soviets are also taking defensive steps, including employing countermeasures against the most important NATO antiarmor weapons—the TOW and Hellfire ATGMs and the Copperhead guided projectile.

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Mechanized Infantry Missions

The Soviets consider infantry crucial to three specific types of assault activity: breakthrough of NATO tactical defenses, assaults on urban areas, and assaults in rough terrain.

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[1] A front is a joint-forces command roughly equivalent to a NATO army group and its associated tactical air force.

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Assaulting Prepared NATO Defenses

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The Soviets have initiated a number of measures intended to restore high offensive tempo.

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they will assign mechanized infantry rather than tanks to lead breakthrough operations.

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Formerly, the Soviets believed that the weakness of NATO defenses made the use of tank divisions in the first echelon expedient, leading to a rapid breakthrough. They evidently altered their planning because of both the vulnerabilities of tank forces and the growth of the combat power of infantry units

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The development of infantry vehicles [2] and their integration into the combined-arms force have presented the Soviets with novel tactical problems centered on two related but still unresolved concerns: how infantry

[2] The term infantry vehicle is used to include both tracked IFVs and wheeled APCs. The Soviets often use these terms interchangeably.

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vehicles and tanks would be coordinated in a combined assault and at what point infantry should dismount from their infantry vehicles and continue the assault on foot.

According to unclassified writings from the late 1960s to the early 1970s, the Soviets developed solutions that had infantry vehicles operating either alone or with tanks in the assault. The onboard infantry would deliver fire from inside the vehicle and would not conduct dismounted assaults. The writings also indicated that the weight of the combined infantry and armor attack and the heavy volume of fire would overwhelm enemy defenses.

Two events caused the Soviets to reevaluate these tactical concepts. One was their growing realization that NATO development and fielding of ATGMs presented a qualitatively new threat to armored attacks. The other was the lesson they learned from the 1973 Arab-Israeli war. The Soviets were shaken by the sound defeat suffered by Syrian forces, which had used Soviet tactics and equipment. Syrian mechanized infantry remained mounted during assaults on Israeli positions in the Golan Heights and suffered very heavy casualties from Israeli tank and antitank fire.

Since then the Soviets have been attempting to develop satisfactory concepts for governing the coordination of fire and maneuver of infantry and tank forces. Their current practice is to protect the infantry vehicles from ATGM fire by dismounting the infantry at a safe distance—approximately 800 meters—from defensive fire. Soviet writings indicate that the combined automatic fire from the infantrymen and the infantry vehicles would suppress enemy antitank fire, allowing the tanks that follow behind to overrun the enemy position.

The Soviets recognize that even this solution suffers from serious faults. Limiting the tanks to the speed of infantry advancing on foot presents the defender with slow-moving targets; alternatively, allowing the tanks to forge ahead of the infantry prematurely would disrupt the mutual supporting fire of the tanks and infantry and would leave the tanks vulnerable to antitank weapons

Soviet writings also recognize that dismounted infantry once within 800 meters of the enemy would be extremely vulnerable to small-arms fire. Despite the problems inherent in a dismounted infantry assault, however, writings on the subject by Colonel General Merimskii, Chief of the Ground Forces' Combat Training Directorate, continue to assert that mounted attacks should be executed only when enemy defenses are weak or in a meeting engagement. In an article in *Voennyi Vestnik (Military Herald)* from the late 1970s, Merimskii corrected officers who advocated mounted attacks, declaring such attacks appropriate only for special conditions. The latest available writings continue the emphasis on dismounted assaults.

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Assaulting Urban Defenses

Assault on urban areas is the second specific assault activity distinguished by the Soviets. They typically classify medium to large cities as urban terrain, but it appears that they are expanding their definition to include smaller built-up areas.

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Recent Soviet writings state that it would be almost impossible to bypass or blockade every city encountered during an advance. Previously, Soviet doctrine called for the bypass of urban centers in the interests of maintaining high rates of an advance. The Soviets recognized that urban centers could rapidly be turned into defensive strongpoints that would be difficult to storm. A city could be conquered in a short time only if attacking forces were able to drive into the city before the defenders had a chance to prepare defensive positions. In describing modern conventional operations in the European theater, a recently published Soviet military engineering textbook postulates that large urban areas where street fighting could occur lie some 40 to 60 km apart along anticipated invasion routes. Nearly all of these routes are in West Germany (see figure 2).

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The Soviets recognize that infantry is the only force that can successfully assault urban objectives. Since World War II, Soviet armor officers have consistently pointed out in open writings that tank forces are ill suited for city fighting. As indicated in their writings, the Soviets believe that the commitment of large tank units to the seizure of cities, as was

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Figure 2
Most Likely Soviet Invasion Routes in a NATO-Pact War

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The Last Hundred Meters

Despite dramatic changes in military technology since World War II, the close-assault role of infantry has remained essentially unchanged. The following quotation illustrates this point. It was written by the French commanding officer of the 2nd battalion, 8th Moroccan Tirailleurs, who was killed in action in May 1944 during the Monte Cassino battles:

> As far as infantry is concerned, I am more than ever convinced that *the standard infantry action consists in a body of attackers seeking hand-to-hand combat*. Bear in mind that all the advances in armament over the centuries have only aimed at one thing: to fire from as far away as possible to avoid this hand-to-hand combat which men fear. The job of infantry is to break through enemy lines; to do that they must get in among those lines. In an attack, no matter how powerful the artillery and the heavy weapons, there comes the moment when the infantryman gets close to the enemy lines, all support ceases, and he must mount the charge that is his last argument, his sole raison d'etre. Such is the infantryman's war . . . [and] the object of his training should be to prepare him for what one might call 'the battle of the last hundred meters.'

done in Berlin and Vienna in 1945, would result in a low offensive tempo and heavy tank losses. For example, during the Soviet attack on Berlin, one Soviet tank army lost more than 1,300 tanks and assault guns over a two-week period.[3] elements of motorized rifle divisions (MRDs) would probably be detailed to destroy resistance in urban areas that could not be bypassed or isolated. Tank divisions would be employed only if the Soviets felt NATO defenses were unprepared and could be rapidly overwhelmed.

[3] The intensity of urban combat is reflected in the fact that the tank army started with 667 tanks and assault guns, and essentially lost this initial inventory, had it replaced, and then lost it again. Only the close location of major tank repair units allowed the Soviets to replace these losses.

Tactically, Soviet doctrine recognizes that the nature of urban terrain would necessitate the use of independently operating units. Such conditions would prevent the maneuver of large units and encumber command and control. Soviet writings indicate that urban objectives would first be divided into a number of smaller sectors to split the defender, with each sector destroyed in turn. The basic Soviet combat element for these operations would be a dismounted mechanized infantry battalion. The battalion would be reinforced with mortars and some artillery and would have combat engineers assigned for demolition and flame work. Tanks and infantry vehicles would be used only for fire support.

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Although Soviet military writing devotes considerable attention to urban assaults, there is little evidence to indicate that Soviet troops are trained for such operations.

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In the Non-Soviet Warsaw Pact (NSWP), however, Polish infantry and East German border guard units receive much more specialized training for urban operations. The Soviets may believe that the limited training time available to their two-year conscripts compels concentration on a limited number of skills, with the expectation that these skills can be adapted to different situations. It is also possible in some instances that Polish and East German units might be assigned to assualt and occupy bypassed urban areas.

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Assaulting in Rough Terrain

Attacking in rough terrain is the third specific Soviet assault category. This type of assault has always been an important facet of Soviet doctrine and would be necessary in operations against NATO. The Soviets' occupation of Afghanistan has served to heighten their interest in such operations.

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The Soviets recognize that rough terrain degrades the effectiveness of tank units.

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For example, there are no tank divisions present in the mountainous Transcaucasus Military District (MD), and the MRDs fielded there have much smaller tank complements than do Soviet MRDs in the Western Theater of Military Operations (TMO). Tactically, the Soviets expect that the terrain would direct the flow of battle into separate but coordinated actions by independent task forces structured around infantry battalions. The main attack would advance along valley floors using small flanking detachments or tactical air assault forces to seize ridge lines and passes. Success would hinge on rapidly outflanking enemy positions and maintaining high advance rates, thereby preventing the enemy from reestablishing a coordinated defense.

Organization and Structure

The MRD is the basic Soviet infantry formation. It consists of three infantry regiments and one tank regiment plus various combat support and service support elements. Analyzing the MRD by applying combat potential scores developed by Soviet military planners shows how it has evolved into a well-balanced combined-arms formation This has been achieved, for the most part, through increases in antitank weapons and infantry vehicles, giving the Soviet commander a more flexible organization.

The combat power that Soviet planners assign to MRDs has grown substantially. Reflecting the upgraded role assigned to infantry forces since the late 1960s, the Soviets have considered an MRD to contain more combat power than a tank division (see figure 4). This is the result of the introduction of large numbers of infantry vehicles, ATGMs, and improved surface-to-air missiles (see figure 5). By the 1980s, modernization and reorganization of MRDs and tank divisions had all but eliminated the difference in combat power.

The addition of mechanized infantry and fire-support weapons into Soviet tank divisions has transformed them into better balanced combined-arms units, however. Since the mid-1970s, motorized rifle battalions have been added to tank regiments, significantly expanding overall mechanized infantry forces. More artillery has also been added to tank divisions and regiments. These organizational changes have addressed many of the defects found by the Soviets in their tank divisions. 25X1

Equipment modernization and reorganization of tank units has essentially transformed motorized rifle and tank regiments into comparable combined-arms formations. One type of regiment is infantry heavy, while the other is tank heavy. The motorized infantry regiment would be useful, for example, in assaults against prepared defenses. A tank regiment, exploiting the speed, weight, and shock power of its tanks, would be useful for rapidly shattering weakly prepared defenses. This convergence indicates the continued adherence to fielding two distinct types of regiments and two types of divisions. 25X1 25X1

The Soviets have sought to provide their infantry with a vehicle that could operate with tanks in all types of terrain and battlefield conditions. Their doctrine requires that infantry vehicles have both a long-range antitank capability (3,000 to 4,000 meters) provided by ATGMs and a shorter range capability (1,000 to 2,000 meters) with automatic cannon for use against lightly armored targets. The required protection levels of infantry vehicles have also apparently been increased, largely as a result of changes in the threat posed by NATO. Previously, Soviet infantry vehicles were protected only against shell fragments and small-arms fire. They are now required to be protected against small-caliber automatic cannon fire such as the 25-mm cannon on the US M2 Bradley. The Soviets' latest IFV, the improved BMP-2, has significant firepower and protection advantages over the Bradley 25X1 25X1 25X1

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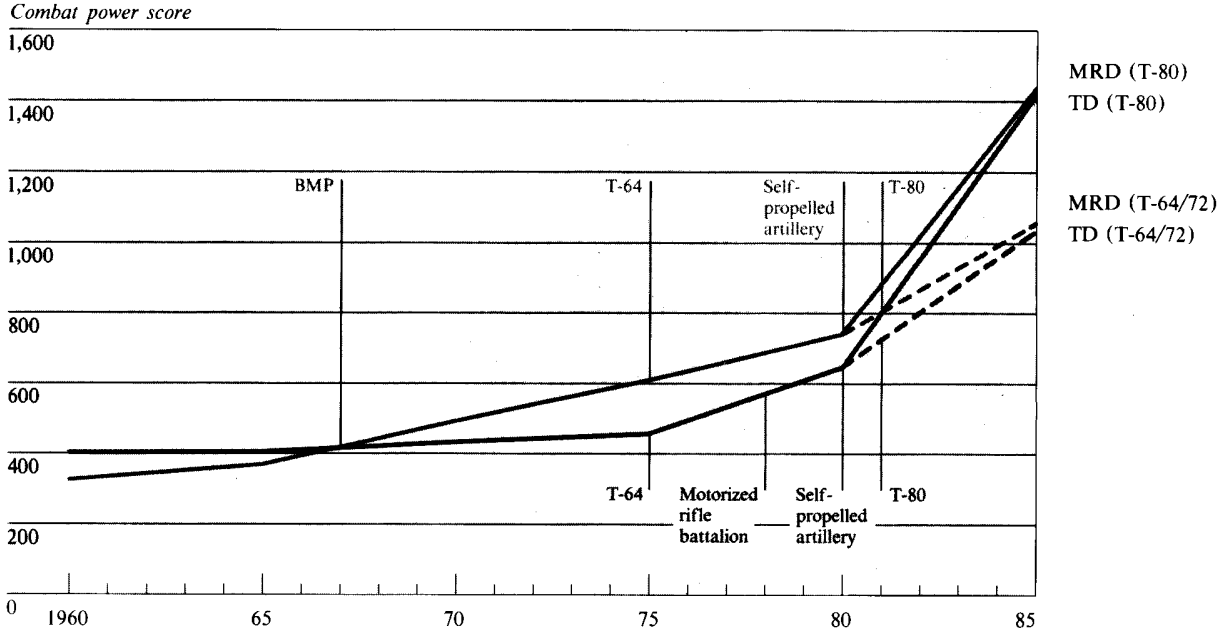
Figure 4
Soviet Perception of Growth in Combat Power of Motorized Rifle and Tank Divisions, 1960-85



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economic constraints and maintainance considerations have compelled them to field a mix of fully capable tracked infantry vehicles and less capable wheeled infantry vehicles whose primary advantages are that they are less expensive, easier to maintain, and faster. The trade-off of capability for cost has enabled the Soviets to mechanize a large number of MRDs faster than if they had chosen to procure an entirely tracked force. Typically an MRD has one regiment equipped with tracked vehicles and two with wheeled vehicles.

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Limitations of Soviet Mechanized Infantry

The Shrinking Soviet Squad

The infantry squad is the basic combat element of the ground forces. As the organization and equipment of infantry formations have evolved, the number of infantrymen in a squad available for dismounted assaults in many armies has shrunk:

	1960s	1980s
Soviet	9	7
US	10	6
British	10	7
West German	6	6

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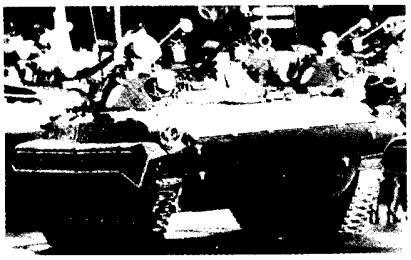
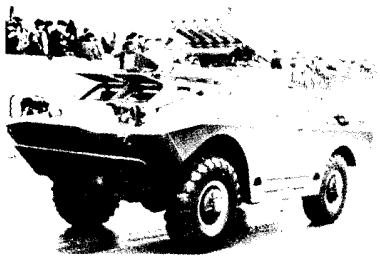
This has been due chiefly to the introduction of and the improvements to infantry vehicles. Beginning with the introduction of the BMP, the commander usually

Figure 5
The Improving Equipment of Soviet Mechanized Infantry

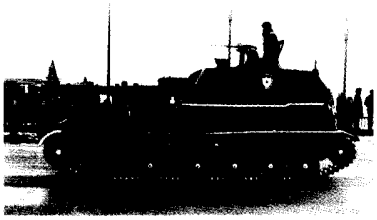


BMP-2 IFV
- higher rate of fire
- longer range
- better protection

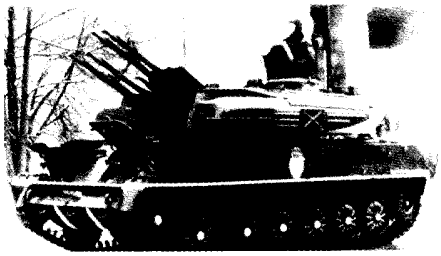


Antitank guided missiles (AT-5)
- longer range
- greater penetrating capability
- improved guidance

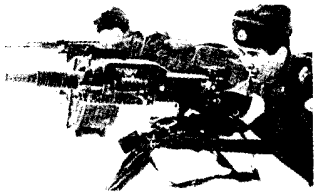
AK-74 assault rifle
- more ammunition
- increased range
- capability to fire rifle grenade



Artillery
- longer range
- self-propelled



Antiaircraft weapons (ZSU-M 1986, SA-16)
- longer range
- more accurate



Plamya (automatic grenade launcher)

Vasilek (automatic mortar)
- high rates of fire
- more responsive fire support

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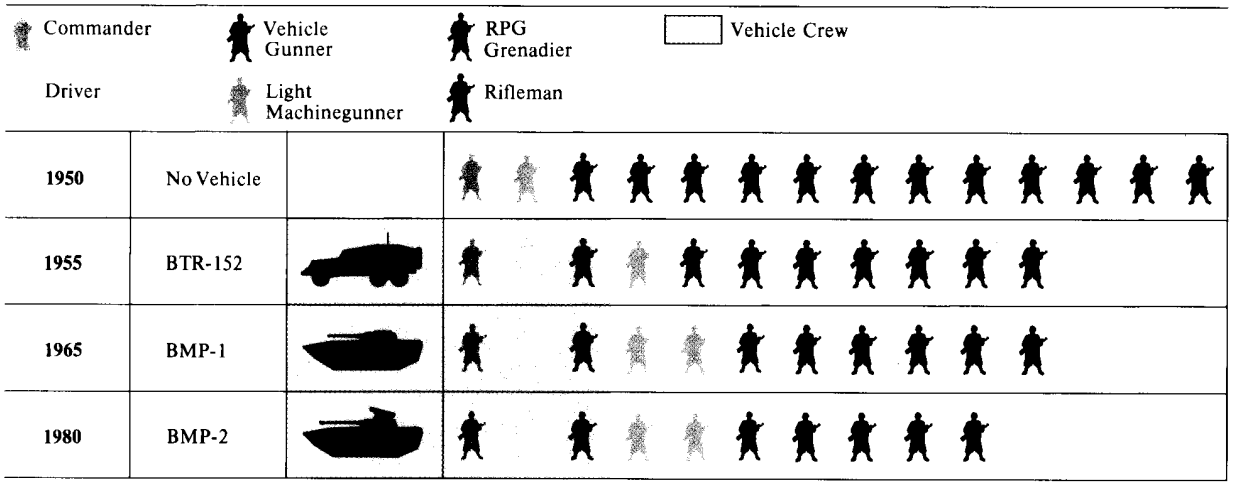
Figure 6
Evolution of the Soviet Motorized Rifle Squad



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did not leave the vehicle during dismounted squad operations, further reducing the number of infantrymen available. For these reasons, the number of infantrymen available for assaults has progressively shrunk from 14 in 1950 to seven in 1985 (see figure 6).

The development of Soviet and Western combined-arms forces for modern battlefield operations has resulted in the substitution of firepower in the form of heavily armed infantry vehicles for dismounted infantrymen. For example, although automatic grenade launchers have been introduced in Soviet motorized rifle battalions, in an assault firepower could not fully compensate for a man on the ground with a rifle. This is especially important in urban warfare, as the Israelis found in Beirut in 1982. The Israelis were unprepared for the heavy casualties characteristic of urban fighting, and they quickly experienced shortages in units capable of conducting dismounted assaults. World War II and postwar military experience has shown that smaller infantry squads are less capable of absorbing casualties and maintaining the cohesion and effectiveness necessary to accomplish these missions. The offensive, the most common Soviet mission, will expose infantry to higher casualties than those from defensive operations, where defenders are occupying prepared positions. The shrinking squad size could quickly blunt the Soviet capability to conduct dismounted infantry assaults. Even a modest drop in rifle strength would rapidly degrade the offensive capability of a Soviet MRD. 25X1 25X1

Shortfalls in Infantry Mechanization

The Soviets have the bulk of their most modern infantry vehicles in their forces opposite NATO, where all but a small number of motorized rifle regiments have been mechanized. Nearly half of the rest of the force, however, lacks a full complement of their authorized infantry vehicles (see figure 7). In the initial period of a war, some of the shortfalls could be alleviated by drawing on infantry vehicles stored in national-level depots or by using vehicles salvaged

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from the battlefield. Nonetheless, a large number of Soviet MRDs would still have only truck transportation.

In some areas, such as in the southwestern USSR, this shortfall could have an immediate and detrimental impact on operations. Soviet exercises commonly portray these forces participating in initial operations against NATO. Truck-mounted infantry, over half of the Soviet forces in the region, would be of limited use against coherent NATO defenses, especially if they were committed to operations against NATO forces in West Germany.

The infantry vehicle shortfall in the rest of the Soviet force might not have as significant an impact. If committed against NATO, these divisions could be used in areas where the Soviets were on the defensive, freeing more capable divisions for offensive combat. The Soviets may also plan to use these nonmechanized MRDs only after NATO forces had been severely reduced. In areas such as South Asia, potential opponents would not be as formidable as NATO, allowing a greater role for nonmechanized infantry. Some of the MRDs lacking armored infantry transport might also be designated as a reserve during a protracted war or as a source of trained replacements for better equipped units.

Almost all of the NSWP countries have mechanized their infantry forces to a level at least equal to Soviet forces in the Western TMO. Only Bulgarian infantry lacks sufficient infantry transport. The Bulgarians are making efforts to correct this deficiency, including the production of domestically modified infantry vehicles. In the rest of the NSWP forces, only low-strength divisions lack transport for infantry, but these divisions would probably not be committed to initial operations against NATO.

Problems of Command

The task of effectively training and employing a modern Soviet motorized rifle regiment has become progressively more complex and difficult, especially in the last 10 years. Until the early 1970s, regimental commanders were chiefly responsible for directing the maneuver of their own infantry and tanks. Since then, they have been given additional responsibilities for control over the employment of fire-support, antitank, and antiaircraft weapons, as well as the coordination of tactical air support.

Soviet unclassified writings suggest that commanders have not been consistently successful in welding these varied combat elements into an effective combined-arms formation.

Nevertheless, the military leadership appears to recognize the threat such operational deficiences pose to Soviet capabilities to conduct offensive operations.

Persistent problems in developing combined-arms skills probably result, in part, from shortcomings in the training program. Training is acknowledged in Soviet writings to be generally unrealistic and undemanding, and there appears to be a lack of sufficient specialized infantry training.

Similarly, Soviet planners realize that NATO will employ a wide variety of barriers (such as mines and concertina wire), but there is no appreciable training in barrier clearing.

Outlook for Soviet Mechanized Infantry

Change in Mission

Analysis of the Soviets' writings and organizational changes indicates that they intend to assign mechanized infantry an expanded role for future operations. The increased importance attached to close assault

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and urban warfare in Soviet doctrine will probably cause continued stress on the role of infantry forces within combined-arms formations.

Continued improvements in NATO defensive capabilities will also lead the Soviets to emphasize the role of combined-arms formations structured around mechanized infantry in overcoming these defenses. Improvements in mechanized infantry capabilities may also lead to the assumption of new roles such as exploitation of breakthroughs (see figure 8).

Signs of New Organizational and Structural Approaches

There are at least three possible options the Soviets may consider for further improvement of their mechanized infantry: retaining and improving the existing structure, moving toward a universal division, or radically reorganizing some or all existing divisions into a corps/brigade structure.

Retaining the Motorized Rifle and Tank Division. The most likely option is a continuation of present trends. The reorganization of tank divisions into tank-heavy combined-arms formations and the equipment modernization in both tank and motorized rifle divisions have improved the capabilities of both types of units to operate on the modern battlefield.

Retaining the current structure would also be the least disruptive of the three choices in terms of training and equipment procurement.

Analysis of recent equipment fielding trends in MRDs in Central Europe indicates that the greatest growth during the next 10 years will probably occur in the quality of assigned fire-support weapons and infantry vehicles. Over the last decade, MRDs have been receiving automatic-cannon-armed BMPs and automatic fire-support weapons such as grenade launchers and mortars. This trend would probably continue with the fielding of automatic-cannon-armed wheeled vehicles and improved automatic fire-support weapons.

Trends in Pact equipment fielding indicate that, to further improve MRD capabilities, the Soviets have decided to move toward a force consisting primarily of fully tracked or "heavy" infantry. A significant number of Soviet MRDs, as well as some in the NSWP, will probably convert to a fully tracked structure, or will have at least two tracked regiments and one wheeled regiment (see figure 9). These improvements would significantly enhance the combat capabilities of MRDs opposite NATO.

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Universal Division. A second but less likely option is the conversion of motorized rifle and tank divisions into universal divisions. The Soviets' military writings from the middle and late 1970s indicate that they may believe that developments in NATO forces will require balanced combined-arms units—including battalions similar to those in the independent army corps—for virtually all operations. The universal division would probably retain four maneuver regiments.

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Among the benefits of a universal division would be simplification of front- and theater-level staff planning. Staffs would no longer have to consider reorganizations of subordinate field armies to achieve an appropriate mixture of tank and motorized rifle divisions for a particular mission. They would need only to consider the size of the force required. A universal division would also improve combined-arms integration and ease training problems, producing greater combat power. Such a proposal was advanced in the early 1960s and was strongly debated by senior Ground Forces officers in military journals until then Minister of Defense Rodian Malinovskiy decided against it.

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Corps/Brigade. The least likely alternative is the complete restructuring of the Soviet ground forces into army corps composed of brigades. Such corps would be large and would resemble Western divisions in terms of their fire- and combat-support elements (see figure 10). Since 1982 the Soviets have created two independent army corps, but these apparently are

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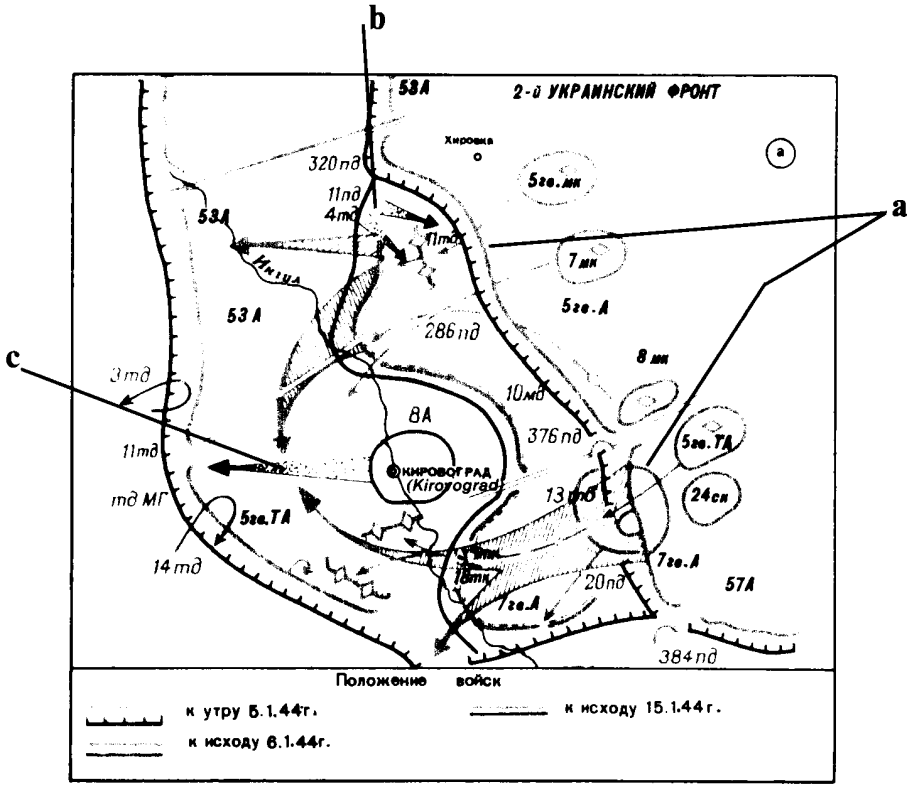
Figure 8
Soviet Concept of Breakthrough and Exploitation: Kirovograd Operation, 5-16 January 1944



In the Kirovograd Operation, the Soviet 2nd Ukrainian Front, attacking along a 100-kilometer front, pushed back and destroyed elements of the German 8th Army. On 5 January, two Soviet combined-arms armies attacked on the Front's right wing, one on the left (a). The German lines were quickly pierced, and mobile forces consisting of three tank and mechanized corps were committed on the right, and one tank army was committed on the left. The forces on the right wing defeated a two-division German counterattack (b). The Soviet mobile forces linked up west of the city of Kirovograd, encircling elements of the German 8th Army (c) on 7 January. The Soviet forces now paused, apparently because of supply problems, allowing the Germans to transfer four tank divisions to the threatened sector. Soviet attempts to renew the offensive were halted by the German armored counterattack, stabilizing the frontlines until the spring. The maximum Soviet penetration was 70 kilometers.

This illustration is drawn from a text prepared in the Frunze Combined-Arms Academy entitled *Encirclement Operations and Combat* (1983). The forces involved are comparable to a modern Soviet front-level operation.

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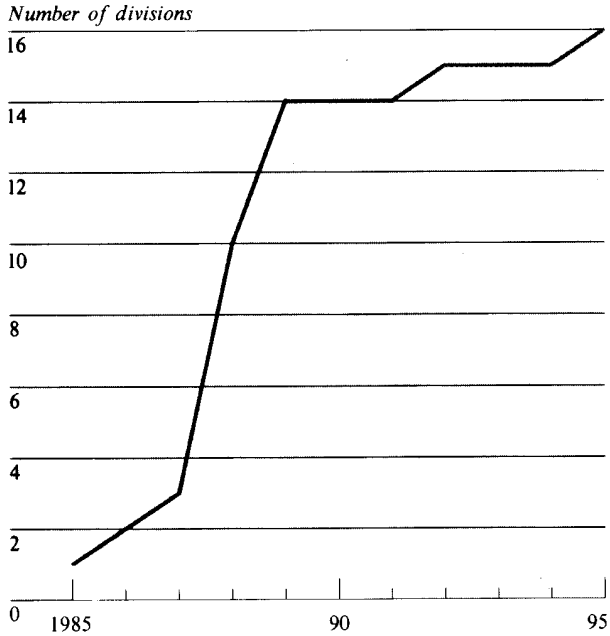
Figure 9
Projected Soviet Creation of "Heavy" Motorized Rifle Divisions in the Western TMO[a]



[a] New army corps are counted as MRDs in totals.

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intended to fulfill special missions (see inset on independent army corps). In 1987 the Hungarians began to convert three divisions into two army corps. It is unclear whether a parallel restructuring will occur throughout the Pact or is related to Hungarian efforts to conserve manpower.

Conversion to a corps/brigade structure such as in the Soviet independent army corps offers improvements in combined-arms capability and sustainability. There are major drawbacks, however. Large-scale conversion would disrupt training, and therefore readiness, for a significant period of time. The increased amount of support equipment would also be a major expenditure. The creation of the smaller Hungarian corps will be less expensive but will still cause significant training disruption.

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Continued Shortfalls in Infantry Mechanization

We expect little increase in the number of infantry units equipped with a full complement of infantry vehicles by the year 2000. If production rates remain at current projected levels, a high proportion of the new vehicles will be replacements for older ones nearing the end of their 30-year service life. We expect the greatest upgrade to take place in Soviet forces in the Far East. These forces will probably be mechanized to a level comparable to that of Soviet forces opposite NATO. Soviet Far Eastern forces have traditionally received new equipment only after it has been widely fielded in the West but ahead of other TMOs. Only modest improvements are expected in the mechanization of forces in the southern, southwestern, and central portions of the Soviet Union. The projected changes will improve Soviet capabilities against China but will not significantly alter the availability of reserves from the interior MDs.

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Developing Soviet Assault Tactics

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Future improvements in Soviet infantry vehicle protection and firepower may make mounted infantry less vulnerable to NATO antitank weapons, thereby allowing the infantry to dismount closer to NATO positions. Increased numbers of rapid-fire weapons in Soviet assault forces could also provide more reliable suppressive fire, helping the infantry to dismount and cover the distance to opposing forces without sustaining severe losses.

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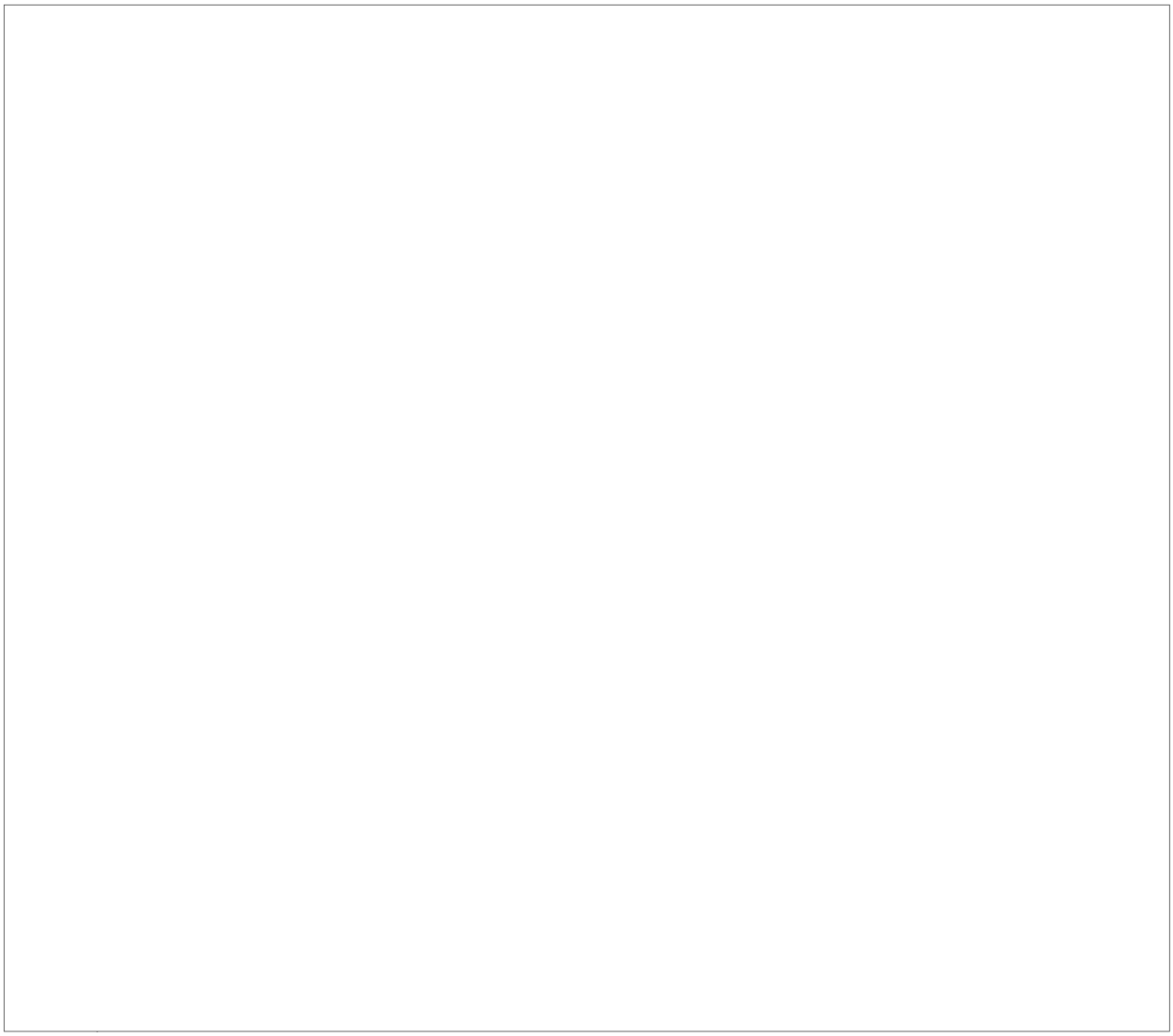

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Implications for NATO

In a conventional European war, NATO soldiers in Central Europe would face a firstline Soviet force with large numbers of mechanized infantry in combined-arms formations that would be equipped with relatively well-protected, heavily armed, and maneuverable infantry vehicles. The presence of these vehicles would complicate NATO defensive efforts that would already be burdened with defeating heavily armored and lethal Soviet tanks. In most sectors, until the Soviets penetrated NATO positions, the bulk of the assault forces would be mechanized infantry.

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