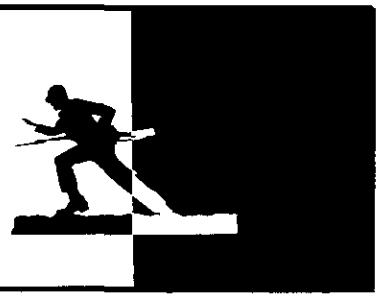
PROFESSIONAL FORUM



Soviet ATGM Countermeasures

MICHAEL R. JACOBSON

For many years, the North Atlantic Treaty Organization (NATO) and, in particular, the United States Army have emphasized the use of antitank guided missiles (ATGMs), and the Army has spent a lot of time and money developing, acquiring, and fielding ATGM systems and training operators.

We must, therefore, pay more attention to the countermeasures an opponent might use to prevent our ATGM gunners from hitting their targets. We must also look at ways of defending against those countermeasures.

The Soviets, for example, emphasize various ways of countering ATGMs: reconnaissance, destruction, deception, and combined arms operations. We can assume, of course, that other forces trained and equipped by the Soviet Army (such as Iraq, for example) will use the same countermeasures.

Reconnaissance. While the Soviets emphasize reconnaissance in all of their operations, they recognize its particular importance in locating and targeting ATGM systems. Since a commander uses his reconnaissance as the basis of his decision making, the intelligence must be correct, and he attempts to verify it by any means available to him—airborne reconnaissance, signal intelligence, and ground reconnaissance.

Airborne reconnaissance is accomplished by fixed wing aircraft, helicopters, and drones that use photography, infrared detection, television, and side looking airborne radar (SLAR). To counter these reconnaissance methods, an ATGM unit must use all available concealment, infrared defeating camouflage nets, hide locations, and dummy positions to present a false picture.

Signal intelligence gathering includes using direction finding to locate radio transmitters and monitor radio traffic. Even when the ATGM units use secure radios, the Soviets can jam the transmissions or use direction finding to locate and target the transmitters.

The Soviets' ground reconnaissance organizations include the reconnaissance battalion in each motorized rifle or tank division, the reconnaissance company in each motorized rifle or tank regiment, and the combat reconnaissance patrol (CRP) of each maneuver battalion.

These units use BRDM-2s or BTRs, BMP-Rs, BMPs, tanks, and motorcycles. A reconnaissance battalion has 340 men and is equipped with six tanks, three BMP-Rs, 12 BMPs, and 15 BRDM-2s or BTRs. A reconnaissance company has 55 men and is equipped with one BMP-R, three BMPs, four BRDM-2s, and three motorcycles.

These units form reconnaissance patrols, usually about three vehicles, that use overwatching movement techniques and covered and concealed routes to reconnoiter ATGM positions. They are tasked with identifying, locating, and reporting on routes, enemy minefields, and dispositions. Soviet reconnaissance units routinely try to capture prisoners, from whom they expect to get significant information.

A CRP is a fighting patrol that consists of a motorized rifle platoon (three BTRs or BMPs) reinforced with a tank and possibly engineer reconnaissance (BRDM-2) or chemical (BRDM-2rkh) assets. The patrol's mission is to provide prompt information on their opponent's strength, composition, activities, and direction of movement or location. A CRP tries to penetrate the opponent's reconnaissance screen to get information about the main body. It operates up to 10 kilometers, or 20 minutes, in front of the forward security element (FSE) of its own advanced guard.

The FSE is normally a motorized rifle company reinforced with a tank platoon, an engineer platoon, a mortar battery, and an artillery battery. Its mission is to move behind the CRP and engage and fix the opponent's elements. Using its mobility and firepower, it attempts to seize and hold key terrain for the commitment of the advanced guard's main body.

Additionally, the Soviets may dispatch a forward patrol consisting of a maneuver platoon to operate between the CRP and the FSE. This forward patrol

attacks known or suspected enemy positions to gain information. Their mission is to cause their opponent to react and thereby reveal his disposition, strength, and fire plan.

Soviet commanders expect to receive 75 to 95 percent of their needed intelligence before the attack. Our units, therefore, must conduct effective counter-reconnaissance operations to negate as much as possible the Soviet reconnaissance effort, and particularly those aimed at locating our ATGM positions. They must learn to identify reconnaissance vehicles, formations, and operations and their plan must include how to deal with the various types of Soviet units in clear, understandable terms.

Destruction. Once the Soviet reconnaissance effort has identified and located their opponent's ATGM positions, the positions will be targeted for destruction. Soviet combined arms tactics identify the artillery, attack helicopters, tanks, and motorized rifle arms as having major tasks in defeating an opponent's antitank weapons.

ATGM positions are priority targets for Soviet artillery, and the Soviets use firing norms to plan artillery operations. Firing norms are established for ammunition expenditure, the expected area coverage, the effect on the target, and the density of fire over time. The Soviets define five categories of target damage and effect—annihilation, destruction, neutralization, suppression, and harassment.

- **Annihilation** means the target is combat ineffective, which requires enough rounds to achieve a kill probability of 70 to 90 percent against an ATGM position.
- **Destruction** (a sub-element of annihilation) means a target position has been rendered permanently unusable.
- **Neutralization** means the targeted position has lost 30 percent of the unit occupying it and has temporarily lost its combat effectiveness.
- **Suppression** means the target has temporarily lost its combat effectiveness.
- **Harassment** means the soldiers in the target position cannot rest or move and will suffer low morale.

The firing norms also control reaction times. The average reaction time from the receipt of the fire mission until the first round hits the ground is 60 to 90 seconds for a motorized rifle battalion's organic 120mm mortar battery and two to three minutes for the regiment's organic 122mm artillery battalion. The Soviet-developed norms govern how many rounds of artillery they will fire at a target. To suppress an ATGM position, they would fire 40 rounds for observed fire or 140 rounds for unobserved fire of 120mm mortar or 122mm howitzer ammunition.

U.S. and NATO ATGM systems are not designed to survive such intense artillery barrages. A unit must therefore depend upon remaining undetected. ATGM units should not be located on terrain that the Soviets are likely to target with artillery, and when a unit does come under heavy artillery fire, it should move.

Soviet attack helicopters are normally used after the artillery preparation is complete. They seek routes that allow them to approach the flank of their opponent's forces undetected. In a meeting engagement, attack helicopters screen and support their units as they maneuver into position. Soviet helicopters operate in pairs and attack ATGM positions with their own ATGMs or 57mm rockets. Depending on which ATGM a helicopter is equipped with, its effective range is between three and five kilometers; the effective range of the rockets is about 1,500 meters. Helicopters with ATGMs are also employed to counterattack armored or mechanized forces.

Soviet tanks carry three types of main gun rounds—armor piercing fin stabilized discarding sabot (APFSDS), high explosive antitank (HEAT), and high explosive fragmentation (HE-FRAG). More than half of the Soviets' basic load for tanks and BMP-1s is HE-FRAG ammunition, which is used to suppress ATGM sites and fighting positions. The BMP-2 also carries both high explosive and fragmentation rounds that are effective in suppressing or damaging ATGM systems and gunners.

The Soviets have fielded tanks similar to the Sheridan that are capable of firing an ATGM through their main guns. The T-64B and T-80 tanks are known to fire the AT-8 Songster ATGM, which has a maximum range of 4,000 meters. It is believed that the primary role of missile firing tanks is to destroy armor and antiarmor systems such as the Bradley fighting vehicle (BFV), the improved TOW vehicle (ITV), and attack helicopters.

Another Soviet weapon that could be effective in suppressing ATGMs is the AGS-17 automatic grenade launcher. It is similar to the U.S. Mark 19 grenade launcher but fires a 30mm instead of a 40mm round. The AGS-17 has a maximum range of 1,730 meters, which gives the Soviet infantry an area suppression capability. It also has some capability against lightly armored vehicles such as the ITV and the BFV. Each Soviet motorized rifle battalion has six AGS-17s.

Other suppression methods the Soviets may use against ATGM positions are searchlights and lasers. Thus, a flashing high intensity searchlight with the proper frequency and intensity can confuse an ATGM gunner and reduce his tracking performance by 50 to 100 percent.

Laser rangefinders and laser target designators can cause temporary or permanent injury to the eyes of soldiers using direct view magnifying optics. Laser filters or thermal image intensifier devices will protect a gunner's eyes against these.

To defend themselves against these Soviet capabilities, an ATGM unit should be set up in hide positions, move after hitting a target, and engage an entire enemy unit instead of individual vehicles.

- **Deception.** The Soviets' deception doctrine, which they call *Maskirovka,* calls for the use of camouflage paint, camouflage nets, screens, and smoke screens to protect their armored vehicles from ATGM fire.

While they use camouflage paint sparingly in peacetime, they do use camouflage paint patterns during hostilities to blend armored vehicles into

the background. They use camouflage nets and covers extensively to hide, disrupt identification, and conceal armored vehicles. They put up screens, similar to privacy fences, to block observation, and these can be several kilometers long.

The Soviets attempt to use covered and concealed routes and to move at night to limit the effectiveness of ATGM defenses. Minefields and artillery fires placed on these routes can force them into ATGM kill zones, and we must be prepared to fight at night using our night vision devices or other illumination means.

The Soviets use three types of smoke screens to counter ATGMs—blinding, camouflaging, and decoy. They use blinding smoke screens to blind enemy gunners, observation posts, and target acquisition systems, thereby restricting their opponent's ability to engage their forces effectively; camouflage smoke screens to conceal their location, movement, and intentions; and decoy smoke screens to deceive their opponents as to the actual location of their forces and their probable direction of attack.

The Soviets believe that when they conceal their positions with smoke they decrease their opponent's hit probability by 25 percent, and that when they place smoke on an enemy gunner they decrease his hit probability by 90 percent.

Soviet combat vehicles have two methods of producing smoke. Most have a vehicle engine exhaust smoke system that sprays diesel fuel into the exhaust manifold to produce camouflaging smoke to protect a unit during movement. All Soviet armored vehicles have smoke grenade launchers, which provide a rapid means of screening the vehicles. The smoke from these systems interferes with daylight and image intensifier (or starlight) scopes. While thermal sights enable a gunner to see through some smoke, he may not be able to maintain control of his missile through it and may therefore lose it.

Finally, the most effective screening agent is dust kicked up by artillery and tracked vehicle movement; it blocks out thermal, laser, and direct view optics. This dust can become suspended in smoke and restrict the capability of our thermal sights.

• **Combined Arms.** The Soviets fight as a combined arms force. A Soviet motorized rifle battalion is usually reinforced with a tank company, an artillery battery or battalion, and an air defense section. They prefer to fight mounted and assault at 20 kilometers per hour. If they are facing a strong enemy antitank capability, however, they will assault dismounted. In this situation, the infantry dismounts 1,000 meters from the forward edge of the battlefield. The tanks lead moving at six kilometers per hour, followed closely by the dismounted infantry, which engage personnel and antitank weapons. The infantry's BTRs or BMPs follow 100 to 400 meters behind the tanks and fire through the gaps between them. The ZSU 23-4 or 2S6 air defense guns follow about 400 meters behind the maneuver elements.

In addition to all of these ATGM countermeasures, Soviet tanks also have reactive armor. This armor consists of explosive boxes bolted to the outside of a tank and is designed to defeat shaped charge or HEAT munitions. The Soviets began fielding reactive armor on their T-64B and T-80 tanks in 1984. Additionally, the explosion when a missile hits may cause the gunner to believe he has destroyed the target, until it moves and shoots back.

In summary, ATGM training programs must emphasize the use of cover and concealment, counter-reconnaissance (security), and positioning in places where the Soviets are less likely to use artillery or smoke. If smoke is used against a unit or if it is hit by artillery fire, it should move to an alternate position. To improve its survivability, an ATGM unit should plan to destroy entire units at the same time. Finally, ATGM crews must know what their weapons can do and train with those weapons in a realistic environment. Only then will they improve the effectiveness of their missiles.

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Low Intensity Conflict

What Captains Should Study

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A couple of years ago while assigned to the Infantry School, we in the Tactics Department wrestled with the question, "What should the captains in the Infantry Officer Advanced Course study about low intensity conflict (LIC)?" At that time we didn't feel we had come up with a satisfactory answer. There were several reasons for our