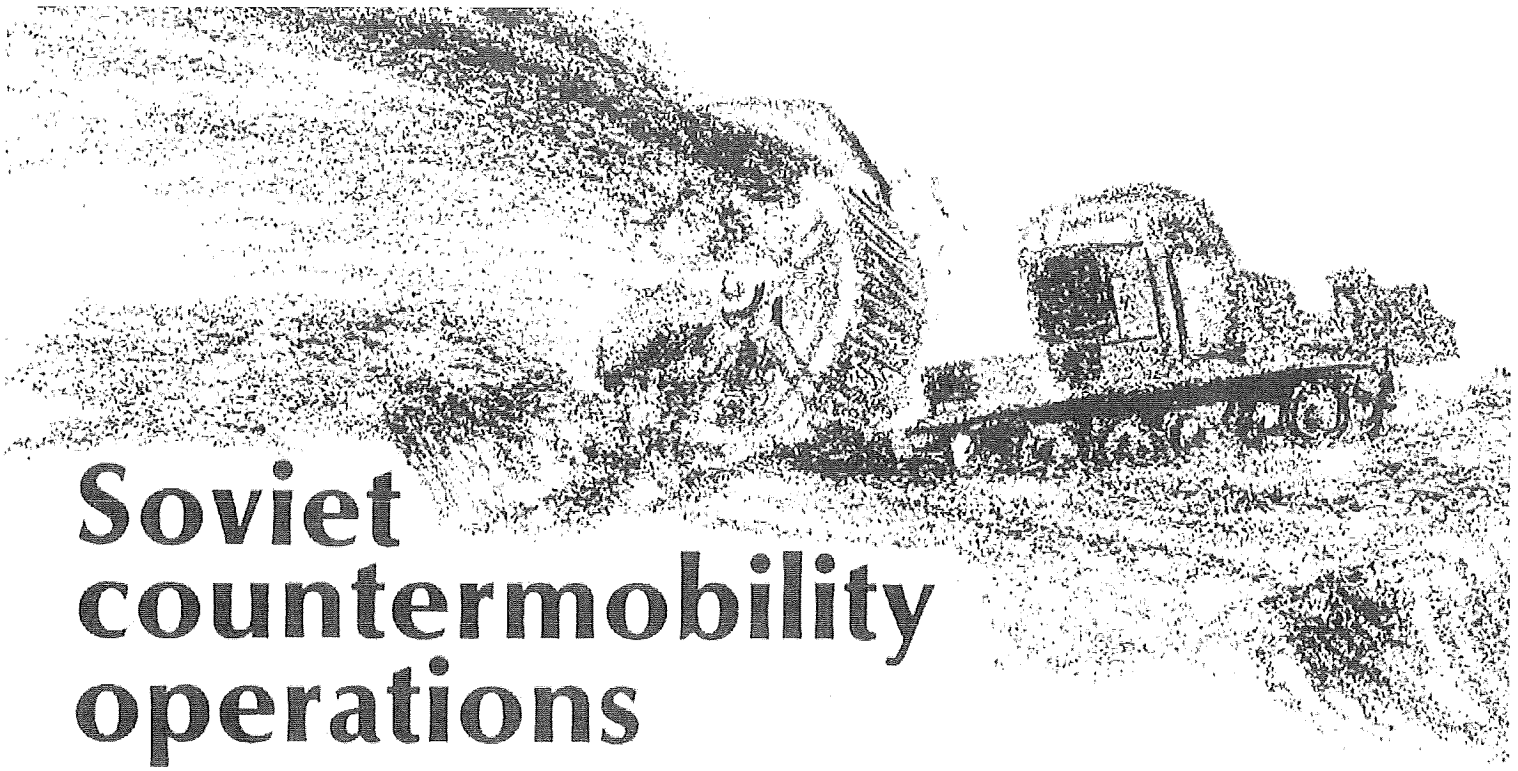


Soviet countermobility operations

by COL Frederick E. Parker, III

As a Soviet force prepares to mount an assault, units move forward to form-up areas. Each subelement commander's initial activity is to identify defensive positions for his weapon systems. Crews and engineer equipment operators begin to dig defilade positions for weapons; they keep digging until the assault begins. In the form-up area, the commander develops a fire plan and chooses locations for engineer obstacles. The unit now has fall-back defensive positions and a detailed plan to be used if the initial attack fails. As part of the fire plan, engineer obstacle sites are chosen along the avenue of advance to deny mobility to opposing forces.

This typical countermobility operation is an integral part of the planning and execution of all aspects of Soviet operations.

Soviet engineer obstacles

Engineer obstacles include any actions taken to inflict losses and to delay and impede movement in all types of battles. Their obstructive effect is directed against land forces, watercraft, and helicopters. In the attack and in meeting engagements, Threat obstacles cover forward areas and flanks, repel counterattacks, and strengthen captured positions.

In the defense, where they cover strong points and reinforce natural obstacles, engineer obstacles have added importance—here, the ability to make more extensive use of them is a major advantage.

Emplaced obstacles repel the enemy, reduce the tempo of the attack, and impede enemy operations. They are built to conform to terrain, current weather conditions, and prevailing climatic conditions. Designed to remain firm against enemy fire power and breaching efforts, obstacles must allow the attack force to remain mobile and must work as an integral part of the fire plan.

Explosive obstacles are created by means of high explosives, liquid explosives, and mines. Nonexplosive obstacles, such as wire obstacles, earth works, abatis, and dragons' teeth, are constructed.

Mixed minefields, discussed at length below, are the primary obstacle used by Soviet forces in combined arms battle. They can be quickly emplaced, and they are difficult to breach. In front of protective positions and entrenchments, they automatically create effective combined obstacles.

Obstacle complexes—natural and engineer obstacles clustered in a relatively small area—deny use of critical avenues of approach. An engineer company may prepare a system of obstacle complexes on avenues of approach up to 30 kilometers long, particularly on constricted roadways. The company starts at the front and works toward the rear. At naturally constricted areas, obstacle complexes tie the natural obstacle to a series of point obstacles such as road craters, bridge demolitions, off-route mines, and small minefields that block approaches and bypasses.

Antitank (AT) ditches may be mechanically dug after all survivability positions are prepared. In some terrains, antitank ditches are created by use of explosives. This method is used in the hard ground of clay/rock desert areas, in frigid northern regions, and in coastal areas, where such ditches are less vulnerable to wave action than mines.

Mixed minefields

Since mixed minefields are the most commonly encountered Threat obstacle, they deserve close examination. Threat mixed minefields differ from their U.S. counterparts, in which antitank and antipersonnel (AP) mines are often placed in the same minefield. Instead, the Soviets lay a mixture of antitank and antipersonnel fields. Antipersonnel fields, laid in front of Soviet forces and antitank minefields, are intended to strip the infantry and engineer breaching elements from attacking enemy tank forces.

The basic characteristics of mixed

minefields are their density and their mine outlay. In Soviet minefield doctrine, the term density is used to express the amount of position frontage protected by minefield obstacles, in meters. Mine outlay expresses the number of mines per kilometer of minefield.

Soviet minefields do not form a long, thin line. They are a series of short interrelated obstacles placed across tank approaches. Some Soviet authors indicate that spacing between minefields should prevent attacking tank platoons from clearing the gap, but that friendly movement should be possible to units that know where the gaps are.

Minefield laying methods

The mixed minefield may be laid by hand, machine, or remote means, and is always covered by fire. Mixed minefields are emplaced by both engineers and combined arms elements. Engineers and remote minelaying systems are responsible for minefields in front of the forward edge of battle and on primary avenues into formations. Combat arms elements emplace obstacles to cover positions and occupied areas.

Whenever possible, minefields are emplaced at night in order to achieve surprise throughout the defense. Combat arms units hand emplace minefields in front of the forward edge of their position. In contact, antitank minefields are emplaced using a mine cord laid perpendicular to the front. When the unit is not in contact with the enemy, mine cords are laid parallel to the front. A trench is dug to establish a starting line for minelaying. Combat arms crews may also use a pace method.

A temporary combat formation known as the mobile obstacle construction detachment (POZ) is an important Soviet engineer force element. This is a platoon-sized to company-sized element with minelaying equipment and logistics vehicles that carry explosives and mines. A typical regimental POZ with three towed mineplows (PMR) carries 1,200 A/T mines, 2,000 AP mines, 3 tons of high explosives, and 10 to 20 shaped charges. The POZ's load may be greater under some circumstances.

Typical antitank minefield

Front	200 - 300 meters
Depth	60 - 120 meters
Distance between rows	20 - 40 meters
Number of rows	3 - 4 meters
Distance between mines	4 - 6 for antitank mines 9 - 12 for antihull mines
Outlay "normal"	550 - 750 antitrack mines
Outlay "increased effectiveness"	1,000 + antitrack 500 + antihull
Probability of destruction "normal"	approximately 0.57 antitrack (750/km) approximately 0.85 antihull (400/km)

Typical antipersonnel minefield

Front	30 - 300 meters
Depth	10 - 50 meters
Distance between rows	5 meters or more
Distance beween mines	1 meter for high explosive, 2 times lethal radius for fragmentation
Outlay "normal"	2,000 - 3,000 for high explosive 100 - 300 for fragmentation
Outlay "increased effectiveness"	2 - 3 times normal
Probability of destruction	0.15 to 1.2 for HE (2,000/km) 0.1 to 0.15 for Frag (100/km)

The POZ creates obstacle complexes and defensive obstacles, and lays mines during battle. While it acts independently to establish obstacles in defensive preparations, the POZ usually works with the antitank reserve during a battle. Potential obstacle emplacement locations are designated for the POZ at each halt during movement. The detachment receives straightforward orders—"place an antitank minefield from that barn to that clump of trees."

Engineer-sapper units emplace mines beyond the forward edge of battle positions. Mechanical minelayers, trucks, armored vehicles, and helicopters with chutes supplement hand emplacement. Mechanical minelayers work at rates of 600 buried mines per hour to 2,500 surface-laid mines per hour. Thus a POZ equipped with three minelayers could, in 15 minutes, lay a buried minefield covering 1 kilometer or surface lay a similar minefield in 5 minutes.

The Soviet obstacle defense is characteristically deep, and extends into their rear area. On dangerous avenues of approach, obstacles are emplaced by remote means or by inserted obstacle detachments, partisans, or special operations teams. Terrain and combat situation always dictate the method for mining and the distance between rows. False minefields may conceal minefield locations and obstacle systems.

Armies that oppose Soviet or Soviet-trained forces can expect to meet obstacle systems that enhance natural obstacles and show the imaginative use of explosives and mines.

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