The one-hour minefield

a rapid drill for combat engineers or mechanized infantry

by CPT Philip L. Reed

The maneuver force commander points to a spot on his map. "We need an obstacle here," he tells the engineer. Their objective—to block the primary high-speed armor avenue of approach into the force—can best be met by a large minefield.

But there are problems. This engineer has never seen a helicopter-delivered M56 mine dispenser. His battalion's M57 mine plow is useless in mud or frozen ground. Besides, it's rusted and parts aren't available. Those high tech mine systems he was taught at school aren't available either. The reality? His platoon must lay mines by hand, and doing the job according to doctrine takes time—lots of time.

Combat engineers must meet such problems with methods that bring them up to speed with the maneuver forces concept of mobile armor warfare. The rapid minefield-laying drill that follows is a response developed by personnel of B Company, 16th Engineer Battalion. It gives any mech/armor division rapid mining capability. Using this method, troops in M113 armored personnel carriers can emplace multiple belts of surface-laid antitank mines.

THE TASK

Emplace a 1,000-meter front minefield in 1 hour or less

Conditions. Day or night. Any environment. Driver track commander (TC) buttoned up. Mission received and troop leading procedures initiated. Given a mechanized combat engineer platoon and its organic assets.

Standards. Minefield front, 100 meters. Minimum linear density .5,0,0 (at least one antitank (AT) mine per 2 meters of front). Rows must be a minimum of 8 meters apart at every point, and minefields must be marked on all four sides (NATO requirements). Minefield must be emplaced within 1 hour of arrival at the target site.

Resources. Four M113 APCs with radios, each manned by a driver, TC, and two mine handlers, and supplied with 145 M15 heavy AT mines, a 10-meter length of rope, cargo tie-down netting, DR-8 spool with 1,500 meters minefield marking tape, and minefield marking poles and signs (20 each), and a 3-pound hammer from the hand emplaceable minefield marking set (HEMMS).

PREPARE

Load vehicles

The engineer platoon assembles at the engineer company forward supply point (FSP), and prepares the platoon APCs. All equipment normally carried inside the vehicles, including seats, is removed.

Arm, place on safe, and load the 145 M15 heavy AT mines in each vehicle. Stack the mines along the right side wall and the front wall behind the driver and engine compartment. Secure the mines with netting, if available. Careful stacking and driver awareness reduces the risk of mines slipping during movement.

Once the APCs are manned, remaining platoon personnel and equipment remain with the engineer company FSP, or proceed to construct other obstacles.

Perform reconnaissance

The platoon leader may conduct a reconnaissance of the target area in one of the platoon's other vehicles or conduct the recon when the platoon arrives at the target rally point (RP).

Make a final check

In addition to the spool and other optional minefield marking materials, the crew must have the 10-meter length of rope to trail behind the APC, measuring the distance between mines.

Move

The platoon moves to the rally point near the target, conducts final checks, and deploys to the minefield edge. The orientation and limits of the minefield are determined by the leader's initial recon.

EMPLACE THE MINEFIELD

Step One: Position the vehicles

Keying from vehicle 1 (platoon leader), vehicles 2, 3, and 4 follow at a 20- to 30-meter interval, then turn and halt (figure 1). Remember, the minimum distance between rows at any single point is 8 meters.

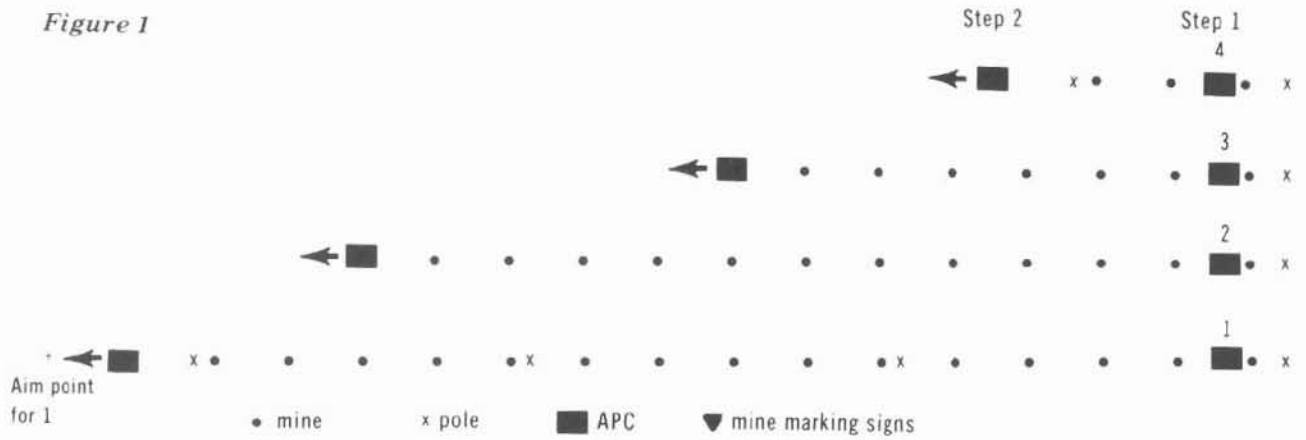
At the halt, without commands, a soldier in each APC emplaces one pole, drops the 10-meter rope (tied to the towing pintle) from the rear door, arms and lays the first mine. Each mine is placed by a mine handler sitting just inside the rear hatch. The ramp always remains in the closed position.

Step Two: Lay mines

Platoon leader in APC 1 slowly drives forward, (2 to 3 miles per hour). Other APCs follow, keeping the 20- to 30-meter interval. Each vehicle places its next mine when the end of the trailing rope reaches the previously emplaced mine. Perfect alignment is not necessary or desired. Drivers of vehicles 2, 3, and 4 align from the vehicle to the driver's left.

Vehicles 1 and 4 place intermediate poles approximately 50 meters apart, depending upon terrain (figure 1). This marks the front and rear edge of the minefield and is necessary for later marking. These poles, along with the end poles, identify the minefield limits in high grass or darkness. When necessary, directional lights from a HEMMS can be attached to the poles.

Figure 1



Step Three: Mark

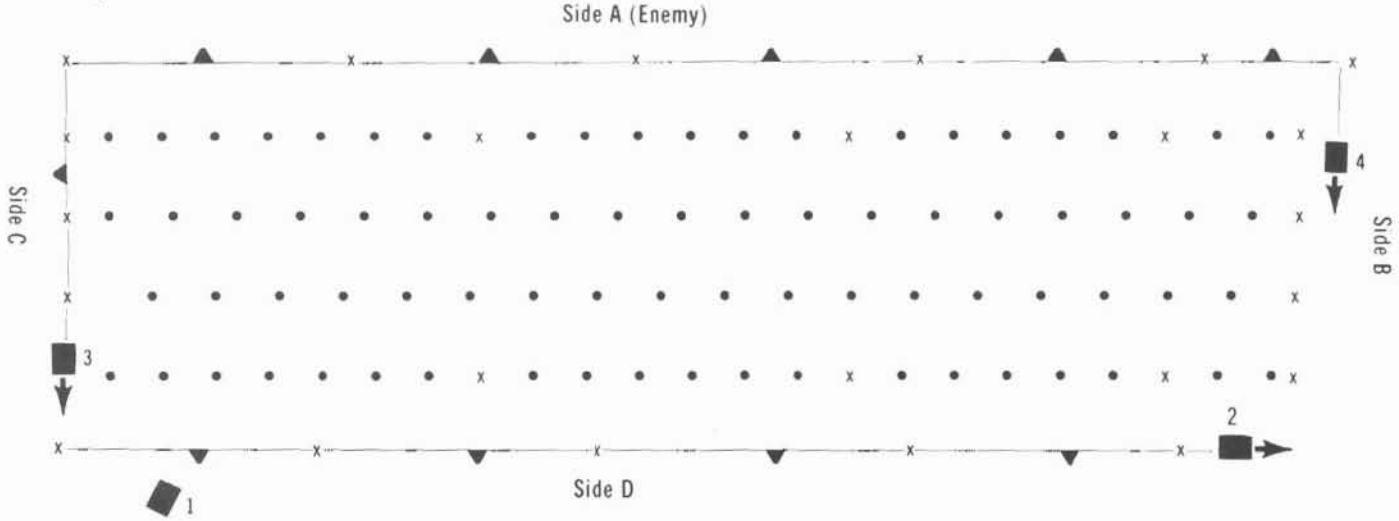
When the APCs reach the far side of the minefield, the platoon leader halts, waits for all other vehicles to come on line and halt, then orders "MARK." All four APCs then place one pole.

The platoon leader in vehicle 1 moves to the best position for observing the other vehicles, and records the minefield on DA Form 1355, Minefield Record.

Vehicle 2 moves and marks side D (figure 2); vehicle 3 marks side C; and vehicle 4 marks sides A and B. A fence is thus created by planting a pole, attaching marking tape to the poles, and slowly driving forward while reeling out tape. The APC halts to emplace minefield marking signs on the tape at 50-meter intervals. The handlers never dismount.

Drivers and TCs watch the minefield boundaries to ensure the fence is offset 15 to 20 meters.

Figure 2



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TRAINING NOTES

If there is enemy contact during emplacement, all vehicles exit the minefield, driving straight ahead, and assemble at the platoon RP.

To counter Soviet line charges and breaching techniques, lay multiple belts, thus extending minefield depth.

Install antipersonnel mines later, if time and situation permit. The M21 heavy antitank mine (tilt rod) is not usable for this method, because it must be buried. Tilt rod mines can be emplaced later if the situation permits.

To make lanes and gaps, halt the vehicles and place marking poles, or dismount later and clear mines from the lane by hand.

Testing has shown that mines do not fall in neat rows as would be expected. Variations of speed, terrain, intermediate marking, and driver visibility ensure a random dispersion of mines and, more important, at least one AT mine per 2 meters of front.

SUCCESS IN THE FIELD

This drill was tested for 4 months culminating in a 14-day operational test at Hohenfels Training Area in March 1984. The results were excellent. Troops could emplace and mark extended front minefields during periods of limited visibility, regardless of ground conditions. Units used concrete mines about the size and weight of the M15 AT mine. Surface-laid mines proved hard for buttoned-up armored vehicles to detect in tall grass, at night, or—painted white—in snow.

This simple method uses only TOE equipment and requires no modifications or fabrications. Experienced teams can do the job in under 20 minutes. When time is short and an obstacle is urgently needed, this method may be the answer.

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A Personal Viewpoint (continued from inside front cover)

increase minefield breaching capabilities; however, all these systems are developmental. Defense budget constraints may put them on hold for several years.

Small wonder maneuver units at the NTC are often destroyed while negotiating obstacles. As they are now organized, engineers can't effectively conduct assault breaches with current equipment.

Current doctrine dictates that assault breaches will be made by coordinated and rehearsed actions of task-organized support, assault, and breaching forces. Yet these forces are not currently task-organized into a standard obstacle breaching team (the Counter Obstacle Team).

THE COUNTER OBSTACLE TEAM CONCEPT

The Counter Obstacle Team is a combined arms force made up of assault, support, and breaching forces.* In a typical COT scenario, an attacking task force is led by scouts, followed by an armor company, the breaching force, and successive maneuver units. The size and types of units are METT-T dependent.

Obstacles are reconnoitered by scouts. If no bypass is available, then maneuver forces assume various roles. The lead tank company becomes an assault force and secures the far side by direct fire. The second maneuver unit (in this case the mechanized infantry company) becomes a support force providing overwatch fires for the breaching force. The breaching force is commanded by an engineer platoon leader or the tank company XO. This task organization must be automatic and precise. It can only be achieved if the assault, support, and breach forces are predesignated, well-rehearsed, and ready to be task-organized into the COT.

The COT ably negotiates complex obstacle systems with current organizations and equipment. Using a CEV for assault breaches, AVLBs for tank ditch crossings, and three engineer squads, the engineer platoon can function successfully. However, the CEV is not a minefield-breaching panacea. More able engineer equipment is needed if the COT concept is to be fully exploited.

The engineer slice of the entire Counter Obstacle Team can easily accommodate equipment currently in development. As the ACE, MCLIC, COV, ROBAT, rollers, and mine plows become available to augment the COT, the makeup of its engineer component can be adjusted to fit METT-T.

The combined arms team is currently ill-prepared to negotiate complex obstacle systems in stride. The Counter Obstacle Team concept, achievable to a limited degree with current assets, is an effective method of obstacle reduction. No time should be wasted—if we adopt the COT concept as AirLand Battle doctrine, we can make engineer mobility forces combat ready TODAY.

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* The COT concept (or a resemblance thereof) has been used by the following organizations: 17th Engr Bn, 2d AD, Fort Hood; 16th Engr Bn, 1st AD;, Federal republic of Germany (FRG); 12th Engr Bn, 8th ID, FRG; 23d Engr Bn, 3d AD, FRG; 10th Engr Bn, 3d ID, FRG.