

pronounced it highly proficient in mounted operations.

Many battalions are unwilling or unable to rise above unforeseen schedule changes to the extent this battalion did. It saw opportunities where others may not have seen them and reaped big dividends.

But I think there is a larger lesson to be drawn from this story. We all know that despite our efforts we will have to deal with the dynamics of schedules and personnel. We also know that there are excellent guides — such as Field Manual 25-100 and Field Manual 25-101 — that tell how to be smarter in planning

training. Certainly, today we have the objective of our training effort down to a superb orientation on the unit METL. The advent of such training resources as the National Training Center have almost institutionalized the kind of positive professional opportunism this battalion demonstrated in conducting its platoon ARTEPs.

The larger lesson is one that all trainers of mounted units must grasp early, especially as maneuver areas, fuel, lubricants, and spare parts become less and less available. The lesson is that, even in the bleakest situations, there are always training opportunities. When

flexible thinking and planning are applied, a training event that has become a schedule change casualty may find in the change a powerful training opportunity.

Although this may sound obvious, such examples are always worth a little reflection, because too often the results are not nearly so favorable.

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Employing Machineguns

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Technological advances in recent years have produced lethal and devastating weapons that range from the M1 tank to the latest attack helicopter. Although these sophisticated weapons enable us to focus on the AirLand Battle, they alone cannot hold ground or destroy an enemy fighting force in enough detail to prevent cohesive unit action. That task requires infantrymen, and at battalion, company, or platoon level, effective machinegun fire is still our greatest combat multiplier.

If this is true, why haven't we paid more attention to the effective employment of machinegun fire? Why isn't every leader, from squad leader to battalion commander, proficient in employing and controlling machineguns in both the offense and the defense?

Other armies have had to do similar tasks with less. The Australian Army, for example, places great emphasis on the employment and control of its machineguns. In its infantry basic and advanced courses, as well as in each

infantry battalion, the leaders are constantly drilled on machinegun positions and control measures as well as engagement techniques. We in the U.S. Army might consider using these same techniques to use machinegun fire more effectively.

The basics of machinegun employment include the siting of the machinegun, the trajectory of the rounds, target control, and target identification.

Several factors must be considered when siting a machinegun. The most important are the ground and the characteristics of the beaten zone, the area in which the rounds land. These are intimately related and cannot be viewed separately.

The positioning of a gun to ground (forward or reverse slope) affects the killing ground as well as the protection for the gunner both from observation and from enemy fire. The ideal machinegun position is in a defilade or partial defilade that gives the gunner some cover from direct fire to his front, but

the ground from the machinegun to the killing ground or target area is just as critical. An infantryman also needs to be able to find ground that affords good grazing fire (6 to 18 inches above the ground). Otherwise, his rounds will go over the head of an enemy soldier who is in a prone position. Sometimes, however, the position of the gun does not lend itself to good grazing fire, and a series of compromises and trade-offs must then take place.

The beaten zone is also affected by the ground. On steep uphill terrain, for example, the beaten zone is reduced; on downhill terrain, the ground conforms to the trajectory of the round and the beaten zone is extended. The characteristics of beaten zones vary greatly and are directly influenced by the direction in which the guns are sited.

To get the most from a beaten zone, enfilade fire is best, because it facilitates mutual support and helps conceal the location of a machinegun position. Frontal fire is the least preferred, but



there are situations in which it may be necessary. Quite often, oblique fire can be a compromise between the two.

The trajectory of a round is the key to proper machinegun siting. If the rounds fired from a site do not effectively kill the enemy at the appropriate place, they are useless. In siting machineguns, therefore, the main killing ground should be selected first and the machineguns sited in relation to it.

To cover a target adequately, machineguns are sited in pairs, and natural and manmade obstacles are used to channel the enemy into the killing ground. The enemy's armor can then be separated from his infantry and destroyed by antiarmor weapons, while the infantry is channeled into a killing ground that is dominated by the machineguns. In addition to dominating the killing ground, the machineguns might also be able to support an adjacent flanking unit or sub-unit.

The way the machineguns are controlled is just as important as their siting. In the defense, once the killing ground has been identified and the machineguns have been sited, control and engagement become important. Each gun must cover primary and secondary targets within an arc. Because the machineguns may be positioned in depth, engagement lines need to be identified. The battalion commander may control machinegun fire into a battalion killing ground by using an engagement line (a piece of terrain or a natural or artificial line that signals the guns to fire). As the enemy closes on the position, control is transferred to sub-units and the company commanders direct machinegun fire into the company killing grounds.

Within infantry units, the Australians

have a system of identifying targets in the defense. In the offense, soldiers and leaders at all levels are responsible for identifying targets. In the system they use in the defense, a range card, marked with the prominent landmarks to the front of the position, is allocated to each machinegun team. These landmarks are issued common names, and the distances to them are accurately calibrated. A system of target indication is taught to all soldiers, and the targets are engaged on order.

In the offense, machinegun fire is best used in a fire support or cut-off role. Establishing a base of fire for maneuver is the primary function. The ideal fire support position is at right angles to the axis of assault. This enables the soldiers in the fire support position to view the assaulting force and lift and shift fires to continue placing effective fire on the objective without killing friendly soldiers.

For example, we rarely attack frontally but prefer to attack from a flank or an area in which the enemy is weak. Covering fire from artillery, mortars, and machineguns is often used. The supporting machinegun fire can continue to provide covering fire support when the artillery and mortar fire lifts. This keeps the enemy soldiers in their pits, which reduces friendly casualties and inflicts the greatest damage on the enemy force. Once again, in some situations compromises may have to be made.

Machinegun training must go beyond gunner proficiency. It must ensure that the entire chain of command is proficient in employing the machinegun.

A tactical exercise without troops (TEWT) is an effective way to train subordinates. For example, a company

commander takes his platoon leaders, platoon sergeants, and squad leaders out to a defensive position; uses stakes to represent the machineguns; gives his subordinates a situation, an operations order, and enough time to conduct a thorough appreciation; and then has them site their machineguns and brief him on their concept of employment and control. The commander then critiques their plan and walks the machinegun stakes, talking about each position and seeing whether there may be better ones. He can go one step farther and site the machinegun where it fires down range. When his subordinates brief him on their killing grounds and concept of employment, he might get behind their guns and fire some live ammunition, using tracer ammunition to drive home his points. Nothing is more effective than live fire that lets the subordinate leaders see whether the positions they have chosen will be effective.

The Australian Army emphasizes cross-training in crew-served weapons at squad and platoon level. Thus, all soldiers are trained in using the machinegun, and each machinegunner has a "number two" gunner. If a machinegunner becomes a casualty, another soldier (usually the number two) immediately takes over the gun. Weapon handling competitions are held within the squads and between squads or platoons. Marksmanship of the battlefield variety is also encouraged. Squads test their skills against each other by firing in machinegun competitions.

Effective machinegun fire at the small unit level remains our greatest combat multiplier. We owe it to the soldiers we lead to see that they are able to take full advantage of its use in battle. An infantry battalion that trains its subordinate leaders to employ and control machineguns effectively adds greatly to its combat power.

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The Battle Commander's Fire Support Planning

MAJOR JOHN M. MACH

Fire support can provide up to 80 percent of a maneuver commander's firepower during a battle. And anyone who has witnessed an artillery "battalion-3" (24 guns firing three rounds each at a single target) knows how destructive and psychologically intimidating massed field artillery fire can be.

Unfortunately, though, few officers and NCOs in heavy maneuver units are well-versed in the planning and execution of indirect fire support. They do not intentionally discard their field artillery, but they often become so involved in the demanding maneuver end of the battle that they neglect their fire support coordinators (FSCOORDs). Even when they have the best of intentions, they rarely achieve realistic integrated fire support training and feedback.

In addition, fire support is complex. It is in the formidable realm of mathematics, survey, digital communications, radar, and satellite positioning, and it has its own terminology. For this reason, many maneuver commanders, instead of trying to master the knowledge to employ the fire support they need to win in combat, simply assume (or hope) that their FSCOORDs are competent and trust them to provide accurate fires. But fire support is still the maneuver commander's responsibility and master it he must. (See also, "The Language of Fire Support," by LTC Robert D. Sander, *INFANTRY*, March-April 1990, pages 21-24, and "Fire Support: The Written Side," by Major Jeffrey W. Yaeger, *INFANTRY*, March-April 1990, pages 25-27.)

Although maneuver battle com-

manders may never fully understand fire support, there are some tools they can use to make the most of their available fire support and their FSCOORDs.

Training Circular 6-71, *The Fire Support Handbook for the Maneuver Commander*, is a useful guide for understanding the fire support system, but it does not adequately address the commander's intent for fire support. His intent for fire support is more than a priority of fires. He must paint a clear picture for his FSCOORD, one that an artilleryman can understand and one that is specifically directed to a fires plan of action. (Just as the maneuver commander may not understand field artillery, artillerymen may not entirely understand the maneuver unit's functions.)

COMMANDER'S INTENT

The commander must specify what he expects to achieve with the indirect fire support assets allocated to him. A task force commander's intent, which is more specific than a brigade commander's, covers the task force's area of responsibility and identifies specific targets for his fire support weapons, especially his own organic mortars. Although time constraints may limit how well the commander expresses his intent, he must establish what he wants his fire support assets to accomplish in the battle — how he wants fire support to influence the battle and support the scheme of maneuver. Then he must link this support to specific areas or phases of the battle or to key terrain:

- Types of targets to be engaged and the desired effect on each (the target damage assessment desired).

- What he wants the fires to do to the enemy (suppress, neutralize, destroy, disrupt, or delay).

- Places and times in the fight when fire support is critical.

- Force protection priorities and counterfire priorities, if applicable.

- Requirements, restrictions, and priorities for special munitions, such as FASCAM (family of scatterable mines), DPICM (dual-purpose, improved conventional munitions), or smoke.

- Any special concerns he may have.

A clear and specific outline of the commander's intent for fire support enables the FSCOORD to plan the points on the battlefield where he can and cannot expect to mass fires.

Fire support planning is the continuing process of analyzing, allocating, and scheduling fire support. It determines what types of targets will be attacked and how the available fire support will be used. Deliberate fire planning is conducted through a formal process (from the top down), with refinements (from the bottom up) as time permits. The goal is to integrate fire support into the maneuver commander's battle plans to achieve maximum combat power at the right place and the right time.

In developing a good fire support plan, the most important factor is the initial integrated wargaming and planning the commander does with the S-2, the S-3, the fire support officer (FSO), the air liaison officer (ALO), and the engineer. Along with the brigade