

TRAINING NOTES

Bradley Gunnery Training

LIEUTENANT THOMAS G. ZIEK, JR.

The introduction of the M2 Bradley infantry fighting vehicle (BIFV) into the Active Army's inventory brings along with it the need to change not only our tactics but also our methods of training mechanized infantry units.

The Bradley moves faster than any vehicle the infantry has every had, and its weapon systems — the 25mm chain gun, TOW missile system, M240C coaxial machinegun, and M231 firing port weapons — make it one of the deadliest pieces of equipment in the world. It enables an infantry squad to fight through to the objective using the vehicle's armor for protection. In addition, its thermal energy equipment allows the squad to rob the enemy of the protection of darkness.

All of these advantages will count for nothing, though, if the infantry squad is not properly trained to use the vehicle and its weapons.

Training for Bradley infantry squads should emphasize two areas: gunnery and crew drills. Without adequate gunnery training, the crew will not be able to use the on-board weapon systems to their fullest advantage. Some targets may be engaged with the wrong type of weapon system, for example, or, because of poor fire commands, targets may not be engaged at all.

Ranges are a problem, though. Because of the nature of the 25mm cannon on the vehicle, most of the existing infantry vehicle gunnery ranges are too small. Fortunately, this is changing as more and more Bradley ranges are be-

ing built. Meanwhile, existing tank ranges can be used for Bradley gunnery practice, but the Bradley units will have to compete with tank units for these already scarce tank ranges, and the priority for their use will normally go to the tank units.

RANGES

This lack of adequate live fire ranges for Bradley gunnery training can be overcome to some degree by a good, well-planned home station gunnery program. This program is not a substitute for actual live fire and gunnery exercises, but it does enable the crews to get the maximum training value from those exercises once ranges become available.

Home station gunnery training has several advantages that recommend it to immediate implementation. It can be easily set up, it is relatively inexpensive, and it makes use of motor pool "down" time. Everything needed for both home station gunnery training and the corresponding squad drills can be easily obtained or made by a unit's Training Aids Support Center.

INFANTRY HOTLINE

To get answers to infantry-related questions or to pass on information of an immediate nature, call AUTOVON 835-7693, commercial 404/545-7693.

For lengthy questions or comments, send in writing to Commandant, U.S. Army Infantry School, ATTN: ATSH-ES, Fort Benning, GA 31905.

This training program can be broken down into two basic phases: initial training and scaled range training. The initial training phase starts with the basics: range estimation, target acquisition, fire commands, and turret manipulation.

The crew must be trained in range estimation using the stadia line method and the mil relationship method. To help the crew estimate range faster, every vehicle should have the mil range relationship table that appears on page 8-4 of FM 23-1 affixed either to the turret top on the commander's side of the vehicle or to the gun guard door.

Range estimation can be taught anywhere — the motor pool, an open field, a classroom. Training aid models can be made or drawn from the TASC, binoculars can be used, or a Bradley can be brought to the training site.

Target acquisition — the ability to identify targets; classify them as either friend or foe; categorize them as most dangerous, dangerous, and least dangerous; and assign them priorities for engagement — should begin with vehicle identification. Once the crews have become adept at this, the gunner and commander should be taught how to categorize threat vehicles.

When the commander and the gunner are skilled at categorizing targets, both should be allowed to practice this skill. For example, slide projectors can be used to flash images of targets with an exposure time of three to five seconds. In fact, this technique can give them the

TRAINING NOTES

practice they need in all aspects of target classification.

Another task taught in the initial phase is how to issue fire commands and do the specific duties that each crew member must perform. The crew must master five basic fire commands — TOW, battlesight, precision, degraded, and firing port weapons. It is essential that the gunner master every task that he must accomplish to get the first round downrange — selecting the proper weapon system and ammunition, arming the system, acquiring the target, selecting the proper range, switching from low to high magnification once the target is acquired, picking up a good sight picture, and squeezing the trigger. (These are the duties a gunner must perform during a precision gunnery fire command.)

FIRE COMMANDS

This task can be practiced initially in a dayroom or classroom with both the commander and the gunner going through the fire commands. Once both members feel comfortable with each other, they can move either to a turret mock-up or to an actual vehicle and tie the fire command to the specific duties of engaging a target. (A turret mock-up should be built for practice to save wear and tear on the Bradley.)

The final task in the initial phase of this training is manipulation — acquiring and tracking targets. Manipulation training can be divided into three phases: Worm board training, the use of scaled ranges, and stabilization runs.

A worm board is a board with two parallel lines painted on it to simulate vehicular movement when a gunner tracks along its length. It is effective in giving both the commander and the gunner tracking experience in both the manual and the power modes of turret operation. It is easy to make and can be hung anywhere.

A scaled range is set up to give the commander practice both in issuing fire commands and in laying the gun. It can be set up anywhere — a corner of the motor pool, an open field. Scaled range training reinforces everything that has been done up to this point in home sta-

tion gunnery training.

Stabilization runs should be programmed into the training. This is the most important exercise, because it shows the coordination of the commander and the gunner in target hand-offs (the gunner taking control of the turret once he has acquired the target), and also in fire commands and crew duties. If there have been any problems in the training of the Bradley commander and the gunner as a team, they will show up here, early enough to be rectified by additional training.

The second phase of home station gunnery training is subcaliber range training. This range gives the gunner, the commander, and the driver an opportunity to fire, sense, and correct actual rounds going downrange.

Depending on space and available money, one of three types of subcaliber ranges can be set up: a 1/35 scale range using either 5.56mm ball or .22 caliber rimfire ammunition; a 1/60 scale range using .22 rimfire ammunition; or an M55 laser range.

The subcaliber ranges for 5.56mm and .22 caliber rimfire ammunition are set up the same way. Unit master gunners will be able to offer advice on target mixes for gunnery practice, the proper spacing of targets, the space needed to set up a range, safety considerations, and materials needed to mate the subcaliber weapons to the Bradley.

Because neither 5.56mm nor .22 caliber rimfire ammunition acts the same ballistically as 25mm ammunition, extreme care must be taken in training gunners. Once the subcaliber device is zeroed to the sight unit, the gunner cannot index a different type of ammunition or a different range without destroying his zero. Because of this, the gunner must not be allowed to fire on a subcaliber range until he has mastered the initial gunnery phase. For training purposes, however, it is up to unit leaders to make sure their gunners are going through the motions of indexing range and ammunition.

If for some reason a subcaliber range cannot be set up or used at a unit's home station, the same training can be accomplished using a stout board, an M55 laser, scaled targets, reflective targets,

the Brewster device, and the Fioni adapter.

All that is necessary is to set up a scaled range, place the board so that it is out of the gunners' field of view, and mount the M55 laser to the M2. Once this has been done, either the master gunner or the unit leader "chokes" the targets using the ISU's stadia lines, indexes the proper ammunition type and range, aligns his sight with the center of mass of the target, and then engages the laser. An outside helper then places the appropriate reflective target (center of mass) where the laser will strike the board. This is then done for all targets. The proper ranges and ammunition are written on a sheet of paper and used to help critique the commander on his ammunition selection and range estimation.

Once this has been done, the gunner and the commander are put into the turret, where they go through their engagement sequence, doing all the tasks as if ammunition were actually being fired. Once the gunner has announced "On the way" and has fired the M55, the commander can look down at the board and give his sensing corrections from there, at the same time practicing burst on target, a critical M2 gunnery task. Because the crew can use all the controls realistically and also sense rounds, whenever possible the M55/stout board range should be used instead of the other subcaliber ranges.

SIGHTS

The use of the thermal imagery sight in the ISU takes considerable practice to master. Since there is now no set way of teaching the use of thermal sights, units must be inventive in their training. Field problems give the crews an excellent opportunity to manipulate the sight. Scaled targets made of tin can be fashioned and then heated with a candle to simulate targets.

Since the M2 is an infantry squad vehicle, during home station gunnery training special emphasis must be placed on training the dismount element to use the M231 firing port weapon properly. Because of the M231's high rate of fire, and because of low ready ammunition avail-

ability, every effort must be made to allow the dismount team to practice using the weapon from the vehicle itself. Otherwise, one of the vehicle's key capabilities is wasted.

The dismount team, therefore, must learn to give quick, accurate spot reports and fire commands for the M231, serv-

ing as extra eyes for the commander. This again improves both the team concept and the capabilities of the vehicle itself.

A strong, coherent home station gunnery program is critical to the training of Bradley crews, for it will ensure that once a unit does get some range time, it will

be able to use that time to the best advantage.

Lieutenant Thomas G. Zlek, Jr., is a 1983 graduate of the United States Military Academy. He was attached for a time to the Bradley Master Gunner Course at Fort Benning and was a Bradley platoon leader with the 1st Battalion, 7th Infantry.

NTC: Lessons Learned

CAPTAIN GREGORY M. HERITAGE

Military actions over the past two or three years have served to remind us that war can come without warning. Our units, therefore, must be thoroughly trained during peacetime to be ready for war anytime, anywhere.

The National Training Center (NTC) at Fort Irwin, California, was established as a place where our units could train under realistic combat conditions. Units in training at the NTC often make mistakes, but from those mistakes they learn lessons that improve their operational readiness. Other units, too, can study these same lessons and, perhaps, avoid making the same mistakes when they go to the Center to train.

Reports from the NTC and observation reports from officers who visit there specifically mention certain recurring problems in the areas of planning, troop-leading procedures, communications, tactical operations, and logistics. Accordingly, a discussion of these problems may help other units to avoid them and conduct better training both before going to the NTC and while they are there.

Planning

First, in their planning, battalion commanders must develop procedures for using their staff officers more fully. Too often at the NTC, a battalion commander's plan is seriously flawed because of a superficial or inadequate METT-T (mission, enemy, terrain, troops, and time) analysis. This usually occurs when

a commander and the S-3 ignore the battalion staff and develop their plan without sufficient consideration of the unit's current equipment status or its logistical support. A plan that lacks a thorough staff analysis often has inherent problems that are quick to surface when the operation begins.

At the same time, each commander must make sure his intent — his purpose and overall goal — is completely understood. If it is not, there will be a lack of initiative on the part of his subordinate chain of command.

Another planning problem involves the development of an appropriate task organization in which units can be integrated to form a combined arms team. The appropriate task organization depends, of course, on the situation. Nevertheless, battalion commanders at the NTC have been known to employ pure infantry or pure tank companies when the situation clearly called for a mixture of some sort. In war, as a result, a unit could either suffer an excessive number of casualties or could be unable to bring its full combat power to bear on any enemy force. A commander must be flexible, too, ready to reorganize his forces as the situation changes.

In the planning process, commanders must also demand that only standard graphic signals be used to represent control measures on maps and overlays, and that these depictions be accurate. At the NTC many units use graphic symbols that are confusing, incomplete, or not

precisely depicted.

Finally, a unit's plan must take into consideration the use of emergency signals. Such signals are often crucial when a unit lifts or shifts fires, and when it conducts a withdrawal.

Troop Leading

The primary lesson learned in regard to troop-leading procedures is this: Leaders must follow through with inspections. Part of this problem at the NTC stems from the fact that senior leaders are late in issuing warning orders and operations orders, leaving their subordinate leaders too little preparation time. Many leaders, however, fail to inspect even when there is plenty of time. (Junior leaders, in particular, have a tendency either not to check at all or to over-supervise.)

Another problem is that both battalion and company commanders tend to try to do too much themselves instead of delegating some tasks to their key subordinates.

Communications

Communication security continues to be a major concern at the NTC. Enemy interception and direction-finding capabilities make radio use hazardous, yet radio transmissions at the NTC occur too frequently and last too long. Soldiers also unthinkingly reveal their positions by relating them to landmarks