

At the same time he can observe the terrain around the buildings from inside them by looking out the windows, once again, with the same perspective as if he were actually in those buildings.

The current defensive scenario used with the MOUT IAVD takes place in western Europe. This scenario puts the student in the northern half of a fictional German village called Bonnlund where he is to defend against an enemy attack on that village from the north.

So that he can develop a logical course of action and refine it into a final defensive plan, the student is given 12 training objectives to accomplish after he completes his ground and aerial reconnaissance. These objectives all relate to what he, as a platoon leader, would normally consider when developing a course of action and formulating a tentative plan for a platoon defense of an urban area:

- Identify key terrain.
- Select locations for observation posts.
- Select positions for M60 machine-guns.
- Select positions for Dragons.
- Assign squad sectors.

• Identify buildings that require fortification.

- Identify coordination requirements with adjacent units.
- Develop an obstacle plan.
- Select appropriate locations for a squad-sized antiarmor ambush.
- Develop a communications plan.
- Prepare a platoon sector sketch.
- Check target reference points and direct fire assignments.

At the start of the computer program, a series of operation instructions is used to guide the student through the program. Once he is confident of his ability to operate the control box, he proceeds with the tasks of conducting his reconnaissance and planning his platoon defense. He is allowed two hours to complete these tasks.

Then, having developed a tentative plan, the student arrives at the "testing section" of the IAVD. In this section, he must respond to both doctrinal and tactical questions on the 12 training objectives that he was given at the start of the program. As he proceeds through the questions, the student responds by pressing the appropriate button on his control box to indicate the answer he has selected.

The computer, through a display on one of the two monitors, tells him whether he is right or wrong. If his response is incorrect, the student is provided with the correct or best answer to the question. At the completion of this section the student is given a percentage score on his overall solution.

The development of a platoon defensive plan for a MOUT situation is only one use of the IAVD system. This technology can be used at other levels of command and for other phases of combat operations. Mounted land navigation, for example, can be easily adapted to the IAVD.

The Training and Doctrine Command is now evaluating this technology with a view to providing the IAVD system to the Army's major units. Although the IAVD does not replace on-the-ground practical exercises, it does help prepare leaders better to participate in those exercises.

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ITV Combat Qualification Course

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LIEUTENANT HARRY E. MORNSTON

The 21 improved TOW vehicles (ITVs) in a mechanized infantry battalion represent an extremely potent antiarmor force and one that requires a dynamic training program.

In an effort to increase the combat readiness of its assigned ITV sections,

the Combat Support Company, 2d Battalion (Mechanized), 34th Infantry, Fort Stewart, Georgia, devised and conducted a section qualification course. The objectives were to develop a program that would challenge and measure the abilities of all section per-

sonnel to exercise the full combat capabilities of the vehicle and to use all available training devices for realism and economy.

The course was conducted in two phases — Gunnery and Section Qualification — using training guidelines

from the ITV Transition Trainers Course and ST 23-34-1, "Interim TOW Training Plan," dated March 1981.

The gunnery phase was conducted using Multiple Integrated Laser Engagement System (MILES) equipment instead of the M70 trainer, because MILES would allow the qualification to be more realistic in terms of range and targets. (The company's methodology was prompted by its experience at the National Training Center and by identified shortfalls of the M70 trainer as stated in the Interim TOW Training Plan.) The standard 10-round qualification and 10-round communication were used. The qualification consisted of MILES-equipped armored vehicles moving laterally to the gunner's front at distances in excess of 2,300 meters; the verification consisted of the same armored targets at a variety of speeds and presentations (frontal, oblique, and evasive). By using MILES, the unit achieved higher scores with fewer equipment failures and better gunner interest.

The second phase of the qualification course also relied on MILES equipment to evaluate gunnery and squad and section skills. In this phase, the unit used MILES-equipped armored vehicles and also automatic tank target systems (ATTSs) with MILES M113 kits attached. The moving vehicles measured tracking ability, and the ATTSs permitted multiple target presentations, which evaluated target acquisition, target selection, and section fire control.

The use of the MILES-equipped ATTS saved on personnel and equipment (both fuel and associated Class IX parts). And it allowed the presentation of threats as specified in Additional Task 11, TOW Section Combat Qualification Course, and in ST 23-34-1.

It was relatively simple to adapt the MILES M113 kit to the ATTS. One light sensor belt was attached to the plywood silhouette with the MILES control box and target-kill indicator wired in circuit and placed on top of the ATTS mechanism. The MILES kill-indicator light was wired to a

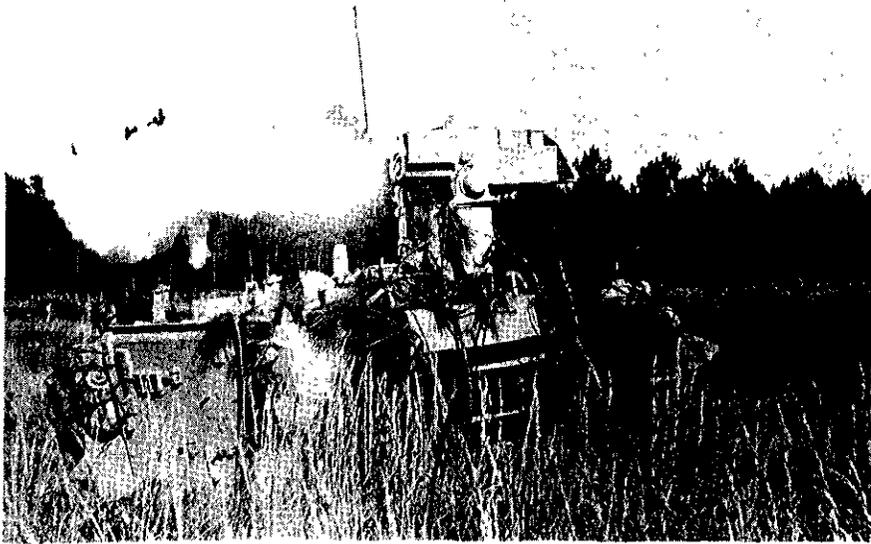
EVALUATION TASK LIST		
ITV Section Combat Qualification Course		
<u>Tasks Performed in Assembly Area</u>		
• Evaluate mission.	3-I-1-1	ARTEP 71-2
• Form tentative plan.	3-I-1-2	ARTEP 71-2
• Plan maneuver control measures.	3-I-1-4	ARTEP 71-2
• Plan direct fires.	3-I-1-5	ARTEP 71-2
• Plan fire support.	3-I-1-6	ARTEP 71-2
• Issue OPORD.	3-I-1-8	ARTEP 71-2
• Load vehicle per combat load plan.	Unit SOP	
• Conduct before-operations PMCS.	TM 9-2350-259-10	
• Conduct a system self test.	071-316-2502	FM 7 11 H
• Enter radio net.	113-571-1003	FM 7 11 H
<u>Tasks Performed Enroute to First Engagement Area</u>		
• Move.	3-III-16-1	ARTEP 71-2
• Navigate from one position on the ground to another.	071-329-1006	FM 7 11 H
<u>Tasks Performed at Initial Engagement Area</u>		
• Engage an armor threat.	Add. Task 10-1	ST-23-34-1
• Engage multiple armor threats.	Add. Task 10-2	ST-23-34-1
• Engage an armor threat array.	Add. Task 11-1	ST-23-34-1
• Put on and wear protective clothing.	092-503-1002	FM 7 11 H
• Issue NBC warning and transmit reports.		
<u>Tasks Performed Enroute to Second Engagement Area</u>		
• Move.	3-III-16-1	ARTEP 71-2
• Move in traveling overwatch.		
• Move in bounding overwatch.		
• Initiate unmasking procedures.	Battalion SOP	
• Provide overwatch.	3-III-16-1	ARTEP 71-2
• Take action on contact.	3-III-16-1	ARTEP 71-2
• Collect and report information.	071-331-0803	FM 7 11 H, Bn SOP
• Navigate from one position on the ground to another point.	071-329-1006	FM 7 11 H
<u>Tasks Performed at Final Engagement Area</u>		
• Engage a multiple armor threat.	Add. Task 10-2	ST-23-24-1
• Engage an armor threat array.	Add. Task 11-2	ST-23-34-1
• Engage an armor threat array.	Add. Task 11-5	ST-23-34-1
• Engage an armor threat array.	Add. Task 11-6	ST-23-34-1
• Collect and report information.	071-331-0803	FM 7 11 H, Bn SOP

24-volt wet cell battery and fastened to the rail of the ATTS. The target controller was positioned so he could observe the kill-indicator lights and lower and reset targets as kills were registered. The system had few failures, and it was well received by the ITV sections.

The accompanying chart details the tasks that were performed and evaluated during the qualification course. The training sites included a

wooded assembly area, two engagement areas, and a tactical road march route along secondary roads and wooded areas. Crew drills, verification of load plans, and preventive maintenance checks and services were integral parts of the exercise, and these allowed for the evaluation of skills not directly related to either tactics or gunnery.

In each engagement area, both moving armored vehicles and the



ITV with MILES equipment fires at target down range.

MILES-equipped ATTS were used as targets. Artificial illumination was required during night engagements because of the inability to collimate the MILES day sight tracker with the thermal night sight. (It is interesting to note that several gunners acquired targets by viewing blackout markers through the day sight and then scored kills with illumination.) The thermal night sight also contributed to intelligence gathering by presenting targets that could not be engaged in a particular section's sector. (The decision to report this activity rather than engage was also a good measure of a squad's preparation and its use of range cards.) The sections were also encour-

aged to use the night sight during daylight to scan heavily wooded areas before bounding within their sectors.

An after action review was held after the platoon had completed the course. The discussion group included a cross section of all crew members plus section leaders, the platoon sergeant, and the platoon leader. Although their assessment was that the training was good, they suggested some improvements such as adding more evaluated crew drills, "dirtying the battlefield," and increasing the number of ATTSs used to simulate more movement of threat formations.

This first attempt at establishing a section combat qualification course is

a start toward filling the need for specific training guidelines for the TOW system. It uses existing training simulation devices (with some modification for the MILES-equipped ATTS), and it overcomes some of the deficiencies associated with gunner qualification based on the M70 trainer. The program is flexible and cost effective. It can be adapted to the level of training of the participating unit and modified to accommodate available training areas.

The results of the ITV combat qualification course at Fort Stewart have been gratifying. The course has enabled the ITV sections to achieve increased combat readiness. More important, it has helped the unit identify shortcomings in all areas that would not have been found with the standard gunnery exercises. By identifying these shortcomings, the unit has been able to tailor its training program to further improve its readiness.

Captain James W. Tompkins, Jr., a 1977 graduate of the Citadel, recently completed an assignment as commander of the Combat Support Company, 2d Battalion, 34th Infantry at Fort Stewart. He has served as a weapons platoon leader and an executive officer, and has commanded a training company and a brigade headquarters company. He is now attending the Foreign Area Officer Course.

Lieutenant Harry E. Mornston, a 1980 graduate of the United States Military Academy, is a company commander in the 2d Battalion, 34th Infantry. He is a graduate of the ITV Trainer Course and the Airborne, Air Assault, and Ranger courses. He also served for 14 months as an antitank platoon leader.

Extended FTX for RC Units

CAPTAIN TONY N. WINGO

All Reserve Component (RC) units today perform their full-time training duty during a 15-day annual training period. RC combat units normally use the first week of this annual training to conduct a 4-day field training exercise

(FTX) in which they concentrate on mission essential training. Following a weekend break, the units return to the field for a 3-day FTX and their Army Training and Evaluation Program (ARTEP).

Our RC units could derive many more training benefits from these FTXs, however, if they would combine them into one 10-day exercise. This extended time in the field would allow them to create a far more realis-