

on the blanket terrain board. These vehicles, viewed through the TOW daysight tracker, can provide a useful tool for determining target engageability and also for reinforcing vehicle identification training.

With the books or blocks, the blanket can be molded to any shape and the models can then be placed in any number of positions or in any desired combinations to represent good and bad attack possibilities.

Where indoor space limitations preclude the use of a TOW system, some training can still be conducted. The instructor can darken the room, sweep the terrain board with a flashlight, and have the soldiers point out engageable targets and identify vehicles as "friend or foe."

Vehicle recognition training can always be conducted indoors, of course, but it can be made more effective. All too often, tank identification training consists of passing out a few decks of "Tank I.D." cards and putting some posters of Threat vehicles up on the walls in the arms

room. Although these cards provide a good starting point, their use becomes stale quickly, usually because of the sterility of their presentation.

But a section sergeant can correct this problem by making his own set of cards from pictures that he finds in various publications, such as old (and new) national news magazines or military journals. Such magazines sometimes contain full color pictures of NATO and Warsaw Pact armor in various "poses" — three-quarter view, half hidden by dust or smoke, or in multiple groupings. In addition, these vehicles often show their national markings.

Another valuable source of pictures is the catalogs put out by the companies that make the plastic vehicle models. Easily obtained from any hobby store, these catalogs are packed with full-color shots of T-62s, Chieftains, Leopards, and M-60s.

By cutting out a variety of pictures and taping them to index cards, the instructor can create a collection of cards that will challenge the soldiers

to use all their knowledge of vehicles to identify them. At the same time, the soldiers will receive a much more realistic picture of the vehicles they are studying.

These are just three of the ways in which realism can be added to indoor training. No doubt, there are many others that trainers themselves can devise. These suggestions are not intended to replace outdoor training but to present some alternate ways of conducting more realistic indoor classes when time or weather interfere with the training schedule. Once the initial effort has been made to gather the materials needed, these methods can be used again and again. More important, they can be set up and readied for use at any time with little advance notice.

STAFF SERGEANT ALEXANDER F. BARNES is a National Guardsman with the 116th Infantry Brigade in Virginia. He is a graduate of the State University of New York and formerly served with the U.S. Marine Corps and as a TOW section sergeant with the 108th Infantry in the New York Army National Guard.

CALFEX Range Safety

CAPTAIN CHARLES J. WINN

Commanders and other training managers will benefit more from combined arms live fire exercises (CALFEX) if they consider range safety as an integral part of their training. Some of these firing exercises fail, even though months of planning have gone into them, because the training managers did not pay enough attention, or did not pay attention early enough, to range

safety. Training managers, therefore, must familiarize themselves with Army and local range safety regulations and take these into consideration from the beginning of their operational training.

Army Regulation 385-63, which is the final authority on firing safety, is an indispensable tool for CALFEX planners. It mandates precautions and restrictions that are intended to

reduce the risk of property damage and personnel injury, and it also gives training managers a foundation in the technical aspects of range safety.

One of the technical skills managers learn from the regulation is how to construct a safety diagram for a surface danger zone. This device enables them to identify any restrictions that might limit the weapon systems they can employ in a

CALFEX while there is still time for them to develop plans for using such realistic alternatives as subcaliber or simulation devices.

Training managers should realize that the safety restrictions given in AR 385-63 are not always absolute; in some instances, a waiver can be justified. But the criteria are strict, and the authority for granting waivers under this regulation is held at the general officer command level and cannot be delegated. The key determinants are the degree of control, the effectiveness of safety communications, and the level of training in a unit. Training managers who know range safety procedures will recognize which standards the CALFEX players and controllers must meet to justify a waiver.

Many of the safety requirements and precautions in preparing for a CALFEX are no more than simple common sense or restatements of tactical doctrine:

- Individuals and crews must be well qualified on the weapons involved in the exercise.
- The weapons used in overhead firing must be test-fired, and operational maintenance checks must be conducted.
- The effects of weather must be considered, particularly in situations involving the use of smoke or chemical munitions.
- Final coordination lines must be established that can be easily identified by both maneuver and fire support elements.

- The leaders participating in the exercise must select the weapon positions, but only after the safety planners have eliminated unsafe locations from consideration.

- The units that are firing must be aware of the location of adjacent units.

- A dry run of the exercise must always be conducted before the live firing begins.

These measures, all of which are either stated or implied in the regulation, are valid training guidelines as well as valid safety standards.

RESTRICTIONS

Sometimes the proximity of an exercise area to a post boundary, an inhabited area, or a post activity will place restrictions on the firing of certain weapon systems or for certain schemes of maneuver that cannot be waived. At first glance these restrictions may seem to be barriers to any kind of meaningful training in that terrain, particularly if simulation or subcaliber devices cannot be used. But the imaginative training manager should see how he can use these restrictions to his advantage, because rarely will an actual enemy establish a defensive position that gives the attacker the advantage in the use of terrain.

International boundaries and strategic or political considerations will undoubtedly limit commanders' options for maneuvers and fire sup-

port employment as they have in past wars, and so will the possibilities of nuclear, biological, or radiological contamination. The obvious solution is for trainers to write realistic, unwaivable restrictions into their tactical scenarios.

Range safety planning for a CALFEX is a challenging way of achieving training objectives. If restrictions are identified early, realistic alternatives can be selected. Restrictions can also lead to the development of new techniques in the employment of subcaliber devices and simulations. At the same time, the members of the CALFEX planning staff can exercise and develop their own individual and collective planning skills, thereby becoming better staff officers in the process.

Rehearsals, particularly when waivers are involved, improve the effectiveness of collective tactical training. When restrictions must be absolute, realistic scenarios result, and the equipment maintenance and operational checks dictated by range safety may even improve materiel readiness.

Commanders who view range safety as an integral part of their training program will strengthen their training program and improve their units' overall readiness as well.

CAPTAIN CHARLES J. WINN was commissioned from the Infantry Officer Candidate School at Fort Benning in 1969, after which he served in Vietnam. Since then, he has served in several Army Reserve and National Guard assignments. He is now range control officer at Camp Edwards in Massachusetts.

