

OMBAT practice firing is the concluding phase in the training of small units. It is the most important phase for it integrates all previous training, stresses individual coordination and teamwork. cooperation between units, fire discipline, fire control and tactical movement. Conducted as tactical proficiency tests, combat practice firing problems are essential to the final verdict of "combat ready." The proper testing of small units must be completed before they undertake field training as elements of larger units. Faulty tactics and technique and inadequate gunnery training must be discovered and corrected before they become bad habits which must be paid for in excessive casualties and lost missions.

There are many difficulties involved in the preparation and conduct of realistic and flexible combat firing problems. Where small units, employing only small caliber (or sub-caliber) direct fire weapons are involved, the problem is relatively simple, as targets may be operated from pits or other shelters. But where supporting weapons, such as mortars, recoilless rifles, tank guns and artillery are used, it is much more difficult. In these circumstances it has been customary to erect silhouettes and panel targets to represent hostile weapons and personnel, prior to conducting the problem.

Such a solution is unrealistic. ineffective and dangerous. It results in stereotyped exercises with units firing and maneuvering against obvious targets which can usually be seen by participants prior to the problem. The capability of engaging surprise targets rapidly and effectively cannot be measured. Placing supporting fires on targets and the massing of fires on call cannot be effectively checked. Since there is no control over the targets, units may by-pass them and suddenly engage them from an angle which will cause shots to strike beyond safety limits.

By use of a simple jump-up target, controlled by electrical means, the effectiveness of combat firing problems can be greatly increased. This type of target is illustrated in *Figure 1*. This consists of a heavy cardboard carton mounted securely to a board under which is attached a can as a counterweight to hold the carton or target vertical. The operation of the target is very simple. The carton is pulled down to a horizontal concealed position, *Figure 2*, and fastened by a piece of string, to which is attached an electrical blasting cap connected to a wire circuit. When a charge is generated, the blasting cap severs the string and the target swings to a vertical position through the counterweight of sand or gravel in the can. These tar-



Figure 1

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Figure 2

gets can be constructed in five minutes at no expense. Salvage materials — cardboard cartons, wood and cans—are always available in the field as well as in garrison.

Other types of surprise targets can be devised to represent aggressor personnel and materiel and exposed by eelctrical means. A group of box-type targets can be exposed simultaneously by one charge. A number of standard E and F silhouettes mounted on a wooden pole which rotates through action of a counterweight can be easily devised. Actual size tank silhouettes hung in a horizontal position from a tree or posts, can be suddenly exposed by the explosion of a charge representing a tank gun which breaks the string, causing the target to drop to a vertical position.

A sketch showing the target layout for a combat firing problem

involving a tank platoon as advance party is show in Figure 3. Five wire lines are laid, four from Point O forward an one additional (5) from P forward. A total of ten sets of targets can be operated by electrical blasting caps and charges ignited by a detonator box, initially at O and, for the last four targets, at P. The officer directing and umpiring the problem is in contact with the target operator by radio. Depending on the decision of the platoon leader and the movement of his tanks, the umpire directs the operator to expose targets so as to present the realistic situations unit with which call for prompt and definite actions. For a platoon problem only about four or five sets of targets per run would normally be used. The additional targets allow flexibility, prevent other platoons from adopting preconceived solutions and provide for safety in that no target is exposed unless it is within safety limits.

One disadvantage is the possibility that wires may be cut by fire or by tank tracks. This can be minimized by locating wire properly. The laying and maintenance of wire is accomplished by personnel who follow up the exercise, check and repair wiring and reset charges.

It is apparent that there are many advantages in this method of conducting combat firing problems and combined arms exercises over conventional methods. The platoon leader must make his decision and issue his initial order

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without preconceived ideas of what will happen. He must maneuver against *terrain* and not against targets. Targets are located logically and exposed at a time and place calculated to direct maximum attention to weaknesses in planning or execution of his maneuver. At all times the platoon leader must have one section "over-watching," prepared to fire instantly or critical targets that appear. The time required for the first round and that for a target hit is taken by stop watch and should not exceed 10 and 15 seconds respectively. Each platoon leader can be given the widest latitude in executing his mission as the various targets will provide flexibility for the umpire to meet any reasonable action or maneuver. Safety precautions are under direct control of the umpire who will expose only those targets that are within safety limits. The surprise targets are particularly adapted to combined arms exercises as the absence of target operators in the impact area makes it possible to employ all types of weapons.

The few units that utilized electrically operated surprise targets in training during World War II were unanimous in testifying to their effectiveness in preparing men for the hard realities of actual combat. The lessons that may be learned are vital to battlefield indoctrination. Thev are particularly effective in testing the ability of tank crews to employ the new fire control equip-



There is no known substitute for preparing tank platoons and companies for battle, except radiocontrolled targets which can be exposed and withdrawn by radio signals. Until this method is developed, targets controlled by field wire are the simplest, most practical, safest and most effective means of providing realistic combat firing exercises for platoon, company and battalion size units.

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