dous casualties before hand-grenade range was reached. His soldiers did not have to try to hit a moving target; they used automatic range-compensating, micro-computer-controlled sights attached to weapons that were designed around target-destroying munitions. The only throwback to the old days was the weapon system used by the snipers attached to his platoon. But even their weapons were somewhat different from those of the past, as they were 300 Magnums with sophisticated ranging sights. These weapons gave the commander discriminate long-range point-type weapons to complement the other fires of the platoon.

In combat, Sergeant Stevens had seen soldiers on both sides fire thousands of bullets at each other, with only an occasional hit. His platoon was now successfully fighting greatly outnumbered, in part because of the advanced weapon systems they carried. As he surveyed his platoon again, Sergeant Stevens knew that the battle was won. They had outmatched the enemy's range and killing power. This time, however, it was not just the big guys who had the technological advantage; the grunt who took and held ground was also ahead of his grunt adversary.

This success story, although quite fictional, could be true in a future conflict. The challenge to making it a success is for combat developers and industry to pull together and exploit known, already proven technology and make it happen. Some of the very first studies conducted by operations research specialists for the Army, and many more studies since, have clearly shown that infantry soldiers have rarely inflicted casualties with their individual small arms.

It is clearly time to take a new approach to the problem of arming the United States Infantryman. If we block the word "rifle" out of our vocabulary and think instead of a "weapon system," new approaches become possible. This kind of thinking has been written into our Small Arms Master Plan, which is still in its staffing stages.

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Ammunition

Dummy, Inert, and Simulated

CAPTAIN DEREK A.N. SORIANO

The daily business of soldiers in peacetime is to train for war, and their training should be as realistic as possible. With ammunition resource constraints, however, the planning, coordination, issue, and resupply of ammunition in peacetime training is often no more than a paper drill. Soldiers and leaders are denied actual hands-on experience and are left with a false sense of security that ammunition will be readily available in wartime when and where they need it—and that it will not greatly affect the loads they must carry.

To educate future battlefield leaders on the importance of planning for, distributing, and carrying ammunition and other munitions, the U.S. Army Infantry School is now integrating the use of dummy, inert, and simulated (fabricated) ammunition into all the tactical training exercises in certain leader courses—Infantry Officer Basic, Advanced Noncommissioned Officer, Officer Candidate, and Ranger. Emphasis is placed on ammunition considerations from planning to actually carrying the necessary items and emplacing them at the objective. The intent of this initiative is to make training as realistic as possible to ensure that leaders are trained to consider all of the factors involved in accomplishing a mission.

Each of these courses has a prescribed load of individual and squad munitions that is to be carried, according to the mission, on all appropriate field training exercises. (The fighting load ammunition for IOBC is shown here as an example.) Live or blank ammunition

IOBC FIGHTING LOAD AMMUNITION

PER MAN	
5.56mm magazines	7 (5 inert, 2 blank)
Grenades	2 (w/expended fuses)
PER SQUAD	
7.62mm (100-rd boxes)	11 (8 inert, 3 blank)
40mm	44
LAWs	4
Claymores	4

items are used when they are appropriate; otherwise, dummy, inert, and simulated items (items fabricated by the Training Support Center—TSC) are substituted to complete the prescribed or required load.

This practice indoctrinates students in the leadership thought processes involved—what munitions are required for a mission, how much these items weigh, how bulky they are, how much each man can carry and still function in his primary mission role, what non-essential items may be in the loads, and what trade-offs can be made. Thus, each leader-trainee learns to weigh anticipated mission needs against the availability of munitions and the unit's ability to transport and employ these munitions if required.

This same principle is applicable to troop units as well. In many units, there is little realism when it comes to ammunition. They go to the field with a couple of boxes of blank M16 rounds per man, no M203 rounds for the M203 gunners, several inert LAW tubes, and a few boxes of blank ammunition for each M60 machinegun.

When logistic actions such as resupply are included in an exercise, blank ammunition is usually redistributed instead of being replenished through the complete battalion, brigade, or division logistical process. Commanders and S-3s merely report ammunition shortages during exercises and seldom plan for and actually conduct resupply missions. Units are forced to exist on the remaining blank ammunition that was forecast for that particular exercise.

Units should use METT-T (mission, enemy, terrain, troops, and time available) in planning, coordinating for, and resourcing ammunition to accomplish their missions, just as they would have to do in wartime. During the resource phase of the training management cycle, they should also consider training needs, goals that are important to their mission, resource constraints, and directed events so that training ammunition requirements can be forecast, identified, resourced, and obtained.

The use of dummy, inert, and simulated ammunition when live or blank ammunition is not available can reduce the cost of ammunition while maintaining a high degree of realism. At the same time, it can help commanders do a better job of assessing their units' ability to accomplish training objectives under realistic tasks, conditions, and standards.

An important part of this effort is the effect of realistic ammunition planning on the soldier's load. The

planning and distribution of the minimum load configuration should be considered. (See "Soldier Load: When Technology Fails," by Major Richard J. Vogel, Major James E. Wright, and Lieutenant Colonel George Curtis, INFANTRY, March-April 1987, pages 9-11.)

Simulated weight is sometimes added to soldiers' loads in the form of sandbags, but soldiers often discard this extra weight, especially since it has no other training value. With dummy, inert, or simulated ammunition, however, the soldiers must account for what they are issued and are therefore less likely to discard it. In addition, they know they will use many of these items once they reach their objective. This sustains training and gives soldiers a better appreciation for having carried the load.

Sustainment training, such as emplacing a claymore mine or priming a demolition charge, can be emphasized through the use of dummy, inert, and simulated ammunition, especially when live or blank ammunition, pyrotechnics, and simulators are also incorporated. Training exercises or day-to-day mission accomplishment can reinforce the tasks that involve ammunition and require sustainment training.

Complementing blank ammunition with dummy, inert, and simulated ammunition also allows units to reestablish full mission loads for the next mission. Logistical play can be exercised by collecting the dummy, inert, and simulated ammunition and routing it back through the system so that it can be resupplied to the soldiers.

Some of the ammunition shortfalls and lack of realism during training in the past can be attributed to such problems as ammunition constraints, under-forecasting requirements, and lack of planning and coordination between S-3s and S-4s. But the biggest obstacle has probably been the difficulty in obtaining dummy, inert, and simulated ammunition to mirror mission loads. Fortunately, the U.S. Army Infantry School and Center has recently overcome this obstacle to training in its courses and can now help units in the field obtain such items as well.

The Training Ammunition Management System (TAMS) produces dummy ammunition (items that are usually metal replicas of actual items, such as 5.56mm ammunition) and inert ammunition items (items that are expended residue, such as inert light antitank weapons—LAWs). Because of low user demand, however, many needed items have not been produced in sufficient quantities, and many of the items that have been made are not of the same weight as the real ones. In addition, because these dummy TAMS rounds are accountable in

Training ammunition devices

the same manner as live rounds, units tend to avoid using them. For these reasons, the best source of training ammunition devices is local TSCs.

The Infantry School currently uses some items that are available through TAMS, such as practice grenade bodies and fuzes, but also relies heavily on fabricated items that the Fort Benning TSC has designed.

Some of these items are:

- **M203 Round.** This simulated round is made of polyurethane and is the actual shape and weight (one-half pound) of a live M203 HE round. (To carry these rounds, Infantry School leader courses are using the M203 vest, which can be procured through supply channels.)
- **5.56mm 30-Round Magazine.** This simulated magazine, also made of polyurethane, is the actual shape and very close to the actual weight of a fully loaded 30-round magazine. It does not rust as an actual magazine does, nor does it need servicing and maintenance. During live fire or field exercises, actual magazines with live or blank ammunition are used along with these solid plastic ones. For the most part, these simulated magazines are carried in rucksacks and ammunition pouches.
- **LAW.** Inert LAWS are obtained from the Ammunition Supply Installation (ASI) and properly marked and drilled by the TSC and then weighted with wood. Modifications are made so that the LAW can still be extended. These modified LAWs weigh five pounds each as opposed to an actual LAW, which weighs 5.2 pounds.
- **7.62mm M60 Box.** A solid block of polyurethane is molded to meet the actual dimensions and weight (6.5 pounds) of a box of live M60 ammunition. Bandoleers and 7.62mm ammunition cans are obtained from ASI residue and marked for training.
- **TNT Sticks.** These one-quarter-pound sticks are made of wood to resemble actual TNT sticks. A hole is drilled in each to accommodate an inert blasting cap, which can be obtained through TAMS.
- **C-4 Blocks.** One-quarter-pound rubber blocks are produced to resemble the size and weight of actual C-4 blocks. In addition, one-and-one-quarter-pound clay blocks are locally purchased and packaged. These blocks are made of blue modeling clay and have the same malleability as actual white C-4 blocks.
- **Bangalore Torpedo Kit.** The 14.5-pound bangalore torpedo kit is the same size and weight as the live kit, and the sections can be assembled in the same way.
- **Claymore Mine.** This simulated mine is the same size and weight (3.51 pounds) as an actual claymore. In addition, Fort Benning's TSC has modified it to accept a flashbulb, which can be set off by the actual electrical primer, or clacker, providing instant feedback to soldiers who have to emplace the mine properly. Claymore accessories are obtained from ASI residue and properly marked, and flashbulbs are obtained through supply channels.

(All of these items are marked as prescribed by appropriate regulations and are further identified as training, or simulated, munitions by one or more one-inch bands of infantry blue paint or adhesive material of similar color.)

This list includes only the items that are currently being used in the Infantry School's leader training. Other items such as plastic M16 rifles (reinforced with lead pipe), which are used for bayonet practice to prevent wear and tear on real M16s, are also fabricated at Fort Benning. As the demand arises, other items such as mortar ammunition will also be produced.

Units must forecast and obtain available dummy and inert ammunition items through their division or installation ammunition channels. CTA 50-909, Field and Garrison Furnishings and Equipment, must be updated by the installation logistics offices for additional authorizations of dummy and inert ammunition. Once the forecast quantities of items arrive at servicing ASIs or ASPs, DA Forms 581 must be completed to obtain them.

For simulated ammunition items, units must submit work-order requests through their servicing TSCs. If the items they need are not available, units should ask their TSCs to contact the Fort Benning TSC at the following address: Commander, U.S. Army Infantry Center and Fort Benning, ATTN: ATZB-DPT-TSC, Fort Benning, GA 31905-5273; AUTOVON 835-2132/4595, or commercial (404) 545-2132/4595.

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