

INFANTRY NEWS



THE INFANTRY CENTER realizes that there are sighting problems such as induced parallax and difficulty acquiring symbology with the M42 combat vehicle chemical-biological protective mask, and that there is also a need for fire retardant chemical protective clothing.

The mask problems stem from lenses that are rigid against the main gun sight, preventing a track commander or gunner from getting his eye close enough to the sight.

There are immediate solutions to some of the M42 mask problems. The U.S. Army Armor School published and distributed some "workarounds" to be used by Abrams tank and Bradley fighting vehicle crewmen. Track commanders and gunners have been advised to experiment to see which techniques are necessary:

Removing the eyelens outserts from the mask. The outserts are designed to protect the lenses on the faceblank from scratches that would shorten the life of the mask. Removing them allows a crew member to get his eye closer to the optic, and most optics have rubber guards that protect against scratching.

Removing the brow pad. For most crewmen, the lens of the M42 will press against the brow pad of the GPS and GPSE, holding his head back from the optics. This pad can be removed if doing so provides a greater field of view. In the conduct of fire trainer (COFT), the gunner's brow pad can be moved back against the sight farther than in the tank and may not need to be removed. *Bending* the brow pad instead of removing it is not recommended.

Turning the head slightly to the side to look through the sight. A crew member may be able to get his eye closer to the optic by turning his head to the side and, when he is ready to engage a target and lay the main gun, press his head into the sight to get his eye closer so he can

get a better image and read the symbols. He should relax this pressure whenever possible.

Although most of the problems with the new mask can be solved with quality training, a new mask, the XM45, is being developed to improve sighting. It will be tested further to determine whether it meets the needs of the different services. Other masks that have already been developed may be considered if they also fit closer to the eyes.

In addition, flame protection is being incorporated into many of the future chemical-biological protective clothing systems. Testing of these suits is already under way, and the Infantry Center is looking for the right candidates for the various infantry units.

The point of contact at Fort Benning is 1LT Sailors, Clothing and Individual Equipment Division, Directorate of Combat Developments, DSN 835-6400, commercial (706) 545-6400, or E-mail: SAILORSM@BENNING-EMH2.ARMY.MIL.

THE U.S. ARMY Soldier Support Command has the following items in various stages of development at its Natick Research, Development, and Engineering Center (NRDEC):

Body Armor Set, Individual Countermine (BASIC). BASIC consists of ballistic eye protection, antifragmentation protective trousers, and antipersonnel mine protective overboots. It is used with the PASGT (personnel armor system for ground troops) vest and helmet to protect soldiers against small, low-velocity fragments from antipersonnel mines and booby traps.

BASIC was type classified, limited procurement urgent, in 1994 to protect combat engineers and others performing mine-clearing operations, and sets have been sent to units in Bosnia.

New Family of Space Heaters. Three nonpowered heaters that form the nucleus of the family have different heat outputs but share certain design features. One of these features is a burner technology that vaporizes the fuel in a special tube and then mixes it with air to allow combustion to take place. Another feature is a multi-fuel valve that controls fuel flow. Compact thermoelectric fans can also be set on the heaters to distribute heat more uniformly in a tent. The fourth member of the family is a special convective space heater that can be used either inside or outside a tent.

These new heaters will be safer and more responsive and will require less maintenance than current heaters.

Mountain Bicycles. A preliminary evaluation of two mountain bikes for their military application was conducted in October 1995. It is envisioned that, in the future, mountain bikes will be used for a variety of military operations including patrolling, reconnaissance, peace-keeping missions, and rear-area transportation.

Insulated Food Container (IFC). The IFC is the result of initiatives to improve the performance of Army Field Feed System-Future equipment. Under the Soldier Enhancement Program, NRDEC conducted a project to determine the availability of commercial products that could replace the old "Mermite" container. The Mermite has been used for more than 40 years to transport hot and cold foods from field kitchens to soldiers at remote sites. The new container has also been adapted for delivering meals to patients on the wards in Army field hospitals.

ERGO Drink. The ERGO (energy rich, glucose optimized) drink is intended to increase soldier endurance by stretching out the delivery of glucose to the bloodstream, thereby conserving the glycogen stored in the liver and muscles.

BRADLEY CORNER

THE BRADLEY Proponency Office (BPO), 1st Battalion, 29th Infantry, at Fort Benning, recently completed work on a revision of Field Manual (FM) 23-1, *Bradley Gunnery*, which has a publication date of 15 March 1996.

This revision reflects several significant changes based on intensive input from the field. The manual supports recent and upcoming events that will affect the Bradley community—the fielding of the M2A2/M3A2 Operation DESERT STORM (ODS) vehicles, the through-sight video (TSV), the precision gunnery system (PGS), and Bradley-equipped air defense artillery (ADA) units. The new manual also updates and incorporates information previously found in Training Circular (TC) 23-5, *Bradley Training Devices*.

The manual is designed in two parts: Part I, the Crew Member's Handbook, contains information specific to the vehicle, the weapons, and the crew members. Part II, the Training Manager's Handbook, contains information training managers and master gunners need to plan, prepare, and execute Bradley gunnery training.

The new manual is smaller (the size of FM 7-7J) and is hole-punched to fit in the green TM binder or the small black binder. This enables soldiers to build their own manuals on the basis of their particular missions (evaluation, skill testing, range setup, air defense artillery, or cavalry gunnery) and to keep them in the vehicles and at training sites instead of

on office book shelves.

The training objectives traditionally found under the heading of Basic Gunnery have been moved to Preliminary Gunnery, and Device Gunnery has taken the Basic Gunnery position in the training strategy. Device Gunnery will train crews, squads/sections, and platoons in device-based environments. The integration of the mounted and dismounted elements at this point in the training strategy provides an important training piece that is not in the previous manual. It is at this stage that crew and battle-drill training is emphasized.

The manual identifies challenging crew gunnery tasks. The gunnery tables ensure that these tasks are trained and evaluated with minimum redundancy between engagements. The result is an increase in the number of multiple, commander, and coaxial machinegun engagements. Manual engagements are also introduced. The threat-based crew gunnery exercises and qualification are evaluated using a T-P-U (trained-needs practice-untrained) system. Standards are developed for engagement tasks and critical, leader, and non-critical subtasks. This allows a more detailed evaluation of crew warfighting skills and provides an evaluation system that is applicable to all present and future Bradley variants. The T-P-U system supports the goal of shifting the gunnery focus from crew gunnery to infantry platoon, cavalry, and ADA section gunnery.

The manual also introduces a change

in exercise development that will allow for more battle-focused training. It maintains a threat-based standard while giving division commands the latitude to tailor engagements on the basis of their contingency missions, mission essential task lists, and command emphasis. Division commands determine specific target types and engagement distances on the basis of threat and terrain analysis. FM 23-1 identifies engagement task conditions and establishes the threat-based kill standards.

Platoon gunnery easily supports mission training plan evaluations. Evaluators will use "penalty matrices" that are based on target, vehicle, and personnel posture during the engagement. While the current method attempts to provide gunnery tasks and standards for every possible situation, these penalties will assess realistic vehicle and personnel shortcomings. The senior evaluators may assess additional penalties based on their observations.

Appendix D contains a sample dismounted training program that begins with individual training and progresses through squad/platoon situational training exercises (STXs) and culminates in a live-fire dismount platoon qualification.

To obtain more information on FM 23-1 or any other Bradley-related subject, units may write to Commander, 1st Battalion, 29th Infantry, ATTN: ATSH-INA-BPO, Fort Benning, GA 31905; or call DSN 784-6201/6563, commercial (706) 544-6201/6563.

The drink is formulated with 12 percent carbohydrates in a mix of maltodextrine, glucose, and fructose (or other sweetener). It serves as a beverage source of supplemental carbohydrates and promotes rapid recovery from fatigue.

The new drink is under evaluation and is expected to be available to soldiers by 1997.

Self-Heating Group Ration (SHGR). This is a complete, self-contained, self-

heating ration for use in group feeding situations. A complete meal for 18 soldiers, it is set into four institutional pouches, containing the entree, a starch, a vegetable, and a dessert in a fiberboard box. With the addition of two quarts of water, the heating elements heat the entire meal in 30 minutes.

This ration is ideal for feeding soldiers in remote areas where bringing in fresh food is difficult. It is also perfect for use in situations where tactical consider-

ations preclude the use of field feeding equipment.

Self-Heating Individual Meal (SHIM). This individual version of the group ration allows a soldier to heat a packaged meal on the move. It consists of entree, chemical heater, and activating solution all in one package. A soldier simply pulls the tab to activate the heating element, and the meal is hot in 12 to 15 minutes.