

Duffel Bag Delivery

CHIEF WARRANT OFFICER RAY L. SNELL
DONALD E. PIPPINS

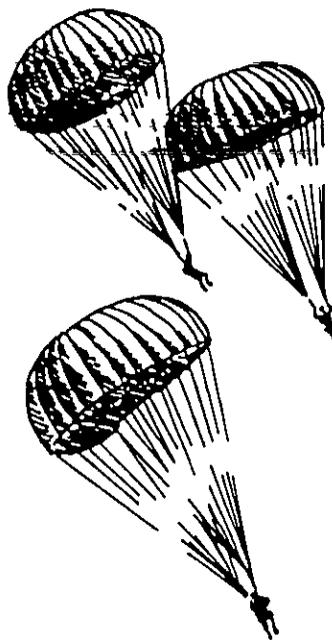
Let's assume that you are a platoon leader or company commander in a light infantry unit. Resupply has been a problem in the past, but it's now worse than ever because you have exceeded the reach of your supply trains. You are in desperate need of food, ammunition, water, and medical supplies and don't have the vehicles or the time to send someone to the rear to get them. Conventional airdrop methods are not practical because of time constraints and aircraft survivability. What do you do?

An over-exaggerated situation? Maybe, but not too far from what could really happen to light infantry units on a future battlefield. These smaller, lighter, and faster units lack the vehicles, equipment, manpower, and time to resupply themselves.

Some 18 months ago, staff members of the Infantry Center at Fort Benning began looking for an alternate means of aerial resupply to overcome this problem. Their goal was to come up with a system in which items of individual equipment currently in the Army's inventory could be used with virtually no modification. At the same time, they wanted the system to be capable of delivering up to 100 pounds of supplies from a rotary wing aircraft flying at altitudes of 100 feet or less and traveling at speeds of 90 to 125 knots. Finally, they wanted the system to be simple to rig and easy for one person to recover.

The first thing the staff members did was to consider the container delivery systems presently being used for aerial resupply—A7A; A21-A22; CTU; high-altitude, airdrop resupply system

(HAARS); and high-speed, low-level airdrop system (HSLPADS). All of these systems were immediately disqualified because they required too much time, manpower, and supporting equipment. In addition, most of them required the use of Air Force aircraft as well as a major recovery operation once



the supplies were on the ground. The "Poncho Parachute" was also suggested, but this called for the delivery helicopter to hover and could only be used to drop small items that weighed less than 40 pounds.

Eventually, it was decided that the standard duffel bag and the aviator's kit bag could be used to package the necessary supplies. After considering the specified weight of the supplies and the

altitude and speed of the aircraft, the staff members decided that the best way to deliver the supplies would be to use high-velocity airdrops, because these systems were rigged with energy-dissipating material (honeycomb) under the load and a stabilizing parachute attached to the top of the load to keep it in an upright position. However, since no parachute or airdrop equipment was designed for the specified weights, altitudes, and airspeeds, the staff members had to conduct a series of test drops to find the best way to use existing parachutes to meet their requirements.

After a number of test drops, they determined that a nylon duffel bag (slightly modified) with supplies weighing between 60 and 100 pounds could be airdropped from an altitude of between 80 and 100 feet with the aircraft moving at an airspeed of between 90 and 120 knots. Two 68-inch pilot parachutes or one 12-foot high-velocity parachute with modified packing procedures were used to stabilize the supplies and slow the rate of descent.

Class I, II, V, and some III and VII supplies can be airdropped by this duffel bag system. It can be prepared or rigged by non-rigger personnel (MOS 43E) using the modified packing procedures. Since riggers are not organic to all the units that need this type of resupply, the parachutes can be purchased (\$33.00 each) by a using unit, then packed and stored for contingency use by the rigger unit designated by Army Regulation 5-9. The parachutes can be prepacked in large numbers and stored for future use, requiring only periodic inspections. When they are

needed, they can be issued back to the using units. Because the cargo parachutes are already packed, the system can be rigged in approximately 30 minutes. In fact, some systems can be pre-rigged and stored to be immediately available.

The duffel bag delivery system (DBDS) is an excellent way of resupplying a patrol without giving away the patrol's location if the drop is made at night. Using this system, too, squad-size patrols can establish cache points

throughout a sector to be used at a later date.

The DBDS also enables small unit commanders to tailor a load in response to immediate requests from units in battle, and having containers available for packing at the unit is a major benefit.

As units become lighter and smaller, their logistics support becomes a greater challenge. The faster supplies can be delivered to them, the less their soldiers will have to carry and the better chance those units will have of surviving and

completing their missions.

The DBDS is an immediate and alternate means of resupplying small units that lack the time, manpower, and resources to be resupplied on a timely basis by conventional methods.

Chief Warrant Officer Ray L. Snell is the senior airdrop equipment system technician for the Parachute Packing Branch, Maintenance Division, Directorate of Logistics at Fort Benning.

Donald E. Pippins is the Chief, Technical Assistance Branch, Maintenance Division, Directorate of Logistics, Fort Benning.

Thermal Gunnery Training

CAPTAIN STEPHEN E. BARGER

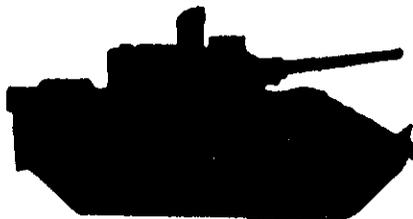
Thermal acquisition is a diminishing skill. During Bradley Table VIII B gunnery (crew night qualification), for example, crews often fail to acquire targets quickly enough to kill them within the standard time. Too often, units neglect thermal acquisition training because it requires training aids that are cumbersome, unreliable, and logistically draining. Today's conventional training aids—thermal blankets—require 12-hour batteries or generators; they are cumbersome; they have to be delivered, installed, and maintained; and they cannot always be used in extreme cold.

To conduct more effective thermal gunnery training, units must have reliable, low-cost, and readily available training aids to support the training, preferably of a kind the units themselves can make. Then they must place more emphasis on target acquisition during all weather and light conditions.

One such thermal acquisition training aid for Bradley and Improved TOW Vehicle (IFV) home station gunnery can be made by a unit from one-sixteenth-inch

sheet metal cut into silhouettes of enemy and friendly vehicles on a one-seventh scale. The silhouettes are then bolted to ammunition cans that have two-inch holes drilled in them for air. The ammunition cans are then filled with charcoal to provide a heat source.

An alternative design can provide two heated surfaces. In this design, two



silhouettes are bolted together with a trap to hold the coals in the bottom.

In both designs, a low-temperature solder can be added to the face of a target to accent such likely vehicle hot spots as the engine, barrel, exhaust, and road wheels.

As part of a good overall gunnery program, these training aids provide many benefits. The silhouettes can be used to simulate both friendly and enemy vehi-

cles, thereby training gunners in vehicle identification. They can be used to represent wheeled and tracked vehicles in any formation, which allows a unit to train on crew, section, and platoon fire commands. Intelligence training in spot reports and enemy formations is also possible with these training aids.

The standard M31A1 lift device is also compatible with this training system, but the control box should be protected with aluminum foil. The silhouettes are simply bolted to the two-by-four-inch target supports. The ammunition cans prevent damage to the lift devices.

The targets are durable and allow for training in all kinds of weather. Wind, snow, fog, and rain have little effect on them when they are used with ammunition cans as the charcoal trap. The greatest benefit of this system is that it does not require any outside support. Each company can produce the targets it needs and can deploy to a local training area with only the targets and some charcoal.

No training aid is effective, though,