

INFANTRY NEWS



THE INFANTRY SCHOOL task summary training information outline pertaining to night vision goggles (AN/PVS-5 and AN/PVS-7 series) will be revised to include the following:

WARNING: Targets cannot be effectively engaged using night vision goggles alone. The weapon being fired must be equipped with an aiming light (AN/PAQ-4B/C) that has been zeroed to the weapon, and the goggles must be adjusted for maximum visual acuity.

WARNING: Because of environmental conditions that degrade their capabilities, night vision goggles should not be used as a fire control measure. Sectors of fire and engagement areas must be assigned to each soldier. Firing aids such as limiting stakes, clearly marked terrain that is visible to the firer, and compass settings should be used to ensure that soldiers fire only within their assigned sectors of fire.

TRAINING CIRCULAR 7-9, *Infantry Live-Fire Training*, dated 30 September 1993, addresses fire and maneuver with emphasis on live fire exercises for dismounted infantry.

This publication is for use by all leaders of infantry units and should be used in conjunction with the ARTEPs. It provides guidance and examples to help leaders set up and execute realistic live-fire exercises using practical safety measures that reduce the risks associated with this training.

This circular also includes special considerations for night exercises, including rehearsals, markers, night vision devices, communications, light and weather data, and illumination.

THE U.S. ARMY RESERVE training divisions and reserve forces schools are undergoing a major reorganization.

Nine divisions (institutional training) will be restructured to seven and aligned with the U.S. Army Training and Doctrine Command's seven regional school systems. The command and control of U.S. Army Reserve Forces schools also will be shifted to the new divisions. At the same time, the Reserve force structure will be reorganized and missions redefined.

To protect soldiers and maintain a regional Army Reserve presence, one brigade from each of two divisions to be deactivated will be integrated into the seven remaining divisions.

The divisions to be deactivated are the 70th Division in Livonia, Michigan, and the 76th Division in West Hartford, Connecticut. The seven divisions to remain are the 80th in Richmond, Virginia; the 84th in Milwaukee, Wisconsin; the 95th in Oklahoma City, Oklahoma; the 98th in Rochester, New York; the 100th in Louisville, Kentucky; the 104th in Vancouver, Washington; and the 108th in Charlotte, North Carolina.

The reorganization is expected to be completed by October 1996.

TWO ITEMS OF EYE protection for soldiers were recently type classified. One, called SPECS, is for soldiers who do not wear glasses, while the other, ballistic laser protective spectacles (BLPS), accommodates prescription lenses.

Both are made of polycarbonate, a material that is strong, lightweight, and versatile. They are produced in four configurations that provide a full range of ballistic, ultraviolet (UV), and laser protection: a clear version for low light non-laser situations; a sunglass version for daylight non-laser threat situations; a night laser version for low-light laser threat environments; and a day laser

version for daylight laser threat environments.

The SPECS also have adjustable temple arms and even a choice of different temple arms to suit individual preferences. SPECS come with a retainer strap and carrying case and are specially designed to fit comfortably under the PASGT helmet.

The BLPS prescription inserts are the same design as those used in the M-40 chemical protective mask.

MUZZLE-LAUNCHED RUBBER ammunition for use in crowd control situations is being evaluated under a recent contract let by the U.S. Army Armament Research, Development, and Engineering Center.

This non-lethal ammunition, which consists of a cylindrical tube that serves as a container and launcher for 15 rubber projectiles, can be fitted to either a 5.56mm or a 7.62mm rifle equipped with a flash suppressor on its barrel. A ballistic cartridge ejects the rubber projectiles through built-up pressure. The ammunition will be available in regular and high-impact energy versions.

Because the tube slides easily over the muzzle of an M16 rifle, a soldier can use the same weapon in both riot control and combat situations.

THE SENSE AND DESTROY armor (SADARM) munition now in limited production, will give the Army a low-cost, high-performance smart munition delivered by 155mm howitzers. The munition is effective against self-propelled howitzers, multiple-rocket launchers, armored personnel carriers, and infantry fighting vehicles.

After deploying from the 155mm projectile, two SADARM submunitions

descend by parachute, allowing multiple sensors to search an area roughly the size of four football fields. When a target is detected, an explosively formed penetrator is propelled toward the top of the target.

Smart munitions such as SADARM are one example of the Army's efforts to use electronics technology to make the most of its available personnel and equipment.

A DIGITAL COMPASS and navigation system called TACNAV promises to help commanders and soldiers determine where they are and where they should be, whether they are operating wheeled or tracked armored vehicles. After extensive trials in 1992 and 1993, the Army selected the system for use on the Bradley fighting vehicle.

Many armored vehicles are not equipped with compasses, because the types of compasses that work have been too expensive. TACNAV costs about one-third the price of inertial navigation systems that use gyroscopes to determine direction.

Because of compass anomalies aboard armored vehicles, land forces often rely solely on the satellite-driven global positioning system (GPS) to determine their latitude and longitude. But information on position alone is not enough; vehicles also need directional information while they are stationary, a feature GPS does not have.

TACNAV integrates with the vehicle's GPS to tell drivers their current position and direction. It tells them the direction to turn to advance to the next GPS checkpoint and the calculated distance to that point.

Armored vehicle crews can pinpoint their positions even when GPS is being jammed or the terrain is blocking satellite signals. Using odometer inputs,

TACNAV automatically calculates an accurate dead reckoning position and continues to display position, regardless of satellite circumstances. U.S. Army field tests have shown that TACNAV provides essential directional information along with vital target angle, far-target location, and steering information. It fully integrates with the vehicle's GPS, the odometer, the turret angle encoder, and the laser rangefinder, adding a continuous stream of directional data to each of these components.

One of the most striking features of the device is its ability to measure and display accurate turret and hull direction at the same time. When it integrates with the vehicle's angle encoder, TACNAV provides a direct measurement of the turret angle.

By providing continuous information on heading and angular distance, TACNAV enables armored vehicle crews to execute synchronized, high-speed maneuvers.

The system consists of five subsystems: the sensor antenna, processor electronics, turret angle encoder box, commander's display, and driver's display.

HELICOPTER LOAD certification is a vital part of getting equipment from one place to another on the battlefield.

The primary application of both external and internal air transport (EAT/IAT) is short range, tactical transport missions. The deployment of equipment by helicopter offers many advantages, including the ability to reach areas that are inaccessible by ground transportation; independence from ground conditions (congestion, terrain, battle damage); and unrestricted flight routes that allow the use of diversionary tactics to improve

security for the ground unit.

As with all forms of transportation, EAT and IAT have inherent limitations that include cargo weight based on the helicopter's capabilities and load geometry. The U.S. Army Natick Research, Development, and Engineering Center is the Department of Defense certification agency for EAT and the Department of the Army certification agency for IAT.

The EAT certification process assures that the equipment being transported can withstand the stresses of the flight environment outside the aircraft. That process is as follows:

- Engineering evaluation to determine lift provision proof loads based on weight to projected area ratio.
- Analysis of lift provisions.
- Proof load testing to MIL-STD-913.
- Static lift testing to verify rigging procedures.
- Helicopter flight testing to determine maximum stable airspeed and limitations to the flight envelope.

The IAT certification process includes the following:

- Engineering evaluation.
- Determination of restraint requirements based on the aircraft.
- Determination of tie-down proof loads.
- Evaluation of item clearances within the aircraft structure.
- Proof load testing of tie-down provisions to MIL-STD-209H.
- Test loading to verify loading and tie-down procedures.

The success or failure of an infantry mission can depend upon whether or not its air transported equipment operates properly once it reaches the field, and helicopter load certification can help ensure safe, timely delivery.

