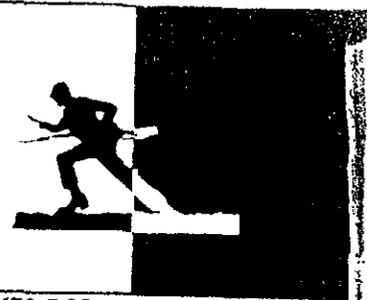


# INFANTRY NEWS



THE PRESIDENT of the U.S. Army Infantry Board has submitted the following items:

**M16 Rifle Gowen South.** In November 1980, the U.S. Army Training and Doctrine Command (TRADOC) and the U.S. Army Forces Command (FORSCOM) worked with the Idaho National Guard at Gowen Field, Boise, Idaho, to evaluate training device-based tank gunnery strategies involving simulation, substitution, and miniaturization. This limited initial test indicated that device-based training with less expenditure of ammunition was as effective as the traditional programs.

The concept of that testing has inspired the initiation at Fort Benning of a series of tests that apply the same philosophy to gunner proficiency training for other weapon systems. These Fort Benning tests are called "Gowen South," alluding to the test at Gowen Field. The M16 rifle Gowen South concept evaluation program (CEP) is one such test.

Phase I of the proposed three-phased testing program was conducted by the Infantry Board between 12 March and 15 May 1986. The purpose was to assess the effectiveness and resource requirements of the basic rifle marksmanship (BRM) training programs that incorporate the use of single training devices in selected periods of BRM instruction when compared with the current BRM program of instruction (POI).

Six rifle marksmanship training devices were used in this phase — the Interactive Video Disc Trainer (IVD); the 25-meter Zoned Feedback Device (LASER); the Location of Miss and Hit (LOMAH); the Multipurpose Arcade Combat Simulator (MACS); the Multiple Integrated Laser Engagement System (MILES); and the Weapons I.

The performance data used to assess the relative effectiveness of the current BRM POI and the various device-based POIs were generated and collected during selected periods of instruction and

measured by the demonstrated performances of test soldiers in subsequent periods. Human factors, safety, and limited RAM (reliability, availability, and maintainability) and logistical data were collected throughout the tests.

The test results will be used by the Infantry School to develop and refine training strategies and to initiate actions for developing and obtaining appropriate training devices.

**TOW Gowen South.** The current TOW gunner training POI uses the M70 guided missile training device. This device, issued initially in 1970, is becoming increasingly expensive to maintain and does not indicate a soldier's live-fire performance. To take advantage of the current and projected technology for gunnery training devices, the Infantry School analyzed the requirements for the tripod-mounted TOW missile system and developed a series of proposed device-based training strategies that may satisfy these requirements.

In May and early June 1986 the Infantry Board conducted a CEP test of TOW Gowen South to provide information on five selected alternative device-based training programs and the current M70-based program for the tripod-mounted TOW. The alternative training devices included MILES; the Bradley Gunnery and Missile Target System (BGMTS); the Precision Gunnery System (PGS); the Precision Gunnery Training System (PGTS); and the Simulator for Antitank Tactical Training (SWATT).

The tests on these devices were conducted in two phases. Phase I examined basic TOW gunnery training, and Phase II examined advanced TOW gunnery training. The test soldiers were infantrymen (MOS 11B) and cavalry scouts (MOS 19D) from units based at Fort Benning. These 60 soldiers, with no prior TOW training, were organized into six groups. Each group trained either with one of the five device-based POIs or with

the M70 POI.

Upon completion of their training, each soldier completed the Qualification Firing Table prescribed for the M70.

During Phase II, 42 trained TOW crews (MOS 11H) were organized and assigned to POI groups as in Phase I and were trained in advanced techniques requiring them to perform progressively more difficult tracking exercises. At the conclusion of Phase II training, 60 soldiers were selected to fire live (inert warhead) TOW practice missiles.

Qualification scores and live fire hit and miss data were collected from each POI, and logistical requirements, human factors, and safety data were collected throughout the tests. Test results will be used by the Infantry School to develop training strategies and to identify devices for further evaluation.

**Drop Zone Assembly Aid System (DZAAS).** During the period 7 April through 8 June 1986, the Infantry Board conducted an operational test of the DZAAS to assess its operational effectiveness and suitability as an electronic orienting signal to facilitate the rapid assembly of personnel and rapid location and identification of specific equipment loads on the DZ after an airdrop. (See INFANTRY, January-February 1985, p. 11.)

Current drop zone (DZ) assembly aids such as VS-17 panels, helmet markings, strobe lights, and chemical lights provide only limited assistance.

The DZAAS consists of a five-pound transmitter measuring 5x6x8 inches, that is capable of transmitting on any of 20 preselected radio frequencies, and a one-pound receiver measuring 3x5x1.3 inches. The transmitter is powered by standard 24-volt lithium battery, which is expected to last for two hours of continuous operation, and is furnished with two omnidirectional antennas. One of these antennas telescopes to a height of 100 inches and is used for personnel assembly; the other, a 15-inch-long flexi

ble rubber antenna, is used with equipment loads.

During airborne operations, the transmitter is carried by a designated soldier to the assembly point and turned on manually; or it can be placed on an equipment load and activated automatically as the load exits the aircraft.

The receiver, powered by a nine-volt battery, can be set to receive any one of the transmitter's 28 frequency signals. The system should provide a transmitter-to-receiver link out to at least 1,500 meters. During use, the receiver is worn on the soldier's left wrist. When the soldier's left arm is pointing toward the transmitter, a small light on the receiver illuminates indicating the direction to the transmitter. The soldier moves in the direction his arm is pointing until he finds the transmitter.

The range capability and battery life of the DZAAS and its compatibility with individual chemical protective clothing and cold weather parka and mittens were tested at Fort Benning. Infantry Board jumpers (door bundle chasers) tested the system's ability to find and identify equipment loads.

Data on platoon assembly times were collected during a series of mass tactical jumps conducted by companies of the 82d Airborne Division at Fort Bragg and by a Ranger company conducting airborne operations at Fort McClellan, Alabama. Within each company, one platoon used the current assembly procedures and the DZAAS while the remaining platoons used the current procedures and current aids (panels, lights) to assemble on the DZ.

Throughout the tests, human factors, reliability, operator maintenance data, and test soldier comments and observations were recorded. Test results will be used by the Infantry School to aid in decisions concerning further development of the system.

**Robotic Ranger.** The U.S. Army Tank-Automotive Command, Missile Command, Ballistic Research Laboratory, and a civilian contractor have worked to fabricate a full-scale model of a tele-operated robotic vehicle called the Robotic Ranger. (See also *INFANTRY*, July-August 1984, p. 4.)

Designed within the concept of a low-

cost, tele-operated, disposable round of ammunition to employ various weapons or surveillance packages at locations beyond operator line of sight, the Robotic Ranger has a diamond configuration chassis, which permits pitch articulation and four individually powered wheels.

The prototype vehicle is 77 inches long by 53 inches wide, weighs 416 pounds, and is powered by two 12-volt lead acid batteries. It is connected to a control console by a disposable fiber-optic link and can carry a payload of about 70 pounds (M60 machinegun, AT4s, or special surveillance equipment, for example).

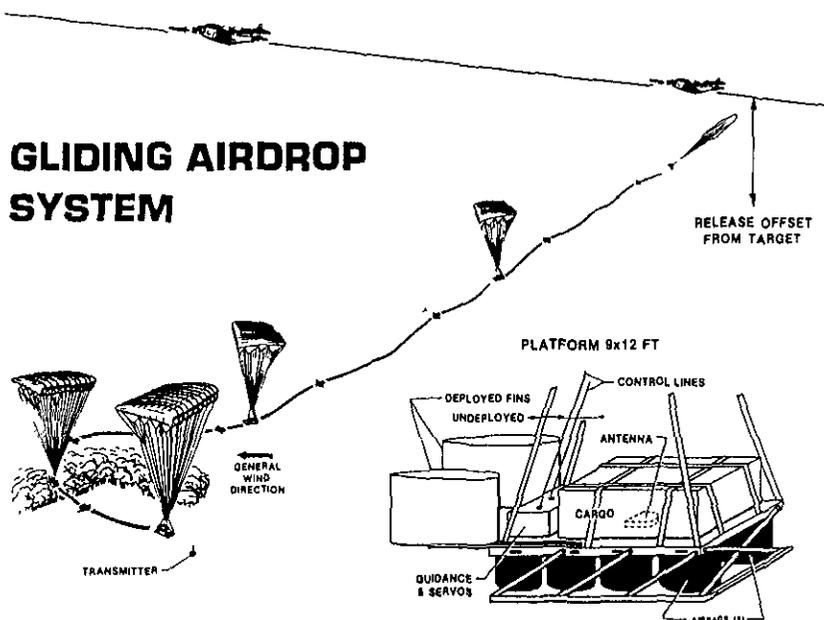
AN AIRDROP SYSTEM is needed that will allow the clandestine resupply of personnel (such as Special Forces) beyond the forward line of troops while maintaining low vulnerability for the airdrop aircraft.

The Infantry Board conducted a CEP test of the device from 19 May through 17 June 1986 to assess its ability to employ infantry weapons and reconnaissance systems. Four operators used the Robotic Ranger in a series of surveillance missions over predetermined routes, in an armed sentry role (antipersonnel and antiarmor), and to emplace simulated explosives at a bunker position.

Test results will be used by the Infantry School in making decisions concerning further development of robotic devices.

air gliding parachute, an airborne homing and guidance unit, and a transmitter/controller. The canopy will have a glide ratio of about three feet forward to each foot of descent. It will be deployed from altitudes up to 25,000 feet above

## GLIDING AIRDROP SYSTEM



The 500-pound Gliding Decelerator Container Airdrop System will permit accurate clandestine delivery of cargo in support of special operations and unconventional warfare forces. High altitude, offset delivery made possible by the system will decrease the risk to cargo aircraft engaged in insertion or resupply. The system will complement existing personnel delivery systems with similar performance capabilities.

The proposed system consists of a ram-

ground level and at aircraft speeds of 130 to 150 knots.

The airborne homing and guidance unit will steer the system in response to radio homing signals from the transmitter. Each transmitter controller can control up to four bundles per mission. A manual mode will allow the operator to steer one bundle at a time to a controlled landing while the remaining units continue to home automatically on the transmitter. The transmitter also has a control that

will enable the operator to flare a canopy for a softer landing.

The unit can be remotely controlled by an airborne paratrooper, a person on the ground, or automatically by a transmitter controller device on the ground.

OFFICERS AND SENIOR noncommissioned officers graduating from the *Infantry Officer Advanced Course (IOAC)* or the *Advanced Noncommissioned Officer Course (ANCOC)* will be better fit to fight when they leave Fort Benning, and they will have new DA official photos in hand. This is a result of two separate initiatives sparked by Major General Edwin H. Burba, Chief of Infantry and Commandant of the Infantry School.

The first of these initiatives is a vastly improved physical fitness program that is based on the Master Physical Fitness Concept. Although PT has never been a stranger to the Infantry School, student feedback in the past has indicated that physical fitness training in IOAC and ANCOC lacked variety and imagination.

The foundation of the improved physical fitness program is diversity. Conditioning sessions may consist of any or all of the following: platoon circuit training, organized athletics, partner-resisted exercises, and ability-group running. Each session begins and ends with a stretching and cool-down period.

Platoon circuit training can range from log drills or weight training to an occasional trip to the confidence or obstacle course. Circuit training is designed to develop strength, speed, agility, and endurance.

Organized athletics feature intramural contests from squad to company level in flag football, basketball, soccer, volleyball, or softball. The emphasis is on unit cohesion, teamwork, and esprit de corps.

Partner-resisted exercise is a technique whereby one soldier exercises while his partner provides resistance. This formula has proved effective for increasing push-up and sit-up ability, thus leading to higher APFT scores.

The ability-group run allows all participants to increase their speed and endurance without hindering the better runners or demoralizing marginal ones. By



screening the two-mile run times from the diagnostic APFT, the Infantry School cadre divides the students into fast, medium, and slow running groups.

A crucial element in the Infantry School's program is the recognition of excellence. To facilitate such recognition, the APFT scoring scale has been modified to allow calculation of points beyond the maximum score. This enables the School to recognize the student with the highest score on the final APFT and also the student who has improved his score most since the diagnostic test. All students who score 300 points or higher are also recognized.

The second of the commandant's initiatives is a requirement for each student in these classes to submit a new DA official photograph before graduation. These photographs are taken at Fort Benning and reviewed by both the students and the cadre chain of command to ensure that the final product portrays the soldiers as accurately as possible. (The photograph is, of course, an important part of each soldier's Official Military Personnel File since it is reviewed by DA selection boards for promotions and future assignment consideration.

*(This item was prepared by Captain Dan MacGlashing, S-1, 1st Battalion, The School Brigade, USAIS.)*

THE AIRBORNE SCHOOL's physical fitness requirements are de-

scribed in the article "Preparing for Airborne Training," by Captain Danny L. Greene in *INFANTRY's* July-August 1986 issue (page 13).

In addition to meeting these requirements, students must also be prepared to take a verification Army Physical Fitness Test on the first day of ground training. Those who fail that test will not continue in the course.

THE FOLLOWING NEWS ITEMS were submitted by the Directorate of Combat Developments:

**New Computer System for TOE and BOIP Development.** Tables of Organization and Equipment (TOEs) and Basis of Issue Plans (BOIPs) will be developed using a new computer system. The new system will link the branch schools' organizational development agencies to the organization master files at Fort Leavenworth, Kansas, thus reducing the turnaround time for TOE and BOIP actions.

The heart of the new system will be an INTEL 310 microcomputer using the XENIX operating system and TRADOC-developed software.

This new system standardizes the organizational ADP and offers marked improvements in speed, capacity, and flexibility over the current system. With the planned software improvements, TOE and BOIP personnel will be able to develop documents the same way letters are typed, edited, and corrected on word processors. The expanded capacity will allow the sorting and cross-checking of documents in the data base, eliminating time-consuming manual procedures. The end result for the infantryman will be a more accurate, responsive, and flexible organizational system to meet the challenges of our modern Army.

**M113A3.** Production of the new M113A3 APC will begin in February 1987. The A3 is a product of extensive research and development designed to improve both the performance and the survivability of the M113 family of vehicles. (See *INFANTRY*, September-October 1985, p. 8.)

The modifications to the M113A2 squad carrier consist of three primary components. A RISE power pack improves dash speed, overall mobility, and reliability while reducing weight through

the elimination of the control differential and the transfer gear case. Spall liners have been added to the top, sides, and rear of the crew compartment to reduce the effects of shaped charge warhead detonation and collateral damage resulting from secondary spall.

Armored external fuel tanks mounted above the rear fenders eliminate the hazard of fuel fires within the crew compartment. The fuel tanks are interchangeable from side to side, easily replaced in the field, and provide redundant fuel supply in case one of the tanks is ruptured.

Other modifications include the adoption of a four-battery, 200-amp charging system; a shock-mounted driver's seat; a collapsible driver's foot rest; and a steering yoke that replaces the differential control laterals. Finally, the M113A3 will be produced with mounting provisions capable of accepting a bolt-on, upgraded armor package currently under development.

The first unit is scheduled to receive the new vehicle in June 1987.

**Infantry Mortars.** The 60mm Lightweight Company Mortar System M224 is scheduled to replace the M19 81mm mortar in the light infantry, airborne, Ranger, and air assault companies. Systems are currently in depot and being issued to those units. The distribution of mortars to units not yet activated will be synchronized with the activation or conversion schedule. The basis of issue is two per rifle company.

The new smoke, illumination, and practice rounds are scheduled to be type-classified during the third quarter of Fiscal Year 1987. The high-explosive round was type-classified with the weapon system. The new ammunition will be issued as the old is depleted.

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THE NATIONAL INFANTRY Museum has provided the following items:

The World War II amphibious "Duck" that was recently purchased with nonappropriated funds donated by the Fort Benning Officers' Wives Club is now on display next to the bandstand on the Museum grounds. It has been restored by workers of the Directorate of Logistics' Shop Two at Fort Benning.

Other major pieces going on immedi-

ate display are the restored regimental colors of the 2d Regiment, U.S. Colored Troops, used during the Civil War, and a 34-star U.S. flag that was picked up on the battlefield at Gettysburg just after the battle there. It, too, has just been restored. These two large flags will be displayed on the Museum's first floor in the Hall of Flags in handsome wooden cases made by the Directorate of Logistics' Furniture Shop.

The Museum is fortunate to have the workmanship of the Fort Benning labor force available for specialized work on its major acquisitions. In many cases, the expertise would not be available anywhere else in the area and if it were, it would not always be affordable. The caliber of work and pride of workmanship are outstanding.

An impressive display recently installed in honor of the 210th birthday of the nation and the 211th birthday of the infantry is the 50-star flag that flew at Yorktown on the 200th anniversary of the victory there. It hangs suspended from the ceiling and reaches nearly 25 feet down the three-storied curving stairwell with spotlights illuminating it. It is a magnificent sight.

A major exhibit planned for October will incorporate articles that belonged to Brigadier General John T. Corley and loaned to the museum by his family. The exhibit will be centered on the battle of Aachen in World War II, in which General Corley (then a lieutenant colonel) participated. A painting of General Corley and a Frommer, Model 1937, 7.65mm German pistol, which was given to him by German Colonel Gerhard Wilck at the surrender of Aachen on 21 October 1944, will be shown.

The Museum brochure has been translated into Spanish to accommodate the many Spanish-speaking visitors whose numbers have multiplied with the coming of the School of the Americas to Fort Benning. The Museum makes its auditorium and other facilities available to the School for its graduations, orientations, and social functions.

The Seventh Armored Division Association again provided a wreath on Memorial Day for its monument located on the Museum's grounds. The wreath-laying ceremony was conducted by Com-

pany B, 2d Battalion, 69th Armor and was attended by Seventh Armored Division Association representatives from this area, and by Museum staff members and visitors.

A 199th Infantry Brigade reunion group visited the Museum and presented a plaque in honor of Brigadier General William Ross Bond for the Bond Gallery on the Museum's third floor. General Bond was killed in action in Vietnam on 1 April 1970 while commanding the brigade. Funds given to the Museum from his estate were used to purchase furnishings for the gallery area. On display, too, is the flag that covered the coffin at General Bond's burial.

The Museum is pleased to recognize other donations to its collection:

- During Major General Aubrey Newman's recent visit to Fort Benning, he presented the Museum with his 1983 Doughboy Award and an autographed copy of the "FOLLOW ME" Army in Action lithograph poster for which he was the model.

- A German World War II Nazi flag was presented on behalf of the 3d Infantry Division, 15th Regiment, "C" Company Society of the U.S. Army.

- Toy figures and pieces made by German POWs of World War II for the donor have been received.

- Items donated by Major General C.M. Mount (Retired) include uniforms, books, photographs, and U.S. Military Academy memorabilia.

- An autographed copy of his new book, *The 24th Infantry at Fort Benning*, was given by Dr. L. Albert Scipio II.

The National Infantry Museum Society, formed at Fort Benning a number of years ago to assist the Museum with financial and volunteer support, is open to anyone who is interested in joining. The cost is \$2.00 for a one-year membership or \$10.00 for a lifetime membership.

Additional information about the Museum and the Society is available from the Director, National Infantry Museum, Fort Benning, Georgia 31905-5273, AUTOVON 835-2958 or commercial (404) 545-2958.