

APPLICATIONS ARE NOW BEING accepted for attendance at the U.S. Military Academy Preparatory School (USMAPS) for the academic year that begins in August 1985. The School, located at Fort Monmouth, New Jersey, prepares young enlisted men and women to compete for appointments to the Military Academy at West Point.

Each year more than 300 enlisted men and women undergo nearly ten months of training at the School. And while the major emphasis is placed on academics, the development of leadership traits, discipline, and physical conditioning are also stressed.

To qualify, a soldier must be a U.S. citizen, or be able to become one before 1 July 1985; be single and with no obligation to support a child or children; be medically qualified in accordance with Chapter 5, AR 40-501; not have reached his 21st birthday before 1 July 1985; be of high moral character; and have a good high school record and desire a military career.

Additional information may be obtained from AR 351-12; from the Commandant, USMA Prep School, Fort Monmouth, NJ 07703-5509; or from the School's Admissions Office at AUTOVON 992-1807.

THE ARMY CORRESPONDENCE Course Catalog, DA Pamphlet 351-20, is published every six months (January and June). It includes all courses and sub-courses administered by the Institute for Professional Development (IPD) at Fort Eustis, Virginia, and outlines the procedures and administrative functions that affect student enrollment. The pamphlet also includes the correspondence courses offered by Army schools that administer their pro-

grams independently of the IPD.

Active and retired military members of all branches of the service, foreign military personnel, Army National Guard and Army Reserve personnel, and DOD civilians are eligible to take these programs of instruction. Enlisted personnel may receive promotion points and Reserve Component officers may receive retirement points for successfully completing these courses. In addition, the IPD does issue diplomas and completion certificates.

The Infantry School currently has 21 programs of instruction in the correspondence course catalog. The new catalog that will appear this month (January 1985) will reflect several changes in those programs. Sixty new subcourses have been added to the curriculum to replace outdated ones.

Information on the Infantry POIs can be obtained from the ACCP Branch of the Infantry School, telephone commercial 404/545-7151 or AUTOVON 835-7151. Information on the other branches is available from the IPD, telephone commercial 804/878-3667 or AUTOVON 927-3667.

THE FOLLOWING NEW ITEMS were submitted by the U.S. Army Infantry Board:

• **Night Vision Goggles, AN/PVS-7.** An effective low-cost system that will provide soldiers with a night vision capability is of particular interest to the Army. In 1980 the Army's Night Vision and Electro-Optics Laboratories developed two prototype low-cost night vision goggles;

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The 1984 index to *INFANTRY* has been prepared separately and is available to anyone who requests a copy. Please address your request to Editor, *INFANTRY Magazine*, Box 2005, Fort Benning, GA 31905-0605.

one was a cyclops version, the other a holographic one-tube version.

The Infantry Board evaluated the two versions using the AN/PVS-5 goggles as the standard. The Board's test results indicated that a combination of characteristics of the two prototypes demonstrated sufficient potential for further development. (See also *INFANTRY*, July-August 1984, pages 3-4.) In January 1982 Department of the Army approved a requirement for the Night Vision Goggle, AN/PVS-7, and the Infantry Board was designated the test agency.

The AN/PVS-7 is a monocular lightweight image intensification device that uses a single image intensification tube. Power is provided by any one of three types of internal batteries. The user can strap the device to his head and have his hands free to perform tasks, or he can hold it in his hands and use it as he would binoculars. An infrared light-emitting diode provides illumination for close-in tasks (as close as 10 inches) such as map reading. The AN/PVS-7 weighs 1.93 pounds; the AN/PVS-5 weighs 2.02 pounds.

The test was started in November 1983 but was suspended after a week of testing because intermittent interruptions in the electrical circuitry of the goggles were safety hazards during weapons firing and the driving of vehicles. The items were returned to the developer to be corrected.

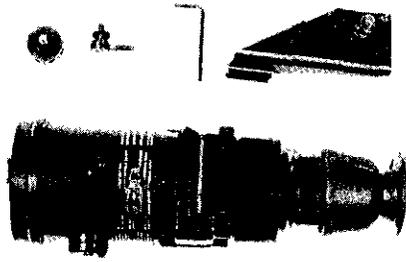
Testing of the corrected items was resumed in May 1984 but was again suspended by the Board after only five nights because of numerous reliability failures.

In June 1984 the Army's Training and Doctrine Command directed that the test be terminated and that the AN/PVS-7 goggles be returned to the materiel developer.

• **Improved Sniper Night Sights.**

From information provided by the Army Marksmanship Unit and units in the field, the Infantry School determined that the night vision sight, individual served weapon, AN/PVS-4, is only marginally adequate as a sniper night sight because of its size, weight, and shifting reticle.

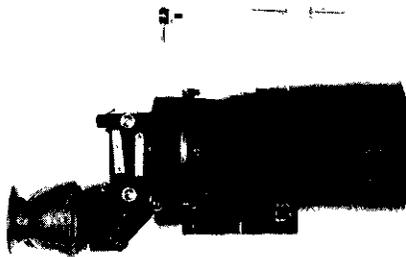
The Night Vision and Electro-Optics Laboratory (NVEOL) at Fort Belvoir indicated that two options



Sniper Weapon Sight (SWS-4)

were available in considering a new lightweight sniper night sight — to modify the AN/PVS-4 and to award a contract to a civilian corporation for the development of a new lightweight sight.

In July 1983 the Training and Doctrine Command approved a concept evaluation program test of an improved AN/PVS-4 and directed the Infantry Board to conduct a test. The test would compare the standard AN/PVS-2 and AN/PVS-4 sights with a modified AN/PVS-4 sight provided by NVEOL and a lightweight sniper night sight provided by a contractor.



New Lightweight Night Sight (NLNS)

The modified AN/PVS-4 used a 25mm scope rather than an 18mm scope, contained a baffled interior, and had a second-generation image intensifier tube. The new lightweight sniper night sight used an 18mm

scope, a third-generation image intensifier tube, and an offset eyepiece. The sight was designed to provide a personnel target recognition capability out to 600 meters in clear air under moonlight conditions.

The test consisted of detecting and recognizing targets during a nonfiring phase and of firing at E-type silhouette targets during a hit probability phase. All night vision devices were mounted on M16A2 rifles. Targets during both phases were located at ranges of 300 to 1,000 meters from the test soldiers.

The Infantry School will use the data obtained during the test to determine the potential of the test sights to replace the current sights now being used by sniper personnel.

THE ARMY TRAINING BOARD has completed work on the FM 25 series on training (FM 25-1, -2, -3, -4), and these manuals are now being distributed to the field.

FM 25-1, Training, covers the philosophy and principles of training. It is intended for leaders at all levels.

FM 25-2, Unit Training Management, explains the Army training management process. It is intended for use by battalion commanders and above, and by the staff members of those organizations.

FM 25-3, Training in Units, provides the "how to" for the conduct of training. It is for leaders at the battalion level and below — the first-line trainers.

FM 25-4, How to Conduct Training Exercises, describes the conduct and use of training exercises to sustain skills. It is intended for use primarily by commanders and staff officers at battalion level and above.

These manuals are available from the Army's Publications Center in Baltimore, Maryland. DA Forms 12A should be updated to check block number 59, Techniques of Military Instruction.

THE FOLLOWING NEWS items were furnished by the National Infantry Museum:

The National Infantry Museum recently observed its 25th anniversary. It had less than 200 artifacts when first opened, but has now grown to a repository of more than 35,000 artifacts, 2,600 firearms, and a large collection of books, photographs, and documents. The Museum prides itself on its quarter of a century of service to Fort Benning, the United States Infantry, and the United States Army.

A number of names have been added to the plaques that list the three-time recipients of the Combat Infantry Badge. The names on the plaques now total 255.

The Fourth Annual National Infantry Museum's five-mile run was a great success. About 2,500 runners took part and nearly \$13,000 was raised for the Museum.

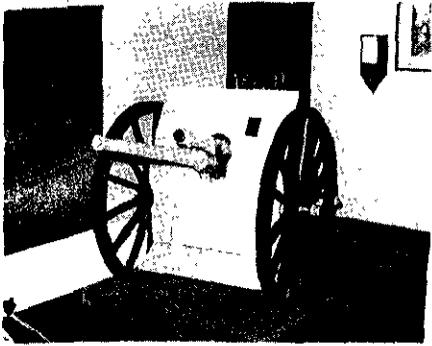
Volunteer tour guides are now on duty at the Museum on a regular basis to conduct guided tours for small groups and interested individuals. To ensure proper scheduling, requests for guided tours should be made well in advance of the anticipated visit.

Recently, the Museum conducted a ceremony that saw the presentation of a historical marker by the Daughter of the American Colonists to commemorate the signing of the Treaty of Coweta by General James Oglethorpe and the Creek Nation in 1739. The actual signing took place on what is now Fort Benning near Lawson Army Air Field.

Among the Museum's recent acquisitions are a Royal Canadian Regiment scarlet ceremonial dress uniform presented by Major David Bondurant, the Canadian liaison officer at the Infantry School; artifacts and memorabilia of the late Vietnam news correspondent Charles Black, given by his widow; a rare Krag Jorgensen bayonet; a Revolutionary War folding fork and wooden canteen; an 1830 rifleman's coat; some Chinese Communist weapons; a Swedish submachinegun; World War II British paratrooper jump headgear; a World War I medical flag that belonged to a medical unit in the 28th Infantry Division; and a framed, captured Liberation Front flag that was taken in Saigon.

during the Tet offensive of February 1968.

A rare 37mm cannon manufactured by the Bethlehem Steel Company for the French Government in 1917 was placed on exhibit recently. The weapon was used to provide close support to the infantry during World War I



and is one of only three such weapons known to be in existence today. It was originally painted light blue to prevent heat absorption that might ignite ammunition before the gunner was ready to fire.

Another recently added exhibit is one about mechanized infantry. It includes a large oil painting of General George S. Patton, Jr., and a U.S. flag



made by some of the men of Company K, 260th Infantry Regiment to celebrate the German surrender in 1945.

The National Infantry Museum Society was formed at Fort Benning a number of years ago to help the Museum with financial and volunteer support. It is open to anyone who is in-

terested 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, AUTOVON 835-2958 or commercial 404/545-2958.

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

• **Airborne and Air Assault Infantry Battalion Organizational Structure.** The present organization of our airborne and air assault infantry battalions recently has been examined with a view toward proposing possible modifications to meet Army of Excellence organizational designs. The examination's objective was to arrive at divisional end strengths of 13,500 soldiers for the airborne division and 15,000 soldiers for the air assault division without affecting the divisions' ability to accomplish their doctrinal missions. The new Infantry Division (Light) organization was used as a base case with the idea of standardizing all light infantry units while still making certain the airborne and air assault divisions had the means to perform their unique missions.

Several different proposals for battalion organizations were looked at and discussed. Some of the areas of discussion were a weapons squad for the rifle platoon that would have the platoon's machineguns and Dragons; a company mortar section that would have two 60mm mortars; the need for vehicles in the rifle company for the commander and for resupply purposes; and the number of platoons in the antiarmor company and their organization.

Smaller TOW platoons of four TOWs each with four or five platoons were favored over the present three-platoon organization, with each platoon having six TOWs. The merits of the improved 81mm mortars versus the 107mm mortars for the battalion's mortars received much consideration.

The need for the scout platoon and the type of mobility for it (footmobile, motorcycles, fast attack vehicles, HMMWVs, or a combination of these) was examined on the basis of the types of missions the scout elements were expected to perform in each division.

Another area of great interest and study was the support platoon's organization, to include the need to keep mess and maintenance functions in the battalion rather than moving them to brigade headquarters as in the light infantry battalion. The numbers and types of vehicles that are necessary in the support platoon were also considered because of the airborne and air assault missions conducted by individual battalions.

The final decision on these various organizational structures will be forthcoming in the next few months.

• **Light Assault Weapon.** The need for a light assault weapon, or LAW, was first established in the late 1950s. The Army's experiences during both World War II and the Korean War demonstrated that the individual American soldier had no effective weapon at his disposal that he could use to engage and defeat an enemy armored target. Weapons such as the 2.36-inch rocket launcher ("Bazooka"), the 3.5-inch rocket launcher ("Super Bazooka"), the 57mm recoilless rifle, and the 75mm recoilless rifle were available at platoon and company level, but they were either heavy or not very effective, or both.

The production and fielding of a LAW began in the early 1960s. Originally fielded to replace the 3.5-inch rocket launcher, the LAW gave every soldier a much-needed short range, effective antiarmor weapon. It was about this same time that the Army fielded the 90mm recoilless rifle as a medium range antiarmor weapon. The LAW was never intended to replace the 90mm rifle, only to complement it.

The first LAW was a 66mm, self-contained, disposable weapon designed to be effective at ranges out to 200 meters. Many could be issued. In a

secondary role, the LAW was to be used as an assault weapon against bunkers and fortified positions.

The M72A1 LAW was a good system and, for the most part, performed as expected. But it had some problems that had to be corrected, some of which involved its reliability, accuracy, and range. Recognizing these problems, the Army began a program to improve the weapon. The result was the M72A2 LAW.

This weapon gave the infantryman an increased probability of hit, more reliability, and greater warhead performance. And although it is still in the Army's inventory today, it is not without its problems.

For this reason, the Army improved the M72A2 into the LAW's most current configuration, the M72A3. This latest version, with its shaped charge warhead, provides good penetration of rolled homogeneous armor (RHA), is lightweight and one-man portable, and is effective at ranges out to 200 meters.

The M72A3 is effective against the older Threat tanks such as the T54/55 and T62. Although the more current Threat tanks have been hardened to the point where it is not technically possible for a LAW to defeat them from the front, it can be used effectively against them if top, side, and rear shots are used. Thus, the primary target for the current and any future LAW will be lightly armored vehicles.

Recognizing that the M72A3 LAW, like the earlier versions, had certain shortcomings, the Army started a program in the 1970s to replace it. The program, called the Improved Light Antitank/Assault Weapon, or ILAW, hoped to develop a weapon that would defeat up to 14 inches of armor at ranges out to 300 meters. The weapon was to be light in weight and capable of being used anywhere in the world.

From 1975 until the fall of 1983 the VIPER was developed to meet the ILAW requirements. But during the summer of 1983, as the result of a test that evaluated the VIPER against other available lightweight antiarmor weapons, the Army decided to end the VIPER program and to continue

testing the AT4, a Swedish-made weapon. At the same time, however, it was decided to improve the performance of the M72A3.

The AT4 weighs 14 pounds and is 39 inches long. It offers good penetration, range, and hit probability. It



The AT4

is not a free-flight rocket system like the M72A3; it is actually a recoilless rifle similar to the *Carl Gustaf*. (See INFANTRY, March-April 1984, pages 20-21.)

The M72A3 product improvement, or M72E4, is designed to increase the range, accuracy, and reliability of the current LAW. It will remain a lightweight system at about seven pounds.

In August 1985, a decision will be made either to continue the M72 series or to procure the AT4. But as with any concept in the combat developments area, the desire to provide the infantryman with the best available LAW will not end with the fielding of the M72E4 or the AT4. Research is already under way to determine how these weapons can be further improved to provide infantrymen with a better multipurpose system. Improvements in performance against bunkers and fortifications, while retaining or increasing the weapons' ability to defeat lightly armored vehicles, are being examined. Efforts will continue to insure that the infantryman is given the best possible LAW.

• **Improvements to the M113 Family of Vehicles.** As we near the 1990s, it has become apparent that the M113 family of vehicles requires upgrading. Today, the M113 cannot keep up with the Bradley fighting vehicle or with the

M1 Abrams tank, and it does not have the same survival capability as the Bradley.

Accordingly, a block modification program has been developed to overcome these problems. First, a reliability improved selected equipment (RISE) power plant has been designed and tested. The key element is a 275-horsepower engine that will give better power for operation both on and off the road.

Armored external fuel cells have been added as well as Kevlar spall liners. Both items have been tested and have demonstrated that they can reduce the probability of vehicle fires and provide increased crew protection against chemical energy warhead attack.

The block modifications and continuing product improvements to the M113 will keep these vehicles "to fight" in the battles of the future.

• **Separate Infantry Brigade (Light) (SIBL).** A separate light infantry brigade (SIBL) is now being designed to fight the corps rear battle. It will have three infantry battalions plus the number of combat support and combat service support units needed to enable it to engage and defeat enemy incursions into the corps rear area. For the moment, the SIBL will be a Reserve Component unit, with one assigned to each Army corps.

The brigade's infantry battalion modeled after airborne and air assault battalions, will have three rifle companies and an antiarmor company each. Each battalion will be completely mobile — using Heavy Military Vehicles (HMVs) — so that it can respond rapidly to an enemy incursion. The antiarmor company will have both TOWs and light kinetic energy antiarmor weapons in the 25mm or 30mm size.

Following DA approval, the Infantry School will become proponent for the SIBL in November 1985.

• **Mortars in Infantry Battalion.** Two levels of mortars in infantry battalions will be documented in TOI during the next update. As a consequence of recent Department of the Army decisions, a two-tube, six-ma-

lightweight company mortar system — 60mm — will be added to the light infantry division's rifle companies. Because these rifle companies have no organic vehicles, these mortar sections will be extremely austere. Fire control equipment will be limited to M19 plotting boards and M2 compasses.

Additionally, the general support mortar platoon will change from the 4.2-inch to the improved 81mm mortar. Its structure, personnel, and vehicles will remain as currently documented. This same mortar organization will also appear in the new air assault and airborne battalion TOEs.

The mechanized infantry battalion's mortar structure will remain as it is today with only six 4.2-inch mortars in general support. The 120mm mortar is expected to replace the 4.2-inch mortar in the future.

• **VIPRA.** In an attempt to improve the safety of marching and running troops, road guards, and police details particularly during periods of low visibility, the Infantry School will evaluate a new reflective system called Vest Individual Protective Reflective Adjustable (VIPRA).

The system consists of a bright yellow triangular vest with arm and leg bands. Early tests using bicyclists, runners, and military policemen indicated that the VIPRA is brighter and more comfortable than the current equipment.

• **Soviet Field Fortifications.** Soviet doctrine emphasizes the use of the natural conditions of an area and its terrain features to fight a battle more successfully. When a defensive position is occupied ahead of time as a result of direct contact with an enemy force, construction usually begins with the development of one- and two-man emplacements that are later connected by fighting and communication trenches. These defensive positions provide a continuous firing position along a combat front, a protected means of moving troops and supplies, and protection from enemy small arms, mortar, and artillery fire.

In defensive combat, one-man foxholes are dug when troops are to occupy and reinforce positions in a

hurry. The one-man foxhole can initially be dug in one of three forms: prone, kneeling, or standing.

The multi-man position accommodates two or more men. Usually, a two-man position will have cover as well as firing positions for both men. Often, there will be a raised parapet and a firing step on at least one end. The raised parapet is usually constructed on the side nearest the enemy. The height of the raised portions of the parapet is about 24 inches, with firing ports made up of 12-inch high sections.

Emplacements for weapons and vehicles are constructed to protect them and their crews as much as possible, thereby enabling the crew members to more successfully fulfill their mission. One of these emplacements consists of a position for firing purposes, concealment or cover for the crew members, a ramp for entering and leaving, a parapet, and recesses for ammunition. Depending on the assigned mission of the terrain, the emplacements usually will be constructed with a limited field of fire. When the time, forces, means, and terrain allow, an emplacement that permits a circular field of fire is constructed next to the position with the limited field of fire. The decision on which type field of fire is to be constructed is made by the commander on the ground after a study of the terrain on which the position is to be located.

• **Drop Zone Assembly Aid System.** The Directorate is working on the development of a drop zone assembly aid system (DZAAS). It will consist of small, lightweight, electronic transmitters and receivers to help airborne forces assemble their personnel and key equipment more rapidly on drop zones.

The transmitters will be able to emit up to 25 separate electronic signals out to 1,500 meters. Those used to assemble personnel will be emplaced and activated at various assembly areas by the lead elements — pathfinders, advance parties, security parties, or the like — while those used to identify key equipment loads might be activated on

board the aircraft by the loadmaster or after the drop by personnel already on the ground.

The lightweight (wrist type) receivers will be worn by designated personnel in the main assault force and will be activated as prescribed by the unit SOPs, either just before or just after landing. These receivers will guide the personnel off the DZ to their specific assembly areas or to the key equipment loads.

It is expected that each transmitter will weigh less than five pounds and that each receiver will weigh less than 8 ounces.

THE ARMY HAS AUTHORIZED its soldiers to wear the Vietnam-era jungle fatigues — the "hot weather uniform, OG 107." Until now, that uniform has been available only to soldiers at selected installations for optional wear. It is now being made available to military clothing sales stores for purchase and wear on all CONUS installations as a field or utility uniform until September 1986.

The uniform may be worn throughout the year whenever the local commander prescribes a field or utility uniform. It may not be worn when a specific uniform is required for wear during a ceremony, a formation, or a special occasion. And it may not be worn during off-duty time or during travel periods, although soldiers may wear it when going between their quarters and their duty stations.

Local commanders cannot require their soldiers to wear this uniform unless the uniforms are issued as an organizational item, but those commanders must offer their soldiers every opportunity to wear the uniform should they buy one.

Drill sergeants and others serving in an initial entry training unit are not authorized to wear this uniform.

