

INFANTRY NEWS



THE INFANTRY SCHOOL's 1982-1983 Instructional Material Catalog has been distributed to the field. It contains a listing of the instructional material that is available from the School and gives instruction on how individuals and units may get copies of that material.

The Infantry School will no longer publish its Monthly List of Instructional Material (Doughboy). Rather, the School will now publish a quarterly list of instructional material to update the catalog.

Additional information about these various publications is available from the Commandant, U.S. Army Infantry School, ATTN: ATSH-DOT-ETMS, Fort Benning, Georgia 31905; AUTOVON 835-1823/2141, or commercial 404/545-1823/2141.

THE NATIONAL INFANTRY MUSEUM has been given the Department of the Army Community Relations Award of Excellence. The award recognizes the Museum's contributions over the years toward improving community relations between Fort Benning and the surrounding civilian communities.

The award also cited the Museum for increasing the positive recruitment of young men and women for the defense of our nation. The Museum's presentation of a rich military heritage complements the official recruitment program as well as the official training and education program used at Fort Benning.

An example of inter-community cooperation is the reception given by the Friends of the Confederate Naval Museum in October 1982 at the National Infantry Museum for people who wanted to meet a team of underwater archaeologists who had come to Columbus to search for Civil War

artifacts in the Chattahoochee River. A large crowd of people turned out to attend the reception and to hear a talk by Dr. William Still, who headed the team from East Carolina University.

The Museum is available to schools, colleges, educators, and other community groups for tours. Its elegant and spacious facilities can be readily adapted to fit special occasions. For example, an art auction for the benefit of the local Girl Scout council is currently being scheduled, as is a ceremony to honor three-time Combat Infantryman Badge holders.

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 Curator, National Infantry Museum, Fort Benning, Georgia 31905, telephone AUTOVON 835-2958, or commercial 404/545-2958.

A NEW COMMAND, called the 1st Special Operations Command (Provisional), was activated on 1 October 1982 at Fort Bragg, North Carolina.

It is made up of the former John F. Kennedy Center for Military Assistance, which included the 5th and 7th Special Forces Groups, the 4th Psy-

chological Operations Group, and the 96th Civil Affairs Battalion, all stationed at Fort Bragg. Other units belonging to the new command are the 10th Special Forces Group at Fort Devens and the Ranger Battalions at Fort Stewart and Fort Lewis.

The new headquarters is commanded by Brigadier General Joseph C. Lutz. It is responsible for the preparation, employment, and sustainment of special operations forces in conducting foreign internal defense, unconventional warfare, psychological operations, Ranger operations, and related operations in support of national objectives and military strategy in both peace and war.

GUNNERY TRAINING FOR CREWMEN on the Bradley Infantry Fighting Vehicle (BIFV) will be vital to the success of the units that are equipped with it, because it offers an unparalleled increase in offensive firepower at the company level. The vehicle's turret-mounted weapon systems consist of a 25mm chain gun, a 7.62mm M240C coaxial machinegun, a TOW missile system, and an M257 smoke grenade launcher.

The vehicle also has six firing ports from which the infantrymen in the vehicle can engage enemy targets while on the move. The complexity of training the fighting vehicle infantrymen, MOS 11M, in the effective employment of these weapon systems has created a new challenge for unit commanders.

The principal assistant to the commander in conducting unit gunnery training will be the BIFV master gunner. He will help the company and battalion commanders plan and implement gunnery training programs in their units and will also act as an advisor to the chain of com-

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The 1982 index to INFANTRY has been prepared separately and is available to anyone who requests a copy. Please address your request to: Editor, INFANTRY Magazine, PO Box 2005, Fort Benning, Georgia 31905.

mand on other matters related to the BIFV.

The soldier selected for this job should have at least four years of mechanized infantry experience, including two years of service as a mechanized infantry squad leader or platoon sergeant. He should be a volunteer and should be recommended for the program by his battalion commander. After selection, he will go to an 11-week resident course at Fort Benning. If he completes the course successfully, he should expect to be retained in his unit for at least two years as its master gunner.

In the Fort Benning Master Gunner Course, this gunner will learn maintenance, gunnery, and training skills. The maintenance training is intended to produce, not a mechanic or a maintenance supervisor, but an advisor to the chain of command who can identify maintenance deficiencies that would adversely affect the operationally ready state of the vehicle's weapon systems. The gunnery training will focus on the weapon systems, pre-fire gunnery and training, full caliber gunnery and training, and target engagement.

Then, so that he can train others, the school-trained BIFV master gunner will study the battalion training management system (BTMS), training developments, and the Conduct of Fire Trainer (COFT). He will also receive instruction in BIFV-peculiar NBC tasks and in the fundamentals of moving the vehicles by air, sea, and rail. This instruction, again, is not designed to make the master gunner an expert on these matters, but rather to allow him to function as an advisor on them to the chain of command.

In addition to the master gunner's course, resident instruction at Fort Benning will include two other courses: the gunner's course and the vehicle commander's course, which will also qualify its graduates in MOS 11M.

Gunnery training in these two courses will begin with weapon systems training, followed by pre-fire gunnery, subcaliber training, and full caliber gunnery training. Weapon

systems training teaches basic theory in the functioning of the weapons, in fire control, and in ammunition.

Pre-fire gunnery is the process of performing all the necessary steps just before actually firing a round; primarily, this is the acquisition and identification of targets, the determination of range to targets, the manipulation of the turret, and the utilization of the integrated sight unit (ISU). Actual live-fire training begins with subcaliber gunnery, which gives the gunner or the vehicle commander an opportunity to practice his newly learned skills before he fires full caliber engagements. Subcaliber engagements are conducted in vehicle teams — driver, gunner, and vehicle commander — while full caliber engagements begin with vehicle team exercises and progress to platoon exercises.

At the end of this training the gunner will be able to respond successfully to fire commands issued by the vehicle commander, manipulate the turret correctly, select the proper ammunition, and engage and kill targets. The vehicle commander, in addition, will be able to give precise and correct fire commands, lay the gun on the target properly, and exercise command and control over his vehicle and his squad or platoon.

Graduates of the gunner's and vehicle commander's courses will still need gunnery training once they are assigned to a unit, and this training will be a command responsibility. But the extensive training the master gunner receives through the master gunner's course will fully prepare him to assist the units in their initial gunnery training, their sustainment training, and their transition training.

In addition to the trained gunners provided by the Fort Benning resident courses, the units may want to identify soldiers who have high potential as gunners and give them training in the unit as well. This training and the training for school-trained gunners who need to maintain proficiency will be accomplished through a program of pre-fire gunner training, subcaliber training, and full caliber training. This same program should provide

transition training for personnel who are assigned to fill administrative or combat losses and who have been unable to receive resident course gunnery training. (The M2 gunnery manual that will be fielded with the vehicle has extensive coverage of all phases of gunnery training at unit level.)

The COFT will be a key training device in accomplishing unit gunnery training and evaluation. It consists of three components, which are to be shipped to battalions, squadrons, and combat air assault brigades in three semi-transportable shelters: the turret module, the instructor/operator station, and the computer system.

The turret module, an exact replica of the BIFV turret, offers the gunner and the vehicle commander the use of all the turret weapon systems to engage targets in the closed-hatch mode. The instructor/operator station provides for the real time monitoring and recording of crew performance while attempting an increasingly complex series of tactical gunnery engagements. These two modules are linked by the computer, which controls student engagements through commands from the instructor/operator.

The unit version (U-COFT) will enable units equipped with the BIFV to conduct high fidelity training for initial, sustainment, and transition gunnery programs without the problems associated with subcaliber or full caliber training. The COFT will also be used at Fort Benning, Fort Knox, and the 7th ATC for instruction in resident courses.

Soldier's manuals, job books, trainer's guides, and a gunner's manual are being developed for fielding to the first units to receive the BIFV. These and other training literature developments will provide a full range of supporting documentation for soldiers using the new gunnery systems and the associated equipment on the vehicle.

The BIFV clearly provides fire-power and protection for the fighting vehicle infantryman and makes him more effective on the battlefield than ever before. The key to its successful

employment will be in the way the fighting vehicle infantryman is trained to use his weapon systems.

THE WEAPONS, GUNNERY AND MAINTENANCE Department, USAIS, offers its assistance to the field on numerous topics of interest that fall into its area of responsibility.

Anyone who has questions or suggestions on the Department's areas of training may call and talk to the following subject matter experts or write to Weapons, Gunnery and Maintenance Department, USAIS, ATTN: ATSH-W-A, Fort Benning, GA 31905.

	SME	TELEPHONE (AUTOVON) AC 404
Infantry Mortars:		
FDC	SFC Wilder	(784) 544-1367
Mech Training	SSG(P) Despain	(784) 544-1260
Weapons:		
Antitank	SFC Jones	(835) 545-3069
Small Arms	SFC Souerwine	(835) 545-4242
ITV	SFC Bowling	(835) 545-3069
Maintenance:		
Forms and Records	SSG Massoni	(784) 544-6368
Repair Parts Supply	SSG Simpson	(784) 544-6366

A LIGHT ARMORED VEHICLE to serve both the U.S. Army and the U.S. Marine Corps — the LAV-25 — will be produced by General Motors of Canada as prime contractor. (See accompanying photograph.) The Infantry School is the proponent for the Army's LAV.

The LAV-25 will provide mobile, armored firepower for the Army's light divisions. It weighs 14.1 tons, travels more than 60 miles per hour, swims at 6.4 miles per hour, gets 5.9 miles per gallon at 35 miles per hour from its 275-horsepower turbo-charged diesel engine, and has a cruising range of more than 400 miles. It can be transported by C-130, C-141, and C-5 aircraft, and it mounts the highly effective Bushmaster 25mm rapid fire automatic cannon. It has a crew of three — driver, gunner, and commander.

The vehicle also has a 7.62mm (NATO standard round) coaxial machinegun and can travel a distance of five miles with all of its eight tires flat. It can also cover 25 miles at 30



miles per hour with all of its tires on one side flat.

The LAV-25 is scheduled for further operational testing (OT IIA) at Fort Benning from 31 January 1983 to 11 March 1983. The Infantry Board will conduct the test to obtain data and information from which to assess the vehicle's fighting prowess and safety, its tactical transportability, its availability and maintainability, and its logistic support requirements.

The Army plans to buy a total of 680 LAV-25s over a five-year period, 60 during the first year. The vehicle is scheduled to be issued to field units in 1985.

THE ARTILLERY DELIVERED expendable communications (barage) jammer (EXJAM) recently underwent successful engineering tests. For the tests, jammers were loaded into 155mm cargo rounds and fired at various ranges.

Under the EXJAM concept, several jammers are loaded into one round. During flight, the round's base plate is blown off and the jammers are ejected, one at a time, according to preset timers.

As a jammer, or puck, clears the projectile, fins deploy and a streamer orients it to the ground.

The puck strikes the ground at a velocity of about 30 feet per second and is imbedded one to three inches into the ground at the proper angle. An antenna/ground plane is then deployed and within seconds a trans-

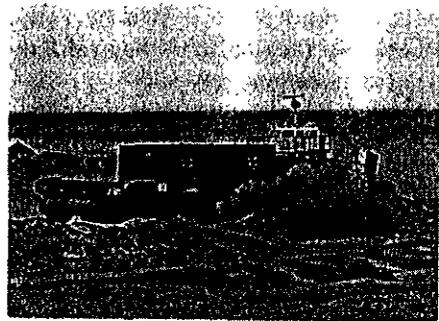
mitter is automatically turned on and the jamming begins.

A later series of tests will involve 1,000 of these jammer units.

THE ARMY HAS AWARDED a contract for the production of four Lighter, Air Cushion Vehicles, LACV-30s.

Each vehicle can carry two 20-foot MILVAN containers with a combined weight of 30 tons. It can also carry wheeled and tracked vehicles, engineer equipment, pallets, and other cargo.

Since it rides on a cushion of air, the craft can operate on water, in marginal areas, on beaches, and over



ice and snow. It will be used for over-the-shore logistics missions, in combat service support operations, for search and rescue and medical emergency missions, and to support secondary missions in coastal, harbor, and inland waterways.

The Army plans to purchase eight more of these vehicles. The first LACV-30 is scheduled for delivery in February 1984. All 12 craft are expected to be completed by November 1986.

NEW WEAPONS THAT WILL change both the complexion and the conduct of future warfare have been much discussed lately. Collectively, these weapons are called directed energy weapons (DEW); they include three major systems: lasers, radio frequency (RF), and particle beam weapons (PBW). Between 1982 and 1985, the Soviets are expected to be able to field some of these systems as battlefield weapons.

• **Laser.** The laser (Light Amplifi-

cation by Stimulated Emission of Radiation) is the oldest and best understood of these systems. In oversimplified terms, the laser is similar to a flashlight but with a much smaller and more intense beam. When the beam hits any unprotected optical surface, such as that on binoculars, damage will occur. If the laser is of a frequency that will pass through the optic (the lens), it will do so and damage the eye of the soldier who is using the binoculars. This is called "in-band" damage. If the laser is of a frequency that will not pass through the lens, it will deposit its energy on the lens itself. When this happens, the lens becomes "crazed" (frosted like the glass on restroom doors). This is called "out-of-band" damage. In either case, the soldier is neutralized because he cannot see.

Currently, no Soviet laser weapons are known to have been fielded. But laser rangefinders, such as those found in artillery units, on aircraft, and on some tanks and BMPs, can also cause damage to optics and to the human eye.

• **Radio Frequency.** While the technology for developing laser weapons has been available for some time, such is not the case for RF weapons. Like the laser, an RF weapon produces a beam of narrow band, coherent electromagnetic radiation, but at radio (not optical) frequencies. An RF weapon places enough radio frequency energy on a target or a weapon system to either degrade or destroy a target's electronic circuitry, thereby causing it to fail.

RF targets include fire control systems, surveillance radars, ordnance fuzes, communication systems, avionics, and radar or electro-optically guided munitions. Damage to those targets occurs if the RF energy enters the target's electronic circuitry through an antenna (called "front door" coupling) or through power supply leads and apertures or through cracks in the equipment's housing (called "back door" couplings). The damage effects range from temporary upset to permanent burnout.

Unlike the laser, the radiated energy from an RF weapon takes the form

of a wide cone so that at any significant distance the beam covers a large area; precise pointing and tracking, therefore, are not needed. Too, RF radiation is not as severely weakened in adverse atmospheric conditions (fog, haze, aerosols) as is a laser beam.

• **Particle Beam Weapons.** Contrary to the impression that has been conveyed by recent public statements, the Soviets do not now have the technology to build a particle beam weapon. Furthermore, a PBW probably will not become available for several years because of the difficult and still unsolved physics and technological problems involved in producing such a weapon.

A PBW for tactical application would generate a high-current and high-energy beam of electrons and would project this beam at targets no more than a few kilometers away. Its major advantage over the other directed energy weapons lies in its target damage capability: Because its high-energy particles could penetrate most materials to substantial depths, it would be most difficult to shield a piece of equipment against its effect. And a PBW would not be restricted by poor weather conditions. Its major disadvantage would be its relatively limited range and its large size.

The Soviet Union is conducting extensive research in all of these areas of directed energy. If important weapon systems result from that research, present day conventional weapons could go the way of the bow and arrow. *(This news item was prepared by Captain Tom Miller, Threat Branch, USAIS.)*

THE ARMY HAS REFINED ITS Skill Qualification Test (SQT) program. The refined program still requires an annual formal test, but it now gives commanders the opportunity to evaluate their soldiers' proficiency informally as well. It also places added emphasis on common tasks and the basic soldier combat and individual skills. Its key features are simplified administration, greater flexibility for commanders, and more effective evaluation tools.

The refined program has three parts: a common task test, a unit-selected hands-on evaluation, and a written SQT. The common task test is based on the Soldier's Manual of Common Tasks, FM 21-2, and, ideally, each soldier from Private-1 to Sergeant First Class will take it annually, although the frequency may vary in the Reserve Components.

The check list used to give the common task test is being incorporated into the Soldier's Manual of Common Tasks. The common task test, which is a hands-on test, will also have a written backup test for units that do not have the necessary equipment.

The hands-on evaluation part of the refined program also applies to all soldiers from Private-1 to Sergeant First Class. Commanders have total flexibility in choosing Soldier's Manual tasks for hands-on evaluation and for conducting the evaluation.

Hands-on evaluation check lists are being included in the Soldier's Manuals just as they are for the common task test. Commanders can use the manuals both to conduct training and to evaluate their soldiers. They may even conduct their evaluations during ARTEPs, deployment exercises, or routine training periods. The test results will not go outside the unit.

Until all the Soldier's Manuals can be revised with the hands-on check lists included in them, TRADOC will produce supplements to the manuals.

The test will now last about two hours and will evaluate from 16 to 37 Soldier's Manual tasks, depending on the particular MOS that is being tested. Too, the test period has been reduced from nine to three months.

The amount of material in the test notification has been drastically reduced, and the test notice now consists of only a task list about two pages long.

The current three-component SQT will be phased out completely by 30 June 1983, and the new common task test will begin in March 1983. DA Circular 350-82-3 contains the entire Fiscal Year 1983 SQT schedule.