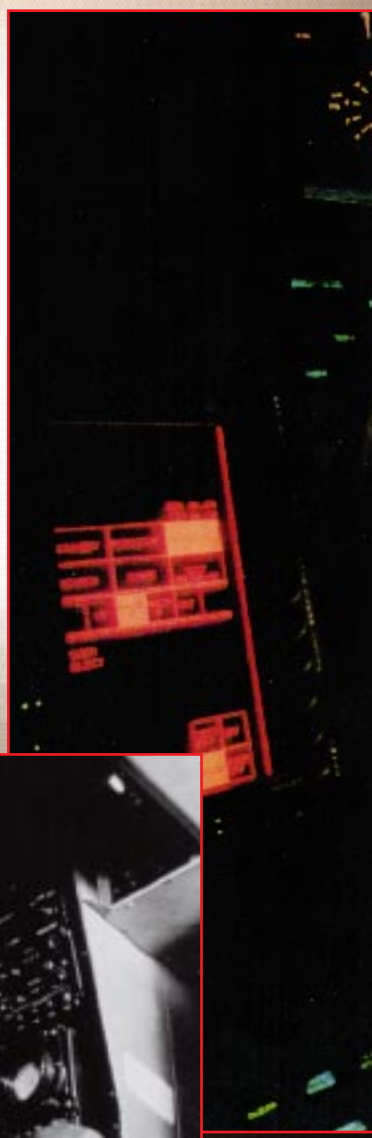
NAVAL AIR TECHNICAL TRAINING CENTER: GROWING HIGH-QUALITY TECHNICIANS



BY JOY WHITE

World War II was a turning point for the naval service as the Navy and Marine Corps battlefields came to include the skies over contested land and sea. For the first time, naval engagements were fought entirely in the air.

The Naval Air Technical Training Center was born out of the wartime expansion of Naval Aviation which created a need for skilled aircrewmen. Ground was broken aboard Naval Reserve Aviation Base, Memphis, in Millington, Tenn., in June 1942, and on 23 September Naval Training Station (Aviation Maintenance) was established. Soon, courses taught at the facility included aviation structural repair, engine mechanics and ordnance maintenance. Expanding training needs led to establishment

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The Naval Air Technical Training Center has been in the business of "growing" high-quality aviation technicians for over 55 years. Left, AW3 R. A. Pierson works as a sensor operator aboard an S-2E *Tracker* antisubmarine warfare aircraft in 1969. Above, AW1 Don Jordan of Patrol Squadron 91 fulfills the same mission in a P-3 *Orion* in 1997.

of the Naval Air Technical Training Center (NATTC) on 6 February 1943.

Throughout the war years, NATTC continued to produce high-caliber aviation technicians. Technological progress added jet aircraft and helicopters to the Navy and Marine Corps arsenals, and with every new advancement in aviation came a need for skilled technicians to keep aircraft and pilots flying. NATTC answered the fleet's needs, expanding courses to include not only structural, engine and ordnance maintenance, but the installation, repair and operation of radar, communications equipment and other complex electronic equipment.

Over the years, most training for enlisted Naval Aviation ratings converged at NATTC. Air traffic controllers learned their trade, along with aviation boatswain's mates, aircrew survival equipmentmen, aviation support equipment technicians and aviation antisubmarine warfare operators, to name a few.

But times and the needs of the Navy changed, along with funding, and in 1993 the Base Realignment

and Closure Committee (BRAC) recommended that NATTC relocate from Millington to Pensacola, Fla. For decades, the Gulf Coast town had been home to the officer side of Naval Aviation. Now, the men and women who maintained, armed and salvaged the aircraft would also be trained in the "Cradle of Naval Aviation."

Shifting Colors

The move from Tennessee to Florida constituted one of the largest BRAC moves in history. But before a single student could pack a seabag, a new training complex had to be built.

In Pensacola, BRAC had also recommended the closure of the Naval Aviation Depot located at Chevalier Field on the east end of Naval Air Station Pensacola. Demolition of several buildings and helicopter landing pads at the depot made room for a chow hall, barracks, classrooms, enlisted club and a medical and dental facility. Next came the moving and installation of several hundred tons of sophisticated electronic and computerized trainers, classroom materials and office equipment and a variety of aircraft, including several A-4 *Skyhawks* and F-14 *Tomcats* and an F-16 *Fighting Falcon.* Within 22 months after construction began, hundreds of students started transferring from Tennessee to Florida, and the new NATTC was instructing its first students. The official ribbon-cutting ceremony opening the Navy's second largest training command was held 1 April 1996.

Training is Job One

Everything about the design and construction of NATTC was focused on one goal: Training is Job One. The physical layout of the center facilitates this goal. Seventeen new buildings combined with 12 remodeled buildings are spread over 205 acres. An interconnecting web of double-wide sidewalks provides easy access to all training buildings, barracks and support facilities.

The administrative base and headquarters for the command is located in Chevalier Hall. Aside from the command suite, standard classrooms and administration offices, this main building contains four large aircraft hangars. Totaling 10 acres under one roof, Chevalier Hall quickly earned the call sign: "Mega Building." The hangars are used as fleet-realistic labs filled with aircraft, ordnance, engines, sophisticated trainers and other equipment designed to give the students a taste of what they will be doing in the fleet.

Students begin with the basic "A" school, designed for Sailors just starting their aviation technician careers. They may progress directly to "C" school if additional training is needed to fill a particular billet in the fleet, or they may return to "C" school after gaining fleet experience.

While in "A" school, the students also receive continuous training and reinforcement of military customs and core values. From the moment they check aboard at the quarter deck in the Mega Building until they graduate, the Sailors and Marines are immersed in military bearing. A visible aspect of this immersion is seen in the conduct of the students at their living quarters. The barracks are operated much like a ship. An American flag is posted near the entrance of each "A" school barracks and as personnel enter or leave the building, they salute the ensign and request permission to "come aboard" or "go ashore" from the watch.

All "A" school students march to and from their barracks, the chow hall and their classes. Building teamwork and *esprit de corps* is another important aspect of both technical and military training. Students learn to work as a team while studying, working on aircraft and during mandatory physical training. Classes as small as 10 or as large as 50 from a single training division perform calisthenics and run in formation with their classmates. As in the classroom, the formations are often a mixture of Sailors and Marines, and the students are led in their physical training by the same instructors who train them in the classroom or hangar.

Students also take advantage of the Military Training Module. This building-block process is designed to provide a continuum of military, career and life-skills training. Courses such as budgeting, Navy heritage and the Navy organization, and career development and advancement provide a foundation for a Sailor's career and personal life.

Air Traffic Control

Air Traffic Control was the first major department moved from Millington. Aside from standard classrooms, controllers are taught in fleet-realistic labs simulating air traffic control centers aboard a carrier and amphibious ship. The realistic mock-ups of air traffic control centers give instructors an invaluable tool to train the next generation of controllers and to hone the skills of air traffic control teams from the fleet (see article on team training, p. 32).

As technology has changed the face of aviation and aircraft maintenance, it has also changed how the control of those aircraft is taught. At NATTC, ground-based air traffic controllers learn their trade by using an interactive computer system in a replica of a control tower with radar, runways and operating aircraft. This trainer, the Tower Operations Training System, includes two complete "towers" which are designed to look like an operational control tower.

From inside the "tower," controllers view an airport with several runways, ramps and various aircraft. There are even "ground personnel" driving vehicles around the airfield. The computers add other realistic touches, such as replicating daylight and nighttime operations or inclement weather. Through the use of programmed flight scenarios within the computer, students talk to the "pilots" of the various aircraft,

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and the computer responds as the "pilots" requesting permission to land, take off or other information.

The department also provides specialized training on deployable Marine Air Traffic Control and Landing Systems and their maintenance. Basically an air traffic control tower in a portable configuration, with communications equipment and mobile radar vans, the system is designed to be easily moved into underdeveloped or combat areas where little or no aviation control is available.

Avionics

The Avionics Training Department is the largest at NATTC, consisting of four separate schools providing instruction to students in the maintenance and operation of complex electronic equipment found in naval aircraft.

The largest "A" school is for Aviation Electronics Technicians. The core course teaches both aviation fundamentals and electricity/electronics. Next, students break off into specialized training. Avionics Technician intermediate level training includes courses associated with troubleshooting electronics, and the organizational level training delves further into the use and maintenance of avionics systems.

Three other schools round out the Avionics Department's baliwick. The Aviation Electrician's Mate course gives Sailors and Marines a fundamental curriculum in aircraft electrical systems and how to perform maintenance on them. The Aviation Warfare Systems Operator course trains selected aircrewmen in the fundamentals of airborne warfare systems and tactics for antisubmarine warfare operations. And experienced fleet personnel can receive additional training in the Advanced Avionics Integrated Weapons System Maintenance course.

Air Training

While Air Training is the smallest department, it conducts some of the most challenging training conducted at NATTC. Home of the

"A" school for Aviation Boatswain's Mates (AB), the department provides training for all three AB specialties: equipment, fuel and handling. Moving multimillion dollar aircraft across a busy flight deck or refueling an F/A-18 *Hornet* while others are taking off and landing around you is not for the faint of heart. Basic classes train Sailors in the operation of arresting gear and as catapult crew members. Students practice handling a variety of aircraft in a special yard equipped with aircraft handling equipment.

Some of the most intense courses are taught at the Aviation Firefighting and Crash and Salvage Training Center (see article, p. 32).

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Hands-on Training . . .

Above, AA William Klein, left, and LCpl. Joe Worden check components on an EA-6B *Prowler* engine in the turbojet course in 1998. Left, the first classes of women began training in 1943. Here, students make voltage checks on receiver-transmitter equipment.

The centerpiece of the facility is a state-of-the-art control tower which is split with controls for the shore-based aviation firefighting and crash and salvage system on one side and carrier flight deck firefighting on the other. Instructors monitor and control all the action from both the tower and down on the fire pads. With a touch of a button, a replica of an aircraft bursts into flames and students in full firefighting gear march in to do battle with the smoke and flames. Today, however, there is much less smoke than in years past. When the new AB complex was built, a smoke abatement system was installed which cuts 60 percent of the smoke out of the air. The students still receive a realistic taste of smoke and flame, but the impact on the environment has been greatly reduced.

The Air Training Department is also home to the Marines' Expeditionary Airfield (EAF) Equipment Training Division. Physically located on the edge of Sherman Field, the NAS Pensacola airfield, the course trains Marines in the installation, operation and maintenance of EAF components and aircraft recovery equipment in remote or combat areas.

Mechanical Training

NATTC's Mechanical Training Department is comparable to a medical school for aircraft surgeons, but these "doctors" make house calls on flight decks and airfields around the world.

Aviation Machinist's Mates are taught the basics of aircraft power plants and related systems and their maintenance and safety during a common core course (see article, p. 34). Following this first segment of training, Sailors and Marines are split off into specialized training in one of three areas: helicopter/turboshaft, turboprop or turbojet.

Aviation Support Equipment Technician School, also located within the Mechanical Training Department, trains technical experts to perform electrical and mechanical maintenance on aviation ground

support equipment.

Most Navy and Marine Corps aircraft are designed to deliver ordnance of one kind or another. Aviation Ordnancemen (AO) begin their training in a course learning basic knowledge and skills as ordnance maintenance technicians at either shore facilities or aboard ships. The two course paths following the common core course provide training in ordnance maintenance at the air wing and departmental levels. In a special hangar in the Mega Building, trainers simulate various aircraft cockpits and wings. The AOs-in-training practice working as a team to safely mount missiles and other ordnance on the wings of aircraft, while one of their teammates monitors the cockpit controls.

The Life Support Division houses several schools designed around the lifesaving equipment aboard Navy and Marine Corps aircraft. The Aviation Structural Mechanic (Safety Equipment) course is broken into two segments: a common core dealing with basic environmental systems operations, maintenance and safety; and a follow-on teaching the basic operation and maintenance of equipment such as ejection seats.

Aircrew Survival Equipmentman School provides courses in basic, intermediate and advanced skills installing and maintaining aircrew survival equipment, including various oxygen breathing apparatus and testing equipment.

Navy and Marine Corps aviation use the Naval Aviation Logistics Command Management and Information System (NALCOMIS) to maintain complex aircraft maintenance records and to track supplies. NALCOMIS operators are taught computer skills as well as data entry, system security and integrity and statistical analysis in two computer-based classrooms in the Mega Building.

Throughout the fleet, whether aboard aircraft, ships or submarines, preventive inspection and maintenance is a hallmark of safety and preparedness. The Aircraft Nondestructive Inspection Technician course provides training in the principles and practical applications of several inspection processes.

The last division in the Mechanical Training Department is the Aviation Structural Mechanic (AM) Training Division. In years past, training for the AM rating was spilt into two subspecialties—structures and hydraulics. As of January 1998, a merged curriculum (with an emphasis on structural repair) provides common core training to all AMs in both subspecialties before the students move on to the hydraulics course. One of the large hangars in the Mega Building holds standard classrooms, as well as several special trainers that duplicate basic hydraulics and other systems aboard many Navy and Marine Corps aircraft, including landing gear, folding wings, speed brakes and, of course, a tailhook. The students are taught to work as a team, setting up a safety perimeter and inspecting the "aircraft" for system flaws. The structures course teaches the intricacies of metalsmithing while working with various metals and compounds to repair aircraft structures.

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LCpl. Joshua Good, right, and AA Miguel Mays untangle shroud lines while folding a parachute at NATTC's Aircrew Survival Equipmentman school.

Fleetback: Customer Service in Curriculum Development

As aircraft have changed, so has the curriculum at NATTC's schools. Many of the changes come directly from the fleet during regularly scheduled Maintenance Training Requirements Reviews between the personnel in the schools and the fleet. Feedback from the fleet results in curricula improvements in order to meet fleet requirements. For example, weapons and weapons systems change more quickly than the aircraft which deliver them. Currently, updated segments will be added to the Aviation Ordnanceman training schedule to include work with the Hellfire missile and new missile launchers.

An Unbeatable Team

The Naval Aviation Training Center grew out of a fleet need for outstanding Sailors and Marines who are high-quality aviation technicians. This partnership in quality has built an unbeatable team. As the next century quickly approaches, it will be the formidable presence of our Sailors and Marines behind the high-tech equipment that maintains Naval Aviation's forward presence.

Ms. White is the NATTC Public Affairs Officer.