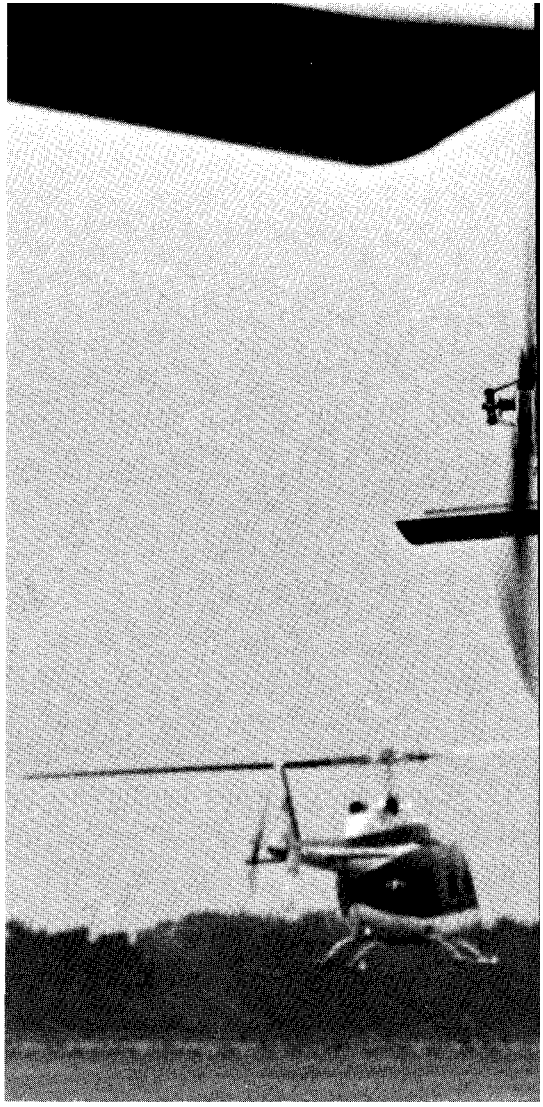
Rotary-Wing Pipeline



By Lieutenant Commander Jim O'Keefe

Today, Helicopter Training Squadrons (HTs) 8 and 18 provide helicopter training for the United States Navy, Marine Corps, Coast Guard and many allied nations at the south airfield aboard NAS Whiting Field, Fla.

Navy helicopter training began in 1943 with the Navy's purchase of its first helicopter, the HNS. The training site was Floyd Bennett Field, Brooklyn, N.Y., until after WW II, when operations were moved to NAS Lakehurst, N.J. In 1950, with the onset of the Korean War, the demand for fleet helicopter detachments increased dramatically. In that year, HT-8 was originally established as Helicopter Training Unit (HTU) 1, flying the HTL from Ellyson Field, Pensacola, Fla. The squadron was redesignated HT-8 in 1960. In 1972, with still expanding fleet helicopter pilot requirements, HT-8 split, forming HT-18. HT-8 and HT-18 became the training tandem stepping stones for the student Naval Aviator (SNA) along the path to the coveted Wings of Gold.

Today, HT-8 retains the mission of transition helicopter training, taking student aviators with roughly 100 hours of fixed-wing primary and intermediate T-34C *Turbo-Mentor* time and teaching them how to fly a helicopter. To HT-18 went the tasks of helicopter basic and radio instrument training, as well as formation, tactics and carrier qualifications.

HTs 8 and 18 train over 600 U.S. and 40 foreign student Naval Aviators annually. HT-8 also provides a helicopter flight syllabus for one-third of all U.S. Navy and many allied student flight surgeons.

Flight instructors have always been and will always be the principal tools of mission accomplishment in the Naval Air Training Command. For HTs 8 and 18, the production of safe, quality syllabus sorties falls to some 150 instructors: 54 with HT-8 (32 Navy, 20 Marine, 2 Coast Guard); 98 with HT-18 (52 Navy, 41 Marine, 5 Coast Guard). There are no selectively retained graduates or limited duty officer pilots in HT-8 or HT-18. Most instructors arrive at the squadrons directly from a fleet seat, with the experience of a fleet tour behind them. Total flight time for an arriving instructor is generally about 1,000 hours.

Newly arriving aviators quickly find a strong atmosphere of esprit de corps and camaraderie in both squadrons. This comes from sharing the aviation experience with instructor pilots and the inevitable "sea stories" and "you should have been theres." But it is also due to many other factors: the flight time is all anyone can want or imagine, the aviation maintenance support is unbeatable, the satisfaction of training future fleet helicopter pilots is strong, and the Pensacola/Milton, Fla., area is a great place to live, work, fly, get a master's degree and get involved in the community on a shore duty tour. In a normal two to three-year tour in HT-8 or HT-18, the aviator's greatest challenges and rewards will be found in the cockpit.

For the HT-8 student, the first challenge is to control the machine — an A or B model TH-57 *SeaRanger.* For the first few hops, the "57" flies the student, not vice versa. The student hangs on for the ride to Spencer OLF, an outlying field located about eight miles west of NAS Whiting Field. After nine flights and a FAM-10 safe-for-solo check, the SNA solos to Spencer OLF and back. A one-mile-square, uncontrolled field with two traffic patterns oriented about one cardinal "course" and nine aircraft to a pattern, Spencer will reinforce the SNA's already well practiced lookout doctrine.

All student aviators put a great deal of sweat into mastering that mystical exercise in frustration, the maneuver in which "the helicopter is maintained in nearly motionless flight over a reference point at a constant heading and altitude," that most elusive cosmic balance — a hover. Generally, he will not be peeved by instructor requests to "keep it in the panhandle — of Florida, I mean, Ensign," if indeed possible. But with hover secure and basic air work coming along, he proceeds on to the most aeronautically demanding of the maneuvers taught in HT-8 (and one of the most unique in aviation) and the one HT-8 instructors pride themselves on most: autorotation.

In 1984, HT-8 instructors performed more than 485,000 takeoffs and landings at Spencer OLF, some 90,000 of which were autorotations, half of which were full (power-off) autorotations to the ground.

After 17 familiarization flights and ground school completion, the SNA completes the 24-flight/38.1-hour syllabus with day/night VFR navigation introduction and low-level simulated tactical missions. As the SNA checks out of HT-8, he or she is NATOPS-qualified in the TH-57 A or B and has flown solo three times, one of which was on a VFR flight plan to one of three nearby Air Force bases. The student is a basic helicopter

TH-57As at Ellyson Field

pilot ready for the challenges and lessons of HT-18.

Within recent years, notable changes have taken place in the helo training syllabus. One was the phasing out of the venerable TH-1 *Huey* as the HT-18 trainer and the introduction of the new TH-57C *SeaRanger* in the summer of 1983. For the fleet aviator accustomed to the basic necessities, and for one who was himself trained in the *Huey,* the "Charlie" has to be seen to be believed. It's a premier helicopter instrument trainer incorporating a ministab system, which will put your SCAS/AFCS to shame; two RNAVs that incorporate VOR/OME/TACAN/ILS and a 10-waypoint, point-to-point navigation capability; VHF communications as well as UHF; and, what else, ADF. It is flown by HT-18 on all of its flights and by HT-8 on all night and operational navigation hops.

In the TH-57C the SNA learns that modern instrument, stability and control systems are "to be believed in." Initially, he battles, as do new instructors-under-training in HT-18, with the old *Huey* motion base simulator. Now utilized solely as a procedures trainer, it hangs on.

With five flights for basic instrument procedures and eight for radio instruments in the simulator, the student is as ready as ever to dazzle the instructor with procedural prowess. Armed with classroom knowledge of IFR procedures and a sound instrument scan, SNAs today take to the air to battle the infamous Gulf Coast weather, noted for its thermals and turbulence. With all Navy, Marine and Coast Guard helicopters dual-piloted, there is a new relationship that must be fostered and a concept the student must learn to manage: crew coordination.

One HT-18 flight instructor said, "As the student sees the demands of a fully instrumented cockpit, he begins to see the necessity for coordination and leadership in the cockpit. Although the student/instructor relationship remains, the pilot/copilot idea blossoms."

The chance to prove his or her grasp of the "fly, think and crew coordinate" concept is brought to fruition in the next stage of training: helicopter tactics. This phase of training stresses maneuvers currently employed in fleet helicopters of the Navy, Marine Corps and Coast Guard. Service diversity is reflected in the fact that 22.2 hours of the 32.5-hour tactics phase is "service specific." Included in this stage are external load operations, night landing zone operations, low-level navigation, and formation parade, climbs, descents, crossovers, breakups and rendezvous.

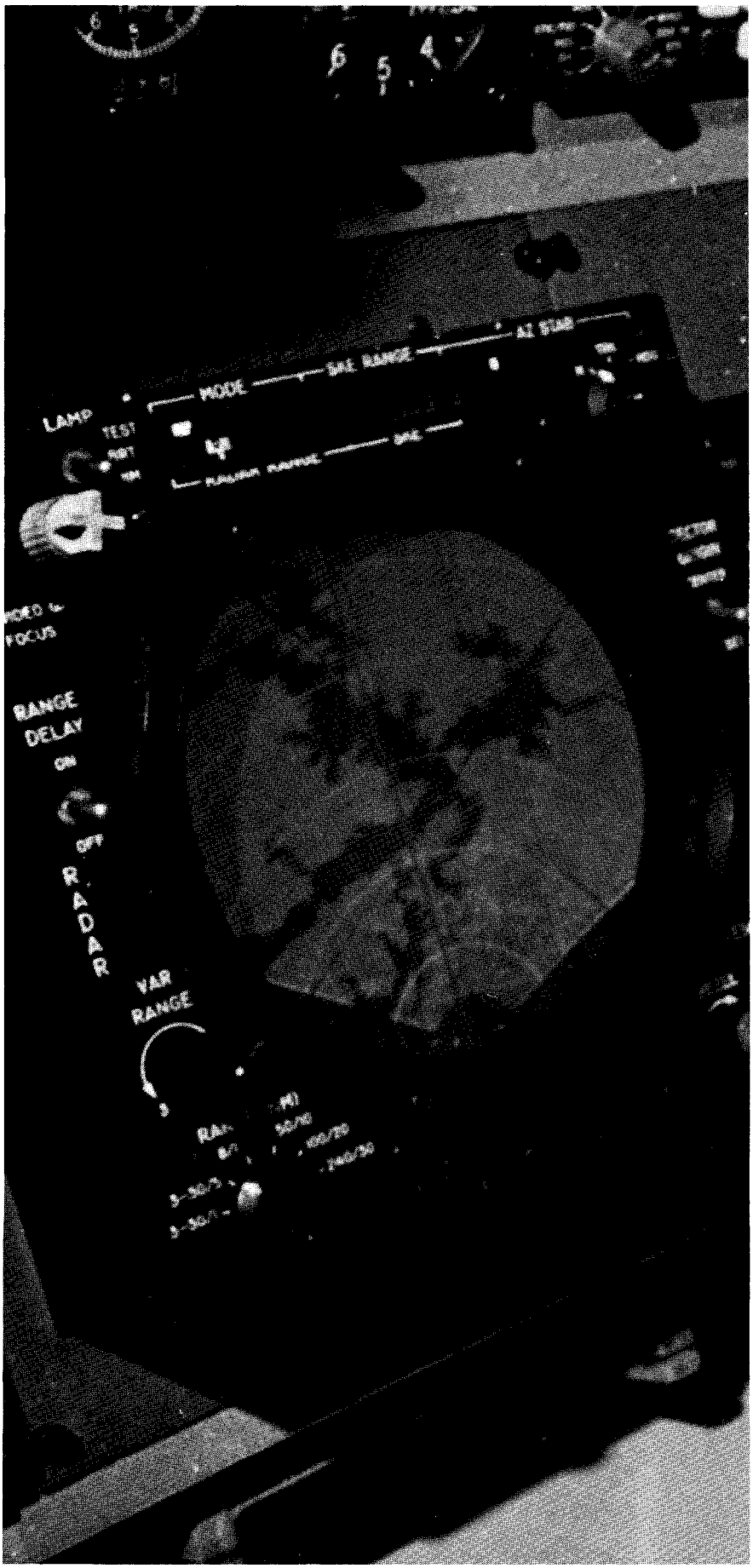
With the Standard Instrument Rating hard-earned, the SNA anticipates carrier qualifications. With more than 200 hours of flight time under his belt in a syllabus designed to be "rather demanding" in the words of Rear Admiral Jerry Hatcher, formerly Commander, Training Air Wing 5, five touch and goes to *Lexington* (AVT-16) to cap it off, and a growing fleet awaiting his arrival, the new designated Naval Aviator can feel pride in a remarkable accomplishment.

In November 1968, HT-8 became the first single-engine training squadron to pass 200,000 accident-free hours. HT-8 and HT-18 continue to place safety first as they work together to prepare SNAs for duty with the fleet.

What does the future hold for the dynamic duo? According to Hatcher, a rotary-wing aviator himself, "Growth planning for it, accommodating it while all the time maintaining safety as the watchword, that's the challenge. And I don't see that changing. With the introduction of the CH-53E for heavy lift in the Marine Corps and mine countermeasures in the Navy, and the beginnings of LAMPS MK III, the pilot training requirement will continue to climb to a projected 670 designated rotary-wing aviators in 1988.

"Farther down the road is the Joint Services Advanced Vertical Lift Aircraft (JVX)," said RAdm. Hatcher. "Flight instructors are, to a great extent, the key to accommodating that growth. We have had success getting high performers for the Training Command and that will continue in [large measure] because the area is great, the flight time is super and these aviators enjoy instructing people who will one day share fleet cockpits with them." ■

The Public Affairs Office, NAS Whiting Field, Fla., and the Public Affairs Officers of HT-8 and HT-18 contributed to this article.



NFO Training

By Commander Al Jones

Student Naval Flight Officers (NFOs) get a mixed bag of training. When they complete the aviation indoctrination program, student NFOs move on to Training Squadron (VT) 10, home of the *Cosmic Cats,* at Sherman Field, NAS Pensacola, Fla. There, they spend up to 29 weeks, 15 in basic and 14 in intermediate NFO training.

The basic NFO curriculum emphasizes academics — 297.5 hours of classroom work, to be exact. In addition, students can expect some 22 hours in the 1D23 navigation trainer and 2.6 hours in the 2B37 T-34C simulator to prepare them for the flight portion of the curriculum. This phase consists of five sorties in the T-34C turboprop trainer and one sortie in the T-2 twin-engine jet. Flights include basic familiarization and introduction to visual and instrument navigation, and formation flying.

Following basic NFO training, students who have been selected for maritime patrol (VP) or electronic surveillance (VAQ) leave Pensacola for the 22-week interservice undergraduate navigator training (IUNT) program at Mather AFB, Sacramento, Calif.

The IUNT curriculum includes 345 classroom, 60 flight and 76 simulator hours of training. At Mather, all flight training is given in the Air Force's T-43A aircraft, a version of the Boeing 737 airliner. The T-43A's modern navigation and communications equipment prepares navigators for strategic and tactical aircraft. Inside each T-43A are 19 stations: 12 for navigation students, four for proficiency training and three for instructors.

The simulator for the T-43A is the T-45, a state-of-the-art, ground-based navigation training device with one mission control center and 52 student stations. The simulator places the

student navigator in most of the situations he might encounter during his flying career.

On completing the IUNT program, student NFOs receive their NFO wings and orders to their first fleet squadron, with an intermediate assignment to an appropriate fleet readiness squadron (FRS) en route. Those who do not select the IUNT program remain at VT-10 and continue instruction in the intermediate phase. Successful completion of this training qualifies them for advanced training, specializing in airborne tactical data systems (ATDS), radar intercept (RI), tactical navigation (TN), and overwater jet navigation (OJN) training.

During the intermediate phase at VT-10, students accumulate 40 flight hours, 10 in the T-34C, 11.7 in the T-2 and 18.3 in the T-47. Academics during this portion of the training are still emphasized with 103 hours, devoted primarily to flight preparation. After 14 weeks the students, except for ATDS trainees, go on to advanced NFO training at VT-88, also at NAS Pensacola.

ATDS students leave the Training Command after they finish intermediate training at VT-10 and report directly to an East or West Coast FRS for advanced NFO training in the sophisticated, fleet-operational E-PB/C *Hawkeye* — 42 hours in the *Hawkeye,* 137 hours in the 15F5/15F8 simulator and 283 classroom hours, spread over a 15-week period.

When the student has completed advanced training, he receives his NFO wings and designation papers. But the learning does not stop there. The complex on-board computers and the radar and sensor systems of the E-2 require another 15 weeks of intensive training and practice in preparation for operational duties.

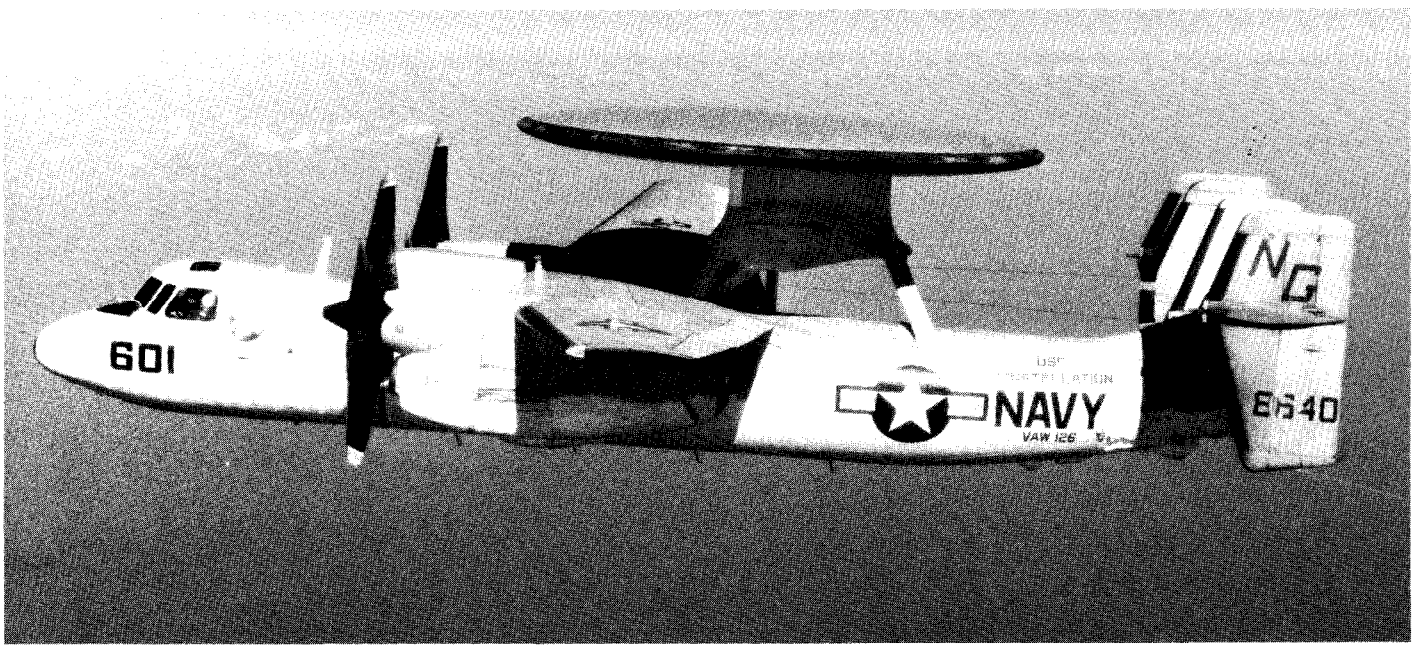
Students who remain at NAS Pensacola after the VT-10 intermediate phase are assigned to advanced NFO training at VT-86 for RI, TN and OJN training.

Student radar intercept officers (RIOs) have 19 weeks of training including 131 academic, 70.5 T-47 and 12 TA-4 *Skyhawk* flight hours, and 62 hours in the air intercept radar trainer. During this phase, the student applies the principles necessary to conduct aggressive air-to-air intercepts by requiring the pilot instructor to fly the aircraft throughout a mission profile, thus engaging a simulated enemy aircraft from the correct missile-fixing position. The student radar intercept officer is presented tactical training situations in simulation where he learns to interpret reflected radar energy displayed on airborne radarscopes and to deploy weapons while countering enemy threats. High G adaptation is achieved by operational maneuvers in tactical aircraft while the students execute their preflight planning. Successful completion of the advanced NFO RIO training will be followed by assignment to an appropriate F-4 *Phantom* or F-14 *Tomcat* fleet readiness squadron.

The 12-week advanced tactical navigation training curriculum includes 88 academic, 12 ground mapping radar trainer, 12 TA-4 and 59 T-47 flight hours. Emphasis is on the enhancement of navigation, communications and aircraft systems management skills developed in intermediate NFO training. Major emphasis is placed upon teaching basic skills to navigate safely, utilizing visual and airborne ground mapping radar. This teach-to-objectives curriculum stresses crew coordination and mission priorities. Next is assignment to an appropriate A-6E *Intruder* or EA-6B *Prowler* fleet readiness squadron.

Advanced overwater jet navigation training is essentially the same as that of the tactical navigator course in academics, flight and trainer time. Total curriculum length is 15 weeks. Major emphasis is on teaching basic skills to navigate safely, using visual and airborne radar search with a view toward application in an overwater environment. Following overwater jet navigation training, students are assigned to the S-3A *Viking* FRS in San Diego, Calif., or an appropriate VAQ FRS.

On successfully completing any of the advanced NFO training courses, the student is designated a Naval Flight Officer and is awarded the coveted Wings of Gold. ■



E-2C Hawkeye from VAW-126 in flight.