

What the University of MAC is to transport flying, the 1550 ATTWg at Hill is to helicopters. But the scope and the challenges are much greater, as The MAC Flyer learned during a visit to . . .

MAC's New Chopper College



by Major Ed Ross

UNTIL QUITE RECENTLY, Air Force helicopter training was spread all over the country. Air Training Command had a big helicopter school at Sheppard, Aerospace Rescue and Recovery Service had one at Eglin, there was a Tactical Air Command helicopter school at Shaw, and there were others. On the first of July, the 1550th Aircrew Training and Test Wing began operations at Hill AFB, and all this changed. This new organization, set up under ARRS, has combined virtually all Air Force helicopter and ARRS HC-130 training on one base.

In all, this new wing offers over 30 different training programs in a variety of subject areas from aerial refueling to mountain climbing. Although we don't have space for a complete description of all these courses, we would like to review the highlights of the major flying

training programs at Hill, and give you an idea of the vast scope of operations in this unique wing. Let's take a look at what's going on, by type of aircraft.

HH-43 Flight Training

Flight training in the Huskie, which was conducted by Air Training Command at Sheppard AFB and ARRS at Eglin until the activation of the 1550th, is designed to produce fully qualified HH-43 aircraft commanders. To accomplish this transition from a basic helicopter pilot to a ready member of the ARRS local base rescue team requires about 64 flying hours, on 45 training sorties, plus over 90 hours of classroom instruction.

During the ground academic training, the students receive an introduction to the HH-43 and a comprehensive engineering course on the mechanics of the air-

craft. Since virtually all HH-43 pilots are assigned to small LBR detachments, they must be intimately familiar with their bird and able to perform functional check flights or additional duties as a maintenance officer. The ground training also includes a large block of instruction on LBR detachment policies and procedures.

During flight training, the students begin with simple transition maneuvers in the bird such as hovering, various types of takeoffs, and normal traffic pattern work. But it's not long until emergency procedures — forced landings, autorotations, and emergency fuel operations — begin to challenge the fledgling Huskie pilots. And then the instrument work begins.

Most people in the helicopter business feel this new emphasis on instrument flying — in the Huskie and all our other choppers — is a real breakthrough. For many years, probably because of early helicopters' poor stability, helicopters were only considered suitable for visual flight. Old attitudes die hard and this one has been no exception, but modern aircraft and instruments are proving daily that choppers can fly in weather.

Instrument training in the HH-43 usually begins after less than eight hours in the aircraft, and it's not long until the student is flying timed turns, steep turns, and even ADF and GCA approaches on the gages. After he has mastered the basics of flying the Huskie, visually and on instruments, the student is ready to begin training in the operational tactics and procedures he'll need to use his aircraft as an effective rescue and recovery vehicle.

During this training the student is introduced to remote area operations in the rugged country around Hill. Under the watchful eye of his instructor pilot, he learns to perform landing site evaluations until he is able to answer the one question which faces all helicopter pilots operating into remote sites — "Can I land and take off from there, safely?" The first few of these missions are flown over areas of relatively low elevation, but as the student gains ability and confidence, he begins operating into areas of higher and higher elevation, where the lower density altitudes rob him of surplus power and leave little margin for error. This realistic training allows him to safely explore the performance capabilities of his aircraft, under controlled conditions.

During the final block of operational training, the student is introduced to hoist and cargo sling operations, and learns to use the HH-43's almost constant companion, the fire suppression kit (FSK). While polishing his techniques in the use of all this equipment, he also participates in simulated search and rescue mis-



DWARFED BY THE HOVERING HELICOPTER, a crew-member reaches up to ground the Huskie before attaching the Fire Suppression Kit.

sions, learns proper fuel management techniques, various search patterns, and UHF homing procedures.

TH-1F Training

The 1550th offers two training programs in the TH-1F: an initial Huey transition course for general upgrading, and another designed to prepare pilots for SAC's missile support program. The SAC course includes transition training, plus additional items designed to prepare pilots for the missile support mission. Since the two programs overlap, we'll confine our discussion to the SAC training.

The program consists of over 55 hours of academic training, covering aircraft engineering, an introduction to missile site support procedures, and SAC regulations, plus approximately 25 hours of flying time on a total of 16 sorties.

During his first few missions in the Huey F, the student pilot practices normal transition maneuvers and is

shown the differences between the F model and the Huey D/H. On about the third or fourth ride, the student begins instrument work and soon, in addition to basic instrument maneuvers, he is practicing instrument take-off procedures, TACAN, VOR, GCA techniques and ILS approaches.

Before he's finished his training, the new Huey pilot will be exposed to hoist and sling operations, plus search and rescue procedures, and will become proficient in operating his aircraft safely into — and out of — areas restricted by terrain or other hazards. He also becomes proficient in heavyweight operations. On at least three



UNDER THE SCANNER'S WATCHFUL EYE, an H-3 maneuvers within a refueling envelope measured in feet and inches. Notice the tanker's high angle of attack in the refueling configuration.



BULL'S-EYE ABOVE A SOLID UNDERCAST as an amphibious H-3 takes on fuel. The helicopter's range can be extended to the limit of its crew's endurance.

missions, he'll start with an aircraft only 700 pounds under its maximum gross weight, or at a weight not to exceed the maximum gross weight to hover in ground effect, whichever is lower.

Throughout his training there is a heavy emphasis on emergency procedures. By the time the student has completed his final check ride in the F model, he has amply demonstrated his proficiency in autorotations, forced landings, manual fuel operations, and boost off approaches.

UH-1N Training

There are three courses of instruction in this new twin engine version of the venerable Huey. The first is a basic transition course which consists of approximately 23 hours of classroom work and a little over 20 hours of flying time. After completing this phase, most students move into one of the two advanced programs, designed to qualify them for duty with either ARRS or TAC. Both the advanced courses consist of about 50 hours of academic training and approximately 20 hours of flying time, but the content of the two courses varies greatly.

During his initial training in the N model, the student pilot begins with the same basic transition maneuvers he would perform in any new helicopter. These include: takeoffs to a hover, visual traffic patterns and landings, and practice hovering turns. He is also introduced to the peculiarities of the N model, with its twin engine capability.

Emergency procedures training begins quickly and it's here the two engines really make a difference. While twin engines make the N model a safer bird, they complicate, instead of simplify, emergency procedures training. For example, when the engine quits in a single engine Huey the pilot has relatively few courses of action open to him — one way or another, he's going to land pretty quickly. In the N model, that isn't necessarily true. The pilot of a Huey N must not only be proficient in autorotations and forced landings, he must add to his bag of tricks single engine procedures and manual fueling on either or both engines.

After only a few hours in the bird, instrument practice begins, and the Huey N, like the F model, is well equipped for it. Upon completion of this basic course, the new Huey N pilot begins specialized training for his final assignment.

In ARRS, the Huey is used for local base rescue in a mission like that of the HH-43, so it's not surprising that the ARRS training for N model pilots is similar to the HH-43 program. It includes hoist and cargo sling opera-

tions, simulated search and rescue missions, and training in the use of the fire suppression kit.

In TAC, the Huey N is called upon to fill a variety of roles, and the training for TAC pilots reflects this requirement. It includes formation flying, (both wingtip and tactical) assault procedures, and practice infiltration and exfiltration exercises. Helicopter gunnery also receives attention, and the student is exposed to the full range of the N model's armament including 7.62 mm miniguns and 2.75 in. rockets.

H-3 and H-53 Training

Although the Jolly Green and the Super Jolly, or Buff, are entirely different aircraft, their training programs are very similar, so we'll discuss these two heavy-weights together. There is a basic transition course in each aircraft, plus two advanced courses for each, similar to the ones offered in the Huey N, designed to prepare pilots for missions in ARRS or TAC.

Initial qualification in the big birds takes about 43 hours of flying time, spread over approximately 15 training sorties. The program begins with the same transition maneuvers practiced in other helicopters, such as hovering, normal takeoffs, traffic patterns, and landings. Emergency procedures are usually introduced during early missions, and the student pilot continues practice throughout his training on such items as single engine procedures, flight control malfunctions, and autorotations. Hoist and sling operations are demonstrated to the new pilots and they are also introduced to formation flying. Instrument practice begins near the end of the program, and in these fully equipped aircraft it includes all the usual maneuvers and approaches, including TACAN and ILSs. After completion of this training, the new pilots begin to specialize in preparation for their final assignments in either ARRS or TAC.

Advanced training for ARRS heavy lift helicopter pilots takes approximately 24 flying hours on 16 sorties, plus another 30 hours of academic work on ARRS procedures. The flight training begins with hoist operations over land and water, and includes missions into confined areas and night training using flares or the aircraft's own lights. Soon the students begin refueling training with the 1550th's HC-130 tankers. The new helicopter pilots learn to rendezvous and hook up both during the day and at night. They learn the effects of wake turbulence behind the tanker and get a chance to see a simulated C-130 engine failure, while they are in the observation position just behind him. They also learn to hook up and refuel while operating their helicopter on a single engine.



AN H-53 BUFF IS SHADOWED by an H-3 Jolly Green. Heavy-lift helicopters performing yeoman service in both ARRS and TAC have written new pages in aerospace history.



THE TWIN-ENGINE HUEY N, a new bird in town, fills a variety of roles in TAC. The N model combines the latest engineering concepts with lessons learned by H-1s in combat.

The training also includes simulated search and rescue missions, navigational problems, gunnery missions, and training in the use of a rescue crew complete with pararescuemen. To familiarize them with the other side of the story, all students experience at least one hoist pickup, wearing full combat equipment. This is not a graded item but does give rescue helicopter crewmembers a chance to see how things look to the people they'll be trying to help.

Heavy lift helicopter training, for pilots bound for TAC, consists of approximately 24 flying hours on 17 sorties, plus an additional 49 hours of classroom work



SECONDS ABOVE THE WATER, a scuba-equipped pararescuer prepares for landing. The smoke on the surface is used to measure wind.

which concentrate on tactical problems, intelligence training, and weapons systems. The flight training is designed to teach the new pilot to use the helicopter's unique capabilities during tactical operations in a combat environment. To accomplish this, the student is introduced to and practices maneuvers such as: landing site evaluations, tactical approaches and landings, day and night hoist and sling operations, gunnery, heavy weight operations, and advanced cargo delivery techniques. Near the end of his training, the new crewmember puts all this together during tactical profile missions, which are flown in full combat gear and include mission planning, navigation, target identification, and egress procedures.

HC-130 Training

This training program, which was located at Eglin AFB before it moved to Hill and became part of the 1550th, is either one of the smaller or larger programs in the wing, depending on how you count. If you consider only the number of aircraft, the HC-130 program is small, but if you count the number of students in training, it becomes one of the biggest. Separate courses are offered for each crew position in the aircraft and that includes pilots, navigators, flight engineers, loadmasters, radio operators, and pararescuemen. Training all these people makes the 1550th's HC-130 operation big business.

Pilots coming to the HC-130 program receive their initial training in the Herky Bird at Little Rock AFB. After completing transition there, they report to Hill and begin flying rescue-configured aircraft. After a brief review of the aircraft, and a chance to see the differences in the HC model, the students quickly move

on to rescue and aerial refueling training.

During this portion of the course they practice the many search patterns they may be called upon to use during an actual rescue mission, learn intercept techniques and procedures, and practice aerial delivery of rescue equipment. All HC-130 crews receive training in aerial refueling, even though not all HC-130 units have this capability. If a student is ever assigned to a unit that does have tankers, all he'll need is a short refresher and a recurrency check to become requalified in aerial refueling.

The HC-130 is a sophisticated recovery system and, to be operated effectively, it requires a highly trained, well coordinated crew. For this reason, many of the HC-130 training missions are flown with students manning crew positions, and there is a continuing emphasis on individual crewmember responsibilities and aircrew coordination.

Test Programs

Remember, we said that the 1550th was an Aircrew Training and Test Wing? In addition to the training we've already mentioned, the 1550th is engaged in testing and evaluating new techniques, tactics, and concepts of helicopter operations. They are also involved in testing new hardware, such as aircraft, avionics gear, and locator systems for both personnel and equipment. Their efforts are directed toward ARRS' continuing challenge; the rapid, safe location and recovery of men and machines, anywhere in the world, day or night, under any weather conditions.

Summary

As we said at the beginning, this hasn't been a comprehensive discussion of the activities within the 1550th. We've barely mentioned some programs — like pararescuer training, which includes such interesting subjects as how to deliver a baby, SCUBA diving, mountain climbing, and parachuting. However, we have tried to give you an idea of the challenges posed by the mission of the 1550th.

It's interesting that, although these challenges are unique and unlike anything faced by those of us in the airlift business, they are met by the same basic tools we all use, such as proper procedures, good judgment, and training. Whether making a landing site evaluation of a jungle clearing, or an approach to minimums on a line cargo mission, the same standards of professionalism apply. There is a striking similarity in the means of safe mission accomplishment, and safe mission accomplishment is what we're all here for.