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Vice Admiral Robert F. Schoultz Deputy Chief of Naval Operations (Air Warfare)
Vice Admiral James B. Busey IV Commander, Naval Air Systems Command
Captain Richard C. Knott Head, Aviation Periodicals and History

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COVER—The essence of Naval Aviation Training is caricaturized by the well-known artist, Mr. Hank Caruso.

Features

A Few Thoughts from CNATra	1
Training to be "...the best damn aviators in the world!"	4
Sweating It Out At Pensacola	8
The Art of Surviving	12
Wings of Change	14
Training Command at a Glance	16
Jet Pipeline	18
Rotary-Wing Pipeline	20
Maritime Pipeline	22
NFO Training	24
Instructor Duty — The Surprise Challenge	26
FLDO Program...A Super Opportunity	29
A New Bird for NFOs	30

Departments

Grampaw Pettibone	2
Touch and Go	31
People—Planes—Places	32
Letters	inside back cover

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Motivation is put to the supreme test in Aviation Officer Candidate School (AOCS) and Aviation Preflight Indoc-trination (API) as young men and women train to become "...the best damn aviators in the world!" (p. 4), while "Sweating It Out At Pensacola" (p.8).



Pensacola's Survival School, the largest department in the Naval Aviation Schools Command, teaches "The Art of Surviving" (p. 12) by providing the knowledge and firsthand experience, while the students provide the self-confidence and the will to survive.



Watch for the following TraCom aircraft changes in the next few years: T-28s bowing out to T-34Cs; TH-57Cs assuming the TH-1 role; T-45 *Hawks* replacing T-2s and TA-4s; Cessna T-47As taking the T-39 mission; and loaned RAF *Hawks* filling in for TA-4s in NFO training (pp. 14 and 24).



Jet, Rotary-Wing, Maritime (multiengine) and NFO training programs are summarized on pages 18, 20, 22 and 24, respectively. An overview of the Training Command can be found on pages 16 and 17.



Flight Instructor duty in the Training Command is many things to many people. To a few pilots who left active duty and came back, it turned out to be "The Surprise Challenge" (p. 26).



Enlisted members becoming Naval Aviators and officers is happening in the Training Command today. The Flying Limited Duty Officer (FLDO) Program provides the means, while top-notch enlisted members provide the right stuff — motivation (p. 29).



A FEW THOUGHTS

By Rear Admiral P. B. Booth, USN
Chief of Naval Air Training

Thanks for the opportunity to say a few words about the Naval Air Training Command. Our job in the Training Command is to train about 2,000 Naval Aviators — pilots and NFOs — per year. Much has changed in the past few years. Let me hit a few high points:

Safety is our number one goal. Results are better by a factor of 7 than a decade ago. Why? Because our people are dedicated to doing what has to be done *right* and *by not cutting corners*.

Quality is our number two overall goal. Feedback from the fleet/fleet marine force is extremely favorable. This feedback notwithstanding, there are still too many folks who have significant problems once in the fleet. All of our output to the fleet should have the capability to hack any RAG syllabus and to *win* in the fleet environment. (Bottom line of our job.)

Assets. We are manned and have the numbers of aircraft to do the job. Across the board we are where we should be. Availability is very high, ranging from 94 percent for the T-34 fleet to the low 80s for the 400-airplane T-2/A-4 fleet. Supply and maintenance folks doing well.

Work regimen. We are 100 percent shore duty and I expect our people to work a normal work week. This is because most of our instructors and maintenance people have just come from the high-op tempo of the fleet. *We do.*

Flying. The flying is great and the chance to work with many impressionable students super. Far more flight time than most fleet environments. Every LSO gets at least a "couple" each boat.

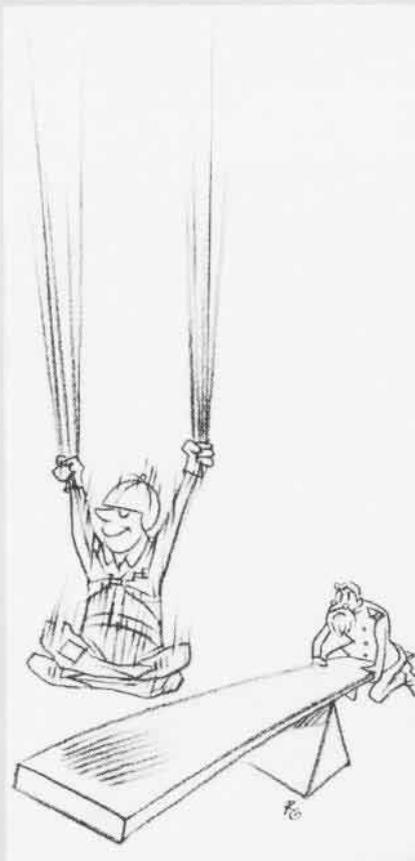
Locations. You who have been there may not have fond memories of Kingsville as a student, but I can assure you the overwhelming majority love it there. Hunting, college (60 percent enrolled in off-duty study), nice townspeople, great flying, etc. The same is true for all of our bases — Corpus Christi, Beeville (one of the hidden secrets of the U.S. Navy), Meridian, Whiting and Pensacola.

Attitudes. To visit one of our "wings" is a real high. People like what they are doing, feel a real sense of purpose and when a person gets his Wings pinned on as the "Navy's newest Naval Aviator" you can see the results of your work! I submit that practically all of our people really enjoy what they are doing *and* get a great sense of satisfaction out of doing it.

Career. The days of going from fleet squadron to RAG to squadron, etc., are gone. We need sharp young officers in places other than the fleet cockpit — staff, ship, PG school *and* the Training Command. On the last aviator command screen, of 140 who made the command list, about 80 had had previous duty as an instructor in the Training Command. If one does well here, he'll do well in the future. Duty for a *good* performer in the Naval Air Training Command is definitely career-enhancing.

Bottom line. *To produce an aviator who can do the job in combat if called upon.*

Thanks for the chance to pitch to you all — the best aviators in the world — a bit about your Naval Air Training Command.



Hawkeye's starboard quarter. His attention was focused on a ruptured fuel hose behind the aircraft. The *Hawkeye's* copilot, VAW-125 X.O. Commander John Osle, saw the purple shirt heading directly for the prop. AN Christopher Varlaro of the squadron also noticed the purple shirt heading in harm's way.

Cdr. Osle quickly applied maximum reverse thrust on the engine to ward off the purple shirt while AN Varlaro hustled toward the man and intercepted him a few feet in front of the prop. Amazingly intent on the ruptured fuel line, the purple shirt wrestled free from Varlaro and continued in the same direction. Cdr. Osle then feathered the engine. Varlaro was not to be denied and tackled his shipmate, knocking him to the deck inches from the front of the prop.



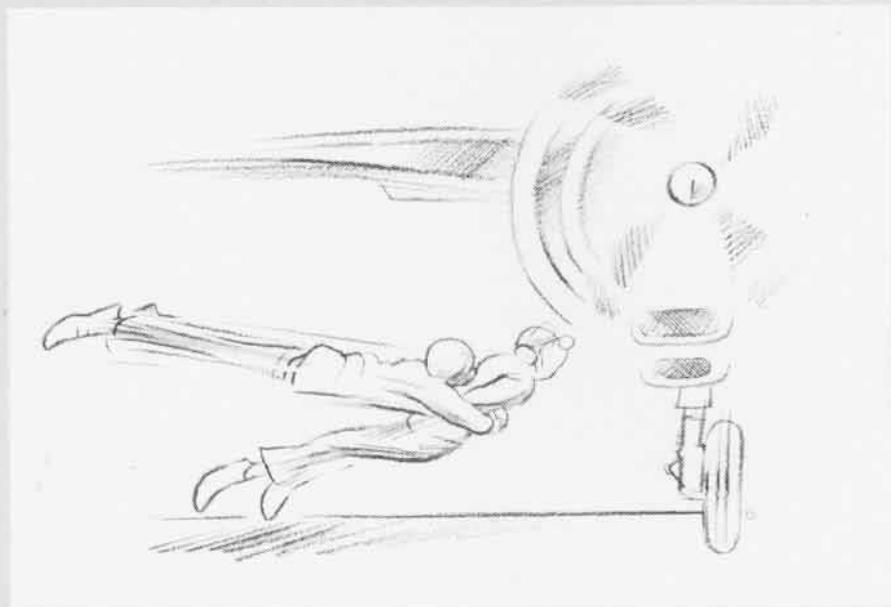
Grampaw Pettibone says:

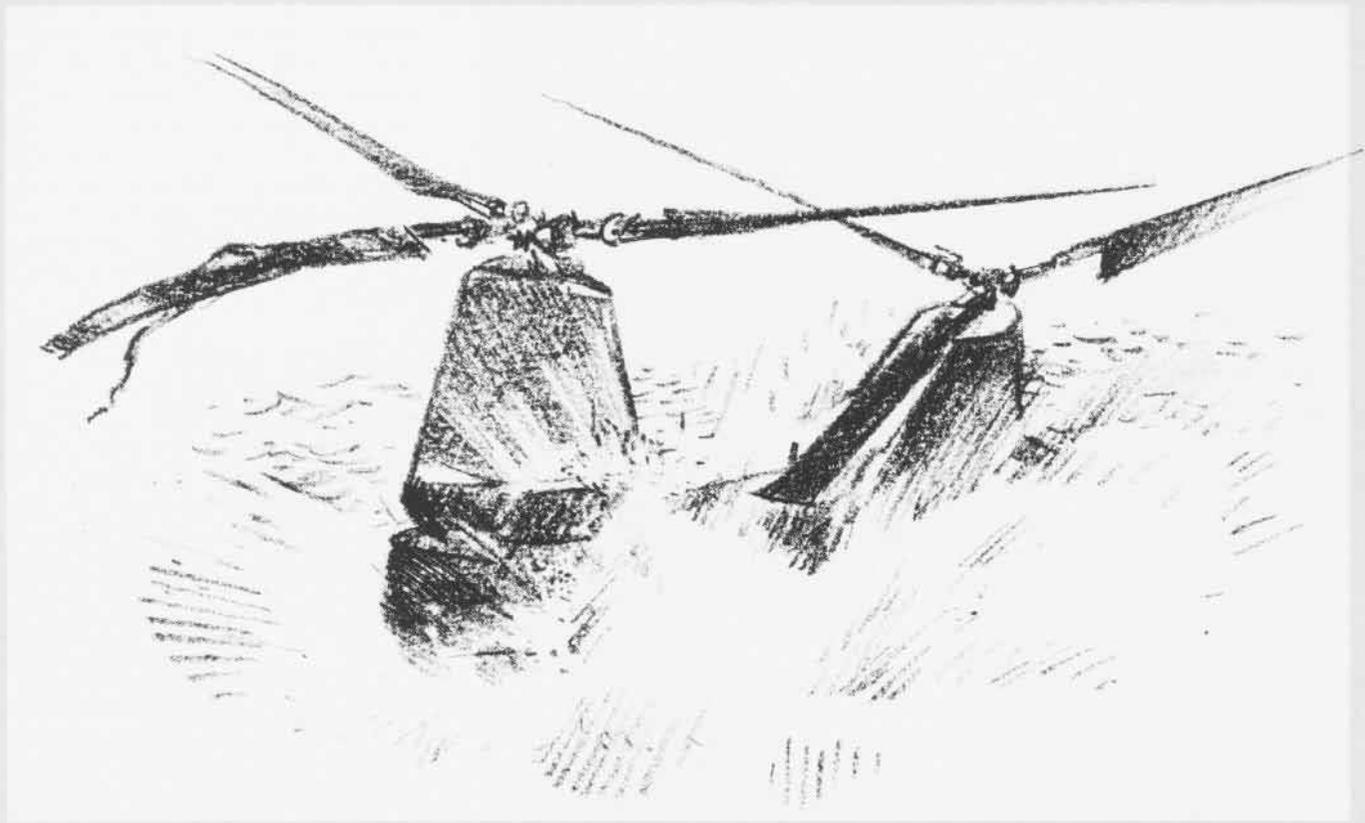
A big-league "well done" to Cdr. Osle and AN Varlaro. I'm peacock proud of their lifesaving actions. In particular, Gramps salutes that young airman.

A while back, a writer profiled pro-football players. Defensive backs, for instance, are supposed to be extremely self-confident, a bit flamboyant, and suited for independent pursuits. I particularly liked the description of linebackers. They are daring, unselfish, and have great instincts. They're the type who volunteer to drop in behind enemy lines. AN Alvaro can play linebacker on my team any day.

Lifesaving Tackle

After a daytime recovery aboard *Forrestal*, an E-2C was taxied into position behind the number one cat for tie-down. A V-4 division petty officer approached the machine – its two large props spinning – from the





Flapping Phrawg Flounders

Following completion of standard depot level maintenance (SDLM), an aircraft ferry crew arrived at the rework facility. After a lengthy inspection, the crew accepted custody of a CH-46D *Sea Knight* helo. On completion of appropriate flight briefings, the crew flew to an en route air station to remain overnight.

Following an early morning breakfast and the daily and preflight inspections, the crew filed a flight plan and launched for home plate with two en route fuel stops planned. At the second en route refueling stop, the crew and two escort *Sea Knight* crews briefed for the 300-nautical-mile leg over open water, as command policy required a minimum of two aircraft for extended over-water flights.

After a thorough briefing, the CH-46D ferry crew launched as number three in the flight. Two hours after the takeoff, the transmission oil pressure light illuminated. The pilot informed the flight leader of his problem and made an emergency landing at a nearby island. Maintenance QA-qualified passengers determined the problem to be a faulty

transmission oil pressure switch. With the copilot at the controls, the *Sea Knight* again launched, rejoined the flight, climbed to 2,500 feet MSL and established cruise airspeed. Shortly after leveling off, the aircraft developed a sudden and violent thumping beat. The pilot immediately commenced a controlled and rapid descent to an emergency water landing.

Touchdown was uneventful. However, the blades were flapping and shaking so severely that water taxi to the nearest land 10 nautical miles distant was impossible.

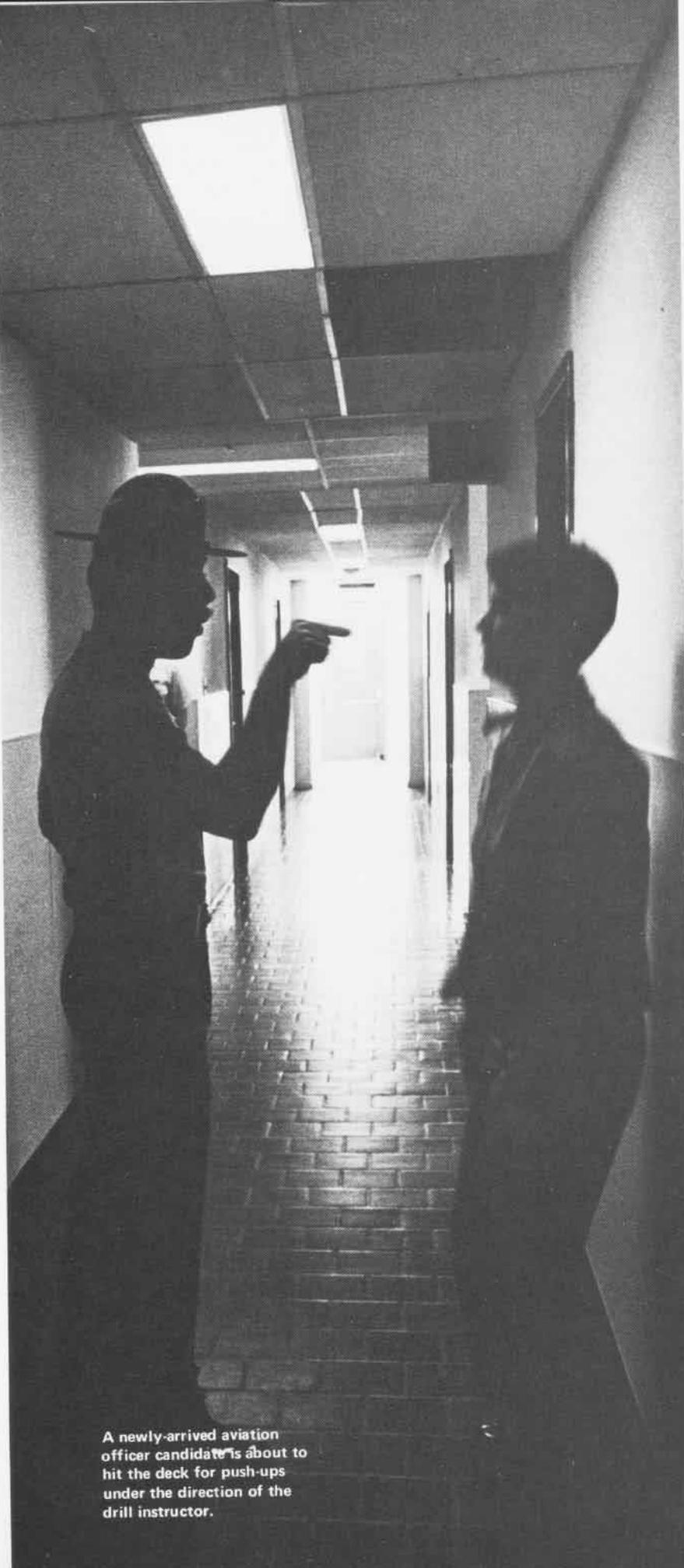
The engines were secured and the crew exited into a raft via the cabin door. Both pilots conducted fast but thorough visual inspection of the aircraft to determine the source of the control problem, and discovered that a 46-inch-long de-ice blanket had separated in flight from one of the aircraft's aft rotor blades. Close observation of the integral spar inspection system had "popped black," indicating impending blade failure. The waterlogged *Sea Knight* floated for approximately 20 minutes, slowly rolled left and sank in 2,000 feet of water as the crew watched helplessly and waited in their raft for pickup by their wingman.



Grampaw Pettibone says:

Holy flopping Phrawgs! These two pilots sure did old Gramps proud. The swift and professional action of this crew not only fended off the Grim Reaper but enabled them to locate the cause of the vibration/flapping problem prior to the flopping Phrawg (H-46D crew term of endearment) falling into Davey Jones' locker. Unfortunately there wasn't even a lily pad to leap on, so the aircraft was lost as the H-46D has no flotation gear. The cause of the mishap was material failure of a rotor blade which had recently been repaired at SDLM, resulting in de-ice blanket separation in flight.

These pilots knew their procedures and executed them with timely dispatch, and as a result will be around for more years to come. Old Gramps would like to pin a medal on these two Phrawg jockeys and, in fact, someone did. For their headwork and professional airmanship demonstrated during this incident, HAC Captain Richard Rasmussen, USMC, and copilot Steve Schmidt, USMC, each received the Achievement Medal. Good work gents!



A newly-arrived aviation officer candidate is about to hit the deck for push-ups under the direction of the drill instructor.

**Training
to be**

**“... the
best
damn
aviators
in the
world!”**

Story and Photos by JO1 Jim Bryant



The Aviation Officer Candidate School (AOCS), Pensacola, Fla., is the 14-week first stage in training men and women to be Naval Aviators. The following story describes the pressures the candidates are subjected to and the obstacles they must overcome before they receive their commissions and earn their Wings of Gold.

"Reveille! Reveille!" the drill instructor (DI) shouts as he flashes on the hallway lights. It's the first morning of their AOCS indoctrination. In seconds, dazed, sleepy-eyed aviation officer candidates rush from their rooms in time to see a garbage can and lid bouncing down the hall, banging all the way. Clad in a mix of jeans and sport clothes, the candidates look anything but military.

They are too slow. "No! Not fast enough!" the DI shouts. "Try it again!"

The candidates scurry groggily back into their rooms.

Marine Corps Staff Sergeant Robert E. Brown looks at his watch. With piercing emphasis on each syllable, he shouts again in a way unique to Marine DIs. "When I say *move*, you'll have 30 seconds to get out of your rooms and have your backs against the wall. And I'd better hear them all hit at the same time. *Move!*"

The now wild-eyed candidates bound back into the hall. "Good morning, sir!" they shout.

Brown is not impressed.

"Push-up position. Ready, move!"

Ninety-two hands slap the floor.

"Push-ups. Ready, begin!"

The candidates' voices begin to strain as the count continues into the twenties.

"I can't hear you candidates. I still can't hear you," he shouts. You turn my stomach. The last number I heard was 10. Now, start from there. Ready, begin!"

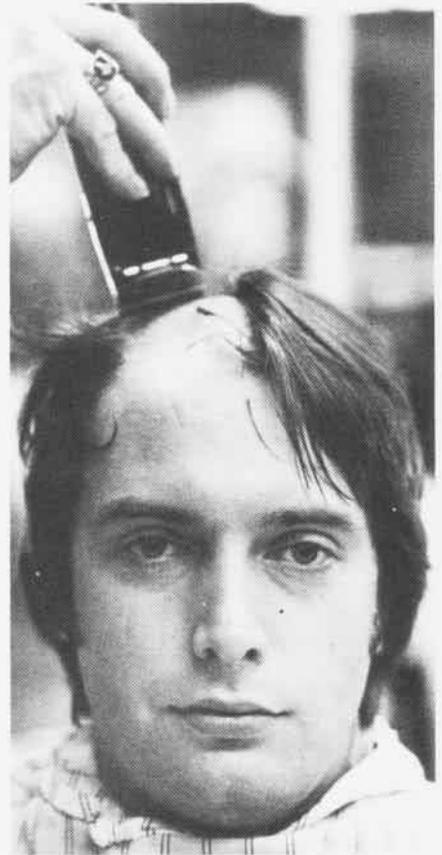
Brown keeps them exercising for a few minutes more, then tells them to stop.

"All right, you civilians," he says, emphasizing the word civilians. "I'm Staff Sergeant Robert E. Brown, your drill instructor. You'll see a lot of me the next 14 weeks. I'm going to teach you how to march, how to wear your uniforms properly and how to make your bunks. I won't teach you to fly. Hopefully, you'll learn that later *if you're still around*. Right now, I'll teach you enough discipline to keep you from embarrassing yourselves when you get to your squadrons."

Brown paces back and forth in front of the candidates. "I assure you everything for the next 14 weeks can be achieved if you have the right positive mental attitude and a little motivation. At the end of the 14 weeks, I want to be able to salute *you* and call *you* 'sir.' "

He pauses, allowing them a moment to contemplate their commissioning as naval officers. Then he continues, "What the mind can conceive, the body can achieve."

Afterward, Brown orders them into the early morning darkness where they fall into ragged lines along the sidewalk. He bombards them with a series of outbursts until they are in proper formation. (Cont'd on p. 6)



Above, an AOCS student is stoic as he receives the haircut that will identify him with his new military status for weeks to come.

Below, physical training for the AOCS classes includes miles of running, individually and in formation.



"Hopefully, you'll learn [how to fly] later if you're still around."

Below, candidates brace at attention at the conclusion of a meal. Bottom, the candidates get a taste of mud, learning that nothing is so bad they can't survive it.



"Get your chins up and shoulders back!" he orders while they march. "As of now you belong to the United States Navy."

So begins their first day at the Aviation Officer Candidate School where the DI's job is to ensure rapid and complete transition from civilian to military life. It is a critical transition because candidates must be mentally and physically fit.

"Once they leave here and start training as Naval Aviators, there's no room for mistakes," Brown says. "Here, I'll teach them four things: drill, discipline, inspection and respect." They learn these lessons quickly in the first week of indoctrination during long days of processing, classroom lectures and physical training.

In the chow hall, the candidates move rapidly through the serving line while Brown shouts commands at close range. In one meal, they learn the correct way to carry trays, focus their eyes, sit down, sit up, chew and drink.

Brown gives them 10 minutes to clean their trays, then orders them

outside for a trip to the base barber shop for their first military haircut.

"When you get inside, take a number and wait till it's called," directs the DI. "When your number is called, get your body into a chair." One by one, the candidates take turns in the chair. The shearing takes less than a minute and in a short time the last visible trace of civilian life is a pile of hair on the floor.

"This is your first day. By the end of the week you'll begin to realize what this is all about," Brown says. "You're not officers yet, but those of you who stay will learn AOCs is no picnic. Some of you won't make it because you won't measure up to our standards of what it takes to be the best damn aviators in the world."

After indoctrination week, the candidates move to a new battalion and begin weeks of rigorous training, which is divided into two areas: officer and aviation.

The 11-week academic syllabus covers naval history, world affairs, officer development, navigation, seamanship, aviation physiology, engineering, aerodynamics and leadership.



Swimming, physical fitness, survival and military training are also emphasized.

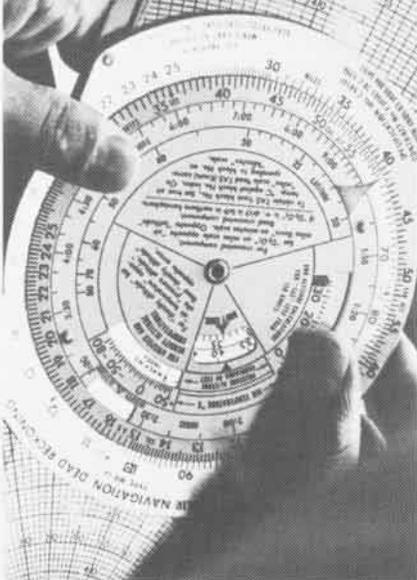
The pressures the candidates are subjected to develop teamwork. Says Brown, "They learn to count on one another."

He adds that AOCS is a tough, pressure program designed to weed out those not cut out to be officers or pilots. "If candidates can't take the pressure, the Navy doesn't want them flying its airplanes."

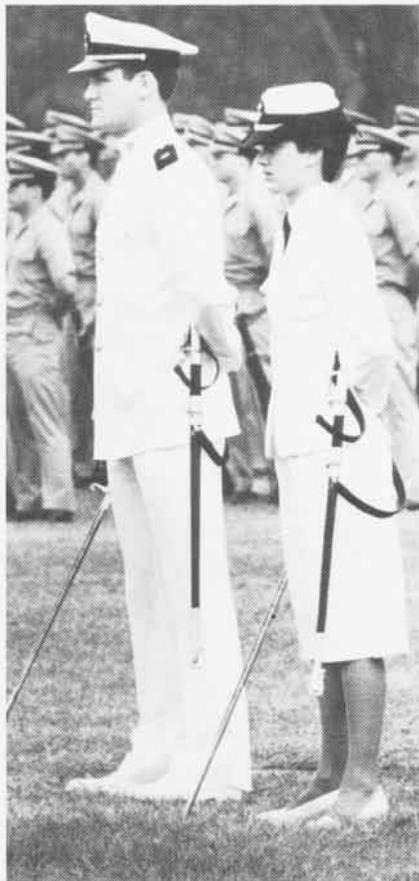
Candidates must be expert swimmers and possess a high degree of survival instinct before climbing into a cockpit.

But, for many candidates, the DI is the toughest hurdle they have to get past on the way to earning their commissions.

"We DIs play a tough game," Brown says. "I won't accept an 'I can't' from candidates. They either have to try and succeed, or quit. All we want are winners. For years AOCS drill instructors have been turning out the best there is for the defense of our country — and we won't settle for second best." ■

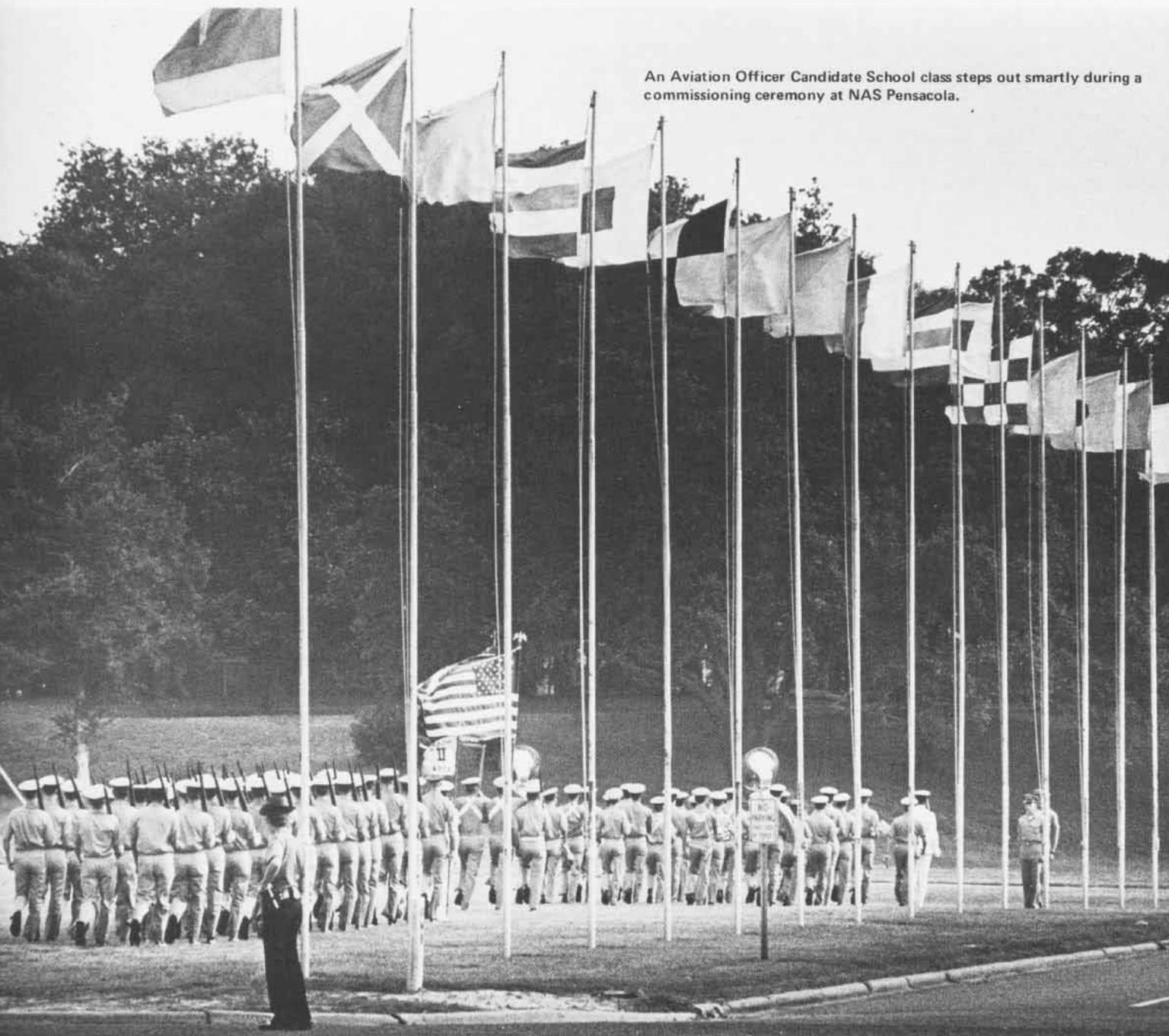


Above, classroom courses such as dead reckoning are a large part of AOCS. Right, the final product is graduation and commissioning as an ensign in the United States Navy. Below, an AOCS unit learns the finer points of drill under arms.



Sweating It Out At Pensacola

An Aviation Officer Candidate School class steps out smartly during a commissioning ceremony at NAS Pensacola.



Summers are hot in Pensacola, Fla. When the sun comes up in a haze and the temperature climbs to 95 in the shade, the humidity makes an hour in a sauna seem like a welcome relief.

But not all the sweat at this sprawling naval air station comes from the sun. For approximately 1,400 men and women who annually go from here to become Naval Aviators and Flight Officers, most of it originates in the pressure cookers called Aviation Officer Candidate School (AOCS) and Aviation Preflight Indoctrination (API). They are fourteen and six weeks long, respectively, and are designed to educate those who can and will — and weed out those who can't or won't — meet the standards set by the Navy for those who would fly.

Those who come here straight from civilian life find themselves in AOCS, introduced to military life and discipline by a Marine drill instructor. In addition to the aerodynamics, navigation and power plants academics they will have in common with the API students, they will receive liberal helpings of seamanship, organization and administration, military law, naval leadership, and the principles of seapower. It is a sort of basic training amplified. Those preflight students arriving from the U.S. Naval Academy, Naval Reserve Officer Training Corps (NROTC), or other previous service resulting in commissioning as an officer will already have received training in these latter areas. Both groups will go through flight physiology and water and land survival training.

"Attention to detail" is a phrase repeatedly pushed to the AOCS trainees. Many candidates and preflight students and instructors in both AOCS and API feel this attention to detail and the self-discipline necessary to achieve it are the most important factors on the road to becoming Naval Aviators or Flight Officers.

"We teach them this attention to detail now, so that when their environment becomes the cockpit, they will be aware of everything around them and not miss a single detail," explains AOCS director Commander Mike Scully.

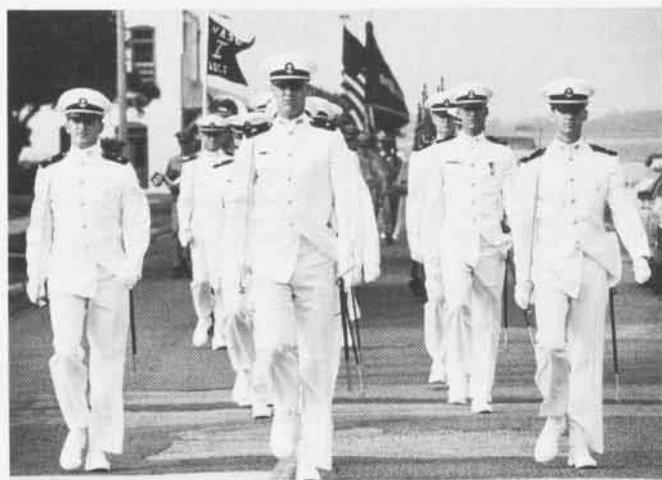
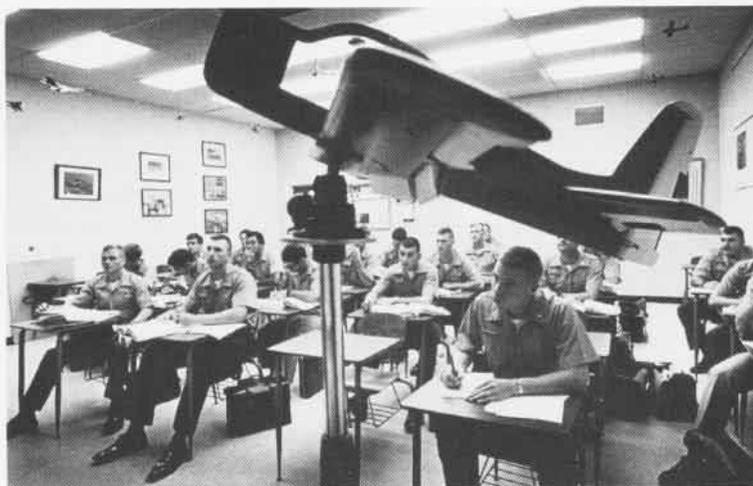
Ensign David Kugler, an economics major from State University of New York, went through AOCS. His is a common reaction. "I came in with no real concept of what to expect, and discovered that the most important thing was learning to manage your time and resources. It was the only way to get everything done."

Candidates and preflight students frequently voice the same reaction, that there is little demanded that they *can't* do. It is the time frame within which they must do it at a satisfactory level that is the challenge.

Lieutenant Darah Hyland, going through preflight indoctrination as part of the NFO program, says from her point of view in API it is still a matter of time. "We've just about completed most of the classroom work, and it really wasn't difficult. You just never had enough time."

Conversation related to aviation brings her enthusiasm up, and she looks forward to flying in the fleet air reconnaissance community as an NFO "... because it's the only NFO aviation warfare specialty open to women. (Cont'd on p. 10)

Story and Photos by JOC Kirby Harrison



Top, an Aviation Preflight Indoctrination class studies the principles of aerodynamics. Above, Aviation Officer Candidate School graduates lead the way en route to commissioning as ensigns at NAS Pensacola.



Ensign Mike Reiter preflights a T-34C at NAS Whiting Field, learning more than 80 specific checkpoints, to his instructor's satisfaction.

The hit film *An Officer and a Gentleman* left viewers familiar with some of the physical demands made on the AOCs students. What it did not do was leave an accurate impression of the overall program, especially those classroom academics.

Before the pressure chamber training, there is classroom preparation in the effects of rapid altitude ascent and descent upon the human body. Before every phase of practical application, there are hours of explanation and teaching. It is not enough, in the Navy's experience, that the candidate knows *what* to do. He or she must also know *why* they do it.

There are other subjects taught at length. Aerodynamics gives a foundation in basic theory, upon which actual flight procedures are based. A course in aircraft power plants includes the principles and concepts essential to the operation and maintenance of everything from reciprocating to jet engines. Basic navigation teaches the prerequisites for the advanced navigation course given in the in-flight portion of the training.

For some individuals, a great deal more self-discipline is required than for others. And for some, just getting into the aviation officer candidate program is an exercise in determination.

For Ensign Charlie Gay, getting his wings will come after six years of perseverance. It began in 1976 when he joined the old Aviation Reserve Officer Candidate (AVROC) program as a junior at the University of Colorado. The next summer he came to Pensacola to complete the first eight weeks of training. He returned to college, in Alaska, but being a single parent took up much of his time that it was two years before he could graduate. In the summer of 1979, aviation candidate Charlie Gay was only a few days from receiving his commission as an officer when the Navy discovered that no confirmation of his college degree had been received. In fact, he was less than two credits away. "Everyone understood, but it still wasn't easy," he recalls. "I remember the drill instructor, GySgt. Daggs, telling me that I'd better get that degree and get my a-- back to Pensacola, that I still owed him 20 push-ups."

Gay returned to school in Alaska and, in the fall of 1981, two degrees in hand, was back in Pensacola to finally complete AVROC training and receive his commission. "It was one battle after another," says Gay, "but I wasn't about to quit."

If all goes well, he will receive his wings as a Naval Flight

Officer this fall. Ensign Charlie Gay is a survivor. It runs in the family. His second cousin is the Ensign George Gay who was one of only two survivors from Torpedo Squadron Eight at the Battle of Midway in 1942. "I had hoped he would pin on my wings," says Ensign Gay. "Maybe he still can."

Not everyone who starts AOCs and preflight indoctrination will finish. Twenty-four percent of those arriving at AOCs will drop in the first week, most of them a result of not being physically qualified, or for personal reasons. Another 11 percent will be lost by attrition in the remainder of the program.

Of those who arrive already commissioned to begin Aviation Preflight Indoctrination, approximately six percent will not finish. Some, a very small number, will discover that Naval Aviation just isn't for them, and drop out voluntarily. Occasionally there will be academic problems. Most often it is a physical problem that will prohibit their flying a naval aircraft. It may be that their arms are too short to reach certain controls when strapped into the cockpit, or there is an inability to clear the sinus blocks that often come with rapid altitude ascent or descent. Most likely, it will be the eyes. The requirement for a pilot aviation officer candidate is 20/20 vision in both eyes and adequate peripheral vision.

Ensign Greg Lotz started out to be a pilot. Shortly after his arrival, it was discovered his left eye did not meet the 20/20 requirement. Lotz switched to the Naval Flight Officer program and found a severe sinus problem not previously diagnosed. An attempt to have it corrected by surgery failed. Greg Lotz did not. He switched again and recently completed the new Aviation Maintenance Duty Officer program and has been assigned to VQ-4 at NS Rota, Spain.

"I regret not getting to fly, but I don't regret trying," says Lotz.

Flying is the bottom line for candidates, even those opting for the NFO phase who will not be pilots. "When you come right down to it," says one instructor, "flying is the reason they're here. If it weren't, we wouldn't want them."

For the pilot trainees, the first taste of flying comes shortly after graduation from preflight indoctrination. Assigned to a training squadron, they will go to nearby NAS Whiting Field to learn to fly the T-34C *Turbo Mentor*, or to NAS Corpus Christi, Texas, where primary flight will be in the older T-28 *Trojan*. Those going to Corpus Christi will be among the last to fly the *Trojan*. At a little over \$100 an hour to operate, it costs twice what the T-34C costs to fly, and is much more expensive to maintain.

Primary flight is at one of the four training squadrons concerned with teaching the basics of flight. It is a 20-week course that begins with two weeks of ground school, and maintains a continuing academic requirement throughout. It is also a course in the process of change, according to Student Control Officer Major Jim Bostek of VT-2 at Whiting Field. "We're looking at proposed changes to the master training syllabus that would have a student Naval Aviator complete ground school prior to reporting to VT-2," Bostek explains. "This would permit us greater flexibility in flight scheduling."

The student pilots discover at primary that flying is not

simply a matter of kicking the tires and taking off. There is the continuing demand for attention to detail. Ensign Mike Reiter explains that there are eight distinct steps in preflighting the relatively simple T-34C. He notes that in those eight steps are no less than 81 specific points the student must check from memory, to the instructor's satisfaction. "It's kind of depressing when you think of it that way," he says, an accompanying grin overshadowing any impression of discouragement.

And the flying isn't necessarily "fun," adds Lieutenant Junior Grade Pat Dietrich, a Coast Guard officer formerly stationed aboard ship. "When you start, you're so busy paying attention to what you're doing that you don't really have time to enjoy flying. All those things a pilot does aren't yet second nature."

Like preflight indoctrination and AOCs, there is an attrition rate in the primary flight phase. It generally runs a little less than 16 percent, says Coast Guard Commander Larry Rogers, Student Control Officer at Training Air Wing Five, Whiting Field. "But it is much less if you figure in only the attrition due to flight or academics. Most of those who go, drop out at their own request, or are dropped for NPQ (not physically qualified)," he says.

One of the more frequent problems in primary is airsickness. But it is also something the Navy is doing something about. "If the students honestly want to make it, then we want just as much for them to make it," explains Rogers. In the past, if a student couldn't overcome airsickness, he or she was dropped. Aviation medical experts have since concluded that for a great many students, airsickness is psychologically induced by tension and/or anticipation. Those with apparent chronic airsickness are now sent for evaluation and treatment, and many return to complete their primary training.

By the time student pilots complete their 20 weeks, they will have accumulated approximately 65 hours of actual flight time, ideally three flights a week. They will have satisfactorily demonstrated a mastery of takeoffs, close-formation flying, aerobatics and precision landings. And they will have a thorough knowledge of instrumentation, navigation and communications, and will have shown an ability to cope with simulated, and occasionally real, emergencies.

But completion of primary is not an end. It is a beginning. The final week is what some describe as the "real" high point, even when compared to the first solo flight. It is at this point they learn what direction their flying career in the Navy will take: jet, maritime patrol (multi-engine/prop) or rotary-wing.

Ensign Bob Hewlett is nearing that point in his primary training. An earth science geology major, who admits that civilian life "lacked excitement," wants to fly helicopters.

Despite rumors over recent years that increasing numbers of student pilots are opting for maritime patrol or helicopters, Cdr. Rogers is quick to emphasize that jets are still the first choice "by far."

"If you're qualified to fly jets, and you want to fly jets, the Navy wants you," he says. "Whether it's the mystique or the advertising publicity, my studies show that about 85 percent of the students want to fly jets."

Three factors govern the pipeline taken by the student, according to Rogers. They are the needs of the Navy, overall grade average and student preference, "in that order."

With primary flight training over, the heat is not off. Whether the student goes on to jets at NAS Chase Field, NAS Beville or NAS Meridian, maritime patrol at Corpus Christi, or helicopters at Whiting Field, the challenge remains. To be the best. To fly Navy. ■

T-34C Turbo Mentors line the parking area at NAS Whiting Field, a scene of constant activity as student pilots learn to fly.



Most Navy pilots and aircrewmembers may never find themselves in a survival situation where they have had to come down in an unfamiliar, or even hostile, land or water environment. Nonetheless, training in aircraft safety and aircrew survivability go hand in hand with learning to fly. Survivability depends largely on one's knowledge of basic procedures and one's faith in his ability and will to survive. One ex-POW said, "If you know you can do it, the chances are very good that you will." Survival training gives the student the know-how and faith that he can do it.

The survival school is the largest department in the Naval Aviation Schools Command in Pensacola in terms of staff personnel. Its syllabus includes swim training, deep water environment survival training (DWEST), land survival and physical training.

Water survival depends largely on knowing what to do when the time comes because you have already done it. The realistic water survival training

not only prepares flight personnel for the sea environment but also alleviates the apprehension that would be encountered in an ejection/bailout situation. It bolsters the individual's confidence in himself and his equipment.

Training starts in the classroom where students receive instruction in cardiopulmonary resuscitation, parachute fundamentals, personal flight gear and its use, single and multiplace rafts, and signal and rescue devices.

Students then move on to the swim pool where training devices put them through true-to-life scenarios.

- The multiplace underwater egress trainer (9D5) provides practice in procedures for underwater escape from ditched multiplace aircraft. The device can be rolled left or right or stopped in any intermediate position. The blindfolded student strapped inside releases himself from his seat and finds his way to the surface.

- The single-place underwater egress trainer/Dilbert Dunker (9U44) teaches underwater escape from ditched single-

place aircraft. In this device the student rides down the rails in the cockpit, turning over in the water. He then frees himself from the seat, egresses and returns to the surface. This evolution is conducted in full flight gear.

- The parachute descent and disentanglement trainer (9F6) teaches the student how to divest himself of his parachute and, if entangled, how to get free.

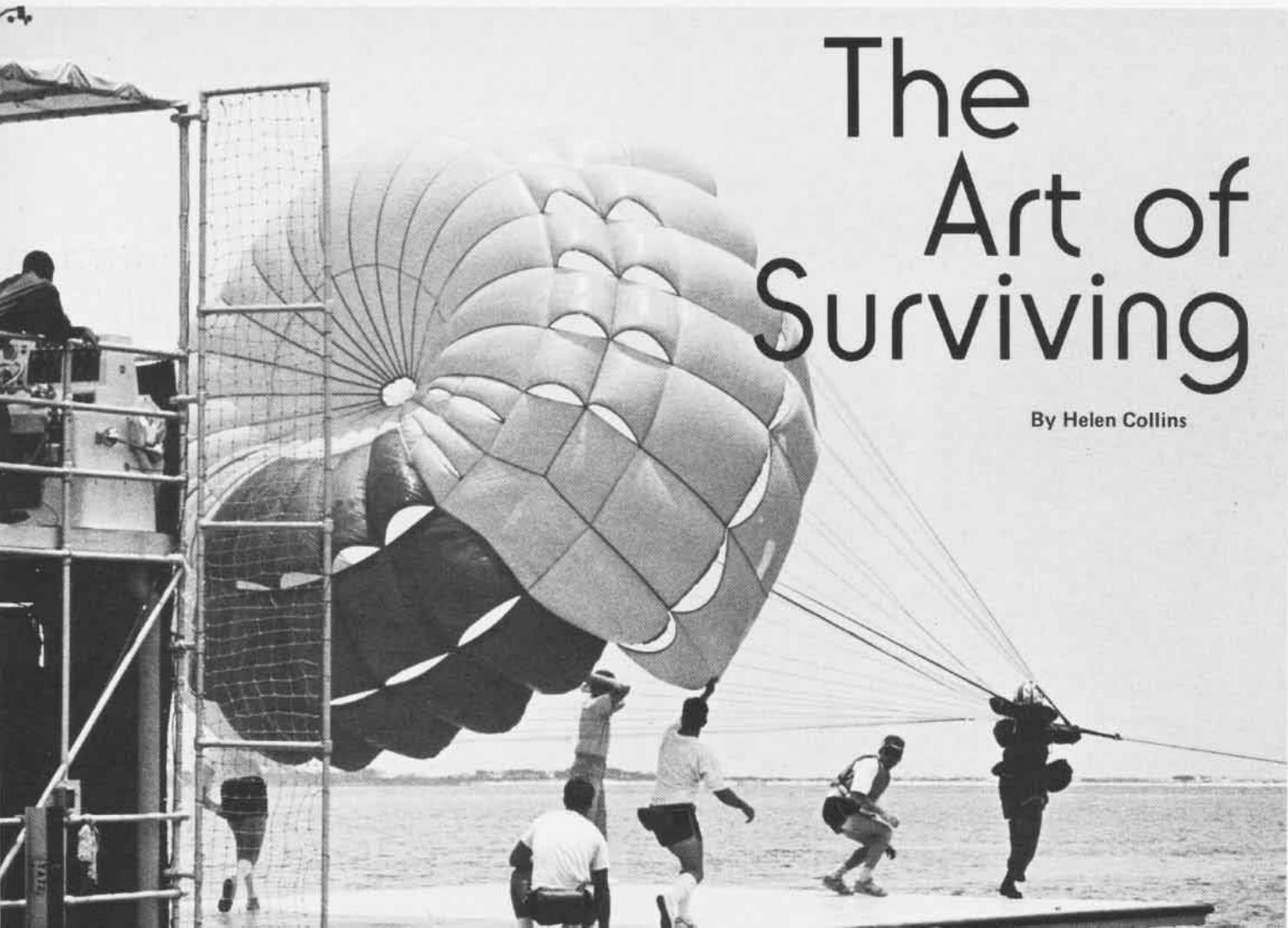
- The parachute drag trainer (9F2) drags students through the water so that they will know what it is like to ditch with parachutes still on and inflated, and be caught by the wind and dragged through the water.

- The helicopter hoist simulator with a rotor downwash (9H1) gives students an idea of what it is like to be under a helo blowing wind and spray at them at about 130 knots.

- The underwater breathing trainer (9H19) teaches underwater breathing techniques used in aircraft oxygen systems.

The Art of Surviving

By Helen Collins





Below, an instructor at DWEST steps off the launch platform as the parasail billows up behind him. The platform is a self-propelled barge which carries students to the practice area and offers a safe launch site. Above, instructor PR1 Bruce Smith hits the water during practice on the parachute simulation slide. Students receive instruction on the slide under more controlled conditions before going up on the parasail.

DWEST begins with lectures and slides on the use of equipment and procedures, followed by life raft organization. The student is taken out to deep water in Pensacola Bay where he gets some realistic training with his life raft and water survival equipment, and a live helicopter hoist. He also practices parachute landing falls so that he'll know how to hit the ground properly if he comes down over land.

There is a major and exciting new development in DWEST. The Navy's open water parachute descent trainer (9F7) will give flight personnel the most realistic overwater training possible in descent procedures and parachute disentanglement on water entry. It simulates the survival situation after a bailout or ejection more accurately than any training device now in the Navy's inventory, and is designed to make the procedures

required for survival second nature.

The trainer uses a parasail, a device similar to a parachute except that when operational its forward motion develops a certain amount of lift which the conventional parachute does not have. The concept was developed by the Air Force at Homestead Air Force Base in Florida and adapted by the Navy to meet the Navy's particular requirements.

Evaluation of the prototype parasail training program has been completed and the program has been approved. Parasail training has been budgeted for FY 1984 and will be given to all flight students as soon as the survival school is able to secure two additional tow boats with improved features. In the meantime, since the prototype is operable, it is being used to train a limited group—student NFOs who will go directly to ejection-equipped jets.

A tow boat, equipped with a winch and tow line, is used in conjunction with a self-propelled launch barge to get the student and his parasail aloft. On the way to the designated launch area, students review the procedures several times prior to parasail hookup. Once in the area, launch operations begin.

The fully equipped student is hooked up to the tow boat with harness on and parachute inflated by the wind. After the final safety check, the launch signal is given and the student is airborne, at the end of the tow rope, to approximately 450 feet. On a flag signal from the boat, the student releases himself from the tow rope and begins his descent, during which he accomplishes low altitude descent procedures, which are IRK (Inflate life vest, Raft deployment, Koch fittings). He then releases the parasail upon water entry so that it does not entangle or drag him.

When the procedures are properly performed, entanglement problems are minimal. However, if on water entry the student finds himself in a real life situation, swimmers are in the water nearby, ready to assist. The student, when free of his parasail, boards his liferaft and, finally, both he and the parasail are picked up by a utility boat. Students are given two descents to reinforce learning that may have been blurred during the anxiety of the first descent.

Physical training is also an essential part of the survival program and is monitored by both medical and physical training personnel to ensure that there is a correct sequence of the required training. An individual might know all the emergency procedures and yet not be able to summon the strength needed to get out of a ditched plane that is sinking at 12 feet per second. So, the importance of getting into and staying in good physical shape is stressed, and basic physical fitness is required.

Land survival training is an old, well-established program given during the last week of the syllabus. Students learn the rules and techniques for staying alive which are basic for any area. With nothing more than the gear they would normally have with them, students spend two days in the 653,000-acre wilderness at Eglin Air Force Base, Fla. The most important thing they learn is how to find water where seemingly none exists. They learn to fashion traps and snares, build simple shelters, and find and eat food foreign to the palate of the average American.

The students are first grouped in teams, each with an enlisted instructor who teaches them what they need to know to survive. On the last day, the students go it alone, making their way individually to a checkpoint several miles away where they rendezvous for the return trip. During their wilderness phase, they are also taught how to overcome the stress of the survival situation, which under some circumstances on land could be a long-term survival predicament.

Water survival is a different matter. In many actual egress situations, the pilot or aircrewman does not have many seconds from parachute opening to water entry. Combine this with other factors such as darkness, adverse weather, hostile activity, etc., and the need to know your procedures cold is evident. In the new open water parasail training, while a parasail descent is a controlled situation, it does give personnel the opportunity to become skilled in descent procedures—and it will help save lives.

The survival school is dedicated to preparing future Naval Aviators for the possibility of an unforeseen air accident and, should one happen, for coping with it. ■



The T-34C (foreground) appears to be overtaking the T-28, symbolizing perhaps the old Trojan's imminent phaseout.

PH-3 Bob Williamson

Wings of Change

By Sandy Russell

Rumors of replacing the T-28 as the Naval Air Training Command's mainstay of Navy flight training have been around for almost 20 years. But the aging, piston-powered two-seater has continued to prove its worth, outlasting the skeptics who wanted to put the old workhorse out to pasture. Nevertheless, this fall marks the beginning of the end for the venerable *Trojan*, and this time it's more than scuttlebutt. Final phaseout is to be completed by early 1984, when the reliable flying machine will retire with over three decades of Navy service on the log-books. The T-28s will bow out of the Training Command to make room for more T-34C *Turbo Mentors*, which presently share primary flight training duties. A final note was added recently to the *Trojan's* life story when Naval Air Rework Facility, Pensacola, Fla., received the 3,015th and last T-28 to be reworked. After completion, the aircraft will be returned to VT-27, NAS Corpus Christi, Texas, officially ending the T-28's service life program.

In 1952, an improved version of the Air Force's T-28A was ordered from North American. Designated T-28B, the first *Trojan* was accepted by the Navy in October 1953. A later T-28C was developed for carrier operations.

When transition to the turboprop *Mentor* is completed, the primary flight trainer may lose its nostalgic aura but it will gain some creature comforts. The T-34C's air-conditioned cockpit and drastically reduced noise levels decrease

student and instructor fatigue from long training sessions, which in turn enhances safety. Other improvements over the T-28 are increased performance and lower operating costs. After primary and intermediate instruction in the *Mentor*, students in the maritime pipeline go on to advanced multiengine prop flying in the T-44A, dubbed *Pegasus* by Training Air Wing Four, NAS Corpus Christi, Texas.

In the rotary-wing pipeline, there is another kind of transition taking place. Although the TH-57A *SeaRanger* has been used for helicopter training since 1968, the aircraft has been going through an avionics change. The first of 89 TH-57 advanced instrument trainers was delivered to the Navy in November 1982. It was officially designated TH-57C in February 1983. Modifications for enhanced training include: upgraded dual controls, instruments and electrical system; an environmental control system; and a stabilization and flight control system. Improvements range from the sophisticated navigation system, which helps reduce pilot fatigue, to the stabilization system which makes the advanced trainer fly like a much larger, more stable aircraft. Its comparatively lower cost of operation makes it a welcome addition to the Training Command inventory. The new *SeaRangers* will eventually replace the



Lt. Robert B. Rice

A TH-57C flies on a low-level VFR navigation route near Whiting Field as part of the tactics syllabus.



This rendering of the U.S. Navy Hawk is by McDonnell Douglas artist R. G. Smith.

aging TH-1 *Hueys* at HT-18, NAS Whiting Field, Fla.

The TH-57A was purchased off the shelf from Bell as the *JetRanger* commercial light turbine helicopter. Avionics and flight-instrumentation modifications changed the name to *SeaRanger* for the Navy, which became the first service to use turbine helicopters in the primary training role. The helicopter's safety record and inherent ruggedness have made it ideal for teaching the rudiments of rotary-wing flight.

The jet pipeline is due for its share of change in the coming years, to include more than just a new aircraft. On the not-too-distant horizon looms a new bird which will replace the T-2C *Buckeye* and TA-4J *Skyhawk* in the Training Command's jet training syllabus. The British Aerospace *Hawk* has been selected as the airplane portion of the Navy Undergraduate Flight Training System called VTXTS. With the Navy designation T-45, the aircraft will undergo modifications by prime contractor McDonnell Douglas to make it carrier-suitable. Deliveries to the Training Command are scheduled for early 1988.

VTXTS is designed to train pilots in what are currently the intermediate and advanced phases of Navy undergraduate jet pilot training. It is a fully integrated system consisting of simulators, computers, academic material, a training management system, and the *Hawk* aircraft.

Two versions of the *Hawk* VTX will be produced. Interestingly, the T-45B will be delivered first, followed by the carrier-capable T-45A.

Because the *Hawk* has been in Royal Air Force (RAF) service since 1976, its rugged construction and uncomplicated systems have already demonstrated their value in the training environment. The aircraft's available speed and maneuvering envelope permit safe transition for primary students but allow increased task loading, as experience is gained.

With all Navy changes incorporated, the *Hawk* becomes an aircraft with a takeoff gross weight of 12,440 pounds, an empty weight of 8,756 pounds and a fuel capacity of 2,925 pounds. Approach speed is 121 knots, maximum level flight is Mach .85, and average fuel consumption on a training mission is a very efficient 1,370 pounds per hour. The tandem-seat transonic trainer is powered by a single Rolls-Royce Adour turbofan engine. As testimony to the *Hawk's* tremendous performance capabilities, it is the aircraft currently flown by the RAF's nine-plane aerobatic team, the *Red Arrows*.

Future Naval Flight Officers (NFOs) will reap the benefits of two forthcoming aircraft changes in the NFO training program. The Cessna *Citation II*, modified to Navy specifications and designated the T-47A, will be used to train NFOs beginning in August 1984, which will coincide with the phaseout of the T-39Ds. See "A New Bird for NFOs" on page 30.

In the fall of 1984, another bird new to Pensacola will be impressed into service in the NFO syllabus — the British Aerospace *Hawk*, on loan from the Royal Air Force. Twelve RAF *Hawks* will be assigned to VT-86 and will replace nine TA-4 Skyhawks, to be transferred to the jet pilot training pipeline.

All of the changes in the Training Command aircraft are proof that, like fleet operations, Naval Aviation Training is never at a standstill. ■

TA-4



T-44



T-39



TH-57



TRAINING COMMAND AT A GLANCE

Training Command	Squadrons	Aircraft Type
TRAW-1 Meridian, MS	VT-7	TA-4J
	VT-9	T-2C
	VT-19	T-2C
TRAW-2 Kingsville, TX	VT-21	TA-4J
	VT-22	TA-4J
	VT-23	T-2C
TRAW-3 Beeville, TX	VT-24	TA-4J
	VT-25	TA-4J
	VT-26	T-2C
TRAW-4 Corpus Christi, TX	VT-27	T-28
	VT-28	T-44
	VT-31	T-44
TRAW-5 Milton, FL	VT-2	T-34C
	VT-3	T-34C
		T-28
	VT-6	T-34C
	HT-8	TH-57
TRAW-6 Pensacola, FL	VT-4A	TA-4J
	VT-4I	T-2C
		T-2C
	VT-10	T-39
	VT-86	TA-4J
	TH-1	

*Total number of instru

Primary Flight, 20 weeks

NAS Whiting Field, Fla.
VT-2, 3, 6
T-34C Turbo Mentor
NAS Corpus Christi, Tex.
VT-27
T-28 Trojan

Jet

Basic Jet, 24 weeks

NAS Pensacola, Fla.
VT-4
T-2 Buckeye
NAS Meridian, Miss.
VT-9, 19
T-2 Buckeye
NAS Chase Field, Tex.
VT-26
T-2 Buckeye
NAS Kingsville
VT-23
T-2 Buckeye

Advanced Jet, 21 weeks

NAS Pensacola, Fla.
VT-4
TA-4J Skyhawk
NAS Meridian, Miss.
VT-7
TA-4J Skyhawk
NAS Kingsville, Tex.
VT-21, 22
TA-4J Skyhawk
NAS Chase Field, Tex.
VT-24, 25
TA-4J Skyhawk



A-6 Intruder, EA-6B Prowler,
A-7 Corsair II, F-14 Tomcat,
F/A-18 Hornet, A-4 Skyhawk,
A-3D Skywarrior, AV-8B
Harrier II, S-3 Viking, C-9
Skytrain, F-4 Phantom,
OV-10 Bronco

Maritime

Intermediate Prop, 5 weeks

NAS Whiting Field, Fla.
VT-2, 3, 6
T-34C Turbo Mentor
NAS Corpus Christi, Tex.
VT-27
T-28 Trojan

Multiengine, 19 weeks

NAS Corpus Christi, Tex.
VT-28, 31
T-44 King Air



P-3 Orion, C-130 Hercules, C-118
Liftmaster, E-2 Hawkeye, C-2
Greyhound, C-1 Trader

Rotary Wing

Intermediate Prop (Helicopter), 5 weeks

NAS Whiting Field, Fla.
VT-2, 3, 6
T-34C Turbo Mentor

Transition Helicopter, 6 weeks

NAS Whiting Field, Fla.
HT-8
TH-57 Sea Ranger

Advanced Helicopter, 12 weeks

NAS Whiting Field, Fla.
HT-18
TH-1 Huey



UH-1 Huey, AH-1 Sea Cobra, SH-2 Seasprite,
SH-3 Sea King, CH-46 Sea Knight, CH-53D
and RH-53D Sea Stallion, CH-53E and
MH-53E Super Stallion

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Schools Con

No. of A/C Hours Flown for FY-82	Number of Instructors for			Avg. FY-82 Flying Hours/Instructor
	Navy	USMC	USCG	
17,538	26	16	0	380
9,962	23	6	0	342
10,128	20	7	0	389
15,755	22	14	0	356
14,546	23	14	0	382
28,428	53	18	0	382
13,981	26	12	0	324
14,170	24	11	0	371
28,020	50	20	0	395
39,610	96	9	0	439
21,317	39	0	2	490
20,821	34	5	1	494
43,600	71	32	4	462
45,000	73	38	4	468
19,570	72*	31*	4*	468*
24,955				
22,784	32	20	1	415
47,985	42	44	3	548
8,552	23	4	0	408
7,568	16	7	0	324
11,829	30*	5*	0*	352*
2,795				
3,760	13*	2*	0*	249*
7,395				

* per squadron and their average flight hours.



TH-1



T-43



T-28



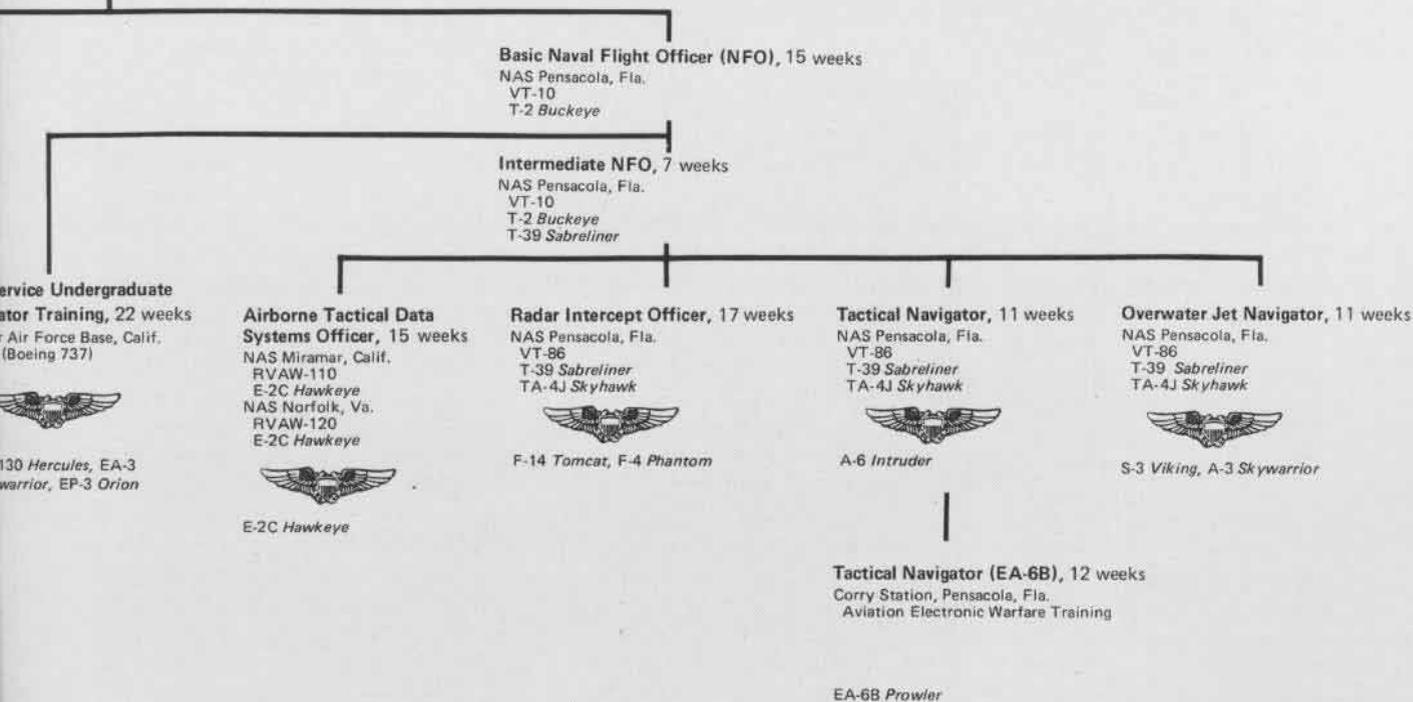
T-34C



T-2

Officer Candidate School (AOCS) 14 weeks
Commissioning as an Ensign

Flight Indoctrination (API) 6 weeks



Training may vary according to the needs of the Navy
and the individual involved. Additional information may be
obtained from the Naval Aviation Recruiter or from the Naval Aviation
Recruiting Office, 633, NAS Pensacola, Florida 32508.



Harry Gann

JET PIPELINE

By Ltjg. N. L. Golightly

The fundamental lure of the jet pipeline is the sheer physical challenge of handling high-performance, single-piloted aircraft in the tactical carrier environment. The lure, however, is not always self-evident to the just-hatched student Naval Aviator. For the ensign who is struggling with his first S-patterns in T-34s, the relative pros and cons of the helo, prop and jet pipelines can be about as clear-cut as muddy water.

So, what can the potential jet jock expect in the Training Command? He can look forward to at least another year of flying orange and white aircraft a few more months than his buddies in the other pipelines.

His first stop after finishing the basic flight phase will be with the flight physiology people who will fit him with a new pair of *speed slacks*, more prosaically known as a G suit, and with the nylon, velcro and steel torso harness he'll be wriggling in and out of for most of his Navy career.

Then, he'll pack his bags and point the nose of his ensign-mobile toward

one of the isolated enclaves of jet instruction in South Texas, ideally suited for the development of moral fiber: VTs 24, 25 and 26 at NAS Chase Field in Beeville and VTs 21, 22 and 23 at NAS Kingsville. NAS Meridian, Miss., home of VTs 7, 9 and 19, also exists in the hinterlands and is distinguishable from its sister training bases in South Texas chiefly by trees that are taller and closer together. Intermediate and advanced jet training are taught at all three locations. Normally, a student completes both phases of instruction at the same air wing. TraWing-6, a fourth training air wing for jets, at NAS Pensacola, is reserved largely for foreign students and NFO transition pilots.

The new jet pipeline student receives two weeks of intermediate strike ground school in aircraft systems, aerodynamics and instrument flight rules; and several simulator rides before climbing into the T-28C *Buckeye* for his first familiarization (FAM) and basic instrument hops. His most difficult adjustments will probably be in learning to think at six miles per minute instead of two and one-half, and in learning *not* to flare over the approach-end numbers. Landings, in fact, can be particularly traumatic for the student who was impressed throughout primary training with the importance of gently touching the

runway with the landing gear. Now, suddenly, he is being exhorted to collide with the ground by chasing an elusive light around on something they call a "fresnel lens" and, as if that isn't enough, to maintain a precisely calibrated airspeed at the same time.

However, after 10 FAM hops interspersed with instrument sorties, the student jet jock is turned loose for a solo. Shortly after that, he begins instruction in basic formation, which will be his bread and butter in TacAir, and then air-to-air gunnery, his first exposure to tactical maneuvering. He'll also plan and fly four operational navigation (ONAV) low-level routes, and complete syllabi in basic instruments, radio instruments and airways navigation.

The climax in intermediate strike is carrier qualification — the exotic, demanding and mind-bending act of flying a jet aircraft to a full stop on a moving ship. After 10 field carrier landing practice periods, the student flies his T-2C out to USS *Lexington*, swallows his apprehension and brings his *Buckeye* aboard for two touch-and-goes, followed by his first arrested

landing. He will log four traps, each followed by a catapult shot which, when he describes it to his buddies, will probably exhaust his repertoire of superlatives — incredible, fantastic, awesome.

He's a tailhooker now and ready to begin advanced strike training in the TA-4 *Skyhawk*. He has another two weeks of ground school, logs several more hours of simulator time and completes the entire instrument phase, beginning with a back seat under-the-bag takeoff, before moving to the front cockpit. The familiarization and formation stages in the advanced phase are brief because the student has already mastered the basics, and he goes quickly on to the nitty gritty of the TacAir business.

In the weapons stage, he learns to place bombs, rockets and bullets on a ground target and in ONAV he learns to navigate at low altitudes and high speeds. Air combat maneuvering instruction expands his personal performance envelope by teaching him to maneuver his airplane through nearly every conceivable attitude in defensive, offensive and multiplane situations. Then it's back to *Lex* for six

more traps and catapult shots.

After some 18 months and 270 flight hours of training, the student naval jet pilot dusts off a dress uniform and stands before the training wing commodore to receive his hard-earned Wings of Gold. It's a significant milestone that marks a beginning as well as an end, for his name now goes back into the mill for a selection process that might match him up with F/A-18s, F-14s, A-7s or A-6s. He might receive orders to S-3s or A-3s, and there are also billets in T-39s, EA-6s and composite squadrons. He might even stay with the Training Command for 18 months as a Selectively Retained Graduate instructor. The opportunities are many and selection is based on individual performance and the needs of the Navy. Once the selection is made, almost every tailhooker will fanatically defend the honor of the aircraft type he flies, no matter what his first choice may have been when he pinned on his wings. The record for matching first choices with billets is excellent.

That is the Navy jet pipeline in 1,200 words or less — which does not do justice to the intensity of the work required; the four or five, or six, hours of preparation for every hour of flight time; the inescapable pressure to perform satisfactorily on every hop; the exacting responsibility in the single-piloted world to be ceaselessly alert; and the standards demanded of student pilots who might, some black night, be approaching the carrier at 12,000 feet in the goo, with one set of controls and one set of eyes.

But there are also the intense rewards: the tremendous pleasure of precision flying with a stick and throttle in airplanes that go fast, take Gs and maneuver crisply in any attitude; the exclusive responsibility for several million dollars of airplane; the profound self-satisfaction that comes with bringing 10 tons of jet aircraft aboard a 500-foot deck; and the satisfaction derived from preparations for flying complex tactical missions in complex tactical aircraft. ■

Far left, a VT-23 student, with his instructor, practices basic air work in a T-2C *Buckeye*. Left, a VT-7 TA-4J is about to catch the wire during carrier quals.

PHCS Leon B. Ramage



ROTARY-WING Pipeline

By Lieutenant Commander
Jim O'Keefe

It's a matter of perspective. For all Naval Aviators, happiness is flying. Rotary-wing pilots, however, get more than their share of it because of the special satisfaction that goes with mastering a true multimission aircraft and its unique ability to hover — believed by many to be the pinnacle of powered flight.

The helicopter is one of the fleet's most versatile aircraft and the Training Command's helicopter pipeline opens the door to a wide selection of warfare specialties, including antisubmarine warfare, combat support, airborne mine countermeasures, search and rescue, fleet logistics, close air support during war and special operations.

Flight students who select the helicopter pipeline get their first taste of rotary-wing flying when they arrive at Helicopter Training Squadron Eight (HT-8) at NAS Whiting Field for the intermediate phase of their flight training. With approximately 120 hours of fixed-wing flying experience behind them, many or perhaps most have never before even ridden in a helicopter.

HT-8 is the helicopter transition squadron and the instructors are among the best the fleet has to offer.

They represent HS squadrons (ASW aboard carriers); HSL (ASW aboard destroyers and frigates); HM (airborne minesweeping); and HC (fleet replenishment by helicopter). Instructors also come from Marine Corps HMA (attack), HML (light utility) and HMM (medium lift) squadrons, and from the Coast Guard's SAR pilot community.

At HT-8, the students learn the intricacies of smoothly manipulating helicopter flight controls that require constant motion of *both* hands and *both* feet to make the aircraft respond in the desired manner. It's relatively easy in forward flight but an entirely different ball game when other flight regimes are introduced — like flying with zero airspeed, or backwards. These maneuvers require skillful, coordinated use of all the flight controls coupled with visual cues from outside the helicopter.

Taught early in HT-8's program, few find learning to hover easy. All who have succeeded say that it is an indescribable phenomenon until it has been mastered. It requires all the techniques learned in the primary fixed-wing phase in the T-34C plus a few new ones necessary for precision motionless, sideward and backward flight.

As the students' skill and confidence levels increase, more difficult maneuvers are introduced to develop the techniques needed to perform missions and handle in-flight emergencies. The copilot concept is strongly supported in all phases of helicopter training, because teamwork is necessary to react quickly and correctly to many situations since the pilot at the controls does not always have a free hand to carry out many of the procedures.

Each student is expected to learn the skills needed to go aloft without the watchful eye of an instructor in the TH-57A *SeaRanger*. After the solo flight, i.e., with another student, the training turns to using charts and low-level navigation hops designed to sharpen the skills required in the fleet.

After some six weeks and 40 flight hours at HT-8, students move on to the advanced phase at HT-18 where they must apply their newly developed flying skills in an instrument flight regime in the TH-57C helicopter trainer which is fully con-

figured for IFR airways flying. It is equipped with some of the most advanced avionics of any helicopter in the Navy.

The crew concept is even more strongly enforced in advanced training, since it is here that the student puts into practice — in a helicopter which is much less stable than a fixed-wing aircraft — the maneuvers learned in primary fixed-wing basic instruments and the newly acquired rotary-wing flying skills.

Before a student can fly basic instruments in a rotary-wing aircraft, there are five full-motion simulator hops to be successfully completed. Mastery of basic instruments relates directly to successful completion of radio instruments since the same maneuvers are required to safely navigate from point A to point B without seeing the ground. Nine additional full-motion simulator hops are completed before the student practices in the real thing. The longest and most difficult part of the helicopter syllabus, this phase demands excellent basic instrument skills plus the ability to correctly interpret instruments and charts, and respond to ground controller instructions. On completing the radio instruments phase, the student receives an FAA Standard Instrument Card. The practical experience gained during six cross-country navigation hops serves to cement this knowledge.

The tactical phase begins with an extension of the material taught at HT-8. The students practice reading charts, low-level contour flying, formations, tactical approaches, external loads and confined-area landings. Shipboard landing qualifications take place aboard *Lexington* (AVT-16) after which the tactical syllabus splits into Navy-unique and Marine-unique training. The Navy-unique portion teaches low-level, overwater basic instrument flying necessary for night operations, IFR search and rescue missions, and antisubmarine warfare. The Marine-unique portion concentrates on formation and low-level navigation hops and tactical approaches.

Once finished, the student will have spent a total of six weeks in HT-8 and 12 weeks in HT-18, with a total of over 200 hours of fixed-wing and helicopter flight time earned. The student is then ready to be "winged" and join the fleet. ■



Formation of TH-57 SeaRangers.

MARITIME Pipeline

By Lieutenant Dan McDonald

Thursday morning arrives and at Training Air Wing Four (TraWing-4) it is time to start the next group of maritime pipeline flight students on the path to their Wings of Gold. That's the day that indoctrination into the advanced pipeline always begins for each new group of students.

Located at NAS Corpus Christi, Texas, TraWing-4 is the home of advanced maritime flight and E-2/C-2/C-1 multiengine training. Under the present leadership of Captain Jerry Goodman, the air wing also trains one quarter of all the primary students in the Naval Air Training Command, using the soon-to-be-phased-out T-28 *Trojan*.

Students arriving for advanced maritime flight training come from Training Air Wing Five at NAS Whiting Field, Fla., or are "homegrown" at TraWing-4. They have completed both the primary and intermediate stages of flight training and have approximately 90 hours of flight time under their belts. Those who have been selected for the E-2/C-2/C-1 pipeline have completed the primary phase only and have about 65 flight hours. Both groups will undertake the same syllabus.

Advanced maritime and E-2/C-2/C-1 multiengine training takes place in the T-44A, a twin-engine turbo-prop military version of the popular Beechcraft C-90 *King Air*. The T-44 is fully instrumented with dual VORs, TACAN, RNAV, ADF and weather radar. Its seven-place cabin is air-conditioned and pressurized. Since its introduction in 1977, the T-44 has enjoyed a very successful career training advanced maritime students.

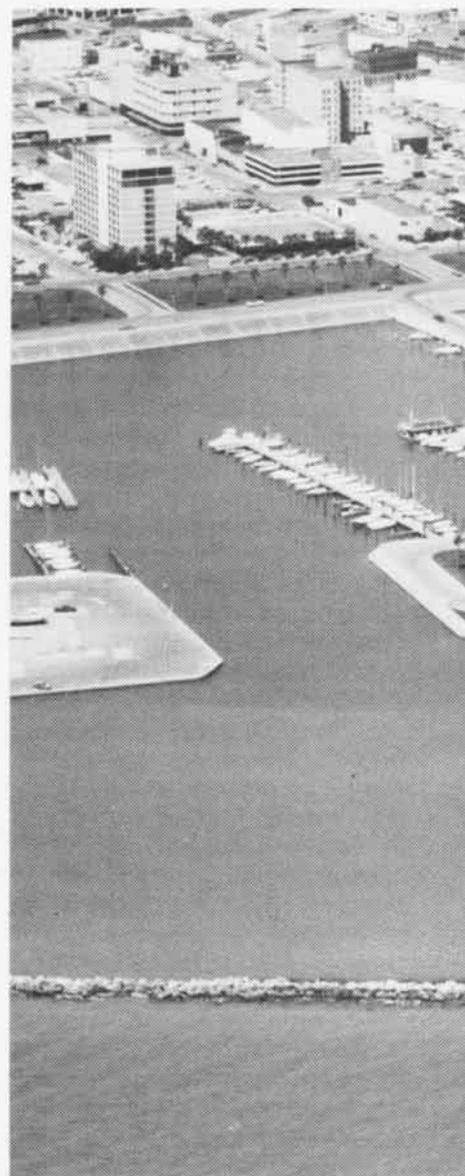
During their training, student Naval Aviators will complete 167 hours of academics covering meteorology, aerodynamics, flight rules and regulations, aircraft systems, and navigation. They will also receive nine hours in the ZF129 full-motion T-44 simulator. The students can expect to graduate with approximately 88 flight hours in the T-44A. The entire curriculum lasts approximately 130 days. Asked to compare the other phases with advanced maritime training, Ensign F. Spence said, "Aside from the

change in aircraft from the T-28 to the T-44, the atmosphere in the squadron and in the cockpit is more relaxed and more conducive to learning."

The E-2/C-2/C-1 students are sent to one of the strike wings for advanced training in the T-2C to prepare them for carrier qualification. Upon completion of the course, the maritime graduates receive their Wings of Gold and are sent to fleet readiness squadrons to transition to fleet aircraft, such as P-3s, EP-3s and EC-130s.

Students consistently finish their course of training on time. Once in the squadron, they can expect to be scheduled just about every day. That isn't new, but completing 95 to 100 percent of the flight schedule daily is!

One of the best aspects of the



T-44 over Corpus Christi, Texas.

training that students receive at one of TraWing-4's T-44 squadrons is the comradery they find in the wardroom. Both Training Squadrons 28 and 31 have long-standing reputations of excellent junior officer development. The student Naval Aviators are not simply temporary additions to the unit, they quickly become true members of the wardroom.

Training Squadrons 28 and 31 are skippered by Commanders Basil E. Neal and Ray R. Kieser, respectively. The squadrons flew over 20,000 hours each in 1982 and have averaged a total of 2,000 hours a month this year. Composed of approximately 42 officers and 22 enlisted personnel each, these squadrons annually train about 440 students from the Navy,

Marine Corps, Coast Guard and foreign governments.

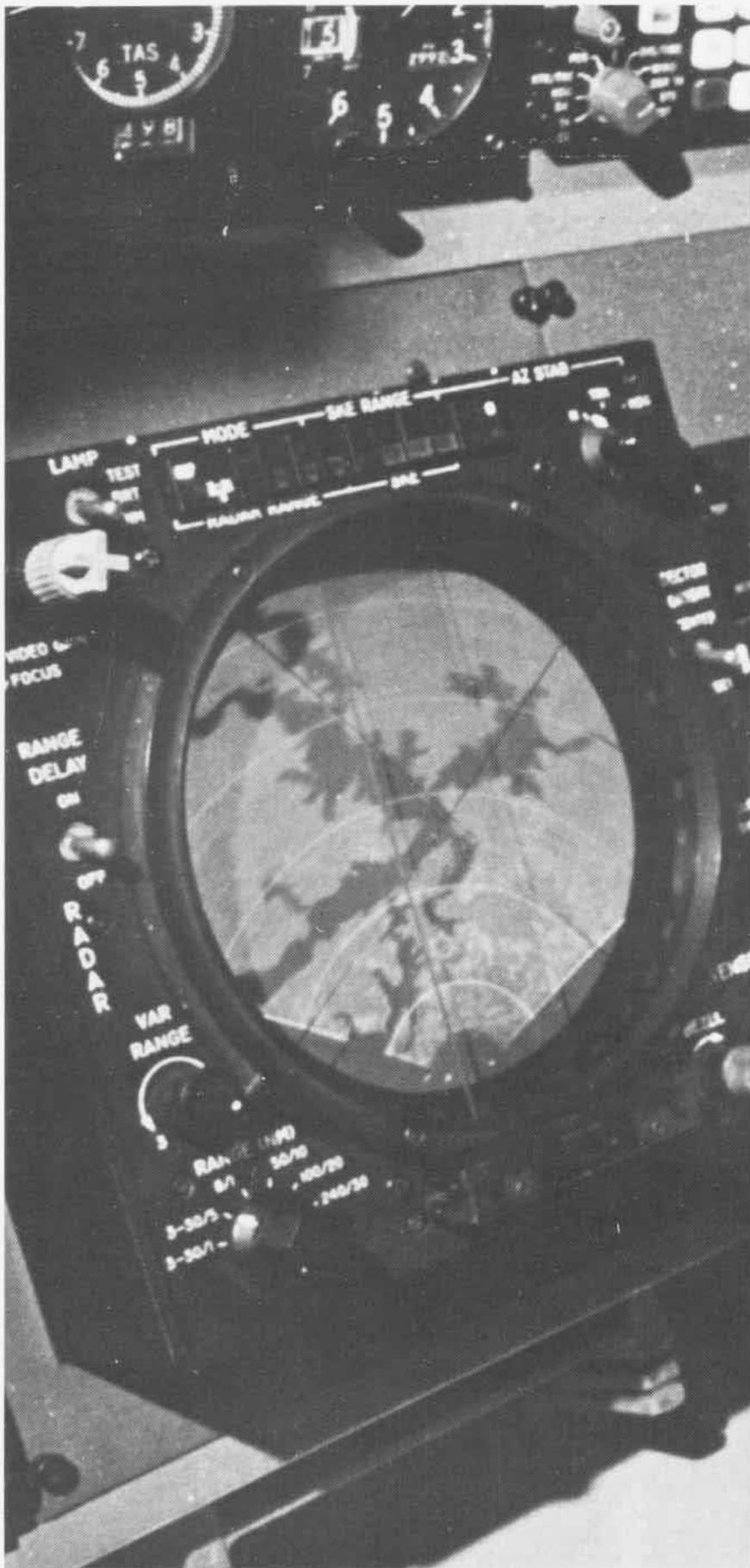
The pace in the training squadrons is decidedly different than in the fleet. As instructor Lieutenant A. Vanderschaeff says, "The working hours are better." Instructors in the T-44A average 50-60 hours a month. Taking a stroll by the transient line of an air station on any weekend demonstrates the fact that the opportunity for cross-country training flights is very great these days. Interestingly, about 60 percent of the instructors at Corpus Christi are involved in graduate work during their off-duty hours. Many finish and receive their degrees prior to leaving their commands.

With reliability of the aircraft averaging well over 80 percent, sched-

uling is an operations officer's dream come true. Working hours are consistent and long-range planning works. The ability to plan ahead with confidence is probably the biggest benefit the T-44A has brought to the Training Command. Lieutenant Commander K. White sums up, "The Training Command has a centralized mission, excellent maintenance and the people are total professionals."

Instructor duty in the Training Command offers many opportunities, including more flight hours and more flying experience. Lieutenant R. Wolford phrased his answer quite succinctly when asked what he found most enjoyable about the Training Command: "Flying the T-44, Corpus Christi, Texas, and going home every night." ■





NFO Training

By Commander Al Jones

There is a mixed bag of training awaiting student Naval Flight Officers (NFOs). When they complete the aviation indoctrination program, student NFOs move on to Training Squadron 10 (VT-10), home of the *Cosmic Cats*, at Sherman Field, NAS Pensacola. There, they spend up to 22 weeks, 15 in basic and 7 in intermediate NFO training.

The basic NFO curriculum emphasizes academics — 233 hours of classroom work, to be exact. In addition to academics, students can expect some 22 hours in the 1D23 navigation trainer and 4 hours in the T-2 *Buckeye* 2F101 simulator to prepare them for the flight portion of the curriculum. This phase consists of five sorties in the T-2 twin-engine workhorse aircraft. Flights include basic familiarization and introduction to visual and instrument navigation, and formation flying.

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

The IUNT curriculum includes 343 classroom, 80 flight and 72 simulator hours of training. At Mather, all flight training is given in the Air Force's T-43A aircraft, their 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, 4 for pro-

iciency training, and 3 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 distinctive 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 25 flight hours, 13 in the T-2 and 12 in the T-39 *Saberliner*. Academics during this portion of the training are minimal with only 29 hours, devoted primarily to flight preparation. After seven weeks the students, except for ATDS trainees, go on to advanced NFO training at VT-86, 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-2B/C *Hawkeye* — 40 hours in the *Hawkeye*, 129 hours in the 15F5/15F8 simulator and 105 classroom hours, spread over a 15-week period.

When the student has completed advanced training, he receives his 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 RIO, TN and OJN training.

Student RIOs have 17 weeks of

training including 134 academic, 46 T-39 flight and 11 TA-4 *Skyhawk* hours, and 44 hours in the 15C4 radar trainer. During this phase, the student applies the principles, rules and concepts necessary to conduct aggressive air-to-air intercept 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 provided tactical training situations in simulation whereby 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 prove 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 11-week advanced tactical navigation training curriculum includes 81 academic, 16 1D23 navigation trainer, 11 TA-4 flight, and 36 T-39 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 with regard to academics, flight and trainer time. Total curriculum length is 11 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 VQ 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. ■



This student Naval Flight Officer puts his classroom training to work in front of one of many radars (left) he will master.

Instructor Duty



The Surprise Challenge

Story and Photos by JO2 Timothy J. Christmann



Top, Rear Admiral Peter B. Booth emphasizes a point during his conference with flight instructors. Bottom, a T-28 Trojan taxis while another flies overhead at NAS Corpus Christi.

It is a sunny, humid Friday morning in June at NAS Corpus Christi, Texas. Inside the main terminal building, a T-28 Trojan can be heard rumbling down the taxiway. Suddenly, the plane's ageless engine buzzes like a chain saw, yanking instructor and student down the runway and into the sky.

Sitting in an area reserved for VIPs, Lieutenant Commanders Cassin Young II and Maxwell L. Jones seem oblivious to the noise. Although they met only 20 minutes ago, both aviators chat like old friends. The talk is mostly professional — questions and answers about duty at NAS Meridian, Miss., where Young is maintenance officer for VT-19 and Jones administrative officer for VT-7.

Had they not been invited to a special luncheon hosted today by Rear Admiral Peter B. Booth, CNAtra, both men would be teaching students from AOCs, AVROC, ROTC and the Naval Academy, and FLDOs how to fly the T-2 Buckeye and TA-4 Skyhawk. But, like the 11 other aviators invited to this luncheon, Young and Jones share something that RAdm. Booth wants to discuss — both left active duty and came back as flight instructors.

At 1100, all 13 aviators gather inside the station officers club. Most of them, like Young and Jones, flew to Corpus on training missions in their squadron aircraft. RAdm. Booth enters the room, grips each of their hands, and tells them he is glad to have them aboard. Afterwards, they gather around a square table and chat amiably while waitresses serve them tall glasses of iced tea. When all are settled, RAdm. Booth begins the meeting.

Signaling a relaxed mood, he says, "I don't have any agenda. Instead, I would just like to sit here and listen to your impressions of why you left the Navy, why you came back, and how you feel about working for the Training Command. Senior personnel like myself worry about who are going to be the next leaders in the Navy. I look around this room and see some real talent. . . ."

RAdm. Booth is concerned with retaining the best people in his business. As CNAtra, he commands six air wings, which encompass 20 squadrons, 900 aircraft and some 14,000 naval and civilian personnel. So, to him, having the best aviators aboard makes good sense.

Leaning back in his chair, the admiral asks each of his guests to explain briefly why he came back on active duty. One by one, they rise and tell the group their particular stories.

During the meeting, and informally later, they talk candidly about their experiences in the Training Command: the flying, the challenges, and the responsibilities.

I never really considered leaving the Navy," Lt.Cdr. Young, a Naval Academy graduate, told the group. "I was happy with my A-6 outfit. But the long sea tours changed my mind."

Several months later, Young left the Navy and went to work for a major oil company as a sales engineer.

"The first six weeks were a big learning experience," he said. "A large oil company, however, isn't willing to trust a guy, despite his experience in the Navy, with a lot of responsibility — and I needed that responsibility."

Young, who during this period was a reservist attached to VA-204 at NAS New Orleans, La., said he began to miss the Navy — the people, flying, and the responsibility. "I was miserable and asked to come back in." He was offered instructor duty with VT-19, teaching aspiring aviators how to fly, and he accepted happily.

"Most [first tour] aviators aren't too excited about coming to the Training Command because it takes them away from their squadron and the aircraft they are used to flying. But I just wanted to fly and didn't care in what airplane," he said.

As a flight instructor for VT-19, Young teaches six different stages of the intermediate strike syllabus, flying in the T-2 *Buckeye*. "I teach students indoctrination and carrier landings, and every kind of tactical maneuvering from aerobatics to formation flight," he said. "The job's super challenging and I really enjoy it."

Young remarked that he used to teach similar maneuvers in the A-4 five years ago. "But the A-4 isn't nearly as challenging as the T-2 because training in the A-4 only sharpens skills that have been picked up in the T-2. It's a whole new ball game," he added.

Young said that although the oil

company treated him very well, he didn't have a fifth of the responsibility or visibility he has in the Navy. "My job now is more important than my position with the oil company could ever have been. Self-importance and self-esteem are two important qualities that set both those jobs apart."

Lieutenant Commander James Knudsen, who flew for two years with a major airline before being recalled, agreed with Young about the amount of responsibility given in the civilian community.

"As a civilian flight crew member, I had very little accountability," said Knudsen, formerly an aircraft and mission commander who flew more than 1,100 hours in the S-3A *Viking*. "As a civilian pilot, you don't do anything but show up for work and fly your flight. When it's over, you go home and forget about it until you come back and do it again. It's a dramatic change from flying for the Navy."

As flight instructor and maintenance officer for VT-23, Lt.Cdr. Knudsen said flying for the Training Command is better than flying for the airlines in many respects.

"It's better mainly because the challenge is different every day," he said. "The hops change and the students change constantly. The biggest challenge is teaching a student the knowledge which is essential for him to fly in the fleet."

Knudsen, who teaches students in the T-2 *Buckeye*, said instructor duty is better than fleet people think. "I believe there is a lot of misinformation out in the fleet about what actually goes on in the Training Command," he said. "That's bad, because fleet aviators generally don't look forward to coming here. They'd rather stay with their own fleet readiness squadron (FRS)."

Knudsen said he used to feel the same way. "If I had my choice, I'd rather be an instructor in the S-3 FRS so I could be close to the type airplane in my warfare specialty. But, being a flight instructor for the Training Command is the next best thing."

"It's a challenging job," Knudsen added. "And a good opportunity to fly a lot and be exposed to things one might not see in a more predictable environment. The unpredictability of

what the students will do keeps you going," he said.

Lieutenant Commander John R. Chesire, operations officer for VT-21, remarked that the Navy experience really doesn't equate to many things in the civilian world. "So, essentially, a lieutenant commander could step over into the civilian world and start out as the equivalent of an ensign," he said.

Chesire left the Navy in 1979 to fly for a major airline and later became trip coordinator for the San Diego Padres. Unlike Young and Knudsen, however, he had a lot of responsibility and enjoyed his job immensely.

Chesire left the Padres in 1981 because the "future didn't look very bright." He turned down additional job offers to return to Naval Aviation.

"The Navy has always been challenging and there aren't many better jobs," he said. To him, coming back made his future look brighter than any outside employment. Today, Chesire teaches budding aviators the advanced stages of the TA-4J *Skyhawk*, primarily tactical formation and air combat maneuvers (ACM).

"The instruction is intensive and it's often difficult to teach," said the fighter pilot who flew 197 combat missions in Vietnam. "Especially to the guys who have limited flight experience. But it's rewarding to see someone with so little experience grasp the techniques and skill of ACM in only a few short hops."

Like most of the 13 aviators at

the meeting, Lt.Cdr. Chesire left the Navy because of long deployments. And one of the main reasons he returned, as did his colleagues, was the opportunity to fly and ease back into the fleet with a tour as a flying instructor at the Training Command.

Flying assignments in VT squadrons in Texas, Mississippi and Florida aren't career-long billets and these aviators will soon all return to carrier duty. Strangely enough, they can't wait.

"I'm looking forward to it as a challenge," said Lieutenant Commander Max Jones, who left the Navy to help start a consulting firm. "And because it's the only way I can stay in competition with my peers."

Lieutenant Commander Michael Rohrbaugh, standardization officer for VT-27 and former flight officer for a major commercial airline, added, "One of the reasons I left the Navy was because of sea duty. But I'm looking forward to going back to my A-7 outfit and carrier duty because that type of flying is the best in the world."

Lt.Cdr. Knudsen commented, "I'm happy to go back because I want to work on the front line. After all, that's what the Navy is all about."

Knudsen said most aviators want to go back to sea because carrier duty is career enhancing and also fun. Although there are a few drawbacks in going to sea, most forget them in time, according to Knudsen.

At the meeting, these aviators were straightforward with RAdm. Booth

and with each other on how to retain Naval Aviators. One of the best ways, they said, is to devise a better plan for counseling junior officers.

"Aviators aren't always just looking for more money," admitted Lieutenant Commander Richard Paine, operations officer for VT-26. Because the Navy is a junior officer's first experience in earning a living, Paine said better counseling methods would improve retention.

"Recently I counseled four JOs who were thinking about leaving the Navy," Paine said. "I arranged a meeting with them and discussed how it is on the outside. I even showed them my pay stubs. Because of this counseling, three out of the four stayed in."

Lieutenant Commander Richard Swacker, operations officer of VT-4 and a former 727 flight engineer for a major airline, said he has JOs come up to him all the time and ask what it is really like in the civilian world.

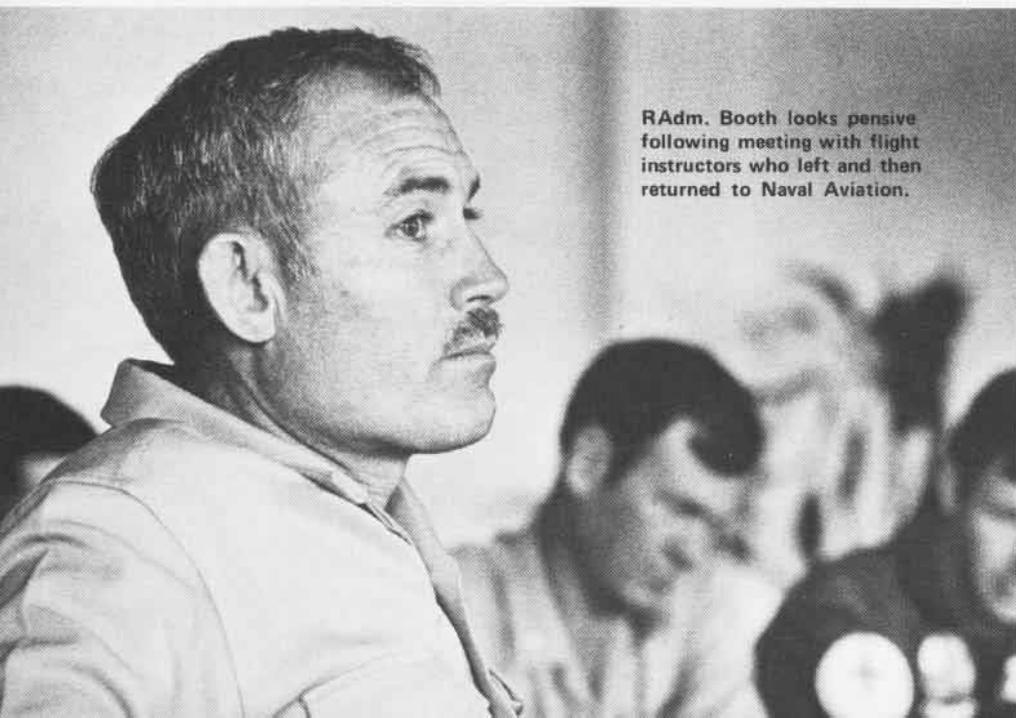
"I tell them that flying a 727 as a flight engineer is so exciting that sometimes the most important duty is eating lunch. There is no camaraderie, nothing even remotely compared to that found in Navy squadrons. And many aviators fail to remember that the civilian community has its pluses and minuses as does the Navy."

Lieutenant Commander Kelly M. Fisher, who left the Navy to copilot a 727 for a large airline, said commercial flying can be challenging but not nearly as challenging as the Navy. Surprisingly, the money isn't much better either, at least not in the beginning.

According to Fisher, assistant operations officer and T-34C transition officer for VT-27, the big money everyone talks about getting doesn't come until years later, which isn't too comforting since the chance of furlough during the first five years is frighteningly high.

As these 13 flight instructors would attest, a flying career in the Navy deserves consideration. The best thing a junior officer can do is take a real hard look at the alternatives before deciding. Flight instructor duty is one of the many choices available.

"The grass isn't always greener on the other side," warned one flight instructor. "And you might be giving up something better on active duty for something not as good." ■



RAdm. Booth looks pensive following meeting with flight instructors who left and then returned to Naval Aviation.

FLDO Program...

A Super Opportunity

By JO2 Timothy J. Christmann



JO2 Timothy J. Christmann

allowed qualified enlisted men to earn commissions and become pilots. AW2 Kincheloe applied and made it.

Today, Lieutenant Junior Grade Kincheloe is a flight instructor for VT-27 in Corpus Christi, Texas, and is responsible for teaching Training Command students T-28 radio instrument navigation.

"This has been a super opportunity for me," he said, "I'm not only an officer, but a Naval Aviator who has fulfilled a lifelong dream."

Like Ltjg. Kincheloe, Douglas F. Megowan, Jr., also wanted to fly. Megowan was a yeoman chief petty officer on the destroyer *Harold J. Ellison* when he heard about the FLDO program and applied. Now a lieutenant junior grade, Megowan teaches student Naval Aviators primary and intermediate flight training in the T-34C *Turbo Mentor* at NAS Whiting Field, Fla.

"I start them out in the familiarization stage and take them through 13 flights before they solo," he said.

Megowan, who had more than 1,500 hours of civilian flight experience before going into the program, remarked that the change has been a tremendous jump in his career. "Going from enlisted man to officer is a big change in itself. But to go from enlisted to Naval Aviator is immense."

According to Commander Jim Parks, LDO/Warrant Program Manager, there are 33 commissioned FLDOs in the Navy. "Twelve candidates are going through training in Corpus Christi now, 14 others are in Aviation Officer Candidate School and another 25 to 35 will be selected when the board convenes in November."

Although he states the FLDO program is "going fine," Cdr. Parks is concerned by the lack of applications from the enlisted ranks. He feels this results from the shortage of information getting out and not to sailor apathy.

"With any new program, it takes time for word to get around," said Parks. To remedy this, he is constantly sending information to Navy newspapers and magazines, as well as making field trips to speak on the subject.

"Last year only 40 applications were submitted for this program, and I think hundreds should be submitted," he said.

Rear Admiral Peter Booth, CNATra, concurs. "The FLDOs are good upbeat aviators and the feedback from this program has been very successful," he remarked. "Frankly, I'm surprised a lot more sailors don't volunteer."

To qualify for the FLDO program, an enlisted member has to be an E-5 through E-7; have more than four years of naval service; be under 30; pass an AQTFAR with 3.5; have 60 semester hours of college or service equivalent; and pass a flight physical.

"There are a lot of enlisted personnel who didn't finish college but would still like to fly for the Navy," said Cdr. Parks. "If so, this program is for them. It's the only way to go." ■

Interested active duty Regular Navy and Reserve personnel should submit applications for the FLDO program to the Naval Military Personnel Command by October 15. See NMPC Notice No. 1131 dated June 16, 1983, for details.

Twenty years ago a sandy-haired boy heard the sound of thunder and peered up at the clear blue sky. There, a group of F-4 *Phantoms* and A-4 *Skyhawks* zoomed by in a diamond formation. He was mesmerized.

"From then on I knew I wanted to be a pilot," said James T. Kincheloe two decades later.

Opting to delay college, Kincheloe joined the Navy and became an aircrewman (AW) in VS-29 at NAS North Island, Calif. During the next four years, he had several tours aboard the carriers *Ranger* and *Kitty Hawk*. Although he enjoyed flying in the S-3 *Viking* as a crew member, Kincheloe's boyhood wish still burned. Fortunately, before his four-year enlistment ended, the Navy began the Flying Limited Duty Officer program, which

A New Bird

for NFOs

By Jim Nehman



Courtesy of Cessna Aircraft Company

A major change in Naval Flight Officer (NFO) training is in the offing which will include introduction of a new aircraft and significant alterations to the syllabus beginning next year.

Over the past several years, undergraduate NFOs have received basic, intermediate and advanced training at Training Air Wing Six (TraWing-6), NAS Pensacola, Fla., in T-2C, TA-4J and T-39D aircraft. The training is supplemented with various ground training devices such as the 1D23 navigation communication trainer and the 15C4D synthetic radar trainer.

Most NFO in-flight training is conducted in 25 T-39D *Sabreliners*, which are permanently configured with one of two radars used in the syllabus. Tactical navigators are trained on the APQ-126 ground mapping radar for the attack role, while radar intercept officers are trained on the APQ-94 air-to-air intercept radar for the future fighter aircrew role. The APQ-94 is an old vacuum tube-technology radar originally used in the F-8 *Crusader*. This radar has performed satisfactorily in its mission, but has become increasingly difficult to support. Added to the radar problem is the aging T-39D and its decreasing systems reliability.

It was anticipated some time ago that a new aircraft would be needed to replace the T-39D/APQ-94 system and that the time involved in a new acquisition was insufficient to meet the required initial training capability date in 1984. The Naval Air Systems Command (NavAir) assigned the project to the Support Aircraft and Weapons System Management Project Office, under the direction of Captain John Holtzclaw. In June 1981, NavAir tasked the Naval Air Development Center with examining alternatives to the NFO training requirement by either upgrading or replacing the T-39D/APQ-94 system by 1984.

The study concluded that a multiyear contract for

training services was the most cost-effective and only method which could meet the critical initial training capability date. In October 1982, a request for quotation was released to industry asking for a five-year effort with one three-year option on a fixed-price basis. On May 10, 1983, a contract was awarded to Cessna Aircraft Company for \$159.4 million to provide 17,000 flight hours annually, utilizing 15 modified *Citation IIs* (designated T-47A by the Navy), with upgraded Emerson Electric APQ-159 radar systems. Flight hours will include all training currently flown in the T-39D (basic through advanced), portions of the T-2C NFO syllabus requirement, any necessary training surge and the potential for growth throughout the eight-year period. The radar will provide both air-to-air intercept and air-to-ground mapping training capability at three student stations within the aircraft cabin.

Included in the package are two Link ground radar training devices, to be installed at the training site at Pensacola, which will provide ground training capability for the air-to-air intercept and air-to-ground segments of the NFO curriculum. Instructor pilot training services and aircraft logistics/maintenance support will be supplied by Northrop Worldwide Aircraft Services, Inc., and BDM Corporation will serve as the overall project integrator.

The new Cessna undergraduate NFO training system will begin transition to the Training Command on August 1, 1984, when the old T-39D system starts its phaseout. Plans call for all T-39Ds to be replaced by T-47As at TraWing-6 by May 1, 1985. This will end another generation of Navy trainer aircraft and introduce a syllabus upgrade for Naval Flight Officer training. ■

Some of the information included in this article was extracted from the NADC study conducted for NavAir, dated September 1981.

QF-4 Makes a Difference at PMTC

The Pacific Missile Test Center has a supersonic remote-control jet fighter that flies any maneuver a piloted aircraft can perform.

"We've had remote-control aircraft here for years, but this is the first we've had that does all the maneuvers at high altitudes and supersonic speeds," said Clark McKay, project engineer for the program.

The QF-4N *Phantom* is the first in a series of 40 being developed by the Navy to perform as high-altitude, high-maneuverability aircraft targets at Point Mugu and the Naval Weapons Center, China Lake, Calif. In addition to the N model *Phantom*, the series will also include models J and B, McKay said. Point Mugu plans to have four *Phantoms* on board during the planned 10-year program.

"This series of QF-4 *Phantom* aircraft targets brings a new dimension

of target performance and realism to the inventory of unmanned target vehicles at the threat simulation department," McKay added. "Although an earlier series of *Phantom* targets has been at PMTC since 1972, they were restricted in maneuvers. The autopilot in those aircraft allowed only canned maneuvers such as high-G turns and gradual pitch-and-roll tactics." According to McKay, the new QF-4s will make a tremendous difference.

Flight test and evaluation of the new series target is expected to be completed within a few months. Afterwards, department personnel will ferry the new *Phantom* target aircraft to the Atlantic Fleet Weapons Training Facility in Puerto Rico where it will be used for approximately one month as an unmanned target in support of missile-firing operations.

SAR Crew Keeps Busy

"It feels good to know we have the capability and aircraft to respond to an emergency," says Lt. Roger M. Elliot, a pilot for the SAR crew at NAS Meridian, Miss.

For years, the SAR crew has provided support to both military and civilian communities over an area of more than 70,000 square miles. This is in addition to their primary job of providing support to Training Air Wing One in flight training.

Since 1977, the SAR crew has rescued eight military pilots, responded to 168 civilian medical evacuations, six civilian airplane crashes, and were alerted to 37 overdue civilian aircraft.

A full SAR alert crew consists of two pilots, two crew members and one medical corpsman. The aid they supply ranges anywhere from assisting car accident victims to handling breach births.

"On several occasions we have helped Columbus AFB, Miss., transport mothers who have gone into premature labor," said Lt. Elliot. "We take them to Keesler AFB or other military installations which handle obstetrics."



A UH-1N Huey is used during a search and rescue training mission.

The Meridian SAR unit flies the UH-1N *Huey* helicopter, an easily maintainable aircraft which is small enough to get into and out of tight places, yet big enough to carry up to 13 passengers.

Between emergencies, the SAR crewmen maintain a constant training regimen, which keeps them proficient and ready to respond to any eventuality.

Ens. William Douglass

Firsts

Lt. Leslie Provo, VRC-40, was recently designated the first female Landing Signal Officer by VAdm. T. J. Kilcline, ComNavAirLant.

Lt. Cdr. Dale A. Gardner, a graduate of VT-10, NAS Pensacola, was rocketed into space this summer as a space shuttle crewman on STS-8, a three-day flight in the orbiter *Challenger*. He's the first Naval Flight Officer in space.

Lt. Colleen Nevius, the Navy's first woman test pilot, graduated on June 10 from the U.S. Naval Test Pilot School, Class '83. She will be assigned to the Test Center's Rotary-Wing Aircraft Test Directorate.

Records

Several units marked accident-free flight time in years: VP-49, 21; VP-46, 19; NAS Guantanamo Bay, 15; VMA(AW)-121, 12; HM-12 and VP-31, 10; VC-13 and VS-38, 9; VP-23, 5; VP-90, 4; VF-124, 3; and VA-93, 1.

Other units recorded accident-free flight hours: VMGR-252, 257,250; VP-1, 100,000; HML-267, 80,000; VT-86, 75,000; VS-31 and VQ-2, 50,000; HMT-301, 44,811; VR-55, VT-9 and VAW-110, 30,000; VC-5, 25,000; USS *Inchon*, 15,000; HC-9, 14,000; MAG-11, HAL-4 and VC-8, 10,000; and HMM-268, 4,800.

The following individuals marked personal milestones:

VA-56: Cdrs. S. McDaniel, E. Shipe and J. Marksbury, and Lt. Cdr. G. Root have totaled over 9,000 accident-free flight hours in the A-7 *Corsair*.

VC-5: Cdr. K. Rauch, C.O., reached his 5,000th flight hour and at the same time marked the squadron's 25,000th accident-free flight hour.

NAS Guantanamo Bay: Cdr. L. Barnett, X.O., has flown more than 5,000 accident-free flight hours in 27 different military aircraft. Lt. R. Kling completed more than 1,000 accident-free flight hours in the C-12.

MACG-48: Col. C. Yates, C.O., completed 10,000 flight hours which involved 16 different military aircraft and 27 years of flying.

HS-10: Capt. W. Terry became one of the first Naval Aviators to reach 5,000 hours (1,000 night hours) flying the Sikorsky SH-3.

MAG-46: MSgt. T. J. O'Halloran is reported to be the first Marine to fly 5,000 hours in the CH-46 *Sea Knight*.

4th MAW: Maj. D. Wallin and Capt. D. Gaston are believed to be the first two Marine Corps pilots to fly more than 1,000 hours in the UC-12B.

Honing the Edge

Miramar's VF-305 recently participated in Operation *Red Flag* at Nellis AFB, with five squadron F-4S aircraft and 54 officer and enlisted personnel.

A new fleet fighter ACM readiness program (FFARP) provides three weeks of intensive air combat maneuvering training to each air wing's fighter and early warning squadrons. FFARP is conducted by VF-126, NAS Miramar's fleet adversary squadron, skipped by Cdr. D. Carev.

Last winter the *Marauders* of VA-82, NAS Cecil Field, Fla., were deployed aboard *Nimitz* in the Mediterranean, where they won top honors in a CVW-8 bombing derby.

Awards

The Hughes *Intruder* Trophy was presented to VA-35 as the outstanding target recognition and attack multisensor-equipped A-6 *Intruder* squadron in the Atlantic Fleet. The squadron is skipped by Cdr. A. H. White.

The Thurston H. James Memorial Award, given by the General Commandery of the Naval Order of the U.S. to the outstanding graduates of the Naval Flight Officer program, was presented to Ensign R. F. Rossetti in recent ceremonies at VF-101, NAS Oceana, Va.

Et cetera

A modern technology airship built by Airship Industries, Ltd., of England flew at NAF Andrews AFB, Washington, D.C. in June. The blimp is being tested under contract with the U.S. Navy.

Crewmen on the newest frigate, USS *Valdez* (FF-1096), feed fuel to



JO2 Lance Johnson

an SH-3G helicopter in the North Atlantic, flown by reservists assigned to HS-74, South Weymouth, Mass. The ship's crew consists of regular Navy and TAR personnel, and Selected Reservists drill aboard the ship one weekend a month.

Anniversaries

The following recently celebrated anniversaries: NAS Moffett Field, 50 years; NAS Patuxent River, 40;

HC-1, 35; VS-30, 30; HMM-764, 25; and VAQ-136, 10.

Change of Command

ComHSWing One: Capt. Jimmy N. Glover relieved Capt. Berry A. Spofford.

ComNavAirSysCom: VAdm. James B. Busey IV relieved VAdm. Ernest R. Seymour.

HMM-363: Maj. R. C. Slack relieved Lt. Col. A. J. Picone.

ComAirASWing-1: Capt. Jack B. Austin relieved Capt. Luther F. Schriefer.

H&MS-11: Maj. Charles Hoelle, Jr., relieved Lt. Col. Bronson W. Sweeney.

MABS-16: Maj. Jim Byrem relieved Lt. Col. Daryl Russell.

MABS-29: Maj. Richard H. Kunkel, Jr., relieved Maj. Russell F. Beagent, Jr.

NAF Misawa 0779: Cdr. Richard Barr, Jr., relieved Cdr. Jonathan Powers.

NATTC Lakehurst: Capt. D. S. Brown, Jr., relieved Capt. R. G. Lambert.

NAS Miramar: Capt. Gary E. Hakanson relieved Capt. James E. Taylor.

Independence (CV-62): Capt. William A. Dougherty relieved Capt. Jerry C. Breast.

Kitty Hawk (CV-63): Capt. David N. Rogers relieved Capt. Robert C. Taylor.

VA-66: Cdr. Robert W. Nordman relieved Cdr. Richard D. Lichterman II.

VA-83: Cdr. William E. Franson relieved Cdr. Douglas J. Bradt.

VA-93: Cdr. Dennis W. Irelan relieved Cdr. James H. Finney.

VA-205: Cdr. John D. Kish relieved Cdr. Gary C. Ayres.

VAQ-131: Cdr. James C. Kennedy relieved Cdr. Richard G. Simms.

VAW-122: Cdr. Charles M. Kraft, Jr., relieved Cdr. Barton C. Gohmann.

VAW-126: Cdr. Robert L. Johnson, Jr., relieved Cdr. John W. Bookhultz.

VF-101: Cdr. Henry M. Kleemann relieved Capt. R. Moon Vance.

VF-213: Cdr. John S. Payne relieved Cdr. T. W. Finta.

VMGR-352: Lt. Col. Bruce Major relieved Lt. Col. William Shively.

VP-30: Cdr. John M. Evans relieved Capt. Ronald F. Testa.

VP-2644: Cdr. Jim B. Burkholder relieved Cdr. Michael E. Benson.

VR-57: Cdr. Read B. Mecleary relieved Cdr. Charles R. Bourbonnais.

VT-2: Cdr. Warren L. Holbert relieved Cdr. Charles D. Shields, Jr.

VTC-12: Cdr. David M. Stevens relieved Cdr. J. D. Anderson.

VXE-6: Cdr. Matthew J. Radigan relieved Cdr. Michael J. Harris.

F-14 Tomcat

I am probably the greatest F-14 Tomcat buff ever, and I was wondering if any readers of *Naval Aviation News* have photos or information on the aircraft that they could send me. Anything will be appreciated.

Chris Mason
38-G Riverview Village
Indian Head, MD 20640

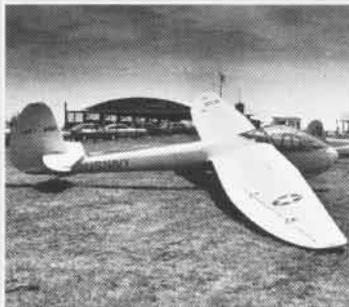
Patches Wanted

I am a historian and avid collector of military aviation patches and stickers. I would appreciate hearing from anyone who is willing to donate any USN/USMC fighter, reconnaissance, rescue, helo, bomber, etc., patches to my collection.

Johnny Signor
3418 Carolyn Lane
Cocoa, FL 32922

VSA

I am enclosing some data that your readers may find interesting. The photo is of one of the gliders in our association, a Pratt-Read LNE-1. I own a Schweizer LNS-1 that was



used by the Marine Corps and we hope to have both of these on display at the National Soaring Museum in 1983.

Many Pratt-Reads had more illustrious careers after the Navy let them go. The Air Force used them as a meteorological test bed, due to their ruggedness and ability to carry large instruments. They were flown into thunderstorms to measure the currents and observe cloud formations. Later, several were equipped with insulation and oxygen systems, besides instrumentation, and used to explore the high-altitude mountain wave air currents at Bishop, Calif. In the process, an altitude record was set that still holds today — a maximum altitude of over 44,000 feet, with a gain of over 34,000 feet, without an engine.

Bob Storck, Editor/Archivist
Vintage Sailplane Assoc., Inc.
3103 Tudor Road
Waldorf, MD 20601

Survival Rules

As an ex-career military aviator, I read with interest your December issue, page 7, and your squib from *TWA Flight Facts* expressing one-line rules for survival and soliciting favorites from others. Here's mine: "Always have in mind an alternative." For me, this rule has kept the thought process alert and active every time I flipped a switch, made a decision, or had an emergency. Keep up the good work with your fine publication.

A. A. Fletcher, USAF(Ret.)
AIMSO
NAS Patuxent River, MD 20670

USS Leyte

W. N. Watts served in the V-3 Division aboard USS *Leyte* (CV-32) from 1948 to 1952. He asks that anyone who served aboard that ship during the same period and has knowledge of an accident in which Watts fell over the side and was injured, contact him at Box 74, Fairfield, VA 24435. The information is needed to verify an injury claim.

A-4 Skyhawk

I am presently writing a book on the A-4 Skyhawk to be titled *Heinemann's Hot Rod*. The book will cover the aircraft from its original design to the present. I would appreciate receiving from your readers any information, observations, experiences or anecdotes involving the aircraft. I would also like to copy parts of early manuals to include in my book.

Ron Willocks
7685 Berwick Court
Boulder, CO 80301

PBY Houseboat

Reading about the PBY houseboat in the March-April 1983 issue of *Naval Aviation News* prompts me to report a recent observation. While on vacation in March, I landed at the airport in Iquitos, Peru. A PBY *Catalina* flying boat was parked a short distance from the passenger terminal. It was in a very dilapidated condition, obviously unused for many years. The port engine and propeller were intact, but the starboard engine was missing.

It seems the famous *Black Cats* have found special final resting places.

CWO4 John C. Kirchgessner, USNR-R
25 Glenwood Avenue
Demarest, NJ 07627

VB-110

I am writing a book about a number of USN, USAF and RAF aircrews, and would like to contact a crew who served with VB-110 between 1943 and 1945. The names are as follows: Capt. P. J. Curran; Lts. G. H. Charno and R. G. Wissman; C. R. Coyle; W. O. Levering; R. D. Lamb; W. W. Olson; W. J. Clayton; D. M. Clark; and D. S. Peterson.

Barry Blunt
17 Marina Drive
Marple, Stockport SK6 6JF
Cheshire, England

Info Needed

I am seeking information of a personal or military nature on my uncle, Ens. Edward Waterson Robins, who was killed while flying an F6F *Hellcat* during a carrier landing accident aboard USS *Belleau Wood*, September 21, 1945. He was a member of VF-28, whose skipper's name was Merrill.

Patrick R. Robins, M.D., P.C.
Professional Village South
700 West Kent
Missoula, MT 59801

Reunions, Conferences, etc.

Survivors of USS Ommaney Bay (CVE-79) and embarked VC-75, and families of deceased members, are requested to contact Lloyd Beighley, 3620 Lloyd Pl., San Diego, Calif., for details about the planned 1984 reunion.

USS Yorktown (CV-10) reunion, October 6-9, 1983, aboard *Yorktown*, Charleston, S.C. Write to Joe Sharkey, USS Yorktown CV-10 Association, P.O. Box 1021, Mt. Pleasant, SC 29464.

VPB-26 reunion, October 14-16, 1983, Long Beach, Calif. Contact D. W. Colburn, 26804 Basswood Ave., Palos Verdes, CA 90274.

Marine Corps Aviation Association convention, October 13-16, 1983, Town and Country Hotel, San Diego, Calif. For information, contact MCAA, P.O. Box 296, Quantico, VA 22134.

NAS Banana River reunion for all former personnel is being planned. If interested in attending, please contact Bob Grier, Rt. 2, Box 31, Seale, AL 36875, (205) 855-3441.

VP-33 reunion, November 13-16, 1983, Pensacola, Fla. Contact John R. Zubler, R.D. 2, Spring Mills, PA 16875, (814) 422-8296.



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