# NAVAL AVIATION NEWS


SEPTEMBER 1982

R. G. Smith


Photo courtesy of 102nd Aerospace Rescue and Recovery Squadron

**A historic moment is captured as an RH-53D Sea Stallion from HM-12, NAS Norfolk, Va., moves into position for the first air refueling of an operational Navy helicopter on August 3, 1978. At the controls were pilot Lt. Rodney Davis and copilot Lt. William Meeley. The refueling drogue belongs to an Air National Guard HC-130 from the 102nd Aerospace Rescue and Recovery Squadron, Suffolk County Airport, L.I., N.Y.**


# naval aviation news

**Sixty-Fourth Year of Publication**

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*COVER—Two Hawk aircraft in Navy trainer colors by noted aviation artist R. G. Smith.*

**Features**



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# STATE OF THE ART

## Aviation Hall of Fame

Four aviation and space pioneers were enshrined in the National Aviation Hall of Fame during ceremonies on July 24, 1982, in Dayton, Ohio:

**Frank Borman** was honored for his contributions to both aeronautics and astronautics. He was a member of the *Gemini 7* earth-orbiting mission and flew the *Apollo 8* spacecraft on the first manned flight to the moon and back.

**Barry Goldwater**, senator from Arizona, a reserve military pilot with more than 12,000 hours in the air, was enshrined for his efforts to maintain the nation's defense capabilities while promoting general and commercial aviation.

**Frederick Rentschler**, nicknamed "Mr. Horsepower" during a 40-year career in aviation, was a pioneer in the development of reliable aircraft engines. The founder of Pratt & Whitney Aircraft, he was instrumental in establishing one of the first transcontinental airlines and produced advanced design propellers and other vital aircraft components.

**Wernher von Braun**, former director of NASA's Space Flight Center, was an earlier developer of rockets which led eventually to manned space flight, lunar landings and other probes of deep space.

## Hornet Sea Trials Aboard Vinson

The F/A-18 *Hornet* strike fighter completed all goals during its recent flight tests aboard USS *Carl Vinson* (CVN-70). The sea trials marked the aircraft's second series of shipboard tests and evaluated the *Hornet* during a variety of flight conditions including night operations and catapult launches, and with different combinations of weapons and external fuel tanks.

The two Navy pilots flying the F/A-18 took the plane through 63 catapult launches and arrested landings, numerous touch and go's and intentional "bolters" (deliberate misses of the ship's arresting cable). Several automatic approaches to touchdown were flown with the aircraft under the combined control of the ship's automatic carrier landing system and the aircraft's autopilot and approach power compensator.

The carrier test was one element of the Navy's technical evaluation which involves four F/A-18s at the Naval Air Test Center, Patuxent River, Md. *Hornets* will enter service late this year with the Marine Corps, replacing F-4 *Phantom IIs*. The Navy will activate its first operational F/A-18 squadron in 1984.

**An F/A-18 takes the wire for an arrested landing aboard the Navy's newest nuclear-powered aircraft carrier, Carl Vinson.** McDonnell Douglas Corporation

awards

## McClusky Award

In ceremonies on June 6, 1982, RAdm. Glenn Lenox, Commander Light Attack Wing, Pacific, presented the *Fighting Redcocks* of VA-22 with the Admiral Clarence Wade McClusky Award as the best attack squadron in the Navy. The NAS Lemoore-based squadron, presently led by Commander John Vomastic, was chosen from the 36 attack squadrons navywide, both medium and light. The squadron received a miniature trophy and will have its name inscribed on the permanent trophy on display in the Naval Aviation Museum, Pensacola, Fla. The Vought Corporation-sponsored award is in memory of the air group commander who led his men to victory over a Japanese fleet during the WW II Battle of Midway.

In addition, VA-22 won the CVW-15 Top Tailhook Squadron Award for maintaining the highest carrier landing grade average during the air wing's deployment aboard *Kitty Hawk*. The squadron was also first runner-up for the Bruce Carrier Award for excellence in aircraft maintenance, and recipient of the 1981 CinC-PacFlt Golden Anchor retention award for deployable squadrons navywide.

## Sledge Awards

The Chief of Naval Operations has announced the recipients of the 1981 Villard C. Sledge Memorial Maintenance Awards for outstanding accomplishment in the repair of jet engines. The certificates of excellence are presented to intermediate maintenance activities (IMAs) based on the number of engines they processed and the percent of engines repaired, inspected and returned ready for issue during the calendar year. The IMAs are considered according to the degree of repair level assigned, i.e., first, second or third, each having its own minimum requirements. Winners by category are:

| Activity | Degree IMA | Engine |
|---|---|---|
| AIMD NAS Miramar, Calif. | First | TF30 |
| AIMD NAS Point Mugu, Calif. | Second | TF30 |
| AIMD NAS Atlanta, Ga. | Third | TF30 |
| AIMD NAS North Island, Calif. | First | TF34 |
| AIMD NAS Cecil Field, Fla. | Second | TF34 |
| AIMD NAS Cecil Field, Fla. | First | TF41 |
| AIMD USS *Midway* | Third | TF41 |
| AIMD NAS Whidbey Island, Wash. | First | J52 |
| HAMS 13, MCAS El Toro, Calif. | Second | J52 |
| AIMD NAS Willow Grove, Pa. | Third | J52 |
| AIMD NAS Whiting Field, Fla. | First | T53 |
| AIMD NAS Patuxent River, Md. | First | T56 |
| AIMD NAS Moffett Field, Calif. | Second | T56 |
| AIMD NAS New Orleans, La. | Third | T56 |
| AIMD NAS North Island, Calif. | First | T58 |
| AIMD NAS Willow Grove, Pa. | Second | T58 |
| AIMD USS *Forrestal* | Third | T58 |
| HAMS 16, MCAS(H) Tustin, Calif. | First | T64 |
| AIMD NAS Atlanta, Ga. | Second | T76 |
| AIMD NAS Pensacola, Fla. | First | J60 |
| AIMD NAS Miramar, Calif. | First | J79 |
| AIMD NAS Dallas, Texas | Second | J79 |
| AIMD USS *Midway* | Third | J79 |
| AIMD NAS Chase Field, Texas | First | J85 |
| AIMD NAS Kingsville, Texas | Second | J85 |
| NavFitWepScol, NAS Miramar, Calif. | Third | J85 |

The award, which is in its ninth year of competition, is in honor of Lieutenant Commander Villard C. Sledge who dedicated 30 years of effort to the development of a comprehensive aviation maintenance system for the Navy.

# Grampaw Pettibone

## Slats Splats Skyhawk

Two A-4M *Skyhawk* pilots briefed at 0555 for a scheduled defensive air combat maneuvering training flight. The flight leader briefed all the planned maneuvers in detail. The wingman then briefed out-of-control flight and spin recovery procedures. Both pilots were well qualified for the mission; the wingman had flown four air combat maneuver (ACM) sorties in the past 30 days and the flight leader was a designated air combat tactics instructor.

While signing for the aircraft, the wingman noted that his aircraft had two "sticking slats" discrepancies on the last three flights and informed the flight leader. The flight leader was already aware of the gripes because he had written the latter one. A careful preflight of the aircraft was conducted and no discrepancies were noted.

After a short flight to the operating area, gunsight checks were performed. The wingman then moved in to the trail position behind the flight leader to conduct gunsight tracking. During the tracking exercise, the wingman experienced an asymmetrical slat extension which caused his aircraft to roll left. He did not inform the flight leader of the problem.

When the external tank fuel had been exhausted, the wingman executed several pre-briefed maneuvers for airspeed and lateral separation, raking guns defense, and a rolling scissors.

The wingman then requested a second rolling scissors maneuver, which the flight leader initiated, attacking from the right perch position. The wingman turned right into the attacking flight leader to force an overshoot. As he executed a hard turn, the right wing slat extended. The pilot countered the slat extension with aileron, rudder and reduced back stick. The right turn continued with a series of uncontrolled wing rocks. The wingman noted that he now had insufficient turn rate to force the flight leader to overshoot, terminated the maneuver and informed the flight leader of his problem.

The flight then set up for a third rolling scissors maneuver with the flight leader again attacking from a right perch position. As the wingman turned into the attacking leader and applied moderate G loads, the *Skyhawk* executed a rapid 360-degree roll to the left. The maneuver was immediately terminated and the flight climbed to altitude for another maneuver. During the climb at approximately 250 knots, the wingman noticed that his right slat was extended again, which he popped back in by rapid forward stick movement.

The flight set up for a fourth rolling scissors, with the leader now attacking from a left perch position. The wingman, at 250 knots and 17,000 feet, turned hard left into the attacking leader and forced an overshoot. He reversed his turn quickly to the right and pulled hard back stick. The *Skyhawk* immediately performed a 360-degree roll to the left so rapidly that the pilot was unable to apply counter controls. After a momentary hesitation, the aircraft commenced another rapid, uncommanded 360-degree left roll with a nose-low attitude. The pilot neutralized the controls and observed the angle of attack (AOA) indicator needle bouncing between zero and 10 units. From 5,000 feet above, the flight leader observed the rolling *Skyhawk* and told the wingman to check his altitude and neutralize the controls. The wingman replied that the controls were neutralized.

Descending rapidly, the *Skyhawk* continued a series of violent positive and negative G maneuvers which forced the pilot against the canopy. After two complete rolls the *Skyhawk* slowed momentarily, with negative Gs reduced, and again rolled twice. The pilot then observed the AOA indicator pegged at zero and the turn needle indicating a right turn. He then applied inverted spin recovery control inputs but was unable to apply full rudder because he was physically pressed against the canopy.

Passing 11,000 feet, he heard the flight leader tell him, "Get out! Get out!" Unable to reach the upper ejection handle because of his position, he grasped and pulled the lower handle. Descending under a good chute, the pilot watched his ill-fated *Skyhawk* fall in a slow inverted right



ILLUSTRATED BY Olson


spin, impacting the ground in a 60-degree nose-down attitude.

During the ejection, the pilot lost his helmet and mask and sustained a cut on the side of his head from the chute risers. He deployed his seat pan and attempted to steer his chute to a farmer's field, but landed short in a cluster of 30-foot coniferous trees. His descent stopped two feet above the ground with him dangling in the straps, entangled in the tree branches. Local civilians assisted the pilot with first aid for his head wound, and walked him to a road area to await a rescue helo.

Grampaw Pettibone says:

Rats . . . rats . . double rats to slats that cause splats!

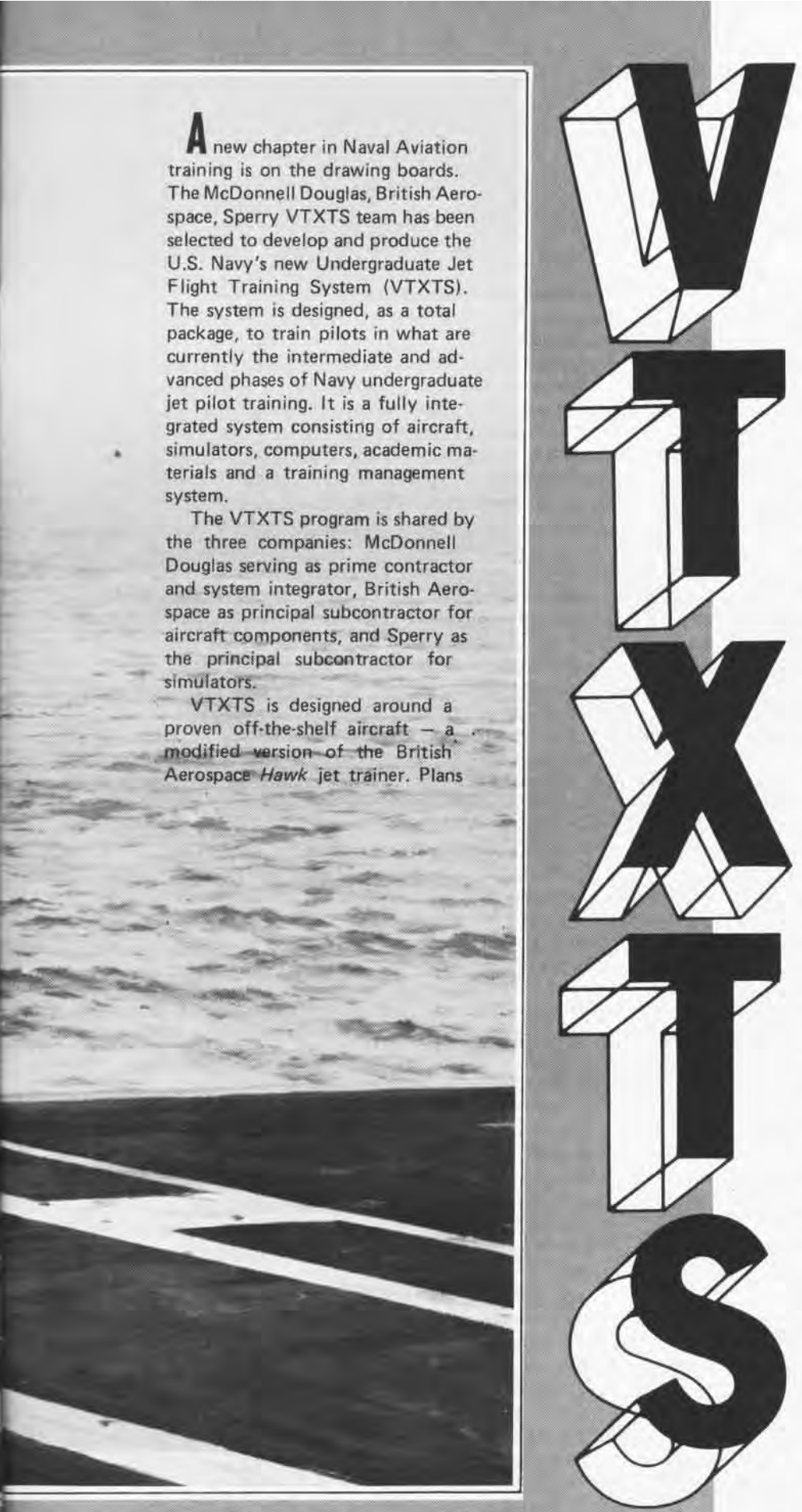
The problem of asymmetrical slat extension in the A-4 has been well documented for close to 25 years. NATOPS procedures to counter a slat-induced departure from normal flight required aileron and rudder to be applied into the extended slat to control the roll moment. Rapid forward stick input to reduce aircraft G loading will normally reseat a slat that is aerodynamically locked up. Neutralizing the controls will not necessarily effect a recovery, if the slat remains out.

The application of anti-spin control response to slat extension departure from controlled flight, misinterpreted as a spin, results in pro-spin inputs. The effect will be a genuine spin.

This ill-fated *Skyhawk's* "squawk" should have been heard loud and clear by both its pilot and the flight leader, whose role resembled more that of an airborne spectator than a flight leader or qualified air combat tactics instructor. To press on with the execution of air combat maneuvering under these conditions was just plain dumb!

This incident left old Gramps like this young lad – hanging – except a lot higher than just two feet above ground!


From a painting by R. G. Smith, McDonnell Douglas Corporation



# VTXTS

A new chapter in Naval Aviation training is on the drawing boards. The McDonnell Douglas, British Aerospace, Sperry VTXTS team has been selected to develop and produce the U.S. Navy's new Undergraduate Jet Flight Training System (VTXTS). The system is designed, as a total package, 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 aircraft, simulators, computers, academic materials and a training management system.

The VTXTS program is shared by the three companies: McDonnell Douglas serving as prime contractor and system integrator, British Aerospace as principal subcontractor for aircraft components, and Sperry as the principal subcontractor for simulators.

VTXTS is designed around a proven off-the-shelf aircraft — a modified version of the British Aerospace *Hawk* jet trainer. Plans call for more than 70 percent of the work on VTXTS, including aircraft final assembly to be done in the United States.

The *Hawk* is an impressive aircraft which flew more than 100 flights and over 10,000 miles during an intensive 31-day tour of the United States in early summer 1981. Many U.S. government and military representatives flew the *Hawk* during the tour, which was jointly sponsored by British Aerospace, McDonnell Douglas and *Hawk* equipment suppliers, including Rolls Royce. Evaluation pilots, members of Congress and other senior government officials, as well as Navy, Air Force and Marine Corps pilots also got to see it up close.

The tour was conducted to show the *Hawk's* capabilities. During the demonstration tour, the jet trainer flew 86 evaluation sorties (10 percent more than originally planned) with a total of 108 flights in 118 flying hours which included two transatlantic crossings. There were up to seven flights in a single day, including a solo aerobatic demonstration.

The *Hawk* demonstrated its capabilities throughout the flight envelope, including simulated carrier deck landings, using a Navy mirror landing system and non-flared touchdowns, both of which showed the *Hawk's* compatibility with carrier operations.

Proving its inherent strength and superior performance during the evaluation flights, the *Hawk* sustained load factors up to 8.9 Gs and performed level turns in excess of 6 Gs.

The *Hawk's* economical Rolls-Royce Adour engine burned an average of 1,100 to 1,200 pounds of fuel on each evaluation flight, considerably below the 3,000 or more pounds that would have been consumed in similar flights in the Navy's present advanced trainer.

Only one flight was cancelled during the tour. This nearly perfect availability record was achieved with a minimum of technical support — four mechanics, an electrician and a radio technician.

# VTXTS

## A Total System

The VTXTS program was designed to meet the Navy's need to train fixed-wing jet carrier pilots who are fully capable of transitioning to fleet training aircraft in the late 1980s and beyond. The Navy wanted a total training system which would reduce time and cost to train with minimum acquisition expense. It was this latter requirement that prompted the Navy to ask for a complete training package rather than just a jet trainer aircraft to which simulators and computers would then later be added at greater overall cost. In addition, without the simulators and the associated automated management system in the VTXTS, a larger number of aircraft would have been needed to meet training goals.

Simulators reduce the number of flying hours, requiring nearly 40 percent fewer aircraft in the training program. Simulator acquisition cost is about 10 percent of the VTXTS package, a significantly smaller figure than the cost of 40 percent more aircraft. Additionally, without simulators, operating cost per student would increase by some 20 percent, since their use provides needed training with fewer more expensive flight hours.

Cost savings also played a part in the training management system. Without the efficiencies attributable to computer-based management, it is estimated that eight percent more aircraft would be needed in the training program. Since the cost of the training management system is only one percent of acquisition cost, the economies are significant.

VTXTS, as a total system, offers tremendous savings in operating expenses as well as in acquisition costs. Direct support personnel requirements will be down approximately 21 percent (38 percent if contractor support is selected) and fuel use will decrease significantly compared to that used in today's jet pilot training.

Training effectiveness is also important. Certain types of effective pilot training strategies are available in modern technology simulators which cannot be accommodated in aircraft. Also, some emergency procedures training cannot be conducted in an aircraft without compromising safety.

Only through an integrated, comprehensive system can the maximum in effectiveness and efficiency of training be fully attained. The capabilities and designs of the aircraft, the simulators and computers must be interdependent. Maximum effectiveness at minimum cost is the payoff to the VTXTS total training system approach.

VTXTS consists of four subsystems: *academics, simulation, aircraft* and a *training management system (TMS).*

In addition to the four basic elements of the VTXTS, two components play a critical role in the total system process: the curriculum, which is an end product of the instructional system development (ISD) process; and the instructor who manages and supervises the total learning process. One additional aspect of the total system is integrated logistics support (ILS).

**Academics**

Academics is the first step in the VTXTS building block process of flight training. Each segment of instruction in the VTXTS academics element is designed to maximize individualized instruction by involving the student Naval Aviator in teaching-learning activities tailored to his specific needs.

The selection of instructional media for the VTXTS extends from simple graphics to computer-assisted instruction (CAI), which is used throughout the academic and flight support syllabus. The advantage of CAI is that while large groups of students can be taught simultaneously, the instructional sequence is presented to each student individually, tailored to his particular needs.

The academic syllabus consists of basic principles and concepts that the student must later apply to the conduct of inflight tasks. This material is primarily factual knowledge which is best retained if the student is actively involved in the learning process rather than a passive recipient of information. Recent technology advancements in computer-assisted instruction are ideal for such learning experiences. Since learning is self-paced, instructor requirements are minimized.

Since the academic syllabus and the associated flight support lessons also play a critical role in attitude development, a significant segment of the instruction is presented by instructors in a classroom lecture setting. This balance between automation and personal interaction is critical to a favorable and productive learning environment.

**Simulation**

Simulation is the second step in the building block process. It develops specific cockpit skills to levels that enable flight time to be more productive. The simulation environment is more conducive to learning initial skills than the aircraft because task conditions can be controlled to provide perfect repeatability. There is immediate access to feedback through record and replay features. Other capabilities allow the learning environment to be manipulated to reduce task complexity and facilitate retention. Hence, the simulation environment is well suited to undergraduate training where task loads and complexity can easily overwhelm novice students.

The basic philosophy of the McDonnell Douglas simulation concept is to "train to basic proficiency" on the ground and then reinforce and validate that proficiency in the air. This provides maximum benefit, utilizing costly inflight time to refine and integrate complex flying tasks, rather than waste valuable time in learning basic skills in the air.

The VTXTS simulation system element is fully inte-

A Royal Air Force Hawk demonstrates its attack capability during a rocket strafing run.


British Aerospace

grated into the training system and is carefully designed to accommodate specific learning requirements. The suite consists of the following aircrew training devices:

- Instrument flight trainer (IFT) has a six-degree-of-freedom platform motion system with no visual attachment in which instruction in cockpit orientation and instrument flight are provided in the trainer.
- The operational flight trainer (OFT) incorporates a wide field of view visual system and has a G-suit/G-seat/vibration motion cueing system. The device provides training for all phases of the aircraft flight envelope.

The IFT is used for cockpit procedures training and for instrument flight training. To accomplish these training requirements, dynamic cockpit controls and displays are required. However, there is no need for external visual capability, and motion cueing need only simulate a 1 G environment for instrument flight training. Hence, design economies can be effected on the IFT by not incorporating a visual system and by the use of an unsophisticated, currently available, motion system design for limited cueing.

The OFT which will be used for three-quarters of the students' simulator work provides familiarization, formation and tactical stage training. Achievements of these objectives will require complete simulation of the full performance envelope of the aircraft along with associated visual and motion cueing capabilities. Design of the OFT will, therefore, include a completely functional cockpit, a visual system with sufficient field of view to accommodate field and carrier pattern work, and a G-seat/G-suit/buffet motion system.

# VTXTS

**The Aircraft**

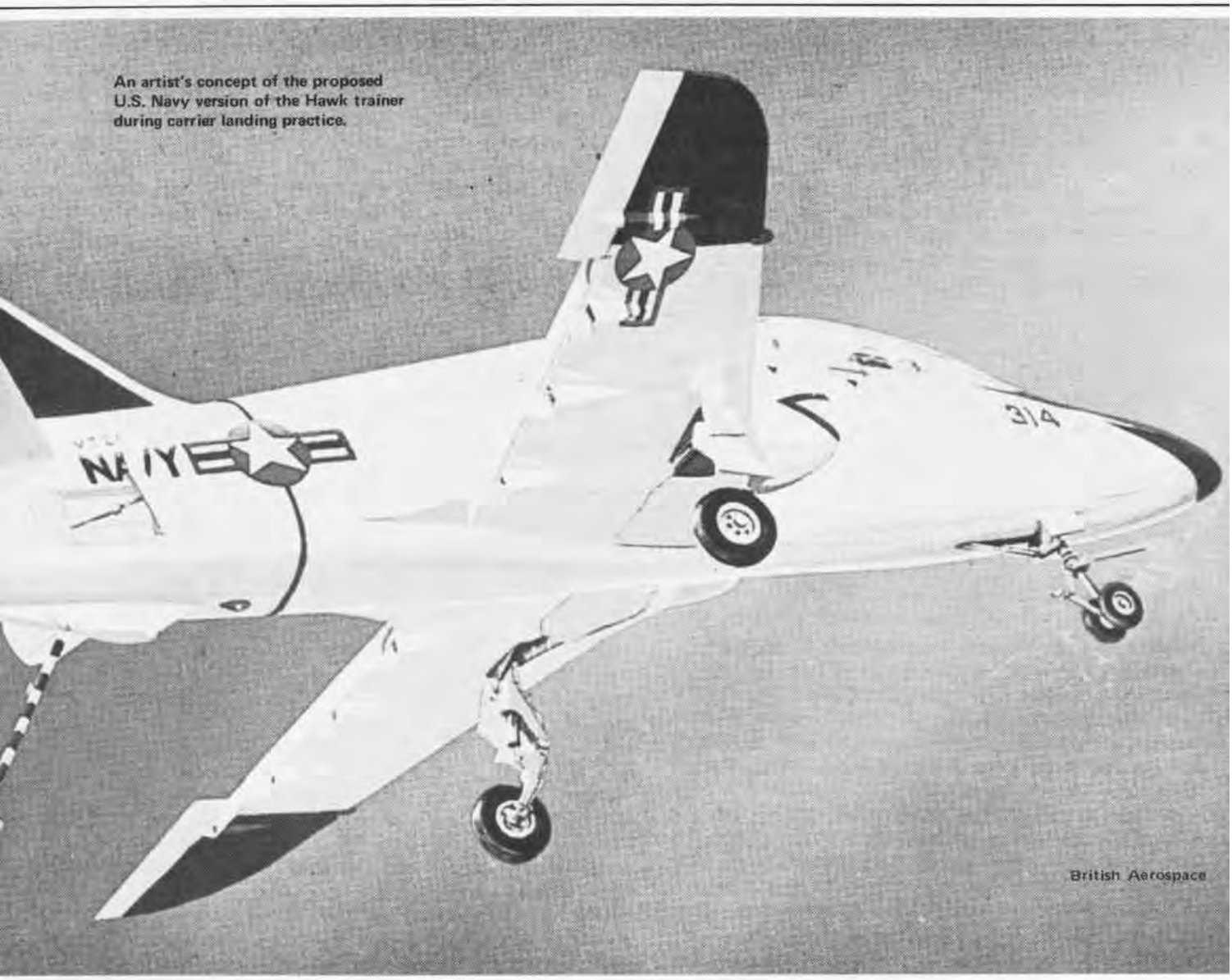
The aircraft is the cost driver of the training system, both in acquisition and support. For undergraduate training, it is also the indispensable apex of the integrated system concept. The student's performance when airborne is the only authentic validation that he has the combined knowledge, skills, perception of relative motion, spatial orientation and overall air sense required of a Naval Aviator.

Since the overall objective of undergraduate training is for the student to meet the entrance requirements of fleet readiness training, the advanced trainer vehicle must provide the necessary overall pilot task loading to prepare the new graduate for transition to fleet aircraft in minimum time and maximum safety. The *Hawk* VTX aircraft is designed to meet these requirements.

As the *Hawk* has been in Royal Air Force service since 1976, its rugged structure and uncomplicated systems have already demonstrated their ability to maintain high readiness in a training environment. In RAF service, not one *Hawk* has been lost due to material failure.

The *Hawk's* large available speed and maneuvering envelope permits safe transition for primary students but, as experience is gained, allows increased task loading. It is readily capable of demonstrating transonic effects, and is regularly used to demonstrate spinning characteristics and spin recovery.

The *Hawk* VTX will be even more representative of fleet tactical aircraft than the venerable TA-4J because of increased G capabilities coupled with increased linear accelerations. It has significantly higher levels of flight



**An artist's concept of the proposed U.S. Navy version of the Hawk trainer during carrier landing practice.**

British Aerospace

agility and dynamics, both in the horizontal and vertical planes. This better prepares the student to take the next step required in transitioning to high-performance, supersonic fleet aircraft.

The modifications necessary to make the basic *Hawk* meet VTXTS requirements are predominantly those associated with making the *Hawk* capable of carrier operations. In addition, there will be relatively minor modifications to cockpit and avionic installations to provide compatibility with Navy equipment and facilities.

Two versions of the *Hawk* VTX will be produced. First, 54 aircraft will be built which will be capable of Navy-style approach and landings (field carrier landing practice) but not of carrier operations. This will be followed by production of 253 fully modified, carrier-capable *Hawks*. The rationale for doing this is twofold. VTXTS affordability is a problem when the Navy faces high-priority requirements to update and expand its force of tactical aircraft. Yet, the Naval Air Training Command has a distinct need for new jet trainers by the late 1980s. The two-phase VTXTS program was developed to deal effectively with these opposing problems.

With all the 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 Mach is .85, and average fuel consumption on a training mission would be 1,370 pounds per hour.

The *Hawk* has excellent fuel efficiency. This and the reduced total training-related flight hours of the VTXTS of approximately 20 to 25 percent provide a 60-percent reduction in fuel use in the jet training pipeline.

### Training Management System

The Training Management System (TMS) provides a means for managing all aspects of the training system in the most effective way. It is a computerized system which collects and distributes information; schedules and manages training and maintenance; and enhances training through interface with computer-aided instruction, simulators and aircraft.

The TMS is a distributed system with computer facilities at each training wing. Each training wing facility controls the local terminals and computer-controlled training aids, such as computer-aided instruction, simulators, student control and scheduling, and maintenance control. For reporting purposes, it is linked with the computing facility at CNATra. The TMS includes real-time dynamic adjustments to training and maintenance schedules. It can be rapidly modified to meet changing needs throughout the life of VTXTS.

The TMS is the system processor, scheduling and recording all training events, and for each student in training it compiles a complete event record. It also compiles a long-term statistical base for developing screening and selection methods. In the strictest sense, the TMS does not manage training but it does provide the necessary timely data for the squadron, wing and the staff officers who do manage training. It increases rather than decreases the interpersonal workings of the pilot training process. In particular, it relieves the instructor of time-consuming paperwork, allowing him to concentrate on his teaching role in technical knowledge and flight skills.

The outputs and functions of the TMS vary with the organizational placement of the user. Students can receive scheduling and individual progress record information while upper level managers are provided with "big picture" functions and information.

Although the TMS system element provides these training benefits, it does not alter traditional command, control or responsibility, nor replace instructor judgment, initiative or intervention in the management of the learning process.

The VTXTS, to fulfill its mission in the decades ahead, must be able to record and assimilate feedback concerning student and system performance, and evaluate performance. There must also be a means of designing and implementing timely adaptive responses to changing requirements. This is accomplished through a group with expertise in the design and development of instructional systems. A dedicated staff at CNATra headquarters includes educational specialists and tactical experts who are responsible for the control, evaluation and adaptive response of the VTXTS to changing requirements during its service life.

### Integrated Logistics Support

Integrated logistics support (ILS) is a composite of all the requisites for effective and economical support of the VTXTS during its life cycle. It is an integral part of system acquisition and operation and, during the system life cycle, represents a major portion of the total cost. The VTXTS is being developed as an integrated system and support requirements are being established simultaneously for all elements of the training system (aircraft, academics, training management system and simulators).

This creates an ideal environment for total logistics system support on a timely basis, at the lowest practical cost. Reliability and maintainability experts have been involved in the system design and have influenced hardware design features, with resulting reductions in manpower requirements for logistic support. A logistics support analysis process identifies support requirements for personnel training and training equipment, supply support (initial spares provisioning and packaging), facilities, technical publications, maintenance planning, ground support and test equipment, and system software.

An integrated logistics support management team will monitor, analyze, manage and control overall integrated logistics support requirements to assure continued planning and analysis of all VTXTS support considerations. ■

# VTXTS

## The Curriculum

The curriculum integrates academics, simulation and flight training, and controls the sequence and pacing of learning events, leading to a systematic development of aviation knowledge and pilot skills. The curriculum was based on the following criteria:

- Provide an effective and efficient balance of ground and flight training which meets the Navy's training objectives.
- Integrate academics, simulation and flight training throughout the entire curriculum.
- Ensure optimum sequencing and identification of branch points to ensure smooth flow and utilization of media.
- Provide flexible scheduling to meet self-pacing and individualized training needs.
- Sequence all phases of training for optimal transfer to subsequent events and for reinforcement of critical skills (i.e., instruments, night flying, etc.) across phases.
- Use innovative instructional strategies (e.g., chaining, part-task training, etc.) to enhance cockpit skills development.
- Use early hands-on training to integrate knowledge with procedural skills learning.

The VTXTS curriculum was not only developed in accordance with the above criteria, but through a rigorous process of constructing training objective hierarchies which provided the basic structuring and sequencing of the curriculum. Starting with the basic knowledge of each training task being introduced, the application of that knowledge to hands-on skills in simulation, and finally demonstration of inflight proficiency in the aircraft, the building block approach provides an orderly and systematic development of cockpit skills. Academics, simulation and flight are thus interspersed throughout the curriculum.

The curriculum sequences learning events to provide a steady cumulative building of pilot skills and confidence. The learning process is designed to teach the student to cope with increasing levels of multitask loading in differing situations. Missions can be phased to encompass increased levels of aircraft performance with increased cockpit workloads and use of systems. The student is thus continuously presented with tasks of increasing difficulty until he achieves the skill level necessary for safe and cost-effective transition to fleet aircraft.

**Instructor Training**

A highly trained and motivated instructor cadre is essential for a smooth and orderly operation of the training system. Instructors in a multimedia training system like VTXTS are in essence managers of the learning process that form novice pilots into qualified Naval Aviators. Their professionalism and personal interaction with students are critical to building the confidence needed for meeting the challenges of tactical fleet aviation.

Navy flight training is not solely a matter of technical skills. Operationally, Naval Aviation depends strongly on a working body of practice and principles that to an exceptional degree require the employment of individual pilot judgment. Accordingly, undergraduate training must begin to build the base for early judgment making; and the VTXTS must be concerned with both attitude development and technical skills.

The flight instructor recently arrived from the fleet has the basic qualifications required in both tasks. In order to teach effectively, he must develop a set of instructional skills and employ them as a supervisor of training and an evaluator of student performance and correction. The instructor must also serve as a role model. The VTXTS instructor training program will enable him to use the classroom and the simulator and aircraft settings in a one-on-one relationship to effectively influence all areas of the student's thinking and learning.

The instructor-under-training curriculum designed by McDonnell Douglas for VTXTS is a program providing improved standardization and optimal use of resources. After basic principles of effective instruction and initial checkout in the aircraft and training devices, instructors receive specialized training in those areas that are the responsibilities of the wings and squadrons to which they have been assigned.

The personal dedication, motivation and professionalism of instructors is the backbone of a top-notch training system. Their influence and impact on the quality of the end product may indeed be the difference between success or failure in meeting future training requirements.

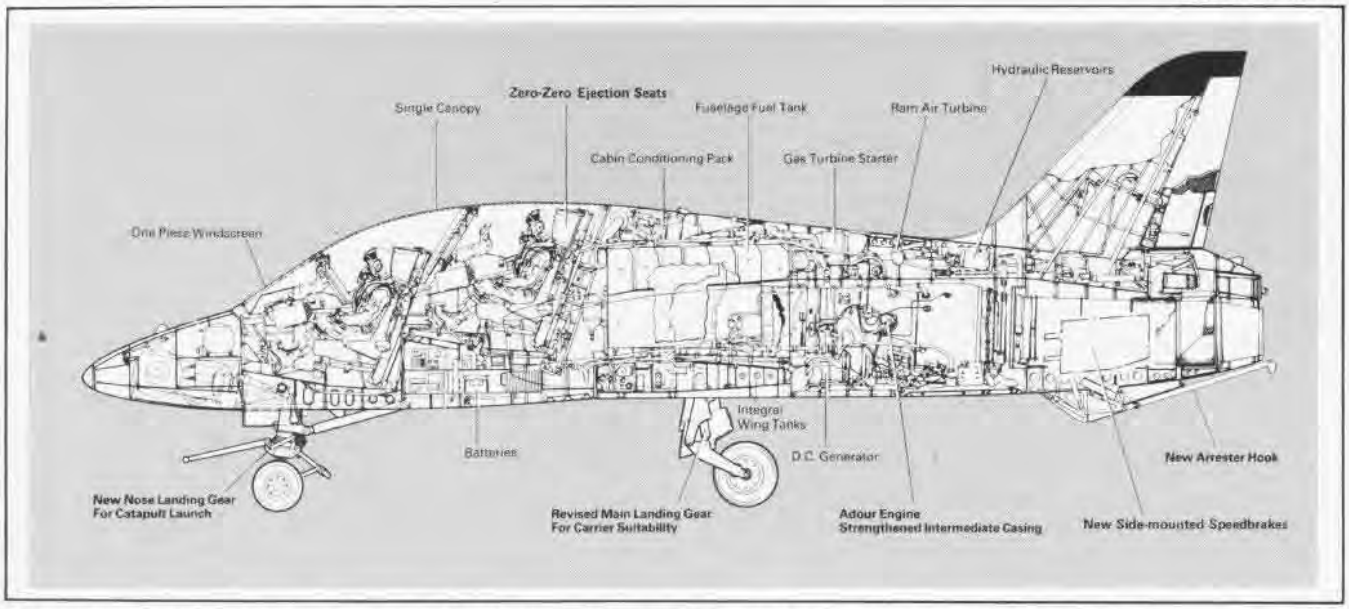
## The Hawk

In the total training system that is VTXTS, the airplane is the final step in a building block process of learning. It integrates the skills and concepts learned in the classroom and simulator into the comprehensive capabilities required of a Naval Aviator. It is the only way to ensure that the skills learned conform to the standards required for progress leading to transition to fleet aircraft.

Since the overall objective of undergraduate flight training is for the graduating pilot to meet the entrance requirements of fleet readiness training, the trainer aircraft must provide the overall task loading needed to accomplish this in minimum time and with maximum safety. This sets a requirement of relatively high aircraft performance and system capability. Additionally, in VTXTS one aircraft will replace not only the current advanced jet trainer, the TA-4J, but also the existing intermediate jet trainer, the T-2C. Accordingly, the VTXTS aircraft must offer sufficient safety and simplicity so as not to overwhelm the novice.

Safety, simplicity, sufficiently high performance and systems capability, as well as the ever-increasing need for cost-effectiveness, are the fundamental attributes of the *Hawk*, the centerpiece of the VTXTS design.

British Aerospace




**Cutaway drawing shows the internal features of the Hawk. Boldface indicates modifications to make the Hawk meet U.S. Navy specifications.**

### General

The *Hawk* is a tandem-seat transonic trainer powered by a single Rolls-Royce Adour turbofan engine. Its basic structure is designed for a long fatigue life and features a one-piece moderately swept wing mounted low on the fuselage. The wing has double-slatted flaps and an advanced airfoil which provides safe, low-speed handling along with minimal induced drag during high-speed maneuvering. The vertical stabilizer is located forward of the tailplane, ensuring that the rudder is never completely blanked and contributing to consistent and positive spin recovery characteristics. An all-moving tailplane is operated by the dual hydraulic system, as are the ailerons. The rudder has no power assistance.

The airplane can carry a variety of weapons, including rockets, bombs and a 30mm gun. It is also capable of carrying wing-mounted, external fuel tanks.

Visibility from both cockpits is excellent. For example, the view forward and down from the rear cockpit permits the use of a gunsight by the instructor.

### Airframe

The *Hawk* VTX airframe is one of conventional construction and materials. The *Hawk's* service life expectancy in Naval Air Training Command operation is 20 years. Structural modifications are the predominant changes to be made in "navalizing" the *Hawk*:

- A new nose landing gear for catapult nose-tow launch and increased rate of descent landings. (It will also provide nosewheel-steering capability.)
- New main landing gear for increased sink rate landings.
- Gear doors will sequence closed with the gear down.
- Addition of an arresting hook.
- Speedbrakes relocated to the sides of the aft fuselage.

### Systems

*Hawk* VTX systems are simple and conventional with an emphasis on reliability.

Two independent, 3,000-psi hydraulic systems power the ailerons, tailplane, flaps, speedbrakes, landing gear, wheel brakes, nosewheel steering, launch bar and arresting hook. One system powers all these functions while the other powers only the flight controls. A ram air turbine provides power to the flight controls should the other pumps fail. The gear, flaps and brakes also have emergency blow-down or operating features. Electrical power is provided by engine-driven DC generators and static inverters. An auxiliary power unit and batteries provide starting and emergency power.

For weapons delivery training, the *Hawk* VTX will be able to carry and release typical training ordnance. The basic *Hawk* already carries a variety of external stores, including 250 through 1,000-pound bombs, cluster bombs, 2.75 and 5-inch rocket launchers, a 30mm gun pod and fuel tanks. Most of these stores have no application to Naval Air Training Command operations but they give an indication of the capability inherent in the *Hawk* for emergency or contingency roles.

### Avionics and Cockpit

The other main changes besides structural that will be incorporated into the VTX version of the *Hawk* are in avionics and cockpit configuration. Included are UHF radio and TACAN (to augment the existing VHF radio and VOR/ILS Navaids), angle-of-attack indexes and other items required in a Navy jet. The *Hawk* will be equipped for rear seat instrument training capability, including a hood. It will also have front and rear cockpit gun sights.

# VTXTS

**British Hawk gets a closer look from observers during visit to NAF Washington, D.C.**

JOC Kirby Harrison

Personal equipment (torso harness, oxygen mask, etc.) connectors will be compatible with Navy requirements.

### Performance

*Hawk* VTX performance in comparison to today's advanced jet trainer, the TA-4J, is superior in nearly all categories and meets or exceeds all Navy requirements for VTXTS. This performance comes with much lower fuel consumption. On the average, *Hawk* VTX will burn only 35 percent of the fuel used by the TA-4J and only 55 percent of that consumed by the T-2C.

Transonic speeds can be readily achieved in a shallow dive. There is no placard limitation, as the aircraft is self-limiting at about 1.2 Mach.

The plane has remarkably low induced drag and can sustain turns at nearly 6 Gs at 450 knots at low altitude and prolonged turns at 8 Gs with only modest rates of descent or speed loss.

### Handling

The *Hawk* was designed as a trainer and, as such, combines the agility required for acrobatics and other maneuvering with safe stall characteristics and has been cleared from minus 4 Gs to plus 9 Gs. These attributes and its agility, natural stall warning, freedom from sudden departure and basically unrestricted engine handling provide for "real world " yet safe tactical pilot training.

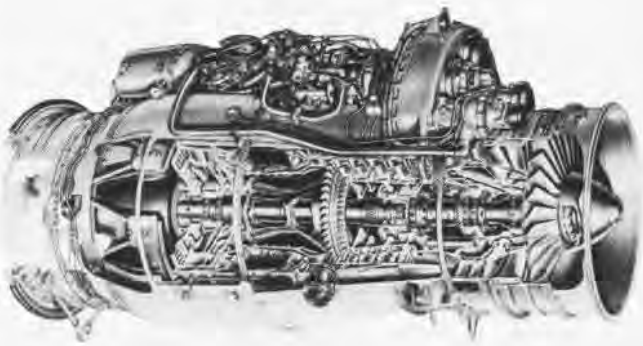
Although it is spin-resistant, the airplane can be intentionally placed into a spin. Once spinning, the *Hawk* tolerates considerable mishandling and in any case will recover when the rudder is centered.

### Engine

The *Hawk* VTX is powered by a single Rolls-Royce Adour Mk 851 turbofan. This engine has a bypass ratio of 0.75 and develops a sea-level static thrust of 5,340 pounds under standard conditions. The Adour features modular construction and allows, for example, a fan module instead of a complete engine to be replaced following a FOD incident. The inventory of complete engines held as spares is thus minimized.

The engine has two spools. The low-pressure spool consists of a two-stage fan driven by a single turbine stage. The high-pressure spool consists of five compressor stages driven by a single-stage turbine. The combustion chamber is annular. Tests have demonstrated the engine's capability to withstand steam ingestion. Engine starting is via an airframe-mounted gas turbine air producer which uses the aircraft batteries and operates on aircraft fuel. The *Hawk* is thus free from required external services for engine starting.

The Adour is flying in four different configurations



around the world and is well established in production. It has proven to be a very reliable engine — not one *Hawk* has been lost due to engine failure (or any other material failure) in six years of operation.

**Reliability and Maintainability**

The *Hawk* aircraft was, from its inception, developed with improved reliability and maintainability in mind. The contract between British Aerospace and the U.K. Ministry of Defense included incentive fee clauses with specified targets (which were met) for R&M characteristics. These original efforts form a base for *Hawk* VTXTS. Beyond basic reliability of equipment, several key features of the *Hawk* enhance its supportability: ease of accessibility to all aircraft equipment; ready access to servicing points from ground level; and no ground support equipment required for turnaround.

# Simulator Training

The role played by simulators in the VTXTS program is a vital one. Though still being developed, the total curriculum consists of approximately 450 training hours distributed over 38 weeks. About 130 hours are spent in the flight simulators, 110 in the classrooms and 48 in flight support and ejection seat training.

Ground-based simulation is the ideal setting for the initial learning of flight skills and procedures because conditions can be precisely controlled and, when desired, provide perfect repeatability. Many repetitions of a maneuver or other training objective are possible, with immediate access to feedback through the simulator's record and replay features. Other instructional capabilities such as parameter freeze and stop action allow the learning environment to be so manipulated as to reduce task complexity and facilitate learning. Hence, the simulation environment is well suited to undergraduate training where task loads and complexity can easily overwhelm the novice students. Correct use of a simulator can contribute as much to training effectiveness as can the fidelity of the simulated environment.

An important point which characterizes a major portion of the VTXTS simulation training strategy is that simulation is initially used for training specific task elements in a part task context, i.e., practicing not a whole flight but just those tasks or skills which are new to the student and not yet mastered. Only later are the elements integrated into a whole task situation. This process of allowing task segments to be addressed independently, with the training concentrating on the task elements most critical to complete task performance, facilitates the acquisition of pilot skills and enhances complex performance. Only after the skills are separately mastered are they combined and integrated into a comprehensive situation involving a full mission profile which is "flown" as a rehearsal to specific flight sorties. In the simulation syllabus, roughly two-thirds of the sessions are part task. This training strategy has several additional benefits besides instructional effectiveness.

It allocates each training task to the training device having the functional characteristics required for that particular task, rather than those required for a complete mission profile. This results in a more cost-effective training media mix.

It also prevents a simulation bias which typically occurs in training where the simulators are used as a substitute for the aircraft. Using the VTXTS approach, extensive use is made of simulation technology and its unique instructional features to augment flight training rather than to replace it.

In the design of the VTXTS simulator suite, careful attention has been given to the way the instructor will interface with both the equipment and the student. The design of the instructor's station minimizes the instructor's hardware interface. This allows him to function more as an instructor pilot (IP), concentrating on the teaching role, rather than as a simulation device operator. The instructional software has also been human engineered for simple and minimal IP system interaction. It incorporates a design philosophy that features control of instructional features and the simulation syllabus through the use of three sets of software: training management software, simulation system software and training software.

Training management software provides the information required to manage student and syllabus data, perform training diagnostic and prescriptive routines, collect a data base for performance measurement and accomplish all other routine instructor/trainee management interfaces.

The Hawk is an agile aerobatic aircraft as dramatically demonstrated by the RAF's Red Arrows.

British Aerospace

# VTXTS

The simulation software contains all mathematical modeling, equations of motion, flight dynamics and visual system data bases as well as those software functions necessary to support simulator operating requirements.

The training software package provides standardization in both content and instructional methodology and is, in reality, an executive routine which performs essential training problem control. This software package has been designed using the instructional system development process – a deliberate and orderly process for developing instructional programs which ensure that personnel are taught the knowledge, skills and attitudes essential for job performance. As a result, the software package is provided with instructions which either enable or lock out instructor use of available features and also control all displays that appear at the instructor's station. In addition, initial conditions are automatically established and environmental factors and/or malfunctions are inserted.

The primary purpose of such a training software package is twofold. First, it produces standardized lesson content and instructional approaches which cannot be modified locally but can be periodically updated as part of the training system quality control process. Secondly, extensive simulation subsystem operating relief is given to the instructor, allowing him to teach much as is done in the aircraft.

Preprogrammed lessons are the basic means of controlling the instructional content and methodology. These lessons specify the syllabus lesson content and sequencing, allowable lesson modifications, initial conditions for each instructional segment, malfunctions and the use of instructional features. In addition, this level of preprogramming allows for the use of a performance measurement system which objectively monitors the student's performance. This measurement, when combined with the instructor's subjective assessment, permits normalized scoring of the student against a hypothetical average student as defined by VTXTS historical training data.

VTXTS simulators will be installed at the Kingsville, Meridian and Chase Field facilities. The simulators are designed to be capable of operating 16 hours per day, six days per week if needed.

In addition to allowing the flight instructor to maintain control over the training situation and focus on specific skill developments, simulation has several features which significantly enhance the total training program effectiveness. These features include the ability to minimize training time by permitting the student to repeat a specific training task such as weapon delivery without having to go through the entire mission profile as he would in an aircraft. Safety is another key factor. Emergency procedures and flight malfunctions can be explored by the student without jeopardizing himself or his aircraft, and the student can undergo simulated flight training even when weather conditions or aircraft unavailability might ground him. Finally, the training efficiencies of simulators permit a fewer number of instructors to execute the training program with no loss of training effectiveness. ■

## History of VTXTS

McDonnell Douglas

**Standing on each side of the McDonnell Douglas stack of paperwork generated in support of VTXTS are Kathy Moran, Publications Manager, and D. C. Caldwell, VTXTS Program Manger.**

Thirteen years of study and development will have preceded the VTXTS undergraduate jet flight training system when it begins Naval Aviator training in 1988. Not only will VTXTS replace the aged fleet of trainer aircraft and ground simulators, but it will also provide a training management system and an academic curriculum.

In 1975 the Navy anticipated that due to age and attrition both the intermediate phase T-2B/C and the advanced phase TA-4J trainers would need to be replaced by 1985. Accordingly, the Naval Air Development Center examined the feasibility of conducting both phases of training with a single advanced aircraft labeled VTX. To support a clear statement of operational requirements, the study identified the critical VTX requirements and missions.

By Lt.Cdr. George Hendricks and Ens. Brian Jackson

In March 1978, the Navy awarded contracts for technology base studies of the Undergraduate Flight Training System to Douglas Aircraft Company, Northrop Corporation, Vought Corporation and General Dynamics. They were to provide ideas and the feasibilities of various training systems, with emphasis on the aircraft portion of the training. Since the four contractors were not in competition with each other, each was free to conceptualize its own training systems and their elements. Except for the aircraft, the training system elements were minimally constrained, allowing the contractors latitude in developing concepts. From these studies, the Navy acquired data for use in support of formal training system procurement. The studies showed that replacement of the T-2B/C and TA-4J trainers with one VTXTS aircraft would be feasible, reducing the total number of flight hours required and total training cost. It was anticipated that VTXTS would have few technological risks which would impede the time conscious development schedule or raise costs.

On November 24, 1978, a CNO Executive Board (CEB) decision memorandum was issued which reaffirmed the validity of the VTXTS requirement and recommended the following alternatives for VTXTS be thoroughly studied: extend service life of T-2C/TA-4 aircraft; modify retiring fleet aircraft; reopen production lines; acquire new design training aircraft; acquire existing modern training aircraft; or use a combination of all the above.

The VTXTS development program was upgraded to project status (less than major) and chartered as APC-8 within the Naval Air Systems Command. Captain B.F. Short was assigned as the Project Coordinator with responsibility for exploratory and advanced development efforts of VTXTS.

Further VTXTS research included a feasibility study to determine if off-the-shelf aircraft could be made suitable for carrier operation. Contracts were awarded to British Aerospace (*Hawk*) and Dassault Dornier (*Alpha* Jet) with positive results.

The next big step for VTXTS was the approval of the mission element need statement by the Deputy Secretary of Defense in June 1979, which formally stated the Navy's need to "extend or provide an optimized replacement for the present training system to meet future pilot production requirements."

After studying the CEB's recommended alternatives, the decision was made to extend the service life of the T-2C from 7,500 hours to 12,000 hours, and the retired T-2B was brought back into service to augment the number of intermediate trainers. These actions helped ease the urgency of VTXTS allowing the Navy to pursue new design or modify existing training aircraft for possible training systems.

To continue the study and development of possible training system alternatives, the Navy released a request for quotation in December 1979 for alternative system exploration. Industry was asked to propose a total integrated training system, including aircraft, simulators, academics and a training management system. The proposals were to include concept definition, training analysis and trade studies. In March 1980, 10 proposals were received. Each was evaluated within one of two categories: a system concept with a new design aircraft, or a system concept with an existing or derivative aircraft.

In November 1980, the VTXTS project charter was approved, establishing the Undergraduate Jet Flight Training System (VTXTS) as a designated project under the direction of Commander, Naval Air Systems Command. The VTXTS charter broadened the scope of the program from that of an exploratory nature to a full program, to include concept formulation, validation, demonstration, development, test and evaluation, acquisition and initial support. Capt. Short's position was changed to VTXTS Project Manager, responsible for providing the Naval Air Training Command a fully developed, supportable and reliable Undergraduate Jet Flight Training System. Steps leading to full-scale development (FSD) were next.

As an adjunct to the six-month alternative system exploration study contracts awarded earlier, a follow-up request for proposal (RFP) for pre-full-scale development (pre-FSD) was released to industry on March 6, 1981. Six proposals were received by the Navy to develop system and subsystem specifications, prepare detailed program plans, define risk reduction tasks, and perform key tasks preparatory to transition into full-scale development.

All offers were evaluated and considered for award within a single category. Proposals with new design aircraft competed with proposals with derivative aircraft. On November 19, 1981, the Navy announced the selection of McDonnell Douglas as the prime contractor teamed with British Aerospace to further develop the *Hawk* aircraft-based concept for VTXTS. At the time of source selection, the Navy awarded a sustaining engineering contract to McDonnell Douglas in anticipation of a pre-FSD contract award.

Present program plans call for FSD starting in 1984 with aircraft being delivered to the Training Command as early as 1988. ■

naval aircraft

# HAWK

by Harold Andrews

Selected as the basis for the airplane portion of the Navy's VTXTS jet training system, the British Aerospace *Hawk* is well established as the Royal Air Force's (RAF) principal jet trainer, and has also found a similiar niche with other countries' air forces. One of several multi-purpose trainer/light ground attack aircraft developed in various European countries during the seventies, it was found adaptable to the U.S. Navy's training role, including carrier operations, with a minimum of aerodynamic modification – a tribute to the excellent characteristics of the basic design.

The *Hawk's* beginnings go back to the late sixties when Hawker Siddeley (one of the predecessor companies of today's British Aerospace) began design studies for a prospective new RAF jet trainer suitable for basic/advanced training and also for strike/weapon delivery mission type training. The RAF settled on its final requirements in 1970 and Hawker Siddeley's final HS-1182 design proposal was the winner of the subsequent competition. In the spring of 1972, development and a total of 176 airplanes were ordered.

Powered by a 5,200-pound-thrust Rolls-Royce/Turbomeca Adour turbofan engine, the new trainer featured a compact, low-wing configuration, with the instructor in a raised position behind the student, both under a large single-piece, sideway-opening canopy, providing excellent visibility. Five external stores stations accommodate a wide variety of weapons, including a 30mm gun pod as one of the alternates on the fuselage centerline station.

While construction was fairly conventional, every effort was devoted to improving the reliability and maintainability of the new trainer through appropriate selection of operating system design and components and their installation.

The first *Hawk* made its initial flight on August 21, 1974, flying at that year's Farnborough show in early September. Subsequent aircraft joined the flight development program which resulted in minor modifications – enlargement of the ventral fins being one of the more obvious changes – by the time the *Hawk* T.1s went into RAF training squadron service in late 1976. Assignment to the tactical weapons unit followed in 1978.

Meanwhile, one extra *Hawk* had been registered for company use as *G-Hawk*, while the Mk 50 series export *Hawk* found customers in various parts of the world. Finland was the first foreign purchaser, with plans for production there. Active NavAir interest in the *Hawk* as one candidate for possible replacement of T-2s and TA-4s in the Training Command began in 1977 as part of a general study of what could be accomplished through various alternatives, including new development as well as derivatives of the newly-developed European advanced jet trainers. In 1978, the VTXTS program was initiated and McDonnell Douglas' Douglas Aircraft Company proposed jointly with British Aerospace a carrier-suitable version of the *Hawk* as one of their approaches for the VTXTS initial competition. With this proposal selected as the winner, another British Aerospace design will find its place in Naval Aviation alongside the already well-known *Harrier* (*NANews*, May 1982).■


McDonnell Douglas

British Aerospace

British Aerospace

Hawk

| | |
|---|---|
| Span | 30.8′ |
| Length | 38.9′ |
| Height | 13.1′ |
| Engine | |
| Rolls-Royce Adour Mk 851 turbofan | |
| Maximum speed | 560 kts |
| Service ceiling | 50,000′ |
| Maximum range | 1,400 nm |
| Crew | One instructor, one student |

# Alive and Well at Whidbey Island

Story and Photos
by JOC Kirby Harrison

The "really good deal" is alive and well at Naval Air Station, Whidbey Island, Wash.

Tucked neatly between the rolling green hills and a pristine sweep of beach, NAS Whidbey Island overlooks a wide expanse of Washington State's entrance to Puget Sound. About two hours and a ferry ride north from Seattle, it lies in what folks in the Pacific Northwest call their sun belt. Protected by the Olympic mountain range from weather originating in the Aleutians, flying weather is excellent. In fact, according to station commanding officer Captain Stewart Langdon, NAS Whidbey has more visual flight rules (VFR) flying days a year than any other West Coast air station.

If the location is appealing, so apparently is the duty. Enlisted detailers say the numbers of personnel requesting duty there are almost always more than the number of

The beach at Deception Pass glistens in the afternoon sun. The park and beaches at the pass, on the north end of the island, are a 10-minute drive from the air station.

Search and rescue crews at NAS Whidbey are frequently called upon to aid in boating and climbing accidents in Puget Sound and the surrounding Cascade mountain areas.

billets available. One detailer explains, "Once they get there, they don't want to leave."

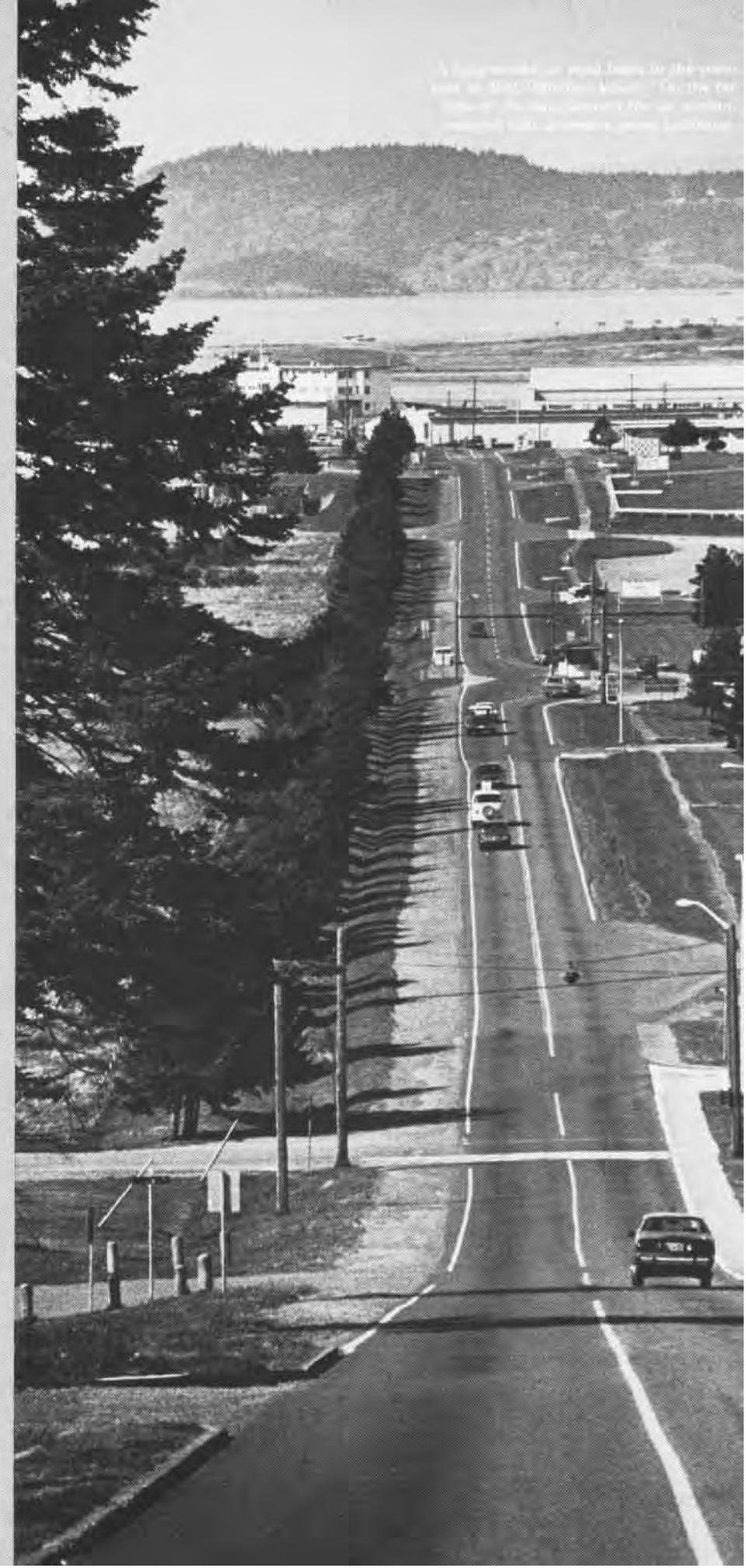
Capt. Langdon explains the popularity of Whidbey Island duty in more specific terms, "It's an assignment to the first team."

The team at NAS Whidbey includes more than 6,500 Navy and Marine Corps personnel, more than 10,000 of their family members, and approximately 1,300 civilian employees. The station supports six A-6 *Intruder* medium attack squadrons and nine EA-6B *Prowler* tactical electronic warfare squadrons. Fleet Logistics Squadron 51 also calls Whidbey home, as do Naval Air Reserve Patrol Squadron 69 with nine P-3 *Orion* aircraft and reserve Tactical Electronic Warfare Squadron 309 flying the EA-6A, and VMAQ-4, the Marine reserve EA-6A squadron.

Near the main gate of the air station, a large sign on the main highway marks the far corner of NAS Whidbey Island. "Please pardon our noise," it asks of the passersby, explaining, "It is a sound of freedom." The roar of jets and drumming whine of turboprops are a long way from the beginnings of NAS Whidbey Island in 1942 when $3 million established a torpedo-rearming and seaplane base on the eastern side of the island, on the outskirts of the town of Oak Harbor. A year later the land-based naval air station was born on the western coast of the island and named Ault Field.

A dormant period followed WW II when the station was placed on reduced operating status. The revival came in 1949, with plans to convert the facilities to support a multiaircraft, all-weather aviation community. Except for a brief dip in military population in 1965, NAS Whidbey has continued to grow. The station grew, and the aircraft and equipment became more and more sophisticated but the human factor has remained constant. According to Command Master Chief Harold "Pic" Picard, people at the naval air station have been and continue to be the key to the impressive growth.

Amid the activity and noise, typical of an air station, Picard tries to spend at least an hour each day engaged in what he smilingly describes as "skulking." At odd hours he wanders into hangars and support



facilities all over the station. Armed with a coffee cup and a disarming manner, he chats with everyone from admiral to airman. If there is a walking, talking example of why Navy people want to be stationed at NAS Whidbey, says the station skipper, Picard is it. He genuinely enjoys his role as senior enlisted advisor to the commanding officer and, behind the good humor, he takes the job as an advocate for the enlisted personnel very seriously indeed.

"You've got to get out and talk to people, and you've got to listen to them. You have to let them know you're interested in them, and that the Navy is interested in them and what they're doing personally," he explains. "It's *our* Navy," he says. "People are what make the Navy run, and I try to make everybody I talk to feel like they're part of it."

Picard's approach is echoed by Rear Admiral Charles Hunter, then Commander Attack and Tactical Electronic Warfare Wing, Pacific*, headquartered at Whidbey. He recalls taking command of a ship for the first time and his first remarks to the crew, that he feels would apply at any command. "I told them that no matter how unimportant the job might seem, 'At some point during your time aboard this ship, *you* are going to be the single most important person aboard.' "

Discussing pride and professionalism, RAdm. Hunter noted that the wing Command Master Chief Jerry George had drafted a message dealing with that subject almost a year before "Pride and Professionalism" became the official word from the top. In it, the necessity for responsibility and accountability was stressed. "The majority of our people are hard-working and sincere individuals who want an environment conducive to the accomplishment of their duties," George wrote in the message that was signed out by RAdm. Hunter. "For the others. . .it is going to be a rough road. In my Navy there is no free ride, especially at the expense of shipmates." Master Chief George was recently selected as the next command master chief at CinCPacFlt in Hawaii.

Support of the men and women stationed at Whidbey and their families is evident in the services provided at the station. At the medical center, the process of assigning a "family"

doctor provides families a personal touch they consider a great improvement. "This is our second tour here," says Sherry Asmus, who brings her five-month-old daughter Susan to the medical facility for regular checkups. "They have very good people, and they care."

In May, NAS Whidbey's Navy Family Service Center opened with a staff of two military and five civilians, and assistance provided by numerous volunteers. It will provide group and individual therapy and education programs to help Navy men and women and their families. Also housed in the new center is the Consumer Credit Counseling Service and Retired Affairs Office.

In a "state of the station" address to the North Whidbey Chamber of Commerce in March, Capt. Langdon told business leaders, "With the opening of the Family Service Center, we'll have a facility that will help coordinate all types of assistance to the Navy family, which also includes unmarried people. Our goal is to improve the quality of life in the whole community and certainly there has got to be an impact, as well, on the quality of life on Whidbey Island." He added that the new center will work closely with many agencies in Oak Harbor and Island County.

This year, NAS Whidbey was the first recipient of the Commander Naval Air Force, Pacific award for management excellence in unaccompanied enlisted personnel housing (UEPH). At Whidbey, the UEPH consists of eight buildings with a total of 694 individual rooms. There are also 35 apartment-style renovated quarters for unaccompanied senior enlisted people.

Housing for accompanied Navy personnel is expected to improve over the next two years, according to Capt. Langdon. Work is already progressing on Phase I of the whole house repair project and eventually all 1,500 housing units at NAS Whidbey will be renovated. Additional rehabilitation of older "Victory" housing in recent years has allowed assignment of accompanied E-4 personnel with less than four years' service to Navy housing.

Talking to the chamber of commerce, Langdon emphasized that such projects would benefit the civilian community. "NAS Whidbey Island is

Left, a modern aerial view of NAS Whidbey Island shows reserve P-3 Orions in the foreground and a wide assortment of combat and combat support aircraft. Above, an aerial view from nearly the same angle, taken just after WW II, shows PB4Y Privateers and PV-2 Harpoons.

Right, bakery shop supervisor MS2 James Lauderdale puts finishing touches on an awards ceremony cake. Air station policy is to make such cakes available for awards ceremonies and similar events with reasonable advance notice. "We need the advance notice," says Lauderdale. "We've made as many as 23 cakes in one week.

alive and well, and growing and thriving," he said.

In 1981 the military payroll at NAS Whidbey was over $120 million and civilian employees earned more than $20 million. But ties between the Navy and civilian community go further than financial consideration. With a civilian population of a little more than 39,000 persons, no less than 3,200 of Whidbey Island's inhabitants are retired military. Another 7,000 are counted as family of retired military. And of the 14,000 inhabitants of Oak Harbor, 500 belong to the Navy League.

At the annual 4th of July celebration in Oak Harbor, thousands of Navy men and women and families attended. "And that's not something new here," says Capt. Langdon of the old-fashioned, patriotic event. Even during the days of Vietnam when a lot of people seemed to be less than proud of being Americans, they celebrated the 4th of July here."

The relationship between NAS Whidbey and the island civilian community has been enhanced by the consistently quick response of the air station's search and rescue (SAR) unit. One crew was the 1981 winner of the Navy Helicopter Association's prestigious SAR "Crew of the Year" award, Whidbey's third in the past eight years. The same crew also won the Federal Aviation Administration's "We Point with Pride" award in 1981. During rescue response, one NAS Whidbey SAR crew picked up a badly injured hiker and, while waiting for the weather to clear before returning for the remainder of the party, they plucked a father and son from Puget Sound just moments after the pair's light plane had ditched.

The arrival in the near future of an additional four EA-6B *Prowler* squadrons and one more A-6E squadron foreshadows more growth at the air station. According to Capt. Langdon, by 1987 the station will have two new aircraft hangars, one for the reservists, a new aircraft intermediate maintenance department building and additional unaccompanied enlisted housing. "We expect that over the next five years the population of NAS Whidbey will increase by about 25 percent."

"This is an exciting time, and a time of growth for us," said Langdon in an interview.

Langdon is as proud of the civilian work force at Whidbey as he is of the Navy personnel. "The civilian employees here are the best I've worked with since I've been in the Navy," he says.

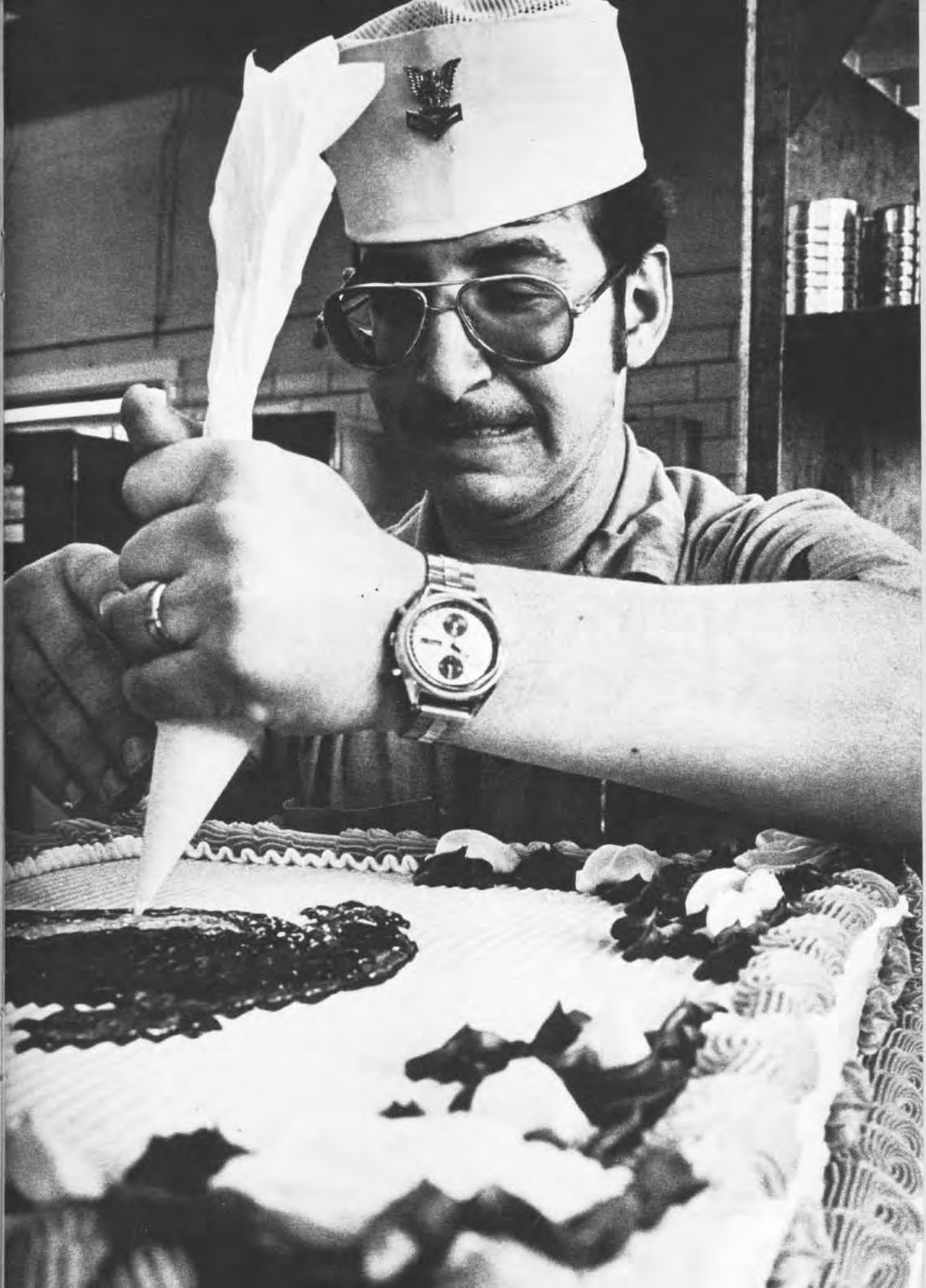
As an example, he points out that many of them have been with the *Prowler/Intruder* programs since they began. And, as a specific example, he points out Charlie Varano of the aircraft intermediate maintenance department whose initiative resulted in the invention of a new tool to measure inlet guide vane clearance.

This year, NAS Whidbey Island passes a milestone with the air station's 40th anniversary on September 21. There will be no big celebration. The annual air show and open house in August was celebration enough. One petty officer put it this way, "When you're good, you're good. We don't have to wave a flag to get anybody's attention."

Capt. Langdon is equally succinct. "It's a terrific place to work and a terrific place to live." ■

**Como. William Zirbel relieved RAdm. Charles Hunter as Commander Attack and Tactical Electronic Warfare Wing, Pacific, July 26 at wing headquarters at NAS Whidbey Island.*


Above, AMEAA Harold Houghtaling of VA-196 cleans an A-6 canopy. Right, ABCS John Hughes of the fire-fighting school, points out the effectiveness of a carrier deck mock-up in teaching. The school has been selected as the best of its type in the Navy four consecutive years.



# CREO for the CAREER minded

The Career Reenlistment Objectives (CREO) plan is an important Navy program that benefits junior nonrated enlisted members by identifying ratings where personnel are needed, thus enhancing their advancement potential and opportunities to develop professional skills.

As the Navy's mission expands, it is imperative that the limited manpower resources available be channeled into the ratings that show the greatest need, to ensure fleetwide balance of talent and expertise. Accomplishing this objective with new enlistees requires close management of the two methods for striker (trainee) designation – "A" school and on-the-job training (OJT) for nondesignated personnel. The CREO program, as described in the updated OpNavInst 1133.3B, represents a major step in implementing the second part of this long-range manpower management strategy.

Forty percent of all E-3s strike for ratings through OJT. Of the 99,000 E-3s in the Navy, 39,000 are eligible to achieve striker designation this year via on-the-job training. Ensuring that candidates enter the best rating, in terms of their professional abilities and the needs of the Navy, is a joint responsibility. The individual, the division officer, the professional development/striker board, the commanding officer and, in some cases, the Naval Military Personnel Command (NMPC) share in this career decision.

The level of NMPC involvement is dictated by rating entry requirements depending on whether it is an *open*, *closed* or *controlled* rating. These terms refer to the availability of rating entry for nonrated personnel through participation in the navywide advancement exam.

An *open rating* is one open to all E-1 through E-3 personnel via on-the-job training. Commanding officers may approve designation if an individual passes the rating exam.

A *closed rating* is overmanned and designation can only be achieved via "A" school.

*Controlled rating* entry for E-1s through E-3s requires NMPC approval which sets quotas for participation in the navywide exam.

By increasing the number of controlled ratings, the new CREO instruction gives manpower officials more control over both the quality and number of people entering critical skill ratings. The goal is to enhance readiness by solving both short and long-term manning problems and avoiding skill imbalances in the work force.

Since implementation of the new directive in May 1982, there has been a decrease in open ratings and a large increase in controlled ratings for males. Females now have fewer closed ratings and more open. There has been no change in ratings with only "A" school entry. For controlled ratings, quotas have been established by NMPC to ensure balanced manning in those areas. Commanding officers must screen candidates and submit a quota request (NavPers 1306/7) to NMPC Code 483 for final approval. A selection board approves those candidates who best qualify. Deadlines for submission of quota requests are January 15 for the March exam cycle and July 15 for participation in the September exams.

A T-28 at primary Training Squadron 27 gets the attention of personnel with different aviation ratings during a routine maintenance period at NAS Corpus Christi.

JOC Kirby Harrison

A parachute rigger with VP-8 at NAS Brunswick models a survival suit already credited with saving the lives of several patrol aircrewmen who ditched in the icy waters near Alaska.

JOC Kirby Harrison

The major change to the CREO instruction and the designation process for strikers places a heavy emphasis on well-informed, effective and responsible professional development/striker boards. Proper counseling, careful scrutiny of a striker candidate's potential and timely submission of quota requests enhance management of the program. Follow-on action, should a candidate not screen for a quota or fall short of the minimum designation score on the navywide exam, must be prompt. Every member of the command who counsels nonrated personnel must have a solid working knowledge of the CREO program.

As the Navy continues to grow, it must be able to expand in accordance with the overall manpower plan in order to avoid shortages and overages in particular ratings. The revised CREO program is targeted at achieving that goal.

CREO is another example of how the Navy "takes care of its own." To enlisted personnel, it can make the difference between having a career with a future or merely doing a job. ■

The CREO listing is a Navy management tool that shows the manning levels of ratings. It is also an important career shopping list designed to show enlisted members where they can find the most viable and attractive careers. It lets sailors in well-manned or overmanned ratings know that they may have limited advancement potential, and suggests ratings which may offer faster advancement opportunity. In general, someone wishing to change rating can switch only to a rating with a lower manning level.

The following list shows only aviation ratings. The group manning levels are signified by letters: A is less than 80 percent manned, B is 80 to 89 percent, C is 90 to 100 percent, D is 101 to 110 percent and E is more than 110 percent manned.

For personnel interested in aviation ratings, the following shows the current manning levels of ratings for men and women.

| | Ratings (Male) | | Ratings (Female) | |
|---|---|---|---|---|
| | **Open** | **Controlled** | **Open** | **Controlled** |
| Group A: (under 80%) | AB, AV | AC, AQ, AT, AW, AX | AD | AC, AE, AX, AQ |
| Group B: (80-89%) | ABE, AF, AG, AME, AO, TD | ABH, AE, AK, ASE | AG, AMH, ASE, ASM | None |
| Group C: (90-100%) | ABF, AD, AMH, AS, ASM, HM, PR | AMS, AZ, PH | AB, ABF, AF, AM, AME, AO, AS, AV, PR | AMS, AT |
| Group D: (101-110%) | AM | None | None | ABE, ABH, AK, AZ, PH, TD |
| Group E: (over 110%) | None | None | None | None |

The PH rating is closed to both men and women. "A" school is required for all personnel in the AME, HM and PR ratings. The AW rating is not open to women because it is combat-related, sea-intensive and/or impacts on the sea-to-shore rotation of men.

*For a complete list of other Navy CREO ratings, see OpNavInst 1133.3B.*

# Naval Aviation Hall of Honor

## General Roy S. Geiger

By Jeanne Gray

***". . . and the elements so mix'd in him that nature might stand up and say to all the world this was a man!"— Shakespeare***

General "Rugged Roy" S. Geiger, known to his men as a fearless leader, acquired his nickname at Parris Island boot camp as the only man on the island to swim against the strong incoming Atlantic tide in Port Royal Bay. The nickname stuck with him throughout his military career.

Born in Middleburg, Fla., on January 25, 1885, he attended Florida State Normal School and received a degree in law from John B. Stetson University. Following graduation, he enlisted in the Marine Corps in 1907 and served in Panama, the Philippines, China, Haiti and Nicaragua. During these tours he gained valuable experience with ground troops.

In the early days of aviation, young Geiger became an avid supporter of the "flying machine" and lighter-than-air vehicles.

In 1914, while experts were debating whether the airplane could ever pack enough power to sink large ships, the Marine Corps anticipated its value in battle and began seeking officers or enlisted men to attend a new flying school that had been established in northwest Florida. Geiger saw opportunity beckoning and reported to Pensacola for flight training on March 31, 1916, through recommendations of Francis T. Evans who knew him at Parris Island. Evans was the Marine Corps' fourth pilot and was one of Geiger's instructors. At Pensacola, Geiger found basic biplanes on pontoons and powered by one engine. The Curtiss-built pusher-type hydro-aeroplanes looked fragile in appearance but that didn't deter Geiger and he learned to fly without difficulty. It was a challenge to him. The first time Geiger took the controls of a new trainer, the Curtiss N9 seaplane, he attempted a practice landing in Pensacola Bay. He was ready to make a perfect descent when he noticed a small submarine surfacing. In order to avoid it, he banked the plane on its side and lost control. Geiger and his instructor Evans plunged into the water. Fortunately they came through without a scratch. "He learned to fly the hard way," said Evans later.

Most flight students at that time disliked the lighter-than-air phase of aviation training program, but not Geiger. It was one more facet of aviation to explore.

It was in a ballooning incident that Geiger was almost killed. It happened when he was unloading ballast to decrease his rate of descent. His sandbag went through an outhouse, to the consternation of its occupant. The startled farmer came charging out, shaking his fists. He picked up his shotgun and fired several shots at the swaying basket. Geiger quickly tossed out his remaining sandbags and the balloon rose clear of the barnyard and out of range of the shotgun-wielding farmer.

He completed Naval Aviation flight training in June 1917 and became the fifth Marine to receive his wings. He was Naval Aviator #49.

From 1917 to 1931, Geiger had a variety of assignments. He was commanding officer of an aeronautic detachment at the Marine Barracks in Philadelphia, which later detached to become part of the First Marine Aviation Force. On foreign shore duty in France, he served with Group 5 Royal Air Forces at Dunkerque. He then joined the first Marine Aviation Force as commanding officer of Squadron A and was attached to Day Wing, Northern Bombing Group. In 1928 he attended the Army War College, Washington, D.C., following which he served as commander of Aircraft Squadrons, East Coast Expeditionary Force.

General Geiger was Director of Marine Aviation at Marine Headquarters, Washington, D.C., from 1931 to 1935, when he left to take command of Aircraft One, Fleet Marine Force at Marine Barracks, Quantico, Va. This tour was followed by two years at the Naval War College, Newport, R.I., until 1941.

On August 20, 1941, General Roy S. Geiger organized and took command of the First Marine Aircraft Wing in Quantico. There, as World War II started and progressed, reports began streaming in describing bloody fighting on Guadalcanal. General Geiger sat behind a glass-topped desk poring over the official news releases until they became tattered and torn. He began showing signs of

restlessness. He was frustrated because he saw himself as a fighting man. "An armchair generalship is no job for me," he once said. On September 3, 1942, he found himself directing Southwest Pacific Marine Corps air operations from a tent and living in a cave on Guadalcanal in the midst of enemy fire. He was about to play his part in the battles that took the Marines from Guadalcanal to the Japanese surrender at Tokyo Bay.

When Geiger arrived at Guadalcanal the fighting men were showing signs of fatigue. It gave them new hope and inspiration to know that "the old man" was there to take personal control of combat operations in the air.


Lt.Col. Roy S. Geiger, C.O., Aircraft One, Fleet Marine Force.

"Rugged Roy" Geiger's early flying days.

He had a tremendous job to do and it seemed that the odds were against him. First of all, the airfield from which his men had to operate was only 1,000 feet long and under constant fire from Japanese air bombing and naval gunfire, leaving the airfield constantly torn up. Lack of fuel and equipment for refueling exasperated Geiger. In frustration, he remarked, "How in the hell do they expect me to keep my pilots airborne without fuel." Also, communications were insufficient due to primitive installations. The biggest problem was the morale of his men and he knew it would take a miracle to keep his squadrons effective.

They had become accustomed to the crude working conditions until a new officer arrived and complained that Henderson Field was impossible for landings or takeoffs. When the word got back to Geiger, he promptly went out to the airfield. He climbed into a Douglas dive-bomber, revved up the engine and started down the runway, dodging the craters which had been formed by enemy shells and weather conditions. The astonished pilots looked on as their "old man" took off with a 1,000-pound bomb. An hour later he returned after bombing a Japanese antiaircraft battery, and made a safe landing weaving his way around the patches of the runway that were left. As the 57-year-old aviator got out of his plane, he glanced at the young pilots and said, "So you didn't think I could do it, did you? From now on it's up to you." With this unquenchable spirit, General Geiger instilled new faith in his men and the word got out that no matter how bad the situation was "the old man" would find a way to lead his men to safety. During September and November 1942, the First Marine Air Wing destroyed 286 Japanese planes.

Another time, when asked if he would lend his flying boat to help flush out a Japanese convoy, Geiger said, "The last time you fellows flew it around out there you brought it back shot full of holes." He then agreed to lend it on the one condition that he would fly as the copilot "just to be sure it gets back here." An old flying mate of his said, "If ever there was a flyer who had God as his copilot, it was Geiger." (See "Mad Jack Cram and the Blue Goose," *NANews,* May 1982.)

At Okinawa in 1944, he was the first Marine Corps officer to take command of the Tenth Army, when U.S. Army's Lieutenant General Simon Bolivar Buckner, Jr., was killed in action. When General Joseph W. Stilwell arrived to assume command of the Tenth Army, Geiger was appointed to command the Pacific Fleet Marine Force. He rose to the rank of Lieutenant General on June 19, 1945, and became the third Marine officer to wear three stars on active duty. He was also the first Marine Aviator, on November 16, 1946, to have tactical command of all Marine Corps ground forces in the Pacific.

Just eight days before his retirement at the age of 61, General Geiger died at Bethesda Naval Hospital on January 23, 1947, as a result of a pulmonary illness. On June 30 of that year, Congress passed a special act, promoting Roy S. Geiger posthumously to the only four-star rank in the Marine Corps other than the Commandant of the Corps. He was buried at Arlington National Cemetery with full ceremonial rites which included a squadron of *Corsairs* in missing-man formation tipping their wings over his grave. A fitting honor for one of the first of the second group of aviators to be enshrined in the Hall of Honor in May 1983. ■

# AT WAR

## Part II

*This is the conclusion of George Poulos' recollections of his tour of duty with Patrol Squadron Eleven in the South Pacific during WW II. An aggressive plane commander who made the most of every opportunity to strike at the enemy, he was affectionately known as "Black George" by his crew and squadron mates. Poulos left the Navy in 1947 for a civilian career but has always kept in touch with Naval Aviation. Today, he is manager of the Quality Engineering Division of the Lockheed-California Corporation.*

PBYs often began their workday at dusk.

# Recollections of a VP Pilot

By George Poulos

On Sept. 12, 1942, the entire squadron of Catalinas (VP-11), including the ground crews, was operating as one unit from the tender USS *Curtiss*, for the first time since July 1st. Our commanding officer, Lieutenant Commander C. C. Marcy, had certain matters to ponder and reflect upon. The squadron had lost several airplanes during the past two months but luckily only one crew, "Dopey" Clark and his men who we were sure had been picked up and taken prisoners by the Japanese. But his major concern was the fact that the flight surgeon had grounded several of the crews for fatigue.

VP-91 had begun arriving aboard *Curtiss* as the second squadron to be permanently deployed to the South Pacific, and their new airplanes and fresh crews were extremely welcome. With this relief, our skipper requested and was granted authority to rotate the crews to Auckland, New Zealand, for some well-deserved rest and recreation. On

September 21, three crews climbed aboard a PBY and set out for Noumea on the first leg, then on to Auckland the next day. Besides my crew, "Muck" Muckenthaler's and "Whiskey" Willis' crews were aboard, as well as Lieutenant Commander Bill Schroeder, our executive officer. The plan was that Muck's and Whiskey's people would stay for a week, but that my crew and I would fly back to Noumea after two days, pick up another crew and fly back to Auckland. In this manner we set up a rotation in which two crews flew a PBY to Auckland each week. The two crews that were already there then flew the plane back to Noumea.

With the R&R cycle operating smoothly, it was back to performing the PBY's primary mission of frustrating Japanese efforts to retake Guadalcanal. Daily, Japanese bombers came down the "slot" (New Georgia Sound) from Bougainville Island to bomb and attack the Marines entrenched at Henderson Field. Marine Aviators flying F4F Grumman *Wildcats* went up to meet them and did a superb job with limited assets.

Japanese naval units, including battleships, came in at night to bombard Guadalcanal and soften it up for landings. Our fleet units, though greatly outnumbered at times, took them on. In one battle, Japanese submarines sneaked into the area through the northeastern opening in the island chain and scored torpedo hits on our cruisers. Thereafter, when it was anticipated that a night battle would take place in the "slot," PBYs performed night patrols along the northeastern gaps between islands to detect or otherwise prevent the Japanese submarines from making their end-around sneak attacks on our ships. The success of these missions is hard to assess since no submarine kills were scored by the PBYs. However, neither were any more U.S. Navy warships hit by torpedoes launched from Japanese submarines entering the area by the back door.

Witnessing one of these night fleet battles in the slot was an awesome experience. The intensity of the fire from both sides was unbelievable. In one instance, I witnessed the death of one of our cruisers, which suffered a direct magazine hit and blew up with a fireball climbing thousands of feet. This front-row seat for a major fleet battle is an experience not easily forgotten.

By now it was known that the Japanese fleet had established a major base at Tonolei Harbor on Bougainville to the north. This greatly reduced the length of their supply line from Truk and their attacks intensified. In mid-October, our intelligence uncovered a very large enemy force which was being assembled there. On October 22, 1942, Jack Coley, "Whiskey" Willis and I had torpedoes loaded under our port wings and made our plans to fly almost 900 miles for a night attack on the Japanese fleet. Since room within the harbor would be greatly restricted, the torpedoes were set to arm after a 200-yard run.

Our plan called for a takeoff at dusk and an attack at 0200 to 0300 the next day with a dawn landing at Tulagi to refuel for the flight back to Espiritu Santo. En route a landfall would be made on Rennell Island and an unnamed reef for navigational purposes. It was a bright moonlit night with exceptionally good visibility. In order to avoid detection under conditions that were favorable to the enemy, we flew the last 150 miles at approximately 20 feet above the water. Jack Coley's was the lead plane and his navigation was perfect. We found ourselves going right into the harbor inlet undetected until we had to pull up to avoid hitting the destroyer that was doing sentry duty at the entrance.

Once inside the harbor, the formation split up with each of us seeking our own target. Ships were visible everywhere — mostly destroyers and harbor craft. Then we saw a larger ship, a heavy cruiser, in an uncluttered area which seemed like a very good target. I swung to the right and reduced power to decrease the space required to align the aircraft for a torpedo run. Then after a fast turn to the left I was abeam the target about 500 yards away. At 400 yards, I was stabilized at 90 knots and 25 feet. At 300 yards and flying 80 knots and 20 feet, I pulled the release handle and called for full power. The good old Pratt and Whitney responded instantly without a single hiccup. The torpedo entered the water and headed for the ship. During the pull-up to get over the cruiser I activated the handle to release two 500-pound bombs. The PBY shuddered as the weapons exploded. The crew members at the waist hatches reported direct hits but it was not possible to determine the extent of the damage. Nevertheless, we knew we had scored and had hurt them. The enemy now knew that his sanctuary was no longer safe from the workhorse PBYs. The other two aircraft also made good their attacks. Coley's plane was shot up in the process and lost all fuel from the starboard wing tank. He barely made it to Tulagi.

Japanese fleet units started to move out of Tonolei and other harbors the next day and it then became the PBY's assignment to find and track them. Several contacts with enemy ships were made during the day patrols on October 23, 24 and 25 and, at night, PBY-5s armed with torpedoes and two 500-pound bombs went out to attack. Among the

VP-11 crews that made night search and attack missions during these days were Lieutenants Bob Corlett and Joe Hill, Lieutenants Junior Grade Charles Muckenthaler, George Clute and George Enloe. Clute and Enloe found targets and made torpedo drops but were unable to confirm hits.

It was apparent that the various segments of the Japanese fleet would join up for a major battle with our fleet which was built around the carriers *Hornet* and *Enterprise*. This battle became known as the Battle of the Santa Cruz Islands.

On the morning of October 26, PBY patrols were launched in complete darkness two hours ahead of previous schedule. We were briefed that a battle was in the making and we did not know if the Japanese fleet had formed and, if so, where they were. At dawn, about 500 miles down our patrol path, one of my crewmen saw a submerging submarine swirl about five miles ahead and a bi-wing seaplane take off near the swirl. We were too far away to make a meaningful attack on the submarine and although the crew was disappointed that we did not engage the biplane, the situation dictated that we proceed with our primary mission. I have speculated about that sighting at that location with that timing. Since it was directly in line from Espiritu Santo to their fleet's position, did they intend for the biplane to hide in the rays of the rising sun and shoot down searching PBYs as they passed by to prevent them from locating their fleet? If that was their intent, they failed and we had slipped right past their trap, ironically on the rising sun side. I doubt that they ever saw us.

At about 0630 hours we sighted a large force with four carriers and their escorts. It was apparent that the carriers had already launched their planes to attack our fleet because their decks were clear. The only airplanes in sight were several *Zeros* flying overhead cover. They apparently knew where our carriers were, so we had to send their position to enable our carriers to prepare for attack.

I climbed a few hundred feet to see the entire fleet and ordered a quick count, after which we retreated to extend the trailing wire antenna to send the position report. Apparently we had gotten too close because we were harassed by ship fire. There was a difference of opinion regarding the ship types among crew members. One was certain he saw at least one battleship. We all agreed concerning the number of carriers and that was important. Anyway, we would go back for a recount and reclassification of the supporting ships after we sent the position report. We would learn later that our carriers had launched blind to clear their decks in anticipation of an attack, and did not know the exact position of the enemy until they received our message. It was apparent that if we had not found the Japanese fleet, the day would have been a complete disaster for the U.S. Navy. Although Admiral Halsey had issued the orders to attack from Noumea at about 0530 hours, the numerous reports of small ship units at diverse locations undoubtedly created confusion aboard our carriers.

Having sent our message, we returned for an exact ship count and type. This time we had agreement before we departed the area but not before four *Zeros* broke off from their combat air patrol to come after us. This I did not anticipate since I considered that the Japanese planes would not compromise their defensive umbrellas for anything but attacking carrier planes. It was now one hour since we had made our initial contact and still our carrier planes had not arrived for their attack. I recalled that nine previous PBYs who had made contact with Japanese carriers had been shot down. Would we be the tenth? I was determined that we would not.

There was very little wind at sea that day with no discernible whitecaps. Instead there were huge swells in the water that rose to 15 to 20 feet and, by the time the first *Zero* made his firing run on us, I was flying at the bottom

**USS Argonaut served as a tender to extend PBY patrol range.**

of a trough looking up at water on both sides. As a swell terminated, I picked up either the port or starboard wing and sliced into another trough. As a *Zero* approached on a firing run I turned quickly – into his line of flight to shorten his run and tighten his turn – as much as I dared flying so close to the water. Their attack failed. The nearest they came was a spattering of bullets 20 to 30 yards behind us. Sensing their ineffectiveness and having no desire to be drawn far away from their fleet with a major battle pending, they broke off and left us.

We had experienced enough excitement for one day, I thought, but an hour later on our way back to base we spotted a four-engined Mitsubishi seaplane. The crew wanted this one in the worst way. Unfortunately, he had spotted us too and poured on the gas, turned his tail and ran. I added full power and gave chase. Slowly we began to gain on him but he was taking us further away from home and we already had burned a substantial amount of fuel with our two high-power reconnaissance runs and the escape from the *Zeros*. Ahead of him were some heavy clouds and I decided I would continue as long as it was possible to reach him before he could take cover. We had not come within firing range by the time he disappeared into the clouds, so we proceeded to our base satisified that we had put in a good day's work.

Although the U.S. Navy could not claim a victory at the Battle of Santa Cruz, I consider it one of the most important of the war and one that swung the pendulum to our side. We lost the carrier *Hornet* but two Japanese carriers had been damaged, one seriously, as well as some surface units. For the Japanese it had been a "do or die" battle. They had to annihilate our fleet at this encounter if they were ever to regain Guadalcanal and Tulagi. A draw would not do. They failed, and from that day we definitely went on the offensive.

More and more PBY crews went on night bombing and enemy harassment missions. We tried new innovations to lengthen our patrols by taking off from Espiritu Santo, flying 850-mile sectors instead of 700 miles and landing at Vanakoro Island at dusk. The next day we would take off from Vanakoro, fly an 850-mile sector and return to Espiritu Santo. We also made more search and rescue flights in an effort to locate survivors of the battles which had raged in the area. A number of open-sea landings were required to accomplish the task. My crew and I have memories of four such landings and the fine performance of the PBY-5 under adverse sea conditions.

VP-11 flew many special missions. "Whiskey" Willis with a Marine F4F fighter escort rescued the crew of an Air Corps B-17 from New Georgia Island after it had been shot down by *Zeros* while on a reconnaissance flight to Bougainville Island. Bob Corlett and his crew made a gallant attempt to remove the crew and 25 wounded Marines from a C-47 which flew right past Espiritu Santo from Guadalcanal during bad weather and luckily found a reef for a wet landing after running out of gas. By landing on the open sea outside the reef, the crew led by Lieutenant Junior Grade Jack Cruze successfully transported about one-half of the occupants to the PBY-5 in rubber life rafts before a severe storm arrived and almost blew one of the rafts out to sea with several wounded aboard. Lt. Corlett beached his PBY just downwind of the flounder-ing life raft and saved all occupants. A destroyer later rescued all hands.

One special mission which I undertook with two other PBYs and one I have some fond memories of involved ferrying a group of eight Marines and an Australian interpreter to Rennell Island to establish an observation and weather post. Rennell Island is situated about 40 miles southwest of Guadalcanal and had a fresh water lake in its center. In addition to providing a ferry service, we would be able to see how a PBY handles on fresh water for the first time. Within minutes after we landed and dropped anchor, native youngsters rowed out in their outriggers and were climbing all over the airplane. Cheerful kids in their loin cloths climbed in and out of the hatches, on the wings, dived into the water from everywhere and climbed back up to do it again. We had inflated life rafts to take our passengers and their provisions ashore and the boys and girls were obstructing this effort. Adult natives arrived later and they were just as jubilant and playful as the children.

One of the natives pointed to an approaching outrigger and said, "Chief." I flagged his boat to the waist hatch and helped him aboard. We engaged in a conversation in pidgin English but to little avail. About this time, an Australian interpreter, who had flown in on one of the other planes, approached us in a rubber dinghy. Immediately, the Chief recognized the Australian by his dress and his Aussie hat and knew he was among friends. He offered his hand for a handshake, climbed into his outrigger, assisted the Aussie into his boat and the conversation continued in earnest.

After tranporting the provisions to shore, we deflated the life rafts and undertook the most impossible chore of getting the playful natives off the airplanes. Even after we got them into their boats or in the water, we did not dare start the engines for fear we would run over them. Suddenly, by some signal that was not apparent to us, they began a race for shore. We started engines, made our fresh water takeoff, (no detectable difference from a salt water takeoff) and headed for home.

One day early in December, Lieutenant Commander J. O. Cobb, commanding officer of VP-91 (previously operations officer of VP-11), announced that he and I had a special reconnaissance mission to make over Sandwich Reef. The submarine *Argonaut* had been assigned to work with PBYs in a further effort to extend the patrol range. *Argonaut* and *Nautilus* were large sister submarines that were used as troop carriers for the Tarawa invasion and for other secret missions.

*Argonaut* had investigated Sandwich Lagoon but could not say definitely that PBYs could land and take off there. Our assignment was to determine whether the mission was feasible. We surveyed the bay carefully and decided it was. We made two landings and takeoffs – one along the long axis of the lagoon and a circular takeoff along the short axis.

The following day, my crew and I were assigned the first extended patrol with *Argonaut*. We left Espiritu Santo at about 1600 hours and arrived at Sandwich Lagoon a bit early. We stayed away from the reef just in case there were Japanese submarines in the area that would jeopardize the mission. As the sun was setting, we made our approach to the lagoon. At the same time we saw *Argonaut* sur-

facing at the entrance. We made our landing and dropped anchor, and waited for the submarine to anchor. Then we approached the stern to take on fuel. *Argonaut's* crew was not very experienced at the unfamiliar job of fueling an airplane but between the two crews we got the job done. Having fueled our PBY, we taxied out again and dropped anchor. Later we boarded *Argonaut* for dinner and a night's sleep.

The next day we made our takeoff before sunrise to enable *Argonaut* to get out of the bay and submerge before daylight. Upon our return, the sun was setting and the timing was perfect. *Argonaut* was surfacing at the entrance, and the PBY from Espiritu Santo that would fly the next day's patrol was just arriving. The trial run had been a success and the patrol range had been extended to 950 miles from Espiritu Santo.

Unfortunately, *Argonaut* did not survive to sustain this team work with the PBYs. The expanded activity by the Japanese on Bougainville Island had jeopardized some missionary camps and *Argonaut* was ordered to attempt a rescue. We received word that Japanese spotters had detected the operation and dive-bombers caught *Argonaut* on the surface. The entire crew and all the missionary passengers were killed.

By the end of December, the replacement PBY squadron for VP-11 began arriving. On January 2, 1943, VP-11 personnel began an exodus from *Curtiss* and Espiritu Santo for Noumea. Although we were happy to be heading back to the United States, it was apparent that many fond memories of Espiritu Santo, our home base for four months, would remain with us forever. One of the memories that is still vivid to me is the dark takeoffs in a crowded harbor with over 100 ships swinging at anchor. There were no lights to use as a reference, only the dark silhouettes of the ships, so dense that often a straight takeoff course was not possible. I can still feel those takeoffs "by the seat of the pants" as I snaked the PBY through the ships, felt the airplane get up on the step, and then felt the last drop of water drip off as the plane broke the surface to become airborne.

One morning, while taking off as I came around a ship, a whaleboat was traversing between two other ships in an obvious collision course from our port side. I concluded that, if I could see him, he could see and hear me but such was not the case. When it was obvious we were going to collide, I pulled the port throttle and kicked hard left rudder. In the meantime, the coxswain saw us and turned to his right. He and all his passengers abandoned the whaleboat which went between the PBY's port wing tip float and the port engine propellers. I added power on the port engine, straightened my course and continued the takeoff and the day's mission. The faithful PBY did not even fall off the step during this drastic maneuver. On our return from our mission that evening, we learned that the incident was spotted from one of the adjacent ships and all occupants were picked up unharmed. The errant whaleboat was recaptured after it banged into several ships.

By January 7, the entire squadron was assembled at Noumea and a transport arrived to take us to San Fran-

**VP-11 Catalinas landed on the Sepic River during New Guinea deployment to evacuate an Australian unit under the noses of the advancing Japanese.**

cisco. However, it turned out that some of us would get to fly back to Hawaii and then to San Francisco. The PBY maintenance base at Noumea had two PBYs with damages that were beyond their capabilities and were to be returned to Kaneohe. Crew selection for these ferry flights gave preference to those who had business or personal reasons to return to Hawaii. Most of the selectees had wives there. I had an automobile that had to be sold.

On January 11, 1943, the return flight to Kaneohe began and proceeded via Suva, Canton, and Palmyra. On January 14, 1943, we approached Kaneohe Bay under stormy conditions with variable winds that looked much like a small cyclone. I started my landing into the wind but actually contacted the water in a severe crosswind that nearly flipped us over. It was my last water landing in a PBY and it was my worst one ever. This landing marked the end of VP-11's first deployment to the South Pacific.

That night as I closed out my log book and the PBY chapter of my career, I made an assessment of the 27 months I had spent with that lovable machine. Since my first flight in a PBY on September 30, 1940, I had accumulated 2,318 flight hours – 1,701 of these were flown during the 13 months we were at war and 617 during the 14 prewar months. During this time I had come to know the PBY and to admire it as an airplane that served more than the purpose it was originally intended to fill. I knew that a highlight of my Naval Aviation career, and one I would remember most fondly, would be the time spent with the PBY.

After a well-earned leave, VP-11 personnel gathered at NAS North Island, San Diego, in early March 1943. There we learned that VP-11 would be reformed again with PBY-5s and that about one-half of the personnel would remain in the squadron as a nucleus, while the remainder would be assigned to other activities. Most of those reassigned, including myself, formed the nucleus for VB-103, a PB4Y-1 squadron being organized at Camp Kearney (now NAS Miramar) for antisubmarine warfare. Within a few weeks, the new VP-11 departed San Diego for Hawaii and by June had arrived at Perth, Australia, to commence its second deployment.

The momentum that VP-11 had acquired during 1942 continued through 1943 and 1944. Operating from Perth, then Samarai and Port Moresby, New Guinea, VPB-11 (redesignated October 1, 1943) set a new record for itself and sent a number of enemy ships to the bottom. The pioneer work of this squadron was largely responsible for the change in the PBY mission in that part of the Pacific to search and attack instead of search and report as was previously the case. After a temporary intermission in Perth during 1944, VPB-11 returned to the forward area at Mios Woendi and ultimately to Morotai and Leyte where it was relieved by PBMs during October 1944.

I am not qualified to write authoritatively about the exploits of VP-11/VPB-11 during its second deployment. I do know and can report that the squadron spent more time performing *Black Cat* operations, completed more missions than any other patrol squadron and destroyed or damaged at least 100,000 tons of enemy shipping in the process. Hits were made on a cruiser, destroyers, large tankers and numerous other craft. An entire unit of over 200 Australians trapped in the New Guinea interior was airlifted out by VP-11 which landed its planes in the narrow Sepic River and evacuated the friendly force under the noses of the Japanese. Spectacular rescue missions were accomplished and many downed American airmen were plucked from the ocean in open-sea landings.

There is a great sense of pride in having been part of this squadron which turned in a continuously outstanding performance from the day of the Japanese sneak attack until it left the Pacific theater during late 1944. The strong bond of friendship, comradery and concern that VP-11 personnel developed for each other persists to this day. Our experiences under difficult conditions, including the loss of some of our shipmates, undoubtedly went far to create that bond but the unique attachment each of us developed for the PBY airplane is probably the glue that sustains our relationship. Many of us flew other airplanes but our fondest memories are those which involve the PBY-5. Captain C. P. Muckenthaler, USN(Ret.), flew well over 100 different types of aircraft during his 30 years' service with operating squadrons, flight test, and an exchange tour with the U.S. Air Force. He states that the PBY-5 operations in VP-11 is the duty he remembers most vividly.

It is also important to note that for us, the VP-11 bond extends to and includes the personnel of the current VP-11 squadron flying P-3C aircraft in the Atlantic. We of the World War II squadron appreciate their participation in our reunions and are grateful that they continue to uphold the proud "Pegasus" traditions of the past. ■

by JO2 Frank Fisher

# they fight fire and ice

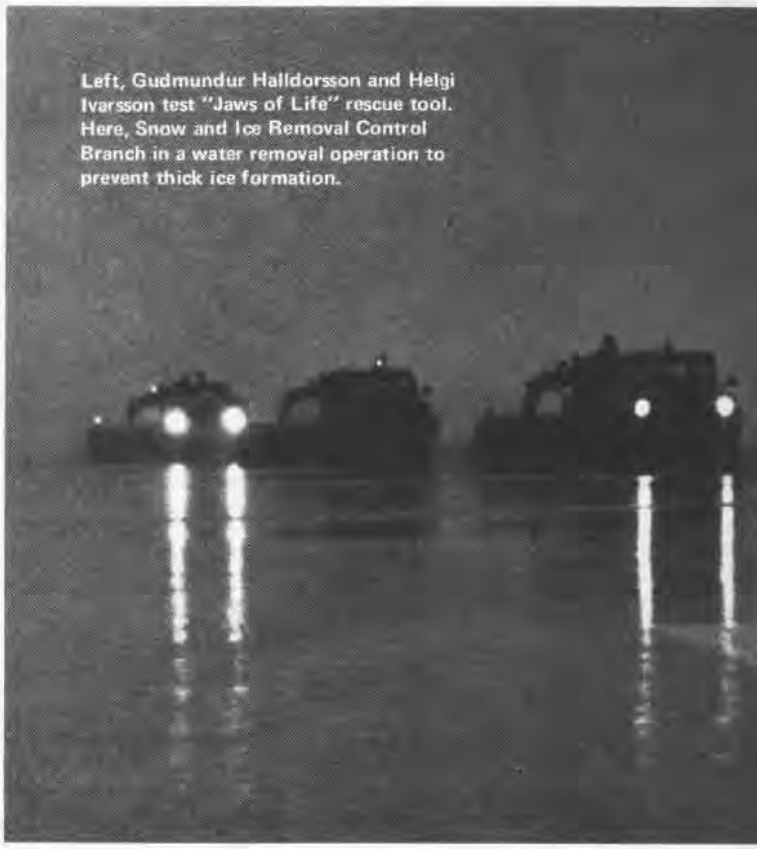
The Fire Department at Naval Station, Keflavik, Iceland, is in the business of fighting fire and ice. It tackles its duties with such enthusiasm and resourcefulness that it has won 16 awards since 1964. In short, the Fire Department has proven that it plays a vital role in the operations of the NATO/Iceland Defense Force (IceDefFor), which is a unified command responsible for the defense of Iceland and for facilities in Iceland used in NATO operations. The command is a tenant of the naval station.

Keflavik is strategically located about halfway between New York and Moscow in the North Atlantic Ocean. Soviet and any unidentified aircraft are intercepted as they penetrate the Military Air Identification Zone around Iceland. Ships and submarines transiting the North Atlantic waters are detected, identified and tracked as they pass through the sea lanes near Iceland. Squadrons of U.S. Navy F-4s and P-3s and USAF E-3As are among the aircraft that maintain a vigilant watch from this important NATO base. With the severe weather that often prevails in this part of the world, clear dry runways are vital to their operations.

The mission of the Keflavik Fire Department calls for 24-hour operational readiness. Not only in the business of fighting fires, it maintains the base's runways, arresting gear/barrier systems on the airfield, and the air cargo transient line branches. These other commitments, however, do not detract from its primary fire-fighting mission. For example, its fire prevention program is recognized as outstanding by the Department of Defense. Further, it has also perfected snow and ice removal techniques which enabled the naval station to maintain safe runways during some of the worst winter of the century, while other fields in Iceland and northern Europe were closed down.

Fire Chief Sveinn R. Eiriksson says, "Positive thinking, the necessity of dealing with this weather environment and the good spirit of the people have made this an outstanding department. This station is unique in that only Icelanders work here. There's an element of challenge in that. We want to prove to the Navy that its decision in 1963 to turn the department over to us was a good one. We want to be the best fire station in the world and

PH3 Steve Flewellyn



Left, Gudmundur Halldorsson and Helgi Ivarsson test "Jaws of Life" rescue tool. Here, Snow and Ice Removal Control Branch in a water removal operation to prevent thick ice formation.

JO2 Frank Fisher

we feel we have done just that. . .with great support from the command and base community."

The task is awesome by any standards. Although it gets very cold in Keflavik, temperatures do not generally go below zero as might be expected at this northern location, since the island is surrounded by the relatively warm North Atlantic currents. However, the winters are long, with periods of severe weather accompanied by high winds. June, July and August are usually the only months in which there is no snowfall, with maximum snowfall in December and January, averaging about 16 inches.

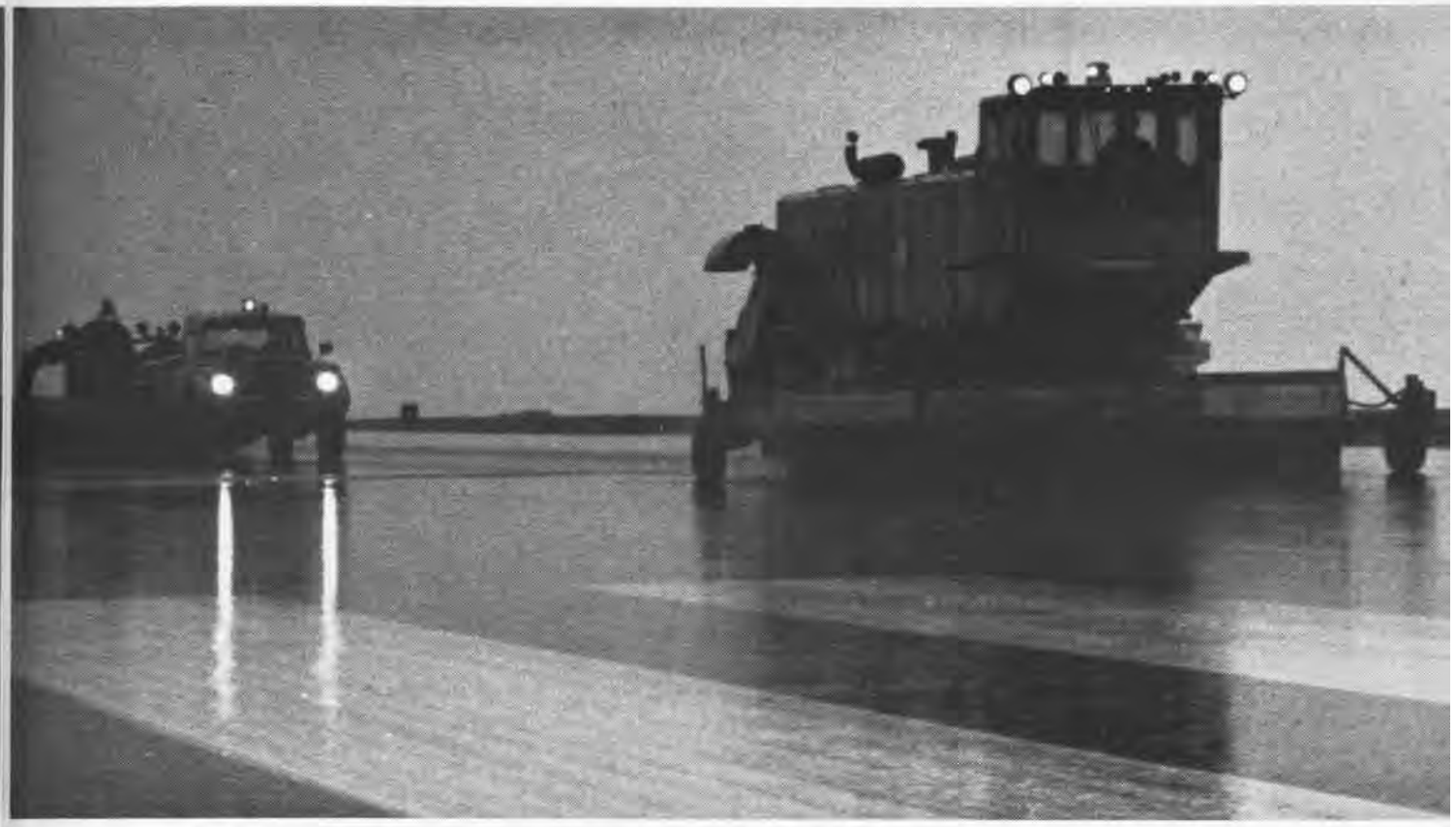
According to Fire Chief Eiriksson, the mission of the NATO base requires the Keflavik airport to be open around the clock seven days a week because of its strategic location in the North Atlantic. Accordingly, a lot of high priority air traffic passes through the airport. If an aircraft is in trouble anywhere in the vicinity, there aren't many alternate fields available. Therefore, the Fire Department must also stay open for snow and ice removal from the runways to ensure safe landing conditions. When a pilot asks what the runway braking action is like at Keflavik, an answer is radioed back swiftly and surely. He then knows that his wheels will have enough friction to grip and brake safely.

Research and testing by the Fire Department has shown that ice prevention is more feasible and economical than ice removal. A runway weather surveillance system (SCAN) measures surface and air temperatures, and indicates the potential for ice formation. An alert sounds in the department's communications center when air and surface temperatures get dangerously close to freezing, and the sweeping of runways, taxiways and ramps begins before the ice builds up.

Magnuss Olafsson, in charge of snow and ice removal control (SIRC), says, "We were among the first to use the SCAN system. Without clear runways, the aircraft would be unable to land and take off safely. The SIRC teams make it possible." Keeping the runways, taxiways and ramps clear of snow and ice is a major task. During a typical snowy week in February, 843.6 man-hours were spent not only in providing braking action readings but also in ensuring the maximum possible braking action. The team works around the clock in the never-ending winter job.

Pickups, tow vehicles, snow plows, blowers, sweepers, sanders and urea trucks are operated constantly during snow conditions. Ice-suppressing granular urea is used, which is also a commercial fertilizer with a high nitrogen content. It works like salt on ice but is noncorrosive. The skill of the operators and mechanics keeps the equipment working and somehow they are able to remove the snow even when visibility is zero. It's like a sixth sense developed with experience in the department.

Conditions are harsh at times, so solutions to problems require resourcefulness and hard work. Their ingenuity in dealing with the environment has been demonstrated in many ways. In cold weather, high winds across the runways blew the sand and urea away as it was being applied. So, the department has developed a method of applying urea in a wet condition which significantly decreases its tendency to blow away. They put down sand that has been heated so that it melts into the ice on the ramps and taxiways and creates a sandpaper effect. These methods have resulted in significant



savings and increased effectiveness. Furthermore, all the equipment used to solve these problems was designed and built by fire department personnel using salvaged materials.

The department also built from excess material a U-shaped plow to hold the snow so that it can be moved some distance from the ramps instead of just off to the side. To keep the sweeper tow vehicle from running out of gas frequently, they built an enormous gas tank on the bed of the truck. They also enlarged the container on the truck carrying sand and urea to reduce the number of replenishment trips.

An important factor is the high readiness of their equipment. SIRC, fire-fighting and air cargo equipment is maintained by fire department personnel with every spare minute spent on maintenance.

In addition to keeping the flight lines clear, the fire department works hard to ensure the safety and protection of personnel. Its crash and structural fire-fighting teams, along with active fire prevention education and inspection programs, work toward this end. Fire Chief Eiriksson says, "It's the preventive measures which count. You can't wait until the damage is done. Training of fire fighters, developing a positive attitude in the community toward fire prevention, a regular inspection schedule and a positive approach all contribute to a good program. The fire department is effective because we have good people in the department and also in the community. We get support and cooperation from the naval station at all levels. In addition, radio, television and the base newspaper are all contributing to the education program."

Under the fire prevention program,

A P-3 Orion flying over Iceland's rugged terrain in 1968.

2,247 fire hazard inspections were made during 1981 and 2,817 potential fire hazards were spotted. Most were corrected and action is being taken on the remainder, some of which require major work. When you add fire suppression systems checks to the inspections, the count rises to 14,568 inspections and checks.

The fire prevention team sponsors public fire prevention programs in a variety of ways, in particular through the local media, special school programs, home inspections, building evacuation drills and lectures. It also provides fire-fighting demonstrations at work centers and the fire station and special fire extinguishing and prevention education for flight line and fueling personnel, and those working at remote radar and communications sites.

The fire prevention program is designed to standardize fire fighter training and apprenticeships. It's a continuing educational process in fire fighting, excellent for new people and for keeping more experienced hands up to date.

In addition to the 16 awards won by the Fire Department, tributes to the success of its program, Fire Chief Sveinn Eiriksson received the Distinguished Civilian Award in 1981 from Secretary of the Navy John Lehman. It read in part, "For exceptionally outstanding service in developing and implementing an unsurpassed fire prevention program, a superb crash-fire-rescue effort and an innovative snow and ice removal control procedure. . . ."■

PH3 Steve Flewellyn

# ready for a disaster

**Story by JO2s Frank Fisher and Dave Guise**

**Crash crew with fire suppression P-4A truck.**

A potential disaster was narrowly averted at the International Airport on the NATO base at Keflavik last March, when an Icelandair Fokker Friendship commercial aircraft carrying 22 passengers and three crew members was forced to crash land. Shortly after takeoff from Isafjordur airport in northwestern Iceland, the left engine exploded and caught on fire when the twin turboprop aircraft was about 450 feet in the air.

Pilot Gunnar Arthursson quickly put out the fire while airborne but found that the left landing gear was damaged and would not lower. Arthursson headed the plane towards the Keflavik airport, about 120 miles to the south, because he knew its wide shoulders and sophisticated equipment could handle emergency landings.

Within minutes, equipment and personnel were mobilized for a major air disaster. While Keflavik's fire department put down a layer of foam, its crash-rescue team stood by, together with an ambulance and other station personnel. Escort vehicles, a second ambulance, a hospital van, a bus with litter bearers, Marine Barracks personnel and two Icelandic police vans waited at a backup area with the Icelandic Red Cross, Scout and Life Saving Association rescue teams.

The Icelandic Coast Guard sent its helicopter to escort the plane in and transport any burn victims. A *Jolly Green Giant* helicopter from Det 14, 67th Aero Rescue and Recovery Squadron also stood ready. An Icelandic Coast Guard plane was prepared to carry victims to Great Britain, if necessary, for specialized treatment.

The Icelandair pilot lined his aircraft up with the foam-covered runway and began a slow descent with his one remaining engine. When the aircraft touched down, it began to skid. Then it stopped! The fire fighters were there but there was no fire or explosion. Quickly, passengers and crew were disembarked. Everyone was safe.

The naval station's executive officer, Commander L. W. McGlothlin, said of the operation, "Everyone involved did the things they were supposed to do. I don't think it could have gone any better."

The incident demonstrated that well-rehearsed drills had produced trained personnel prepared to do whatever was needed to handle a major disaster. Representatives of the airline company on the scene were impressed and grateful. They praised the professionalism of all involved in the operation.■

## *Coming and Going with the Carriers*

A grand ol' lady of the sea made a last voyage this summer. The aircraft carrier *Intrepid* was nudged up to pier 86 on West 46th Street in Manhattan, New York, on June 13 to take up permanent residence as a museum. To mark the occasion, 300 Navy recruits were sworn in on the 900-foot carrier's flight deck and a flyby featured vintage Navy aircraft.


**Ranger gets a FOD walkdown.**

*Ranger* crossed the equator this summer and, faithful to tradition, 2,700 polywogs were initiated into the ranks of shellbacks. Executive officer Captain Al Groman reportedly enjoyed his role as a salty King Neptune.

"Good morning on *Ranger*," is the casual introduction by the officer of the deck aboard the giant carrier on duty in the Indian Ocean, prior to a unique daily invitation. "It's a lovely morning. . .and I'd like to invite you up to the flight deck to share the sights and participate in the first FOD walkdown of the morning." Shortly after the invitation, *Ranger's* "roof" is crowded with a crew dressed in every uniform from khaki and Marine green to the usual flight regalia. As of June 10, thanks to the walkdowns, *Ranger* counted 100 FOD-free days and a flight deck free of one of the major causes of incidents/accidents. Furthermore, the Commander Naval Air Pacific Battle "E" was awarded to *Ranger's* aircraft intermediate maintenance department as the most efficient in the Pacific Fleet. **Ensign C. T. Cullen**

## *Safety Conscious Training At Det 1030*

The folks on the ground keep 'em in the air. It's as true today at Maintenance Training Group Det 1030 as during any other time in Naval Aviation. At their home base in Camp Pendleton, Calif., the detachment instructors teach Navy and Marine Corps personnel to maintain the AH-1J and AH-1T *Cobras*, UH-1N *Hueys* and OV-10A *Broncos*.

The detachment is one of five on the West Coast. A total of 49 similar maintenance training group dets are located worldwide.

The curriculum consists of courses ranging from hydraulics maintenance to aircraft familiarization for pilots. Class sizes may be as small as four persons and as large as 20, depending on the course of study. According to Master Sergeant Donald Rhodes, noncommissioned officer in charge of the det, most of the larger classes are familiarization courses while the smaller ones concern technical training. The smaller class size is an advantage, says MSgt. Rhodes. "The teachers are more on a one-on-one basis with the students. We lose less than one percent of our students."

**Pfc. Steve Bayne is surrounded by his work while studying on the OV-10 simulator.** Cpl. Cindy Gray

Most of the students at the det are recent graduates of the basic aircraft school at Memphis, Tenn., a 22-week course on aircraft electronics and maintenance. Dets like 1030 are the next step for more specialized training, including the practical experience of applying classroom theory to the actual aircraft. On completion of the training, the students go on to squadrons.

"The students are graded on their performance in the aircraft and on the exams," explains Rhodes, who points out that the real test comes when they get to the squadrons. "The safety record of the (air) wing here reflects the quality of the instruction at our school," he concludes. According to Major Peter J. Lepo, MAG-39 Safety Officer, his air group is credited with some of the best safety records in the Marine Corps. **Cpl. Cindy Gray**

## *Army Helo Visits Navy*

PH3 Barry Flood


**A visiting Army Blackhawk (center) hovers between a Navy Seasprite (center) and a Sea King during a flight demonstration at NAS North Island.**

Helicopter pilots, aircrews and ground personnel at NAS North Island got a look at the future recently when an Army UH-60A *Blackhawk* helo dropped in for a visit. The *Blackhawk* is the same basic helicopter as the Navy's new SH-60B *Seahawk* LAMPS MK III antisubmarine aircraft, the biggest difference being in fuselage changes for shipboard compatibility and antisubmarine warfare gear.

"The *Seahawk* is a little bit more refined," says Lieutenant Commander Bob Spaulding, one of the pilots ferrying the *Blackhawk* to Fort Lewis, Wash., for delivery to the Army.

The other pilot was Commander Rich Jaeger, prospective executive officer of the Navy host unit, Helicopter Antisubmarine Warfare Squadron (Light) 35. Jaeger hoped the visit would "...inspire the young maintenance people especially but also the pilots to let them know that the equipment they're in now will eventually be replaced by something significantly better."

Both Cdr. Jaeger and Lt.Cdr. Spaulding are assigned to NavPro Sikorsky at Stratford, Conn., and occasionally ferry military aircraft.

During the three-day visit to North Island, the *Blackhawk* logged several short flights, giving approximately 30 pilots from local helo squadrons a chance at the controls. **JO2 William Berry**

## *Reservists Encounter Life on the Mississippi*

More than 900 reservists recently got an unusual taste of life on the Mississippi that might have left Mark Twain with raised eyebrows. In a major joint exercise, they combined forces with 100 active duty personnel in a full weekend of field training with emphasis on realism. Included were elements of the Navy, Marine Corps, Army, Air Force, Coast Guard, and the Tennessee and Alabama Army and Air National Guard.

An aggressor force composed of Naval Reserve Seabees and SEALS, Army Special Forces and Marines occupied Forked Deer Island in the Mississippi River. "Attacks" were mounted by joint forces' teams by water and air.

Captain Larry Franklin, the officer conducting the exercise, remarked afterward, "I was impressed with the professionalism and enthusiasm of the people involved...."

Many units gave credit for their successful participation to prior training and planning. That planning included coordinating the efforts of air, land and waterborne units using jet aircraft, helicopters, trucks, jeeps and assault boats. And the additional integration of the indispensible support units of medical, communications, security, supply, engineering, and search and rescue personnel.

In addition to "winning the war," a main concern was the safety of those engaged in the operation, labeled *BluffReadEx 1-82*. No small part of this was provided by a tender from the Army Corps of Engineers in Memphis, coordinating the movement of river traffic. The exercise ended with only two accidents requiring medical attention, both minor burns from handling hot rifle barrels.

Summing up the weekend, one unit commanding officer noted that his unit had "... received more training in two days than they normally get in two weeks of active duty for training." **JOC Gerald Black**

**Marines from Air Group 41 hit the ground running in BluffReadEx 1-82.**

# PEOPLE·PLANES·PLACES

## Awards

VP-26 is one of the winners of the Chief of Naval Operations Aviation Safety Award for 1981. The award was presented by RAdm. E. A. Wilkinson, Commander Patrol Wings, U.S. Atlantic Fleet on June 4 during a VP-26 change of command ceremony in which Cdr. D. A. Crump assumed command from Cdr. B. R. Gladin. The safety award represents the Navy's East Coast leader in maritime patrol accident-free operations. VP-26 completed the reporting period of January 1 to December 31, 1981, with 8,285 accident-free flight hours. This marks the 19th consecutive year of accident-free flight operations, with over 162,000 hours since August 1962.

## Established

HMT-303 was established last spring at the Marine Corps base at Camp Pendleton, Calif. This is the sixth squadron to join MAG-39. HMT-303 is a composite training squadron, commanded by Lt.Col. C. D. Kuhn, Jr., and trains Marine Aviators in UH-1 and AH-1 helicopters.

## Records

VS-32's C.O. Cdr. Steve Wood logged the first arrested landing on *Carl Vinson* during initial operations at sea earlier this year. With this trap, Cdr. Wood has landed aboard every Atlantic Fleet carrier and has logged over 2,000 operational hours in the S-3A *Viking*.

Several squadrons marked milestones in accident-free flight hours: VP-49, 143,000 hours; VP-19, 100,000; VP-31, 88,300; HML-267, 75,000; HSL-31, 40,000; VA-65, 30,000; VC-1, 26,000; VF-151, 5,000; and VAQ-209, 3,000.

Other units also reported safe-flying milestones: NAS Meridian, 12 years; NAS Pensacola, 11; Com TraWing-6, Pensacola, 2; NavFitWepScol, San Diego, 1; and ComNavAiResFor, New Orleans, 100,000 hours.

Several individuals marked personal milestones in flight hours:

Lt.Col. H. T. Nance, MAG-16, MCAS Tustin, Calif., 6,000 hours in various types of aircraft which include the UH-34, T-28, UH-1, VH-3 and CH-46.

Col. Michael P. Sullivan, MAG-11, MCAS Tustin, 4,000 hours in the F-4 *Phantom*. A plaque was awarded to him by McDonnell Douglas, which represents flight time logged in the F-4 from 1962 to 1981. Col. Sullivan has logged an additional 3,000 hours in various aircraft throughout his 25 years of service.

Sgt. Bob Cordes

Lt.Col. Woody Gilliand (left), C.O. of VMA-513, presents a certificate to Maj E. B. Cummings, squadron maintenance officer, while Col. Gordon Booth (right), C.O. of MCCRTG-10, makes the presentation to

Lt.Col. J. E. Sabow, MCCRTG-10's X.O. Both officers received awards for completing 1,000 accident-free flight hours in the AV-8 *Harrier*.

Lt. Scott Sherman of VA-12 achieved his 400th arrested landing earlier this year on board *Eisenhower* while deployed in the Mediterranean.

Some squadrons have reported accident-free flight time in years: VMGR-252, 23 years; VS-32, 17; HAMS-13 and VA-113, 8; VA-27, 7; VF-24, 6; VAQ-209 and VT-86, 5; VF-1, VP-5, VF-213 and VP-62, 4; and VF-2, 3.

AN Dave Williams


**VS-32 demonstrates what ASW is all about as they successfully launch a simulated torpedo attack during exercises off USS America in the Caribbean.**

Three *Swordsmen* of VF-32, Lts. Patrick Morganelli, Dirk Hebert and Kenneth Jargowsky, reached 1,000 flight hours in the F-14A *Tomcat* during intense flight operations earlier this year aboard *Independence*.

## Et cetera

A U.S. Navy two-seat Vought A-7 *Corsair II* bearing the insignia of the Portuguese Air Force left Dallas, Texas, recently for Portugal. The aircraft, leased to the PAF for six months, is to be used for training pilots who fly the 20 A-7Ps which Vought Corporation, aerospace subsidiary of The LTV Corporation, has upgraded from earlier A-7A airframes.

Kpt. Lt. Ritchie Guenter, a naval aviator in the Federal German Naval Air Arm serving with VF-74 aboard USS *Forrestal*, is the holder of three sets of wings – West German navy, U.S. Air Force and U.S. Navy. Kpt.Lt. Guenter joined the West German navy in 1969 and received his first set of wings in 1971. He earned his second pair of wings from the U.S. Air Force after completing basic training in T-37s and T-28s. In 1973, he returned to Germany as a wing staff officer but came back to the U.S. in 1981 through the NATO Exchange Officer Program. At VF-171, the Navy's F-4 fleet replacement squadron, he earned his third set of wings on March 22, 1982.

After almost 40 years since he first joined the Navy, Capt. D. A. Dyer continues to serve on active duty as Special Assistant for Reserve Affairs and Readiness Training on the staff of the Chief of Naval Education and Training at NAS Pensacola. Capt Dyer joined the Navy in March 1943 and earned his wings in March 1946. He has flown the SBD *Dauntless* and TBM *Avenger*. After 4 years of active duty he became a member of the Selected Reserves. In 1979, more than 30 years later, he was recalled to active duty. Capt. Dyer's son, Dwight, a former Marine Corps captain, is following in his footsteps as a lieutenant commander in the Selected Reserve Intelligence program.

ComCruDesGru Three RAdm. A. S. Moreau (r) recently visited VT-24 at NAS Chase Field to witness the "winging" of his son, Ens. Steven Moreau. RAdm. Moreau

and VT-24 C.O. Cdr. J. M. Taylor (l), flying in another aircraft, accompanied Ens. Moreau (c) on his last hop. Mrs. A. S. Moreau pinned the golden wings on her son at the ceremony.

## Secretary of the Navy Stays Active

"Active" is an appropriate description of the Secretary of the Navy John F. Lehman's annual reserve training in late June. The reserve commander and Naval Aviator spent the two weeks of active duty for training with Medium Attack Wing One at NAS Oceana, Va. During the training period, he requalified as an A-6 bombardier/navigator and as a UH-1 *Huey* pilot. Secretary Lehman came into Naval Aviation as a Naval Flight Officer, later earned his wings, and is now qualified as both an NFO and pilot. While at the Virginia Beach naval air station, he flew familiarization flights in the F-14 *Tomcat*, E-2C *Hawkeye* and Air Force F-15 *Eagle*. He also found time to present Secretary of the Navy awards to the Navy's Dare County Target Complex crew and the NAS Oceana officers' mess; to attend the changes of command for the Chief of Naval Operations and Attack Squadron 42; and make a quick trip back to the nation's capital for Admiral Bobby Inman's retirement. Somewhere sandwiched in among all these events, Secretary Lehman also held one formal press conference and two interviews, and went with officers from VA-42 on a physical training run along NAS Oceana's fitness trail.

Lt. F. J. Giblin

**Secretary Lehman leads the "pack" on a physical fitness run.**

Dave Wilson

**With Lt.Cdr. Ron Alexander of VA-42, Secretary Lehman (foreground) prepares for a bombardier/navigator requalification flight.**

## Change of Command

HML-267: Maj. Thomas D. Walters relieved Lt.Col. Phillips.

HMM-264: Lt.Col. Richard J. Kalata relieved Lt.Col. Sidney A. Eilertson.

HAMS-31: Lt.Col. D. M. Bassett relieved Lt.Col. John L. Brennan.

USS *Ranger* (CV-61): Capt. Anthony A. Less relieved Capt. Dan A. Pedersen.

VA-35: Cdr. A. H. White relieved Cdr. J. M. Luecke.

VAQ-135: Cdr. D. J. Dewar, Jr., relieved Cdr. W. D. Bird.

VC-10: Cdr. Jerry L. Unrau relieved Cdr. F. P. Riordan.

VF-33: Cdr. Donald N. Sogga relieved Cdr. John A. Best.

VF-103: Cdr. Lawrence W. Urbik relieved Cdr. T. W. Triebel.

VP-143: Cdr. D. F. Lovelady relieved Cdr. R. L. Ellis, Jr.

VP-19: Cdr. James S. Humphrey III relieved Cdr. John P. Brockley.

VP-22: Cdr. Michael D. Haskins relieved Cdr. Edward R. Enterline.

VQ-4: Cdr. Charles J. Osier relieved Cdr. Francis W. Hilton, Jr.

VS-41: Cdr. Francis J. Herron relieved Capt. Jerry E. Goodman.

VT-28: Cdr. Robert A. Kosakoski relieved Cdr. Julius B. Dell.

VT-31: Cdr. Richard L. Magalis relieved Cdr. Ralph Fink III.

# PROFESSIONAL READING

**By Lieutenant Commander Peter Mersky, USNR**

Garfield, Brian. *The Thousand-Mile War*. Bantam Books, 666 5th Avenue, New York, N.Y. 10019. 1982. Illustrated, bibliography, indexed. $3.50.

Another volume in Bantam's "War Book" series of paperbacks, this book was originally published in 1969. The subject is the little-known war fought in the Aleutian Islands off Alaska's rugged coast in 1942. Although rumors of a Japanese invasion along the Pacific coast were rampant in the days immediately following the attack on Pearl Harbor, the Japanese launch of a small floatplane from a submarine to drop a few small firebombs into an Oregon forest and the June 1942 landings on the islands of Attu and Kiska were the only actual foreign attacks on the continental United States since the War of 1812.

In reality, the Alaskan operation was a diversionary action designed to divide American attention and resources between the Aleutians and the real target of the Japanese effort, the important mid-Pacific base at Midway. Except for minor setbacks and one major tactical defeat at the Battle of the Coral Sea a month earlier in May, the Japanese had rolled unchecked across the Pacific. Their attack on Pearl Harbor in December 1941 arguably was one of the most brilliant and lucky opening gambits in modern warfare. However, the real intent of the Pearl Harbor attack was to destroy America's carriers. Although a good portion of the U.S. fleet lay in smoking ruins or at least in drydock for major repairs, and the aircraft of the Army Air Corps and Marines had been caught parked in neat parade formation on the field at Clark and Ewa, the aircraft carriers *Saratoga*, *Yorktown*, *Lexington* and *Hornet* were not at Pearl.

This well-written and fast-paced book details the events preceding the long, cold battle which took place when the Japanese did attack the Aleutians. It is a subject which has received little detailed treatment. The story is carefully researched and documented with a substantial bibliography. The personal glimpses of the men and machines are interesting and extremely important to the overall story.

Divided into three main parts, each deals with the individual American commander's responsibilities for the Air Corps and Navy aspects of the preparations for the defense of the Aleutians. *The Thousand-Mile War* is loaded with details and personal accounts which make it an excellent reference source as well as an intimate look at the men fighting in a forbidding, isolated and unglamorous theater.

For example, there is the story of how America retrieved its first *Zero* fighter, thus gaining a valuable war prize, and the story of the forlorn command of Major John Chennault, son of Claire Lee Chennault of the legendary *Flying Tigers*, trying to defend the Aleutians with outmoded P-40s and inexperienced pilots. The stories of the incredible PBYs and their crews are worth the price of the book itself.

This book is an important volume in WW II history. The Bantam edition does not contain photographs but it does carry several line renderings of the hardware, guns and aircraft and a beautiful, full-color painting of PBYs in one of the opening actions in the campaign.

Nalty, Bernard C., Watson, George M. and Neufeld, Jacob. *An Illustrated Guide to the Air War Over Vietnam: Aircraft of the Southeast Asia Conflict*. Arco Publishing, Inc., 219 Park Avenue, New New, N.Y. 10003. 1981. Heavily illustrated, photos, drawings. 159 pp. $8.95.

Its long title notwithstanding, this odd-sized small volume is an excellent value for the money. It is a well laid-out reference on the Vietnam War and the aircraft that fought in Southeast Asia. The profile artwork is superb and the photos, in full color for the most part, depict some unusual aircraft such as the B-57, RA-3, SR-71, U-2, O-2 and even the massive four-turboprop Douglas C-133 transport. The MiG 17, 19 and 21 used by North Vietnam are well detailed, with color profiles showing representative markings.

There are a few U.S. naval aircraft, even though the book focuses mostly on the U.S. Air Force.

All in all, however, this is a fine little book, with several introductory pages detailing the air war, and a few sidelights on air-to-air combat, especially from the North Vietnamese point of view. The book is one of a series originally published by the very active British Salamander Company, which includes several volumes on WW II aircraft. This volume is apparently the first effort dealing with modern aircraft and very welcome indeed.

# LETTERS

## Oops

In your article "Quality Instructors Build Quality Pilots," *Naval Aviation News*, July 1982, there was an interview with Lt. Rick Cernohorsky of VP-28. To my knowledge, VP-28 was decommissioned in 1969. What gives?

ADC Joe Roth
830 Division
NARF Alameda, CA 94501

**Ed's note: Please excuse our typo. It should have read VT-28.**

## Midway

I read with great interest the "With Earnest at Midway" article in the June 1982 issue of *Naval Aviation News*. I was really impressed with the comprehensive coverage that you gave the Battle of Midway and to our small detachment of VT-8.

The picture on page 23 of our TBF *Avenger* aircraft sitting as it landed on only the port gear and starboard wing tip, was the first time that I had seen that picture published. The reason that the starboard gear didn't come down was that the plane's hydraulic system was shot out early in the attack. The oleo strut of the main landing gear, as it retracted into the wheel wells, was held partially compressed by a small cable so that the wheels wouldn't bind in the wells. That cable on the starboard gear was severed by a bullet and the fully extended strut jammed in the well. But the landing really was a pretty good one!

After Midway, I was assigned to VT-3 on *Enterprise* for the Guadalcanal invasion. After *Enterprise* was bombed in August 1942, I ended up with VT-8 again, shore-based at Espiritu Santo and Guadalcanal.

As with Captain Earnest, I too went back out again, but the next cruise was in SBD-5s in VB-5 on *Yorktown* – a much less harrowing experience.

Thank you for the recognition of the sacrifices of so many Navy flyers, officers and enlisted that were made at Midway.

Cdr. Harry H. Ferrier, USN(Ret.)
853 W. Balda Road
Oak Harbor, WA 98277

I enjoyed the article in your June 1982 issue, "With Earnest at Midway." It was quite accurate except for one item. It is true that the men of VT-8 Det were under the leadership of Lt. H. H. Larsen, USN; however, the VT-8 receiving detail detachment which went to the Battle of Midway was under the leadership of Lt. Langdon K. Fieberling, USNR, an ex-cadet who was material officer of VT-8 and executive officer of the squadron's receiving detail on Midway Island. Confusing? His picture is on page 15 of the issue.

Thanks for the story.

Capt. Bert Earnest, USN(Ret.)
1304 Kingfisher Court
Virginia Beach, VA 23451

## P-3C Update III

**Ed's note: In the P-3C Update III story in last month's issue, NANews regrets that it did not give recognition to Lts. A. L. Eaton, Jr., and F. D. Weinstein of Air Test and Evaluation Squadron One (VX-1), NAS Patuxent River, Maryland, for their valuable assistance and cooperation in the preparation of the article.**

## Aviation Film

The Royal Air Force Museum, in association with an independent television production company, has decided to produce a series of 60-minute television programmes based on the history of military aviation. In order to ensure the best possible product, we are seeking any film footage that may be available but hitherto unseen. World War II material is particularly, but not solely, sought. Aircraft of all nations are of interest.

If you have any aviation footage covering the period 1914 to 1950, of whatever type, we would very much like to view it for possible inclusion in what we hope will be a definitive and important military documentary series.

All letters to the undersigned will be gratefully acknowledged.

Dr. John Tanner, Director
The Royal Air Force Museum
Hendon, London, England NW9 5LL

**Correction: The photo caption on page 43, NANews, August 1982, should have read S-3 Viking instead of S-2.**

## Reunions, Conferences, etc.

**USS Ommaney Bay (CVE-79) and embarked VC-75 reunion** of survivors and families of deceased former shipmates, October 7-10, 1982, Charleston, S.C. Contact: Lawrence F. FitzGerald, 3602 S. Parker Street, San Pedro, CA 90731.



### Pass It Along

**Naval Aviation News is designed primarily to disseminate useful information and to expand the professional knowledge of all who serve in the Naval Aviation community. Each copy is intended to reach 10 readers, so please pass this one along.**



Oceanographic Development Squadron Eight (VXN-8), home-based at NAS Patuxent River, Md., is the only squadron devoted solely to airborne oceanographic and geomagnetic surveys. The squadron's RP-3 aircraft are equipped with special instrumentation to obtain the basic data needed for preparation of a wide variety of studies, reports, charts, and publications in support of military plans, antisubmarine warfare operations, and other military missions. Currently, three projects are assigned: *Birdseye*, *Outpost Seascan* and *Magnet*, employing the Navy's only RP-3D. The squadron emblem symbolizes the squadron's missions. The rotating loop represents surveys in temperature profiles in oceanic current; the globe with expanding lines represents the geomagnetic aspects of squadron surveys; and the iceberg tells of the ice reconnaissance missions. The sun, moon, world and its circumnavigating aircraft represent the squadron's global day and night commitment to the gathering of much needed data about the world on which we live. The squadron skipper is Commander William J. Baumhofer.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