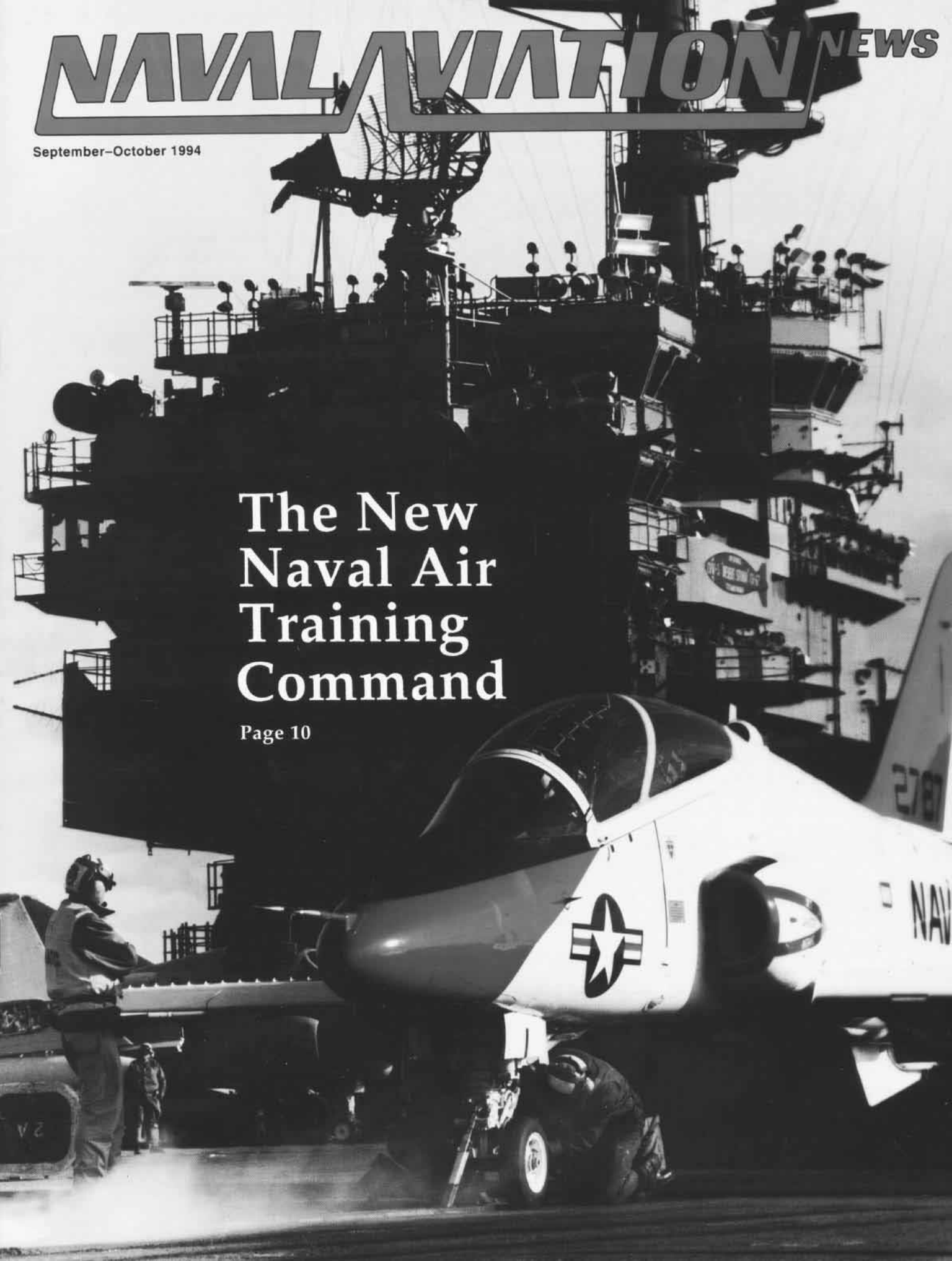
NAVAL AVIATION NEWS

September–October 1994



The New Naval Air Training Command

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NAVAL AVIATION NEWS

Flagship Publication of Naval Aviation

Oldest U.S. Navy Periodical, Volume 76, No. 6, September–October 1994

Features

Departments

COVERS—Front: The T-45 *Goshawk*, shown here preparing to launch, made its first carrier touch and go on 4 December 1991 aboard *John F. Kennedy* (CV 67). The T-45 provides undergraduate jet flight training and will replace the T-2 *Buckeye* and TA-4 *Skyhawk* (PH3 Paul A. Hawthorne). Back: see "ANA Bimonthly Photo Competition," page 47, for the "whinny" on this unusual shot.

Naval Aviation News (USPS 323-310; ISSN 0028-1417) is published bimonthly for the Chief of Naval Operations by the Naval Historical Center. Editorial offices are located in Bldg. 157-1 Washington Navy Yard, 901 M Street, SE, Washington, DC 20374-5059. Second-class postage is paid at Washington, DC, and additional mailing offices. The Secretary of the Navy has determined that this publication is necessary in the transaction of business required by law. Funds for printing have been approved by the Navy Publications and Printing Policy Committee. The use of a name of any specific manufacturer, commercial product, commodity or service in this publication does not imply endorsement by the Navy. Photographs are U.S. Navy unless otherwise credited.

Publication Policy: *Naval Aviation News* considers for publication unsolicited manuscripts, photo essays, artwork and general news about aircraft, organizations, history and/or human endeavors which are the core of Naval Aviation. All military contributors should forward articles about their commands only after internal security review and with the permission of the commanding officer. Manuscripts will be returned upon request. Articles accepted for publication may be submitted on a diskette in Word Perfect 5.1. For further guidelines on submissions, contact the Managing Editor at DSN 288-4407/8/9 or (202) 433-4407/8/9.

Subscriptions: Superintendent of Documents, Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954. Phone: (202) 783-3238. Annual price: $10 U.S.; $12.50 foreign.

POSTMASTER: Send address changes to *Naval Aviation News*, Bldg. 157-1 Washington Navy Yard, 901 M Street, SE, Washington, DC 20374-5059.

By RAdm. Brent M. Bennitt, Director, Air Warfare

Making Joint Fleet Aviators

Train like you fight! We've heard this phrase continuously throughout our careers in Naval Aviation—and for good reason. Today, as we seriously embrace joint operations in war fighting, our training command is not only following suit but leading the way in many respects. The degree of jointness already in place in the training command may surprise some readers; but it is probably just the beginning as we look for ways to enhance our training and save money at the same time.

Two primary training squadrons (one Navy, one Air Force) have already begun joint training, exchanging students and instructors. This is occurring in advance of the introduction of the Joint Primary Aircraft Training System, which will eventually be used for all primary training by the Navy and Air Force. By indoctrinating a good number of aviators into the joint environment early, we will help to build a better appreciation for how each service operates.

JO2 Bobby Jones

RAdm. Brent M. Bennitt

Another way in which our student aviators will be training like they will fight is through the T-45 Training System. The *Goshawk* cockpit contains modern navigation and communication technology, including a heads-up display, features similar to those in fleet aircraft. An onboard recording system enhances instruction by providing a means for detailed debriefs. Computer-assisted instruction, electronic classrooms and modern flight simulators are all part of the T-45 system and represent the technologies our aviators will use in the fleet.

The consolidation of Aviation Officer Candidate School and Officer Candidate School will produce aspiring naval officers using a "One Navy" concept. It is important that our future Navy leaders receive a broader-based indoctrination since, in keeping with the concepts in "... From the Sea," we will be working more closely with our surface and submarine colleagues in the future.

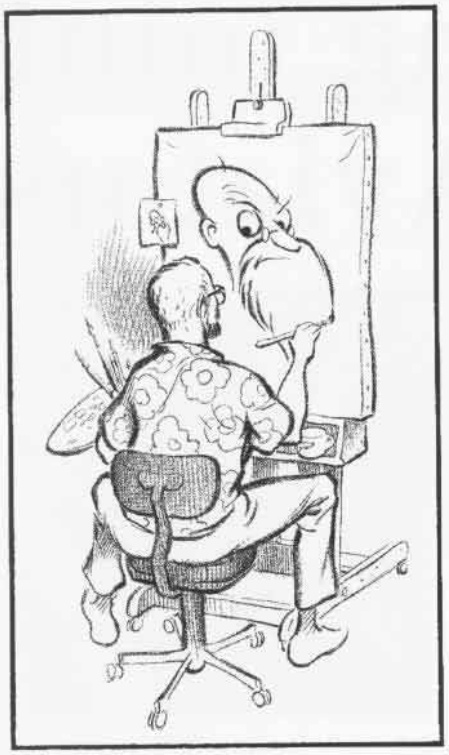
Making a fleet aviator out of a newly minted ensign or lieutenant (jg) is an impressive accomplishment. Strong knowledge and skill in the fundamentals are crucial to all that we do in aviation. The exceptional instructors and support personnel we have in today's training command do it safely, and make it look easy. This is the one thing that has not changed over the years—we have the best pilot and Naval Flight Officer instructors—and the proof is in the product. They guide, support and train our student aviators from check-in at NAS Pensacola, Fla., to the pinning on of the coveted "Wings of Gold." A special "BZ" to all of you in the training command—making it happen!

FLY 'EM SAFE!

Lt. Tom Pickett

A VFA-113 F/A-18 flown by Lt. William Ipock from Carl Vinson (CVN 70) waits in line with two French Mirage 2000s to conduct air-to-air refueling with a French KC-35 tanker as part of Operation Southern Watch.

In this issue, Captain Ted Wilbur, USNR (Ret.), takes over as the illustrator of "Grampaw Pettibone," carrying on the heritage of the character's creator, Robert Osborn. Capt. Wilbur served for more than 30 years as a Naval Aviator, combat artist, editor and writer, with wide experience in public affairs. His artwork and articles have appeared in both military and civilian magazines; his paintings hang in the National Air and Space Museum and are part of the Navy's permanent art collection as well as private collections. Capt. Wilbur retired in 1981 as head of the *Naval Aviation News* and Naval Aviation History Office staffs.



Prowler Predicament

The four-man crew of an EA-6B *Prowler* was on a FAM (familiarization) flight, introductory to the squadron's defensive tactics syllabus. The *Prowler* was configured with three drop tanks and two pods. One of the three ECMOs (electronic countermeasures officers) on the flight requested a completely detailed briefing, because it had been over three months since the crew had flown the maneuvers anticipated on the hop. Procedures and techniques for flying FAM/BAM (basic aerial maneuvering) maneuvers were of special interest. These included an acceleration demo, hard-break turns and dynamic zoom. The dynamic zoom maneuver, however, was not authorized for this syllabus flight. It required a defensive tactics instructor in the pilot or right front seat. None of the crew was so qualified.

The dynamic zoom maneuver is commenced at 12,000–15,000 feet with a pushover to accelerate to 450 knots, followed by pulling the nose up and holding a nose-high attitude. Recovery is initiated at 15,000–17,000 feet or 250 knots, whichever comes first. The purpose of the dynamic zoom is to demonstrate correct pilot response to low airspeed, nose-high angle of attack situations and flight characteristics of the EA-6B in less than one-G but not negative-G flight.

During preflight, the pilot suggested to ECMO #1 the possibility of combining several maneuvers into one—the transient wing drop demo, then dynamic zoom to nose-high recovery and to nose-low recovery.

En route to the working area, the *Prowler* performed several maneuvers, which prompted the pilot to comment that the aircraft felt fat like a pig. ECMO #1 concurred. Also, acceleration from 300 to 400 knots, executed by pushing the stick forward to acquire zero-G flight, took 21 vice the normal 12 seconds. ECMO #1 felt the pilot had not imposed sufficient forward stick, but the pilot replied that five units of angle of attack (AOA) was obtained and held.

Reaching the center of the working area, the pilot briefed the crew that he would accelerate to demonstrate a transient wing drop, then make a four-G pull-up into a dynamic zoom, going into the nose-high and then nose-low recoveries.

At 9,000 feet, after reaching .84 Mach, the pilot pulled up. A slight wing drop ensued and the pilot reported the transient wing drop demo complete. As the aircraft passed through 12,000 feet, the pilot reinitiated a four-G pull into the dynamic zoom. With the *Prowler* going through 16,000 feet, ECMO #1 looked down and right to readjust his chart, kneeboard and nav bag, expecting to feel the sensation of a slight negative-G pushover. However, the nose kept going up into the vertical.

ECMO #1 noted the gyro indicating the EA-6B was at 90 degrees nose up, airspeed 250. The pilot pushed the stick forward in a motion which ECMO #1 felt was abrupt. The pilot said he had zero units on the AOA indicator and began adjusting the control column fore and aft, attempting to stabilize the *Prowler* at five units AOA. ECMO #1 did not feel forward stick pressure as the pilot searched for five units AOA.

The control stick felt mushy to the pilot. The aircraft topped out at 22,000 feet. All crew members felt as if the aircraft had stopped in midair, on its tail.

A moment later, the aircraft experienced a slight back slide sensation nearing 18,000 feet. Subsequently, the *Prowler* fell off to the left with AOA at 30 units and shortly thereafter took a quick slice down through the horizon.

The pilot neutralized the controls but the nose continued downward and the aircraft began to turn. Although the *Prowler* presumably was in a post-stall gyration, the pilot activated the spin recovery switch and began spin recovery techniques. Crew members felt alternating positive and negative Gs.

The nose now seemed to move at will, the turn being rapid and rather violent. The pilot could not gain control of the *Prowler*. Airspeed slowed to 150 knots with the EA-6B heading downward, the nose 80 degrees below the horizon. Nose movement pinned the pilot and ECMO #1 to the left and slightly up out of their seats.

Approaching 11,000 feet, the pilot grabbed his lower ejection handle and initiated the ejection sequence—without verbal or hand-signal warnings to the crew.

ECMO #1, expecting ejection at 10,000 feet, was caught leaning left as he went out, amputating the five fingers of his left hand as he struck the canopy bow. ECMO #2 also struck the canopy, suffering deep bruises. Other crewmen had cuts and abrasions. All four ejections were otherwise successful.

The aircraft fell to the earth nose down, turning most of the way, before exploding on impact.

Grampaw Pettibone says:

Great Jumpin' Jehoshaphat! What a waste of a perfectly fine flyin' machine!

These folks weren't supposed to do a dynamic zoom to begin with. Secondly, the briefing on the maneuver wasn't specific enough. Parameters weren't covered properly. The maneuver begins at 60 degrees nose up, not vertical, as the pilot had thought. On top of that, none of the crew knew the dynamic zoom maneuver was *not* part of the FAM. All three ECMOs failed to ask for details of the maneuver and all assumed the pilot was familiar with procedures.

By not stopping nose movement at the 60-degree point on the pull-up, the pilot introduced that old demon "trouble" to the flight. The pilot also failed to maintain constant forward control stick pressure during the crew's initial recovery attempt.

The crew was experiencing a post-stall gyration not a spin. They started anti-spin procedures too soon.

About that ejection ... the pilot didn't give notice that he was punching out. Injuries might have been minimized had he done so.

Bad show all around. Bottom line: brief better, fly better. You owe it to the aircraft as much as to yourselves.

Hot Stick, Hot Switch

An SH-2F Seasprite pilot returned to sea duty after an instructor tour in the FRS (fleet readiness squadron). He described himself, albeit facetiously, as "Joe Hot-Stick Aviator" because he had become extremely proficient in the SH-2F during his instructor tour. He looked forward with great confidence to his assignment as Det Officer in Charge aboard ship. Moreover, his three junior pilots and two aircrewmen had been his students at the FRS. He felt "bulletproof."

At sea, he was tasked to VERTREP (vertical replenishment) a canned torpedo from a supply ship without a landing area to his home plate. Although he had not executed a VERTREP in two years, he had no reservations about same.

Approaching the ship, the crew conducted the HOIST/HIFR (helicopter in-flight refueling)/VERTREP checklist, emphasizing hoisting. The hoist-cable-cut switch was set in the armed position. (The switch's opposite position is VERTREP sling-drop-power.) The hoist was lowered to deliver the cargo pendant for the torpedo can.

The supply ship crew had attached an H-46 helicopter pendant to the load, which was too large for the SH-2F's cargo hook, but the evolution began nonetheless.

The aircrewman in the *Seasprite* lay flat on his stomach with his head out the door to witness the cargo hookup. The deck crew tried to jam the oversized pendant onto the small hook. Observing this, the aircrewman called for "load release" to prevent the pendant from jamming the helo's hook. The pilot quickly punched the sling-drop button to release the VERTREP load. He had forgotten that he had left it in the hoist-cable-cut position.

The hoist hook and a small amount of cable narrowly missed striking the prone aircrewman on the head as they separated from the hoist boom—which is normal when the cable-cut is selected and the button depressed. The pilot then released VERTREP load from the cargo hook using the manual release.

Grampaw Pettibone says:

Another near miss!

This "ace" pilot failed to complete the HOIST/HIFR/VERTREP checklist the second time after completing the first evolution (hoisting). Prior to the second evolution (VERTREP), he failed to change the position of the cable-cut/sling-drop power switch.

Had the hook and section of cable whacked the aircrewman on the noggin, they mighta had a very serious customer in the nearest sick bay. Or worse.

Checklists are the roots to success in Naval Air. They can also be the roots of disaster if you don't use 'em properly.

(A tip of Gramps' cloth helmet to LCdr. Ken Taylor for contributing this story.)

Aviator Flag Moves

VAdm. Richard C. Macke has been promoted to Admiral and assigned as Commander in Chief, U.S. Pacific Command, Honolulu, Hawaii. Adm. Macke was selected after **Adm. Stanley R. Arthur** requested his name be removed from nomination. He will retire later this year. **Lt. Gen. Richard D. Hearney**, USMC, has been nominated to General and assignment as Assistant Commandant of the Marine Corps. **VAdm. Ronald J. Zlatoper** has been promoted to Admiral and has taken over as Commander in Chief, Pacific Fleet. **Adm. Robert J. Kelly** will retire after a 35-year career. **RAdm. Charles S. Abbot** has taken command of Carrier Group 8, Norfolk, Va. **RAdm. John J. Mazach** is slated for Director of the Strategy and Policy Division under CNO. **RAdm. Robert L. Ellis, Jr.**, will become Commander Carrier Group 4 and Carrier Striking Force, while **RAdm. Joseph S. Mobley** gets Carrier Group 2. **RAdm. Andrew A. Grannuzo** will take over as Commander Naval Base, Jacksonville, Fla. **RAdm. Timothy R. Beard** will become Assistant Deputy Chief of Staff for Aviation for the Marine Corps, and **RAdm. William W. Copeland** has been selected as Deputy Operations Officer at the U.S. Central Command.

CNO Creates Nechvatal Award

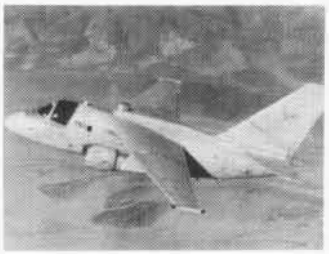
The Chief of Naval Operations has established the Captain Charles J. "Chuck" Nechvatal Award for the CNO Aviation Ground Maintenace Officer of the Year. This award will be sponsored by Director, Air Warfare (N88), and will recognize the O-3 and below officer whose performance has had the most beneficial impact on command readiness and mission accomplishment during the previous year. Capt. Nechvatal's dedicated service to his country spanned five decades and saw him rise from an E-1 through the Warrant Officer program to the rank of Captain—one of the first from the Limited Duty Officer community. Capt. Nechvatal passed away on active duty in November 1991. The first selection process will be held in April 1995 for CY 1994 applicants. OPNAVINST 1650.24A includes submission format and eligibility.

First Helo Launches Penguin

The U.S. Navy Penguin missile, MK-2 Mod 7, reached initial operational capability 29 April and was launched for the first time by a fleet unit 25 June when an SH-60B from *Hewitt* (DD 966) fired the first missile. The Penguin is a short-range, inertially guided antiship missile system HSL-51's Det 6 accomplished the firing at the Pacific Missile Range Facility off the coast of Hawaii as part of RIMPAC 94 exercises. The current plan is to procure 101 Penguin missiles to equip 86 SH-60Bs.

The Shadow Arrives

A new ES-3A *Shadow* from VQ-6, as part of the *Saratoga* (CV 60) battle group, returned from its second deployment. A VQ-5 detachment aboard *Independence* (CV 62) made the maiden deployment



in November 1993. The ES-3A is crammed with state-of-the-art electronics equipment and is highly fused for maximum efficiency and effectiveness. Retaining the proven S-3B APS-137 Inverse Synthetic Aperture Radar, Forward Looking Infrared detector and ALR-76 Electronics Support Measures (ESM), the aircraft also has additional ESM systems, countermeasures and communication-receiving equipment, pulse-analyzing and signal-demodulating gear, a direction-finding set and mission recorders. Navigation is accomplished by Global Positioning Satellite, Inertial Navigation and Omega systems.

Corporate News

Martin Marietta has received orders totaling $29.5 million for continued production of 84 flight control electronic sets and spares for McDonnell Douglas F/A-18C/D aircraft. The equipment includes 36 sets for the U.S. Navy, 14 for aircraft to be sold to Finland and 34 for jets purchased by Switzerland. Deliveries are scheduled for May 1995 through May 1996.

Dual, Inc., has won three Navy contracts totaling almost $1.1 million. The contracts are for designing and testing a modification to the EA-6B Electronic Countermeasures trainer, for a T-34C Cockpit Procedures Trainer modification that will incorporate the Naval Aircraft Collision Warning System, and for providing computer systems to be used at NS Mayport, Fla., and NAS Norfolk, Va., for all training device configuration management functions.

A $6.8-million contract has been awarded to Canadair Defence Systems Division of **Bombardier, Inc.**, Montreal, Canada, to integrate an enhanced turboshaft engine into the CL-227 *Sentinel* unmanned air vehicle.

CAE-Link Corp., received a contract with the potential of more than $30 million from the Naval Air Warfare Center Training Systems Division, Orlando, Fla., to provide P-3 trainer modifications. This involves modifications to all P-3 2F87 flight and 2F140 tactics training devices for a period of five years.

Advanced Aerodynamics & Structures, Inc., has received FAA, Part 23, Type Certification for its new *JETCRUZER* ™ PropJet aircraft and the world's first "Spin Resistant" certification. With the certification, the company can now mass produce, market and deliver orders worldwide. Carrying nearly a ton of useful load, *JETCRUZER* ™ can take off and land in less than 1,000 feet and has a cruise speed of

300 mph. Over 350 spin entries were attempted by FAA test pilots without one resulting in a spin. The aircraft recovers from spin attempts automatically settling into a level attitude or into an easy-to-recover-from long, shallow spiral.

Jeppesen has introduced

colored terrain contours on certain approach charts. This addition will help flyers visualize underlying terrain and improve situational awareness. The colored contours will be added to all approach charts when terrain elevations exceed 4,000 feet above the airport within the chart plan view, or exceed 2,000 feet within six nm of the airport reference point.

New Hornet Passes Design Review

The F/A-18E/F successfully passed its critical design review in June, enabling the advanced strike fighter upgrade to proceed on schedule toward its first flight in December 1995. Independent evaluators participating in the review determined that the aircraft design meets or exceeds all technical, reliability and maintainability requirements and that development is on schedule and within budget.

NADEP Update

NADEP Cherry Point, N.C., and **McDonnell Douglas Aerospace (MDA)** have teamed up in a joint venture to update existing aircraft. The Marine Corps will provide the NADEP fully operational older day-attack version *Harrier*s. The depot will test and disassemble the aircraft, modify the wings and other designated components and ship the parts to MDA. There, those parts will be incorporated into a new fuselage with night-attack and radar systems providing the Marines with the latest configuration *Harrier*. The fuselage of the old aircraft will be removed from use. A total of 73 aircraft are planned and the program will last through 2000.

An F/A-18 *Hornet* arrived at **NADEP San Diego, Calif.,** last year so severely damaged that it was stricken from the Marine Corps inventory. The almost-new aircraft had less than 400 flight hours logged, but an engine fire had completely destroyed its tail section. Frank Widick, the F/A-18 program manager, and his team looked into the option of replacing the tail section if a "donor" aircraft could be found. An aircraft was found and the repairs were accomplished. Original repair cost estimates were $3.3 million for a 381-day repair process, but the replacement cost was only $1.5 million and the aircraft was returned to the fleet in just 277 days.

Aircraft Mishaps

A **T-2** *Buckeye* assigned to VT-19, NAS Meridian, Tenn., crashed shortly after takeoff from NAS Oceana, Va., 23 July. Both pilots ejected; unfortunately, Navy Lt. Mark Sharp of Portland, Oreg., was killed and Marine 1st Lt. Carl Hogsett of Fort Wayne, Ind., sustained broken bones and a serious head injury.

An **F-14** from VF-51, NAS Miramar, Calif., crashed on the flight deck of *Kitty Hawk* (CV 63) during a night landing in the Sea of Japan. Although both crewmen ejected safely, the pilot suffered second to third-degree burns.

An **F/A-18** from VFA-82 crashed 21 June in the Ocala National Forest, about 40 miles west of Daytona, Fla., during a training exercise. The pilot, Lt. Adam Kaff, was rescued by helicopter, treated for minor injuries and released.

A Navy **MH-53E** from HM-14, NAS Norfolk, Va., collided with a civilian fish-spotting Cessna 172 on 12 July near Cape Charles on Virginia's eastern shore. The pilot of the Cessna, William M. Sklar, Portsmouth, Va., was killed but none of the Navy crew members were injured. The helicopter made an emergency landing near Kiptopeke State Park, a few miles north of the collision site.

Marine Capt. Francis P. Bottorff was flying an **AV-8B** from VMA-542, MCAS Cherry Point, N.C., when it crashed in Pamlico Sound during a training mission. He had experienced engine trouble and ejected after the condition worsened. Capt. Bottorff was rescued by a Coast Guard helicopter from CGAS Elizabeth City.

Four Coast Guard crew members died when their **HH-65** *Dolphin* helicopter from CGAS Humboldt Bay, Calif., crashed in heavy fog into a cliff off the coast of northern California 12 July. The crew was identified as Lts. Laurence B. Williams, Orlando, Fla., and Mark Koteek, Saugerties, N.Y.; Chief Aviation Survivalman Peter A. Leeman, Temple, Maine; and Aviation Structural Mechanic First Class Michael R. Gill, St. Petersburg, Fla.

An **EA-6B** from VAQ-141, NAS Whidbey Island, Wash., crashed short of the runway at NAS Fallon, Nev., 29 June. All four crew members ejected safely and were treated and released from the hospital with minor injuries. The aircraft was conducting training operations.

18 Selected for Test Pilot School

Eighteen lieutenants have been chosen to begin training at the end of the year to become test pilots. Five are going to Monterey, Calif., for a year of postgraduate study followed by 11 months at the U.S. Naval Test Pilot School, NAS Patuxent River, Md. Eleven will go directly to Patuxent River to begin training, one will train with the U.S. Air Force and one will join an exchange program with British pilots. The following denotes where the selectees will report: **Naval Postgraduate School**—James Eckloff, Doug Desrochers, David Swenson, Gerald Elliott and Timothy Baker. **U.S. Naval Test Pilot School**—Douglas Gallagher, William Oefelein, Brett Pierson, Paul Bennett, William Suggs, Freddie Henderson, Brian Wolson, Michael Baratta, Thomas Maurer, Paul Ghyzel and Christopher Hyder. **Air Force Test Pilot School**, Edwards AFB, Calif.—Kerrin Neace. **Empire Test Pilot School**, Boscombe Downs, England—Alan Rosebrock.

Autumn Airship Tests

A Sentinel 1000 airship built by Westinghouse Airship, Inc., will be tested in September with the *Eisenhower* (CVN 69) carrier battle group in at-sea exercises off the Atlantic coast. The airship will be tested for radar support value by equipping it with an infrared search-and-track radar. Further tests may be conducted depending on the September test results.

International News

The **Japanese Defense Agency** plans to purchase four McDonnell Douglas/Mitsubishi F-15J *Eagles*, a single Lockheed/Kawasaki P-3C *Orion* and a UP-3D electronic warfare trainer in FY 1994. Other 1994 purchases will include 2 Beechcraft 400T *Jayhawks*, 9 Kawasaki T-4 trainers and 1 Raytheon Corporate Jets U-125A search-and-rescue aircraft. Their four-year purchase plan includes 18 SH-60J *Seahawks*, 16 McDonnell Douglas/Kawasaki OH-6Ds, 6 AH-1S *Cobras*, 17 F-15Js and additional P-3s.

Eurocopter's second preproduction EC 135, S-02, made a 45-minute flight from Ottobrunn, Germany. The first prototype had built up 35 flight hours since taking to the air. Eurocopter has two divisions in France and Germany, which are building and testing the new helicopter.

Britain, France and Italy signed an agreement in July for Project Horizon, committing to further development of the common next-generation frigate. The frigate will be for air defense and will replace Type 42 destroyers in the Royal Navy, while the French ships will serve as aircraft carrier escorts and the Italian version for general duties. The first ships are expected in service in 2002 and a total of 22 ships are planned—12 for the UK, 6 for Italy and 4 for France.

The **Italian Navy** has accepted the first of 16 AV-8B *Harrier II Plus* aircraft planned for operations aboard its aircraft carrier *Giuseppe Garibaldi* beginning this autumn. Cdr. Paolo Treu, Italian Navy, flew the first aircraft from St. Louis, Mo., to MCAS Cherry Point, N.C., where Italian aviators are being trained.

Earlier this year, **Thailand** joined the *Orion* community when it took delivery of two P-3As and had a third inducted into NADEP Jacksonville, Fla., for modifications. Additionally, **Greece**, in exchange for renewed U.S. base rights, will receive 4 P-3B TACNAVMOD aircraft on lease, 2 P-3A TACNAVMODs as ground trainers and 2 P-3As for parts.

Due to increasing costs of spare parts support, the generally reduced world threat and the March loss of its only two-seat trainer, the **Czech Air Force** retired its Mig-29 *Fulcrums* 1 July. The aircraft are for sale with Slovakia and India as possible buyers.

Due to the enhanced capabilities of the *Sea Harrier* FRS.2, the **British Royal Navy** will redesignate the aircraft as the F/A.2 to signify that it has a fighter-attack role. The capability to carry the Paveway II laser-guided bomb led to the change. Consideration is also being given to installation of a missile approach warning system because a *Sea Harrier* was shot down in a bombing attack over Bosnia in April.

Eurofighter 2000 prototypes will not fly again until the end of 1994 due to planned flight control system and avionics upgrades. The two aircraft, one assembled by Germany and the other by Britain, have flown about 15 flight hours each. Seven prototypes and five instrumented preproduction aircraft are planned, but the precise number of production orders is still being discussed by participating countries—Britain, Germany, Italy and Spain. According to project plans, Britain and Italy are to take delivery of the fighter aircraft in 2000, Spain in 2001 and Germany in 2002.

Fire Injures 13 on GW

At 2245 on 11 July, a fire broke out aboard *George Washington* (CVN 73) at the starboard aft fueling station sending 13 sailors to sick bay with smoke inhalation injuries. The fire damaged the refueling station, an aviation equipment test station and three adjacent compartments. All of the injured were treated and back to duty by the next morning. The fire was extinguished in about an hour and normal flight operations were resumed. Airborne aircraft were diverted to Italian airfields and flight deck aircraft were moved from danger. The cause of the fire is being investigated.

Tomcats Deliver LGBs

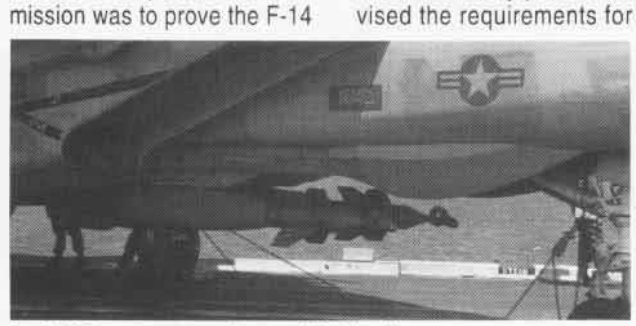
Two F-14Bs from VF-103, aboard *Saratoga* (CV 60), delivered three GBU-16 (Paveway II) Laser Guided Bombs (LGBs) to direct hits at the Capo Frasca Target Complex, Sardinia, Italy, 2 May. This was the first time the *Tomcat* accomplished this feat. Utilizing target illumination from Carrier Air Wing 17 F/A-18 and A-6E platforms, the mission was to prove the F-14 could achieve delivery solution and release the weapon for successful guide to impact by a stand-off platform. Several more successful deliveries were accomplished during the tests.

E-2C Upgrades Studied

Upgrades for the E-2C, which would allow the airborne early warning aircraft to be effective against future threats beyond the year 2000, have been studied by Northrop Grumman and the Navy for over a year. Focusing on new threats from overland and the littorals, the upgrades would take advantage of smaller and lighter equipment and increased performance from computers. Satellite communications and cooperative engagement capability suites would extend coverage to over-the-horizon distances. Plans are to build provisions for the new systems into all aircraft procured beginning in FY 1996 and have new hardware developed and available for installation by FY 1997. Initial operating capability is planned for 2000.

EAWS Qualifications Change

The Chief of Naval Operations master chief petty officer advisory panel has revised the requirements for



An F-14 Tomcat sports a laser-guided bomb.

personnel desiring to qualify for the enlisted aviation warfare specialist (EAWS) pin. Only those enlisted naval personnel permanently assigned to an operational naval aviation command and working in a billet which is routinely, directly and actively supporting naval aviation may participate in an EAWS program. NAVADMIN 094/94 has more information.

23 Squadrons to Shut Down

The Navy is planning to disestablish 23 squadrons and integrate two more during FY 1995. Closing down in October 1994: VAs 85, 205 and 304, VRC-50, VAQ-309, VAW-88, VFs 202, 301 and 302, and VFAs 303 and 305. HS-12 will close in November and VP-23 in February 1995. VAW-114, VFs 51 and 111, VP-17 and VS-37 will follow in March. VP-24, VF-142, VA-52 and VAQ-134 will close their doors in April, followed by VA-95 in September 1995. HMs 14 and 18 as well as 15 and 19 will integrate in March 1995 and October 1994, respectively.

JPATS Update

The schedule for the Joint Primary Aircraft Training System (JPATS) flight evaluations at Wright-Patterson AFB, Ohio, was established 1 July. The aircraft were to be evaluated as follows: Grumman/Augusta's S.211A, 24 July–6 August; Vought Aircraft's Pampa 2000, 31 July–13 August; Rockwell/Deutsche Aerospace's Ranger 2000, 14–27 August; Cessna's Citation Jet Trainer, 21 August–3 September; Embraer/Northrop's Super Tucano 2, 4–17 September; Lockheed/Aeromacchi's MB-339A, 11–24 September; and Beech Aircraft Co.'s Beech Mk.2, 25 September–8 October. Although the Northrop Grumman Corp. was born in May from the two formerly separate companies, the JPATS operations of each former company will retain some independence in pursuing the potential 700-aircraft contract. The winner should be announced in February 1995.

New Hornet Radars Delivered

The first two operational F/A-18C fleet squadrons received the new APG-73 radar on 24 and 25 May. Strike Fighter Squadrons 146 and 147, NAS Lemoore, Calif., each flew an aircraft from McDonnell Douglas Aerospace, St. Louis, Mo., with the new radar installed. The radar is produced under contract by the radar systems business unit of the Aerospace and Defense Sector of Hughes Aircraft Co. The APG-73 is an upgrade of the combat-proven APG-65 and incorporates new receiver, data processor and power supply modules without any increase in size or weight over the APG-65. New F/A-18C/D and E/F aircraft for the Navy and Marine Corps and F/A-18C/D aircraft for the air forces of Finland, Switzerland and Malaysia will be equipped with the new radar.

Members of the last OV-10 squadron, VMO-4, celebrate their last flight. With the aircraft transfer, the squadron ceased operations after more than 20 years and 64,752.4 mishap-free hours.

OV-10 Ends Military Service

On 24 July, the last three Marine Corps OV-10 aircraft were transferred to the Bureau of Alcohol, Tobacco and Firearms from Marine Observation Squadron (VMO) 4. VMO-5 took delivery of the first OV-10 in February 1968. The *Bronco* was designed for use in the Vietnam conflict to fill roles between the O-1 *Bird Dog* and jets and was also used in the Persian Gulf War. It served the Air Force, Navy and Marine Corps superbly as a light attack and reconnaisance platform.

LPH Proposed as Heliport

The Senate has agreed to turn over *Guadalcanal* (LPH 7) to the New York City foundation that runs the Intrepid Sea-Air-Space Museum for use as a museum and a heliport on the Hudson River. The ship will be parked at a pier at West 46th Street in Manhattan. A final decision will be made later in the summer but no objections are expected.

Plans call for Guadalcanal (LPH 7) to join Intrepid in New York Harbor.

Disestablished ...

VXN-8 World Travelers

A 21 September 1993 ceremony at NAS Patuxent River, Md., marked the disestablishment of Oceanographic Development Squadron (VXN) 8 (officially 1 October) after over 28 years of service. Cdr. John J. Langer was the last CO of the *World Travelers*.

VXN-8 traces its origins to the Atlantic Fleet's Airborne Early Warning Training Unit, to which in 1951 the Chief of Naval Operations assigned Project Magnet, an ongoing airborne geomagnetic survey program to map the earth's magnetic fields. Mission support was initially provided by a P2V *Neptune*, followed by R5D *Skymaster* and WV-2 (EC-121K) *Warning Star* aircraft. Acquired in 1958, the project's first WV-2, named "El Paisano," was painted in the white-with-red-trim scheme that became distinctive of VXN-8's fleet, and bore a large mural of the Warner Brothers' "Roadrunner" cartoon character.

The unit acquired two other oceanographic projects in the early 1960s. Project Birdseye was initiated in 1962 using modified EC-121K/P aircraft to provide arctic polar ice data to the Naval Oceanographic Office. These aircraft carried the name "Arctic Fox." Project Outpost Seascan was also acquired in 1962; originally named Project ASWEPS, this program surveyed hydrographic conditions worldwide for data to support Antisubmarine Warfare Environmental Prediction Services vital to the Navy's antisubmarine warfare efforts during the cold war. Project Outpost Seascan's EC-121K (later NC-121K) was designated "El Coyote" and bore paintings of the Warner Brothers' "Wile E. Coyote" cartoon character on its fuselage.

On 1 July 1965, these projects were consolidated with the newly established Oceanographic Airborne Survey Unit (OASU). A fourth project was acquired, unrelated to oceanographic survey; Project Jenny was a CNO-sponsored program to provide airborne transmission platforms for radio and television broadcasts over the Republic of Vietnam. Using C-121J (later NC-121J) aircraft, named "Blue Eagle," Project Jenny went into service in the Dominican Republic during the revolution there in 1965, followed by a deployment to Vietnam later that year. The three "Blue Eagle" aircraft operated in Vietnam until late 1970. Their noncombatant mission was not without hazard: all three aircraft were damaged by a Viet Cong mortar attack in April 1966, and one was hit by ground fire in February 1968.

On 1 July 1967, OASU was redesignated Air Development Squadron (VX) 8 and redesignated again on 1 January 1969 as Oceanographic Development Squadron 8. In 1972–73, the squadron's C-121s were replaced by two RP-3A *Orions* (for Birdseye and Outpost Seascan) and one specially built RP-3D *Orion* (for Magnet). These *Orions*, like their C-121 predecessors, ranged worldwide in their survey work becoming familiar sights in many nations.

VXN-8's fleet expanded to include P-3A and UP-3A aircraft for training, utility and minor project work. These aircraft expanded the cartoon character tradition, with their names including "Loon," "Snoopy" and "Tasmanian Devil." A YP-3C was modified to an RP-3D during the late 1980s to replace the Outpost Seascan RP-3A. P-3Bs were acquired in the early 1990s; three were modified as RP-3Ds, one replacing the Birdseye RP-3A in June 1991, and the two others serving in training and minor survey roles.

Upon disestablishment, VXN-8 transferred some of its aircraft and missions to the Naval Research Laboratory (NRL) Flight Support Detachment, also at Patuxent River. Two RP-3Ds (Magnet and Birdseye) joined the NRL fleet, with the Birdseye aircraft absorbing the Outpost Seascan mission, also.

HSL-34 Greencheckers

Helicopter Antisubmarine Squadron, Light (HSL) 34 was disestablished in a ceremony 19 November 1993 at NAS Norfolk, Va., after 19 years of service.

Cdr. Gary R. Jones was the last CO of the *Greencheckers*.

Established at NAS Norfolk 27 September 1974, HSL-34 came on line as the second of two operational Light Airborne Multipurpose System squadrons at Norfolk, with assigned missions that included antisubmarine warfare, antiship missile defense, search and rescue, gunfire spotting, mine hunting and utility transport. Initially flying one SH-2D *Seasprite*, the squadron grew to 10 detachments flying the improved SH-2F version, deploying its first detachment overseas in 1975.

Since that time, HSL-34 deployed its detachments on board cruisers, destroyers, frigates, amphibious ships and Coast Guard cutters throughout the Atlantic, Mediterranean, Red Sea, Indian Ocean, Persian Gulf and eastern Pacific. The *Greencheckers* were heavily involved in Operations Desert Shield and Desert Storm, enforcing the embargo against Iraq. The squadron's detachments also participated in successful drug interdiction missions in the Caribbean and in several UNITAS exercises with Latin American navies.

HSL-32 Invaders

A 21 January 1994 ceremony at NAS Norfolk, Va., marked the disestablishment (officially 31 January) of Helicopter Antisubmarine Squadron, Light (HSL) 32 after over 20 years of service. Cdr. Frank A. Verhofstadt was the last CO of the *Invaders*.

Established at NAS Norfolk 17 August

1993, HSL-32 was formed from a nucleus of personnel from HSL-30 and four SH-2D and four SH-2F *Seasprite* Light Airborne Multipurpose System (LAMPS) helicopters, with missions including antisubmarine warfare, antiship missile defense, search and rescue, gunfire spotting, mine hunting and utility transport. Within one month of stand-up, the *Invaders* sent two detachments to sea. During 1977, one det simultaneously tracked three Soviet submarines in the Mediterranean during a three-day prosecution.

Over-the-horizon targeting and antishipping warfare became the dominant mission of the LAMPS helicopters during the late 1980s with the hostile actions in the Persian Gulf. HSL-32's Detachment 3 suffered no injuries when *Stark* (FFG 31) was severely damaged by an Iraqi missile in May 1987. The det transferred to *Stephen W. Groves* (FFG 29) and evaluated the DLQ-3A Sea Force Jammer for the first time in an operational environment.

In 1988, HSL-32 deployed the first SH-2Fs specially configured for operations with the Middle Eastern Force. These aircraft were equipped with two M60 door-mounted machine guns, a missile detection and jamming system and an infrared detection set. Detachment 2 on board *Jack Williams* (FFG 24) was an integral part of Operation Praying Mantis, the response to the April 1988 mine damage to *Samuel B. Roberts* (FFG 58), and distinguished itself in the targeting role under combat conditions.

The *Invaders* sent five detachments in support of Operations Desert Shield and Desert Storm during 1990–91, flying over 900 hours in combat conditions, providing airborne surveillance and close air support for boardings at sea. During November 1991, all 10 of the squadron's detachments were deployed. In August 1993, HSL-32 became the first LAMPS squadron to log 100,000 hours of flight time.

When Detachment 9 returned to Norfolk on board *Gallery* (FFG 26) 17 November 1993, HSL-32 concluded the last East Coast SH-2 LAMPS deployment. It was the last of over 190 *Invader* detachments to the Atlantic, Mediterranean, Red Sea, Persian Gulf and Indian Ocean, including 38 law enforcement operations in the Caribbean.

HSL-74 Demon Elves

A 19 March 1994 ceremony at NAS South Weymouth, Mass., marked the disestablishment (officially 1 April) of Helicopter Antisubmarine Squadron, Light (HSL) 74 after almost 24 years of service. Cdr. David A. Bower was the last CO of the *Demon Elves*.

Established 1 July 1970 at NAS Quonset Point, R.I., as Helicopter Antisubmarine Squadron (HS) 74, the squadron started out flying SH-3A *Sea King* helicopters as one of two HS squadrons assigned to Reserve Antisubmarine Carrier Air Group (RCVSG) 70. The squadron moved to NAS South Weymouth when NAS Quonset Point closed, upgraded to the SH-3D version, and in 1976 shifted to the command of Commander Helicopter Wing, Reserve, when RCVSG-70 was disestablished.

On 1 January 1985, HS-74 shifted missions and aircraft, being redesignated HSL-74 and flying SH-2F *Seasprite* Light Airborne Multipurpose System (LAMPS) helicopters, earmarked to deploy on board Naval Reserve Force frigates for antisubmarine warfare, antiship missile defense, search and rescue and utility missions. The squadron's detachments participated in drug interdiction missions in the Caribbean during the late 1980s and 1990s.

Decommissioning of many Naval Reserve Force ships led to the reduction of a requirement for reserve LAMPS helicopters and the demise of the *Demon Elves*. HSL-84, flying the SH-2G at NAS North Island, Calif., and HSL-94, with the SH-2F at NAS Willow Grove, Pa., continue to supply LAMPS detachments for the Naval Reserve.

HC-16 Bullfrogs

An 18 February 1994 ceremony at NAS Pensacola, Fla., marked the disestablishment (officially 1 April) of Helicopter Combat Support Squadron (HC) 16 after over 19 years of service. Cdr. Dan "Grizzly" Hansen was the last CO of the *Bullfrogs*.

HC-16 traces its roots to the NAS Pensacola Land SAR (search and rescue) unit, which covered Pensacola and more than 20 outlying fields. On 27 April 1970, a group of Helicopter Training Squadron 8 personnel formed the CVT SAR Detachment to provide

SAR support for the training carrier based at Pensacola, *Lexington* (AVT 16). The detachment began operations 1 June 1970 with three UH-2 *Seasprite* helicopters and performed its first rescue within two hours. The CVT SAR detachment merged with the Land SAR detachment 1 April 1972 and became a department of the air station 8 June 1973. The det assumed a SAR training mission 18 September 1973 with the arrival of its first HH-46A *Sea Knight* helicopter.

On 1 November 1974, the SAR detachment was established as Helicopter Combat Support Training Squadron (HCT) 16 but was redesignated HC-16 20 May 1977 in view of its expanded missions. In February 1978, the squadron became the Navy's SAR model manager responsible for development and standardization of SAR procedures. In 1980, the *Bullfrogs* added UH-1N *Iroquois* helicopters to its fleet and became the Fleet Readiness Training Squadron (FRS) for the UH-1N and later the HH-1N. In 1986, HC-16 began replacing its HH-46As with SH-3D *Sea Kings*.

HC-16 supported carrier qualifications on board *Lexington* and its short-lived successor, *Forrestal* (AVT 59). Occasionally, the squadron was called upon to supply detachments to other Atlantic Fleet ships. The H-1N FRS role and several *Iroquois* helicopters were transferred to Marine Helicopter Training Squadron 303, MCAS Camp Pendleton, Calif., in October 1993. As the squadron was disestablished, it returned to its roots as the NAS Pensacola SAR Detachment, equipped with UH-3Hs.

Thanks to LCdr. Rick Burgess for contributing the disestablishment articles.

The New Naval Air Training Command

By RAdm. William B. Hayden, Chief of Naval Air Training

The reason I titled this article "The New Naval Air Training Command" is that change has run rampant in the training command since the last feature story was done [*NANews*, Jul-Aug 88]. Almost every aspect of the training command has faced some type of change in the past few years with the exception of the top-notch instructors and students we still have flying our aircraft on a day-to-day basis. I would like to make this an opportunity to update everyone on exactly what is going on in the training command today and what we see happening in the future.

CQ Dets. The Carrier Qualification (CQ) process for our Strike and E-2/C-2 pipeline students has probably faced more changes than anything else in the training command. As most of you probably already know, USS *Lexington* is now a museum sitting in Corpus Christi Bay, Texas. She no longer takes traps and launches fledgling aviators. She now shapes the minds of young, future Naval Aviators by passing along the history of Naval Aviation. After *Lexington* came *Forrestal*. *Forrestal* was to replace *Lexington* in the role as training carrier for the training command, and she did for a few CQ Dets. However, due to budget cuts, *Forrestal* was decommissioned in September 1993. So, now for our CQ Dets, we use available fleet carriers that can accommodate our harness-launched T-2s and TA-4s. There were a lot of concerns about scheduling and priorities when we first began using the fleet boats, but all of those concerns are gone now. The big decks have worked out better than we hoped for, with crews handling our students as well as they handle fleet aircraft. This program is operating far above average, and we look forward to continue working hand-in-glove with the fleet.

T-45TS. The T-45 Training System is up and running well. It took longer than expected to get the program on line, but we are now beginning to reap the benefits of an outstanding training program. The first class of 10 students began T-45 ground school on 3 January 1994 and flew their first *Goshawk* flights on 11 February. There are currently 82 students undergoing training in the T-45. Plans call for 4–6 students to start training every two weeks throughout this year. We expect to see the first students CQ in the T-45 in September 1994. In FY 1995, approximately 125 students will complete their training in the *Goshawk*.

NAS Kingsville, Texas, currently has 43 T-45s on board, and plans are for the air station to become an all T-45 base by 30 September 1994. With the late approval of the T-45 and a programmed production buy of one per month, it will be necessary to keep T-2s in the inventory longer in order to meet the CNATRA [Chief of Naval Air Training] Strike Pilot Training Rate. However, because of the significant costs associated with maintaining the 30-year-old TA-4s, CNATRA has developed a plan to retire all TA-4s from the inventory by October 1997. To this end, VT-23 (the T-2 squadron from Kingsville) will be moved to NAS Meridian, Miss., where it will continue to be utilized as an Intermediate Strike trainer until the year 2003 when there will be enough T-45s in the inventory to do all strike

Vernon Pugh

Three T-45 Goshawks fly over NAS Patuxent River, Md., in Fall 1991.

training. TA-4s will also be moved in an effort to combine all the T-2/TA-4 maintenance effort at one base—saving millions of dollars. As the number of T-45 new deliveries continues to increase, the *Goshawks* will take over as the Advanced Strike trainer, first replacing the TA-4 and eventually replacing *both* the T-2 and the TA-4.

JPATS. Ultimately, all primary training will be accomplished in the Joint Primary Aircraft Training System (JPATS). The aircraft source selection will be conducted at Wright-Patterson AFB, Ohio, with a fly-off and evaluation period for the different aircraft from 25 July 1994 through February 1995. The seven contending companies are: Cessna (only 2 engine a/c—turbofan), Grumman (turbofan), Vought (turbofan), Beechcraft (turboprop), Lockheed (turbojet), Northrop (turboprop) and Rockwell (turbofan). Actual JPATS aircraft selection will take place in early Spring 1995. In the meantime, we are moving ahead with the Air Force toward joint training of Primary Stage students.

Joint Training. One of the most ambitious efforts within the training command at this time is the start-up of joint flight training with the Air Force. The first Primary training squadrons selected for joint training are VT-3 at NAS Whiting Field, Fla., and the 35th Flying Training Squadron (FTS) at Reese AFB, Texas. The first class of USN instructors is already on the line at Reese AFB teaching USAF T-37 students, and the first USAF T-34 instructors are logging "X"s at Whiting. Student exchanges began in June when two USN students departed from NAS Pensacola, Fla., for Reese and the first two USAF students arrived at Pensacola for Aviation Preflight Indoctrination. As with the instructors, we will start slowly and build the numbers over several years, eventually reaching a 100/100 student mix in both squadrons. Each squadron's leadership picture also changed this summer when Commander J. B. Hollier reported to the 35th FTS as Deputy for Operations (the Air Force equivalent of XO), and Lieutenant Colonel Dave Elliot became XO of VT-3. Each will ultimately fleet up to CO.

The Maritime training picture is changing as well. VT-31 will eventually train all USAF C-130 pilots, and the 52nd FTS, also at Reese AFB, will ultimately train all Navy students headed for E-6As (TACAMO [Take Charge and Move Out]). Each squadron already has instructors from the other service training students.

The first phases of Joint USN Naval Flight Officer/USAF Navigator training have also begun. Beginning in October 1994, all Air Force Weapons System Operator students going to F-15/F-111 aircraft will be training at Training Air Wing 6, NAS Pensacola. The training command will carve its own niche into Naval Aviation history when, in October 1994, the Naval Air Training Unit and the Air Force 562nd Flying Training Squadron, Randolph AFB, Texas, will combine into the first fully Joint Training Squadron.

RAdm. Hayden

As you have probably already noticed from reading this article, everything in the training command is moving at an incredibly fast pace. The move toward joint training is on and quickly becoming a reality. The JPATS aircraft are being tested as you read this. VT-23 is in the middle of moving to NAS Meridian, and the next CQ Det is just around the corner. This is a first-rate command with first-rate personnel and a 21st century vision of aviation training. There is no doubt that the Naval Air Training Command will continue to provide the best aviators in the world. You have my personal assurance on this, because it's great to ... FLY NAVY! ■

NAS Pensacola: The Cradle of Naval Aviation

By Lt. Charles F. Pratt III

Naval Air Station, Pensacola, Fla., known as the "Cradle of Naval Aviation," serves as the launching point for the flight training of every Naval Aviator, Naval Flight Officer (NFO) and Enlisted Aircrewman. In addition to providing host command support, such as commissary and exchanges, the air station provides specialized support through the Air Operations, Supply and Management Information Systems (MIS) departments and the Helicopter Landing Trainer (HLT).

The Air Operations Department provides a wide variety of support for aviators during training, including Meteorology, Radar Air Traffic Control, and Crash and Fire Crews at Sherman Field and Out Lying Field Choctaw. While primarily supporting Training Air Wing (TRAWING) 6 students based at NAS Pensacola, TRAWING 5 from NAS Whiting Field, Fla., also uses the facilities daily for primary, intermediate and advanced syllabus training. Additionally, Air Operations supports aircraft from all of the other training squadrons while at Sherman Field on cross-country training flights.

Since the disestablishment of HC-16, Air Operations also provides primary and secondary Search and Rescue (SAR) for TRAWINGs 5 and 6. NAS Pensacola SAR stands by on 15-minute alert while training aircraft are airborne and one-hour standby at all other times. In addition to the primary mission of providing SAR assets for the training command, NAS Pensacola's H-3 helicopters also serve as an important training platform. Enlisted Aircrew Rescue Swimmers utilize the helicopters during training for emergency water entry techniques. Additionally, student aviators have an opportunity to practice water survival techniques, including donning survival vests and being hoisted out of the water by the SAR helicopters during the training evolution fondly called the "Day in the Bay."

The Supply Department supports the maintenance of training aircraft on board NAS Pensacola as well as the simulators used for Pilot and NFO training. Its Aviation Support Division provides the initial and replacement flight gear issue for all student Naval Aviators, student Naval Flight Officers, Aircrew Candidates and their instructors. The division also supplies all fuel and oxygen required for TRAWINGs 5 and 6.

NAS Pensacola's Management Information Systems Department provides all of the automated data processing support and information systems for TRAWING 6. This includes direct support of the Chief of Naval Air Training (CNATRA) Aviation Training Support System used to track students during their training. MIS also provides support

for the automated weather service, NAVWINDS, allowing pilots to access weather information from the ready room for flight planning purposes. During carrier qualification detachments, MIS enables direct communications to NAS Pensacola, the squadrons and CNATRA via computerized daily reports. Currently, MIS is developing a system which will streamline the tracking process by using one system to track students and instructors from their first day in the training command. The system will incorporate a Computer Aided Scheduling program to generate daily training flight schedules and track flight hours for all squadron personnel and aircraft.

Unique to NAS Pensacola, the Helicopter Landing Trainer provides advanced helicopter students from TRAWING 5 with a specialized platform to make their initial approaches and landings on a moving ship deck. The HLT not only supports initial deck qualifications but also serves as a platform for refresher training. Capable of steaming in the Gulf of Mexico for both day and night operations, including night vision goggle training, the HLT is used to train all student helicopter pilots from the Navy, Marine Corps and Coast Guard.

NAS Pensacola serves as the gateway for every Naval Aviator, Naval Flight Officer and Enlisted Aircrewman. Through flight support and ground support, the air station provides an efficient, safe training environment for TRAWINGs 5 and 6. NAS Pensacola directly supports the training of student aviators from the initial flight gear issue and survival training, through all phases of flight training, all the way to the coveted "Wings of Gold." ■

A TH-57 from NAS Whiting Field flies over Milton, Fla.'s historic district.

NAS Whiting Field: Two Airfields in One

By JOSN Russell Tafuri

Situated in Florida's northwest coastal area, eight miles north of Milton, fixed wing primary and intermediate flight training is conducted at NAS Whiting's North Field with a fleet of 148 T-34C *TurboMentor*s. South Field is home for helicopter training, boasting a fleet of 122 TH-57B and C *Sea Ranger*s. Between these two separate airports and 13 Navy outlying landing fields, more than 410 flights are launched daily, resulting in over 800 flight hours a day.

As a major training facility and the sole helicopter training activity for the Navy, Marine Corps and Coast Guard, Whiting trains over 760 student Naval Aviators annually in the primary and intermediate phases of fixed wing aircraft and 400 in the basic and advanced helicopter syllabi.

The station's annual flight operations account for more than two million takeoffs and landings and over 180,000 flight hours. This equates to more than 10 percent of all Navy and Marine Corps flight hours worldwide and 46 percent of the total Chief of Naval Air Training annual output of flight hours.

When it comes to aviation training, NAS Whiting Field has been an efficient high-tempo operation since its year of establishment, 1943. Only eight days after Japan's devastating attack on Pearl Harbor, 7 December 1941, the Secretary of the Navy expanded pilot training from 800 student pilots monthly to 2,500. By the end of 1943, the Navy was producing 20,000 Naval Aviators annually.

Named after Captain Kenneth Whiting, one of Naval Aviation's early pioneers, Naval Auxiliary Air Station, Whiting Field, would be the Naval Air Training Center's sixth auxiliary air station. It was built to help meet the urgent need to train pilots through its unique design of two independent airfields under one command.

Fifty-one years later, NAS Whiting Field is known as the busiest naval air complex in the world. ■

Training Together to Fight Together

By Ens. Jean C. Boudreaux

On 17 February 1994, the *Red Knights* of Training Squadron (VT) 3, NAS Whiting Field, Fla., welcomed 17 T-37Bs and 34 Air Force instructor pilots from the 35th Flying Training Squadron (FTS), Reese AFB, Texas. The 35th FTS, commanded by Air Force Lieutenant Colonel Don Stiffler, was on board for a four-day exchange program hosted by VT-3 to introduce Air Force flight instructors to the "Navy" way of flight training. This first ever meeting was a two-way street, with each service explaining its respective pilot training programs and training aircraft.

The highlight of the exchange program was the reciprocal familiarization flights the pilots received. Air Force pilots were flown in the T-34C *Turbo-Mentor* while Navy, Marine and Coast Guard instructors were treated to familiarization flights in the Air Force's primary training aircraft, the T-37B *Tweet*. Marine Captain Jon J. Cunningham, a *Red Knight* instructor pilot, said he "really enjoyed the flight in the T-37B. There weren't too many differences in the handling of the aircraft."

Why all the commotion? Because VT-3 and the 35th FTS have been designated as the first Department of Defense joint primary training squadrons in anticipation of the Joint Primary Aviation Training System (JPATS). When selected, the JPATS aircraft will replace the T-34C and the T-37B and be used by both the Navy and the Air Force flight training commands.

Currently, VT-3 and the 35th FTS have already exchanged instructors. In October 1993, four Navy, one Marine Corps and one Coast Guard instructor pilot were sent to Randolph AFB, Texas, to begin instructor training in the T-37B. After completion of training, the instructors proceeded to the 35th FTS, Reese AFB, to begin passing their knowledge and skills to Air Force students.

In turn, VT-3 initially received 10 Air Force instructor pilots with plans to receive 14 more. The Air Force pilots received their training at Training Air Wing 5's Fixed Wing Instructor Training Unit, NAS Whiting Field. The training syllabus, which is approximately 18 weeks in length, is identical to the syllabus used to train fleet aviators to be flight instructors.

USAF Lt. Col. Don Stiffler, CO, 35th FTS, points out features on the T-37B to VT-3's former skipper, USMC Lt. Col. Dean Lucas.

History was made on 8 February 1994 when Captain Robert J. Kelliher became the first Air Force pilot to complete his initial training and fly an instructional flight with a student Naval Aviator. Since then, other Air Force pilots have flown instructional flights with Navy, Marine

Joint Training: Syllabus of the Future

By Lt. John C. Minners

In July 1994, VT-31 began training Air Force student pilots destined to fly the C-130 *Hercules*. After completing primary flight training in the T-37, the Air Force students are sent to NAS Corpus Christi, Texas, for the advanced multi-engine flight syllabus in the T-44A *King Air*. Upon completion of advanced training in VT-31, they receive their Air Force wings. With the arrival of Air Force students, VT-31 will be teaching multi-engine propeller training to Navy, Marine Corps, Coast Guard, Air Force and international students.

In exchange for the Navy's training Air Force pilots, student Naval Aviators scheduled to fly the E-6A will receive their training from the Air Force in the T-1A *Jayhawk*. The T-1 is a modified twin-engine business jet used by the Air Force to train its tanker and transport communities. Navy student pilots will soon be able to select E-6s directly out of primary flight training. They receive their advanced training in the 52nd FTS, Reese AFB, Texas. After completion of the T-1 syllabus, they will be awarded their Wings of Gold and sent to Tinker AFB, Okla., to fly the E-6.

To aid in the transition to joint training, Air Force instructor pilots were assigned to VT-31 and Navy instructors to the 52nd FTS. According to VT-31 CO Commander George Haffey, "This is the future of aviation training in the military." ■

Corps and Coast Guard student aviators.

According to Capt. Kelliher, "The most difficult thing is learning the Navy system, not teaching." The former Air Force T-37B instructor says that the T-34C is a very forgiving aircraft and "when you need power, it's there."

The goal of jointness does not end with the instructors in the pits, though. Air Force Lieutenant Colonel Dave Elliott became VT-3's Executive Officer when Commanding Officer Marine Lieutenant Colonel Dean Lucas passed command to Commander Bill McDonough this past summer.

Historically, VT-3 has been the only primary training squadron to have Navy and Marine Corps officers alternate as CO and XO. In the future, VT-6 will have that distinction, and command of VT-3 will alternate between Navy and Air Force officers.

In Summer 1994, VT-3 received its first Air Force student aviators, who received virtually the same training as their Navy, Marine and Coast Guard counterparts. All student aviators are taught the basics of contact, instrument, formation and aerobatic flying. After completing primary training, the Air Force student aviators will return to their service and proceed to the next level of flight training.

Navy and Marine Corps aviators have trained together since the first Marine aviator learned to fly in 1912. The first Coast Guard pilot joined them in 1916. Now, in keeping with goals set by the Secretary of Defense in his 1993 roles and missions statement, Air Force pilots will join this elite group of aviation professionals. Training together to fight together, the men and women of VT-3 and the 35th FTS are defining the future of joint aviation training. ■

AOCS Consolidates with OCS

By Ltjg. Joe Nault

A proud tradition in Naval Aviation came to an end with the disestablishment of Aviation Officer Candidate School (AOCS). The Naval Aviation Schools Command, NAS Pensacola, Fla., has consolidated AOCS with the Navy's Officer Candidate School (OCS), formerly located in Newport, R.I., to produce aspiring naval officers using a "One Navy" concept. In keeping with the Navy's "right-sizing" efforts, the Secretary of the Navy decided to consolidate the two officer accession programs at the Naval Aviation Schools Command. The decision followed a CNO-directed pilot program to graduate an OCS class from the former AOCS on 13 August 1993. This 11 and one-half week course was closely monitored by the Chief of Naval Education and Training.

Lessons learned from the pilot course were incorporated to use the best of AOCS and OCS for the new Officer Candidate School. Commencing 28 October 1993, Process Action Teams from the Naval Aviation Schools Command and Naval Education and Training Center (NETC), Newport, R.I., began work on the consolidation process, which included curriculum, staffing, resources, infrastructure and administration.

In a commissioning ceremony held on 11 March 1994 aboard NAS Pensacola, AOCS graduated its final class, closing the school's 47-year history. Similarly, officer candidates from the last 16-week NETC Newport OCS class were commissioned on 13 May 1994, ending a 43-year history.

The most significant change to the AOCS program when it changed to OCS was the removal of the aviation-specific curriculum and emphasis placed on the "One Navy" concept. Aviation Preflight Indoctrination courses were replaced with Naval Science subjects, including naval warfare, damage

Two of NAS Whiting Field's T-34Cs soar in formation through the clouds.

control (including a damage control simulator) and engineering. Classes in navigation, practical piloting and shiphandling are also taught using 100-foot yard patrol craft. In addition to 10 formal academic courses, candidates will also receive physical fitness, swimming and military training emphasizing officer-like qualities.

Every flight student goes through rigorous physical fitness training, including the obstacle course.

The first class of 31 candidates who started OCS Pensacola on 11 April 1994 was led by a three-person team that includes a fleet lieutenant class officer, recruit company commander school-trained chief petty officer and a second tour Marine Corps drill instructor.

The OCS Pensacola school staff is tasked with indoctrinating and producing the best trained and motivated naval officers possible. Graduates will appreciate and understand both naval service and joint operations before proceeding to subsequent training in 1 of 15 officer designators. The school is currently scheduled to graduate over 300 students per year during the next two years but has the ability to increase its output to meet future contingency requirements. Of the 300 candidates this year, approximately 40 percent will proceed to aviation training, with the first step being Aviation Preflight Indoctrination. ■

OCS provides the path for civilians to become commissioned officers. Some will go into flight training and receive the coveted Wings of Gold.

Bob Lawson

Two T-45A Goshawks fly over the Chesapeake Bay in November 1990 during a test flight out of NAS Patuxent River, Md.

First Students Enter T-45 Training System

By D. M. Murtha

Strike training reached a major milestone in January 1994 at NAS Kingsville, Texas, when the first class of student pilots entered the T-45 Training System.

Prior to this, all intermediate jet training was accomplished in the T-2C *Buckeye* and all advanced training in the TA-4J *Skyhawk*. The T-2 is a two-seat, twin-engine aircraft specifically designed for training Naval Aviators; the TA-4J is a two-seat version of the attack bomber employed by the Navy and Marine Corps in Vietnam.

The T-45 *Goshawk* is a single-engine, turbofan, tandem-seat aircraft. It is 39 feet long and has a wing span of almost 31 feet. It is a highly modified version of the British *Hawk*, which is currently used by the Royal Air Force and the air forces of nine other countries. The T-45 updates a proven airframe with modifications for carrier capability.

Quick and maneuverable, the *Goshawk* has the capability to sustain considerable energy even under high-G loading. The cockpit features modern communication and navigation technology, including a heads-up display. An onboard recording system enhances pilot instruction by providing immediate video and voice reconstruction of events for a more in-depth flight debrief.

The T-45 Training System includes the aircraft, computer-assisted instruction and electronic classrooms, flight simulators and the Training and Integration System (TIS)—a computer-based system which aids in the planning and scheduling of classrooms, simulators and flight training. Use of the TIS results in more efficient management planning and scheduling because it simultaneously tracks students' performance,

training needs and the availability of assets.

The T-45 will replace the aging T-2 and TA-4 aircraft and will consolidate strike training in a single platform. Until the T-45 fleet reaches a level where the pilot training requirement can be met solely by the *Goshawk*, classes will go through one of two pipelines. After completing primary training in the T-34, one group will obtain intermediate jet training in the T-2 followed by advanced training in the T-45. The other group will complete both their intermediate and advanced training in the T-45—the path that all student naval strike pilots will eventually follow.

In September 1994, the Naval Air Training Command will receive the prototype for a major *Goshawk* modification, Cockpit 21. This "glass cockpit" will be very similar to that of the F/A-18 *Hornet*. Future Naval Aviators will leave the training command better prepared to interface with the sophisticated equipment that is becoming increasingly common in the Navy's fleet aircraft.

Consolidating training in a single platform will save money by producing Navy pilots in less time at a substantially reduced cost in flight hours. Additional savings will be achieved because the *Goshawk* consumes approximately one-third less fuel than its predecessors. The advanced technology afforded by the T-45's modern ground training systems will provide the fleet with the best trained, most highly qualified Naval Aviators—at significant cost savings. ■

Undergraduate NFO Training in the Next Millennium

By Lt. Martin L. Plumleigh

Undergraduate Naval Flight Officer (UNFO) training is changing rapidly as the Navy moves into the 21st century. These changes will completely rearrange the face of the organization that most of the current staff of Training Squadron (VT) 10 saw when they entered the training pipeline nearly a decade ago. The two major events which loom large on the UNFO horizon are the advent of integrated training with the Air Force and full-scale conversion of the UNFO syllabus to a computer-based format. Integrated training will change not only who the training command instructs but the very philosophy and culture of Naval Flight Officers and Air Force System Operators/Navigators. Computer Based Training (CBT) and all the elements that go into it will be a quantum leap forward from chalkboards, overhead and slide projectors and magnetic slap visual aids.

Integrated training with the Air Force is a direct result of the zero-based training reviews, service downsizing and the need to consolidate aviation training where possible. This initiative will result in a more efficient and cost-effective training pipeline for both services.

UNFO integrated training will include not only students from the Air Force and Navy, but also the foreign military students previously trained by the Air Force. The foreign contingent will include students from Italy, Germany and Saudi Arabia. In total, the additional student load will amount to more than 300 students per year. This number will swell VT-10, already the training command's largest squadron, to more than 600 students per year. This is a training rate not seen since the early 1970s and late 1980s.

The effort to establish NAS Pensacola, Fla., as the center for integrated military flight officer/navigator training began nearly two years ago and has involved the efforts of many people. As a result of their labor, Training Air Wing 6 and VTs 10 and 86 now represent the benchmark for flight officer training. In August 1994, the first foreign students began aviation preflight indoctrination at the Naval Aviation Schools Command (NASC). These students will be the first to go through the entire VT-10 and VT-86 syllabi and receive their Wings of Gold. They will be followed in FY 1995 by the first USAF students. Initially, the Air Force students will enter the pipeline at the VT-10 T-39 intermediate syllabus after receiving primary and supplemental training at Randolph AFB, Texas.

Integrated training has required that the Navy and Air Force augment and revise their syllabi to provide smooth student transitions from Air Force to Navy training. Supplemental courses will be taught both by the Navy and Air Force to aid the transition. The result of the cross pollination of Navy and Air Force students will be a more aggressive and better trained flight officer capable of handling the more advanced aircraft and weapons systems of the future.

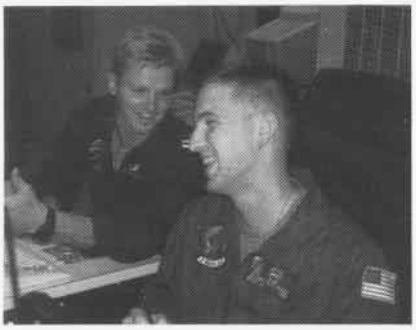
To ensure state-of-the art instruction, CBT will be used to streamline the course and combine the best attributes of instructor-mediated lectures and interactive computer technology. VT-10 first began to explore the possibility of using CBT in 1990. Under a government contract, a training systems analysis was performed to determine the most effective way the Navy could enhance its UNFO academic syllabus in order to keep pace with future needs. The analysis recommended the present UNFO syllabus be replaced with a mixture of interactive computer courseware and instructor-mediated lectures using the computer as a classroom aid. This analysis was adopted, and the initial efforts resulted in the first CBT system used by the Chief of Naval Air Training (CNATRA). This system, known as the Radio Instrument Orientation Trainer (RIOT), is a PC-based basic instrument simulator. RIOT is currently being used in both of the previously mentioned formats as a classroom aid for instructors and at individual student stations. RIOT is now in place in all the CNATRA primary schoolhouses.

Following closely on the heels of RIOT was a combined effort by the primary pilot and NFO training squadrons to develop in-house, computer-based courses, which would be common to all the primary syllabi. The three courses

chosen for this program were T-34 Emergency Procedures, Aerodynamics, and Flight Rules and Regulations. The T-34/Emergency Procedures lecture was developed by VT-10 and has been successfully used in a classroom setting.

The next evolution in CBT is the awarding of a contract to develop computer-based syllabi for all primary pilot and UNFO training. The first completed courses under this contract should be in the CNATRA schoolhouses this fall. These new syllabi will use interactive computer technology where appropriate. The remainder of the courses will be taught by instructor-mediated lecture. Computer-based training will be a vast improvement over the present methods as it will make better use of instructors and provide an enhanced learning environment for today's students who have grown up in the computer age. CBT should also aid the integration of the Air Force and foreign military students into the UNFO pipeline.

As UNFO training enters the next millennium, it is well prepared to begin integrated training and to provide the learning environment demanded by an increasingly high-tech military. Thanks to the efforts of many instructors, NAS Pensacola has been recognized as the threshold to flight officer training, not only for the United States military but for a good part of the free world. To maintain this position, further advances in computer-based systems are being explored for the classroom and flight simulators. Advanced computer technology coupled with a flight officer trained in a joint atmosphere will provide the services with an officer better equipped to respond accurately in a high-tech and increasingly integrated military. ■



Capt. Craig Pearson, a USAF Weapons and Sensors Officer (WSO), instructs a Navy student at VT-86. WSOs are Air Force counterparts to Navy Radar Intercept Officers.

A Beech T-44A King Air flies over Corpus Christi, Texas, home of advanced multi-engine training at VT-31.

Hitting the Books

By Lt. David Kay

Training Squadron (VT) 86 is the perfect environment for pursuing a master's degree or other post-secondary educational goals. This command is extremely supportive of its staff officers' pursuit of higher education. Of the 39 junior officers assigned to the VT-86 *Sabrehawks*, 28 are currently enrolled in master's or other college-level courses. The advanced Naval Flight Officer curriculum does not require any night flights, leaving ample opportunity for instructors to attend school in their off-duty time. With three-year orders to the Pensacola, Fla., area, an individual would have no trouble completing most master's programs and still have free time to enjoy the beaches.

Pensacola is not a college town; however, there are several schools in the local area and satellite facilities located on the air station. Available schools include the University of West Florida, Troy State University, Pensacola Junior College, Embry Riddle Aeronautical University and the Naval War College. Registration for all five colleges is available on base.

Tuition Assistance (TA) is obtainable through the Navy Campus for Achievement program for graduate studies and some undergraduate studies. The program will pay 75 percent of tuition and lab fees for active duty master's students that maintain a "B" average or better. TA will not cover the cost of undergraduate credits for students with existing bachelor's degrees; however, it will pay for undergraduate credits that are prerequisites for higher degrees.

A master's degree is invaluable whatever career plans may include. To a promotion board, a master's degree could be the deciding tie breaker that provides the edge. On the outside, it will increase an individual's marketability in the civilian world.

VT-86 provides the best of all possible situations: flying orders, educational opportunities and, of course, living in Pensacola isn't that bad. ■

International Training at TRAWING 1

By Lt. Jeff Howell

The Security Assistance Training Program (SATP) is a State Department-guided policy designed to provide military-related training to service and civilian personnel of foreign countries. Under SATP, training falls under two categories: International Military Education and Training (IMET) as defined under the Foreign Assistance Act of 1961 and Foreign Military Sales (FMS) under the Arms Export Control Act. The primary difference between IMET and FMS is the funding source. For IMET, the U.S. government picks up the tab for foreign training to foster alliance with that particular country. FMS countries pay for their own training.

Training Air Wing (TRAWING) 1, NAS Meridian, Miss., has been involved with SATP for the past 25 years. Students come from various countries around the globe: France, Spain, Italy, Kuwait, Singapore and Argentina; the program will soon include students from Thailand and Canada. TRAWING 1's present foreign manning is at 22 international students. The future points toward increased foreign training, especially as we continue to downsize our own forces.

Prior to arrival at NAS Meridian, the international military students (IMSs) go through an eight-week course at the Defense Language Institute at Lackland AFB, Texas, where they bring their English proficiency up to the required level for training. Afterwards, the IMSs report to NAS Pensacola, Fla., for their water survival training. From there, they go on to their purchased course of instruction—either primary, intermediate or advanced flight training.

At NAS Meridian, the international students go through the same intermediate and advanced syllabus as the American students. The only exception is that some countries do not purchase the carrier qualification portion.

Many of the IMSs are already primary trained and some are even winged aviators in their own countries, so the experience level can vary considerably. For the most part, the IMSs' ability to comprehend and apply the information is on par with their American counterparts. If there is any problem area in training, it lies in the language department. Aviation has its own vocabulary and they are familiar with these terms; however, when an instructor uses terms that fall outside the vernacular, it can lead to miscommunication. If this occurs, the IMS may be awarded an FET (Foreign Extra Time) to give him additional training. That's not to say that the IMS is not held to the same standard of performance as any American student. He still must know his procedures and exhibit progress towards the desired level of proficiency. If the IMS continues a negative trend in his training, he may eventually be disenrolled.

Virtually all foreign trainees successfully complete their training here and go on to fly high-performance tactical jet aircraft for their countries' air force or navy.

To handle the administration of the foreign students, each squadron has an International Military Student Officer (IMSO). It is his/her responsibility to minimize any distractions to his training. This includes ensuring that each IMS gets a thorough indoctrination, including what's expected academically and in the aircraft, being on time at briefs, flight or academic failures, as well as a host of administrative requirements. The squadron IMSOs also collect information on each IMS to send to the air wing IMSO who in turn sends it out to the Naval Aviation Schools Command and the Naval Education and Training Security Assistance Field Activity, both at NAS Pensacola, Fla.

It is the objective of the SATP to provide training to foreign personnel as well as to foster a balanced view of U.S. society. With this in mind, field trips are regularly undertaken to familiarize IMSs with America's industrial machine and its economic, legal and educational institutions. Past trips have taken students to Atlanta, Ga.; St. Louis, Mo.; and Dallas, Texas. On each occasion, the IMSs thoroughly enjoyed the American culture and demonstrated a positive understanding of American goals.

TRAWING 1 prides itself in turning out quality aviators for U.S. fleet forces, and it strives to provide that same quality to our global allies.■

NAS Meridian's VT-19 trains Navy and Marine student Naval Aviators along with international jet flight students from France, Spain, Italy, Kuwait, Singapore and Argentina. Here, Class 9522, comprises naval and French student pilots.

Naval Air Training Management Support Activity

By Cdr. Pierre Richer

In these days of downsizing, it is rare, indeed, when we speak of establishing something new. However, there is a new command within the Naval Air Training Command, which works behind the scenes to ensure that the airplanes and simulators are ready and waiting when training events are scheduled for our new pilots and Naval Flight Officers.

A request to establish the Naval Air Training Management Support Activity (NATMSACT) was sent forward from the Chief of Naval Education and Training to the Chief of Naval Operations in June 1990. The establishment of NATMSACT organizationally placed, under a single activity, centralized management of support functions formerly dispersed among six separate Training Air Wings (TRAWINGs). It also resulted in clear lines of authority, responsibility and accountability and has improved communications while freeing the TRAWINGs from functions unrelated to their primary training roles.

Headquartered at NAS Corpus Christi, Texas, NATMSACT was established on 29 September 1991 with a mission to perform technical contract administration and cost and procurement analysis for Naval Air Training Command aviation maintenance contracts; conduct organizational and manpower evaluations; and provide administrative and logistics support services. NATMSACT originally had detachments at six TRAWING sites, but with the disestablishment of TRAWING 3 at NAS Chase Field, Texas, as well as the Strike Detachment at El Centro, Calif., NATMSACT was reduced to five detachments.

Plank owner CO Captain Dave Timmons was relieved by Captain O. C. Akins in July 1992, and in April 1994, Captain Paul E. O'Brian took the reins. In May 1994, NATMSACT and Chief of Naval Air Training staff, under a realignment initiative, exchanged approximately 10 billets and functions resulting in a more defined mission for NATMSACT. Now, the activity resembles a pure contract administration organization patterned after the Defense Logistics Agency model.

NATMSACT is currently responsible for administration of six contracts, valued at $130.6 million, which cover aircraft maintenance and simulator instruction and maintenance. In FY 1994, a strike contract was awarded which was an innovative undertaking that incorporated T-2 and TA-4J organizational maintenance and aircraft intermediate department level maintenance into one contractual instrument. To date, the strike contract has been highly effective and successful in meeting customer requirements.

Capt. O'Brian, a former training squadron skipper, has characterized NATMSACT's most important mission as customer service. Its valued customers are the TRAWINGs, the students and the instructors, who work so hard to keep the very best aviators in the world in Navy/Marine Corps cockpits. ■

CQ Det Dreamin'

By Lt. Curtis Phillips

BZZZZZZZZZZZZZ! SMACK! "Silence, at last," he thinks. "What time is it, anyway? Zero four hundred! Hey, this isn't my bedroom. Oh yeah, I'm in the BOQ. Wow, a carrier qual detachment again, it seems like that's all we ever do."

So begins another day in the life of a Training Squadron (VT) 4 flight instructor during CQ (carrier qualification). Tasked with providing designated Naval Aviators for the E-2/C-2 fleet readiness squadron, VT-4 enjoys a unique niche in the Naval Air Training Command. As the smallest squadron, the *Warbucks* of VT-4 fly the North American T-2C *Buckeye* with the mission of providing students their first look at the world of carrier aviation. Additionally, in stark contrast to the 38-foot-wing-span T-2C, the next aircraft these students will land aboard a carrier will be the largest carrier-based aircraft currently deployed, either the E-2C or the C-2, both with wing spans in excess of 80 feet.

The road to VT-4 and eventual designation as Naval Aviators begins as it does for all students in the training command with completion of primary flight training in the T-34. Once primary flight training is completed, students selected to the E-2/C-2 pipeline fly the T-44 at NAS Corpus Christi, Texas, for an abbreviated maritime syllabus. Following completion of intermediate training in Corpus, students come to VT-4 for advanced E-2/C-2 training, which culminates in their receiving their wings. Not, however, before they meet the greatest ego leveler known to aviation ... **THE BOAT**.

"Tower, eight zero five established overhead, angels four point five, state four point two." Our intrepid instructor has just dropped three students off in the landing pattern at the ship and, having no doubt "luckèd" into a trap (as his colleagues will accuse later), he is once again full of fuel and holding overhead the boat. As he cleverly connives a way to "luck" into another trap, he is reminded by the students' timorous radio calls of his first day at the boat.

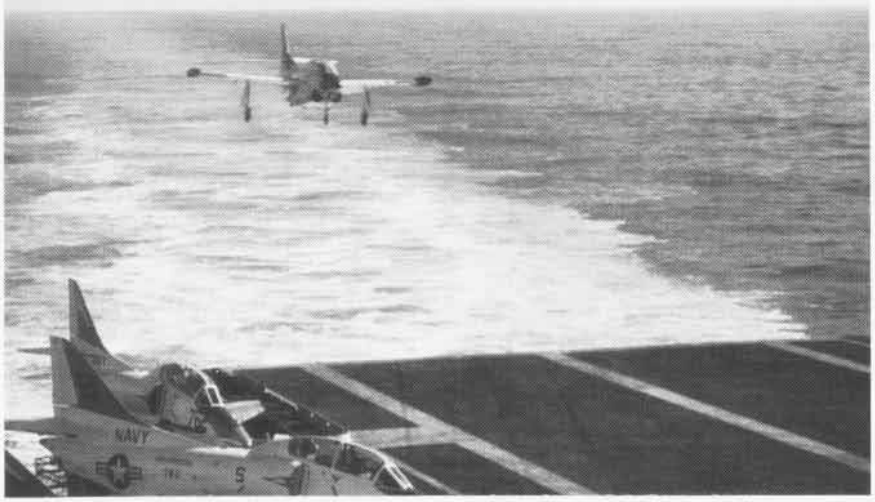
"Sure the airplane doesn't fly any different with the tailhook down, *now*," he thinks, "but when I was down there the first time, I put that handle down and got so nervous my hair started sweating."

"I don't think I even knew if my engines were running on that first catapult shot," he recalls. "I just remember saluting, then BOOM!"

Soon, students begin to complete the required number of touch and goes and arrested landings, and the instructors spiral down from overhead the ship to pick them up and lead them back home.

"Tower, eight zero five, flight of four at five miles for the overhead." As the instructor approaches the field with his students, he tries to sense their enthusiasm and exhilaration through the dark visors and oxygen masks. He has probably seen at least one colorful rendezvous, dodged some clouds that weren't suppose to be out there in the first place and maybe even "lucked" into another trap. From overhead the ship he has heard an excited-sounding "wave off" call, several "bolter, bolter, bolters and certainly one "power in the wires" from the Air Boss.

"Congratulations, Sweat." "Nice job, Smells." "Way to go, Fish." He shakes the hands of the three new carrier aviators as they walk in from the line. He smiles quietly to himself as the three



A student in a VT-4 T-2 Buckeye on line-up and on speed for CQ, the final step towards earning the coveted "Wings of Gold."

young students, not far from being Naval Aviators themselves, begin the ages-old process of story telling that surrounds so much of what aviators do.

Something unique and almost indescribable happens to individuals after they first trap aboard a carrier at sea, solo. There's a seasoning, a salting if you will, that changes the way they look at themselves. Their gait has a faint but obvious swagger, they seem to wear their uniform just a little differently. There emerges a confidence and in some cases an entirely new personality. Perhaps that's what the instructor finds is the best part of what he does—sharing not just a skill but a heritage with the ever-continuing generations of men and women who are called Naval Aviators. ■

Primary Primer

By Lt. Gregory J. Parker

A day in the life of a student in Primary is not so much a series of chronological events as a series of evolving mental states. For most people, a day consisting of a morning, afternoon and evening seems perfectly logical. But the flight student attaches significance only to matters of concern to the flight, and as few instructors are likely to quiz a student on the time of day, these entities quickly lose their meaning. The flight student, rather, views each day in terms of Preflight, Flight and Postflight. It's a much more subjective outlook, ignoring the position of the sun, but it is at least predictable and therefore adds a degree of consistency to the daily routine that a clock simply cannot provide.

It is important not to confuse these periods with the terms normally employed in aviation. For instance, Preflight here simply means the period of the day before the flight. It consists primarily of a review of procedures and navigation. Ideally, it should be the unification of hours of study, the coming together of principles and practical knowledge into a clear, cosmic synthesis of understanding—sort of a transcendental union with the God of Flight. Very profound. The reality, on the other hand, usually consists of something significantly less dramatic. The frantic leafing through pubs for forgotten information, the holding pattern established around the living room couch and the last-minute phone calls for gouge all begin to separate the student mentally from the everyday world.

As the flight approaches, the student tosses all gear quickly into a helmet bag, gives the flight suit a quick sniff to make sure it's not too offensive, and, if still feeling a bit unprepared, sets up a small library of texts and manuals on the passenger seat to study on the drive in. What better way to practice situational awareness, after all, than to flip through approach plates while passing an 18-wheeler on the freeway?

The Flight begins with the brief. This is the period in which student paranoia peaks. As everyone knows, no matter what their reputation, instructors can be alternately Dr. Jekyll or Mr. Hyde, Santa Claus or Freddy Krueger, depending on a variety of unpredictable factors. Therefore, the average beginning aviator looks forward to the brief in the same way that an infantryman looks forward to a minefield—not at all. During taxi and ground run-up, by contrast, a certain calm pervades: fate has taken over, the books are back in the ready room and the time for thinking is over. *Que será, será.* This period of relative peace is short lived, of course, to be quickly replaced by the oscillatory emotions that accompany maneuvers in the air. A perfect landing elicits a burst of elation, but going inverted on an approach turn stall makes a helmet suddenly feel like a dunce cap. IQ drops in half, generating a remarkable speech impediment in which the word "Uh" becomes the response of choice. "Do you think you can make this field?" "Uh ..." "OK, take me back to join course rules." "Uh ..." And this range of emotions continues right to the end of the hop.

A perfectly executed home-field break, for example, immediately boosts confidence, but it can be shattered quickly by that unique brand of instructor humor: "Hey, think you might want to lower the gear, or are we just gonna slide in on our belly?"

Postflight begins with the debrief. Ideally it is a time to contemplate in detail the shortcomings or merits of the past two hours; in reality, the student's brain often feels too much like corn mush to absorb very much. Recovery from this state takes a while, too, and manifests itself in a disability to communicate via any language that is not Navyspeak. For instance, a student is still capable of explaining "I had trouble with the ELP today because I had to use the EPL in my PEL ...," but any attempt to put that description in layman's terms usually comes out something like "Me no fly good today." While some rather motivated individuals use the Postflight period to exercise or even begin studying diligently for the next hop, others find a minimum of one hour in front of the TV is necessary to even contemplate removing their boots.

It is this daily cycle of mental events that constitutes the life of a student in Primary. The frantic cramming, the paranoia of the brief, the oscillating emotions in flight and the seemingly catatonic brain that finally leaves the ready room all are part of the everyday routine. Whether the brief is at 0530 or 1900, a student can count on Preflight–Flight–Postflight as a mental progression that will not change from FAMS to FORMS [familiarizations to formations]—from the first flight to the last check ride. It's demanding and usually exhausting, but it also builds mental toughness and agility. Independent of the clock, it constitutes a daily stepping stone that eventually develops into the long path through Primary. ■

The Golden Road

By 2nd Lt. Alan E. Busenbark

My road to wings first began on that sultry summer California night back in July 1982. I found myself amongst a herd of young men eager to prove themselves worthy of the title "Marine." Standing on those yellow footprints, each of us felt certain that we were both mentally and physically tougher then our peers. Twelve brutal weeks later, my platoon graduated and I was ordered to NAS Memphis, Tenn., for jet engine training.

I have long had an affection for aviation. It began at an early age when Dad took my sister, brother and me on a two-hour flight over the mountains of Oregon. As a jet engine mechanic, I remained closely tied to the mission of flying. Yet the desire to take a more active role lingered. My aspiration to fly was surpassed only by my intense desire for a commission. In July 1991, the nine-year road to second lieutenant was bridged, eliminating a major obstacle toward being designated a Naval Flight Officer (NFO). At the Basic School in Quantico, Va., I earned the opportunity to train as an NFO by finishing in the top 5 percent of my class.

I journeyed south to NAS Pensacola, Fla., arriving in late March 1992. I embarked on an adventure that was difficult at times yet always rewarding. For my first year, I trained vigorously, completing intermediate stage at Training Squadron (VT) 10 in April 1993. Now, all that remained was the successful completion of VT-86's curriculum.

I reported to the *Sabrehawks* in mid-April. Due to a surplus of Marine students, I was pooled for the next six months doing odd jobs around the squadron. This was an excellent opportunity for me to get to know many of the instructors. In addition, it afforded me the chance to work on most of my charts and some radar predictions. By the time class convened in mid-September, I was ready.

Marine students have only two platforms from which to choose, the EA-6B and F/A-18D. I preferred the latter, having spent more than seven years as an intermediate-level jet mechanic on the F404-GE-400 (F/A-18) engine. Initial advanced training was as a Tactical Navigator (TN). At the onset of the TN syllabus, I spent time perfecting my ability to manipulate the T-39's ground mapping radar, thereby allowing for quick and accurate correlation of ground targets. Coupled with the other procedures I'd learned, I became comfortable at navigating to a target hundreds of miles away, arriving only seconds off preflight time.

My next phase of advanced was in the T-2 *Buckeye*. Undoubtedly, this was the most enjoyable facet of training. The *Buckeye* is a simple airframe to learn. Its instruments are basic in design and function. It was during this phase that the all-important concept of crew coordination really began to bloom for me. I noticed a shift in the philosophy of training during the low-level and air combat maneuvers phase. We were no longer being task saturated in an effort to force us to prioritize. Instead, we were shown a much more realistic approach to crew coordination. The student and the instructor now worked as a team in an effort to reach the mission's goal.

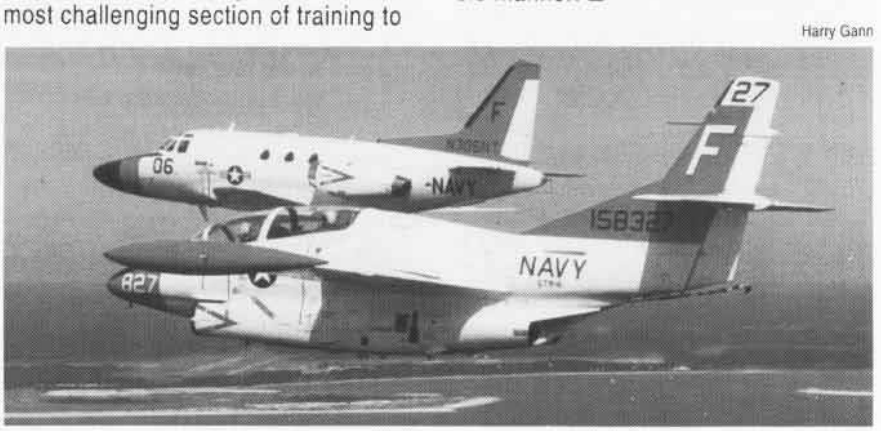
At the end of T-2s, I paused briefly while my future was decided by the powers that be. Five other Marines and I were hoping for one of three F/A-18D *Hornet* slots. Two of us would get EA-6B *Prowlers*. As much as I hate the quality spread method of selection, this time it worked in my favor. I received the second *Hornet* quota. A week later, I was back in class learning the entirely new concepts of being a Weapons and Sensors Officer.

The abbreviated five-week Radar Intercept Officer (RIO) syllabus was the most challenging section of training to date. Until now, I had viewed the RIO students as just a bit too pompous for their own good. Shortly into the first week of training, my image of them shifted 180 degrees. Learning how to run a perfect intercept took hours of practice on the Air Intercept Radar Trainers. In addition, I had to work extra hard to perfect my number-crunching skills. But, like anything I do over and over, eventually I developed good solid habits that left me wondering why I ever struggled.

On 27 May 1994, I was officially designated a Naval Flight Officer. The long journey had ended, and for me this was the realization of a life-long goal. In addition to an inner desire to succeed, I would credit much of my achievements to the staff of VT-86. I never felt like a mere number filling a training quota. When difficulties in training arose, I felt a genuine concern by the officers of the squadron; they took the extra time to help me identify my weaknesses and correct them. The skipper treated us like officers instead of students. This trust and confidence is the embodiment of commissioned service. It builds the vital mentality that should never be absent.

In closing, I'd say that my time in Pensacola has been nothing short of exhilarating. I've made numerous lasting friendships, both military and civilian. The social scene on the beaches and clubs is certainly memorable. I'd recommend this lifestyle to anyone fascinated with aviation who wants to serve our great country in a highly noble manner. ■

Harry Gann



During the advanced phase of instruction at VT-86, student NFOs fly T-39N and T-2C training aircraft.

Naval Air Training Command 1994

Naval Air Training Unit

Randolph AFB, TX
Advanced Maritime NFO

TRAWING 1

NAS Meridian, MS
2 Intermediate Jet Squadrons
1 Advanced Jet Squadron

T-2:	VTs 19, 23	85
TA-4:	VT-7	76

TRAWING 2

NAS Kingsville, TX
2 T-45 Squadrons

T-45:	VTs 21, 22	43

Trawing 4

NAS Corpus Christi, TX
2 Primary Squadrons
1 Advanced Maritime Squadron

T-34:	VTs 27, 28	71
T-44:	VT-31	57

TRAWING 5

NAS Whiting Field, FL
3 Primary Squadrons
2 Helicopter Squadrons

T-34:	VTs 2, 3, 6	148
TH-57:	HTs 8, 18	120

TRAWING 6

NAS Pensacola, FL
1 Primary NFO Squadron
1 Advanced NFO Squadron
1 Advanced E-2/C-2 Squadron
Naval Aviation Schools Command

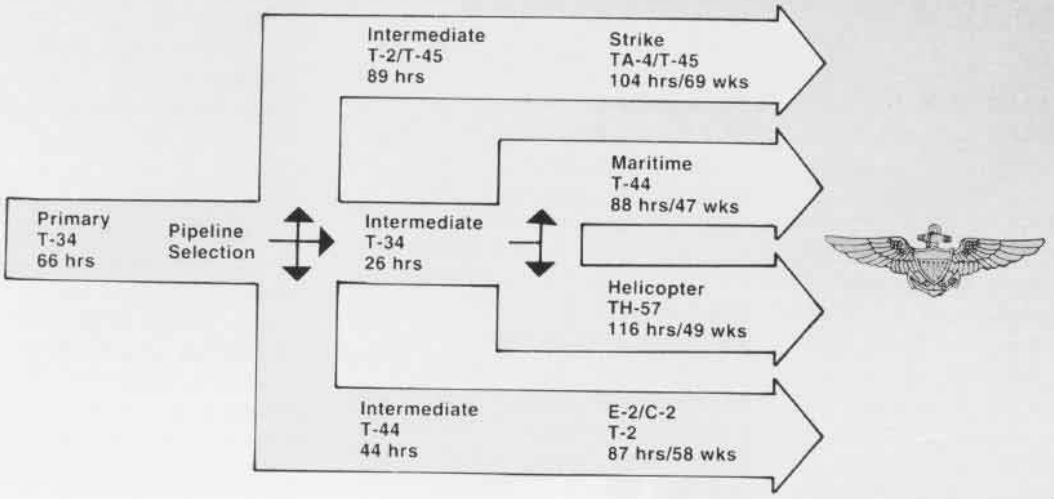
T-2:	VTs 4, 86	20
T-34:	VT-10	35
T-39:	VT-86	17

Lt. T. J. Racoosin, VT-21, is one of the first flight instructors for the T-45 Goshawk.

A pair of TA-4Js in formation overfly NAS Meridian, Miss.

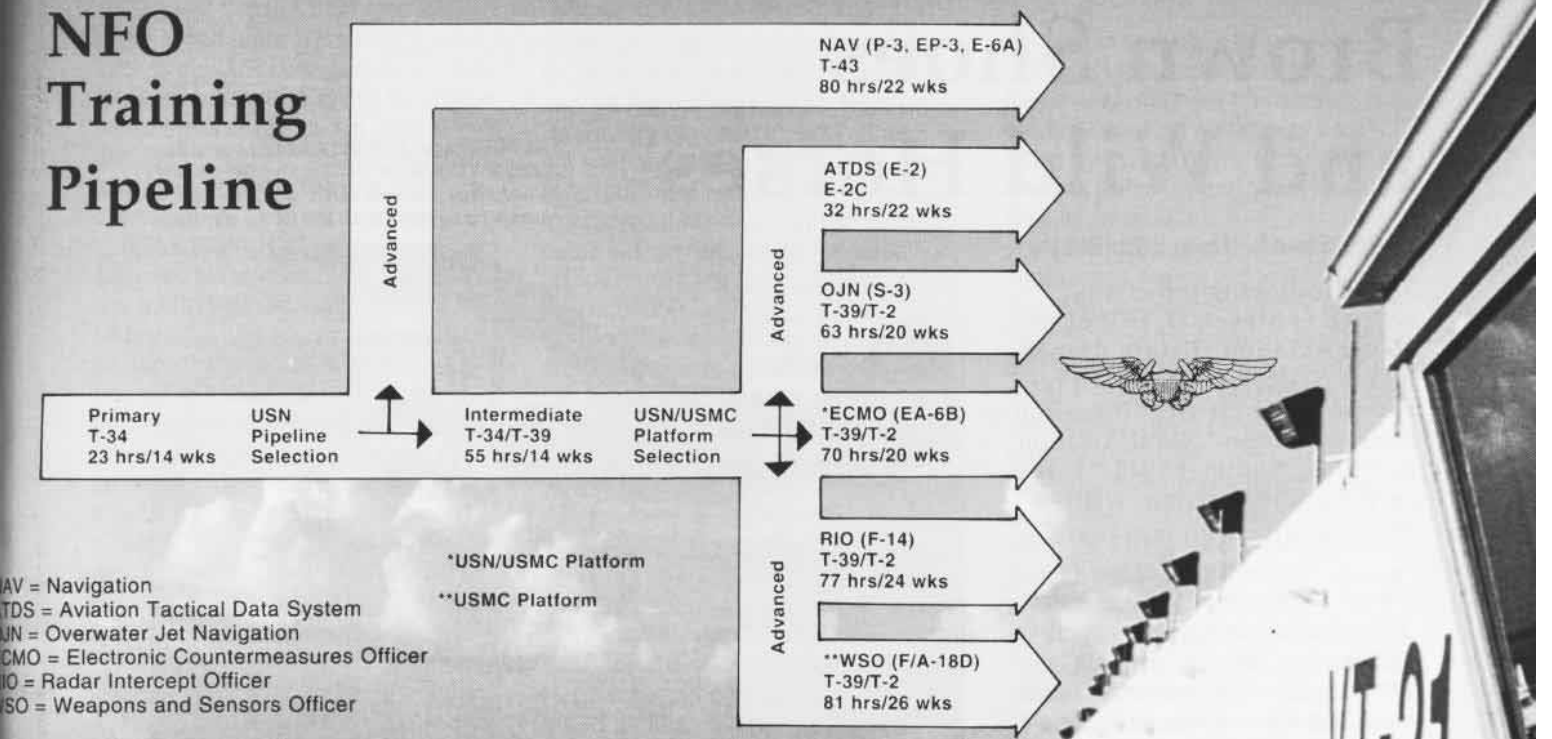
A student aviator preflights a T-34C Turbo-Mentor.

Pilot Training Pipeline



Aircraft rest on the NAS Kingsville, Texas, flight line ready to train, while a FOD (Foreign Object Damage) walkdown is performed..

NFO Training Pipeline



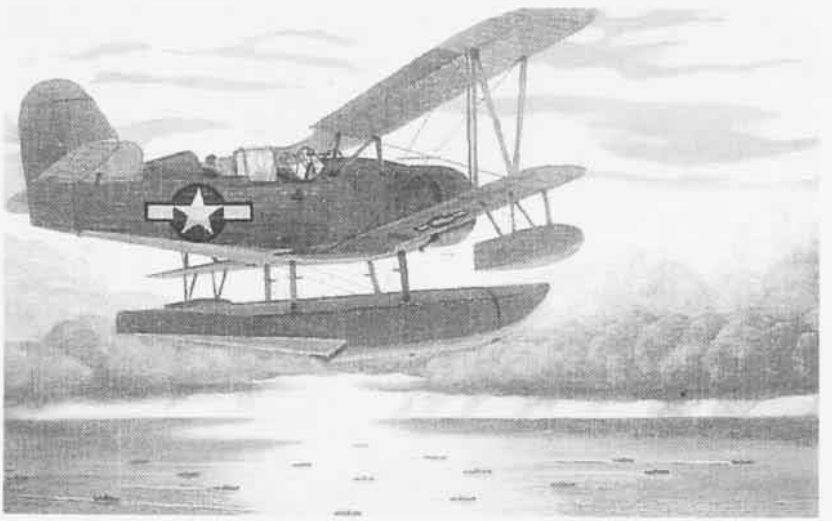
*USN/USMC Platform

**USMC Platform

AV = Navigation
TDS = Aviation Tactical Data System
JN = Overwater Jet Navigation
CMO = Electronic Countermeasures Officer
IO = Radar Intercept Officer
SO = Weapons and Sensors Officer

Brown Shoes and Wild Horses

This SOC Seagull on North Atlantic convoy duty during WW II is one of Cdr. Moss's paintings that he had made into note cards, which he uses in corresponding with friends and former shipmates.



By Cdr. Elmo L. Moss, USN (Ret.)

The following letter was written to Steven D. Hill of the Naval Aviation History Branch, Naval Historical Center, in response to his article, "Invasion! Fortress Europe—Naval Aviation in France, Summer 1944." It is an interesting account written by an aviator who was there.

Your article in the May-June 1994 issue of *Naval Aviation News* regarding VCS-8 Naval Aviators flying with the 111th Tactical Reconnaissance Squadron during WW II contained the brief essentials of the operation. As one of those who participated, I can add some details based on my own experiences. I hope that this will contribute further to the completion of the official naval history.

As noted in your article, the SOC was particularly vulnerable to attacks by the Luftwaffe's Me 109s. In fact, VCS-8 had a number of aircraft shot down and suffered some loss of life during the invasion of southern Sicily. As a consequence, Admiral P. N. L. Bellinger, ComAirLant, came to the Mediterranean and consulted with several of us on the most practical fighter aircraft to substitute for the SOC in spotting naval gunfire. His first candidate was the F6F *Hellcat*. However, since there were no naval aircraft maintenance personnel nor facilities ashore in the theater capable of maintaining the *Hellcats*, he decided to go to the Army Air Forces and succeeded in obtaining 10 P-51 *Mustangs* for us.

In the meantime, as you noted, it was necessary to familiarize the Army Air Forces pilots with the Navy's methods of spotting naval gunfire. To this end, I was ordered in December 1943 TAD [temporary additional duty] to the Naval Command in Naples. I was further ordered to the staff of the Commanding General of Fifth Army, General Mark Clark, headquartered at Caserta, east of Naples. There I provided technical input regarding airborne spotting of naval gunfire for inclusion in the Operations Order for the proposed amphibious landings at Anzio/Nettuno. As an adjunct to this TAD, I was sent to the 111th Tactical Reconnaissance Squadron, then based at Pomigliano southeast of Naples, to familiarize the 111th pilots with Navy spotting techniques.

I was unfortunate enough in my passing through Naples during this period to be exposed to typhus, which was epidemic in the area. Shortly after the completion of my TAD in the Naples/Caserta area and upon my return to the VCS-8 temporary base at a former Air France seaplane facility at La Galette, Tunisia, I contracted a severe case of the disease. Only the diligent care and attention of the Navy hospital corpsmen at the small amphibious craft base nearby pulled me through. While I was ill, and later convalescing at a theater hospital in Algiers, the other VCS-8 aviators completed fighter check-outs at Berteaux, Algeria.

Consequently, my check-out there in P-40s was delayed until March 1944. As a side note, my fellow students at that time for formation flying and for combat tactics were all black pilots, who later made up the renowned 99th Pursuit Squadron.

I returned to La Galette and rejoined the other VCS-8 aviators on 9 April 1944. We were soon ordered to Maison Blanc Airport, Algiers, to check out in the P-51Bs and Cs that Adm. Bellinger had procured for us. These aircraft were received at Maison Blanc with the wings detached from the fuselages and in crates. Italian prisoners of war, under U.S. Army supervision, were employed in uncrating and reassembling the aircraft. However, to the best of my knowledge, these were not the same aircraft that were eventually assigned to the 111th for us.

About the first of May 1944, we VCS-8 aviators from USS *Brooklyn* and *Philadelphia* reported to the 111th, which had moved to Santa Maria Airfield near Caserta. We began to get our "on-the-job training" flying combat missions as wingmen for the Army Air Forces pilots. After four missions, Lieutenant Liane was ordered in late May back to the staff of ComCruDiv 8. As senior aviator present, I was officer in charge of our 10 aviators for the remainder of our TAD tour with the 111th.

The Naval Aviators attached on TAD to the 111th for the rest of our time there were from *Brooklyn*: Lieutenant Elmo L. Moss, Senior Aviator; Lieutenant (jg)s Morris G. Pickard, Harold J. Eckardt and Robert N. Jolliffe; and Ensign Richard A. Sikes. From *Philadelphia*: Lieutenants William R. Austin and Stanley C. Fierstein; and Ensigns Francis H. Markey, Robert Smiegocki and Merlin R. Beckett.

We flew regular 111th missions with Army Air Forces pilots, as wingmen at first. As we gained experience, and as

experienced Army pilots were rotated back to the U.S. upon completing their required number of missions for rotation, we led flights as operational requirements dictated. In other words, we became fully integrated into the regular 111th operations.

Of the 10 P-51Cs that were nominally assigned to us, each of us Naval Aviators was assigned a specific airplane—on paper. In practice, we flew whatever airplane that was operationally ready and assigned to us for the mission by the squadron scheduling (operations) officer. When the 10 new planes first arrived, I continued the common practice of wartime squadrons by painting a name and/or insignia on each of our aviators' airplanes—with the exception of Ens. Jolliffe's. He desired that this not be done with "his" airplane.

Having studied art in college at Southern Methodist University, Dallas, Texas, and having worked briefly as a commercial artist, I personally did the painting. Ltjg. Eckardt, our squadron comedian, provided some of the "nicknames" that appear on the noses of the airplanes shown in the pictures.

Along that line, I had prints made of some of my paintings of WW II SOCs, *Brooklyn* and the first P-51s landing in southern France. The prints were made into note cards that I use and have given to friends and old shipmates.

Incidently, the photo of *Val Gal II* shown in your *Naval Aviation News* article was the aircraft "nominally" assigned to Ens. Smiegocki, named for his girlfriend but being flown that day, 18 August 1944, by Lt. Fierstein. He was my wingman on a naval gunfire spotting mission shortly after the initial landings in southern France. He radioed me that his canopy had become partly unfastened. We saw a partially completed airstrip being bulldozed in a vineyard near St. Tropez. I "drug" the field and then made a safe landing and radioed him to come on in. He landed just long enough to secure the canopy; we took off, completed our mission and returned to our base in Borgo, Corsica. I was flying *Rome Gnome*, "nominally" assigned to Ens. Sikes. In the painting that I made of the incident, I substituted my own "nominally" assigned airplane, *Sweetie Pants*.

As the Fifth Army progressed up the Italian peninsula, slowly driving Field Marshal Kesslering's troops northward, the 111th followed the advance northward. Since our missions were primarily to furnish information on German activities in front of our Army as well as movement of troops and equipment behind German lines, it was necessary to keep our airstrips within a short flying distance of the front lines. As the distance to the front reached between 25 and 50 miles, the Army Combat Engineers would bulldoze a strip from the Italian countryside, lay down Marsden matting and throw up a temporary platform for a mobile control tower. Then our entire squadron would move up, dig foxholes, pitch tents and continue operations until the next move.

I do not remember all of the Italian towns near which we bivouacked, but our first move northward was from Santa Maria; and Anzio, Lido de Roma, Voltone, Fallonica and Civitavecchia stick in my mind.

As the invasion of southern France approached, we moved to Borgo, Corsica. After the southern France landings were secured, the squadron moved near St. Raphael, France. Soon after that, about 1 September, we Naval Aviators were ordered back to our respective ships and to SOCs. We continued to spot for our ships as intermittent German artillery, hidden in railway tunnels along the French and Italian rivieras, fired on our ships until about the end of October.

In the four months with the 111th, we Naval Aviators flew some 242 combat missions, not counting numerous training, administrative and ferrying missions. Sometimes we lived in tents along with our Army squadronmates; sometimes we would "requisition" a local farmhouse or a "villa" and absorb some local culture. We returned to the regular wardroom food and clean comfortable cabins aboard ship with some regret!

Of the Naval Aviators involved, Lt. Fierstein was later killed in the war in the Pacific. Lt. (later Capt.) Liane died some years ago. Ltjgs. Pickard, Eckardt and Jolliffe passed away a few years back. Lt. Austin died just last March. I have lost track of the others.

About 15 Navy enlisted aviation personnel reported to the squadron to augment the maintenance crews while we were based in Corsica. They were TAD to the 111th, so they were not under my administrative or operational control.

I returned to the U.S. aboard *Brooklyn* in December 1944. I was detached in January 1945 after being attached to the ship, except for various periods of TAD, for 38 months. The normal tour aboard a cruiser for a Naval Aviator was only about 18 months. The ComAirLant detail officer had lost my assignment card, along with Liane's.

I was given a month's leave and then ordered to the Training Command to instruct primary flight training in N2S Stearmans. I transferred to the regular Navy and completed 28 and one-half years before retiring at NAS Lakehurst, N.J., in July 1969. ■

Members of the "111th Army-Navy squadron." The author is seated in the foreground on the left.

Below: Lt. Moss stands beside his P-51C Mustang, AAF S/N 42-103481, named "Sweetie Pants." Bottom: Lt. Stanley C. Fierstein is shown with his Mustang, "The Cock." All P-51s being flown by the Naval Aviators of VCS-8 were given the fuselage code letter "N" for Navy.

C-20 Gulfstream

By Hal Andrews

Shiny new airplanes with new designations are not often seen in Naval Aviation these days. So, the arrival of two C-20G Gulfstreams at NAF Washington, D.C., warrants a closer look. True, the C-20D Gulfstreams operated by the Marines have been regular air station visitors for a number of years, but Fleet Logistics Support Squadron (VR) 48's new Gulfstreams are a new model with a new mission as medium-lift transports.

Military Gulfstream Aerospace C-20s date back more than a decade. Like the C-20Ds, these C-20s have been Gulfstream IIIs. The new C-20Gs are the latest model Gulfstream IV SPs, especially modified for their logistics support role.

Equipped with removable airline-type seats for 26 passengers, up to 4,500 pounds of cargo can be carried alternatively—loaded through a large cargo door on the forward fuselage opposite the regular passenger/crew entrance. These newest Gulfstreams also feature the latest digital avionics and a "glass cockpit" for the pilots—regularly seen by Naval Aviators flying the latest tactical jets.

Appearing a bit like a scaled down C-9, the C-20G is a typical high subsonic speed business jet with a moderately swept low wing, a large T-tail and aft-fuselage-mounted twin fanjet engines. The large Gulfstream oval windows along the passenger cabin stand out among jet transports of all sizes. Its 13,850-pound-thrust Rolls Royce Tay engines and their nacelles were designed to meet the Federal Aviation Administration's (FAA's) Stage 3 noise criteria.

The G IV SP operates from 6,000-foot runways and can cruise "above traffic" at 45,000 feet with intercontinental ranges, even in adverse wind conditions.

Unassisted airfield operations, as well as in-flight back-up electric and hydraulic power, are available from a rear-fuselage gas turbine auxiliary power unit. Variable-speed, constant-frequency electric power systems meet the requirements of the extensive digital avionic flight management, control and communications systems.

C-20D

In addition to the cargo door, another modification required to meet FAA certification as a 26-passenger transport was the replacement of the two rear passenger cabin windows, which served as emergency exits, with new emergency exit hatches through which a person can exit "knees and shoulders simultaneously."

Prior to delivery, the C-20G underwent FAA certification testing for approval with its modified features. FAA certification achieved, the first delivered went to NAS Patuxent River, Md., for operational and verification tests by the Naval Air Warfare Center Aircraft Division. The second went directly to VR-48 in March, where both have been employed in operational training and stand-up activities and the initiation of their mission support logistics flight role.

The Gulfstreams trace their heritage to Grumman's long interest in business aircraft and the company's succession of commercial twin-engine amphibian airplanes. Most of these found their way into Navy and Coast Guard service. The Gulfstream series itself began in the late 1950s with the original Gulfstream first flown in 1958. These first Gulfstreams can be best identified by Navy and Marine *Intruder* bombadier-navigators and pilots as the airframe behind an A-6 radome nose on the TC-4Cs. In its basic configuration, it was designed to offer the business community turboprop power and a reasonably large range with a medium passenger load. With two shaft-horsepower Rolls Royce Darts, it offered corporate users transcontinental and transatlantic (in stages) range, higher cruise altitudes and versatile airfield performance in a designed-for-the-purpose business aircraft. Of 200 built over the next decade, other than the nine TC-4Cs, only one joined the country's uniformed services, the Coast Guard's VC-4A.

The first executive jets entered service in the early 1960s as airline jet transports came into wide use. Turbofan (fanjet) engines also began to replace the pure jets on the transports. Grumman recognized that a fanjet powered business aircraft could bring airline jet speed and altitude performance capability to their Gulfstream customers, without sacrificing nonairline airport flexibility.

While Gulfstream production continued, the resulting Gulfstream II first flew in October 1966. A typical swept-wing design, it was powered by two 11,400-pound-thrust Rolls Royce Spey engines in aft fuselage mounted nacelles. To reduce development cost, Grumman's engineers carried over the fuselage nose and passenger cabin section from the first Gulfstream to the

C-20G

C-20G

new design with the rear section redesigned to mount the engines, a T-tail and relocated aircraft operating systems. The increased range and operating altitude met the market needs and 256 Gulfstreams IIs were built through the 1970s.

With company changes, production was shifted to Savannah, Ga.; subsequently, the Grumman American subsidiary was formed to include its production and the subsidiary sold to become Gulfstream American before production ended. Modifications were introduced over the years, some to improve payload/range performance, including the installation of wing tip-mounted fuel tanks and others to reduce airport operating noise. Again, among the services, only the Coast Guard owned a Gulfstream II, as its VC-11A. Two others were extensively modified to serve as National Aeronautics and Space Administration (NASA) space shuttle landing training aircraft.

VC-11A

During the 1970s, as long-distance international business travel grew even more frequent, advanced aeronautical technology became available for increased cruising speeds, altitudes and range. At the same time, the energy crisis placed a premium on improved fuel economy. Gulfstream engineers—at Bethpage, N.Y., and Savannah—looked at ways of stepping up performance. Recognizing the financial burden of high development costs, a minimum change Gulfstream III evolved, capable of meeting minimum nonstop transocean range goals, achieving higher cruise Mach numbers and altitudes. The wing leading edge was extended to give a lower thickness to chord airfoil section and increased internal fuel without changing the trailing edge structure, or the flaps, spoilers and ailerons. The tip was extended and fitted with NASA design winglets. A short forward fuselage extension gave more internal volume for additional avionics and baggage, cockpit design was modernized and the external nose and cockpit lines were aerodynamically improved, mainly for reduced cockpit noise. First flight of the G III was in December 1979, with certification and initial production deliveries before the end of 1980.

Needing to replace its aging early Lockheed C-40 business jets used for transporting high-level government passengers, the Air Force leased three G IIIs in 1983 to become C-20As, later purchasing these and procuring additional C-20 series aircraft. With additional communications and/or special mission systems, some became C-20Bs and Cs. Two became G III Marine C-20D staff transports and two others Army C-20Es.

Gulfstream Aerospace, as the company had become, also developed a missionized variant for maritime patrol, electronic warfare and other avionics-oriented purposes. It featured a large loading door on the starboard forward fuselage aft of the cockpit to accommodate bulky mission systems equipment, the first version of what became the C-20G's cargo door. Only a prototype SRA was completed among the 202 G IIIs built by the late 1980s when the G III was superseded by the G IV.

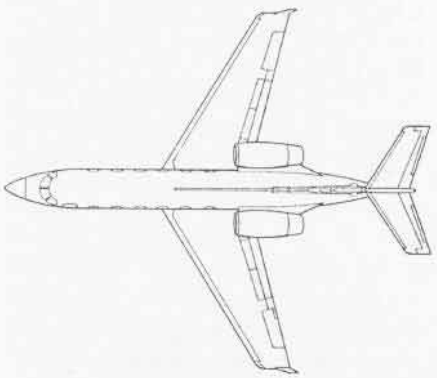
Meeting the FAA's Stage 3 noise requirements—along with the continuing desire for larger ranges, greater cabin capacity and higher operating altitudes—led to Gulfstream IV development in the early 1980s. Airframe changes included structural redesign of the wing to increase internal fuel volume while reducing weight and production costs, a further four and a half foot forward extension of the cabin section and increased horizontal tail span. The first G IV flew in September 1985. Following April 1987 FAA certification, G IVs set both westward and eastward round-the-world speed records of 46-plus and 36-plus hours, respectively, during the next year.

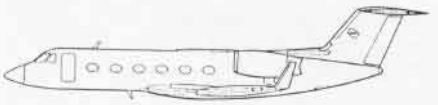
Planned procurement of three G IVs, modified to carry appropriate electronic warfare/electronic countermeasures equipment as EC-20Fs, was dropped with the change in the Navy's fleet electronic warfare training plans. Subsequently, five C-20Gs were ordered, to be delivered in the latest upgraded G IV SP production configuration with the medium-lift transport modifications. Two pairs will serve the Naval Air Reserve logistics support squadrons; the fifth will go to the Marines.

Staff transport versions of the G IV have been delivered to the Army and Air Force, one to each, as the C-20F and C-20H. Production deliveries continue to both civil users and, with or without mission systems, to various foreign government/military customers.

C-20G

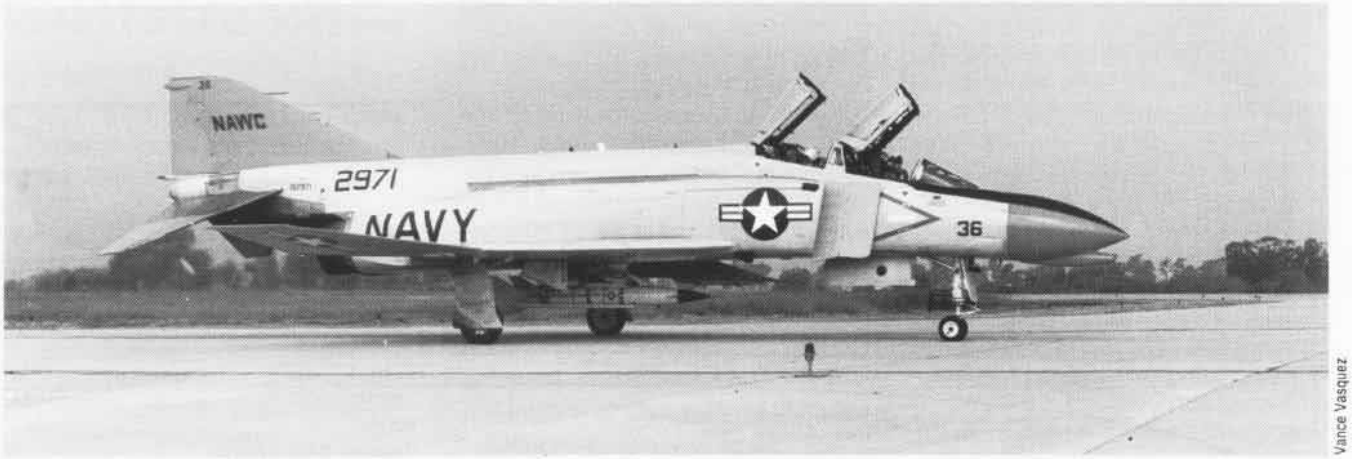
Span	**77'10"**
Length	**88'4"**
Height	**24'5"**
Engines: 2 Rolls Royce Tay Mk 611-8	**13,850 lbs. thrust**
Maximum Speed	**0.85 Mach Number (490 kn @ 35,000')**
Maximum Altitude	**45,000'**
Maximum Range (with reserves) (All cruise flight conditions)	**4,220 mi.**
Crew	**4**
Maximum Load	**26 passengers or 4,500 lbs. cargo**





On Target: QF-4N

Compiled by Vance Vasquez



Vance Vasquez

Wolverine 36, a QF-4N Phantom II, taxies on Runway 21 at NAWS Point Mugu, Calif., piloted by Dave Hayes and Steve Tack.

Undoubtedly, the McDonnell Douglas F-4 *Phantom II* was one of the best designed and most used combat fighter/bombers of its era. Flown by the Navy, Marine Corps and Air Force, the F-4 played a vital role in conflicts from the Vietnam War to the recent Persian Gulf War.

More than 5,000 F-4s were produced until 1978. The final McDonnell Douglas production F-4E *Phantom II* was delivered to the Republic of Korea Air Force.

The predecessors of the Naval Air Warfare Center Weapons Division (NAWCWPNS), Point Mugu, Calif., had a long history of weapons testing and development while the F-4 was in active Navy service. Now, many of the *Phantom II*s that were retired and put into storage have become QF-4s used for target presentations at NAWCWPNS.

The QF-4 traces its history to 1970 when the Navy began a new program to convert an F-4B to a QF-4B target drone called the Navy Agile Target at the Naval Air Development Center, Warminster, Pa. This QF-4B *Phantom II* was flown to Naval Weapons Center, China Lake, Calif., during April 1972, painted in an overall bright red-orange paint scheme. Subsequently, conversions were also performed at the Naval Air Rework Facility, Cherry Point, N.C. Altogether, 44 converted QF-4Bs were delivered to China Lake and Point Mugu for use as target drones.

When more modern Navy fighters entered the fleet, the F-4N became available for use as a supersonic, realistic modern-day target. The Naval Air Systems Command manages today's QF-4N Full Scale Aerial Target Program. NAWCWPNS China Lake helped design and develop the QF-4N and created the detailed production package.

The QF-4N was unveiled in February 1983 and initially delivered to China Lake in May 1986.

Once a *Phantom II* has been selected for conversion, it is flown to the Naval Aviation Depot, Cherry Point, N.C. The future drone is visually inspected for fatigue, corrosion and structural integrity.

At Cherry Point, an interface unit is placed in the nose of the *Phantom II*, which becomes the nucleus of the conversion and acts as a central point between the ground and remote target functions of the aircraft. The Naval Aviation Depot at NAS North Island, Calif., produces the wiring harness for the interface. A target control panel, target system antennas and onboard TV cameras are also installed. More than 60 QF-4Ns have been converted; most were delivered to Point Mugu.

About 90 percent of a QF-4N's flight time is manned. When a QF-4N is being prepared for a No-Live Operator (NOLO) presentation, a pilot performs a remote check of the aircraft at a universal control console, while a set-up pilot monitors preflight instrument readings in the aircraft. When everything checks out, the set-up pilot leaves the cockpit and the flight termination charges are set. Control is then turned over to the console pilot who uses the view from the aircraft's forward-looking TV camera, on his TV monitor, along with telemetered instrument data, to fly the QF-4N remotely.

During a target presentation, some missions may require air-to-air missiles to carry a live warhead or a telemetry package. If the QF-4N is not destroyed during a NOLO mission, the aircraft is flown back home and landed piloted from the same console as the takeoff.

During 1989, two Pacific Missile Test Center QF-4Ns were painted in the squadron markings of Fighter Squadron 143 for the movie, *Flight of the Intruder*. These *Phantom II*s were craned aboard *Independence* (CV 62) at NAS North Island, Calif.

QF-4Ns are used for unmanned targets in support of test and evaluation roles for both air-to-air and surface to-air missiles. The *Phantom II* is also utilized as a manned aircraft for launching AQM-137 targets and towing TDU-32/34 aerial targets for gunnery practice during missions flown in the Sea Test Range.

Currently, NAWCWPNS operates 15 QF-4Ns for target presentations to the fleet. These QF-4Ns are the last *Phantom II*s operating today. ■

Laser Evaluator System-Mobile (LES-M)

By Lt. Chuck Babcock

Naval Aviation has long had aircraft with the mission/capability to designate targets for Laser Guided Weapons (LGW). The laser designator system on these aircraft is pointed using a Forward Looking Infrared (FLIR) or other optical system. The FLIR displays the target to the flight crew; however, no aircraft capability currently exists to detect and display, to the required accuracy, the reflected laser energy. Therefore, the flight crew cannot determine if the laser spot is being maintained on the chosen target or if the laser designator has been accurately boresighted to the FLIR field of view (FOV).

Due to the limited number of LGWs available for live-drop training and since weapon accuracy is dependent on the laser spot being kept on target, flight crew training for laser-guided weapon delivery concentrates on skill improvement in pointing the laser designator.

The Naval Air Warfare Center Weapons Division (NAWCWPNS), Code P2385, Point Mugu, Calif., under direction by the Naval Air Systems Command's Tactical Training Ranges Program Office (PMA-248), serves as the Lead Field Activity (LFA) responsible for design, development and production of the Navy's Laser Training Systems (LTS). Within the past three years, PMA-248 has received a number of requests to provide LTS for training aircrews in effective delivery of LGWs while on deployment, which would enable these crews to maintain their laser designation skills. Until recently, these requirements were satisfied through the temporary loan of Laser Evaluator Systems (LES) borrowed from Navy Tactical Training Ranges (NTTRs), where their requirements still exist. The LES has met the immediate requirements for open-ocean laser training admirably and has proven very valuable in determining accurate boresight alignment of airborne laser designators. In response to fleet request, PMA-248 directed NAWCWPNS' installation of LES on board *Shasta* (AE 33) *Jarrett* (FFG 33), *Camden* (AOE 2) and *Mount Kea* (AE 22). Although the LES with its cumbersome three-box configuration was not designed for this mobile/at-sea environment, but rather for permanent installation on an NTTR, the system has performed to the satisfaction of all concerned. A more suitable LTS configuration exists in the LES-M, which was specifically designed to withstand a marine/mobile environment.

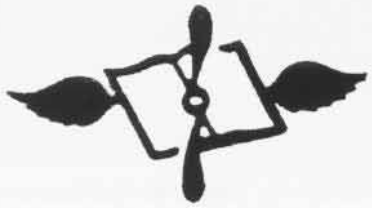
The LES-M (MX-11485/U), like the LES, was developed to provide flight crews with a no-drop laser-guided weapons delivery training capability without a live-drop requirement. It is a low-cost ($81K per unit), self-contained, portable system designed to provide real-time closed loop training by transmitting a tone on a radio frequency carrier to the aircrew whenever the target is effectively illuminated by a laser designator. The LES-M is a repackaging of the LES into a single box configuration with a 360° FOV (vice the LES' 70° FOV), which permits laser training from any unobstructed flight path. The LES-M is more versatile than the LES. It can be installed anywhere there is available power and will provide training support for land and sea-based airborne designators on any target authorized for laser use, using mobile platforms such as boats, barges and QLT-1Cs, as well as fixed targets. The LES-M will easily provide the capability to support open-ocean laser training. Additionally, unlike the LES, some Intermediate-level maintenance can be set up for shipboard repair of the unit.

To date, NAWCWPNS has delivered LES-M production units to NTTRs at Pachino, Sicily; MCAS Cherry Point, N.C.; Dare County Bombing Range, N.C.; NWSTF Boardman, Oreg.; and NAS Fallon, Nev. One LES-M is currently deployed temporarily on board *Camden* (AOE 2) with Commander, Cruiser-Destroyer Group (COMCRUDESGRU) 3, providing laser training support for the *Carl Vinson* battle group. Tentative near-term requirements for deployed LES-Ms will be to support open-ocean laser training by battle groups supported by COMCRUDESGRUs 1, 2 and 5.

Requirements for LES-M assets should be forwarded to PMA-248 via the normal chain of command through the fleet's TYCOM Training Range Coordinators (i.e., AirLant Code N52 or AirPac Code 31M). ■

Aviation Maintenance

Story and Photo by JO1(SW) Eric S. Sesit



Aviation Maintenance Administrationmen (AZs) know everything from "A" to "Z."

At least that's what the 3,535 men and women of the AZ rating will tell you. And if you happen to be involved in the highly complex world of aviation maintenance and rely on AZs to keep your paperwork straight, you'll probably agree.

AZs usually work in clean, comfortable offices, which may rankle the troops working a steaming flight line, but squadron personnel realize that AZs are the experts in keeping the paper trail moving. Without them, the world of Naval Aviation could come to a grinding stop.

"It sounds simple. Basically, we take care of the records of planes and helicopters," AZ1(AW) (chief selectee) JoAnn Morris said. Morris is the production control Leading Petty Officer (LPO) at the Aviation Intermediate Maintenance Department (AIMD), NAWCAD Patuxent River, Md. "Every aircraft has its own records. Everything about that aircraft—repairs, overhauls, inspections—is documented and logged. When the aircraft moves to a new squadron, the paperwork goes with it. It's very much like a service member's record."

AZs also organize and maintain the mountainous libraries of technical publications, issue work orders, perform data analysis and provide a wide range of clerical and administrative services related to aircraft maintenance, such as preparing reports, messages and correspondence.

In order to become an AZ, a person must be a U.S. citizen and be eligible for a security clearance. Less measurable factors include the ability to work as part of a team and the ability to perform repetitive tasks accurately.

"A five and a half week 'A' school is required for anyone entering the AZ rating," AZCS(AW) Bill P. Erdmann, the AZ detailer, said. "The school, located at NAS Meridian, Miss., teaches the basics of our rating. Graduates select their first duty station from a list of available billets, with the top-ranked student getting first choice."

A variety of assignments are available to AZs both abroad and in the U.S. They can be assigned to the fleet as part of a ship's company, AIMDs at sea or ashore, or to squadrons. They probably will begin plying their trade in production control if assigned to an AIMD or the technical library maintaining and updating the thousands of manuals and publications that are constantly changing. "We try to rotate these people to different jobs during their first tour," Erdmann said. "It's extremely important that our people are trained in every facet of our rating, because we never know what we will be required to do on our next assignment."

As AZs move up the ranks to second class petty officer, they maintain logs and records, work in maintenance administration and begin to get their feet wet working as analysts. First class petty officers usually fill an analyst billet or work as a logs/records supervisor where they are groomed for leadership positions.

Chief selectee Morris said, "I've been provided a good opportunity here at Patuxent River. I was working logs and records when I was given the chance to be LPO for production control. Normally, a mech or someone with mechanical experience would have this position, but I've been able to perform a job that most AZs don't get to try."

Until recently, becoming an analyst meant attending a "C" school located at NAS Memphis, Tenn., and earning the 6313 Navy Enlisted Classification (NEC) code, a numerical designation that marks the sailor as an expert in a particular field. However, a new computer system, the Naval Aviation Logistics Command Management Information System (NALCOMIS), has made it necessary to split the analyst NEC into two separate specialties depending on whether the job is being done at the Intermediate (I)

Administrationman

level or the Organizational (O) level. According to Erdmann, "NALCOMIS came on line in March 1994. The system processes all aviation maintenance and material management. The logbooks previously used are becoming a thing of the past. A small paper trail is still required, but the majority is now on NALCOMIS. The 'C' school is still taught at NAS Memphis and graduates earn the 6314 NEC for I-level maintenance and the 6315 for O level."

First-term AZs, if assigned to sea duty, will spend their entire first enlistment afloat. Once they make third class petty officer, they will spend 42 months at sea and 36 months on land. Second class AZs spend 48 months at sea and 36 months ashore, while first class petty officers, chiefs, senior chiefs and master chiefs all split their time between sea and shore at 36 months apiece.

According to AZCS Erdmann, promotion has been extremely slow during the Navywide draw down but has shown signs of improvement. "Only 13 active duty sailors were promoted to E-6 from last September's Navywide advancement exam. The March 1994 exam resulted in 43 individuals being promoted to E-6 so things are definitely improving. I expect this trend to continue in the forseeable future despite the fact we are still downsizing and plan to eventually get down to 3,200 AZs." Erdmann said.

Erdmann, who is also the aviation coordinator for women on board ships, noticed that the opportunities have greatly increased with many ships now embarking women. "I've been getting so many requests from women to terminate shore duty that it has been almost overwhelming," Erdmann said.

He concluded, "What this does [women on ships] is open up more overseas tours for the men. This means more varied tours during a career and everyone now gets a chance to do different things and see different places. It used to be a sailor could stay in one place—do an entire career out of Norfolk, Va., for instance. Not any longer. Everyone needs to be flexible. In the end, it only makes our Navy that much better." ■

AZ1(AW) JoAnn Morris guides AZ3 Glenda K. Pollard through the intricacies of NALCOMIS, the AZ's newest tool, used to keep track of maintenance records on aircraft. NALCOMIS came online in March 1994.

Naval Aviation in WW II

Victory at

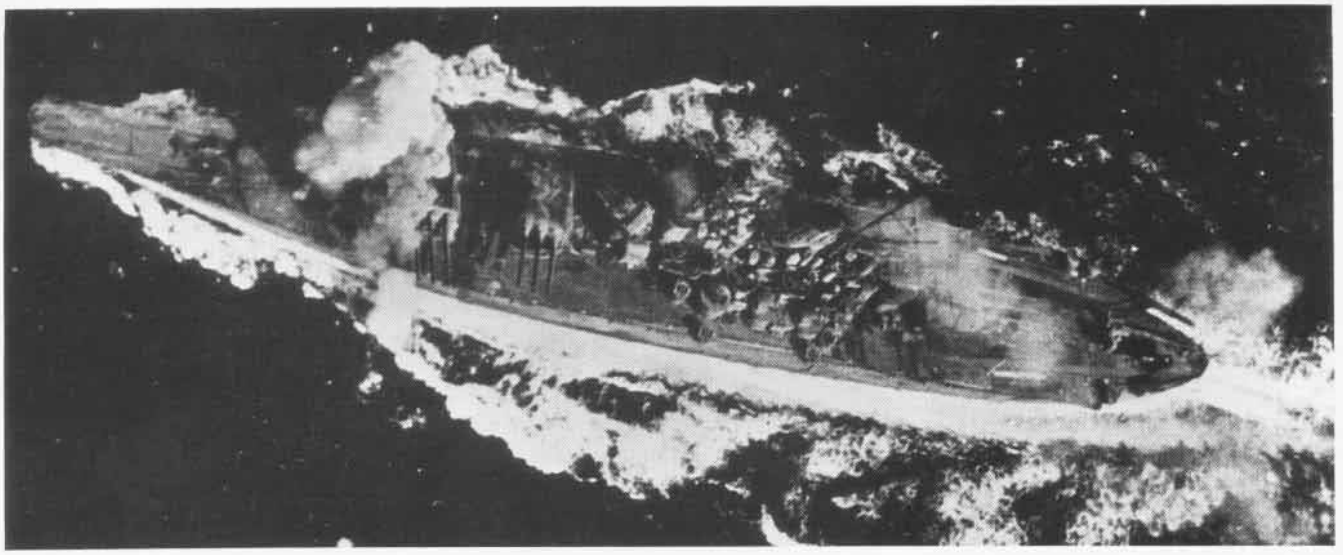
By John C. Reilly

The lack of air power, I feel, was the weakest point. I knew in advance that lack of air power was the main drawback to the operation.

Vadm. Jisaburo Ozawa, 1945

The Allied offensive now began to close on the Philippines. By mid-1944, the plan called for the Central Pacific striking force to capture Peleliu, Angaur, Ulithi and Yap in the western Carolines. At the same time, it would support General Douglas MacArthur as he leap-frogged through Morotai into Mindanao. The two forces would then combine to land on Leyte shortly before Christmas 1944.

In the meanwhile, the Joint Chiefs of Staff proposed that MacArthur merely establish airfields on Mindanao to obtain air superiority in the Philippines, then join the Central Pacific force to land on Formosa and China. These, the chiefs reckoned, would provide excellent bases for cutting Japanese air and sea communications with the East Indies and for the projected invasion of Japan. MacArthur took strong issue with this,



Far left, TF 38 hits military targets on the Manila waterfront in preparation for the landing on Leyte (USN 46799). Left, Curtiss SB2C-1C Helldivers of VB-1 from Yorktown (CV 10), 1944 (USN 238021). Above, the Japanese battleship Yamato under attack during the battle of the Sibuyan Sea. A carrjer dive-bomber has just scored a hit forward of Turret I (USN 281699).

Leyte Gulf

Task Group 38.2 at sea. At Leyte, as in the Marianas, the fast carrier striking force paved the way for invasion and stood ready to repel any counterattack.

USN 301754

arguing that liberation of the Philippines deserved priority.

On 26 August 1944, Admiral William Halsey took command of the Central Pacific force, which now became the Third Fleet. The Fast Carrier Force became Task Force (TF) 38, with Admiral Marc Mitscher remaining in command. In mid-September, Halsey took TF 38 to hit the central Philippines to prepare the way for landings in the Carolines and on Morotai. At relatively small cost, carrier planes knocked out some 200 Japanese planes and sank 13 logistics ships. Halsey was convinced that the central Philippines were a poorly defended "hollow shell" and urged Nimitz to bypass the Palaus in favor of an early landing on Leyte.

MacArthur, naturally, liked this idea. Nimitz still wanted the Palaus in hand before attacking the Philippines. The

Joint Chiefs agreed with Nimitz about the Palaus, but decided to begin liberation of the Philippines with a landing on Leyte in October 1944.

Capture of Morotai, Peleliu and Angaur put Army bombers within supporting range of the Philippines, and Ulithi became an essential advanced fleet base. Planes from bases in China and the South and Central Pacific now hit Japanese airfields within interference range of Leyte. On 10 October 1944, TF 38 began to attack Okinawa, Luzon and Formosa. On 20 October, the Seventh Fleet, under Vice Admiral Thomas Kinkaid, put the Sixth Army ashore and Tacloban airfield was quickly seized.

When the Marianas fell, the Japanese high command drew a new plan, called Operation *Sho* (Victory), to defeat the next American attack. In its essentials, landplanes would mount a massive opening strike as naval forces converged to crush the invaders in a go-for-broke counterattack.

Admiral Soemu Toyoda, commanding the Combined Fleet, read the first preliminary air attacks as the invasion itself and rushed every available airplane to the Philippines. Task Force 38 dropped a large wrench into his plan when it destroyed some 500 of these planes on the ground in preinvasion attacks.

As the Seventh Fleet approached Leyte Gulf, TF 38 was in position east of the Philippines to support Kinkaid and be ready for any Japanese counterattack. Japanese carriers, under Admiral Jisaburo Ozawa, were training new air squadrons in the Inland Sea in an effort to replace their Philippine Sea losses. Vice Admiral Kiyohide Shima had some surface warships in the Ryukyus. The submarine war against Japanese sealift had cut off most of the flow of oil from the East Indies to Japan, and the bulk of the Japanese surface fleet was now at Lingga Roads, near Singapore, close to the source of fuel. Here, Vice Admiral Takeo Kurita had the main force of battleships and cruisers, including the 18.1-inch gunned battleships *Yamato* and *Musashi*.

Kinkaid's invasion force arrived at the entrance to Leyte Gulf on 17 October to capture outlying islands and begin assault minesweeping. When Toyoda learned of this, he ordered his fleet to sea. The *Sho* plan called for Ozawa's carrier force to approach from the north in the hope of drawing TF 38 to meet it. The surface ships from Lingga Roads would then form two battle groups and converge on Leyte Gulf, Kurita coming around the northern end of Samar with most of his ships and Vice Admiral Shoji Nishimura passing through Surigao Strait with the rest. Between them, if all went well, Kinkaid's amphibious ships would be destroyed.

For easier understanding, American accounts call the Japanese task forces the Northern Force (Ozawa's carriers), Center Force (Kurita's surface striking group) and Southern Force (Nishimura, followed by Shima). The converging forces fought four widely separated engagements called the battle of the Sibuyan Sea, the battle of Surigao Strait, the battle off Samar and the battle of Cape Engano—all going to make up what has been called the last major naval action.

Kurita sailed from Lingga Roads on 18 October. Two days later, as the landing forces went ashore on Leyte, he arrived at Brunei to refuel. In the morning of 22 October, he put to sea with 5 battleships, including *Yamato* and *Musashi*, and 12 cruisers. Later that day, Nishimura departed Brunei for Surigao Strait with 2 battleships and 1 cruiser. Shima's three cruisers were underway from the Ryukyus with orders to form part of the Southern Force and cooperate with Nishimura in his attack.

Ozawa sailed from the Inland Sea on the afternoon of 22 October with large carrier (CV) *Zuikaku*, veteran of Pearl Harbor and the Solomons, 3 smaller carriers (CVLs) and 3 cruisers. He also had the battleships *Ise* and *Hyuga*, their after turrets replaced by an aircraft deck and catapults, referred to by American intelligence as "BB/CV." Ozawa commanded a paper tiger; his 4 carriers had 116 planes—80 fighters and fighter-bombers, 36 torpedo bombers—among them. His BB/CV had no planes at all.

This was of little import to Ozawa. His job was not to strike but to be struck; he expected to be destroyed. His sole task was to get TF 38 out of the way of the Japanese surface forces, to hold out the tempting bait of aircraft carriers in the hope that Halsey would go for it.

In the evening of 24 October Halsey began to receive contact reports; Ozawa was northeast of Cape Engano, the northeastern tip of Luzon, and heading south toward him. He soon made up his mind.

At this time, TF 38 was made up of 4 task groups of 3 to 5 carriers apiece, with various mixes of screen ships:

TG 38.1 (VAdm. John McCain): CVs *Wasp*, *Hornet*, *Intrepid*, *Hancock*; CVLs *Monterey*, *Cowpens*; 5 cruisers, 15 destroyers.

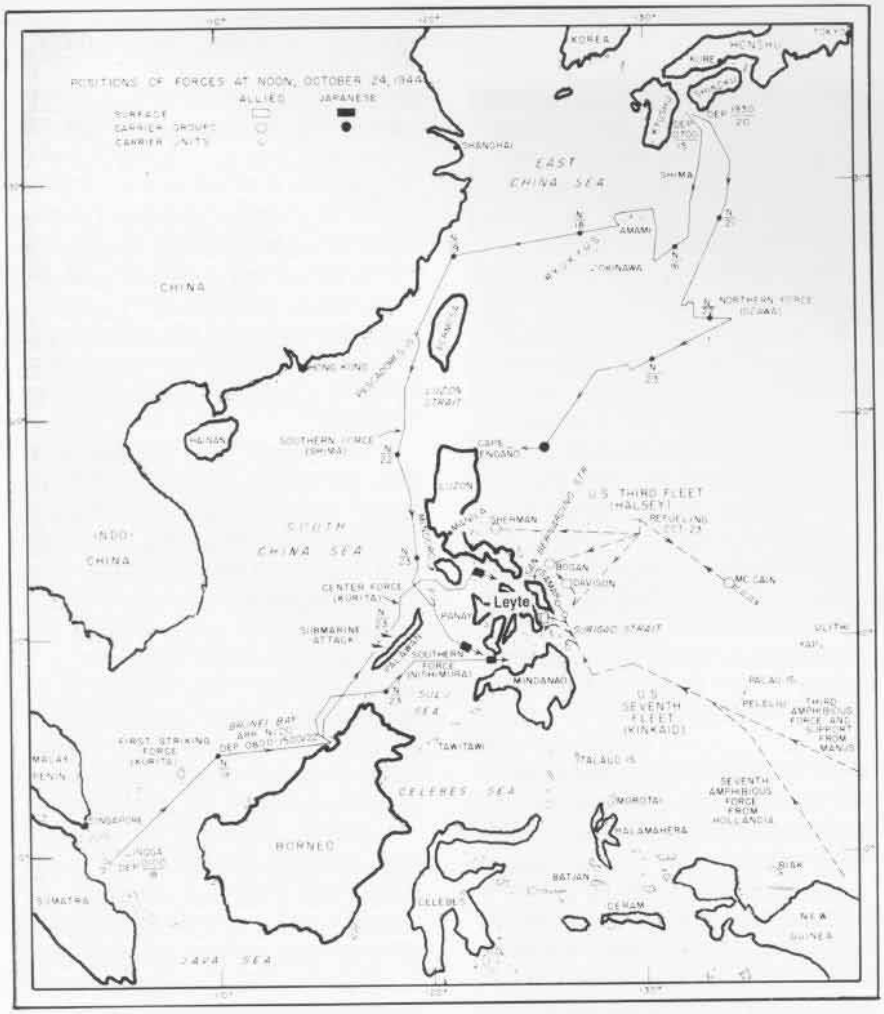
TG 38.2 (RAdm. Gerald Bogan): CV *Intrepid*; CVLs *Cabot*, *Independence*; 2 battleships, 3 cruisers, 18 destroyers.

TG 38.3 (RAdm. Frederick Sherman): CVs *Essex*, *Lexington*; CVLs *Princeton*, *Langley*; 1 battleship, 4 cruisers, 12 destroyers.

TG 38.4 (RAdm. Ralph Davison): CVs *Franklin*, *Enterprise*; CVLs *San Jacinto*, *Belleau Wood*; 3 battleships, 2 cruisers, 12 destroyers.

The large carriers had from 83 to 101 planes each, in varying combinations of F6F *Hellcat* fighters, SB2C *Helldiver* bombers and TBF/TBM *Avenger* torpedo bombers. By this time, the "old reliable" Douglas SBD *Dauntless* had been completely replaced in the fleet by the SB2C. CVL air groups numbered 26 to 35 F6Fs and TBMs. Halsey rode with Bogan's TG 38.2, his flag in *New Jersey* (BB 62). Kinkaid, in Leyte Gulf, had 6 older battleships with 12 cruisers and 90 destroyers and frigates. Close air support came from the Escort Carrier Group TG 77.4, under Rear Admiral Thomas Sprague—three task units with the radio call names of Taffy 1, 2 and 3. Each Taffy had 6 CVEs with 3 destroyers and 4 or 5 destroyer escorts. Four *Sangamon* (CVE 26)-class ships had miniature air groups of 26 to 33 planes. The *Sangamons*, bigger than other CVEs, could handle the "hotter" F6F and three of the class had been rearmed with them. *Santee* (CVE 29) still had General Motors FM-2s, an improved CVE version of the older Grumman F4F *Wildcat*. The remaining CVEs were of the *Casablanca* (CVE 55) class, each with a Composite Squadron of 23 to 30 FM-2s and TBF/TBM *Avengers*.

Three of TF 38's task groups were off the Philippines; McCain's TG 38.1 was on its way to Ulithi to replenish.



Approach of Allied and Japanese naval forces to Leyte Gulf

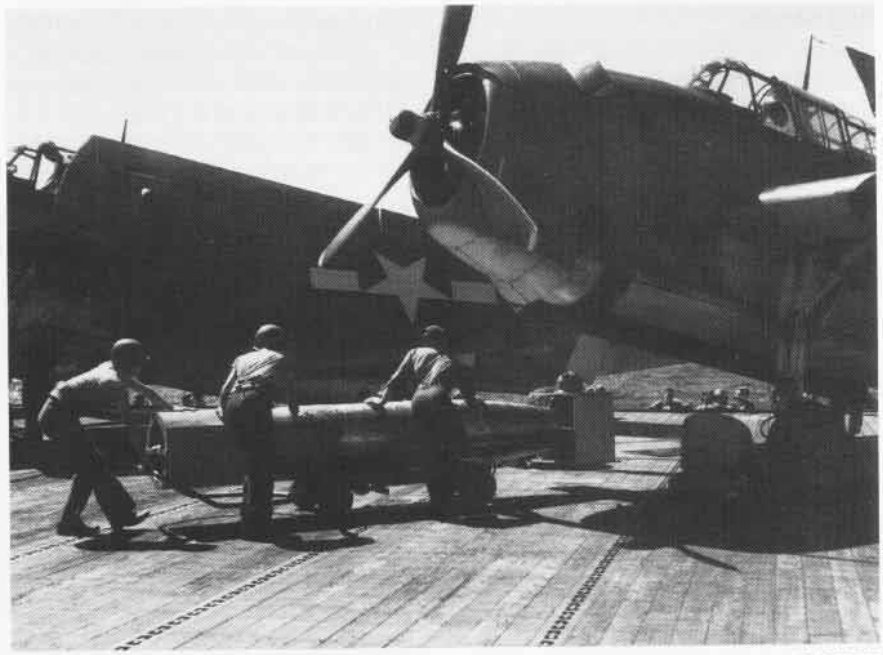
Unless otherwise indicated, the daily positions are as of noon.

Halsey quickly ordered the three available groups to head north and rendezvous at midnight; Mitscher was then to continue with the united force and attack Ozawa as soon as he was within reach. The groups joined and Mitscher headed north. *Independence* (CVL 22), now a "night carrier," flew radar-equipped search planes. Submarines sighted Kurita early on 23 October and sent Halsey a contact report. The subs sank two cruisers, including Kurita's flagship, and crippled a third. Kurita shifted his flag to *Yamato*; early on 24 October, he entered the Sibuyan Sea.

At this time, carrier scouts discovered Kurita and Nishimura. Dive-bombers damaged a battleship and a destroyer of the Southern Force, but Halsey judged Kurita to be the more serious threat. He ordered all three available groups to concentrate on the Center Force, leaving Nishimura to the Seventh Fleet when the moment came, and ordered McCain's group back to the Philippines. As the strike on the Center Force was preparing, a Japanese search plane from Luzon spotted Sherman's TG 38.3. A heavy attack soon followed. As soon as this showed up on his radar, Sherman put off the strike he was about to launch, got all his fighters into the air and turned into a rain squall. The raid was repelled with losses, but one dive-bomber used cloud cover until he could drop his bomb on *Princeton* (CVL 23). The blast ignited the planes' fuel tanks on the hangar deck; this set off torpedo warheads.

Cruisers and destroyers closed the burning carrier to help her damage control parties. Six hours of grueling work, punctuated by an ineffectual air raid from Ozawa's Northern Force, seemed to be bringing *Princeton*'s fires under control until flames set off a torpedo magazine, blowing off the carrier's stern. Cruiser *Birmingham*, alongside for some hours fighting fires, was sprayed with debris, killing or injuring some 600 men. Fires now threatened aviation gas tanks and other magazines, and *Princeton* had to be sunk by destroyer torpedoes.

While *Princeton* fought to survive, TF 38 opened the battle of the Sibuyan Sea. The Japanese air command on Luzon had decided its inexperienced flyers could be more useful attacking TF 38 than trying to fly cover, so Kurita



Avenger torpedo bombers used their weapons to good effect off Samar. 80-G-284708

was practically without air support when the first air strike came in. Four Japanese planes were downed and no more were seen. During the next four hours, TF 38 made five strikes against heavy antiaircraft fire, hammering 17 bombs and 19 torpedoes into *Musashi*; the battleship rolled over and sank that evening. A torpedo damaged cruiser *Myoko*'s propeller shafts and made her turn for home. Battleships *Yamato*, *Nagato* and *Haruna* took damage but continued on at speed. Even with *Musashi* and *Myoko* gone, the Center Force still carried a serious punch.

Kurita turned to stand by his damaged ships, then headed westward. Pilots reported this to Halsey, who read this as a retreat. Kurita, though, had not given up but was drawing back to avoid further air strikes. Shortly before sunset, he again reversed course and headed for San Bernardino Strait. From Tokyo, a general message from Toyoda came to the Japanese task forces: "All forces will advance to the attack, trusting in divine assistance." TF 38 had seriously delayed Kurita; he had originally planned to be through San Bernardino Strait by the evening of 24 October but now estimated that he would be through by about 0100 on the 25th and would reach Leyte Gulf by about 1100. He was spotted twice on radar by search planes from *Independence*, but Halsey was looking toward Ozawa's Northern Force and assumed Kinkaid would be able to defend himself.

Nishimura, at this time, was heading across the Mindanao Sea toward Surigao Strait followed, 40 miles behind, by Shima. Though they were supposed to cooperate, they did not communicate; each went his way in radio silence. In Leyte Gulf, Kinkaid thought that San Bernardino Strait was being watched by Halsey's fast battleships. Halsey had considered this when he ordered TF 38 northward but decided he needed all his antiaircraft firepower to defend his carriers against overestimated Japanese air strength. Exaggerated reports of ship damage in the Sibuyan Sea led Halsey to believe Kurita was so battered that Kinkaid could fend him off if he tried to attack Leyte Gulf. Kinkaid, believing his northern flank secure, set about defending the southern entrance to Leyte Gulf. After Nishimura and Shima were sighted by search planes early on 24 October, and Nishimura was attacked with slight results, neither force was spotted through the rest of the day. Kinkaid correctly assumed they were headed for Surigao Strait. He ordered Rear Admiral Jesse Oldendorf to the northern end of the strait with all the Seventh Fleet's bombardment ships: 6 older battleships, 8 cruisers and 28 destroyers. Oldendorf deployed his battleships across the mouth of the strait, flanked by cruisers and destroyers. PT boats were stationed down the strait and into the Mindanao Sea. Nishimura was approaching a 35-mile corridor of torpedoes and gunfire.

When Nishimura learned of Kurita's delay in the Sibuyan Sea, he continued on course, assuming a night action would give him his best chance of getting through Surigao Strait. He endured PT attacks without harm, but destroyer torpedoes mortally hit battleship *Fuso* and damaged her sister *Yamashiro*. *Yamashiro* took three more torpedoes but continued on with cruiser *Mogami* and destroyer *Shigure*. Nishimura pushed boldly ahead, firing as best he could without radar, as Oldendorf's heavies repeatedly scored. *Yamashiro*, burning furiously, turned to withdraw but capsized and sank with her admiral and most of her crew. *Mogami*, battered and afire, headed southward and survived a collision with another Japanese cruiser, more cruiser gunfire and two PT attacks.

As Shima, still 40 miles astern of Nishimura, entered Surigao Strait one of his cruisers was crippled by a PT torpedo. He continued, with the remaining two cruisers, past *Fuso*'s flaming wreck but concluded that he was too late to help Nishimura and turned southward, picking up *Mogami* and *Shigure*.

Shima got clear of the strait. Planes from the escort carriers spotted him in the Mindanao Sea and left *Mogami* dead in the water. Her crew abandoned ship and a destroyer sank her with a torpedo. Shima's surviving ships were attacked by carrier planes but escaped—for the time being.

Kurita emerged from San Bernardino Strait shortly after midnight on 25 October and turned toward Leyte Gulf. Messages told him that Nishimura was engaged in Surigao Strait and, later, that Shima was turning back. As daylight came, a lookout spotted an American plane and reported ships on the horizon. This was Taffy 3, one of the CVE task units, commanded by Rear Admiral Clifton Sprague. This unit and Taffy 2, some miles to the south, were the only naval forces between Kurita and Leyte Gulf.

Identification of ships and aircraft has always been a problem. This worked in our favor off Samar on the morning of 25 October when the Japanese identified Taffy 3 as one of TF 38's groups. Kurita was less than enthusiastic about tackling such a force without air cover, and after his experience in the Sibuyan Sea, he doubted the worth of his antiaircraft fire. But the enemy was on the horizon and it was time to fight. Instead of forming for action, he ordered a gen-

Carrier planes strike Japanese shipping off Luzon, 17 October 1944, as seen by the tail gunner of an Avenger torpedo bomber.

USN 281674

eral attack; his ships made for the enemy independently, faster ships pulling ahead of the others.

Sprague ordered Taffy 3 to steam eastward, away from Kurita and more or less into the wind. As Kurita opened fire, he ordered all planes into the air with any ordnance at hand and told every ship to make smoke. A plain-language contact message gave the position and asked for assistance from anyone within reach. Planes went off the flight decks as fast as they could go, and others from Rear Admiral F. B. Stump's Taffy 2 joined in from over the horizon. Though many of its planes were already flying ground support missions, Taffy 2 sent out what it had and recalled everyone within reach.

A rain squall helped conceal Taffy 3 for a while as Kurita tried to pull to windward and compel Sprague to turn away from the wind. At 0716, Sprague ordered his three destroyers to attack. Making smoke, the destroyers engaged with guns and torpedoes, damaging one of Kurita's cruisers. Four destroyer escorts joined in. In the course of this confused duel, the "small boys" torpedoed one, and possibly three, Japanese cruisers. Kurita's flagship, *Yamato*, turned northward to evade torpedoes; by the time she could come about again, she was in the rear of the Japanese force, and this would hamper the admiral's control of the rest of the action.

Within two hours, cruisers and destroyers were edging up on Sprague's flanks as battleships and more cruisers drew up from astern. Taffy 3 had to come around to the southwest to stay between Kurita and Leyte Gulf and to keep from being surrounded, but this had the carriers launching planes before, rather than into, the wind. Sprague ordered his planes to concentrate on four cruisers that were pulling up on Taffy 3's port quarter. As the CVEs dodged salvos of shells, they popped away with the single 5-inch 38s on their fantails. Smoke and zigzagging helped, but three CVEs were hit.

Kinkaid's support aircraft commander ordered all planes not actually in combat elsewhere to go to Taffy 3's aid, and some of these arrived to help. The situation was just too chaotic for neat coordination, though this was tried. The carrier pilots bombed, strafed, attacked

The General Motors FM-2, an improved version of the Grumman F4F Wildcat, served in escort carriers through V-J Day. Wildcats and Avengers from Seventh Fleet escort carriers had a heroic share in turning back a powerful surface attack in the battle off Samar. 80-G-287594

with torpedoes and made dry runs when ammunition ran out—anything to give the "jeeps" a chance to survive. Steaming pell-mell with the wind, the CVEs could hardly worry about recovering planes. When a pilot needed munitions or fuel, he had to rely on Taffy 2 or fly to Tacloban.

Gambier Bay (CVE 73) was closest to the pursuers. At first, she dodged their fire, but as the range closed, she began to take hits. Flooding and aflame, she dropped out of formation. Destroyers bravely attacked, but *Gambier Bay*, hit repeatedly, capsized and sank.

Three Japanese cruisers were out of the fight, battered by gunfire and the heroic efforts of the CVE flyers; the rest of Center Force broke off action shortly after 0900. Kurita now knew that Nishimura had been crushed in Surigao Strait, and aggressive and repeated attacks by planes and ships convinced him that he faced major opposition. Before 0930, he turned back toward San Bernardino Strait. The attackers had turned back only 25 miles from their objective. Kurita's sudden disappearance, when things seemed to be going his way, seemed miraculous to Taffy 3.

Planes from the CVEs followed Kurita as the admiral weighed his next move. When the Center Force turned to withdraw, the planes attacked, damaging battleship *Nagato*. Planes from McCain's TG 38.1 attacked at a range of more than 350 miles, claiming many hits but apparently doing little damage. Another strike went in that afternoon from Taffy 2 but without result. McCain continued to head for Samar as Halsey ordered Bogan's TG 38.2 to join him for a combined attack on 26 October. Three strikes hit Kurita as he retired through the Sibuyan Sea, sinking a cruiser and severely damaging another; Army bombers also claimed to have hit three Center Force ships. Much of Kurita's force survived but to little effect through the remainder of the war.

At 2022 on 24 October, Halsey turned TF 38 northward after Ozawa. His three task groups totaled 5 fleet carriers and 5 small carriers, with 6 fast battleships, 8 cruisers and 41 destroyers. Against this, Ozawa had 4 carriers (1 CV, 3 CVLs), the 2 hybrid *Ise*-class BB/CVs, 3 cruisers and 4 destroyers. By now, the Northern Force's air strength had been whittled down to 29 planes. Ozawa advanced to meet Halsey expecting, as he later said, "complete destruction."

Night flyers from *Independence* picked up the Northern Force on radar after 0200. Halsey now pulled out his Battle Line, TF 34, and took it ahead to engage anything left afloat by the air strikes planned for the morning. The carriers launched a first attack after dawn. A few fighters met them and were quickly splashed. Dive-bombers and

torpedo planes sank CVL *Chitose* and a destroyer, damaging CV *Zuikaku* and CVL *Zuiho*. A second attack crippled CVL *Chiyoda* and damaged a cruiser.

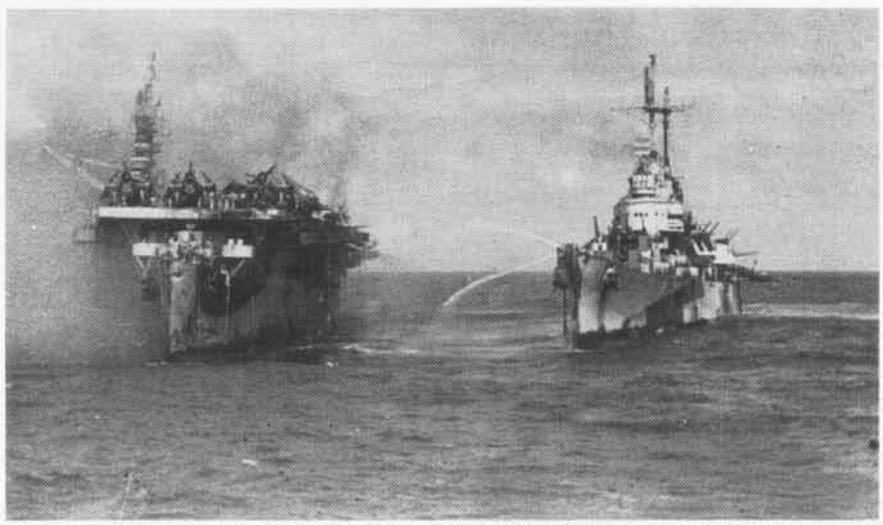
At this point, Halsey began to receive messages from Taffy 3 calling for support. He now knew that Nishimura had been turned back from Surigao Strait and still felt that Kinkaid's force was sufficient. A message went to McCain, still en route to the Philippines, to make "best possible speed" to Taffy 3's assistance. Adm. Nimitz now sent Halsey the famous "Where is Task Force 34?" message. Halsey's communications staff mistook random words, called "padding," at the end of the message for part of Nimitz's text and gave it to Halsey at 1000 with the additional phrase "the world wonders" added to it. This enraged Halsey, who took it as an insult. Feeling increasingly compelled to turn back from his pursuit of Ozawa, Halsey took TF 34 southward at 1115, picking up Bogan's task group for air cover.

Mitscher continued north with his two remaining task groups. At midday, they launched their third strike, sinking *Zuikaku* and badly damaging *Zuiho*. Two afternoon attacks sent *Zuiho* down and scored some near-misses on BB/CV *Ise*. In midafternoon, Mitscher turned eastward to avoid getting his carriers too near Ozawa's surface ships and sent warships to finish off *Chiyoda*.

A seeming footnote to the Battle of Leyte Gulf proved a harbinger of things to come. In the morning of 25 October, suicide planes found Thomas Sprague's Taffy 1 off Mindanao. Some of the attackers were put off by gunfire but two hit *Santee* and *Suwannee* (CVE 27); a Japanese submarine then eluded the screen and torpedoed *Santee*. Both carriers managed to stay in formation and make repairs and later resumed flight operations. Another group of suiciders struck Taffy 3, damaging *Kitkun Bay* (CVE 71) and *Kalinin Bay* (CVE 68) and mortally wounding *St. Lo* (CVE 63).

The mobile power of the fleet and escort carrier forces was essential to the success of the Leyte landing. Experience at Leyte pointed to a need for flexibility in carrier plane complements and ordnance loads, with proportions of fighters to attack types and types of weapons carried varying to suit the operation at hand.

Leyte Gulf has been called the greatest and most complex naval battle in history and was the "last hurrah" of the Imperial Navy as an organized striking force. Both fleets fought well; both fleets made mistakes that affected the outcome of the action. The Japanese weakness and American strength in aviation underlined the extent to which carrier air power had become a primary element of naval warfare. Though Kurita, bereft of air cover, was able to fight his way across the Sibuyan Sea, the defense of Taffy 3 showed what trained, determined carrier flyers could do when the proverbial chips were down. ■



Cruiser Birmingham helps Princeton fight fires off Leyte. Though a number of fleet carriers were hard hit in the later years of the war, Princeton was the only one lost in action. USN 281660

Mr. Reilly is head of the Ships' History Branch of the Naval Historical Center.

6 Sep: As the scope of the aviation safety program was enlarged, a Flight Safety Section was established in the Office of the Deputy Chief of Naval Operations (Air) and was assigned the direction and supervision of the aviation safety program.

27 Sep: Guided missiles were used in the Pacific by Special Task Air Group 1 (from its base on Stirling in the Treasury Islands), which began a combat demonstration of the TDR assault drone. For combat against heavily defended targets, a control operator in an accompanying TBM guided the drone by radio and directed the final assault by means of a picture received from a television camera mounted in the drone. In the initial attack against antiaircraft emplacements in a beached merchant ship defending Kahili airstrip on South Bougainville, two out of four TDRs struck the target ship.

1 Oct: Patrol Squadrons (VP) and multi-engined bombing squadrons (VB) were renamed and redesignated patrol bombing squadrons (VPB).

7 Oct: A new color specification went into effect, which provided seven different color schemes for aircraft depending upon design and use. The most basic change was the use of glossy sea blue all over on carrier-based aircraft and on seaplane transports, trainers and utility aircraft. The basic nonspecular camouflage color scheme, semigloss blue above and nonspecular white below, was to be applied to patrol and patrol bombing types and to helicopters. For antisubmarine warfare, two special camouflage schemes—gray on top and sides and white on bottom or white all over—were prescribed with the selection dependent upon prevailing weather conditions. All aluminum was to be used on landplane transports and trainers and landplane and amphibian utility aircraft. Orange-yellow was to be used on target-towing aircraft and primary trainers. Another new scheme, glossy red, was specified for target drones.

Awards

The Naval Air Systems Command (NAVAIR) in Arlington, Va., is the recipient of the nation's highest award for quality in the federal government. The **Presidential Award for Quality** was presented to NAVAIR 13 July; it is the first time a federal organization has been a repeat winner.

1993 **Navy Helicopter Association National Awards:**

Board of Directors Awards—**Golden Helix**, RAdm. Harrison; **Lifelong Service**, Capt. Daniel Bilicki; **Service to NHA**, Capt. Robert Doane; and **Best Scribe**, Lt. Sean Laughlin. President's Awards—**National**, Lt. John Tate; **Region 1**, Lt. Dave Barton; **Region 2**, Cdr. John Costello; and **Region 5**, Lts. Chris Solar and Rob Livingston. Outstanding Achievement–Sustained Performance Awards—**Pilot of the Year**, Lt. Geoffrey K. Marshall, HSL-42; **Instructor of the Year**, Lt. Clark D. Sanders, HT-8; **Aircrewman of the Year**, AD1 Derek S. Huggins, HC-11; **Maintenance Officer/CPO of the Year**, CWO2 Robert D. Gringas, USMC, HMM-268. Single Action Awards—**Aircrew of the Year (Embarked)**, HSL-46 Det 1, *Kauffman* (FFG 59) and Det 2, *Peterson* (DD 969): LCdr. Townsend G. Alexander, Lts. Mark G. Frey, Henry F. Bowman and Mark T. Nowicki, AW1(AW/SW) Vincent J. O'Brien, AW2 Gregory Berdan, AW2(AW) David P. Klunk and AW3 Steven A. Schertel. **Aircrew of the Year (Non-Embarked)**, Coast Guard HH-3F 1486, CGAS Clearwater, Fla.: Cdr. Bruce Frail; LCdr. Steve Palmquist; AE1 Ben Thornton; AMS2 Mike Fish; and AD3 Dave Joseph—all USCG personnel.

Society of U.S. Naval Flight Surgeons 1994 annual awards: The **Ashton Graybiel Award**, Cdr. Mark H. Mittleman, MSC. This award is given to the member who has authored the most significant scientific publication during the preceding year. Named in honor of Dr. Graybiel, who is considered one of the fathers of aviation medicine research and was recently inducted into the Naval Aviation Hall of Honor, NAS Pensacola, Fla. **Sonny Carter Memorial Award**, Capt. Jerry C. Patee, MSC. This award is given to the member who has done the most to promote cooperation and teamwork between flight surgeons, physiologists and experimental psychologists while making significant contributions to the health and safety of operational naval forces. **Richard E. Luehrs Award for the Operational Flight Surgeon of the Year**, Lt. Joseph M. Shaughnessy, MC, NAS Mayport, Fla.

VT-2 was honored with an **Appreciation Award** from its adopted Berryhill School, Milton, Fla. The award expressed the school's appreciation for all the hard work and volunteer hours of VT-2's staff and students during the past year.

IS1 Dwayne E. Williford was selected 1993 **VAQ-134 Sailor of the Year**.

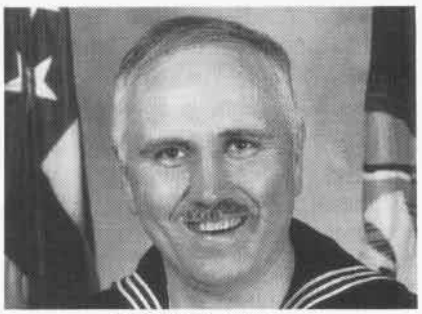
Capt. Mark A. Phillips, USMC, of VT-27, was awarded the **Distinguished Flying Cross** 13 May for acts of heroism while assigned to HMLA-367 during the Persian Gulf War.

HC-8's AD3 Daniel W. Scanlon was presented the **Navy/Marine Corps Medal** for his dramatic rescue of three youths in Norfolk's Willoughby Bay 22 June. The youths had overturned their boat and were minutes from drowning when Petty Officer Scanlon came to their rescue.

1993 **Golden Anchor** awards were presented to NAS Pensacola, Fla.; and VS-29 (10 May).

The **Meritorius Unit Commendation** was presented to HSL-51. The squadron was also presented with the **Quarterly Safety** award for the first quarter of 1994.

Sgt. Joseph J. Kroto, assigned to MAWTS-1, San Diego, Calif., received the **Coast Guard's Lifesaving Medal** for acts of bravery during a fishing trip 15 April 1993. Sgt. Kroto was aboard a fishing vessel which was capsized by a wave, trapping several passengers, including Sgt. Kroto. Despite serious injuries to his left hand, he located a submerged, locked hatch. Sgt. Kroto broke open the hatch and led the other passengers out of the cabin, which was rapidly filling with water. He then dove underwater to pull a semi-conscious passenger to the surface and swam 450 feet in frigid water to a lifeboat while supporting the victim. Sgt. Kroko became the 656th American to receive the award, which was established in 1874 for extreme and heroic daring in saving or endeavoring to save lives from perils at sea.



ATC(AW) Mark Johnson

The **Navy's Reserve Force Sailor of the Year** is ATC(AW) Mark Johnson from NAS South Weymouth, Mass.

The Atlantic winner of the **Arleigh Burke Fleet Trophy** is HSL-48. In a 10 June ceremony, the squadron was recognized as the most improved command in the Atlantic Fleet. This is the first time a helicopter squadron and only the second time a LANTFLT aircraft squadron has received the award since the first trophy was presented in 1962.

NASA presented its agency's **Exceptional Engineering Achievement Medal** to Naval Research Laboratory (NRL) employees Paul Regeon and Mark Johnson, and its **Exceptional Scientific Achievement Medal** to Dr. Donald Horan. All three employees work at NRL's Naval Center for Space Technology and were significant contributors to the Project Clementine satellite program.

Theodore Roosevelt (CVN 71) received the 1993 **Battenberg Cup Award** 3 June. The award is given to the best ship in the Atlantic Fleet.

HS-6 received the **Pummeled Dolphin** award 18 Apr. The award is sponsored by Destroyer Squadron 21 and recognizes ships and squadrons that have distinguished themselves in antisubmarine warfare.

NS Mayport, Fla., received the **Florida Governor's Sterling Award for Quality**, the state's top award in this category. The naval station is the first state or federal organization to win the award.

Naval Aviation Depot, Norfolk, Va., won the 1993 **Secretary of the Navy Award for Achievement in Safety Ashore**.

Several aviation command members of the Department of the Navy Acquisition Team were recognized by the Secretary of the Navy with **Procurement Competition Awards** 10 June. The award is given for contributions in promoting competition in the Navy procurement system. The awardees were: Aviation Support Office, Philadelphia, Pa., members Roberta Carey, Lisa Zimmermann, Charles Hight, Carolyn Wheeler, Ronald Walton and John Keller; and Naval Air Systems Command, Arlington, Va., members LCdr. Scott A. Bruce, Frank J. Kennedy and Thomas S. Stanton.

HS-8 received the **Meritorious Unit Commendation** for operations during January 1993 to January 1994.

Naval Air Weapons Station, Point Mugu, Calif., received national recognition and a **Gold Award** from the National Highway Traffic Safety Administration for designing a program to encourage participation in the Safety Belt Honor Roll Award program.

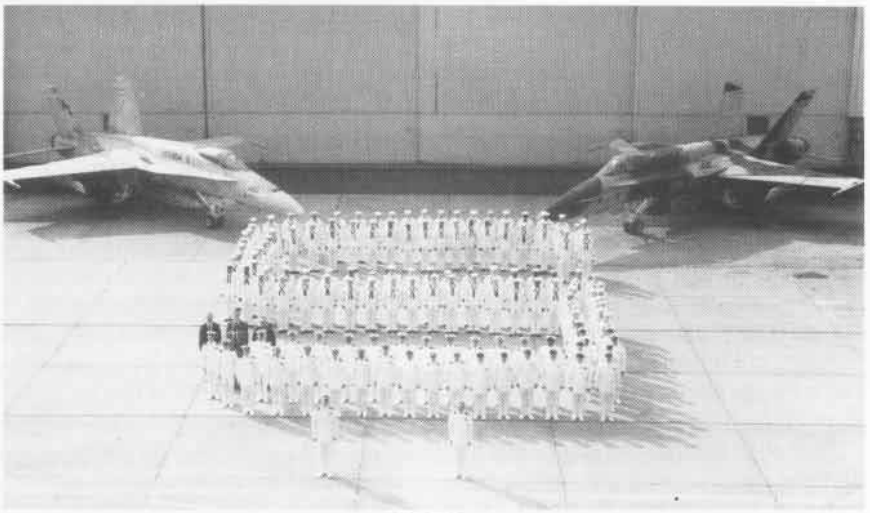
Anniversaries

The **F/A-18** *Hornet* celebrated **16 years** of naval service.

Naval Air Warfare Center Aircraft Division (formerly Naval Air Development Center), Warminster, Pa., logged 50 years of operations supporting aviation.

MACS-18 celebrated **50 years**.

VFA-127 marked **32 years**.



VFA-204

HMT-204

Records

Several units marked **safe flying time:**

Unit	Hours	Years
HC-3	130,000	20
HMH-361	35,000	9
HMT-204	70,000	22
HSL-46	40,000	
NAS Dallas	31,400	24
RESPATWINGLANT	500,000	
VFA-204	50,000	13
VFC-13	39,000	9
VMA-223	20,000	4

Special Records

Cdr. Rivers Cleveland, XO, VA-52, logged his 1,000th trap aboard *Kitty Hawk* (CV 63) 30 Mar.

Cdr. James Engler, CO, VA-52, logged his 1,000th trap aboard *Kitty Hawk* (CV 63) 1 May.

Cdr. Bruce S. Bole, XO, VS-31, logged his 500th trap in June aboard *George Washington* (CVN 73).

VA-128 CO Capt. Terry J. Toms completed 4,000 A-6 flight hours 4 May.

Cdr. John P. Kindred, CO, VAQ-134, logged his 3,000th EA-6B flight hour aboard *Kitty Hawk* (CV 63).

VAQ-132 CO **Cdr. Roy L. Holbrook** logged his 3,000th career flight hour aboard *Saratoga* (CV 60).

HSL-44's **Lts. Dave Jungers, Michael Perry and Jim Esquivel**, aboard *Carr* (FFG 52), each surpassed 1,000 flight hours in the SH-60B.

Cdr. Kevin McNamara, CO, VF-154, achieved 1,000 carrier landings 8 June aboard *Independence* (CV 62).

The 344,664th and **final landing** aboard ***Saratoga*** (CV 60) was accomplished by Capt. Mark Kikta, CO, VS-27, with the CO of *Saratoga*, Capt. William Kennedy, as copilot.

Lt. Col. David F. Goold reached 4,000 career flight hours 1 Jun.

VS-22 CO **Cdr. Robert Snyder** logged his 200th *Ike* trap 6 Jun.

HSL-48's **LCdr. Mark Regelmann** reached 1,000 flight hours in the SH-60B and **PO Kenneth Dromke** achieved 1,000 career flight hours.

Rescues

A UH-1N "Huey" from **NAS Fallon's Search and Rescue team** rescued a civilian hang glider from rugged mountainous terrain about 15 miles northwest of Mount Whitney, Calif., 22 May. The experienced flyer had lost control of his craft and crashed into a deep ravine on the mountainside at 9,500-foot elevation. The aircraft commander, Lt. Preston Spahr, lowered HM3 Bill Schieding and a 50-pound medical equipment pack to the ridge line above the victim. Schieding picked his way through the loose footing until it got too steep to carry the stretcher. He left the stretcher on the mountainside and continued down to the victim 50 feet below. Upon reaching the man, Schieding treated his broken left arm and assisted him back up to the stretcher where the hovering helicopter recovered them. The crew then flew the victim to a base camp for transfer to a local hospital. Other crew members participating in the rescue were Lt. Jon Gerhardt, AMS1 Paul Kievit and AMS3 Joe Coorough.

An HH-60 from **HS-8** and an H-3 from **HC-2** participated in a search and rescue mission in the Saudi Arabian desert. An Army unit involved in a parachute training operation had suffered five injuries, two critical. Using its Global Positioning System but without any other landmarks, the aircraft located the drop zone and convoy that had the injured men. The HH-60, with a greater dash speed, took the critically injured men to King Fahd Hospital in Dahan. The remaining injured were transported by the H-3. With temperatures in excess of 115 degrees in the desert, time was critical for delivering the injured to medical facilities. The HH-60 was crewed by Cdr. Terrence Doyle, Lt. Dave Blair, AW3s Dan McNamara and Lee Dongler. The names of the H-3 crew were not available.

HSL-44's Detachments 5 and 7, embarked aboard *Briscoe* (DD 977) and *Stephen W. Groves* (FFG 29), were pivotal participants in an 18-hour rescue of hundreds of people in the north Red Sea when an Egyptian passenger ferry caught fire 18 May and sank. The ferry *Al-Qamar Al-Saudi Al-Misri* suffered a boiler explosion, and with the resulting fire spreading rapidly, the nearly 600 passengers and crew began abandoning ship. The ferry was filled with families heading home for the Islamic holiday El Adha. The ships and aircraft provided continuous support with search and rescues by small boats and helicopters, medical assistance and evacuation, and communications with other units.

HSL-46's Detachment 7, embarked in *Philippine Sea* (CG 58), performed a night medical evacuation of a sailor suffering acute appendicitis aboard *Monongahela* (AO 178). The patient was flown over 170 miles to Naples, Italy. After emergency treatment, the patient was expected to fully recover.

Four sailors from *America* (CV 66) awakened sleeping residents and then used some of their shipboard damage control and fire-fighting training to rescue a 13-month-old girl from a burning apartment in Virginia Beach, Va. **OS3s Derrick T. Hinton, Tarence J. Hines and Fabian R. Fowler and OSSN Gregory D. Ford** noticed smoke coming from a window and took action. Ford and Hinton groped through darkness and a smoke-filled room with only a flashlight to pull the toddler to safety. Hines backed up the two rescuers and Fowler raced through the apartment complex awakening residents, getting one to call "911."

Scan Pattern

MCAS Kaneohe Bay was redesignated **Marine Corps Base (MCB), Hawaii.** The redesignation consolidates all Marine Corps assets in Hawaii under one command.

Admiral Huntington Hardisty, who held nine commands as a Naval Aviator while on active duty, has been elected to the **USO World Board of Governors.** As a member of the board, Adm. Hardisty will provide advice and leadership for USO programs that benefit American service men and women around the world.

Commander Naval Aviation Activities, Jacksonville, was redesignated **Commander Naval Base, Jacksonville**, effective 2 June.

The Commandant of the Marine Corps approved the official name change from the **MCAS El Toro Command Museum** to the **Jay W. Hubbard Museum**, after the founding chairman of the MCAS El Toro Historical Foundation.

VT-23 will move from NAS Kingsville, Texas, to NAS Meridian, Miss., as part of the phase-in of the T-45 *Goshawk*. All T-2 and TA-4 aircraft will be removed from Kingsville by the end of FY 1994. Consolidating all T-2s at Meridian is expected to save $6 million and eliminating the TA-4 from the training inventory in 1997/1998 should save $50 million.

Naval Aviation ended an era 25 May when four **A-4** *Skyhawks* departed NAS Miramar, Calif., headed for the "boneyard". The last of the light-attack planes on the West Coast, attached to the Navy Fighter Weapons School (Top Gun), left without ceremony to take their place at Davis-Monthan AFB near Tucson, Ariz.

MCAS Kaneohe, Hawaii, **Station Operations and Maintenance Squadron** has given up its HH-46 and UC-12 aircraft due to restructuring under MCB Hawaii. Two of the helicopters are going to NAS Agana, Guam, one is going to NAS Norfolk, Va., and the UC-12 is being transferred to MCAS Cherry Point, N.C.

Cdr. Donnie L. Cochran was selected as the next CO of the **Blue Angels**. Currently CO of VF-111, he is a former pilot in the *Blues*, having served there from 1985 to 1988.

Top Gun, the Navy Fighter Weapons School, fulfilled a dream for a **terminally ill patient** in June when he made his wish of visiting the famous fighter school known to one of his nurses. Ramon Rodriguez was taken to the school's flight simulators, flight line and allowed to sit in an F-14 seat to get a feel for the cockpit. He also visited the landing signal officer shack and watched flight operations in progress.

In early June, 60 ***George Washington*** (CVN 73) and Carrier Air Wing 7 sailors were reenlisted by the Chief of

Naval Operations with President and Mrs. Clinton in attendance. The event was filmed by international media including CNN and NBC.

Travelers can now **fax** their **space-A travel requests** to the locations they plan to depart from. Active duty members should fax their service leave form on the first day of their leave. They should also provide the first names of dependents traveling with them, a statement that required border-clearance documents are current, and a list of five places they want to travel to. The last place can be listed as "all" to take advantage of seats available on any flight.

On 28 Jun, the **first Georgia-built P-3C** *Orion* was rolled out of the assembly hangar at Lockheed Aeronautical Systems Co. in Marietta marking the "official" return to production of the popular maritime patrol aircraft. The aircraft is the first of eight being produced for the Republic of Korea navy under a contract signed in 1990. All eight aircraft will be delivered in 1995.

Capt. Steve Wesselhoff is the first naval officer to be named to the **Alan B. Shepard Military Space Chair** at the Naval War College.

A new hangar is under construction at NAS/JTB New Orleans, La., for the **VR-51** *Revelers*. Located next to the Coast Guard ramp, the hangar will contain 59,000 square feet and accommodate two C-130T aircraft for maintenance, as well as house administrative and maintenance offices. Currently, the squadron works out of seven trailers but is looking forward to the December 1996 hangar completion.

Change of Command

ATKWINGLANT: Capt. Bernard M. Satterwhite relieved Capt. Ronald S. Pearson, 24 Jun.

CVW-14: Capt. Mark P. Fitzgerald relieved Capt. Michael J. McCabe, 9 Jun.

CVW-8: Capt. Gary M. Jack relieved Capt. J. Michael Johnson, 3 Jun.

FASOTRAGRUPACFLT: Capt. Marvin T. Serhan relieved Capt. Thomas J. Bernsen, 2 Jun.

1st MAW: Brig. Gen. George M. Karamarkovich relieved Brig. Gen. William A. Forney, 24 Jun.

FITWINGPAC: Capt. Mark P. Grissom relieved Capt. Daniel M. Chopp, 15 Jul.

H&HS MCAS Tustin: Capt. L. J. Connolly III relieved Maj. G. M. Reinhold, 23 Jun.

H&HS MCAS Yuma: Lt. Col. Victor J. Thombs relieved Lt. Col. Randall A. Plum, 15 Jul.

HMH-465: Lt. Col. William J. Mullens, Jr., relieved Lt. Col. Frank M. McComb, 15 Jun.

HMM-268: Lt. Col. G. Kevin Wilcutt relieved Lt. Col. Leif H. Hendrickson, 5 May.

HS-7: Cdr. John T. Bader relieved Cdr. Gerard M. Mauer, Jr., 11 Jul.

HSL-42: Cdr. Glenn R. Ives relieved Cdr. John D. Furness, 16 Jun.

HT-8: Cdr. Brooks O. Boatwright relieved Cdr. Jeffrey D. Linscott, 10 Jun.

MACS-2: Lt. Col. Timothy M. Gaskins relieved Lt. Col. Joseph E. Noble, 20 May.

MATSG: Col. R. E. Braithwaite relieved Col. M. J. Cross, 1 Jul.

MAWTS-1: Col. John G. Castellaw relieved Col. (Brig. Gen. select) Bruce Knutson, Jr., 3 Jun.

NADEP Cherry Point: Col. Guy M. Vander Linden relieved Col. G. B. Mayer, Jr., 24 Jun.

NADEP Norfolk: Capt. John C. Bucelato relieved Capt. Bruce A. Pieper, 30 Jun.

NADEP Pensacola: Capt. Sharon M. Gurke relieved Capt. Spencer E. Robbins II, 8 Jul.

NAMO Patuxent River: Capt. Richard D. Tipps relieved Capt. William P. Englehart, 3 Jun.

NAMTRAGRU NAS Memphis: Capt. Bert U. Coffman relieved Capt. Robert B. Cameron, 1 Jul.

NAS Cecil Field: Capt. Kirk T. Lewis relieved Capt. Sam K. Houston, Jr., 28 Jun.

NAS Corpus Christi: Capt. Frank Montesano relieved Capt. Ken Bixler, 8 Jul.

NAS Dallas: Capt. J. D. Cannon relieved Capt. D. F. Miller, 23 Jul.

NAS New Orleans: Capt. John P. McLaughlin relieved Capt. Michael R. Matt, 16 Jul.

NAVAIRES Santa Clara: Capt. John K. McGuire relieved Capt. John S. Kistler, 18 Jun.

NAVAIRES Norfolk: Capt. Douglas J. Bellows relieved Capt. Robert F. Sandweg, 21 May.

NETPMSA: Capt. Barbara J. Stankowski relieved Capt. Michael R. Clapsadl, 30 Jun.

RESPATWINGPAC: Capt. Gregory L. Wedding relieved Capt. Wayne E. Foshay.

III MEF: MGen. Carlton W. Fulford relieved MGen. Donald R. Gardner, 24 Jun.

VA-52: Cdr. Rivers Cleveland relieved Cdr. James H. Engler, 20 Jun.

VA-128: Cdr. Randolph S. Dearth relieved Capt. Terry J. Toms, 30 Jun.

VAQ-135: Cdr. Vic Cerne relieved Cdr. Ed Hafner, 24 May.

VAW-88: Cdr. Steve H. Thrailkill relieved Cdr. Chris Brown, 11 Jun.

VAW-114: Cdr. Clarence W. McKown relieved Cdr. James H. Patrick, 17 Jun.

VF-41: Cdr. Richard C. Bedford relieved Cdr. John W. Sherman, 15 Jul.

VFA-22: Cdr. Winston Wood relieved Cdr. James Knight, 26 May.

VFA-125: Cdr. William A. Pokorny relieved Capt. Joseph J. Capalbo, 16 Jun.

VMA-214: Lt. Col. Michael J. Kelly relieved Lt. Col. Henry J. Coble, 26 May

VMA-513: Lt. Col. Wayne D. Robinson relieved Lt. Col. William F. Bain, 26 May.

VMFA-232: Lt. Col. Robert M. Knutzen relieved Lt. Col. David F. Goold, 10 Jun.

VMFA-312: Lt. Col. George E. Mueller, Jr., relieved Lt. Col. Randy W. Brickell, 26 May.

VP-8: Cdr. T. J. Cepak relieved Cdr. R. D. High, 24 Jun.

VP-11: Cdr. Paul J. C. Hulley relieved Cdr. Anthony L. Winns, 29 Jul.

VP-46: Cdr. George D. Davis III relieved Cdr. Keith J. Denman, 16 Jun.

VR-60: Cdr. Richard L. Smith relieved Cdr. Robert G. Criss, 23 Apr.

VS-35: Cdr. Donald E. Hepfer relieved Cdr. Mike W. Luginbuhl, 4 Jul.

VT-3: Cdr. William J. McDonough, Jr., relieved Lt. Col. Dean T. Lucas, 1 Jul.

VT-31: Cdr. James H. Alexander, Jr., relieved Cdr. George G. Haffey, 24 Jun.

Cdr. Peter Mersky, USNR (Ret.)

Tillman, Barrett. *The Marianas Turkey Shoot, June 19-20, 1944.* Phalanx Publishing Co., Ltd., 1051 Marie Ave., St. Paul, MN 55118. 1994. 48 pp. Ill. $12.95.

Another addition to the growing list of quality publications from this new company, this volume focuses on one of the legendary encounters of the Pacific war. The author is well known to readers of this column and is well qualified to write this account. His text is supported by a good selection of photographs and some fine color profiles by John C. Valo.

Besides the narrative, the author has included several impressive appendices, which outline the comparative strengths of the American and Japanese task forces, as well as individual U.S. pilot and squadron victories, and Japanese losses.

Uhlig, Frank, Jr. *How Navies Fight: The U.S. Navy and Its Allies.* U.S. Naval Institute, Annapolis, MD 21402. 1994. 455 pp. Maps. $34.95.

Somewhat expensively priced for a book with no graphics except for inconsistently drawn maps, this book is well researched and well written, which is expected given the author's credentials. While the lack of photographs might be confidence in the text's appeal, many readers would like to see new views of the people and machines described.

The early chapters on the American Revolution, the Barbary Coast wars and the Civil War are succinct little nuggets. But the humongous chapters on WW II are simply too long and throw the entire book's structure off balance. Likewise, the chapter on Vietnam is too long and should have been divided into two chapters.

The two chapters that describe non-U.S. naval action after WW II—the Middle East and the Falklands—are good synopses of these events from a naval viewpoint, especially the Falklands. Chapter 9, "The Levantine War, 1973," is a little offbeat since most people would not consider the Middle East Arab-Israeli conflict as having very much offshore action.

The author had a huge territory to cover and he succeeds in reasonable fashion. However, for a book of more than 450 pages, costing over $30, the reader deserves a better overall package. I doubt that a 16-page folio of well-selected pictures would have added a prohibitive charge to the book's final production cost, but it would have added immeasurably to the book's appeal.

Wilson, George C. *Flying the Edge: the Making of Navy Test Pilots.* U.S. Naval Institute, Annapolis, MD 21402. 1993. 271 pp. Ill. $22.

This book is interesting only when the author describes how particular aircraft fly and contribute to the testing program at Patuxent River, Md. I must admit to being a little tired of reading how mid-sixtyish George Wilson spent another year with a military unit of terrific, dedicated people.

I'll give him the success and relative uniqueness of gutting out an entire carrier deployment for *Supercarrier*, but once is enough. What's next, testing the wild surf with the Coast Guard or storming a cultist compound with the ATF?

Wilson gives a reasonable capsule history of flight testing in the Navy in general and the rise of the main center at Pax River. I don't agree with his devoting a chapter to the injuries and deaths of several graduates of the Test Pilot School. In a way, he sounds like he is imitating Tom Wolfe in *The Right Stuff* by describing how even the best of aviators die. The main text, after all, deals with an interesting and deserving subject that can stand on its own merit without melodramatics.

The best passages discuss the early problems with Lockheed's S-3, the development of the T-45 and its difficulties transitioning from a land-based trainer to one capable of operating from a carrier, as well as a T-45 pilot's ejection from a struggling *Goshawk*.

All this said, whatever promise this book might have is completely thrown out by the closing chapter. After quickly describing what took place at the 1991 Tailhook convention, the author devotes 18 pages to this event, including a reprint of much of Lieutenant Paula Coughlin's damning statement and her condemnation of her boss, Rear Admiral John Snyder. It is not Mr. Wilson's place to sit in judgment of any Navy serviceman, much less a flag officer. It does the author and the publisher little credit to include such a lengthy diatribe on the Navy's worst personnel scandal in modern memory.

Perhaps Tailhook 1991 has a place in *Flying the Edge* because of the links to Patuxent of the two primary players, but sexual harassment has little, if anything, to do with the efforts, successes and failures of the Navy's test pilots.

This book is pretty "light" in depth and should only be read for lack of any better material, of if someone gives it to you as a gift.

Last Coast Guard HH-3F Retires

By Ltjg. Lisa Blow

Donald DeMik, USCG Auxiliary

Courtesy CGAS Clearwater, Fla.

Courtesy CGAS Clearwater, Fla.

Top: a Pelican deploys a rescue swimmer. Above: the HH-3F, the Coast Guard's last amphibious helicopter, makes a hard water landing. Left: a Pelican prepares to recover its rescue swimmer.

The amphibious era of Coast Guard aviation ended during a 6 May ceremony at Coast Guard Air Station (CGAS), Clearwater, Fla., when the last HH-3F *Pelican* was retired from service. The 22,500-pound helicopter had surpassed more than 25 years of service and over 500,000 flight hours.

The fleet of *Pelicans* began growing in 1968 when four arrived at CGAS New Orleans, La., joining the smaller HH-52A *Sea Guard* helicopters and the aging HU-16E *Albatross* flying boats in the Coast Guard amphibious aircraft fleet. The HH-3F fleet grew to 40 helicopters stationed from Alaska to Puerto Rico.

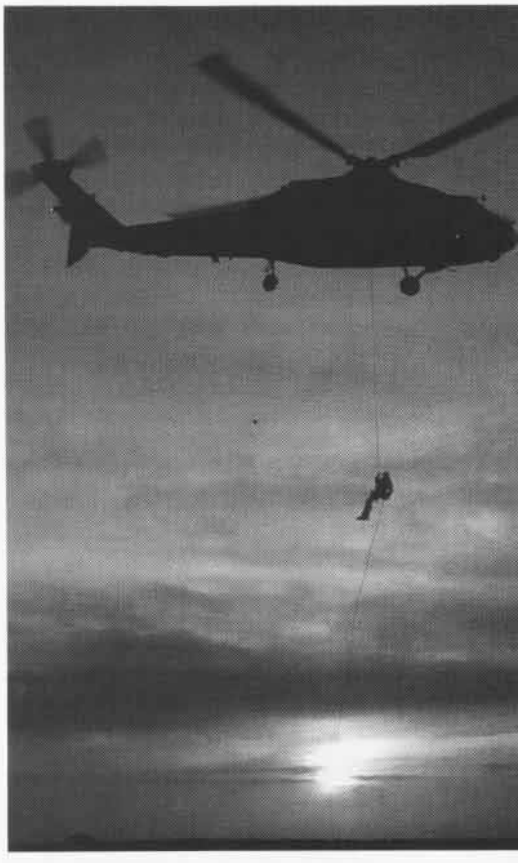
The *Pelican* has distinguished itself across the spectrum of Coast Guard missions. *Pelicans* flew more than 54,000 search and rescue cases, saving more than 23,000 people, additionally assisted approximately 65,000 people and saved nearly $4 billion in property. From the 1980 rescue of hundreds of people from the burning cruise ship *Princedam* off Alaska, to pulling more than 60 people from pounding seas off Tampa Bay, Fla., during the March 1993 "Storm of the Century," the *Pelicans* and the crews who flew them weathered the worst with exceptional results.

Pelicans also played a major role in Operation Bahamas, Turks and Caicos, designed to stem the flow of illegal drugs through the Caribbean. Along with aircraft and personnel from U.S. Customs, the Drug Enforcement Administration, Department of Defense and police from the Bahamian and Turks and Caicos forces, *Pelicans* from various CGASs throughout the country helped intercept drug traffickers. *Pelican* crews seized 66,200 pounds of cocaine valued at nearly $1 billion and 33,400 pounds of marijuana worth $61 million.

The quarter-century-old *Pelicans* are being replaced by the new HH-60J *Jayhawks*. Although the *Jayhawk* isn't amphibious, it has more sophisticated communications and navigation equipment, and its engines are more powerful. Instead of landing on the water, *Jayhawks* deploy highly trained rescue swimmers to save people in the water.

During the retirement ceremony at Clearwater, Commanding Officer Captain Don Estes said, "This machine, this aircraft, this helicopter is merely a representation of the thousands of people who designed, constructed, operated and maintained it over these many years."

Fair winds and calm seas to the last of a great line of classic amphibious aircraft. ■



ANA Bimonthly Photo Competition

Cash Awards: Bimonthly - $100; Annual - First, $500; Second, $350; Third, $250.

For deadline and submission details, call (703) 998-7733. Mail photographs to : Association of Naval Aviation Photo Contest, 5205 Leesburg Pike, Suite 200, Falls Church, VA 22041-3863.

The association of Naval Aviation and its magazine, *Wings of Gold*, is continuing its annual photo contest which began in 1989. Everyone is eligible except the staffs of *Wings of Gold* and *Naval Aviation News*. The ONLY requirement is that the subject matter pertain to Naval Aviation. Submissions can be in black and white or color, slides or prints of any dimension. Please include the photographer's complete name and address, and PHOTO CAPTION.

Above left: Giddy up! A VMA-231 AV-8B had an electrical fire and landed on a 4,000 x 200-foot dirt runway located 60nm NW of Phoenix, Ariz. Squadron maintenance crews traveled to Aquila, Ariz., to repair the jet. This photo, taken two days later, shows the Aviation Maintenance Officer's takeoff roll after 1,500 feet and before he decided to use the *Harrier's* short takeoff capability to fly out of the area. The horse appeared undisturbed by the event. This shot—captured by Mr. Jackson, who graciously opened his house to VMA-231 personnel—won the bimonthly contest. Above: Rick Mullen, Malibu, Calif., received honorable mention for this shot of a Navy SEAL rappelling from an HCS-5 HH-60H *Seahawk*. Left: honorable mention also went to PH1 Mark Therien for his photo of an HSL-38 det's SH-60B refueling from *Conolly* (DD 979) off the coast of Haiti, 30 October 1993, while the destroyer was assigned to Operation Support Democracy.

Unmanned Aerial Vehicles

I want to congratulate you on a fine publication, which I have enjoyed tremendously over the years. The articles have always been top-notch, professional and informative. Without a doubt, *NANews* has contributed positively to the Naval Aviation community.

The May–June 1994 issue was particularly enjoyable thanks to the artwork of Mr. Hank Caruso. However, there was one naval aircraft missing from his work—the *Pioneer* Unmanned Aerial Vehicle (UAV). The *Pioneer* is the only dedicated tactical aerial reconnaissance aircraft available to the Marine Corps today. The training, maintenance, flight operations and safety programs are all Naval Aviation related. These include the Naval Aviation Maintenance Program (4790 series), Naval Aviation Safety Program (3750.6), NATOPS [Naval Air Training and Operating Procedures Standardization] Program (3710.7) and the Naval Aviation Training Program. Also, *Pioneer* units are assigned visual identification (tail) letters by the Chief of Naval Operations as are manned aircraft units. The sailors and Marines who man our *Pioneer* units are proud to be a part of Naval Aviation and deserve recognition for their contributions.

Maj. C. P. Craig, USMC
PSD-29, MAG-29
MCAS New River, NC 28545

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"Storm Warning" by Hank Caruso. During the Desert Storm conflict, Pioneer UAVs were used to target artillery barrages on Iraqi military targets. Knowing that a Pioneer overhead meant a deadly rain of artillery shells would soon follow, one group of Iraqi troops surrendered to an unmanned vehicle rather than risk the inevitable consequences. The aircraft was assigned to the First RPV Company, USMC. Marine Remotely Piloted Vehicle companies have since been redesignated UAV units.

R6O Constitution

Hal Andrews' article on the R6O [Mar-Apr 1994] stirred up memories of those very busy days in the middle of WW II for the Bureau of Aeronautics' (BUAER) "Technical Community." While the article mentions that Pan Am and Lockheed played a role in defining the design, it also has the Navy involved as we moved from seaplane to landplane transports. As I remember it, the R6O program actually landed in our development program lap without any warning—at least to those of us at the working level. My version of the "rest of the story" may be of interest.

First, BUAER in 1943 was not involved in large landplane transport studies. Such developments for the military were undoubtedly considered the responsibility of the Army Air Corps, which had at least one, the C-74, under contract. BUAER's transport needs had been met with essentially off-the-shelf purchases of airplanes already in production.

Second, the only large seaplane transport development at the time was a conversion of the XPB2M-1 from its 1938 beginnings as a patrol bomber to a -1R version in order to utilize its very considerable capabilities. Note, at that time, studies by seaplane advocates showed a fleet of a half dozen of these designs could easily handle all of the prewar transatlantic passenger travel.

Third, in this country, military priorities prevented any significant commercial aircraft development. Abroad, however, Great Britain had embarked on a program to develop postwar commercial transports, one of which, the Bristol *Brabażon*, was designed for routes such as the transatlantic and thus posed a threat to our airline/aircraft industry.

With the above background in mind, my—and I assume the rest of BUAER's technical group—first knowledge of Pan Am and Lockheed collaborative efforts in designing what was to become the XR6O-1 came when our "Experiments and Development" returned from a meeting and informed us that "higher authority" had made a decision. We, BUAER, had been given the job of contracting for the development of two large landplane transports so that our industry "could compete with our British cousins." The first task was to run an evaluation of the Lockheed-Pan Am design bearing in mind that the real operator was to be Pan Am or another airline, not the U.S. Navy, and that civil design requirements would govern.

In the evaluation, a major crisis arose almost immediately when BUAER's weight and performance estimates turned out to be worse than those of the contractor, reducing the payload/range characteristics to such a degree that justification for the design was in jeopardy. Eventually, Pan Am ran a simulated airline operational schedule over the North Atlantic using the previous year's weather reports and proved that the gains in utilization (hours per day) realized by the ability to fly "over the weather" made it an economically more attractive alternative than its nonpressurized competitors. Not everyone agreed.

In restropect, and in today's trade parlance, the playing field was leveled, but none of the competitors showed up to play the postwar commercial game.

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Aviation Electronics Technician

Having served as an AT during the Korean War, I was drawn to JO1(SW) Eric Sesit's well-crafted article about present-day Aviation Electronics Technicians. I see that they still do 27 weeks at NAS Memphis, Tenn., followed by a tour at something called FRAMPS [Fleet Readiness Aviation Maintenance Personnel Squadron]; in my day, it was FEATULANT or PAC, depending on your assigned coast. This last school prior to squadron determined whether you would service carrier-based or multi-engine aircraft.

After 14 months of schooling, I was assigned to VC-12, an early warning squadron at NAS Quonset Point, R.I. Shortly before I arrived, Douglas AD-4W *Skyraiders* replaced the TBM "Guppies". After one flight in the latter, I thought the Navy had made a good move with the conversion. I had a love affair with the AD that lasted through three carrier deployments, culminating in an eight-month tour on *Lake Champlain*

(CVA 39) with Task Force 77 in the closing days of the Korean War. Like present-day ATs, I spent about half of my time at sea.

The one thing I found jarring, though, was the part where ATs, after finishing FRAMPS, have to perform 90 days of mess cooking or compartment cleaning before working on the job they were laboriously trained to do. And I thought the Navy had moved forward in the last 40 years! The one who dreamed that one up should be assigned a tour of mess cooking himself. What a waste of good talent.

In my time, we had ample personnel who'd just finished boot camp and didn't have the grades to attend a service school. These people worked in the chow hall and then tried to strike for a rate. To employ trained technicians in these menial jobs is not only a classic example of the wrong man in the wrong place, but probably goes a long way towards destroying whatever motivation one might have had to make the Navy a career.

That said, I still look back on my four years with only pride and a deep sense of satisfaction. My "hitch" remains the bench mark of 60 years of memories.

Jack Sauter
235 Robby Lane
Manhasset Hills, NY 11040

Correction

Jul-Aug 94, p. 14, under 17 Feb: The Aircraft Carrier Memorial is located at the old Navy Fleet Landing on N. Harbor Drive in San Diego, Calif., not aboard NAS North Island.

Reunions, Conferences, etc.

CASU(7)44 reunion, 1-4 SEP, Kansas City, MO. POC: Michael Deery, 1604 NE 67th Pl., Gladstone, MO 64118, 816-436-7599.

VF-14 75th anniversary/reunion, 2-3 SEP, Virginia Beach, VA. POC: Lt. Paul McSweeney, 804-433-516.

Takanis Bay (CVE 89) reunion, 8-11 SEP, Norfolk, VA. POC: Lloyd G. Taylor, 2787 W. Spring Hwy., Jonesville, SC 29353, 803-427-3817.

Attu (CVE 102)/Mugford (DD 389) reunion, 14-18 SEP, Portland, OR. POC: Jack Moore, 285 Moore Rd., Hackberry, LA 70645, 318-762-4656.

Core (CVE 13) reunion, 15-17 SEP, Green Bay, WI. POC: Leroy Le Pearle, 1806 Wilson Ave., Sheboygan, WI 53081, 414-458-3669.

Kadashan Bay (CVE 76) reunion, 15-18 SEP, Vancouver, WA. POC: P. I. Ritz, 220 Aspen Ln., Lititz, PA 17543-9344, 717-626-7401.

MCAA 1994 Annual Convention Symposium, 15-18 SEP, Pensacola, FL, 904-433-3336, ext. 7105/6.

National Championship Air Races, 15-18 SEP, Reno NV. POC: Reno Air Racing Association, POB 1429, Reno, NV 89505, 702-972-6663.

VPB-118 reunion, 15-18 SEP, Detroit, MI. POC: Nolan Weller, 1708 Dover Rd., Kalamazoo, MI 49008, 616-382-2096.

VF-18 (Bunker Hill)/VF-17 (Hornet) reunion, 15-18 SEP, San Antonio, TX. POC: Jim Pearce, POB 940, Cocoa, FL 32923, 407-636-5783.

Constellation (CVA 64) reunion, 17-18 SEP, Baltimore, MD. POC: Rich Romeo, 9809 Montour St., POB 52044, Philadelphia, PA 19115, 215-969-3786.

Currituck (AV 7) reunion, 21-25 SEP, Orlando, FL. POC: Ronald Curtis, 207 W. Marvin Ave., Owensville, MO 65066, 314-437-3899.

VPB-146 reunion, 22-25 SEP, Nashville, TN. POC: Harry Haines, Jr., POB 29, Monmouth, ME 04259, 207-933-4519.

Jupiter (AVS 8) reunion, 23-24 SEP, Rehoboth Beach, DE. POC: Joseph McKeever, 5 Woods End Dr., Doylestown, PA 18901, 215-297-8313.

VS-24 reunion, 23-25 SEP, NAS Jacksonville, FL. POC: Lt. John Madril, VS-24 Unit #60131, FPO AA 34099-6502, DSN 860-5147 or 904-778-5147.

VP/VPB-54 reunion, 25-29 SEP, San Antonio, TX. POC: Donald Armour, 7515 E. Ave. U, Littlerock, CA 93543.

WW II Navy Scouting Squadrons Association (Pacific) reunion, 29 SEP-2 OCT, Millbrae, CA. POC: Dave Bowman, 7433 Oakleaf Dr., Santa Rosa, CA 95409, 707-538-0236.

VOF-1/VOC-1 reunion, 30 SEP-2 OCT, Governors Island, NY. POC: Fritz H. Larson, 103 Putnam Rd., New Canaan, CT 06840, 203-966-3107.

VX-4 reunion, 30 SEP-2 OCT, Point Mugu, CA. POC: Lt. Joseph G. D'Acquisto, DSN 351-8931 or 805-989-8931.

Bogue (CVE 9) reunion, OCT 94. POC: Earl Pendleton, 11737 Jefferson Ave. 24-F, Newport News, VA 23606, 804-595-4212.

Escort Carrier Sailors & Airmen Assn. reunion, OCT 94. POC: Elton O. Powers, 818 Village Dr., Lynchburg, VA 24502, 804-239-7248.

Lake Champlain (CV/CVA/CVS 39) reunion, OCT 94. POC: Phillip E. Nazak, POB 34, Vestal, NY 13851-0034, 607-729-5192.

VC-42 reunion, 3-6 OCT, Reno/Tahoe, NV. POC: J. E. Hibbs, 86 Meadow Run Pl., Harrisburg, PA 17112, 717-652-0423.

VP/VPB-18 reunion, 3-7 OCT, Las Vegas, NV. POC: John J. McGann, 2068 Stockton Ave., Las Vegas, NV 89104, 800-982-7642.

Yorktown (CV 10) reunion, 5-8 OCT, Charleston, SC. POC: Joe Sharkey, POB 1021, Mt. Pleasant, SC 29464, 803-849-1928 or 800-881-CV-10.

U.S. Navy GCA Assn. reunion, 5-9 OCT, St. Louis, MO. POC: Nelson W. Bowers, POB 1812, Sebring, FL 33871.

MATCA reunion, 6-9 OCT, St. Louis, MO. POC: Boyd Murdock, 1935 River Bend Rd., Heber Springs, AR 72543, 501-362-3008.

Kula Gulf (CVE 108) reunion, 6-9 OCT. POC: Arvel Jack Dotson, 601 Avalon Ave., Virginia Beach, VA 23464, 704-322-5445.

VC/VAAW-35 reunion, 6-9 OCT, San Diego, CA. POC: Ruben Escajeda, 7664 LeCont Dr., El Paso, TX 79912, 915-585-3468.

VMF-115 reunion, 6-9 OCT, Galveston, TX, 800-962-7894.

111th Tactical Reconnaissance Squadron reunion, 6-9 OCT, San Antonio, TX. POC: Dr. Roy Simmons, Jr., 3730 Edgewater Dr., Nashville, TN 37212, 615-366-1191.

Naval Air Warfare Center Aircraft Division, Warminster reunion, 7-8 OCT, Warminster, PA. POC: Lori Trainer, 215-441-1224/3067.

EAA East Coast Fall Festival of Flight Fly-in, 8-9 OCT, Wilmington, DE. POC: EAA East Coast Fly-In Corp., 2002 Elanore St., Wheaton, MD 20902-2706, 301-942-3309.

Langley (CVL 27) reunion, 8-10 OCT, New Orleans, LA. POC: William C. Thompson, 7925 Canna Dr., Port Richey, FL 34668, 813-862-0997.

VX-1 Conference on Air Antisubmarine Warfare in the Littoral Waters, 11-14 OCT, NAS Patuxent River, MD. Interested representatives from operational squadrons may contact Lt. Rob Stauder, DSN 326-3771 or 301-826-3771 x 7191.

Oriskany (CVA-34) reunion, 12-16 OCT, San Diego, CA. POC: Ray Hawley, 348 San Felipe Pl., San Diego, CA 92114, 619-460-9998.

Curtiss (AV 4) reunion, 12-17 OCT, Norfolk, VA. POC: Harold Oliver, 1575 W. Valley Parkway #37, Escondido, CA 92026, 619-480-0575/741-7831.

Kwajalein (CVE 98) reunion, 13-15 OCT, Springfield, MO. POC: Monte Allen, 4116 Pembroke Ln., Lees Summit, MO 64064, 816-478-8107.

Philippine Sea (CV 47) "Mini-muster," 13-15 OCT, Newport, RI. POC: Raymond Thompson, 11 Day Cir., Woburn, MA 01801-5443, 617-933-2183.

Suwannee (CVE 27) reunion, 13-15 OCT, San Diego, CA. POC: Carl W. Bell, Box 868, Glasgow, MT 59230, 406-228-2145.

Guantanamo Bay, Cuba, reunion 13-16 OCT, Corpus Christi, TX. POC: Stanley Hunt, 5944 Glasgow Rd., Sylvania, OH 43560, 419-882-1723.

Leyte (CV 32) reunion, 13-16 OCT, San Diego, CA. POC: Louis DeAngelis, 2504 North Elm St., River Grove, IL 60171-1617, 312-452-0802.

Saratoga (CV 3/CVA/CV 60) reunion, 13-16 OCT, Las Vegas, NV. POC: P. R. Tonelli, POB 34958, Las Vegas, NV 89133-4958, 702-656-1776.

VMF/VMA-211 reunion, 13-16 OCT, El Toro, CA. POC: George A. Ridgeway, 2010 S. Baker, Santa Ana, CA 92707, 714-557-8583.

VR-24 reunion, 13-16 OCT, Clearwater, FL. POC: Pete Owen 24633 Mulholland Hwy., Calabasas, CA 91302, 818-222-6936.

50th anniversay commemorating the liberation of the Philippines, 19-26 OCT, Norfolk/Virginia Beach, VA. 800-231-0715.

Navy Hurricane Hunters reunion, 20-22 OCT, Pensacola, FL. POC: Cdr. George Clare, USNR (Ret.), 825 Bayshore Dr. Apt. 500, Pensacola, FL 32507, 904-455-8946.

National Chief Petty Officers Assn. reunion, 20-24 OCT, Milwaukee, WI. POC: W. A. Williams, Rt. 7 Box 2408, Boerne, TX 78006-9513, 210-537-4899.

Fanshaw Bay (CVE 70) reunion, 22-27 OCT. Pensacola, FL. POC: Duane D. Iossi, 310 Edwards St., Ft. Collins, CO 80524, 303-482-6237.

Makin Island (CV 93) reunion, 25-29 OCT, Las Vegas, NV. POC: Gus Youngkrist, 1400 S. Valley View #1067, Las Vegas, NV 89102, 702-870-6285.

Coast Guard Combat Veterans Assn. reunion, 26-30 OCT, Norfolk, VA. POC: E. P. Burke, 17728 Striley Dr., Ashton, MD 20861-9763, 301-570-5664.

Wasp (CV/CVA/CVS 18) reunion, 26-30 OCT, Jacksonville, FL. POC: Richard G. VanOver, USNR (Ret.), 6584 Bunting Rd., Orchard Park, NY 14127.

VB-92 reunion, 27-30 OCT, Corpus Christi, TX. POC: Bill Barnes, Suite 510, 620 N. Grant, Odessa, TX 79761, 915-332-8276.

VP-45 Assn. reunion, 27-30 OCT, Las Vegas, NV. POC: C. B. Caldwell, 1061 Arnold Way, Alpine, CA, 91901.

VF-54 reunion, 28-30 OCT, San Diego, CA. POC: Capt. Ken McArthur, USN (Ret.), 2 Pine Ct., Coronado, CA 92118, 619-437-1336.

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