NAVAL AVIATION NEWS
July-August 199

1993
The Year
in Review Page 12

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Covers—WW II Combat Art: "Kamikaze," by Dwight Shepler, courtesy of Navy Art Collection Branch, Naval Historical Center.

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

1993—A Year of Transition

It's hard to summarize in one issue all that transpired in Naval Aviation last year. The Navy/Marine Corps white paper "... From the Sea" gained wide recognition and, although not the sum total, it has become the foundation of Navy/Marine Corps doctrine. The Bottom-Up Review was issued by the Secretary of Defense. This document set guidelines for our future levels, basing them on the dual requirement to fight and win two near-simultaneous major regional conflicts and maintain credible combat capability forward deployed in key areas around the globe. These two efforts seemed to concur on one point: the naval service was on the right track with decisions already made since the end of the cold war. 1993 saw the initial implementation of many of those decisions, plus a good deal more. It was a remarkable year!

Enacting Change. Significant force structure decisions made by the Navy Department took effect in FY 1993, and more force structure decisions were made. Our plan calls for "recapitalizing" the nation's investment in Naval Aviation. That "inside-the-beltway" term refers to letting forces go now to free up dollars for future forces. Included in this plan is disestablishment of squadrons and elimination of older type/model/series aircraft. We are reducing overall aircraft inventory by 35% during the 1990s. Restructuring decisions made in 1993 include:

- Reducing to 11 active, 1 reserve aircraft carrier
- Reducing carrier air wings to 10 active, 1 reserve
- Reducing maritime patrol aircraft squadrons to 13 active, 9 reserve
- The neck down to 2 power projection aircraft in our carrier air wings with the retirement of the A-6 to be completed in FY 1997
- Integrating 3 USMC F/A-18 squadrons in carrier air wings
- Increasing the daily operational contributions of the Reserves
- Single siting most fleet replacement squadrons

Carriers. *John F. Kennedy* (CV 67) will complete her comprehensive overhaul in Philadelphia in September 1995 and is slated for home-porting in Mayport, Fla., as our "operational reserve carrier." She will be a "full-up round," not just a training carrier. She will be available for fleet exercises, crisis surge, deployment and training. There will be a full manning complement consisting of 80% active duty, 20% reserve.

Your Navy leadership is currently involved in a round of briefings to Congress in support of our efforts to fully fund CVN 76 in the FY-1995 budget. Needed in the long term to maintain the 12 carrier force level directed by the Bottom-Up Review, authorization of CVN 76 maximizes the benefit from ongoing series CVN production, taking advantage of existing skills and manufacturing capabilities.

CV Air Wing Composition. The decision made to reduce to 50 strike and fighter aircraft per carrier air wing was based solely on fiscal constraints. However, those 50 aircraft will be multimission strike/fighters. With the introduction of the next generation of precision-guided munitions, our carrier air wings will be more lethal than ever.

Weapons. Our weapons programs are a success story we can all be proud of. The plan includes a neck down to two primary air-to-ground weapons families—the Joint Direct Attack Munition (JDAM) and Joint Standoff Weapon (JSOW). Both weapons families will reach initial operational capability by the turn of the century. This plan also makes virtually all of our strike and air-to-air weapons joint programs with the Air Force.

Major Aircraft Programs. You have read about recent developments in our aircraft programs in previous issues of *Naval Aviation News*. The highlight of 1993 in major aircraft procurement was enhanced support for the F/A-18E/F *Hornet*. This program is key to the future of Naval Aviation and is likely to be the only new tactical aircraft produced in the United States over the remainder of the 1990s.

Base Closure. The Base Closure and Realignment Commission (BRAC) process is strongly supported as we try to free ourselves from excess infrastructure. BRAC 93 ordered the closing of 10 naval air stations, 3 naval aviation depots and 1 naval air warfare center. The Navy share of the base closure bill is currently underfunded, due to budget decisions outside of the Navy Department, requiring delay of some closures. We look for more base closures through the BRAC 95 process.

People. One of the most significant decisions made in 1993 was to allow women to serve on combat ships and in carrier air wings. *Nimitz*-class ships are scheduled for modifications to accommodate our female personnel. In FY 1994, *Dwight D. Eisenhower* (CVN 69), *Abraham Lincoln* (CVN 72) and the *John C. Stennis* (CVN 74) precommissioning crew will incorporate females into ship's company and the associated air wing squadrons. *Nimitz* (CVN 68) and *Theodore Roosevelt* (CVN 71) will get females in their crews in FY 1995.

We want to raise the professional standards, expectations, personal conduct and self-image of all in Naval Aviation so that public perception once again equals reality. Reality is that Naval Aviation represents the finest our nation has to offer—and that is very fine, indeed. We must focus ever more intently on preserving and enhancing the good standing of our most treasured resource: our people. I want all in Naval Aviation to feel, sense and firmly believe in this teamwork effort.

Pride. Although the current fiscal situation is certainly challenging, this is not new to us; we have always done more with less. We have much to be proud of as we look back on 1993. Our potent, credible, forward-deployed combat capabilities were there when they were needed, always responding to the first call when a crisis erupted. The Persian Gulf, Bosnia, Somalia, Haiti, North Korea, Rwanda and other places where Naval Aviation was on scene in response to the Unified CINC's requirements only underline the point. We will continue to provide our National Command Authority with a full range of options, and Naval Aviation will remain *the* relevant force it has always been.

FLY 'EM SAFE!

Osborn

Robert

Naval Aviation Legend

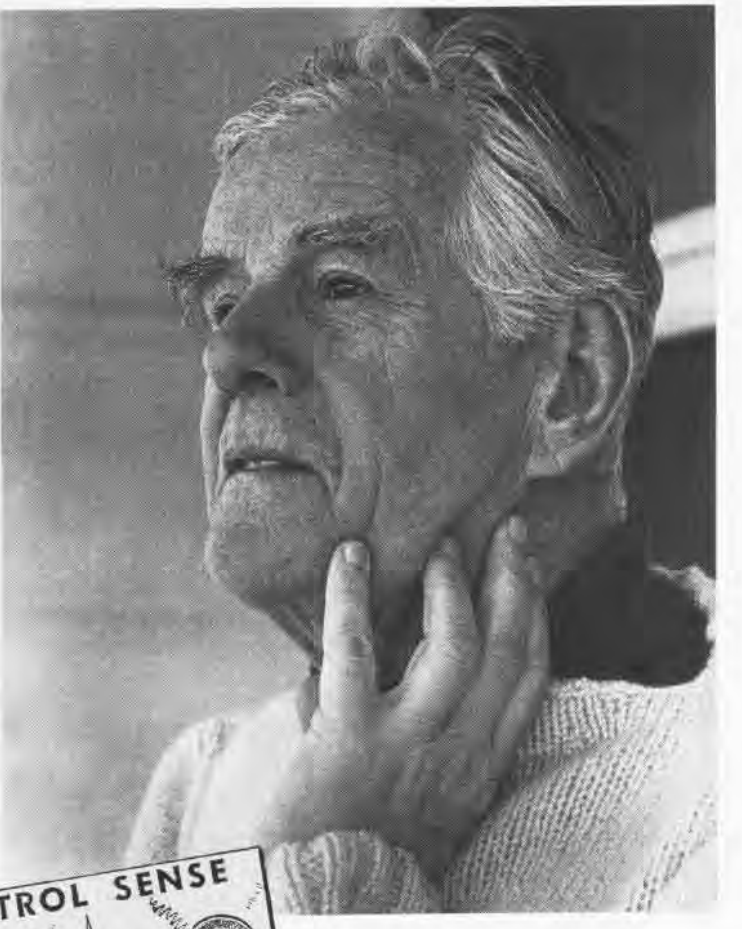
Robert Osborn is one of Naval Aviation's most treasured legends. When he stepped down as the illustrator of "Grampaw Pettibone" in March 1994—at the age of 89—he created a huge vacuum. No one has had a more remarkable and productive "tour of duty" in service to Naval Aviation than Bob Osborn.

In 1943, Lt. Osborn, in collaboration with Commander Seth Warner, created the "Sage of Safety" character for a column in the Bureau of Aeronautics' *News Letter*, predecessor of *Naval Aviation News*. (See "Jumpin' Jehoshaphat! Fifty Years of Gramps," *Naval Aviation News*, Jan-Feb 1993.) Osborn's illustrations commingled with Warner's narrative accounts of aircraft accidents. Following a description of a mishap, "Ole Gramps" railed with invective when necessary to make a point. More than one aviator, caught in a pinch in the sky, has suddenly remembered a timely pearl of wisdom from Gramps that helped the flyer avoid a costly mistake.

Osborn is also the creator of more than 2,000 of the famed "Dilbert the Pilot" and "Spoiler the Mechanic" posters. These were safety gems which were liberally displayed in hangars and aboard ships during WW II and into the 1950s.

In 1977, Osborn's dedicated service to Naval Aviation was recognized when he was designated No. 14 in the elite group of Honorary Naval Aviators. This honor is one of his most cherished.

Osborn

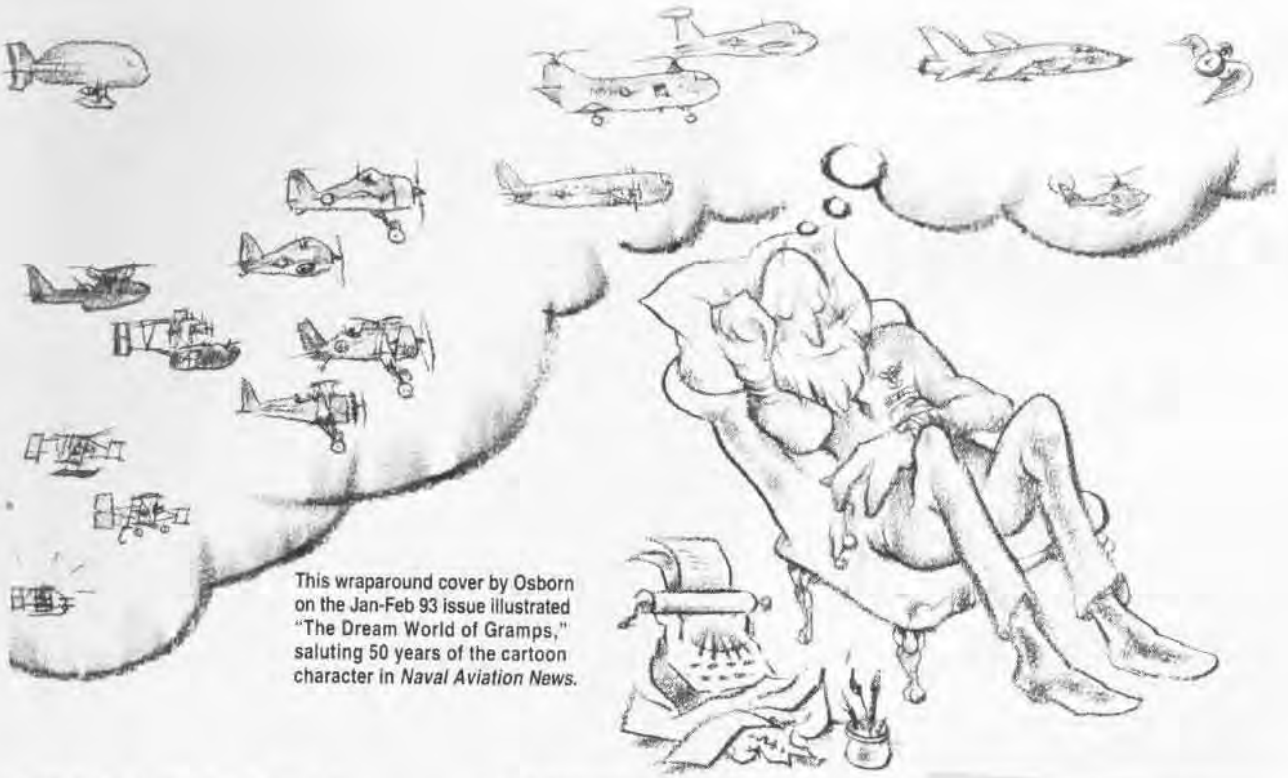


Not once in all of the 51 years did Bob Osborn miss a deadline with *Naval Aviation News*. His drawings were terrific in the early days and somehow got even better with time. Recognized as one of America's greatest satirists/artists, Osborn's works have been published in prestigious magazines, newspapers and books.

Naval Aviation was only one of his many subjects, but Osborn has a special

Opposite: Osborn's "Swan Song" bids farewell to *NANews*, ending over 51 years drawing the Grampaw Pettibone safety column. Right: In 1974, a pensive Osborn perhaps reflects on some of his contributions to Naval Aviation, including the "Sense" pamphlets, which gave WW II flyers common sense safety rules.

Retired Capt. Zip Rausa contributed to this article.



This wraparound cover by Osborn on the Jan-Feb 93 issue illustrated "The Dream World of Gramps," saluting 50 years of the cartoon character in *Naval Aviation News*.

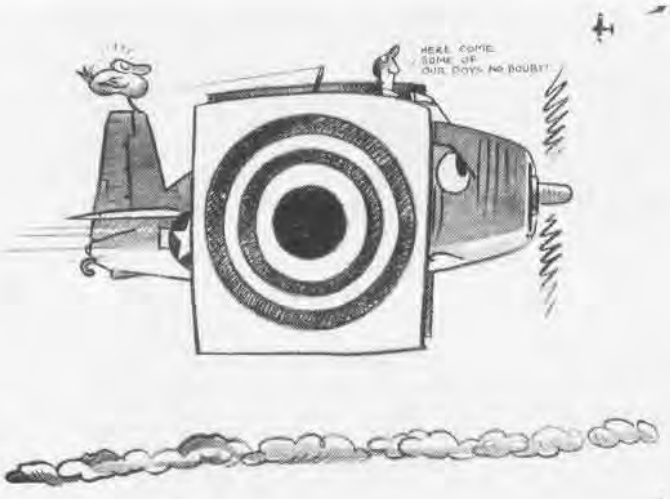
place in his heart for the Navy. It helped give him his start and he had great admiration for the people he knew in the service, junior and senior alike.

Upon his retirement, Osborn wrote, "You all must know that the Navy has been kind and considerate of me. From [the beginning], it has made such intelligent use of me. And the whole relationship has been a grand one as far as I'm concerned ... one of the rarest cooperative efforts I have ever seen. . . . Fly, fly, fly with care and mind what happens to the Passenjair [sic]!"

There have been 13 Gramps "writers," including Cdr. Warner, but only one Gramps drawer—Bob Osborn. Fortunately, Osborn wants "Grampaw Pettibone" to live on. The column will continue to appear in *Naval Aviation News* with illustrations by retired Navy captain and well-known artist Ted Wilbur.

The tradition that Bob Osborn created continues.

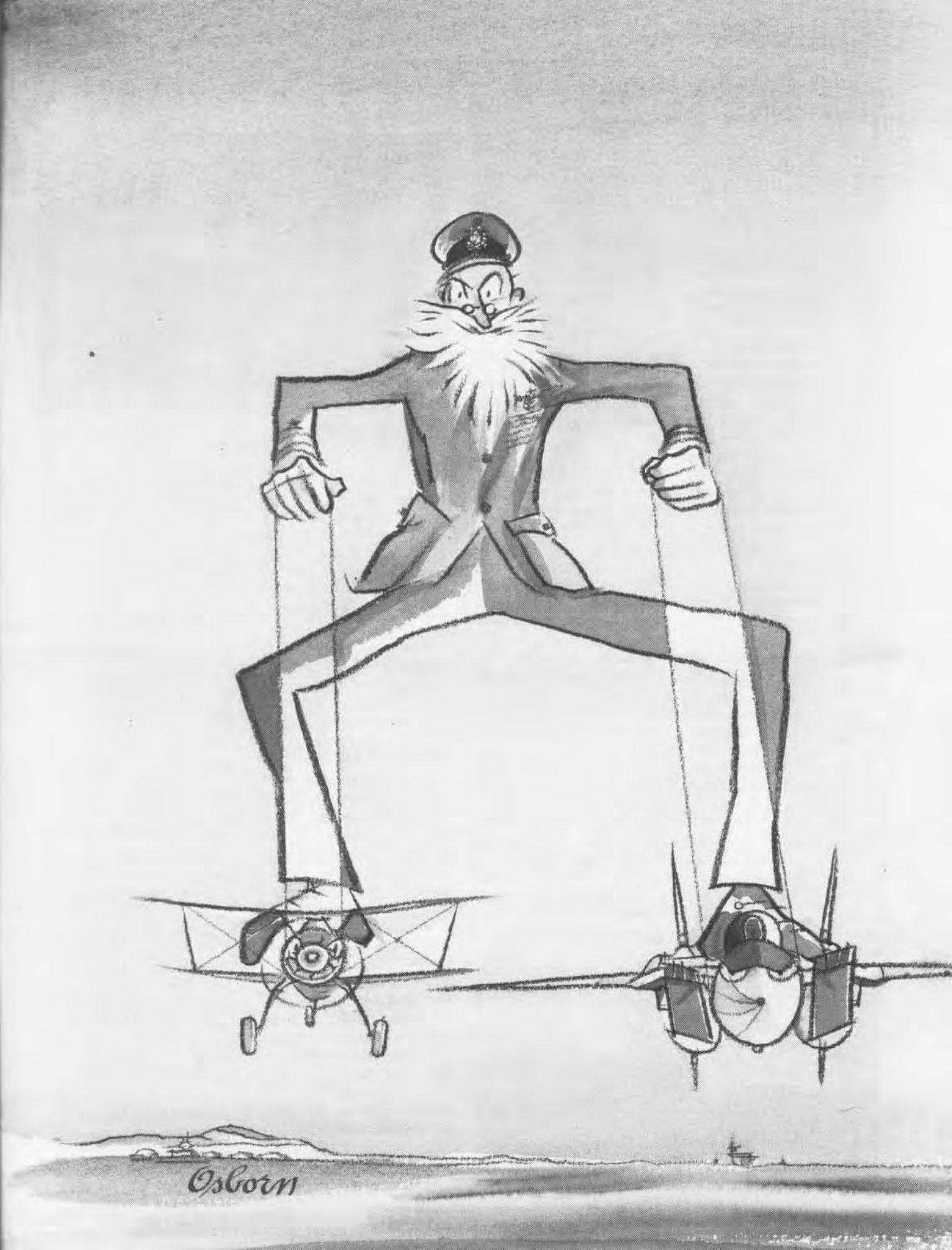
Below: During WW II, Lt. Osborn drew over 2,000 posters depicting the "unsafe" actions of "Dilbert the Pilot" and "Spoiler the Mechanic"; they were seen in ready rooms and ships throughout the Navy.



Actual picture of a STRAGGLER!

Above: Bob Osborn calls himself a "drawer." After studying art in Rome and Paris, his life led him to pursue a cartoonist's career—a decision that served him well. Right: Originally called P. S. (Post Script) Pettibone, Gramps was named by Cdr. Seth Warner, the Bureau of Aeronautics' Aircraft Safety Counselor, and drawn by Osborn, who used some of Warner's personal attributes.

The character has evolved with the times—as shown in one of Osborn's favorite drawings, which depicts the "Sage of Safety" straddling vintage and modern aircraft.


Osborn

Aviator Flag Moves

Adm. Stanley R. Arthur is scheduled to leave his position as Vice Chief of Naval Operations (VCNO) to become the next U.S. Pacific Command head sometime this summer. **VAdm. Ronald J. Zlatoper**, current Chief of Naval Personnel, is expected to be approved for promotion to Admiral and become the next U.S. Pacific Fleet commander. **VAdm. Richard C. Macke**, currently Director of the Joint Staff, has been nominated for his fourth star and as the replacement for Adm. Arthur as VCNO. Additionally, **RAdm. Michael L. Bowman**, currently ComCarGru-6, is expected to be nominated for his third star and assigned as Chief of Naval Personnel.

Marine V-22 Plan

As the #1 Marine Corps priority and with a total planned buy of 425 aircraft, the V-22 may be procured over a 30-year period at a cost of an estimated $28 billion. The Navy has requested $497 million in FY 1995 and plans to build up to an FY-1999 peak of $1 billion per year for the tilt-rotor aircraft. The manufacturer, Bell-Boeing, will build about 18 aircraft per year at its peak. The Defense Acquisition Board will conduct a V-22 review this fall to decide whether the program is ready for production.

New Navy Two Stars Announced

Nineteen lower-half Rear Admirals have been selected for promotion to two-star rank. Included in this group were seven aviation officers who are listed below, along with their billets assigned at the time of selection: **Herbert A. Browne, Jr.**, CarGru-1; **Arthur K. Cebrowski**, Director for Space Electronic Warfare on the CNO staff; **Andrew A. Granuzzo**, Commander, Naval Safety Center; **John M. Luecke**, Director for Plans and Policy, U.S. Central Command; **John J. Mazach**, CarGru-2; **John R. Ryan**, Commander, Task Force 12 and Patrol Wings, Pacific Fleet; and **Bernard J. Smith**, CarGru-5.

AirLant/AirPac Battle "E" Winners

Recent announcements established 1993's finest active duty carriers and squadrons:

AirLant: *Theodore Roosevelt* (CVN 71), VF-32, VFA-105, VA-36, HC-2, VP-11, VS-32, VAW-123, HS-11, VQ-2, VCs 6 and 8, HSL-42 and VAQ-137.

AirPac: *Abraham Lincoln* (CVN 72), VF-211, VFA-146, VA-52, VAQ-138, HSL-51, VS-29, HS-6, VAW-117, HC-11, VP-40 and VQ-5.

New River Gets LHA Pad

MCAS New River, N.C., now has a permanent Field Carrier Landing Practice site at which pilots can practice landings and takeoffs in an environment resembling operations from an LHA ship deck. Previously, predeployment workups were practiced to a silhouette of an LHA deck painted on the runway of a nearby strip and without realistic shipboard night lighting. Now, the training can be accomplished at an actual deck edge, which allows the pilots to become accustomed to transitioning between "in ground effect" and "out of ground effect" conditions while on a shipboard-type takeoff and approach. Additionally, the new landing site is painted and illuminated in the same manner as a real LHA deck.

The Field Carrier Landing Practice site allows pilots to practice landings and takeoffs in an environment resembling an LHA ship deck.

European News

Europe's most expensive and controversial fighter jet, *Eurofighter*, made its maiden flight, which its makers said was successful. Eurofighter Jagdflugzeug GmbH, a consortium owned by Deutsche Aerospace of Germany, British Aerospace, Italy's Alenia and Spain's Construcciones Aeronauticas, reported the advanced fighter plane flew for more than 45 minutes at the test center at Manching, Germany. Technology problems delayed its first flight by two years. It was hoped that the new fighter would appear at the Farnborough Air Show in September, but that has been ruled out in order to continue the flight test program.

Eurocopter's EC-135 helicopter appeared in May in Donauworth, Germany, as the product of its French and German divisions which merged in 1991. Eurocopter France is responsible for the composite tail rotor and tail-boom structure, and Eurocopter Germany for the remainder of the aircraft. Reportedly, the aircraft will have a range of 498 miles and a cruise speed of 155 mph and will seat seven.

NADep JAX to Continue Rework of A-7s

Naval Aviation Depot (NADep), Jacksonville, Fla., received a foreign military sales contract worth $52 million from Thailand to rework 17 TA-7C and A-7E aircraft over the next five years. All of the aircraft will receive scheduled depot-level maintenance rework along with a service package that includes periodic engine inspections, support and test equipment, maintenance training, engineering technical assistance, publications and updates, and aircraft ferry support to Thailand. It is estimated that each aircraft will take about

eight months to undergo the complete rework process. The facility is currently reworking 36 A-7s for the Hellenic Air Force under a contract worth $70 million.

Helicopter Instrument Scan Research in Progress

Helicopter instrument scan pattern research by scientists at the Naval Aerospace Medical Research Laboratory (NAMRL), Pensacola, Fla., is attempting to identify the major difficulties that students face in acquiring an effective instrument scan. A noninvasive eye-tracking device has been installed in a motion-based helicopter simulator and provides an on-line, real-time video record of student instrument scanning patterns and flight performance. The video record will be used for debriefings, teaching and flight grading standardization. This study is the first to gather flight performance data in conjunction with instrument scan data using a device that does not interfere with the behavior of the student. The study is producing a unique scientific resource—eye tracker and simulator—that can be widely used by the scientific community to study instrument scan patterns and the acquisition of flying skills in motion-based simulators. NAMRL's scientific staff has also determined that the scan pattern-monitoring technology developed for the helicopter simulator can be easily incorporated into a fixed wing simulator.

Marine Cobras Now Own the Night

With its introduction in June, the AH-1 Night Targeting System (NTS) AN/ASQ-211 provides a significant improvement to the AH-1 *Cobra* by giving it a night-fighting and autonomous Hellfire missile capability. NTS is an airborne, electro-optical system which includes controls, displays, cockpit/instrument rearrangements and safety devices to operate AH-1 weapons. Three sensors provide maximum flexibility to the gunner: existing M-65 direct view optics (DVO) with wide and narrow fields of view (FOVs) for daylight use; new forward lookfng infrared (FLIR) with wide, medium, narrow and zoom FOVs for night use; and new charged coupled device and narrow FOVs for dawn and dusk when not enough light is present for DVO nor enough temperature difference between a target and its background for FLIR use. Coupled with these sensors, a laser designator/range finder system provides autonomous capability to detect, acquire, track , designate and deliver tube-launched, optically tracked, wire-guided (TOW) Hellfires to air and ground tactical targets under day and night conditions. Marine NTS units are being installed by Bell Helicopter through production and retrofit efforts as part of the AH-1W canopy mod, which rearranges the front-cockpit instrument panel and adds—in addition to NTS—a radar altimeter, ASQ-205 communication/navigation cockpit display unit, and a multifunction display which repeats the NTS image seen in the M-65's optical relay tube.

The T-Bird II JPATS demonstrator flies over Clemson University, S.C.

JPATS News

Vought Aircraft Co. has successfully completed the flight test program for the missionized Pampa 2000 aircraft and is ready for the initiation of the Joint Primary Aircraft Training System (JPATS) selection process. The Pampa 2000 is an upgraded version of the in-service IA 63 Pampa. Vought will provide the Navy and Air Force with two missionized aircraft for the next phase of the competition later this year. An in-depth flight evaluation of each of the seven JPATS candidates will be conducted by a joint Navy and Air Force team at Wright-Patterson AFB, Ohio. The winner of the competition is expected to be announced in February 1995.

T-BIRD II Team, led by **Lockheed Aeronautical Systems Co.**, completed tests of an engine noise hush kit for its entry in the JPATS competition, a missionized version of the Aermacchi MB-339A trainer. For the test program, an Aermacchi company demonstrator aircraft was modified with the hush kit, which consisted of a multilobed exhaust nozzle and treatments in the inlet ducts. The successful 14-flight test program, which concluded in April, was conducted at Aermacchi's facility in Venegono, Italy.

Beech Aircraft Corp. has completed a three-week demonstration tour of the Beech MkII, the company's candidate for the JPATS competition. During the tour, the MkII accumulated approximately 60 flight hours and almost 200 landings as it was demonstrated to Department of Defense, Navy and Air Force personnel. In addition to the airplane, a Beech MkII cockpit mockup accompanied the tour in a display trailer.

The fully missionized second production prototype of the Beech PC-9 MkII flies over Kansas, where Beech's JPATS entry will be manufactured.

Cockpit-21 Debuts in T-45

The first Navy training jet equipped with a digital cockpit made its inaugural flight in March at St. Louis, Mo. The T-45 *Goshawk* has been improved with the incorporation of digital crew stations. Cockpit-21 more closely resembles the cockpits of front-line fighters, enabling student pilots to transfer their skills to operational aircraft in less time and at reduced cost. The crew station has two multifunction displays (MFD) in each cockpit, a MIL-STD-1553 data bus and a global positioning system/inertial navigation assembly. The heads-up display and MFDs replace several analog flight instruments enhancing critical pilot situational awareness and weapon systems management ability. Cockpit-21 is planned to replace the *Goshawk*'s current analog cockpit beginning with aircraft deliveries to the Navy in October 1996. Aircraft produced prior to that will be retrofitted with the new cockpit, as will all ground training system elements.

X-31 Flies Supersonic Without Using Tail Surfaces for Control

The X-31 Enhanced Fighter Maneuverability aircraft flew 17 March at Mach 1.2 without using its tail surfaces for control. NASA research pilot Rogers Smith climbed to 38,000 feet and engaged a special control mode that eliminated the stabilizing influence of the vertical tail. Smith demonstrated stability and control during high-speed, straight and level flight, as well as gentle turns. To accomplish this simulated cancellation of the tail, the X-31 used its other conventional control surfaces to counteract the stabilizing influence of the tail, making the aircraft appear tailless to the flight control computers. The thrust vectoring vanes then took over and provided the same functions as the vertical tail does in conventional flight. With this flight, program officials demonstrated the possibility of replacing conventional aircraft tail surfaces with vectored thrust capability.

Lobo Flag-94—A Multinational Success

In March, 74 aircraft—representing 22 squadrons and 6 services from all over the United States and some from Canada—descended upon Naval Air Weapons Station, Point Mugu, Calif., and prepared for the beginning of Lobo Flag-94. The multinational/multiservice, two-day exercise involves premier tactical and support aircraft in a created realistic air-combat scenario for aircrew training. The exercise featured the Naval Air Reserve's Carrier Air Wing 30 and was hosted by Point Mugu-based reserve unit Strike Fighter Squadron 305. Over 200 sorties and nearly 400 flight hours were safely logged during the two-day period.

Horizons Technology Delivers on $3.3-million Contract

Horizons Technology, Inc., has delivered Version 3.0 of its computerized Mission Planning System (MPS) for the Navy's MH-53E helicopter and has begun work on integrating an extensive training and simulation program within that system. The comprehensive program will include embedded computer-based training, classroom materials and instruction, and user's training videotapes. The company will also develop a Part Task Trainer, which will enable MH-53E pilots to train outside the cockpit on the Control and Display Unit and the Horizontal Situation Display System. The company developed and delivered the original MH-53E MPS in July 1991, the second version in February 1992, and now has delivered Version 3.0.

Point Mugu NAWCWPNS Tests AMPS

The Naval Air Warfare Center Weapons Division (NAWCWPNS), Point Mugu, Calif., is currently assisting the Department of Energy in the testing of the Airborne Multisensor Pod System (AMPS) program. The AMPS consists of three pods: an imaging pod which houses a thermal imager, metric camera, hyper/multicolor-spectral camera, color video camera and a low-light TV; a Synthetic Aperture Radar (SAR), developed at Sandia National Lab, which provides day and night radar imagery; and the Effluent Species Identification pod, now under development, which will be used for collecting air samples for analysis. The pods used were originally designed and carried on the Lockheed US-3A/S-3A *Viking* for cargo delivery to aircraft carriers at sea. To conduct tests, the pods were modified to carry the AMPS equipment, a NAWCWPNS Point Mugu-assigned RP-3A *Orion*'s wings were modified and strengthened, and a new pylon was designed to carry the pods. Other commands have also helped with the tests, including NAWCWPNS China Lake, Calif., which has been heavily involved in structural analysis and has performed mass properties measurements on the AMPS system, and NAWCAD Patuxent River, Md., which sent its flight test analysis group and pilots in support of the recently completed flight tests. The first operational flight was conducted 1 April

Vance Vasquez

F/A-18A Hornets from VFA-305 depart runway 21 at NAWS Point Mugu during Lobo Flag 94.

Vance Vasquez

Bloodhound-35, an RP-3A Orion, carried the Airborne Multisensor Pod System during its first operational flight, 1 April, at NAWCWPNS Point Mugu, Calif.

at NAWCWPNS Point Mugu. Possible future missions for this system include treaty verification, environmental/disaster control, sensor development and other types of applications.

For the Record...

✈ Under an agreement with the Advanced Research Projects Agency, Boeing Aircraft will split the $32 million cost with the government to continue development of a low-cost, single-engine fighter that could take off on short runways then land by descending vertically. The aircraft would be used by the Marine Corps and the Air Force. McDonnell Douglas Corp. and Lockheed Corp. were funded for similar projects last year.

✈ The Beaufort Tactical Aircrew Combat Training System (TACTS) in South Carolina was expanded to include the NAS Cecil Field bombing complex located in Astor, Fla., and the surrounding Palatka Military Areas (MOAs). The TACTS provides a facility for safely training military aircrews in Air Combat Maneuvering (ACM), No-Drop Bomb Scoring (NDBS), Anti-Radiation Missile Delivery (ARM) and Electronic Warfare (EW). The system can accommodate the training activities of ACM, NDBS, ARM and EW simultaneously involving 36 aircraft. The Beaufort TACTS is utilized by aircrews stationed at NAS Cecil Field; MCAS Beaufort, S.C.; and Air National Guard sites in Savannah, Ga., and Jacksonville, Fla. The Beaufort expansion was accomplished by Applied Data Technology, Inc., of San Diego, Calif., under a contract with the Naval Air Warfare Center Aircraft Division, Patuxent River, Md.

✈ The Secretary of the Navy has approved awarding of the Combat Action Ribbon for Somalia duty, effective 5 December 1992 to a date to be determined. The Combat Action Ribbon is a personal award and criteria cited in the Navy and Marine Corps Award Manual with regard to active participation in offensive combat actions must be met. Recommendations for individuals should be submitted to the Secretary of the Navy via the chain of command.

✈ Texas Instruments will provide a combined forward-looking infrared (FLIR)/laser designator system for SH-60B helicopters under a $3.8-million contract with Loral Federal Systems. The system will give the aircraft crews a greater standoff distance and a night and bad-weather surveillance and targeting capability for SH-60s armed with Penguin missiles. The contract also provides options for an additional 90 sets worth $90 million.

✈ An A-6E crashed into the San Francisco Bay 5 April while conducting traffic pattern maneuvers, killing pilot LCdr. Randall E. McNally and navigator LCdr. Brian R. McMahon. The VA-304 aircraft, assigned to Reserve Carrier Wir Wing 30, went down about a mile south of the Bay Bridge. The reservists were conducting their annual two weeks of active duty drills and were practicing touch-and-go landings at NAS Alameda, Calif.

✈ A *Saratoga*-based *Hornet* crashed in the Adriatic Sea during takeoff from the carrier 28 April, killing the pilot. The cause of the accident is unknown. The death was the first among the NATO allies conducting air operations in support of Bosnia.

✈ On 7 May, President Francois Mitterrand symbolically launched France's first nuclear-powered aircraft carrier and said another would probably be needed. At a ceremony in Brest, Mr. Mitterand paid tribute to the carrier's namesake, the late President Charles de Gaulle. It is scheduled to be completed in 1999 after 13 years of work at a cost of $3 billion.

✈ On 1 April, Patrol Squadron 94 said goodbye to the East Coast and transferred operational and administrative control to the West Coast. The transition was required due to recent base realignments and closures in which four Navy reserve patrol squadrons were disestablished, three of them from the West Coast. VP-94 was selected to switch coasts in order to properly balance forces. The squadron now reports to Commander Reserve Patrol Wing, Pacific.

✈ Helicopter Antisubmarine Squadron (HS) 85, a reserve unit, assumed the mission of target/torpedo recovery at NALF San Clemente Island, Calif., 1 April, replacing Helicopter Support Squadron (HC) 1, an active duty squadron which was disestablished. In April 1993, HS-85 moved to NAS North Island from NAS Alameda, both in California, to begin preparing for the new mission. The squadron received four UH-3H helicopters and modified two of its SH-3Hs to conduct the mission.

✈ Lockheed Sanders' Defense Systems Division received a $5.2-million firm fixed-price contract for four AIMS (Air Traffic Control Radar Beacon System, Identification Friend or Foe, MKXII System) antenna group systems and associated spares. Three of the antenna groups are for the U.S. Navy and one for the government of Japan. The contract also includes two years of options for one to seven antennas per year. Designated the OE-120/UPX, the AIMS antenna group is a significant part of the AIMS used on CG 47-class cruisers, DDG 51 destroyers and LHA 1-class helicopter assault ships to locate and identify aircraft as friend or foe. The antenna group consists of 64 radiating elements arrayed in a circle around the ship's mast. Unlike many conventional radar systems that employ mechanically rotated antennas, the AIMS antenna elements remain stationary while the beam is steered electronically to scan a full 360 degrees around the ship. The beam can also be steered selectively in any direction, changing in microseconds.

✈ Reflectone, Inc., has received a $3-million contract from Alenia Aeronautica of Italy to upgrade the Armament Systems Trainer for MCAS Cherry Point, N.C. Options, if exercised, could bring the contract's value to approximately $5 million. Italy is a consortium partner of the Marine Corps in the development and production of an upgraded radar variant of the *Harrier* aircraft. The contract calls for the integration of an APG-65 radar system and night-attack avionics into the Reflectone-built Maintenance Training Simulator. The modification will conform the simulator to the recently upgraded AV-8B *Harrier II Plus*. Maintenance technicians will be able to practice operation, testing and troubleshooting on these aircraft systems within a realistic learning environment.

VAQ-33 Firebirds

Tactical Electronic Warfare Squadron (VAQ) 33 was disestablished at a ceremony at NAS Key West, Fla., 1 October 1993, after over 44 years of service. Cdr. Roger A. Arrowood was the last CO of the *Firebirds*.

Established 31 May 1949 at NAS Norfolk, Va., as Composite Squadron (VC) 33, the squadron was equipped with TBM-3E/N/Q versions of the *Avenger* and a few SNJ-5s, tasked with antisubmarine warfare as its mission. Change came rapidly with a move to NAS Atlantic City, N.J., in June 1950, when it acquired the mission of night attack and transitioned to the AD *Skyraider* in a variety of versions, including the AD-1Q/2/3N/3Q/4/4N/4Q and a few SNB-5s for radar training. The squadron was soon sending night-attack detachments to sea with fleet carriers.

Beginning in 1950, VC-33 sent three detachments to the Korean war zone, on board *Leyte* (CV 32), *Bon Homme Richard* (CV 31) and *Lake Champlain* (CVA 39). The detachments distinguished themselves in night attack, radio relay, pathfinder and electronic countermeasures (ECM) missions, with only one combat loss. Other detachments deployed on board Atlantic Fleet carriers in the Atlantic and Mediterranean. In 1952, the nickname *Night Hawks* was adopted.

VC-33 briefly operated F3D *Skyknight* all-weather fighters, evaluating them in the night-attack role in 1952. On 2 July 1956, the squadron was redesignated All-Weather Attack Squadron (VA(AW)) 33. The aircraft inventory was standardized around AD-5N night-attack *Skyraiders* and AD-5Q (EA-1F) electronic countermeasures (ECM) versions. Two TF-1Q (EC-1A) *Traders* were acquired in 1957 to provide ECM training.

The *Night Hawks* moved to NAS Quonset Point, R.I., in 1958 and 30 June 1959 were redesignated Carrier Airborne Early Warning Squadron (VAW) 33. Its AD-5Ns were phased out in 1959 but added AD-5W (EA-1E) "Guppy" early warning versions of the *Skyraider* in 1961, doubling the size of the squadron, which then assumed the VAW detachments on board Atlantic Fleet antisubmarine carriers. In 1966, one "Guppy" detachment on board *Wasp* (CVS 18) supported the recovery of the *Gemini IX* spacecraft. The EA-1Es were phased out in late 1966, leaving VAW-33 with the ECM mission.

The *Night Hawks* continued to provide EA-1F ECM detachments to carriers until 1969, including three detachments to the Vietnam War zone, twice with Carrier Air Wing (CVW) 10 on board *Intrepid* (CVS 11) in 1967 and 1968, and once with CVW-19 on board *Ticonderoga* (CVA 14) from December 1967 until July 1968. The squadron was redesignated Tactical Electronic Warfare Squadron (VAQ) 33 on 1 February 1968. The second war detachment on board *Intrepid* became the last Navy unit to operate the *Skyraider* (or "Spad") in combat. None of the detachments suffered a combat loss.

VAQ-33 also had the distinction of making the last carrier deployment of the *Skyraider* when VAQ-33 Detachment 67 took three EA-1Fs to the Mediterranean with CVW-1 on board *John F. Kennedy* (CVA 67). The last "Spad" was launched on 20 December 1969. Its retirement, however, marked the beginning of the squadron's pioneering role as an electronic aggressor squadron.

Moving to NAS Norfolk in 1970, VAQ-33 came under operational control of the new Fleet Electronic Warfare Support Group, with the mission of simulating electronic threats to fleet units. Changing its nickname to the *Firebirds*, VAQ-33 was outfitted with an assortment of temporary aircraft (F-4B, TA-4F, A-3B and EC-121K) until its standard force of four ERA-3B *Skywarriors* ("Whales"), four EA-4F *Skyhawks* and one NC-121K *Warning Star* was in place.

VAQ-33 detachments quickly became requested standard features of fleet exercises, simulating missiles and jamming radars in exercises from Norway to Hawaii. EF-4B and EF-4J *Phantom IIs* were added to the squadron in 1976, serving until 1981. In 1977, the *Firebirds* took the responsibility of A-3 fleet readiness squadron (FRS), providing flight and maintenance training and carrier qualifications to A-3 crews, adding the TA-3B version of the "Whale" to its aircraft fleet. Operation of the "Whales" and *Phantoms*

VAQ-33 "Firebirds" stand in front of their aircraft prior to disestablishment.

shifted to NAS Oceana, Va., in 1978. Four ex-Marine Corps EA-6A *Intruders* joined the squadron in 1979.

The *Firebirds* made their final move in 1980 to NAS Key West, Fla. Their NC-121K, the last "Connie" in the Navy, was retired in 1982 and replaced by a P-3A *Orion*. A TA-4J was acquired to replace the loss of an EA-4F. The success of the squadron was reflected by the establishment in 1983 of a second electronic aggressor squadron, VAQ-34.

In the last decade of its existence, VAQ-33 continued a high tempo of fleet support operations. Its aircraft fleet constantly evolved, with its *Skyhawks* being replaced briefly by TA-7C *Corsair IIs* and its P-3A being replaced by an EP-3A. Its role as A-3 FRS ended with the eminent retirement of the Navy's last "Whales," which finally occurred in September 1991. The EA-6A became the squadron's only jet type, and two of its three P-3Bs were modified into EP-3J jamming aircraft.

With the decision to transfer its mission to the Naval Air Reserve, VAQ-33 wound down operations in 1993, transferring its EP-3Js to Patrol Squadron 66, NAS Willow Grove, Pa., and retiring the last EA-6As from service.

VAQ-35

A 7 October 1993 ceremony at NAS Whidbey Island, Wash., marked the disestablishment (officially 1 October) of Tactical Electronic Warfare Squadron (VAQ) 35 after over two years of service. Cdr. Tim Rivers was the last CO of the *Greywolves*.

Officially established by the Chief of Naval Operations 14 August 1991, VAQ-35 was in fact in operation on 1 June of that year, having been formed largely of personnel from the VAQ-142 *Grim Watchdogs*, a fleet EA-6B squadron (which stood down 1 April 1991, and officially disestablished 1 July 1991). The *Greywolves* joined the other electronic aggressor squadrons of the Fleet Electronic Warfare Support Group (later Fleet Tactical Readiness Group), VAQs 33 and 34, in providing training for fleet radar operators in countering electronic jamming. The squadron also assisted the fleet in developing electronic warfare tactics and countertactics and in electronic warfare evaluations for research and development. VAQ-35's eight EA-6B *Prowler* aircraft allowed for the replacement of the ERA-3B *Skywarriors* used by its sister squadrons by October 1991.

In two years of operations, the *Greywolves* made over 42 detachments to more than 16 locations, including Bermuda, Puerto Rico and Hawaii, maintaining a mishap-free flying record, one of only three Navy EA-6B squadrons to so accomplish. The *Greywolves* were destined for a short life with the Navy's budget decision to transfer the electronic aggressor role to the Naval Air Reserve. VAQ-209, NAF Washington, D.C., and VAQ-309, Whidbey Island, have assumed the EA-6B aggressor jamming role from VAQ-35.

NAF Midway

American naval presence on Midway Island came to an end 1 October 1993 with the disestablishment of Naval Air Facility, Midway. The closure brought to an end a long association of Naval Aviation with the island, centerpiece of a WW II battle famous as Naval Aviation's finest hour.

The Midway Islands, part of the Hawaiian Islands, were discovered in 1859 by Captain N. C. Brooks of the Hawaiian bark *Gambia*. The islands were placed under Navy control in 1903 by President Theodore Roosevelt. In 1935, Midway gained importance as a seaplane stopover for the Pan American Airways Clipper service. Navy presence built up in the late 1930s, with Naval Air Station, Midway Islands, being established on Eastern Island 1 August 1941.

The base was bombarded by Japanese surface ships 7 December 1941, in concert with the Japanese strike on Pearl Harbor, Hawaii. The islands soon saw a major build-up of Navy, Marine Forces and Army Air Corps squadrons that were on hand to detect and attack the Japanese fleet, which bore down on the islands in June 1942 with the intent of seizing them and destroying the U.S. carrier task forces. On 4 June, a Japanese air strike damaged most of the base, and strikes launched from the island failed to inflict much damage on the Japanese. However, Navy aircraft from the carrier task forces nearby sank four Japanese aircraft carriers and one cruiser, an action which became the turning point of the war in the Pacific.

After the Battle of Midway, Sand Island—the site of the Naval Station—was also developed as an airfield and by August 1944 accommodated all operations of large landplanes from Eastern Island. The airfield became an important stopover for aircraft transiting to the war zone as it pushed further east, and on one occasion served as the origin of a long-range strike on Wake Island by PB2Y *Coronado* patrol planes. The base also became an important origin for submarine war patrols that devastated vital Japanese shipping.

In 1945, air activity on Eastern Island withered as it shifted to Sand Island, and Eastern Island was abandoned by the end of the year. In April 1947, the base was placed in a caretaker status, and 1 August 1950 the Naval Air Station was disestablished, with its operations transferred to the Naval Station.

Midway gained renewed importance in July 1958 as a staging point for airborne radar early warning patrols by Navy WV-2 (EC-121) *Warning Star* aircraft flown by Airborne Early Warning Barrier Squadron, Pacific. These patrols between Midway and the Aleutian Islands were designed to provide warning of attack on North America by Soviet bombers. The patrols continued until 1965, by which time the island became with increasing frequency an allying stop for transports carrying war material and personnel to Vietnam. The Naval Station was redesignated as a Naval Air Station. Eastern Island was completely vacated again by 1970 and designated a wildlife sanctuary.

After the Vietnam War, NAS Midway served mainly as a fueling stop and a base for occasional reconnaissance operations by Navy P-3 patrol planes. In October 1978, the Naval Air Station was downgraded to a Naval Air Facility and dependents were withdrawn. The scope of operations gradually dwindled with the end of the cold war, which led to the decision to close the base in 1993.

1993 The Year in

By Judith A. Walters, LCdr. Rick Burgess and Steven D. Hill

Throughout 1993, the United Nations' (UN) peacekeeping and relief efforts continued to receive the support of Naval Aviation. The year began with *Tripoli* (LPH 10) and *Kitty Hawk* (CV 61), with CVW-15 aboard, off the coast of Somalia in support of Operation Restore Hope, the UN effort to relieve mass starvation in Somalia. *Kitty Hawk* also kept watch over the situation in Iraq in support of Operation Southern Watch, which policed the UN-imposed "no-fly" zone over southern Iraq. *Guam* (LPH 9) was in the Adriatic Sea in support of Operation Provide Promise, the UN effort to supply Bosnia-Herzegovina with food and supplies. *John F. Kennedy* (CV 67), with CVW-3 aboard, was in the Mediterranean guarding the Adriatic and the situation in Bosnia-Herzegovina. These UN missions were consistent with the Navy's post-cold war "... From the Sea" concept of projecting U.S. naval power along the world's seacoasts in response to local conflicts.

With the Soviet Union no longer a threat, the new Clinton administration supported a smaller defense. The draw down was the largest since WW II. In September, the Clinton administration unveiled a new plan for cutting the armed forces calling for 11 carrier battle groups and 1 reserve/training carrier.

During the year, the carriers *Ranger* (CV 61) and *Forrestal* (CV 59) were decommissioned, and the new carrier *John C. Stennis* (CVN 74) was christened. This brought the total number of active

A fond farewell. A KC-130F Hercules of VR-22 soars past Gibraltar. VR-22 was one of 18 Navy squadrons disestablished during 1993.

PH2 Franklin Call

Review

carriers at the end of the year to 13.

In April, Secretary of Defense Aspin dropped most of the restrictions that prohibited women from engaging in aerial and naval combat. The Navy planned to assign women to carriers *Abraham Lincoln* (CVN 72) and *Dwight D. Eisenhower* (CVN 69) and the precommissioning unit of *John C. Stennis*. Later in the year, Congress supported the secretary's decision to allow women in combat by repealing the Combat Exclusion Law.

The year ended with the new world order still threatened by local conflicts in Somalia, Iraq and especially in Bosnia. The Navy's carriers were on station to stand watch over the sites of crises.

January

01 In a reorganization, the Assistant Chief of Naval Operations (Air Warfare) (OP-05) RAdm. Riley D. Mixson became the Director, Air Warfare (N88). The billet was reduced from a three-star to a two-star flag officer and now reports to the Deputy Chief of Naval Operations for Resources, Warfare Requirements and Assessment (N8).

06 In a farewell speech to midshipmen at the Naval Academy, Secretary of the Navy Sean O'Keefe stated that he would like to see all ships and combat air missions open to women.

13 VS-35 received its first of six S-3B *Vikings* as it began transition from the

1993 The Year in Review

S-3A. The *Blue Wolves* would eventually deploy aboard *Carl Vinson* (CVN 70) with CVW-14.

13 Squadrons from CVW-15 embarked on *Kitty Hawk* (CV 63) in the Persian Gulf launched 35 aircraft to lead a coalition strike on Iraqi missile sites. *Kitty Hawk* had been in the Indian Ocean in support of Operation Restore Hope, but was ordered into the Persian Gulf after an Iraqi MiG-25 violated the UN-imposed "no-fly" zone in southern Iraq on 27 December and was shot down by an AIM-120 AAMRAM missile fired by a USAF F-16D.

13 Space Shuttle *Endeavour* began a six-day flight. Navy Astronaut Marion Runcio, Jr., launched NASA's sixth Tracking and Data Relay Satellite.

17 Four U.S. Navy ships in the Persian Gulf and Red Sea launched Tomahawk cruise missiles at the Zaafaraniyah Nuclear Fabrication Facility located in the Baghdad area. The facility made nuclear weapons parts.

18 *John F. Kennedy* carrier battle group moved on station in the eastern Mediterranean in response to Iraqi violation of the UN-imposed "no-fly" zone.

18 MCAS Camp Pendleton, Calif., suffered from severe flash flooding, losing several buildings. Many of the 70 UH-1/AH-1 helicopters and OV-10 aircraft on the base at the time were battered by flood waters and floating debris. The cost to the base for repairs and flood prevention measures was expected to run into the millions of dollars.

23 An A-6E of VA-52 launched a laser-guided bomb at an Iraqi antiaircraft site after the crew thought they were being fired upon.

31 *Ranger*, CVW-2 embarked, returned to NAS North Island, Calif., from her final deployment prior to decommissioning.

February

04 Commander Amphibious Squadron 43 embarked on *Tripoli* (LPH 10) was relieved by Commander Destroyer Squadron 17 embarked on *William H. Standley* (CG 32) as Commander Naval Forces, Somalia (COMNAVFOR SOMALIA). COMNAVFOR SOMALIA was charged with providing direct support to Operation Restore Hope, the UN embargo directed by Security Council Resolution 733. The *Tripoli* amphibious task unit was the first U.S. military presence on station near the Horn of Africa. It set the base of operations for Operation Restore Hope, the largest peacetime humanitarian mission ever undertaken.

17 Aircraft Carrier Memorial, a 10-foot black obelisk honoring those who served aboard U.S carriers, was dedicated at NAS North Island, San Diego, Calif.

22 SH-2G version of the *Seasprite* helicopter was approved by the Chief of Naval Operations for fleet introduction.

25 *Kennedy* (CV 67) battle group entered the Adriatic in support of Operation Provide Promise, the UN effort to supply Bosnia-Herzegovina with food and supplies.

26 *Coral Sea* (CV 43) was towed to Baltimore, Md., for dismantling, despite efforts of former crew members to find a city where the ship could be retired as a museum.

March

02 President Clinton visited the aircraft carrier *Theodore Roosevelt* (CVN 71) and addressed the crew. He promised to create new jobs in communities where military bases were closed and to see that the U.S. military continued "to be the best trained, best prepared, best equipped fighting force in the world."

04 *Constellation* (CV 64) departed Philadelphia Naval Shipyard, the fifth and last carrier to complete the Service Life Extension Program. She arrived at NS Mayport, Fla., 11 March for two months of training in preparation for her return transit around Cape Horn to her home port, NAS North Island, Calif., 27 May.

17 *Saipan* (LHA 2) amphibious ready group sailed from the East Coast to relieve *Guam* (LPH 9) in the Adriatic in support of Operation Provide Promise, the UN effort to supply Bosnia-Herzegovina with food and supplies.

18 *Kitty Hawk* (CV 63) battle group was relieved by *Nimitz* (CVN 68) battle group and headed for home after having operated in the Indian Ocean and Arabian Gulf and participated in Operations Restore Hope and Southern Watch.

23 Amphibious ready group centered around *Wasp* (LHD 1) arrived off Somalia to support UN relief efforts in Operation Restore Hope. Marine helicopters from HMM-263 embarked on *Wasp* flew sorties in support of Marines in Somalia.

27 The FY-1994 defense budget recommendation was submitted; it contained significant force-level reductions for the Navy, including Naval Aviation. There was, however, funding for the ninth *Nimitz*-class carrier (CVN 76), construction of a sixth *Wasp*-class LHD amphibious assault ship, development of the V-22 tilt-rotor aircraft and strike upgrades to 210 F-14 fighters. Funding for F/A-18E/F and A/FX programs was also possible, pending the results of a review of defense needs.

30 Chief of Naval Operations formally approved the ES-3A *Viking* electronic reconnaissance aircraft for operational deployment aboard aircraft carriers and shore-based detachments.

31 Two VQ-2 EP-3E aircraft were on station over the Adriatic providing crucial support to the delivery of humanitarian air drops over eastern Bosnia-Herzegovina in Operation Provide Promise.

April

01 Sea Strike Wing 1 was renamed Sea Control Wing, Atlantic. Air Anti-submarine Squadrons were renamed Sea Control Squadrons; the short designator "VS" was retained. The name change reflected the broader and all-encompassing VS mission, particularly in light of the increased multimission versatility of the S-3B aircraft.

03 The Stoeng Treng base camp of the Marine Corps helicopter detachment supporting the Joint Task Force-Full Accounting search efforts in Cambodia was attacked. The hostilities were believed to be related to stepped-up Khmer Rouge activity designed to influence the UN-sponsored elections held in Cambodia during May.

05–08 Joint U.S.-French exercise

Carrier and Air Wing Deployments 1993

Nimitz (CVN 68)
CVW-9 (Tail Code: NG)
Indian Ocean/Persian Gulf
(Southern Watch)
2 February–29 July 1993

Squadrons	Aircraft
VF-211	F-14A
VF-24	F-14A
VFA-146	FA-18C
VFA-147	FA-18C
VA-165	A-6E/KA-6D
VAW-112	E-2C
HS-2	SH-60F/HH-60H
VAQ-138	EA-6B
VS-33	S-3B

Abraham Lincoln (CVN 72)
CVW-11 (Tail Code: NH)
WestPac/Indian Ocean
15 June–15 December 1993

Squadrons	Aircraft
VF-213	F-14A
VFA-22	FA-18C
VFA-94	FA-18C
VMFA-314	FA-18A
VA-95	A-6E
VAQ-135	EA-6B
VAW-117	E-2C
VS-29	S-3B
HS-6	SH-60F/HH-60H

Constellation (CV 64)
CVW-2 (Composite) (Tail Code: NE)
Around Cape Horn (east to west)
27 May–22 July 1993

Squadrons	Aircraft
VFA-151	FA-18C
VFA-137	FA-18C
VA-145	A-6E
VAW-122	E-2C
HS-14	SH-3H
VS-38	S-3A
VRC-30	C-2A
HC-11	CH-46D

Theodore Roosevelt (CVN 71)
CVW-8 (Tail Code: AJ)
Special Marine Air-Ground Task Force
Mediterranean
11 March–8 September 1993

Squadrons	Aircraft
VF-84	F-14A
VFA-15	FA-18C
VFA-87	FA-18C
VMFA-312	FA-18C
VA-36	A-6E
VAW-124	E-2C
VAQ-141	EA-6B
HS-3	SH-60F/HH-60H
HMH-362	CH-53D/UH-1N
VRC-40 Det 2	C-2A

America (CV 66)
CVW-1 (Tail Code: AB)
Mediterranean
11 August 1993–5 February 1994

Squadrons	Aircraft
VF-102	F-14A
VFA-82	FA-18C
VFA-86	FA-18C
VA-85	A-6E
VAQ-137	EA-6B
VS-32	S-3B
VAW-123	E-2C
HS-11	SH-3H
HMM-162 Det A	CH-46E
VRC-40 Det 3	C-2A

Independence (CV 62)
CVW-5 (Tail Code: NF)
WestPac/Indian Ocean
17 November 1993–17 March 1994

Squadrons	Aircraft
VF-154	F-14A
VF-21	F-14A
VFA-192	FA-18C
VFA-195	FA-18C
VA-115	A-6E
VAW-115	E-2C
VAQ-136	EA-6B
VS-21	S-3B
HS-12	SH-3H
VRC-50	C-2A

PH3 William F. Duel

Her flight deck secure, Abraham Lincoln (CVN 72) steams off the coast of Somalia in October. "Honest Abe," with Carrier Air 11 embarked, split time between the Somalian coast and the Arabian Gulf supporting peace-keeping operations in Somalia and Operation Southern Watch in Iraq.

1993 The Year in Review

Datex-Lafayette '93 was conducted in waters south of Toulon, France. It demonstrated the full range of capabilities of the Carrier Task Force 60 Mediterranean Maritime Action Group. A P-3C *Orion* from VP-24, two A-6E *Intruders* and one EA-6B *Prowler* from CVW-8 assigned to *Roosevelt* (CVN 71) participated in the exercise.

08 *Tripoli* (LPH 10) amphibious task force arrived in Pearl Harbor, Hawaii, after a five-month deployment in support of Operation Restore Hope. During the mission, task force units recovered 30,000 pieces of ordnance and disposed of more than 100,000 pounds of explosives collected from caches throughout the Somali countryside, launched more than 2,000 aircraft sorties from *Tripoli* and *Juneau* (LPD 10) and delivered more than 175,000 meals and 25,000 gallons of water.

08 Space Shuttle *Discovery* took off from Cape Canaveral for a nine-day flight. Naval Aviator Kenneth Cameron was the commander and reserve Naval Aviator Stephen Oswald was the pilot.

12 NATO officials in conjunction with the UN began the enforcement of a "no-fly" zone over Bosnia-Herzegovina, known as Operation Deny Flight. NATO had proposed the "no-fly" zone to the UN Security Council, which passed Resolution 802. Twelve F/A-18 *Hornets* from CVW-8 embarked in *Theodore Roosevelt* (CVN 71) were transferred to NATO in support of the operation. Other aircraft and ships from *Roosevelt*'s battle group provided support. The *Saipan* Mediterranean amphibious ready group provided search and rescue/TRAP (Tactical Rescue of Aircraft and Personnel) duties.

17 Adm. Jeremy M. Boorda, Commander in Chief U.S. Naval Forces, Europe, paid a visit to *Theodore Roosevelt* (CVN 71) to talk to sailors and Marines about the enforcement of the "no-fly" zone over Bosnia-Herzegovina and how the ship would be involved in the operation.

18 McDonnell Douglas delivered the first production radar-equipped *Harrier II Plus* aircraft to Naval Air Warfare Center Weapons Division, China Lake, Calif., for weapons system testing. The aircraft made its first flight 17 March.

19 Soon to be the Navy's third LHD, *Kearsarge* (LHD 3) commenced its sea trials.

21 President Clinton nominated John H. Dalton, a Naval Academy graduate and former Chairman, Federal Home Loan Bank Board, as Secretary of the Navy.

22 A VAQ-209 *Starwarriors* EA-6B fired the first successful over-the-horizon HARM missile using targeting data from space delivered directly to the cockpit.

23 The Defense Department Inspector General transmitted the second and final report on the events of the September 1991 Tailhook Convention in Las Vegas, Nev., to Secretary of Defense Les Aspin, who released it to Adm. Frank B. Kelso II, the Chief of Naval Operations and Acting Secretary of the Navy.

26 VC-6 carried out the first launch of a *Pioneer* unmanned aerial vehicle from an amphibious vessel, *Denver* (LPD 9). VC-6 Det. 2, NAS Patuxent River, Md., made the launch.

28 Secretary of Defense Les Aspin lifted the ban on combat flights for women and opened up additional ships to women. Secretary Aspin further stated that he would forward a draft proposal to Congress, which would remove the last legislative barrier to the assignment of women to combat vessels. Chief of Naval Operations Adm. Kelso concurred.

29 Following the Secretary of Defense's decision to expand combat roles for women, Chief of Naval Operations Adm. Kelso opened six enlisted naval ratings to women: Aviation Anti-submarine Warfare Operator (AW), Electronic Warfare Technician (EW), Fire Controlman (FC), Gas Turbine Technician (GS), Gas Turbine Technician-Electrical (GSE) and Gas Turbine Technical-Mechanical (GSM).

Bureau Numbers Issued in 1993

Numbers below were assigned by CNO during 1993 for future Navy and Marine Corps aircraft procurement:

Numbers	Qty	Type	Name	Contractor
165164-165170	7*	FA-18E/F	Hornet	McD
165171-165242	72**	FA-18C/D	Hornet	McD
165243-165254	12	CH-53E	Super Stallion	S
165255-165267	13	HH-60H	Seahawk	S
165268-165270	3	SH-60F	Seahawk	S
165271-165292	22	AH-1W	Super Cobra	B
165293-165304	12	E-2C	Hawkeye	Gr
165305-165312	8	AV-8B	Harrier II+	McD
165313-165314	2	C-130T	Hercules	L
165315-165316	2	KC-130T	Hercules	L

*Includes 5 FA-18Es and 2 FA-18Fs.
**Includes 64 FA-18Cs and 8 FA-18Ds.

Contractor codes:
B = Bell
McD = McDonnell Douglas
Gr = Grumman
S = Sikorsky
L = Lockheed

May

05 Commander Helicopter Antisubmarine Light Wing, U.S. Pacific Fleet (COMHSLWINGPAC), was established in a ceremony at NAS North Island, Calif. Capt. John R. Brown was the first commander of the new type wing.

06 Naval reservist LCdr. Kathryn P. Hire was selected for assignment to VP-62. She was the Navy's first woman to become eligible to compete for assignments in aircraft engaged in combat missions.

07 Speaking to aviators at the seventh annual Naval Aviation Symposium in Pensacola, Fla., VAdm. R. J. Zlatoper, Chief of Naval Personnel, outlined the Navy's plan to open new opportunities for women. The first squadron expected to be assigned women was VAQ-130. CVW-3 embarked on *Dwight D. Eisenhower* (CVN 69) and CVW-11 on *Abraham Lincoln* (CVN 72) would also be assigned women.

08 The last units and detachments of the 3d Marine Aircraft Group to deploy to Somalia in support of Operation Restore Hope returned home after five months of operations.

Cdr. T. B. Surbridge

An F/A-18C Hornet of VFA-146 aboard Nimitz (CVN 68) escorts a United Nations AN-32 aircraft during Operation Southern Watch.

Aviation Command Changes in 1993

Note: The dates listed here are official and may differ from those reported in earlier issues, and from ceremonial dates.

Established

Commander Airborne Early Warning Wing, Pacific		30 Sep 93
Commander Attack Wing, Pacific		01 Feb 93
Combat Electronic Combat Wing, Pacific		01 Feb 93
Commander Fighter Wing, Pacific		30 Sep 93
Commander Helicopter Antisubmarine Wing, Pacific		01 Jul 93
Commander Helicopter Antisubmarine Wing Light, Pacific		05 May 93
Commander Helicopter Tactical Wing, Pacific		01 Jul 93
Commander Sea Control Wing, Pacific		22 Apr 93
VQ-4 Detachment Patuxent River		01 May 93
VR-53		01 Oct 93

Disestablished

Commander Antisubmarine Warfare Wing, Pacific		30 Sep 93
Commander Fighter Airborne Early Warning Wing, Pacific		30 Sep 93
Commander Medium Attack Electronic Warfare Wing, Pacific		31 Jan 93
Commander Patrol Wing 2		30 Sep 93
Naval Air Facility, Lajes, Azores		30 Sep 93
Naval Air Facility, Midway		30 Sep 93
Naval Air Station, Adak, Alaska		30 Sep 93
Naval Air Station, Chase Field, Beeville, Texas		01 Feb 93
Naval Weapons Evaluation Facility, Albuquerque, NM		04 Jun 93
HS-9	Sea Griffins	30 Apr 93
HSL-30	King Neptune's Horsemen	30 Sep 93
HSL-34	Greencheckers	30 Nov 93
VA-65	Tigers	31 Mar 93
VA-145	Swordsmen	01 Oct 93
VA-155	Silver Foxes	30 Apr 93
VAQ-33	Firebirds	01 Oct 93
VAQ-34	Flashbacks	01 Oct 93
VAQ-35	Greywolves	01 Oct 93
VC-10	Challengers	15 Aug 93
VF-1	Wolfpack	30 Sep 93
VF-33	Starfighters	01 Oct 93
VF-114	Aardvarks	30 Apr 93
VP-6	Blue Sharks	31 May 93
VP-31	Black Lightnings	01 Nov 93
VR-22	Medriders	31 Mar 93
VR-24	Lifting Eagles	31 Jan 93
VXN-8	World Travellers	01 Oct 93

Reactivated

HMH-769	01 Apr 93

Deactivated

Headquarters and Headquarters Squadron 17	01 Feb 93
HMH-772 Detachment A	01 Apr 93
HMH-772 Detachment B	01 Apr 93
HMT-301	31 Dec 93
Marine Air Control Squadron 5	Jun 93
Marine Aircraft Group 32	30 Apr 93
Marine Air Logistics Squadron 32	29 Apr 93
Marine Wing Support Squadron 173	04 Mar 93
VMO-1	31 Jul 93
VMO-2	20 May 93

Redesignated

Commander Airborne Early Warning Wing 12 to Commander Airborne Early Warning Wing, Atlantic	01 Sep 93
Commander Fighter Wing 1 to Commander Fighter Wing, Atlantic	09 Jul 93
Commander Helicopter Antisubmarine Wing 1 to Commander Helicopter Antisubmarine Wing, Atlantic	05 Aug 93
Commander Helicopter Antisubmarine Light Wing 1 to Commander Helicopter Antisubmarine Light Wing, Atlantic	01 Sep 93
Commander Helicopter Tactical Wing 1 to Commander Helicopter Tactical Wing, Atlantic	02 Sep 93
Commander Medium Attack Wing 1 to Commander Attack Wing, Atlantic	02 Aug 93
Commander Light Attack Wing 1 to Commander Strike Fighter Wing, Atlantic	12 Aug 93
Commander Strike Fighter Wing, Pacific (functional) to Commander Strike Fighter Wing, Pacific (type)	01 Jun 93
HC-1 Det 6 to HSL-51 Det 11	01 Feb 93
VMA(AW)-332 to VMFA(AW)-332	16 Jun 93

The following Air Antisubmarine (VS) Squadrons were redesignated Sea Control (VS) Squadrons on 16 September 93:

VS-21	VS-22	VS-24	VS-27	VS-29	VS-30
VS-31	VS-32	VS-33	VS-35	VS-37	VS-38
VS-41					

17 Chairman of the Joint Chiefs of Staff Gen. Colin Powell approved the Armed Forces Expeditionary Medal for Operation Restore Hope veterans.

18 The Naval Board of Inquiry determined that a fatal 20 July 1992 crash of the V-22 *Osprey* at Quantico, Va., was most likely the result of maintenance errors and engine housing design flaws, not tilt-rotor technology.

June

01 Commander Strike Fighter Wing, Pacific, changed from a flag-level functional wing to a type wing, as part of the ongoing reorganization of the wings in the Pacific Fleet.

08 Commander Patrol Wing 2 was disestablished after 56 years of service.

11 Ground breaking took place at NAS Patuxent River, Md., for the new Aircraft Technology Laboratory.

11 Four U.S. Marine flyers were buried at Arlington National Cemetery, nearly 26 years after they were killed when their helicopter crashed during an approach to a landing zone in South Vietnam.

17 V-22 *Osprey* flight testing resumed following the completion of a series of design changes and modifications that enhanced the aircraft's overall safety. The flight was the first for the V-22 since aircraft number 4 crashed last year at MCAF Quantico, Va.

17 VAdm. Edwin R. Kohn, retired Commander Naval Air Force, U.S. Pacific Fleet, passed the title of Gray Eagle to VAdm. Jerry O. Tuttle, Director, Space and Electronic Warfare, in a ceremony on board *Kitty Hawk* (CV 63) at NAS North Island, Calif. The title Gray Eagle is given to the Naval Aviator who has been on active duty the longest.

26 U.S. Navy surface vessels launched a successful strike on the Iraqi Intelligence Service headquarters building in Baghdad. The action was in response to Iraq's attempt on former President Bush's life while on a visit to Kuwait in April. *Theodore Roosevelt* (CVN 71) and *Arleigh Burke* (DDG 51) were dispatched to the Red Sea to reinforce the area.

28 After an eight-month overhaul, *Saratoga* (CV 60) completed a week of

Active Patrol Squadron Major Deployments 1993

NAS Keflavik, Iceland		
Sep 92–Mar 93	VP-5	P-3C UIIIR
Mar 93–Sep 93	VP-49	P-3C UIIIR
Sep 93–Mar 94	VP-45	P-3C UIIIR
NAS Sigonella, Sicily (Det at Jeddah, Saudi Arabia)		
Nov 92–May 93	VP-24	P-3C UIIIR
May 93–Sep 93	VP-11	P-3C UII.5
Sep 93–Feb 94	VP-26	P-3C UII.5
NAS Rota, Spain		
Sep 92–Jan 93	VP-8 det	P-3C UII.5
NS Roosevelt Roads, P.R.		
Jul 92–Feb 93	VP-8	P-3C UII.5
Feb 93–Jul 93	VP-10	P-3C UII.5
Jul 93–Jan 94	VP-16	P-3C UIIIR
NAS Adak, Alaska		
Nov 92–May 93	VP-40 det	P-3C UIII
May 93–Sep 93*	VP-47 det	P-3C UIII
NAF Misawa, Japan		
Nov 92–May 93	VP-17	P-3C UI
May 93–Nov 93	VP-46	P-3C UIIIR
Nov 93–May 94	VP-4	P-3C UIIIR
NAF Kadena, Okinawa, Japan		
Nov 92–May 93	VP-22 det	P-3C UIIIR
Nov 92–May 93	VP-17 det	P-3C UI
May 93–Nov 93	VP-46 det	P-3C UIIIR
May 93–Nov 93	VP-1 det	P-3C UIIIR
Nov 93–May 94	VP-4 det	P-3C UIIIR
Nov 93–May 94	VP-9 det	P-3C UIIIR
NAF Diego Garcia, B.I.O.T. (Det at Al Masirah, Oman)		
Nov 92–May 93	VP-22	P-3C UIIIR
May 93–Nov 93	VP-1	P-3C UIIIR
Nov 93–May 94	VP-9	P-3C UIIIR

* Last rotating VP deployment to NAS Adak, Alaska.

Key to P-3C Aircraft:
UI = Update I
UII = Update II
UII.5 = Update II.5
UIII = Update III
UIIIR = Update III retrofit

successful sea trials. During the carrier's overhaul, *Saratoga* underwent an underwater removal of her rudder, avoiding a costly drydock period.

July

02 F/A-18E/F successfully completed its preliminary design review in St. Louis, Mo.

02 President Clinton accepted the recommendations of the Defense Base Closure and Realignment Commission that proposed the closing of 130 military facilities.

10 *Ranger* (CV 61) was decommissioned at NAS North Island, Calif., ending a 36-year career. She was the eighth U.S. Navy ship to bear the name *Ranger* and was known as the "Top Gun of the Pacific Fleet."

14 Amphibious assault ship *Iwo Jima* (LPH 2) was decommissioned in a ceremony at NS Norfolk, Va.

14 Secretary of Defense Les Aspin approved an order directing U.S. aircraft to deploy and join NATO's planned air support to the UN protection force in Bosnia. In response to this order, Norfolk, Va.-based aircraft carrier *Theodore Roosevelt* (CVN 71) returned to the Mediterranean to support the mission.

15 *Theodore Roosevelt* (CVN 71) transited the Suez Canal and returned to the Mediterranean Sea in support of Operation Deny Flight, the enforcement of the "no-fly" zone over Bosnia-Herzegovina.

Dr. J. G. Handelman

Crew members aboard George Washington (CVN 73) tow VF-142 "CAG" bird past "CAG" bird of sister squadron VF-143 during Carrier Air Wing 7 workups in September. Both squadrons operate the B model of the F-14 Tomcat.

22 *Constellation* (CV 64) returned to her home port, NAS North Island, Calif., after a 32-month Service Life Extension Program overhaul in the Philadelphia Naval Shipyard.

22 John H. Dalton was sworn in as Secretary of the Navy after being unanimously confirmed by the Senate 21 July.

August

The quarterly selection board met for the first time since Secretary of Defense

PH2 John Bivera

Loaded with practice bombs, an F/A-18C Hornet of VFA-37 prepares to launch from John F. Kennedy (CV 67) during operations in the Adriatic Sea in February. The Kennedy battle group stood off the coast of Bosnia supporting Operation Provide Promise, the UN effort to furnish the war-torn country with food and supplies.

1993 The Year in Review

Les Aspin announced that military women were permitted to fly combat aircraft. The board selected 41 aviators for transition to another type of aircraft, including 17 women who transitioned to combat aircraft. CVWs 3 and 11 aboard *Dwight D. Eisenhower* (CVN 69) and *Abraham Lincoln* (CVN 72), respectively, would be the first to receive women. Female pilots also would be ordered to antisubmarine helicopter squadrons.

11 *America* (CV 66) deployed from Norfolk, Va., to relieve *Theodore Roosevelt* (CVN 71) in Operation Deny Flight missions over Bosnia-Herzegovina.

17 A VAQ-209 *Starwarriors* EA-6B and VP-60 *Cobras* P-3 conducted the first successful over-the-horizon HARM and Harpoon missile War-at-Sea strike using targeting data from space delivered directly to the cockpit.

26 VFC-13 flew off its last A-4 *Skyhawk* before transitioning to the F/A-18 *Hornet* (10 September formal acceptance).

September

01 Clinton administration unveiled a new plan for cutting the armed forces based on the Bush administration's doctrine that the United States should be prepared to fight two simultaneous regional wars. The plan called for 11 carrier battle groups and 1 carrier to serve as both a reserve and a training carrier. The Bush plan had called for 12 carrier battle groups.

09 VP-31, based at NAS Moffett Field, Calif., merged with NAS Jacksonville, Fla.'s VP-30 to form the Navy's largest aviation squadron. The consolidation was the result of the military's downsizing. It enabled the Navy to train all P-3 personnel in Jacksonville.

10 *Saipan* (LHA 2) amphibious ready group returned from a six-month Mediterranean Sea deployment to home ports in Norfolk and Little Creek, Va.

11 The Navy's first "supercarrier," *Forrestal* (AVT 59), was decommissioned at Pier 6E on the Philadelphia Naval Shipyard. *Forrestal* was the first carrier designed and built to land jets.

12 Space Shuttle *Discovery* began a 10-day flight with Naval Aviators Frank Culbertson as commander and William Ready as pilot.

25 *Kearsarge* (LHD 3), the Navy's third LHD, was commissioned and home-ported in Norfolk, Va.

PH1 Thomas M. Hensley

The aircrew of a VA-36 A-6E receives "thumbs up" from the catapult crew aboard Theodore Roosevelt (CVN 71) during operations in May. On 12 April, a "no-fly" zone was established over Bosnia-Herzegovina. Carrier Air Wing 8, embarked aboard Roosevelt, contributed 12 F/A-18 Hornets and made other aircraft available to enforce the "no-fly" zone.

27–28 Gen. Carl E. Mundy, Commandant of the Marine Corps, directed a 48-hour standdown of all Marine Corps flight operations. The standdown followed the crash of an AV-8B *Harrier* at Camp Lejeune, N.C., 22 September. There had been four separate mishaps since 17 August involving six Marine Corps helicopters that took a total 12 lives.

October

01 Naval Aviation Cadet (NAVCAD) program was disestablished. Originally established in 1935, the program went through various changes before being disestablished in 1966. It was later reinstated in 1986 to train more pilots.

01 U.S. Atlantic Command became responsible for joint training and deployment of all continental U.S.-based forces. This merged the Army's Forces Command, the Navy's Atlantic Fleet, the Air Force's Air Combat Command and Marine Forces, Atlantic, into a single combat command. The Atlantic Command would support all U.S. involvement in UN peacekeeping operations and respond to natural disasters within the United States. The command would also plan for the land defense of the United States.

01 Naval Training Systems Center, Orlando, Fla., was redesignated Naval Air Warfare Center, Training Systems Division, with no change of mission.

01 Naval Air Facility, Midway Island, closed. It would no longer operate as a refueling stop for military aircraft and ships.

01 First phase of a new Joint Primary Training Program began as five Air Force aviators reported to NAS Whiting Field, Pensacola, Fla., for training while flight instructors from the Navy, Marine Corps and Coast Guard reported to Randolph AFB, Texas.

13 RAdm. Barton Strong, Commander Naval Air Warfare Center Aircraft Division, Patuxent River, Md., designated Hangar 109 the official home of the V-22 *Osprey* program during a ribbon-cutting ceremony which dedicated the hangar and office spaces.

15 Secretary of the Navy John H. Dalton announced the consolidation of AOCS (Aviation Officer Candidate School) and OCS (Officer Candidate School) in Pensacola, Fla. The

consolidated school would be called Officer Candidate School and would be located at the Naval Aviation School Command in Pensacola. Both aviation and nonaviation officer candidates would attend. The consolidation would save about $1.9 million annually.

17 *New Orleans* (LPH 11) and *Guadalcanal* (LPH 7) amphibious ready groups (ARGs) arrived off the coast of Mogadishu, Somalia. The ARGs joined *Abraham Lincoln* (CVN 72) which had arrived five days earlier. *Guadalcanal* ARG had been operating in the Adriatic Sea, off the coast of Bosnia-Herzegovina, in support of Operations Provide Promise and Deny Flight.

18 U.S. Senate approved the closing or reduction of 175 military installations in the U.S. Six operational air stations and three aviation depots were included in the closings.

26 VAdm. Robert J. Spane assumed his new position as Commander Naval Air Force, U.S. Pacific Fleet, replacing RAdm. Steven R. Briggs who had been Acting Commander after VAdm. Edwin R. Kohn retired in June 1993.

29 *America* (CV 66) transited the Suez Canal heading south to relieve *Abraham Lincoln (CVN 72)* operating off the coast of Somalia. *Lincoln* returned to Alameda, Calif., ending a scheduled six-month deployment.

November

01 About 300 sailors and Marines from the *New Orleans* (LPH 11) amphibious ready group went ashore near Marka, Somalia, to conduct a three-day medical and dental humanitarian mission.

11 Seventh *Nimitz*-class aircraft carrier, *John C. Stennis* (CVN 74), was christened at Newport News, Va. Vice President Al Gore was the principal speaker.

16 The rating title Aviation Anti-submarine Warfare Operator (AW) was changed to Aviation Warfare Systems Operator, reflecting a broadened scope of responsibilities. The existing rating badge and abbreviation AW did not change.

19 Navy's newest air-to-ground glide missile, the Joint Standoff Weapon, was tested at Patuxent River, Md., in the first in a series of test flights.

22 RAdm. Brent Bennitt relieved RAdm. Riley D. Mixson as the Chief of Naval Operations' Director, Air Warfare. Secretary of the Navy John H. Dalton presented RAdm. Mixson the Distinguished Service Medal for exceptionally meritorious service.

24 X-31 International Test Program announced its first two supersonic flights. Aircraft Number 1 flew nine flights achieving Mach 1.08 at an altitude of 37,500 ft. The Enhanced Fighter Maneuverability demonstrator aircraft is being developed by the Navy, the Defense Advanced Research Projects Agency and the German Ministry of Defense.

30 President Clinton signed legislation lifting the ban on women serving aboard combat ships.

December

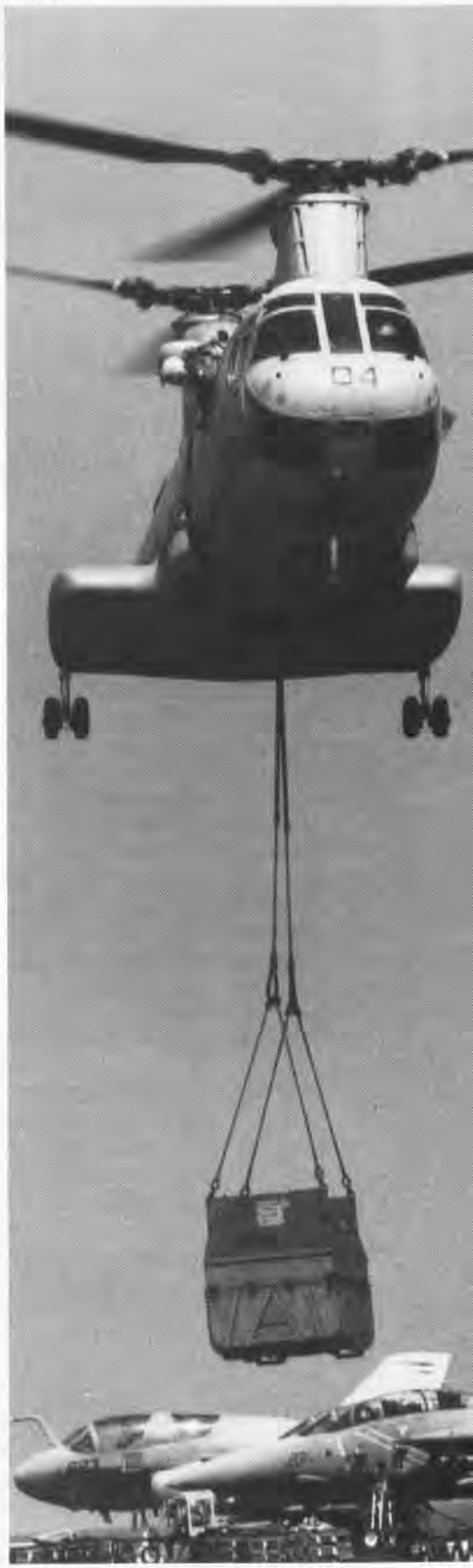
01 Secretary of the Navy Dalton announced the first assignment of women to combat ships to begin by June 1994, pending notification of Congress as required by the FY-1994 Defense Authorization Bill. *Dwight D. Eisenhower* (CVN 69) and *Abraham Lincoln* (CVN 72) were scheduled to be the first aircraft carriers to embark women. *John C. Stennis* (CVN 74) would embark women at the end of 1994.

02 Space Shuttle *Endeavour* began a 10-day mission with Naval Aviator Kenneth Bowersox as pilot and retired Naval Aviator Story Musgrave as mission specialist. This was Musgrave's fifth space flight. During the mission, the crew repaired the Hubble space telescope.

09 V-22 *Osprey* returned to Patuxent River, Md., from facilities in Wilmington, Del., to begin engineering manufacturing development testing at the Naval Air Warfare Center Aircraft Division. The new program would usher in a new Integrated Test Team concept of test and evaluation for Naval Aviation.

16 *Independence* (CV 62) returned to the Arabian Gulf in support of Operation Southern Watch, which ensured Iraqi compliance with the UN-imposed "no-fly" zone south of the 32nd parallel.

PHAA Jeff Phillips



An HH-46D Sea Knight from HC-6 picks up a pallet of supplies from the flight deck of Theodore Roosevelt (CVN 71) during underway replenishment in June.

Aviation Support Equipment

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

Below the flight decks of every carrier, and out of sight of the runway of airfields around the world, Aviation Support Equipment Technicians (ASs) work a behind-the-scenes magic that keeps the Navy's planes and helicopters flying. They maintain the "yellow/white gear"—equipment used to support the aircraft when not flying.

"ASs in general maintain a very low profile," ASCS(AW) Charles Sutton, the AS detailer, said. "But we play a very integral part in the entire flight evolution."

An AS shop maintains more than 1,400 pieces of support equipment, everything from chocks and chains and aircraft jacks to tractors and gas turbine compressors. An AS can claim among his or her list of skills the ability to perform automotive electrical maintenance and repair, welding, servicing air conditioning units and painting, as well as the ability to work on hydraulic and pneumatic systems. All the equipment is on a Preventive Maintenance Schedule (PMS). "Roughly 85 percent of an AS's job is PMS," according to Sutton. "Everything is on a cycle."

Aspiring ASs must have above average competence with tools, good physical strength, manual dexterity and the ability to keep good records. They attend a 16-week "A" school at Naval Air Technical Training Center, Millington, Tenn., where they learn the basics of their rating. Upon graduation, they choose their first set of orders according to their class rank at graduation, with the number one graduate getting first choice of orders. Depending on the needs of the unit to which they are assigned, they will attend one of the various "C" schools, either in Jacksonville, Fla., or San Diego, Calif. C schools provide instruction on specialized skills that the sailor will be required to know upon arrival at his or her new work center. This specialization also gives ASs their first Navy Enlisted Classification (NEC) code, the numerical code that designates the sailor as an expert in a certain skill. "Billets are NEC driven," Sutton said. "In many ratings, NECs drive the detailing [assignment of orders] process. A sailor can only go to a billet that requires his or her NEC, what we call closed-loop detailing. Not the ASs. If sailors need to earn a new NEC to go to their next duty station, we'll send them to school to get it. Our people must be well rounded."

ASs can be assigned to aircraft carriers, amphibious ships or shore installations. According to Sutton, "Forty-eight ASs are assigned to a nuclear carrier, but on a conventional carrier we usually have about 59 people. The difference is the air start system that conventional carriers use; it requires more people to monitor."

According to AS1(AW) Clifford B. Lake, Work Center 950 supervisor at the NAS Norfolk, Va., Aviation Intermediate Maintenance Department, "When a sailor gets to the fleet, he or she is usually assigned to Work Center 950, which handles the preventative maintenance. Most sailors will spend their first six months here, working on every piece of equipment. It's a good place for them to get their feet wet."

Airmen and third class petty officers are the front-line workers in the AS community. At these stages in their careers, their hands are dirty and they are learning the ins and outs of their jobs. "By the time sailors make second class, they have had cross training in most of our work centers and should be looking to push the first classes out of a job." Sutton said. "In fact, on the amphibs, second classes are the work

Getting into a "blast suit" requires a little help from your friends. The suit provides protection as well as oxygen for the user and is a vital tool for ASs. Here, AS2(AW) Victor Gutcher and AS1(AW) Clifford Lake help ASAN Norma Cage suit up.

center supervisors. That's a lot of responsibility for a young sailor.

"As a first class, the sailor should be polishing his or her leadership skills and concentrating on advancing to chief."

An area that has become a major concern for the AS community is the issue of hazardous waste. AS1 Lake said, "Years ago, I don't think we realized what we were doing to the environment with all these chemicals. The days of throwing things over the side are gone. Now, we all go through extensive hazmat [hazardous material] training and every work center has a hazmat petty officer."

Since an AS uses 165 items that are listed as hazardous materials, the problem of disposing of the hazardous waste can be enormous. But new policies and stringent controls have made the hazmat program a success around the fleet. "Not only do we produce less waste," Sutton said, "but we are also saving money. We don't get a half gallon of material to do a job when 4 or 5 ounces will serve the purpose."

Because they don't fly and their work is done behind the scenes, Aviation Support Equipment Technicians are sometimes mistakenly taken for "backyard mechanics." "Yeah, we get dirty, but you don't have to be dirty all the time," Sutton laughed. "However, look at what we do. We have people who work on electronic components and perform microminiature repair. We weld, repair hydraulics and work on refrigeration units as well as gas and electric generators. To me, that makes for a well-rounded individual.

"We don't use the gear, we fix it. Many people don't respect the work that goes into fixing and maintaining support equipment. Occasionally, we'll run across a piece of gear that has been misused or abused. We'll go to the chief of the individual responsible for breaking the gear and have the chief send that person to our shop. When the culprits help us fix it, they quickly gain a new appreciation for the work we do.

"I've also seen a lot of people change ratings to AS. They see that we are a can-do, hands-on rating and they like that. There is a great deal of job satisfaction when you can see the immediate results of your efforts."

ASs can expect to spend more than half of their careers at sea. Third and second class petty officers serve 48 months at sea before spending 36 months on shore. First classes and chiefs split their time at 45 months at sea and 45 months on shore, while senior and master chiefs recently had their sea time increased to 48 months at sea before returning to land for 36 months.

Senior Chief Sutton concluded with a few words of advice for the 2,521 men and women of the AS community: "Even though advancement is tight, people are being advanced. Get involved with your command. Look for additional responsibilities. For those individuals who sat back and collected a paycheck, those days are gone. We need everyone to be a team player to get the job done in today's Navy." ■

Technician

Using the skills he learned in "C" school, AS2(AW) Gutcher performs maintenance on a gas turbine compressor.

Dauntless in War: Douglas SBD-2 BuNo 2106

By Robert J. Cressman

On the morning of 11 June 1943, Second Lieutenant Donald A. Douglas, Jr., USMCR, took off from Naval Air Station (NAS), Glenview, Ill., for a routine carrier qualification flight in a Douglas SBD-2 *Dauntless*, Bureau Number (BuNo) 2106. The plane bore the white side number B-7; its cowling bore the stenciled black name "MIDWAY MADNESS" that hinted at the plane's previous career. That morning, Douglas made his approach to the converted sidewheeler *Sable* (IX 81), one of the two "training carriers" operating on Lake Michigan. *Sable*'s landing signal officer, however, was not pleased with Douglas's approach and waved him off.

Up to that moment, the young Marine pilot had enjoyed 377.7 accident-free hours of flying. Turning left to clear the ship, he applied the throttle. BuNo 2106's engine sputtered but then caught. He had turned too steeply, and with insufficient power available to keep it aloft, the war-weary SBD-2 spun into Lake Michigan and sank. Fortunately, one of the two 83-foot Coast Guard cutters serving as *Sable*'s "plane guard" plucked Douglas from the water soon thereafter. Subsequently, accident investigators attributed Douglas's misfortune to pilot error (40% judgment, 35% technique) and power plant failure (25%).

BuNo 2106 rested on the bottom of Lake Michigan until discovered a little over a half-century later, in October 1993. The raising of this particular *Dauntless*, and its subsequent arrival at the National Museum of Naval Aviation, Pensacola, Fla., in January 1994, prompted a search into its colorful past.

In April 1940, the Bureau of Aeronautics originally allocated Douglas SBD-2 BuNo 2106, a product of the El Segundo (California) Division of the Douglas Aircraft Company, to Scouting Squadron (VS) 5, of the *Yorktown* (CV 5) Air Group. Production delays, however, resulted in the block of SBD-2s to which 2106 belonged being allocated to Bombing Squadron (VB) 2 of the *Lexington* (CV 2) Air Group instead. Flown from El Segundo on 28 December to the Battle Force pool at San Diego, Calif., BuNo 2106 ultimately reached its assigned squadron on the last day of the year 1940.

For nearly one year, the scout bomber served in the *Lexington* Air Group, while the diplomatic situation between the United States and Japan deteriorated. As part of the eleventh hour reinforcement of outlying Pacific bases, *Lex* embarked Marine Scout Bombing Squadron (VMSB) 231 and sailed on 5 December 1941 to reinforce Midway Island.

BuNo 2106, however, stayed behind in the Battle Force pool at Pearl Harbor. Probably in the overhaul shop on Ford Island on 7 December, the plane survived the devastating Japanese attack upon the Pacific Fleet and nearby military installations and apparently received an engine change during its brief stay. The *Lexington* Air Group again took BuNo 2106 on charge soon thereafter, during the ship's brief return to port after patrolling the Oahu-Johnston-Midway triangle, before "Lady Lex" stood out to sea to support the abortive attempt to relieve Wake Island in late December. *Lexington* then headed for the South Pacific.

On the morning of 10 March 1942, Lieutenant (junior grade) Mark T. Whittier, A-V(N), USNR, with Aviation Radioman Second Class Forest G. Stanley as his radio-gunner, took off in BuNo 2106 (which bore the side number 2-B-2) bound for the east coast of New Guinea, as *Lexington*'s air group teamed with *Yorktown*'s in putting aloft 104 planes to fly across the towering Owen Stanley Mountains to attack Japanese ships off the settlements of Lae and Salamaua. At 0922, SBDs from *Lexington*'s VS-2 sighted the objective and soon began pushing over into their dives, putting teeth into the expression "Remember Pearl Harbor."

Scouting 2, under Lieutenant Commander Robert E. Dixon, attacked the transports *Tenyo Maru* and *Kokai Maru* and the armed merchant cruiser ("converted gunboat") *Kongo Maru* off Lae in the face of an increasing volume of antiaircraft fire. Accompanying fighters, however, soon began strafing the batteries to suppress the fire that early on holed one SBD and blew a

Lieutenant (jg) Mark T. Whittier, A-V(N), USNR (seen here 13 May 1942) flew BuNo 2106 in the Lae-Salamaua Raid.

second into fiery fragments with a direct hit. Six minutes after VS-2 had provided the curtain raiser for the first act of the drama, Torpedo Squadron 2 and VB-2 arrived. From his SBD, Lieutenant Commander Weldon Hamilton, VB-2's skipper, intently scanned the waters below with his binoculars from 15,000 feet, looking for worthwhile targets, and then split his squadron into two six-plane divisions. The first attacked what looked like a "heavy cruiser" (actually large minelayer *Tsugaru*) but, hampered by fogging bombsights and windshields when the SBDs hit the comparatively warm, moist lower air, managed only two "close misses" out of the six 1,000 pounders dropped. The second division, armed with 500-pounders but also vexed by fogged sights and windshields, took on the transports. Although *China Maru* disappeared in

BuNo 2106 on 7 June 1942, somewhat the worse for wear after encountering Zeroes over the Japanese carrier striking force three days before.

Aviation Cadet Daniel Iverson, Jr. (circa November 1940), who flew BuNo 2106 in the Battle of Midway.

geysers of spray from near-misses close aboard. Bombing 2 had not managed a single hit.

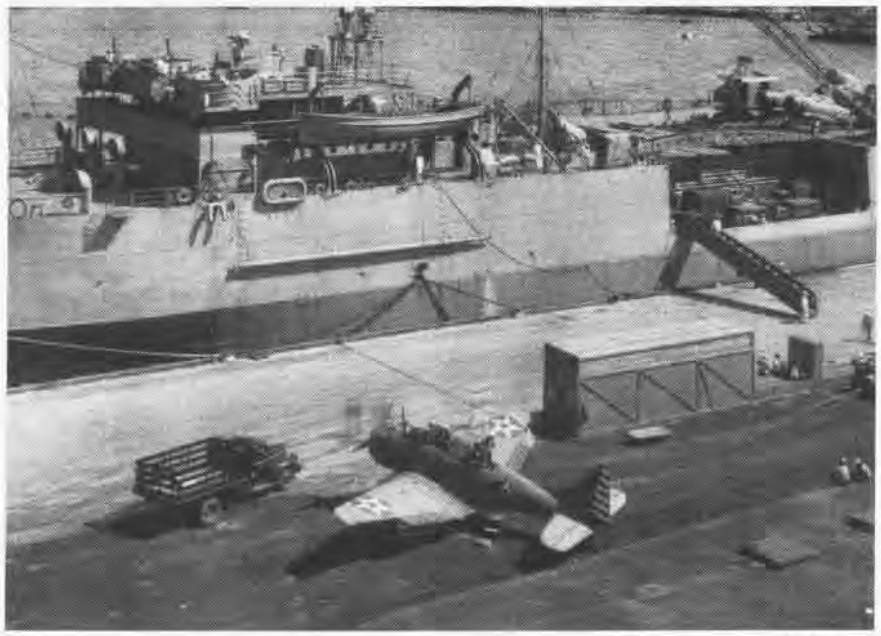
Lack of familiarity with Japanese ship types and the rudimentary nature of antishipping tactics made damage assessment difficult, and the eager Americans magnified a destroyer into a light cruiser while a light cruiser and a large minelayer became heavy cruisers. The Japanese exaggerated, too, somewhat optimistically counting 11 American planes shot down when, in fact, all American planes save 1 returned to their carriers. Smoke screens and radical maneuvering confused the Americans as to "numbers, location, and damage." While the Japanese rated the Americans' skill at bombing and torpedo attacks of a "low order," they also complained that there were simply too many attacking planes to deal with and that shipboard antiaircraft defenses were inadequate.

The "first coordinated attack against enemy ships and shore establishments by two carrier air groups" resulted in *Lexington* and *Yorktown* planes sinking *Kongo Maru*, transports *Tenyo Maru* and *Yokohama Maru* and minesweeper *Tama Maru No.2*. Near-misses and strafing accounted for damage to light cruiser *Yubari*; destroyers *Oite*, *Yunagi* and *Asanagi*; minesweeper *Tama Maru*; seaplane tender *Kiyokawa Maru*; transport *Kokai Maru*; and minelayer *Tsugaru*. All told, 130 men had been killed, another 245 wounded.

To the Americans, who had inflicted far more damage than they had received, the raid buoyed spirits and many pilots, Mark Whittier among them, would be decorated. (He was awarded a Navy Cross for pressing home his attack in the face of the antiaircraft fire.) Vice Admiral Wilson Brown, commander of the American force, considered the strike "highly successful," while President Roosevelt confided in a message to Prime Minister Winston Churchill that "[Lae-Salamaua] was by all means the best day's work we have had."

Admiral Chester W. Nimitz dissented, believing that the raid had accomplished little. But the transmountain raid forced the enemy—already overextended in the region and operating with little reserve strength—to postpone their projected movement toward Tulagi and Port Moresby for one month until more amphibious shipping could be gathered to cover the losses incurred off Lae and Salamaua, and air support marshaled for the thrust. The presence of American carriers constituted a dangerous variable in the enemy's invasion equations, be-

Aircraft transport Kitty Hawk (APV 1) (seen here at Ford Island in March 1942 with an ex-Scouting 6 SBD in foreground) took BuNo 2106 to Midway in late May 1942.



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Remembering Pearl Harbor: SBDs from Yorktown (CV 5) head toward Lae and Salamaua, 10 March 1942.

cause Japan had none of theirs in the South Pacific to deal with the Americans if the need arose.

And that need would surely arise, as Adm. Nimitz was deploying his carriers, too. While *Yorktown* remained in the Coral Sea, *Lexington* returned to Pearl Harbor for a brief modernization overhaul, while her embarked squadrons prepared for the next war cruise. She then rejoined *Yorktown* in the South Pacific and, together, the two carriers and their supporting screening ships met and foiled another Japanese move toward Port Moresby in the Battle of the Coral Sea between 4 and 8 May 1942—a pivotal engagement that had been precipitated by the Lae-Salamaua strike.

While the Lae-Salamaua Raid and the Battle of the Coral Sea had slowed down and then halted the Japanese movement toward Port Moresby, those two setbacks did not cause any appreciable lack of confidence on the part of Japanese decision makers to press forward with an intricate plan to draw out the troublesome American aircraft carriers at Midway and defeat them. What the enemy did not realize was that thanks to the American ability to break enough of the Japanese naval code to form a good picture of Japanese intentions, Adm. Nimitz was planning an ambush of his own.

As part of the accelerated strengthening of Midway, VMSB-241 (redesignated VMSB-231), the Marine scout bomber squadron based there, would receive ex-Navy SBDs. When *Lexington* and her embarked air group had sailed for the South Pacific in late April, BuNo 2106 had remained behind—to be shuffled over the next month from the Battle Force pool to Carrier Aircraft Service Unit (CASU) 1, to VB-3, to another pool, and, ultimately, late in May 1942, to the Second Marine Aircraft Wing. Subsequently, BuNo 2106 became 1 of 19 SBD-2s shipped to Midway in the aircraft transport *Kitty Hawk* (APV 1) that arrived there on 26 May 1942. Over the next few days, the Marine pilots familiarized themselves as best they could with their new "mounts," but a fuel shortage limited the flights they could take.

On the morning of 4 June 1942, after the Japanese carrier force had been spotted by a prowling Consolidated PBY *Catalina*, VMSB-241 (Major Lofton R. Henderson) took off to attack the enemy. First Lieutenant Daniel Iverson, Jr., flew BuNo 2106, which bore the individual plane number 6. Private First Class Wallace J. Reid manned the single .30-caliber Browning machine gun in the aft cockpit.

After an uneventful flight to the objective, Henderson and his group, flying at 9,500 feet, sighted the wakes of the Japanese force at 0755 on the squadron's port bow. Henderson, who had been flying off to one side of the group, shepherding it along (many of his pilots were inexperienced second lieutenants), then slid back into the lead of the formation to take it in. As Henderson and his men began to let down to attack *Hiryu*, the combat air patrol slashed the squadron's box formations to ribbons. Dan Iverson, whose radio was out of commission and who had just joined up in the squadron commander's box, saw *Zero* fighters send Henderson's *Dauntless* slanting toward the water, trailing smoke.

Most of 241's SBDs apparently attacked *Hiryu*. Dan Iverson, in his dive with two *Zeroes* astern and firing, yanked his bomb release at 800 feet before he pulled out. Two additional fighters joined up on his two tormentors, seemingly taking turns trying to knock him down as he headed for the clouds at full throttle. "I could not estimate my speed," he related later, "as my airspeed indicator was out of commission." On top of that, a bullet had severed his throat microphone chord. Private First Class Reid, although slightly wounded in the back and arms, kept the enemy fighters at bay and claimed to have downed one of their pursuers.

The battered remnant of Henderson's boxes cleared *Hiryu*'s vicinity, having lost 6 of their number to the defending *Zeroes* and having scored only 1 near-miss. Two other bombs splashed 50 meters from the ship; a third, 80; and a fourth, 150. Radio-gunners in the SBDs managed to exact some measure of retribution, however, downing a section leader from *Hiryu*. The *Zeroes* hounded the surviving SBDs for several minutes before the Marines managed to escape into the clouds with their bullet-riddled planes. Iverson's BuNo 2106 had taken 219 hits. His hydraulic system shot away, he managed to land at Midway on one wheel. For their heroism during the Battle of Midway, Iverson received a Navy Cross; Reid a Distinguished Flying Cross (DFC).

While Whittier, Stanley, Iverson and Reid moved on to other assignments, so, too, did BuNo 2106, for it was taken stateside and ultimately assigned to the Carrier Qualification Training Unit at NAS Glenview for training duty. Mark Whittier went on to earn a DFC and four Air Medals in the Pacific theater, commanding Composite Squadron 97 as it operated from the escort carriers *Shipley Bay* (CVE 85) and *Makassar Strait* (CVE 91). He survived WW II and eventually retired as a captain.

Forest Stanley fought in VB-2 in the Battle of the Coral Sea, where he was credited with downing an attacking fighter during the attack on the Japanese small carrier *Shoho*, earning a DFC. Transferred to VB-10 in *Enterprise* (CV 6) and attaining the rate of Aviation Radioman First Class, he was killed in action in November 1942 during an attack on Japanese transports off Guadalcanal. He was awarded a second air medal, posthumously.

Iverson and Reid each earned a Silver Star at Guadalcanal. Iverson attained the rank of major and was serving as a flight instructor at NAS Vero Beach when he died in a midair collision in January 1944 20 miles off the east coast of Florida; Reid, who would earn two more DFCs and eight Air Medals in the Solomons and Bismarck Archipelago campaigns, ultimately attained the rank of second lieutenant and died in combat on the Pusan Perimeter, during the Korean War, in August 1950. ■

Naval Postgraduate School:

Changing the Face of Naval Aviation

Herrmann Hall, now the administration building at NPS, Monterey, Calif., was once the famed Del Monte Hotel (see *NANews*, Sep-Oct 89).

Lt. Greg Glaros, an A-6 pilot, chose to work with lasers at NPS after his experiences in the Persian Gulf.

During what seems like a lifetime ago, Lieutenant Greg Glaros remembers feeling tension in the cat as he spooled the engines up to 100 percent and wiped out the cockpit. He saluted the shooter, grabbed the cat grip, leaned his head back against the headrest and waited for the stroke that accelerated the plane to flying speed. He then was propelled down the deck like a rock out of a slingshot. At the end of the stroke, there was the inevitable dip as the *Intruder*, loaded to maximum weight, climbed into the smooth, calm air of the Persian Gulf night.

He and his bombardier navigator (BN) circled back over the ship for a quick IFF (identification friend or foe) check before they headed to their prearranged rendezvous with the KC-10 tanker, over Saudi Arabia, to be topped off. Full of gas, they climbed to 25,000 feet and began their mission toward Iraq.

After they delivered their ordnance and had turned toward friendly airspace, the BN caught a glimpse of a SAM (surface-to-air missile) as it popped up through the cloud deck. His muscles tightened involuntarily as he watched with horror while the missile acquired their plane and locked on. He yelled, "Missile, brake right!" Greg broke right, dumped the nose, buried the needle at negative 2.5 Gs and accelerated as he followed the missile track. It held a constant bearing toward his plane and was quickly decreasing range. As the SAM closed, he pitched back into it and was relieved as he watched it scream past. In a few seconds, the missile reacquired the *Intruder* and he repeated the process, but this time as he pointed the nose of the plane at the SAM, he watched as the glow from the engine disappeared and the missile fell away toward earth—out of fuel. Not wanting to risk a repeat performance, he decided to hug the deck as they ran toward the coast at 100 feet under cover of the inky blackness of the desert night and, at one point, under a circling CH-53 helicopter.

LCdr. Mark A. Hinebaugh, USNR

This scenario is a long way from the well-kept gardens, the manicured lawns and the jasmine, pine and eucalyptus-scented air that envelops the turn-of-the-century Del Monte Hotel which is now home to the Naval Postgraduate School (NPS), Monterey, Calif. Yet this tour at "PG" school will be, in many ways, even more challenging than Lt. Glaros' tour in the gulf, and the thesis work that he has embarked on here will impact the attack community for years to come.

The Naval Postgraduate School has been empowering the Navy's leaders through knowledge for nearly a century. The school provides a unique forum which allows naval officers to utilize their acquired knowledge by combining practical application with cutting-edge research technology. Postgraduate Naval Aviators are presented with an unparalleled opportunity to research and are in a position at NPS to address and in many cases "fix" fleet incongruities. Providing timely "fixes" is assured by allowing most students a great deal of leeway when choosing the subject of

their required theses.

For example, several of Lt. Glaros' missions in the gulf were "Scud Capping," orbiting slowly at maximum endurance, waiting for Iraqi Scud missiles to be fired, then locating and destroying the launchers. Tracking missiles like this proved to be inefficient and not very effective. It required exposing aircrews at slow airspeeds for long periods, ripe to be shot at, and also the missiles had to be fired and en route to their targets before action could be taken. As a space system engineer, Lt. Glaros' thesis on Theater Ballistic Missile Defense (TBMD) uses advanced laser technology to help identify, track and eventually destroy enemy missiles.

Similarly, former Test Pilot School (TPS) graduate and instructor Lieutenant Commander Barb Bell has tackled as her thesis defining algorithms to be used to help refine TBMD detection and information dissemination techniques. This information will allow in-theater TBMD operators to operate more effectively by speeding up the flow of time-critical information. She explained, "The wide exposure built into the curriculum at NPS is an invaluable asset. It allows the students to define and answer their own questions and to work on what we, as fleet aviators, see as problems. It's what separates NPS from other graduate institutions."

It's not unusual for TPS graduates to be among the students at NPS vying for their master's degrees. Some 10 years ago, the TPS/NPS Cooperative Program was initiated. Through this program, NPS offers individuals the opportunity to gain a master's degree in Aeronautical Engineering after successful completion of TPS. This cooperative program combines portions of the aeronautical engineering curriculum with the TPS syllabus to form the foundation for a well-rounded and informed naval test pilot.

In fact, several of the NPS and TPS graduates have been selected for the National Aeronautics and Space Administration's (NASA) astronaut program. Mission Specialist Commander Dan Bursch, who has successfully completed both, recalled, "Facing and meeting the challenges at NPS were instrumental in helping me overcome the challenges I've faced here at NASA." He added that "teamwork is stressed highly at NPS, so check your ego at the door. But working closely with others under stressful situations and such high workloads has given me an edge, since we operate under similar circumstances aboard the space shuttle."

A student in the Aero Department, LCdr. Clay Snaza uses test equipment while developing a new propellant that will eliminate plume signatures.

Some argue that thesis work done at NPS offers a myopic view of specialized needs—aviators working aviation problems. However, more often than not, thesis work here transcends artificial sea/air boundaries, resulting in work that has far-reaching applications. Lieutenant Commander Clay Snaza offered, "Smoke trails from rockets have long been a problem that plague fighter tactics, because firing the missile gives you away. And, besides, in nearly all cases you can defeat a missile you can see." So, he is endeavoring to create a new propellant that would eliminate plume signatures. If successful, this new fuel would be available for missiles on not only aircraft but more importantly on ships, such as the AEGIS missile cruisers and the Navy's fleet of ballistic missile submarines.

In his research, Lt. Snaza has a separate problem: the chemistry of the resultant compounds that will be produced during the testing of his new fuel. While there is no chemistry department on board NPS, a working relationship with chemistry is essential. His work will produce compounds that have unknown characteristics and optical properties, so he has had to discipline himself to master the chemistry involved with his project on his own time. He noted that "[NPS professors] squeeze as much into a quarter as regular schools do in a semester. Becoming multifaceted is essential for success."

In the smaller Navy of the future, leaders will have to be multi-faceted and extremely knowledgeable. These competent leaders of the future will have gained invaluable skills (analytical as well as practical) at NPS, which will enable them to keep pace with rapidly changing and ever more challenging world situations. These leaders of tomorrow will be able to set the stage and provide real-time and prompt solutions to problems that even now are inconceivable.

But is that enough? Could NPS do more? The answer is yes, according to Captain Jim Powell, a former NPS graduate whose work with jammers is still a viable part of the EA-6B *Prowler* community today. "In the world of a

down-sizing Navy, we need to fully utilize all our assets. We should be looking to NPS students as research resources to augment our Naval Research Labs." He added, "NPS should become more involved in the research and development loop. We need to let our young minds conduct real, relevant and important scientific research to support the war fighter."

At NPS, great strides continue to be made in shaping the future Navy by providing today's students hands-on exposure to the cutting-edge technologies of the next century. By allowing for the potentialities of the mind to solve practical problems, NPS is giving its graduate students the necessary tools to reshape and restructure the Navy, especially in times of crisis.

As the professors constantly challenge the students with the question "What if...?," the students at NPS are limited solely by the boundaries of their imaginations.

Vice Admiral Jim Stockdale addressed this concept head on during a speech to the NPS student body on 15 March 1994 as he explained how his exposure to the rigors of NPS provided him with the foundation to overcome the hardships he faced as a prisoner of war in Vietnam: "...and thank God I had been to PG School, which in hindsight I think gave me the confidence to throw out a good portion of 'the book' on how to run a prisoner of war civilization, and to start over. The situation required it, and there was no other way to go. Survival training missed the Vietnam predicament [by] a mile, and the Code of Conduct, though good in most aspects, became an executioner's block for the guillotine of guilt in a torture system in which no human being could stick to name, rank, serial number and date of birth . . . ."

This notion of NPS as a phenomenal educational experience was echoed by Admiral James D. Watkins, former CNO and former Secretary of Energy, when he said, "A light came on here in intellectual development that was absolutely incredible. I was challenged here. It [his NPS education] really helped me and influenced me tremendously."

In preparing our naval leaders of today for the pitfalls of an uncertain future, we would do well to remember the words of Sir William Butler: "The nation that will insist on a broad line of demarcation between the fighting man and the thinking man is liable to find its fighting done by fools and its thinking done by cowards." ■

LCdr. Hinebaugh, a naval reservist and Naval Aviator turned writer, is completing the finishing touches on his first novel.

"Long" Distance Learning Program

By LCdr. Mark A. Hinebaugh, USNR

Imagine sitting in a classroom in Washington, D.C., watching your professor on television, live from Monterey, Calif., explaining a particularly intricate detail of aircraft survivability. You don't quite grasp the concept and raise your hand. He calls you by name, then promptly answers your question. As you watch him on your TV, he is watching you on a set in his classroom, able to respond instantly to your query. Welcome to the Distance Learning Program (DLP).

DLP will arrive at the Naval Air Systems Command (NavAir) headquarters beginning 5 July 1994. On that date, the Naval Postgraduate School (NPS) will embark on an ambitious program of off-campus educational opportunities for naval employees.

In the past, it has been cost prohibitive for NavAir to send its junior aircraft system engineers to NPS for two years to earn an advanced degree. Under this new program, students can earn a master's degree in Aeronautical/ Astronautical Engineering by taking 12 quarter-length courses, 9 of which are taught at NPS but televised live via interactive television to NavAir. The remainder of the degree work will consist of three thesis courses.

Engineering students embarking on this program will be expected to take one five-hour course per week during each 11-week quarter. Each student will be able to select nine core courses from among seven educational tracks.

The students will also be required to take three quarters (about nine months) to complete a thesis project. The thesis topic will be selected from the seven technical areas offered by the department, with specific topics being arranged with the assistance of the department faculty. The seven educational tracks are aerodynamics, astronautics, avionics, flight mechanisms and controls, propulsion, systems engineering and design, and structures.

The shakedown course is being offered beginning the summer quarter between 5 July and 16 September 1994. NPS will use this first class as an experiment to work out the bugs before the full program begins in the fall quarter of 1994 (FY 1995).

This fall, NPS Aeronautics and Astronautics plans to offer one course per quarter, then two classes per quarter in FY 1996. A full complement of three courses per quarter will be available beginning in FY 1997.

DLP appears to be the wave of the future. As technologies expand so will the DLP curriculum. Although this initial program was designed specifically for engineers at NavAir, future DLP courses representing several of the educational disciplines offered by NPS could be offered to a wider audience in several locations around the country.

According to NPS Superintendent Rear Admiral Thomas A. Mercer, "... DLP will be a very viable alternative to NPS, not only for the civilians but, over time, for the military." He added, "... rather than take the time to do a fully funded graduate education [at NPS], fleet officers can expect to get a master's degree in a three-year tour."

The Kamikazes: Japanese Suicide

Tatsuno was leading the last V in an all-but-defunct navy plane, a Mitsubishi Type 96.

Already the 12 had opened their cockpits and fluttered their silk scarves in the wind. Always the wind—the divine wind . . .

Now, we seem to be almost on top of them! I am sweating watching . . . that Mitsubishi. It's Tatsuno! Yes, I'm positive . . .

The two of them are diving, knifing for the convoy's core. Suddenly the trainer next to him is hit, virtually clubbed from the sky. His wing and tail rip off, and he corkscrews insanely away, out of my line of vision.

Tatsuno is alone now, still unhit, making a perfect run, better than they ever taught us in school. Tatsuno! Tatsuno! Fire sprouts from his tail section, but he keeps going. The orange fingers reach out. His plane is a moving sheet of flame, but they can't stop him. Tatsuno! A tanker looms, ploughing the leaden liquid. They're closing! A hit! An enormous explosion rocks the atmosphere. For a curious instant embers seem to roll and dance. Now a staccato series of smaller bursts and one mighty blast, shaking the sea like a blanket. The tanker is going down. No trace but the widening shroud of oil.

That was my friend.

—From *Kamikaze* by Yasuo Kuwahara and Gordon T. Alfred

By Cdr. Peter B. Mersky, USNR (Ret.)

While the heat of battle might occasionally force someone to decide whether or not to lay down his life, there are only a few examples of organized units whose mission was to sacrifice themselves. In modern history, no group is as well known as the kamikaze pilots of Japan during the late Pacific war.

The so-called suicide pilots of the Imperial Army and Navy were not the drug- or sake-soaked automatons that the western press made them out to be. This form of wartime journalism, however understandable, was largely untrue. Ridicule was the only way to explain to an incredulously fearful hometown audience, as well as the sailors in the targeted ships, why an enemy pilot would deliberately plunge himself and his aircraft into their ship, blowing himself to atoms.

Soviet air force pilots occasionally rammed German bombers during the opening phases of the Nazi onslaught. Japanese army pilots also resorted to ramming American B-29s as fleets of the giant, well-protected bombers roamed over the home islands by late 1944.

Nazi Germany tried several desperate measures to counter the growing fleets of Allied bombers. The Bachem Ba 349 *Natter* (Viper), a vertically-launched, rocket-propelled interceptor, was armed with 24 73mm unguided rockets in the nose. The *Natter*, though flight tested with limited success, was never used in combat. The Japanese were interested in this disposable interceptor but only constructed a few examples before war's end.

By late 1943, many Japanese senior officers knew that the overwhelming strength of the Allies, spearheaded by American industry and technical expertise, would soon win the war, no matter how strenuous a defense the Japanese offered. A way had to be found to slow the advance toward the home islands, or to make the Allied offensive as costly as possible.

Turning to the innate dedication to their emperor, several leaders consid-

Right: a Nakajima "Jill" torpedo bomber makes a run on Essex (CV 9) during Leyte Gulf ops, 14 Oct 44, a week before the first organized kamikaze raid. Far right: gun crews aboard Missouri (BB 63) get a close-up view of a Zero as its pilot makes a kamikaze strike, 8 May 45. More Zeros were destroyed in kamikaze attacks than any other type.

Units

As they took over former Japanese installations, American soldiers discovered several examples of unused Ohka suicide rocket planes; this one was found on Okinawa. Crude in construction, the Ohka was an unusual weapon that "enjoyed" some success. The forward fuselage was reserved for the large warhead. Note the primitive ring-and-bead gunsight just forward of the windscreen.

ered suicide squadrons, whose pilots would use outmoded aircraft loaded with bombs in a final long-reaching thrust against the Allied carrier groups that were edging toward Japan.

In June 1944, senior commanders offered a plan to Vice Admiral Takijiro Onishi to form dedicated suicide squadrons. "Provide me with 300 planes, and I will turn the tide of the war," promised Captain Motoharu Okamura, an air group commander.

Onishi finally gave his permission to organize these units, designated "special-attack" squadrons that would become the *kamikaze* (divine wind) to repel the Allied invaders—much as a legendary wind had risen to disperse a Mongol fleet in 1281. Each suicide unit used a different name—such as *tokko tai* (special attack), *shimpu* (another way of reading the letters that spelled "kamikaze") and *tai-atari* (body-crashing), but "kamikaze" has come to mean the entire corps of special-attack squadrons.

The kamikazes were dead men

USN 373663

USN 315811

USMC 128517

FG-1D Corsairs of VMF-323 return from a rocket strike against Japanese positions on Okinawa, June 45. Marine Corsair squadrons were very busy against kamikaze raiders. VMF-323 CO Maj. George Axtell, Jr., shot down 5 kamikazes 22 Apr 45, becoming an ace in one day.

the moment they took off and had no honorable choice but to complete their missions or be shot down in the process. We can only guess at these pilots' last thoughts. Historians have speculated over the years on how many of the kamikazes were truly volunteers. The ideals of family honor, patriotism and, above all, devotion to the emperor were strong motivations. Even the most unrelenting Japanese had only to look skyward at the fleets of Allied bombers over the homeland or out to sea at the vast array of ships of all types that dotted the waters of harbors, once home to only the Imperial Navy.

Eventually, members of the 201st Air Group in the Philippines were selected to mount the first special-attack operation against the invading American fleet in October 1944. Lieutenant Yukio Seki, a graduate of the Japanese naval academy at Eta Jima, would lead the flight.

At dawn on 20 October, Lt. Seki led his squadron off, but they soon returned, unable to locate any Allied ships in bad weather. After three more days of launches and aborted attacks, the special-attack corps accomplished its first strikes.

On October 25, Seki and his fellow pilots found a task force of U.S. aircraft carriers in Leyte Gulf. He dove his *Zero*, followed by four other pilots, into the carriers. Seki is generally credited with hitting the escort carrier *St. Lo* (CVE 63), which eventually sank, while the other kamikaze pilots damaged *Kalinin Bay* (CVE 68), *Kitkun Bay* (CVE 71) and *White Plains* (CVE 66).

The initiation of the suicide squadrons was a bloody introduction for Allied crews, who would take the brunt of the furious kamikaze attacks off Okinawa and Japan beginning in March 1945.

Two dedicated suicide weapons were the MXY-7 *Ohka* (Cherry Blossom) and the *Kaiten* (human torpedo). The Ohka was a single-seat, rocket-propelled aircraft that was more of a flying bomb. Mass produced between September 1944 and March 1945, 755 Model 11 Ohkas were delivered; 852 Ohkas of all models were produced, including Model 22s (a smaller version), Model 33s (larger Ohkas) and Model 43s (two-seaters). The Model 11 carried a 2,646-pound warhead in the nose, a fairly large amount of explosive.

Modified Mitsubishi G4M2 "Betty" bombers carried the Model 11 to the battle zone before releasing the Ohka about 20 miles from the target. The Ohka's three-rocket engine produced 1,764 pounds of thrust for approximately 10 seconds, allowing the tiny aircraft to reach just over 400 mph before the pilot started his dive.

The first Ohka operation came on 21 March 1945 when 18 Bettys approached Task Group 58, the American fleet nearing Okinawa. Three *Hellcat* squadrons intercepted the enemy force some 70 miles from the task group. VF-17 and VBF-17 from *Hornet* (CV 12) and VF-30 from *Belleau Wood* (CVL 24) fought a 20-minute engagement, eventually destroying all 18 Bettys and 12 of their *Zero* fighter escorts. Lieutenant (jg) Murray Winfield of VF-17 shot down 4.5 Bettys, sharing the fifth kill with an F4U pilot.

VF-30's Ensign James V. Ward accounted for three Bettys. He came up under the large Betty formation, and to his surprise, he could see what appeared to be tiny aircraft hitching a ride beneath the ponderous, twin-engine Mitsubishi bombers. Not sure what the little planes were, Ward called them "Gizmos" in his debrief. However, the name that has stuck through the years was the Japanese word for "fool," *Baka*.

Ohkas scored their first success on 1 April, D day for the Okinawa invasion. They hit and damaged four American ships but did not sink their first victim until 12 April when the destroyer *Mannert L. Abele* (DD 733) went down off Okinawa after taking kamikaze strikes from a bomb-carrying *Zero* and an Ohka. The same day, another destroyer, *Stanly* (DD 478), took two Ohka strikes in 10 minutes but survived.

Seventy-four Ohkas sortied beneath their Betty carrier planes, and 56 were released or shot down while still attached to their mother aircraft. Fifty Ohkas were lost when the giant carrier *Shinano* was sunk on 29 November 1944 off the port city of Osaka by the U.S. submarine *Archerfish*.

While perhaps the most common

form of suicide attack vehicles and crew, aircraft were not the only type of the fearsome weapon. The Japanese designed the Kaiten, a modification of the famous Long Lance torpedo, one of the best torpedoes of the war. The Kaiten was 54 feet long and carried a huge 3,000-pound warhead.

The Kaiten went into battle on the deck of a submarine and after its pilot had entered the torpedo, the Kaiten launched, accelerating to its top speed of 40 knots. The pilot sat in a small compartment using a periscope to navigate toward his target.

The first Kaiten operations, in November 1944, involved VP-17, a squadron of PBM *Mariners* based at Ulithi Atoll, a major U.S. anchorage. VP-17's Crew No. 1 flew five night patrols around the harbor and engaged Kaitens twice. On 16 November, Crew No. 1 was nearing the end of their patrol just before dawn when their radar operator got a contact running on the surface.

The target turned out to be the Imperial Navy submarine *I-36*. Alerted for action, the PBM crew dropped sonobuoys over the bubbles left by the submarine, which had crash dived at the *Mariner*'s approach.

Three nights later, the *I-47* launched four Kaitens, and the *I-36* launched one against the Ulithi anchorage. Crew No. 1 was up at this time, too, and saw a ship erupt in flames. It was the fleet oiler *Mississinewa* (AO 59) carrying 400,000 gallons of aviation fuel. The oiler went down at anchor, along with 50 of her crew.

On 28 June 1945, the destroyer *Sproston* (DD 577) was attacked by a Kaiten launched from the Japanese submarine *I-36* near the Marshall Islands. Lookouts had spotted the tell-tale wake of a periscope, and the destroyer turned toward the threat.

The submarine's crew was intent on watching the Kaiten's progress and did not see or hear the destroyer approach on a ramming course.

Finally, a sonarman alerted the Japanese skipper, who crash dived to escape the looming destroyer. Although the collision was missed by scant feet as the sub slid beneath the tin can, *Sproston* depth charged the *I-36*. Hampered by its load of Kaitens, the *I-36* was moments away from sinking.

Several Kaiten pilots volunteered to counterattack. Launching from the stricken submarine, one of them headed toward the American destroyer, but the gun crews on *Sproston* were ready and blasted the conning tower off the suicide torpedo. Distracted by the Kaiten attack, the destroyer turned away from the *I-36*, which escaped, arriving back in port by 6 July.

Ultimately, the Kaitens were not as successful as the "conventional" kamikaze vehicles. Kaiten attacks accounted for only two U.S. ships sunk, while eight of the submarine carriers were sunk, along with their crews and Kaiten pilots.

Another dedicated kamikaze design was the Nakajima Ki.115 *Tsurugi* (Sabre), 105 of which were produced between March and August 1945. None of these small, single-engine aircraft was used in combat; however, their main use was intended for the anticipated invasion of the home islands that would come sometime in 1946.

While all types of aircraft were used in kamikaze operations, some were heavily modified for the special-attack mission. One such modification was the Ki.67-I KAI, a variant of the highly successful Mitsubishi Ki.67 *Hiryu* (Flying Dragon), codenamed "Peggy" by the Allies. One of the Imperial Army's best bombers, the twin-engined *Hiryu* was fast, lending itself to the kamikaze mission.

The bomber's gun turrets were removed and the normal six-man crew reduced to three. A long, nose-mounted rod would explode the warload, which could be two 800kg (1,764-pound)

USN 270951

Intrepid (CV 11) takes a kamikaze strike, 25 Nov 44. Usually filled with gasoline and explosives, the kamikazes exploded spectacularly—bringing terror to ship crews.

Selected Results from Kamikaze Raids

Philippines	Okinawa	Overall
421 sorties	1,809 sorties	2,314 sorties
378 expended	930 expended	1,228 expended
16 ships sunk, including: 2 CVEs 3 DDs	17 ships sunk, including: 1 CVE 10 DDs	34 ships sunk, including: 3 CVEs 13 DDs
87 ships damaged including: 7 CVs 2 CVLs 13 CVEs 5 BBs	198 ships damaged, including: 8 CVs 4 CVEs 10 BBs	288 ships damaged, including: 16 CVs 3 CVLs 17 CVEs 15 BBs

bombs, or a single 2,900kg (6,393-pound) charge.

Kamikaze attacks continued unabated through most of the last six months of the war, wherever and whenever the Japanese could assemble a strike force. The massive Allied fleet, spearheaded by U.S. ships and aircraft carriers filled with thousands of sailors and Marines, took the brunt of the terrifying suicide dives. The only defense seemed to be smothering curtains of antiaircraft fire and orbiting patrols of fighters, whose pilots often braved their own forces' flak to get to the frantic Japanese pilots bent on their own destruction.

In truth, the Japanese were not in complete agreement amongst themselves as to the value and effectiveness of their suicide squadrons. Top fighter ace Saburo Sakai had originally supported the formation of the kamikazes. Badly wounded over Guadalcanal in August 1942, he had lost most of the sight in his right eye, yet had returned to full flight status by early 1944 and went on a one-way mission in early July 1944.

Based on Iwo Jima, Sakai took off at 1600 with eight other *Zero* pilots and eight torpedo bombers to strike American ships to the south. The light began to go and the weather worsened. The Japanese pilots could not find their targets, and soon they were engaged by the *Hellcat* combat air patrol. Under orders to avoid aerial combat, Sakai and his fellow escort pilots desperately tried to escape until they realized there was no other way but to shoot their way out of the trap. Sakai shot one Grumman fighter down, but as the weather deteriorated, he decided to ignore orders and bring his flight home. Enraged and embarrassed at being sent out on this futile mission, Sakai was gratified to find that other pilots had also decided to abort the mission.

Later on, he realized how ineffective the kamikazes had been, no matter how pure their motivation. He questioned the obvious pressure the young, inexperienced pilots were under to volunteer and carry out their missions. Failing to enthusiastically volunteer was a disgrace to the family and to oneself.

Sakai also knew that many attacks had resulted in only misses. As a former test pilot, he knew that the lightly built Japanese aircraft, such as the *Zero*, were not intended for near-vertical dives and frequently broke apart under the stress of the dive.

In the final months of the war, July and August, as the Japanese waited for the inevitable invasion of the home islands, they consolidated their remaining resources, marshaling the last aircraft, crews and bombs to confront the huge Allied fleet that would soon appear off the beaches of the home islands. Aviation gasoline was scarce, and school children scoured mountain forests to gather pine cones to process into oil that would fuel ancient biplane trainers for a huge, final kamikaze attack.

Although kamikaze strikes continued till the end of the war, no greater concentration was mounted than during the bloody three-month Okinawa campaign. Men and ships that had survived previous combat tours died in the flames of the diving *Zeros*. (Actually, *Zeros* were only a portion of the different types that the Japanese used. Anything that flew and could carry a bomb eventually made the one-way mission.)

For the kamikaze pilots, the main prize was either the battleship or the aircraft carrier. Two big attack carriers (CVs) became symbols of the kamikaze campaign as they weathered devastating attacks, but survived to return home.

Franklin (CV 13) took a kamikaze strike on 19 March 1945 while engaged in strikes against the home islands. The Japanese plane and its two small bombs exploded on the hangar deck, killing everyone in the area and starting more fires around other aircraft that were fueled and armed, waiting to go on another strike.

Smoke and fire quickly enveloped the stricken carrier as her men strove to save her. *Franklin* eventually made it back to the States under her own power to be repaired, having lost 832 of her crew.

On 11 May 1945, *Bunker Hill* (CV 17) took a *Zero*, then a "Judy" dive-bomber, which also released a bomb before it crashed onto the carrier's flight deck. As her crew fought the fire, task force commander Vice Admiral Marc Mitscher had to transfer his flag to another ship. Finally, the fires were brought under control and, with 389

Photo via Robert Mikesh

Although 105 Nakajima Ki.115 Tsurugi (Sabre) dedicated suicide planes were built, none were used operationally. The aircraft's main gear was jettisoned after takeoff, and the Tsurugi could carry a 1,764-lb. bomb.

NH 73096

Despite the smiles, these pilots will soon be involved in serious business, flying their kamikaze mission. One crewman helps his friend tie the traditional headband named "hachimaki"—a mark of samurai courage.

dead, *Bunker Hill* also returned to the U.S.

Another veteran carrier to be hit by kamikazes was *Enterprise* (CV 6), at one time in mid-1942 the only operating American carrier in the Pacific after Pearl Harbor. Although damaged on 20 March 1945, *Enterprise* was repaired at Ulithi and returned to the fight.

However, on 14 May, an early morning attack by kamikazes did far more damage to the "Big E." A bomb-carrying *Zero* hit the carrier's flight deck just behind the forward elevator. The *Zero* pilot, originally mistakenly identified as Tomi Zai, was actually Lieutenant (jg) Shunsuke Tomiyasu. Superb preparedness and firefighting techniques saved the ship from the breadth of damage suffered by *Franklin* and *Bunker Hill*. But the strike was enough to take the carrier out of the war for good, although she remained on station for two more days before heading for Pearl Harbor.

When the Japanese accepted Allied terms for surrender on 14 August 1945, some 2,600 kamikaze sorties had been flown. For such a simple, nontechnical weapon, the suicide squadrons caused a lot of damage and killed a lot of people besides their own pilots. In May alone, kamikazes killed 330 carrier crewmen, destroyed 90 carrier aircraft and put 4 fleet carriers out of action, not to mention other damaging attacks against other carriers and other ships like destroyers, cruisers and battleships.

Overall, 474 U.S. ships were victims of kamikaze attacks, and 3,253 officers and men were killed. Three escort carriers were sunk and 28 other carriers damaged, including 12 big fleet carriers. Several carriers took two or more strikes, sometimes on the same day. *Intrepid* (CV 11) and *Enterprise* each sustained four separate kamikaze hits, while *Franklin* was hit twice before the cataclysmic strike on 19 March 1945.

For all the terrifying holocaust of the kamikazes, the eventual outcome of the war was never in doubt. What Admiral William F. Halsey, commander of the U.S. Third Fleet, referred to as "the only weapon I feared in the war" did little to forestall the Allied victory.

After the war, Fleet Admiral Chester W. Nimitz, Commander in Chief, Pacific, said, "Nothing that happened during the war was a surprise ... except the kamikazes ... we had not visualized these."

Learning of the emperor's acceptance of the Allies' surrender terms on 15 August, Vice Admiral Takijiro Onishi followed the young pilots of his kamikaze corps and committed suicide, leaving a note, which said, in part:

"I wish to express my deep appreciation to the souls of the brave special attackers. They fought and died valiantly .... In death I wish to atone for my part in the failure to achieve victory ... I wish the young people of Japan to find a moral in my death. To be reckless is only to aid the enemy .... You are the treasure of the nation ... strive for the welfare of Japan and for peace throughout the world." ■

Jul 6: A special Air Unit was formed under ComAirLant, with Cdr. James A. Smith as officer in charge, for transfer without delay to Commander Fleet Air Wing 7 in Europe. This unit was to attack German V-1 and V-2 launching sites with PB4Y-1s converted to assault drones.

Jul 6: The Bureau of Aeronautics authorized Douglas to proceed with the design and manufacture of 15 XBT2D airplanes. The single-seat dive-bomber and torpedo plane thus initiated was designed jointly by BuAer and Douglas engineers. Through subsequent development and model redesignation, these aircraft became the prototypes for the AD *Skyraider* series of attack planes.

Jul 14: PB4Y *Liberators* of VB-109 based at Saipan made the first strike on Iwo Jima by shore-based planes.

Aug 5: The Fast Carrier Task Force was reorganized into First and Second Fast Carrier Task Forces, Pacific, commanded by VAdm. M. A. Mitscher and VAdm. J. S. McCain, respectively.

Aug 10: The operating aircraft complement of Carrier Air Groups was revised to 54 VF, 24 VB and 18 VT with the provision that four night fighters and two photo planes be included among the 54 VF.

Aug 24: The first night carrier air group, CVLG(N)-43, was established at Charlestown, R.I. Its component squadrons, VF(N)-43 and VT(N)-43, the latter the first of the night torpedo squadrons, were established the same day.

NH 73098

Cheered on by his friends, a Zero pilot taxis his suicide plane. The Zero carries a 550-lb. bomb on its belly, usually reserved for a range-stretching fuel tank, but this is a one-way flight. Photo was taken during the October 1944 Leyte Gulf operations and shows one of the first kamikaze missions.

Cdr. Mersky is assistant editor of *Approach* magazine.

Acknowledgement: The author would like to thank Henry Sakaida and Robert Mikesh for their help in preparing this article.

Vietnam MIA Update

In our Jan-Feb 94 edition, we mentioned the recovery of the remains and personal effects of an Observation Squadron 67 OP-2E crew, which was lost over the jungles of Laos 17 February 1968. On 29 April 1994, the remains of that crew of "Lindy 12" were interred with full honors at Arlington National Cemetery. Present at the funeral were over 100 family and friends of the crew members. The name, rank and home of record of the crew members follow: **Glenn Miller Hayden**, Commander, Alameda, Calif.; **James Stephen Kravitz**, Lieutenant, Riverside, Calif.; **Curtis Frank Thurman**, Lieutenant, St. James, Mo.; **James Charles Wonn**, Ensign, Pittsburgh, Pa.; **Paul Nicholas Donato**, ATN1, Boston, Mass.; **Clayborn Willis Ashby, Jr.**, AO2, Louisville, Ky.; **Chester Leroy Coons**, ADJ2, Bismarck, N.D.; **Frank Arthur Dawson**, ADJ2, Fairfield, Calif.; and **James Edward Martin**, AE3, Salt Lake City, Utah.

Awards

1993 Sailors/People of the Year:

ComNavAirLant: Sea—AW1(AW/SW) Robert Huntington; Shore—AC1(AW) Wanda Snell-Peacock. **Strike Weapons and Tactics School, Atlantic**: AO1(AW) Michael A. Phillips. **VAW-123**: YN1(AW) Michael J. Anderson. **NAS New Orleans**: AC1 Deeann D. Danin. **4th MAW**: Sgt. Lisa A. Hume. **PacFlt**: Sea—QM1(SW/AW) Ted L. Fisher; Shore—AW1(AW/NAC) Darrin C. Poole. **NavAirSysCom**: AMS1(AW) Kevin P. Wilhelm. **NAS Lemoore**: Sea—AMH1 Patrick Thomas; Shore—AMS1 George Rubio. **NAWCWD Point Mugu, Calif.**: AT1(AW/NAC) David Zagorodney. ***Inchon*** **(LPH 12)**: AD1(SW/AW) Daniel P. Merrell. **Naval Air Technical Training Center, Memphis, TN**: AO1 Eldridge R. English; Staff Sergeant Charles P. Fisher (Instructor of the Year). **Marine Reserves**: Capt. Stuart B. McMillan (Officer of the Year). **CNATra**: Lt. John Putnam (Instructor of the Year); Lt. Franklin B. Dodds (Naval Flight Officer of the Year). **CNTECHTra**: LCdr. Dave Archambault (Training Program Coordinator of the Year). **Strike Fighter Wing, Pacific, and NAS Lemoore**: AT1(AW) Anthony R. Reed. **VFA-303**: AO1 Barry Ward (TAR); AT1 Larry Kirlin (SelRes).

The Congressional Medal of Honor Society presented William K. Coors, Coors Brewing Co., with its **Patriots Award**. The biennial award is presented to distinguished Americans who exemplify the ideals that make the United States strong. It recognized Coors for his commitment and support of each branch of the armed services, National Guard, the Armed Reserves and veterans organizations. It also noted his establishment of the Coors Veterans Memorial Scholarship Fund, which helped 487 sons and daughters of veterans realize their educational dreams. Previous recipients include President Reagan, Bob Hope, Lee Iacocca, Ross Perot and Jimmy Stewart.

The Naval Air Systems Command announced the H-46 Program Team in Cherry Point, N.C., as the winner of the Association of Naval Aviation's **Edward H. Heinemann** award. The award is presented annually to the individual(s) in NavAirSysCom who contributed the most toward improvement of the design and/or performance of an aircraft or related weapon system.

VF-111 earned the ComNavAirPac 1993 **Boola Boola** award for excellence in air-to-air missile readiness.

NAS Whidbey Island was selected as the 1993 **Commander in Chief's Installation Excellence** award winner. The award recognizes Whidbey Island for overall excellence and innovative management in accomplishing its mission and improving the quality of life of its personnel and their family members. Whidbey Island also was selected as the 1993 PacFlt **Golden Anchor** retention winner.

HS-85 won the ComHelWingRes 1993 **Top Torp** award presented for combat readiness and antisubmarine warfare excellence.

VMFA(AW)-533 won the seventh annual **Low-Country Bombing Derby** conducted 12-15 April at Townsend Bombing Range, Ga. The competition consisted of four-aircraft teams representing squadrons from throughout the Southeast; awards were given for time on target and accuracy in hitting the target with 25-pound practice bombs. The exercise involved planes from the Navy, Air Force and Air National Guard.

RAdm. Jon S. Coleman

RAdm. Jon S. Coleman, Commander Fleet Air, Mediterranean, was passed the title of **Gray Owl** upon the retirement of VAdm. Stephen F. Loftus. The Gray Owl signifies the longest designated Naval Flight Officer in the U.S. Navy. RAdm. Coleman was designated in 1962 and has since accumulated over 5,000 flight hours in various naval aircraft.

VP-11, for the fourth consecutive year, received the **AVCM Donald M. Neal Golden Wrench** award. This 1993 honor for aircraft maintenance excellence was presented 25 Mar.

VFC-12 won the 1993 **CVWR-20 Golden Wrench** award for excellence in aircraft maintenance.

Abraham Lincoln (CVN 72) and *George Washington* (CVN 73) finished first and second, respectively, in the **Allen C. Ogden Competition** for aircraft crash and salvage teams stationed aboard large Navy ships.

VR-56 was recognized as the "best of the best" for winning the **Commander Naval Air Reserve Force Readiness through Safety** award for 1993. The award is presented to the Air Reserve Safety "S" Squadron with the best overall safety program.

HSL-45 was awarded the **Meritorius Unit Commendation** and the **ComNavAirPac Silver Anchor** award for retention.

VFA-146 received the NAS Lemoore, Calif., **Captain Jack A. McCauley** award for its "people programs."

The Chief of Naval Air Training selected VT-31 as recipient of the **Admiral John H. Towers** award for the best flight safety program in 1993.

NAS Patuxent River, Md., was honored as a 1993 **Golden Anchor** award winner among **East Coast shore commands**.

VFA-151 received the **PacFlt Silver Anchor** award.

VT-22 was awarded the **Meritorious Unit Commendation** and the **CNATra Silver Anchor** award.

NAS Memphis received the 1993 **Chief of Naval Technical Training Excellence Award, Group H (Large Support)** (third consecutive year).

VT-3 was selected as the 1993 **CNET Golden Anchor** winner.

Three members of HSL-46 Detachment 7 were awarded **Navy Achievement Medals** for their roles in a medical evacuation in the Mediterranean. The medal winners, Lt. Daniel Smith, Ltjg. Jonathan Rowell and AW2(AW) Christopher Graves, and their detachment crew launched their LAMPS helicopter in a storm to transport a seriously injured sailor from *Philippine Sea* (CG 58) to NAS Sigonella, Sicily, for emergency treatment to prevent possible paralysis. After flying from 200 miles at sea in gale force winds and then combating near-freezing temperatures, driving rain, low clouds and the Sicilian mountains, they delivered their injured passenger safely to the Navy hospital.

VP-24 received the 1993 **ComPatWing-11 Top Gunner** award.

VF-24 was awarded the **Secretary of the Navy Pollution Prevention** award for its hazardous waste management program.

Corrections: May-Jun 94, p. 37—The following squadrons were inadvertently omitted under "CNO Aviation Safety Awards": HM-14 (fourth consecutive year), VAW-123 and VS-22. Mar-Apr 94, photo, p. 34: Cdr. Larry J. Stack's 1,000th trap occurred when he was CO of VAQ-136 vice VAQ-36.

Anniversaries

MCAS New River, N.C., celebrated its **50th anniversary** 23 April, hosting an open house, air show, laser light show and a concert. A family reunion of Grumman "Cats"—including a *Wildcat*, *Hellcat*, *Tigercat*, *Bearcat* and *Tomcat*—was also a highlight.

VAW-115 celebrated **27 years**.

NAS Barbers Point, Hawaii, marked **52 years**.

Navy Fighter Weapons School (**Top Gun**) celebrated **25 years**.

NADep News

Alfonso Gallman of NADeP Jacksonville, Fla., and Chuck Sterling of NADep Norfolk, Va., received **Secretary of Defense Productivity Excellence** awards. The award recognizes individuals and small groups who, by their initiative and creativity, have helped DoD effect significant savings and major improvements in defense operations.

NADep Norfolk is the winner of the FY-1993 **Naval Air Systems Command Safety and Occupational Health** award in the industrial category. The Naval Air Warfare Center Aircraft Division, Indianapolis, Ind., was the nonindustrial winner of this safety award.

NADep Cherry Point, N.C., completed its first production U.S. Air Force **F-4G** *Wild Weasel* to undergo Programmed Depot Maintenance (PDM). An estimated 89 more F-4s are expected to be inducted over the next five years for PDM.

The cooperative education program at NADep Cherry Point received recognition when two of its former students were announced as winners of the **DON Cooperative Education Recognition** award. The award honors students in the program who have demonstrated exceptional work and academic performance during their enrollment. The winners, Arnetta L. Nolen in the Technology category and Michael L. Sartin in the Wage-Grade category, were recognized at a Pentagon ceremony 12 May.

Records

Several units marked **safe flying time:**

Unit	Hours	Years
HM-14	40,000	16
HMM-264	50,000	
HS-85	42,000	19
NAS Sigonella		28
VAW-116	38,000	18
VMA-542	20,000	4
VMAT-203	30,000	4
VP-68	100,000	24
VT-2	58,167	2
VT-10	150,000	

Special Records

Cdr. John W. Sherman, CO, VF-41, logged his 1,000th trap, aboard *Theodore Roosevelt* (CVN 71), 17 Apr.

PH2 Troy Hoagland

AW1(AW/AC) Gil Rodriguez

AW1(AW/AC) Gil Rodriguez of VS-31 became *George Washington*'s (CVN 73) first enlisted double centurion, 15 Apr.

AE1 Kevin L. Larson, VP-8, logged his 2,500th flight hour.

LCdr. Jeffery Stillwater, VA-115, went over 3,000 A-6 flight hours while aboard *Independence* (CV 62).

VT-23's **LCdr. Kevin McCloskey** completed 6,000 flight hours.

VAW-124's **LCdr. Hal Scott** and **Lt. Steve Faggert** completed 2,000 flight hours and Lts. **John Lemmon** and **Brady Niefer** reached 1,000 flight hours.

AOAR Jerome Thornton of *Enterprise*'s (CVN 65) Weapons Department, G-3 Division, became Virginia's Amateur Welterweight Golden Gloves boxing champion.

JO1(SW) Eric Sesit

Cdr. E. Byron Fisher, CO of VP-68, was at the controls of this Orion when the Blackhawks flew their 100,000th mishap-free flight hour. Operating out of NAF Washington, D.C., VP-68 is the first Naval Reserve squadron to achieve this milestone.

Rescues

A total of **37 people** were saved by the Coast Guard after a tremendous blast ripped apart the tanker *Albinoni* 8 February, 75 miles south of the Dominican Republic. Six people, including the captain,

were killed instantly but 24, including the captain's wife, abandoned ship and were eventually rescued. The rescue was completed by a C-130 and three HH-65 helicopters launched from Air Station Borinquen, P.R., and CGC *Attu* in San Juan was launched to search. Also, merchant vessels and a Navy P-3 helped with the effort. Three days after the explosion, the tug *Hispaniola*, with a salvage team aboard heading to the remains of the *Albinoni*, sank 48 miles southwest of Santo Domingo, Dominican Republic. Again, a C-130 and three HH-65 helicopters were launched on the search and rescue mission. All 13 crew members were rescued.

A **civilian pilot** who fell asleep at the controls and woke up lost and nearly out of fuel was quickly rescued 17 February when he ditched his small plane in the Gulf of Mexico. After his distress call, two Coast Guard *Falcon* jets, who overheard the call, followed the plane until it ditched about 70 miles west of Clearwater, Fla. A Coast Guard helicopter called in by the jets rescued the uninjured pilot.

Two CH-46E helicopters from **HMM-265** responded to a civilian Hughes 500 helicopter crash 28 March near the bottom of the Ooiki Falls on the island of Kauai. Out of five passengers aboard the sightseeing aircraft, one died and four were injured.

On 23 April, **NAS Whidbey Island SAR** accomplished a mountain rescue of a woman injured in a horseback incident when the horse fell and rolled over on top of her while she was riding on a mountain trail. HM3 David Spees rappelled with a stokes litter to administer first aid and prepare the injured woman for hoisting. Flying the aircraft and manning the rescue equipment were Lts. Tom Sutherlin and Lew Stanford, AD2 John Meyers and AT1 Larry Douglas.

Scan Pattern

The Grumman F6F-5K *Hellcat* that oversees the flight line entrance to **NAF Washington**, D.C., received its own assigned lieutenant. A motorized Lt. mannequin pilot, fashioned from miscellaneous spare parts, now sits proudly behind the instrument panel of

JO2 Bobby Jones

Named for Glessner's son, "Lt. Brian Glessner" gives thumbs up.

the fighter. Daniel Glessner, a civilian machinist in the AIMD and a naval reservist, is responsible for the idea and construction of the mannequin. The aircraft's running lights are turned on after sundown. The power activates the Lt.'s movements which mimic a pilot performing preflight checks by looking left, then center, pausing momentarily to drop his head down as if checking his instrument panel, then raising his head and turning right, his arm extended giving a thumbs up.

The Experimental Aircraft Association's Oshkosh '94 Air Show, 28 Jul–3 Aug, will salute the **"Jolly Rogers" (VF-17) of World War II**. An evening program will honor the famous squadron, which was the first in the Navy to fly the Vought F4U *Corsair* in combat, and other special programs will highlight their war record. Up to a dozen restored *Corsairs* are expected to fly into Oshkosh and participate in the "Warbird Presentations" during the air show. Other highlights planned for the event are a seaplane fly-by and "Jet Days" with ex-military airplanes from the dawning of the jet age.

NS Rota has been invaded by the Air Force. The 625th Air Mobility Support Squadron officially moved to Naval Station, Rota, Spain, from Torrejon AFB, Spain, at a ceremony held 1 May. Due to the drawdown in forces in Europe, the Air Force's mission has shifted from northern Europe to the southern European area to be closer to its primary customer—6th Fleet and its operations.

On 5 May, **VRC-40** assisted in the successful transport of a female pygmy sperm whale from the National Aquarium in Baltimore, Md., to St. Augustine, Fla. The whale was rescued after being washed ashore in New Jersey the day before Thanksgiving 1993 and was delivered to the National Aquarium for examination by marine experts. The 18-month-old mammal required surgery to remove a plastic bag, a mylar balloon and other plastic items from her stomach. After three weeks with an improved diet, she gained 100 pounds. She is being kept in a holding tank at Marineland and will be released into the Gulf Stream, her natural habitat. If successful, this will be the first whale of its kind to have been beached, rehabilitated and returned to its natural environment. In 1991, VRC-140 also transported a whale from Virginia to St. Augustine for rehabilitation.

A VRC-40 C-2A Greyhound flies over NAS Norfolk, Va.

Belleau Wood (LHA 3) and the British Royal Air Force (RAF) and Government Flying Service (GFS) in Hong Kong exchanged services when the ship pulled in for a port visit. The Brits offered to take any interested crew members for helicopter rides around the city and island in exchange for much needed shipboard deck landing qualifications (DLQs). The tourist rides went even further than the island tour, taking the passengers through the new territories and to Lan Tao Island to view the world's largest Buddha. After safety/air operations briefings, *Belleau Wood* got underway and two RAF *Wessex* and two GFS

UH-60 *Black Hawks* accomplished their DLQs as the ship departed. Proper clearances and permission were received and a mutually beneficial service exchange was successful, with international relations the winner.

Michael Jacobus, the **fake Navy pilot** who was caught at NAS Pensacola, Fla., impersonating a test pilot attached to NASA, was sentenced in March to 134 days in prison. He wore a flight suit with a Top Gun patch and bluffed his way into officer quarters at four military bases even though he was never in the Navy. He also appeared at his father's funeral in uniform, was married in dress uniform and even used a Navy pilot's nickname: "Talon." Jacobus had already served his prison time, so he was extradited to Ohio where he was accused of stealing $56,000 from an Akron woman.

West Virginia is looking for more than 22,000 service members and veterans who are eligible for cash bonuses for their service in the Persian Gulf, Panama, Grenada and Lebanon conflicts. Service members, veterans or their survivors who are legal residents of the state can receive bonuses ranging from $300 to $1,000. Members who deployed to the conflicts and were awarded the related expeditionary or campaign medal are eligible for a $500 bonus. Any member who served on active duty during the Persian Gulf conflict, even if not deployed, is eligible for a $300 bonus. Surviving relatives of personnel killed in combat in any of the four campaigns are eligible for a $1,000 bonus. For information, contact: West Virginia Bonus Office, ATTN: M. L. Shupp, Bonus Director, 1339 A Plaza East, Charleston, WV 25301-1400, 304-558-1520.

An RAF Wessex from Hong Kong launches from Belleau Wood (LHA 3) and receives a salute from ABH3 Lees.

LCdr. R. J. Agricola

Change of Command

CVW-1: Capt. Lewis W. Crenshaw, Jr., relieved Capt. William H. Deaver, 20 May.

HMH-466: Lt. Col. Ronald A. Berube relieved Lt. Col. John M. Metterle, 15 Mar.

HMM-262: Lt. Col. Barry R. Fetzer relieved Lt. Col. Stanley E. Wells III, 20 Apr.

HS-85: Cdr. Archie Mitchell, Jr., relieved Cdr. Richard L. Simons, 9 Apr.

MACG-18: Col. Robert C. Dodt, Jr., relieved Col. Billy D. McMillin, 25 Mar.

NAS Oceana: Capt. William H. Shurtleff IV relieved Capt. John W. Craine, Jr., 22 Apr.

NATMSAct: Capt. Paul O'Brien relieved Capt. Olen Akins, 29 Apr.

StratCommWing 1/CTF 124: Capt. K. A. Ayres relieved Capt. A. S. Riddile, 27 May.

TraWing-4: Capt. Joseph J. Grosel relieved Capt. Steven P. Hannifin, 8 Apr.

VA-75: Cdr. Thomas F. Keeley relieved Cdr. George K. Starnes, 12 May.

VAQ-134: Cdr. John P. Kindred relieved Cdr. James S. Mackin, 21 Apr.

VAQ-138: Cdr. Chauncey L. Mitchell relieved Cdr. Douglas R. Swoish, 19 May.

VAQ-139: Cdr. Kenneth P. Parks relieved Cdr. Gregory E. Tritt, 27 Mar.

VAQ-309: Cdr. Rob Robertson relieved Cdr. Dave Cronk, 9 Apr.

VAW-123: Cdr. Jack Frazier relieved Cdr. Stefan Smolski.

VAW-126: Cdr. Martin P. Bricker relieved Cdr. Jeffrey D. Weddle, 7 Apr.

VF-14: Cdr. John Morrow relieved Cdr. Jon Snyder, 29 Apr.

VF-21: Cdr. Kenneth Ginader relieved Cdr. Stan O'Connor.

VF-211: Cdr. James A. Winnefeld, Jr., relieved Cdr. George R. Luechauer, 31 Mar.

VF-302: Cdr. John Huie relieved Cdr. John O'Shaughnessy, 26 Mar.

VFA-87: Cdr. Daniel Donovan relieved Cdr. William Carrico, 31 Mar.

VFA-127: Cdr. William F. Wright relieved Cdr. Steven M. Endacott, 21 Apr.

VFA-137: Cdr. A. L. Kiggins relieved Cdr. M. R. Groothousen, 20 Jan.

VFA-146: Cdr. Ronald H. Henderson relieved Cdr. William A. Pokorny, 22 Apr.

VFC-12: Cdr. Michael J. McGraw relieved Cdr. Douglas C. Schlaefer, 23 Apr.

VMAQ-3: Lt. Col. James J. Cuff, Jr., relieved Lt. Col. Joe C. Burgin III, 29 Apr.

VP-4: Cdr. James M. Buyske relieved Cdr. Marshall A. Hall.

VP-40: Cdr. James P. Toscano relieved Cdr. James W. Gibson, 6 May.

VP-45: Cdr. Dennis Stevens relieved Cdr. Robert Elliott, 22 Apr.

VS-24: Cdr. Jim Hart relieved Cdr. Steve Turcotte, 3 Feb.

VS-33: Cdr. John W. Winkler relieved Cdr. Richard P. Smith, 24 Mar.

VT-2: Cdr. Steven L. Wilstrup relieved Cdr. John J. Durkin, Jr., 29 Apr.

VT-23: Cdr. Patrick A. Jacobs relieved Cdr. Christopher D. Quinn, 7 Jul.

Cdr. Peter Mersky, USNR (Ret.)

Wooldridge, E. T., ed. *Carrier Warfare in the Pacific.* Smithsonian Institution Press, 470 L'Enfant Plaza, Suite 7100, Washington, DC 20560. 1993. 309 pp. Ill. $24.95.

Basically a collection of oral history transcripts from the U.S. Naval Institute's (USNI) impressive collection, this book is rather bland and only mildly interesting—certainly not as revealing as it could be. The book also deserved a much better selection of photos, which the Smithsonian's National Air and Space Museum and the USNI photo collections could have provided.

There are some interesting accounts and variations of well-known actions, such as the story of David McCampbell—the Navy's top ace—and the day he scored nine kills, the kamikaze attack on the carrier *Franklin*, strategies and programs. However, the book disappoints, given the large, well-endowed collection of interviews and photos which the editor and book designers had at their disposal.

Gordon, Yefim, and Vladimir Rigmant. *MiG-15.* Motorbooks International, Box 2, 729 Prospect Ave., Osceola, WI 54020. 1993. 144 pp. Ill. $24.95.

Surprisingly, there has never been a full-length history of the redoubtable MiG-15, and this well-illustrated book goes a long way to fill the gap.

Using the well-established photos-and-text format of other Motorbooks volumes, this book takes advantage of a rather odd-size design of 9 x 10.5 inches. The extra size allows larger reproductions of the photos which, for the most part, have never been published. The color shots are fairly drab but are interesting. Several pages of color profiles round out the visual aspect of the book.

Besides the development history of the MiG-15, the section on the Korean War sets this volume apart from other efforts on Soviet aircraft. Most accounts of the air battles between the U.S. F-86 *Saberjet* and the MiG-15 discuss the USAF's belief that not all of the men in the MiG cockpits were North Korean or Communist Chinese. Indeed, the American pilots suspected that the better enemy pilots were, in fact, Russians. There was, however, little official support for such suspicions.

Recent declassification of Soviet documents, long held secret, have begun to tell the incredible story of the Soviet fighter squadrons that actually fought alongside the North Koreans and Chinese. The "honchos" of the MiG squadrons *were* Soviets! And, if the account in this book is true, several of the Russian MiG aces attained more than 15 kills of United Nations—mostly American—aircraft, particularly the vaunted F-86.

The top ace's score is either 19 or 23; the number is confusing. He shot down 23 UN aircraft but magnanimously gave his faithful wingman three or four in a gesture of gratitude. Whether this startling information is completely true or not, the book breaks new ground and is worth its rather pricey cost.

ANA Bimonthly Photo Competition

Above: Ted Carlson won the bimonthly photo contest with his shot of VMA-223 XO Maj. Pete Gutmann flying his day-attack AV-8B over Utah during Exercise Lone Duck. He was approaching a VMGR-252 KC-130 from which the photo was taken. Left: Joe Cupido's photo captioned "Gone, but not forgotten—a section of VMO-2 'Hostage' OV-10Ds off the California coast at sunset" received honorable mention.

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.**

Call for Insignia

We need black & white or color artwork or photographs of VA-36 (approved by CNO in 1952 depicting a winged wolf and lightning bolt) and VA-16 insignia for publication in an official book. Send to: Naval Aviation News, Bldg. 157-1 WNY, 901 M St. SE, Washington, DC 20374-5059; or Fax 202-433-2343

Correction

Mar-Apr 94, page 12, "CV/CVW Aircraft Mix (End of FY 93)": Under CVWRs 20 and 30, VCs 12 and 13 should be VFCs 12 and 13.

WW II Color Slides/Movies

Over the years, my contacts as an aviation and military historian have yielded many excellent sources for my books. At present, I am writing *KEEP 'EM FLYING*, consisting of anecdotes and wartime color Kodachrome slides taken solely by veterans, and creating a TV series of WW II color movie film. I am showing all areas of the globe and all aspects of military life, both ground and air scenes, even on the home front with family and girlfriends. I would like to borrow original Kodachromes and movies, duplicate them here (not in a lab) and return them. Over the past 25 years, I have never lost or damaged anything loaned. If published, proper credit will be given. I will also consider for inclusion in the book recollections of wartime tours—funny, tragic or hair-raising, combat or not.

Jeff L. Ethell
Rt. 1, Box 3154
Front Royal, VA 22630

Locator

My father, W. U. "Bill" Hollis, served in the Navy during WW II and, I believe, was a plane captain/flight engineer for the PB4Y. He was in Bombing Squadron 110, Fleet Air Wing 7, stationed in Dunkeswell, England, from September 1943 to July 1944. My father died in 1974 and I am trying to gather information about his activities during the war. I am seeking contact with members who served with him. My voice mail: 803-232-0999.

W. J. Hollis, Jr.
PO Box 17993
Greenville, SC 29606

I would welcome any information on the career of Lt. Carl B. Harper, a Navy test pilot of the 1920s. Harper also worked for Vought and Lockheed. He was last known to be a Washington, D.C., consultant in 1955. A photo of him is of special interest.

John Underwood
2054 W. Mountain
Glendale, CA 91201

World War II in the Pacific Conference
10-12 August 1994
Crystal City Hyatt Regency,
Arlington, VA

Sponsored by:
American Society of Naval Engineers (ASNE)
Marine Corps Association
Marine Corps Historical Center
Marine Corps Historical Foundation
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U.S. Naval Institute

Conference features: Opening remarks by Secretary of the Navy John H. Dalton, remembrances of veterans of the war, book exhibits, contemporary film, displays and historical discussions.

For registration information, contact ASNE at 703-836-6727.

Reunions, Conferences, etc.

EAA Fly-In Convention, 28 JUL-3 AUG, Wittman Regional Airport, Oshkosh, WI. POC: Dick Knapinski, 414-426-4800.

Forrestal (CVA/CV/AVT 59) reunion, 18 AUG, Orlando, FL. POC: Jim Stewart, 21 Viburnum Ln., Levittown, PA 19054, 215-295-0260.

VR-51 (C-118/C-9B) reunion/disestablishment, AUG 94, NAS Glenview, IL. POC: AECS Frank Coburn, DSN 932-2828/9.

Ranger (CVA/CV 61) reunion, 5-7 AUG, Las Vegas, NV. POC: George Meoli, 1740 Durham Rd., Guilford, CT 06437.

Bon Homme Richard (CV/CVA 31) (WW II/Korea/VN) reunion, 12-14 AUG, Norfolk, VA. POC: Ralph Pound, POB 1531, 410 Clark St., Tupelo, MS 38802, 601-842-0572/8247.

Intrepid (CV/CVA/CVS 11) reunion, 13 AUG, New York, NY. POC: Laurence H. Blackburn, Jr., 22 Watercrest Dr., Doylestown, PA 18901-3240, 215-345-5690.

Saratoga (CV 60) decommissioning, 20 AUG, NS Mayport, FL. POC: Decommissioning Ceremony Coordinator (Code 01A), USS Saratoga, FPO AA 34078-2740.

Essex (CV/CVA/CVS 9) reunion, 22-26 AUG, Pensacola, FL. POC: Bob Morgan, 6361 S.W. 106th Pl., Ocala, FL 34476-4802.

Saginaw Bay (CVE 82/VCs 78/88) reunion, 25-29 AUG, Cody, WY. POC: Earl Homman, 4220 Old Mill Rd., Lancaster, OH 43130, 614-654-1651.

NAS Twin Cities reunion, 27 AUG, Minnesota ANGB, Minneapolis/St. Paul International Airport. POC: Kirk E. Johnson, 7325 14th Ave. S., Richfield, MN 55423, 612-866-7194.

Enterprise (CVN 65) reunion, 27 AUG-1 SEP, Nashville, TN. POC: William Newby, PO Box 307, Kingston, TN 37763-0307, 615-376-5974.

VP-9 reunion, 28-31 AUG, Las Vegas, NV. POC: Sol Gibson, POB 1256, Hayesville, NC 28904, 704-389-3974.

VB/VPB-148 reunion, FALL 94, Pensacola, FL. POC: Perry Ustick, 228 Pine Tree Dr., Gulf Breeze, FL 32561, 904-932-6979.

Altamaha (CVE 18) reunion, 27 SEP-2 OCT, San Diego, CA. POC: Don Dolan, 9670 Jimzel Rd., La Mesa, CA 91942-4040, 619-469-5808.

Tripoli (CVE 64) reunion, SEP 94, Kansas City, MO. POC: Jim Metts, 1103 22nd St., Nederland, TX 77627, 409-722-1468.

Steamer Bay (CVE 87) reunion, SEP 94, Vancouver, WA. POC: Loren Estep, 217 Logan Hill, Chehalis, WA 98532, 206-748-8994.

CASU F 44 (WW II) reunion, 1-3 SEP, Kansas City, MO. POC: Michael W. Deery, 1604 NE 67th Pl., Gladstone, MO 64118, 816-436-7599.

VF-14 reunion, 2-4 SEP, NAS Oceana, VA. POC: Lt. Paul McSweeney, VF-14, FPO NY 09504-6103, 804-433-5160.

Shangri-La (CV/CVA/CVS 38) (WW II/VN) & Marines reunion, 7-11 SEP, Norfolk, VA. POC: Ken Reightler, POB 68326, Virginia Beach, VA 23455-9326, 804-464-5892.

Antietam (CV/CVA/CVS 36 & CG 54) reunion, 14-18 SEP, New Orleans, LA. POC: Jim Mayton, Rt. 1, Box 1414, Manchester, TN 37355, 615-728-0671.

Core (CVE 13/VCs 13/6/36/12/58) reunion, 15-17 SEP, Green Bay, WI. POC: Leroy Lepearle, 1806 Wilson Ave., Sheboygan, WI 53081, 414-458-3669.

VPB-118 reunion, 15-18 SEP, Detroit, MI. POC: Nolan Weller, 1798 Dover Rd., Kalamazoo, MI 49008, 616-382-2096.

VR-22 reunion, 15-18 SEP, Norfolk, VA. POC: Russ Riley, 3076 Woodgrove Dr., Grove City, OH 43123, 614-875-4737.

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