

NAVAL AVIATION NEWS

November-December 1995



State of Naval Aviation
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NAVAL AVIATION
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The U.S. Navy's Oldest Periodical, Volume 78, No. 1, November–December 1995

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COVERS—Art Director Charles Cooney designed this montage of WW II *Naval Aviation News* covers, which represents the finale of our Naval Aviation in WW II Series.

RAdm. Brent M. Bennitt
Director, Air Warfare

Published by the Naval Historical Center
under the auspices of the Chief of Naval Operations

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

Subscriptions: To order this periodical for one year, cite *Naval Aviation News* (NAVN) and send a check for \$10.00 (\$12.50 foreign) or provide VISA or MasterCard number and expiration date to: Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Telephone credit card orders can be made to (202) 512-1800 from 8 a.m. to 4 p.m. Eastern time. Credit card orders can be faxed 24 hours a day to (202) 512-2250.

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

The State of Naval Aviation

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

It has been an exciting, fast-paced two-year tour as Director, Air Warfare, one that has seen revolutionary changes in the way we think and do business—one that is coming to an end. This will be my last Flight Line article before I depart for the West Coast, ultimately to relieve Vice Admiral R. J. "Rocky" Spang as Commander Naval Air Force, U.S. Pacific Fleet in mid-January. How sweet!

In this issue you will see two excellent articles, the subjects of which are divided by 50 years, but between which you'll be able to draw many parallels. The magazine's final article in its Naval Aviation in WW II Series (p. 24) covers the state of Naval Aviation on V-J day in terms of numbers of ships, aircraft and squadrons, and downsizing numbers. It highlights the effort of getting the troops home and redefining a fighting Navy—a time during which one-half of all naval air stations and facilities were disestablished. This was an era when some personnel worked on the disestablishments, while others built a new Navy—determining priorities and investigating new technology. Sound familiar? Remember, I'm talking about the year *Midway* and *FDR* were commissioned, 1945. The second article (p. 2) focuses on the period of our current downsizing effort and highlights the advances in technology and increased capability you will experience through the next Future Years Defense Plan, 1998–2003. I hope you'll read and enjoy both articles.

During this past spring and summer we completed the periodic review for FY 1997. Included in the process were the Joint Mission Area Assessments, the Investment Balance Review and the Sponsor Program Proposal. It was a very positive process, resulting in strong CNO support for our programs in the Navy's proposed budget submission. Of particular note was agreement on our F/A-18 and E-2 programs, as well as support for the transition of three additional A-6/F-14 squadrons to F/A-18s, with the option for three more in the Program Objectives Memorandum



RAdm. Brent M. Bennitt

(POM), 1998. Highlights of recent congressional action on the FY-1996 Defense Appropriations Bill include potential plus-ups to electronic warfare developments; funding for 18 F/A-18Cs, 8 AV-8Bs, 6 AH-1Ws, 2 CH-53Es, 17 T-39Ns; and upgrades of the F-14 ground attack capability and EA-6B Block 89A; and significant support for the V-22 program. Force structure "stakes in the ground" remain at 11 active plus 1 operational/reserve carriers, 10 active plus 1 reserve air wings, and 13 active plus 9 reserve P-3 squadrons. Our Helicopter Antisubmarine Squadron, Light community remains stable at 10 squadrons.

Looking forward to POM-98, we plan to maintain our force structure and level of readiness, as well as preserve our plans for recapitalization. Although our initial search for offsets will focus on modernization efforts and savings obtained from community restructuring, our priority is to ensure adequate funding exists for CVN 77, the F/A-18E/F and MV-22, and for those upgrades required for aircraft to fly and fight after the turn of the century. We will refine or initiate concept development efforts for the Common Support Aircraft, Common Light Vertical Aircraft, and the follow-on to the EA-6B, KC-130 and the remainder of our specialized fleet.

In the "real" world, *Theodore Roosevelt* (CVN 71) proved once again that the nation's best instrument for crisis response is the aircraft carrier.

During her deployment she flexed from the Adriatic to the eastern Med and back again, providing credible combat capability in response to national tasking. During this cruise the 36-*Hornet* air wing was validated and we saw our F-14s dropping bombs in combat for the first time. This 50-aircraft strike/fighter air wing performed superbly during round-the-clock combat operations over Bosnia. Of particular note was the news that basing restrictions at the air base in Aviano, Italy, became an issue due to political pressures during the September NATO bombing campaign in Bosnia. These restrictions limited our national response options, underscoring once again the tenuous nature of forward bases and the enduring value of America's aircraft carriers.

The next five years will usher in a revolution in strike warfare unlike any ever seen. For starters, all 50 strike aircraft in an air wing will have precision weapons capability. With the addition of the Joint Direct Attack Munition/Joint Stand-Off Weapon, the carrier battle group will have an all-weather day/night strike capability against fixed, relocatable and pinpointed mobile targets. With the dawn of these new, very accurate and precise weapons and state-of-the-art platforms like the F/A-18E/F with its integrated Global Positioning System, we change from a need for multiple sorties required per target or aimpoint kill to multiple targets or aimpoints killed per sortie. Add to that advancements like the Synthetic Aperture Radar/Moving Target Indicator with automatic target hand-off in select platforms (F/A-18, ES-3/S-3, SH-60R) and you can see the extent of this revolution. (For an expanded and more detailed discussion of these and other improvements in strike fighter capability, see "Revolution in Strike Warfare," p. 2.)

As I mentioned earlier, I will be departing as Director, Air Warfare in late November and passing the baton to an old friend and classmate, Rear Admiral Joseph Dantone. He brings to the job an incredible depth of knowledge and experience. As RAdm.

Dantone takes the helm I want to assure you that leadership continuity in Naval Aviation will remain. He will become a valued member of the Air Board—your corporate decision-making body comprised of a close-knit group of aviation flag officers. The Air Board revalidates our constancy of purpose and focus and allows us to

move Naval Aviation forward, both in peacetime and combat.

I want to leave you with one final thought. Naval Aviation is alive and well. There has been no time in our history when we have been more capable. From air bases around the world, surface combatants, amphibious ships and carriers, we continue to

answer our nation's call around the clock, 365 days a year—Forward . . . From the Sea. During the drawdown you rose to the challenge and proved you're made of the right stuff. I am proud of each and every one of you. Good luck and remember . . . FLY 'EM SAFE.

Revolution in Strike Warfare

RAdm. Brent M. Bennett

Naval Aviation today stands at a historic crossroads. The strategic concepts outlined in ". . . From the Sea" and "Forward . . . From the Sea" shifted our focus from strictly blue-water operations toward a more balanced war-fighting capability. This shift embodied a renewed Navy-Marine Corps partnership based on a shared understanding of naval expeditionary forces and their ability to operate in the littorals. With this came the requirement for a revolutionary change in the way we think and do business. During the past three years, we have set in motion the foundation for a strike "revolution" within the Future Years Defense Plan (FYDP), 1998–2003. The following paragraphs will highlight the revolutionary advances in technology and increased capability that our war fighters will use to fight and win at the dawn of the 21st century.

F/A-18E/F. The *Hornet* is our mainstay strike fighter of the future. It is a state-of-the-art aircraft, overcoming the limitations of its predecessor and providing significant room for future growth. The E/F provides us with nearly twice the capability of the C/D at half the cost of a new "start-from-scratch" aircraft, in half the time.

The F/A-18E/F currently exceeds all Navy specified range requirements and includes an additional margin to continue to meet specifications even after potential future aircraft improve-

ments are integrated. On a typical strike interdiction mission (hi-hi-hi profile), the F/A-18E/F can cover 485nm compared to 360nm for the F/A-18C/D—35 percent further. Both versions carry three 1,000-pound laser-guided bombs, two fuel tanks (330 gal. on C/D, 480 gal. on E/F), Advanced Medium-Range Air-to-Air Missiles (two on E/F and one on C/D), two Sidewinder missiles, and a Forward-Looking Infrared (FLIR) pod. Flying a hi-lo-lo-hi interdiction mission from an aircraft carrier operating 150–200 miles off the coast, the F/A-18E (with four 1,000-pound bombs) can reach approximately twice the land area of a similarly configured F/A-18C flying the same profile.

Bringback—the ability of an aircraft to trap on the carrier with unexpended ordnance—is a major issue, particularly when the weapons are sophisticated, high-value precision ordnance such as the Supersonic Low-Altitude Missile, Joint Direct Attack Munition/Joint Stand-Off Weapon, High-Speed Anti-Radiation Missile and Harpoon. The F/A-18C/D, after nearly two decades of upgrades and growth, is approaching its carrier bringback design limits. The F/A-18E will have 4,000 pounds of additional bringback, an increase of 74 percent.

The F/A-18E/F is a low-observable aircraft incorporating measured amounts of state-of-the-art stealth technology. The E/F's signature reduction makes it appear one-tenth the size of the night strike F/A-18C/D.

The F/A-18E/F will also be capable of carrying an external air refueling store. This enhancement will supplement a shrinking tanker force and help to maintain the carrier's autonomous air refueling and organic strike capability. Current estimates show 6,400 pounds of fuel available for transfer at a mission range of 250–300nm or 15,200 pounds of fuel available for transfer on a 30-minute airborne cycle overhead the carrier.

The F/A-18E/F will eventually replace both the F-14 *Tomcat* and older F/A-18C/D *Hornets*. Initial Operational Capability (IOC) is scheduled for 2001. Whether it is precision strike, close air support or air-to-air combat, the E/F will be at the very pinnacle of fourth-generation strike fighter capabilities. The new *Hornet* delivers the right mix of improved, yet affordable capability to enable the Navy's 21st century air wings to deliver greater firepower with fewer tactical assets.

F-14. The dual-seat *Tomcat*, with its unequaled payload, range and versatility, remains the premier Navy fighter aircraft. Designed as the Navy's front-line, all-weather fighter, the *Tomcat* has continued to add war-fighting capabilities since its initial deployment in 1974: air superiority, fleet air defense, tactical reconnaissance, fighter escort, air-to-ground weapons delivery and, most recently, precision strike.

With the cancellation of the A-6 heavy bomber, we have increasingly looked to the *Tomcat* to fill its air-to-ground bombing role. Heeding the Desert Storm lessons learned, we have opted for a self-contained precision strike capability for the *Tomcat* rather than relying solely on the less capable free-fall weapons.

After rejecting several robust (and expensive) precision strike designs, a simple but effective stand-alone



A side-by-side comparison of the F/A-18E (foreground) and the F/A-18C Hornet.

FLIR/laser designator using the proven LANTIRN pod, developed by Lockheed-Martin for the Air Force, was chosen. The proof of the design came through a rapid prototype flight demonstration program sponsored by Commander Naval Air Force, U.S. Atlantic Fleet when a modified fleet *Tomcat* successfully dropped and guided four out of four laser-guided bombs.

This upgrade will provide a medium-range precision strike capability that is more than just a new coat of paint on an old airframe; it is a real, potent war-fighting capability for the fleet that will stand the *Tomcat* in good stead for the present and through the foreseeable life of the aircraft.

EA-6B. Over the last year, a watershed event has occurred in the Department of Defense: a war-fighting mission area has been consolidated, with Naval Aviation leading the way. In 1996 the EA-6B *Prowler* will begin consolidation of the electronic attack mission and assumption of Air Force EF-111A mission requirements. This will enable four new EA-6B squadrons of four planes each to stand up in the next two years, increasing department head and command opportunities.

To meet the worldwide commitments of the *Prowler*, significant developments by the Naval Air Systems Command will ensure that 127 EA-6Bs in the aircraft inventory are viable for the next 20 years.

Beginning in 1999 the Block 89A *Prowler* will become operational, incorporating new technology and enhanced war-fighting capability. Looking even further ahead, a study will begin this year to develop a follow-on platform to the *Prowler* that could be introduced after 2010. Bottom line: the EA-6B is a Naval Aviation success story.

Joint Direct Attack Munition (JDAM). JDAM is an air-to-surface weapon tail kit that provides the war fighter with an increased accuracy of less than 13 meters circular error probable. JDAM will be available in three configurations: 1,000 and 2,000-pound, low-drag, general-purpose blast fragmentation bombs (MK 83 and MK 84, respectively) and the 2,000-pound hard target penetrator weapon, the BLU-109.

JDAM's improved accuracy is provided by means of a satellite Global Positioning System (GPS)-aided inertial navigation system with aircraft-to-bomb navigational data handoff occurring immediately prior to bomb release. During free fall, the GPS receiver in the guidance kit uses GPS updates to further refine location information. The guidance kit mission computer uses this information to then guide the bomb, via movable fins, to the predesignated target coordinates. The end result is an affordable, highly accurate weapon which can hold multiple targets at risk from a single delivery platform in adverse weather conditions.

JDAM uses preplanned targeting defined by target latitude, longitude and elevation coordinates, while the traditional concept of in-flight self-targeting uses eyeball or aircraft sensors. This conceptual change allows the aircrew to release the weapon without ever having to undergo target acquisition, traditionally one of the most difficult and dangerous phases of the air-to-ground mission. JDAM will be completely compatible with the Navy's Tactical Aircraft Mission Planning System.

Joint Stand-Off Weapon (JSOW). The JSOW is an air-to-surface glide weapon that provides a stand-off capability of 15-40nm. Designed to be compatible with naval F/A-18 and AV-8Bs and Air Force F-16, F-15 and B-1 aircraft, this weapons system brings a unique combination of capabilities and offers opportunities to expand tactical employment options on many fronts. Its large kinematic envelope, with a 360-degree attack capability and positional guidance, is the key attribute that sets it apart from all current gravity or glide weapons. JSOW's superior capabilities are the result of a very efficient aerodynamic air vehicle coupled with a GPS-aided ring-laser inertial navigation system. The result is an affordable, highly accurate stand-off weapon deliverable under almost all weather conditions both day and night.

The JSOW, guided by its close coupled Inertial Navigation System/GPS system, will follow a pre-selected elevation trajectory using either a direct or specified terminal bearing flight path or up to eight pre-planned points en route to target. This flexibility allows the aircrew to plan the weapon's flight path around known high-threat areas or terrain which might complicate the attack or degrade its effectiveness.

The JSOW is a family of weapons using a common air vehicle with varied payloads. The baseline variant employs the BLU-97 submunition, a Rockeye-type submunition for killing medium-soft point and area targets, which is capable of performing several terminal maneuvers to optimize weapon pattern density in the target area. For soft targets such as radars, the JSOW baseline (BLU-97) may

employ a shallow dive to increase the weapon's area of coverage. When planned against hard targets, it will increase the dive angle to tighten the submunition pattern. The unitary variant will have a 500-pound payload and selectable terminal dive angle to optimize the impact angle and weapon effectiveness. A third variant, the JSOW BLU-108, employs a sensor-fused weapon, a smart submunition used to kill armored targets.

JSOW will provide the Navy and Air Force with an affordable, air-to-surface family of stand-off weapons effective against diverse target types before the turn of the century. The combination of air vehicle and submunition capabilities removes many of the operational constraints imposed by limitations of past and current weapons.

Stand-Off Land Attack Missile-Expanded Response (SLAM-ER).

SLAM-ER provides carrier-based strike aircraft with the capability to launch stand-off precision weapons effectively against heavily defended, fixed and relocatable, high-value land and sea targets during the day or night, and in adverse weather.

SLAM-ER's improved guidance, warhead lethality, range and reliability will enable aircraft to attack critical, hardened targets, defended by long range surface-to-air missile systems. It provides highly precise terminal guidance with a high probability of kill on the intended target with minimum collateral damage.

AIM-9X/Helmet Mounted Cueing System (HMCS). In the next century, as our strike fighters press to the target and come within visual range of enemy aircraft, they will possess the most lethal means of air-to-air combat: first look, first lock, first launch. The next-generation AIM-9X combined with an HMCS will provide first-shot capability to aircrews in the 1-circle, 2-circle dogfight arena, or pulling off target from an air-to-ground weapons delivery.

The Navy-led AIM-9X program incorporates the newest imaging infrared (IR) technology, which is practically immune to IR countermeasures, with high off-boresight lock and launch capability. The current Sidewinder airframe has also been modified and will be the most maneuverable in the world; the missile has already demonstrated a capability to

literally turn across the nose of the launch fighter and take advantage of its high off-boresight look angles.

Technology advances have provided a dramatic change to the HMCS since the F-4 *Phantom*/Visual Target Acquisition System era. The HMCS will enable aircrews to keep their heads out of the cockpit, outside of the heads-up display field of view, and outside of radar scan limitations to acquire an enemy aircraft with their Sidewinder missile. Pilots simply look through the HMCS, then slave the AIM-9X, or radar, to their line of sight.

The old adage of "he who has first tally, wins the fight" will soon take on a revolutionary meaning. The AIM-9X and HMCS, with an expected IOC in late FY 2002, will provide our strike fighters with unprecedented self-defense capabilities.

Global Positioning System

(GPS). GPS is leading to remarkable advances in fleet operational capability in areas of navigation and combat mission performance. Fleet pilots in over 400 naval aircraft are now able to identify their position within a 16-meter spherical area of probability and be provided with timing accuracy within 100 nanoseconds. Imagine being able to launch from a carrier 200nm at sea, penetrate enemy defenses, pop up and find your small target in the narrow "soda straw" field of view of your forward-looking infrared sensor, or pinpointing, to the nearest 10 meters, every sonobuoy in your integrated barrier field. GPS brings this capability to life.

The Navy is in a full-court press to provide all of Naval Aviation with integrated GPS navigation systems. Recent successes in this area include fleet introduction of over 15 different types of GPS-equipped naval aircraft, including SH-60F, AV-8B, CH-53E, MH-53E, C-2A, P-3C, ES-3A, E-2C, C-130T, HH-60H/J, HH-65A, KC-130F/R/T, EP-3E, RP-3D and HU-25A/B/C. There are 12 aircraft platforms currently in formal Navy testing with installations planned for 1996, including: F/A-18C/D, F-14D, E-6A, EA-6B, AH-1W, UH-1N, UH-3H, VH-60N, CH-46D/E, HH-46D, UH-46D and HC-130H.

The Embedded Global Positioning System/Inertial Navigation System

uses an embedded GPS receiver module in combination with an inertial sensor assembly and an electronics package to provide aviators with integrated navigation, attitude and time data for use in the cockpit and by aircraft weapons systems. It allows for a more precise Inertial Navigation System solution in the event of loss of the GPS signal due to electronic countermeasures. Not only is it Naval Aviation's most advanced navigation system, but it costs 44 percent less than the two separate systems it replaces—the Carrier Aircraft Inertial Navigation System and the Miniature Airborne GPS Receiver.

Link 16 Joint Tactical Information Distribution System (JTIDS)/Multifunctional Information Distribution System (MIDS).

The installation of the Link 16 JTIDS aboard our carriers, cruisers, E-2Cs and F-14Ds is now a proven war-fighting improvement in terms of command and control, data transfer accuracy and situational awareness. F/A-18s are programmed for this capability when the MIDS terminal achieves IOC in 1999. We are convinced that Link 16 will be required on the battlefield of the future and are developing an investment plan for our tactical aircraft platforms. In the future we will incorporate Link 16 capability in our remaining carrier support aircraft and our shore-based direct support platforms. The Office of the Secretary of Defense and the Joint Staff have mandated Link 16 as the "tactical data link of the future." Both the Air Force and Army have also initiated integration plans for their primary battlefield platforms.

Integrated Defensive Electronic Countermeasures (IDECM). In the late 1960s and early 1970s the appearance of radar and infrared surface-to-air missiles necessitated the

An F-14 Tomcat delivers a 500-pound, laser-guided bomb.



development of a radar warning receiver, a defensive electronic countermeasures system and an expendables dispensing system. Each system contributed to increased aircraft survivability during the waning days of the Vietnam conflict. Each was manually controlled and difficult to reprogram. The threat, however, was slow to respond, limited in number, mostly fixed site and exhibited predictable electronic signatures. The threat did not require the synergy that an integrated system would provide.

Today, the majority of operational strike and fighter aircraft are equipped with improved versions of Vietnam-era electronic warfare equipment. In the near future, strike aircraft will have a new look; they will be equipped with an IDECM system, which will allow Naval Aviators to survive in a dense, hostile threat environment. The IDECM program intentionally builds on lessons learned from Vietnam and injects modern technology and the ability to automatically detect, engage and defeat threat surface-to-air missile systems without manual input. This will free the pilot to maximize his/her concentration on flying the plane and delivering ordnance on target. The first systems will be introduced on the F/A-18E strike fighter in about 6 years.

Digital Communication System for Offensive Air Support (DCSOAS). The DCSOAS (formerly Automatic Target Hand-off System) will provide a general-purpose digital communication device for the F/A-18, AV-8, AH-1 and V-22 which will facilitate rapid, accurate, secure communication between all elements of the tactical air control system. The DCSOAS will be used during offensive air support (close air support and deep air strike) and tactical air control missions. Currently, all communications between air and ground combat elements are conducted by voice. This voice process is susceptible to enemy Meaconing, Interference, Jamming and Intrusion (MIJI). It is also slow, subject to inaccuracies and forces the pilot to be "heads-down" in the cockpit. DCSOAS will reduce the vulnerability to MIJI, will be more accurate than voice communication and will allow ground units to reduce the risk of disclosing their position to enemy automatic direction finding equipment.

DCSOAS will allow the pilot to receive and transmit critical information via secure digital burst communications. It will receive and acknowledge all incoming messages, display the messages on existing aircraft displays and allow the pilot to discriminate and respond. DCSOAS will call the pilot's attention to each new mission message via both an audio and visual cue. Upon accepting a close air support mission, the J-Fire nine-line brief will be shown on the aircraft's displays, and the mission data will be integrated into the mission computer and revealed to the pilot on weapons and navigational displays. For tactical control, DCSOAS will provide control agencies with vital aircraft mission status, i.e., number of aircraft, weapons load and time on station.

DCSOAS will allow tactical air control agencies and strike aircrews to locate targets, plan missions, securely communicate the mission information, engage the enemy and provide target assessment without speaking a single word.

Positive Identification System (PIDS). Past friendly fire incidents have highlighted the problems associated with visual identification of air targets. A visual ID depends on the pilot's training level, flight skill and visual acuity. The range and quality of visual ID are dependent on weather and day or night conditions. PIDS will solve these problems for F/A-18 *Hornet* aircrews.

PIDS will be a self-contained system which will interface directly with the F/A-18's mission computer, and will utilize existing displays and Hands On Throttle and Stick functions in the *Hornet* to allow aircrew to identify targets in all flight and environmental regimes. Even at night or in adverse weather conditions, PIDS will enable *Hornet* aircrew to make knowledgeable tactical decisions based on accurate identification of their target.

AN/ARC-210(V) Electronic Protection (EP) Radio. The AN/ARC-210(V) EP Radio, a Navy-led, tri-service program, is planned to replace the AN/ARC-182(V) radio. It is capable of combined UHF/VHF, AM/FM, anti-jam communication for secure voice and data transmission. The AN/ARC-210(V) is the first U.S. Navy radio which provides full battlefield interoperability by using the Air Force HAVEQUICK I and IIA wave-



An artist's rendition of the McDonnell Douglas Joint Advanced Strike Technology aircraft.

form for secure air-to-air communication and the Army Single Channel Ground Airborne Radio System waveform for secure air-to-ground communication. To ensure safety of flight the AN/ARC-210(V) also operates in civilian air traffic control and maritime bands.

Major improvements and increased capabilities planned for the AN/ARC-210(V) over the next 18 months include satellite communication, demand assigned multiple access and embedded communication security.

Tactical Aircraft Mission Planning System (TAMPS). TAMPS is used by flight crews for automated route, navigation (visual, navaid, radar and GPS), fuel, threat analysis and weapons delivery planning. Eventually TAMPS will be located in every aircraft carrier ready room, connected via Local Area Network, while man-portable units are employed ashore. TAMPS reduces redundant planning systems and lowers overall Department of the Navy costs. Additionally, TAMPS connectivity will provide an automated up-to-date threat picture, a large step in the evolution of strike planning.

The follow-on to the *Nimitz*-class carrier and the next-generation strike fighter, JAST, while not programmed to arrive in time to join the strike revolution within the current FYDP, represent a tremendous investment in our future and are, therefore, included in this discussion.

Future Carriers. *Nimitz*-class aircraft carriers are at the heart of America's power-projection capabilities and will be for many years to

come. The *Nimitz* design has proven remarkably flexible and readily adaptable to changes in aircraft and ship technology.

But what about the carriers that the United States builds after that? What will be the size and shape of the carriers that today's junior officers will be commanding 20 years from now? The Future Carrier Project (Project 78) team is examining a broad range of alternative platform designs and operational concepts that will satisfy the Navy's future requirements for sea-basing combat aviation. In effect, it is laying the groundwork for a follow-on to the *Nimitz* class. The first ship of the new class, now referred to as CVX, will be laid down in 2006 and launched in 2013.

The Project 78 team is focusing on the relationship between the air wing and the ship itself. Through the use of extensive modeling and simulation, it is examining how the Navy can leverage new technologies to increase carrier combat effectiveness at a reasonable cost. The desired end result is a ship that can generate twice the number of sorties as today's carriers, can survive in a 21st-century combat environment, and which incorporates advanced information technologies and achieves significantly reduced manning by moving some functions off the ship and automating others. The new ship class will also have to be as adaptable as its predecessors, since it will have to support many existing carrier aircraft, the joint strike fighters that spring from the Joint Advanced Strike Technology program, and other combat aircraft not yet on the drawing board.

Project 78 is considering many concrete measures to reach these goals. For instance, to improve the efficiency of flight operations and aircraft turnaround, the team is investigating electromagnetic catapults, possibly integrated with ski-jumps. Other options include automated weapons selection and movement to aircraft, and advanced systems for flight operations management.

To increase its survivability, the CVX will feature significant topside design changes, including the consolidation of existing sensor and communications antennas into multifunction arrays, reducing its radar and acoustic signatures. The ship's self-defense systems will be tailored to respond to the proliferation of antiship

missiles and other threats throughout the world, and will have automated battle damage management and zonal electrical distribution systems that allow a smaller crew to effectively cope with damage and continue operations.

The Project 78 team is also examining many other measures to ensure that the future carriers are combat- and cost-effective. It will review all propulsion alternatives, from improved nuclear plants to gas turbines. The CVX may also benefit from "virtual organizations," where the members are tied together by state-of-the-art command, control, communications, computers and intelligence systems. Recognizing that the new carrier will have a potential life span of 40 to 50 years, the team is developing a design that is easily modified over the course of the ship's service life.

These are just some of the issues that Project 78 is addressing as it gives shape to the follow-on to the *Nimitz* class. Ultimately, the team—working closely with industry—is assembling a clear vision of ships that will one day form the backbone of the U.S. carrier force.

Joint Advanced Strike Technology (JAST). The JAST program was started during the Bottom Up Review as a technology maturation program to facilitate the development of the next-generation aircraft for the Navy, Marine Corps and Air Force. It is focused on the reduction of the entire life cycle costs while maintaining a continued improvement in capability. JAST has progressed quite rapidly and is showing great promise in its ability to provide an extremely capable strike fighter aircraft for the Navy.

Three contracting teams are currently refining their design concepts for a competition in spring 1996. Ultimately, two contractor teams will build their proposed designs and demonstrate their ability to build a family of aircraft to meet the needs of all three services. Current designs show the potential for a Navy variant to carry two precision guided munitions and two air-to-air missiles internally for an interdiction mission in excess of 600nm without drop tanks or in-flight refueling. The up-and-away performance will be equivalent to or better than the current F/A-18C. The benefits of a very stealthy aircraft on our carrier flight decks will add an



Various competitors' entries for the Joint Direct Attack Munition.

incremental level of capability to our carrier battle groups and our ability to project power in high-threat areas. Additionally, new improvements in maintenance procedures and subunit reliability should further decrease maintenance efforts.

JAST is at an exciting crossroads as we are currently refining the aircraft's requirements while keeping in mind fiscal realities. With concurrent Air Force procurement, the actual unit fly-away cost should be driven down as much as 25–33 percent from what it would cost if the Navy built the aircraft alone.

The effects of the drawdown have been felt by everyone, but as you can see the Navy has continued to pursue those technologies that will give us the capability to fight and win as the 21st century approaches. We will not be able to put all the bells and whistles on every platform; that is fiscal reality. We will, however, ensure that Naval Aviation remains a potent, combat-credible, forward-deployed force that has no equal.

The most important part of the equation, as always, is you—the young men and women of Naval Aviation. Without your dedication, spirit, ingenuity and professionalism, all of the fantastic technology in the world would be useless. You are the best trained, most highly motivated warriors this country has ever produced. You have now, and will continue to have, the best equipment available to confront any potential enemy. When the rogue leaders of this world consider the ramifications of their next episode of adventurism, it will be you they fear.

FLY 'EM SAFE! ■

PHCS Terry Cosgrove



Chief of Naval Operations Adm. Mike Boorda announces the name of the new F/A-18E/F: "Super Hornet."

New Hornet Rolls Out

The F/A-18E was unveiled at 1000 on September 18 in ceremonies conducted at the McDonnell Douglas facility in St. Louis, Mo. The improved *Hornet* was designed to increase the range, payload and combat capabilities of the multimission aircraft. The first of seven flight test aircraft is reportedly 1,000 pounds lighter than its maximum specification weight. Almost 25 percent larger than the C/D models, the E/Fs will have an additional 3,600 pounds of internal fuel capacity. Carrying 20 percent more payload than its predecessor, the new aircraft should also be able to return to the carrier with a "bringback" load of approximately 9,000 pounds of fuel and weapons. Current models are limited to about 5,500 pounds. Development of the aircraft's General Electric F414 power plants has also been successful. The twin afterburning turbofans possess 35 percent

more thrust and give the new aircraft a thrust-to-weight ratio of 9 to 1. GE is supplying 21 flight test engines to support a three-year test program that will include five single-seat "E" versions and two dual-seat "F" versions.

The first flight of the *Super Hornet* will be staged from Lambert-St. Louis International Airport and is expected in early December. Following the 6 to 10 flights that will be conducted at Lambert, the aircraft will be flown to the Naval Air Warfare Center Aircraft Division, Patuxent River, Md. The majority of test flying will be performed there under the concept of an integrated Navy/McDonnell Douglas test team. With this concept, established to cut costs and test duration, the Navy and the contractor will share all data and assets. Joint test plans and mission reports will be written by a team of five contractor pilots and five Naval Aviators. Over 300 McDonnell Douglas employees will voluntarily relocate from St. Louis for

three-year assignments with the test program.

Commercial Helo To Be Used in VERTREP Role

In late October, the Military Sealift Command (MSC) was scheduled to complete a 60-day demonstration project to test the feasibility of using commercial helicopters and crews to resupply U.S. Navy ships at sea. MSC awarded a contract 11 August to Kaman Aerospace Corporation, makers of the single-piloted Kaman K-1200 or "K-MAX aerial truck." The vertical replenishment (VERTREP) mission, currently performed by Navy CH-46 *Sea Knight* flight crews, entails the movement of cargo nets filled with equipment and supplies between MSC Combat Logistics Force ships and Navy combatants underway. The demonstration project will be conducted aboard the MSC stores ships USNS *Sirius* and *Saturn* and *Theodore Roosevelt* (CVN

71) during operations off the coast of Virginia. A maintenance crew of three technicians and three pilots will embark aboard *Saturn* to operate and maintain the aircraft during the demo. Representatives from the Naval Air Systems Command, MSC and the Center for Naval Analysis will observe and evaluate the project.

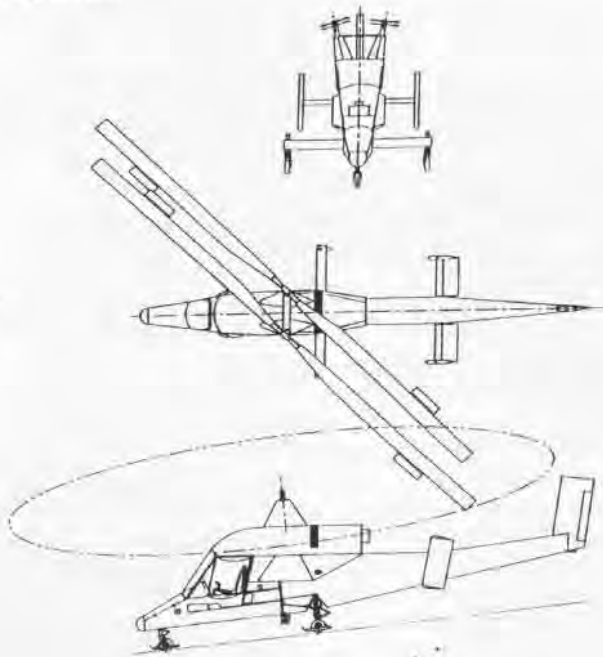
The K-MAX utilizes two side-by-side, intermeshing, counter-rotating main rotors and requires no tail rotor. It has a maximum hook lifting capacity of 6,000 pounds at sea level. The aircraft's unique design allows the pilot to view the loading of external cargo from the cockpit. Although the K-MAX and other helos are routinely used in VERTREP-type missions, such as supplying offshore oil rigs and logging, this is believed to be the first time commercial helicopters have been tested in actual Navy VERTREP operations.

"Innovative," was the way VAdm. Phil Quast, Commander, Military Sealift Command described the demonstra-



K-MAX K-1200

KMAX K-1200



tion project. "If we can do VERTREPs with commercial aircraft and crews, that frees active duty Navy pilots and maintenance crews for other operations. This will test the concept. If it works, it's a winner both for the Navy and for the commercial helicopter industry."

Aircraft Mishaps

Two VFA-125 pilots, Lts. Norman Weakland and Ty Loutsenheiser, ejected safely from their F/A-18D *Hornet* prior to its impact on the bombing range 35 miles northeast of NAS Fallon, Nev., 24 August. The pilots were rescued by the NAS Fallon Search and Rescue crew later that day.

Marine F/A-18 pilot 1st Lt. Michael G. Blaisdell was killed 30 August when his *Hornet* crashed at approximately 1830 while he was performing touch-and-go exercises at NAS Cecil Field's outlying field

at Whitehouse, Fla. Lt. Blaisdell, age 26, a native of New Palestine, Ind., was assigned to VFA-106.

An F-14A from VF-213 crashed 20 September during routine training operations about 55 miles from *Abraham Lincoln* (CVN 72), which was 800 miles west of Guam at the time. The *Tomcat's* pilot, Lt. Neal P. Jennings, and radar intercept officer, Ltjg. Timothy J. Gusewelle, suffered burns on their faces and hands. They were rescued by a small boat from *John Paul Jones* (DDG 53). A helicopter from HS-6 embarked on *Lincoln* also participated in the rescue.

An H-60 *Seahawk* assigned to HS-4, NAS North Island, Calif., crashed on a bombing range 12 miles south of NAS Fallon, Nev., 25 September while on a routine training exercise. The five crew members, identified as Lts. Kevin Guth and Fremont Besmer, AW1

Mark Klausmeier and AW2s Mark Mitchum and Matthew Shicks, were rescued by another HS-4 helo participating in the exercise and were treated for minor injuries.

All four crew members are believed dead after the 3 October crash of their CH-46 *Sea Knight* 50 miles off the Virginia coast near Cape Henry. The helicopter crashed while supporting nighttime training operations with *Guam* (LPH 9). The body of AT2 Daniel R. Biddle, 26, was recovered by searchers operating from *Guam*. Not recovered and presumed dead are Lts. Ronald J. Mobayed, 27, and Robert W. Vogel, 29; and AT3 Eric M. Hakel, 23. The four were members of HC-6 based out of Norfolk, Va.

Upgraded IFF System Flight Tested at China Lake

An F/A-18D equipped with an upgraded system for IFF (Identification Friend or Foe) has begun flight testing at the Naval Air Warfare Center Weapons Division, China Lake, Calif. The system, the AN/APX-111, also called the Combined Interrogator Transponder (CIT), will replace the *Hornet's* existing IFF transponder and will enable the strike fighter to interrogate other airborne platforms. Incorporation of the CIT into F/A-18 production is expected to begin in summer 1997. Over the next several years, as many as 500 Navy and Marine Corps *Hornets* are expected to be retrofitted with the new IFF. With the addition

of the AN/APX-111, F/A-18 crew members in a combat situation will be able to examine airspace out to 100 miles for friendly aircraft as well as respond to interrogations from other aircraft. The CIT will provide identification, azimuth and range data of the target being interrogated, thus enabling pilots to do a better job of determining which aircraft are friendly and their current location.

"Electronic Hornet" May Replace EA-6B Prowler

McDonnell Douglas and Northrop Grumman announced 7 August that they have agreed to jointly develop a derivative of the two-seat F/A-18F as an electronic warfare aircraft. The variant is intended as a possible replacement for the Navy and Marine Corps EA-6B *Prowler* after the turn of the century. McDonnell Douglas will be the prime contractor for the project, called the F/A-18 C²W (Command and Control Warfare) Variant. Northrop Grumman will serve as the principal subcontractor and will integrate the electronics suite. The F/A-18 Variant program is not currently funded by the Navy, although both companies believe that the derivative will be the most technically feasible and cost-effective solution for the inevitable replacement of the aging *Prowlers*. McDonnell Douglas completed a Navy-funded, six-month feasibility study that validated the C²W Variant as a viable replacement platform. The study indicated

that external changes to the F/A-18F would be minimal and no structural changes to the basic airframe would be required, thus enabling the C²W Variant to be built on the same production line as the F/A-18E/F.

First V-22 Osprey Comes Together

Boeing Helicopters, Philadelphia, Pa., matched up and connected the tail, center and cockpit sections of the first production-representative V-22 *Osprey* in August. The aircraft, number 7, will be the first of

four flying aircraft and one static test model being built under the engineering and manufacturing development (EMD) program. EMD aircraft will benefit from lessons learned during production of the first six *Osprey* prototypes and from the latest tooling and manufacturing technology updates. These new procedures have already resulted in a weight savings of 1,540 pounds and a cost reduction of 29 percent. The completed fuselage will be shipped to Bell Helicopter Textron, Fort Worth, Texas, by early December. It's first flight is scheduled for the following year.



Computer-Launched Harpoon

The first ATM-84D Block 1C Harpoon missile was launched from a P-3C Update III at NAS Patuxent River, Md., in mid-August. The launching was one of several firsts accomplished by Force and Strike Aircraft Test Squadrons and the Atlantic Test Range for the Naval Air Warfare Center Aircraft Division at Pax River. The event, in addition to being a first from Pax, was the first time the

Atlantic Test Range has controlled a long-range missile shot—35 nautical miles from launch point to target. It was also the first launch by a P-3C update on-line computer. The updated P-3C Harpoon Weapons System is part of an overall upgrade to the tactical mission software. The software controls all navigation, display, anti-submarine warfare and on-line stores release functions on the aircraft and allows P-3C crew members to fully utilize all the launch control options of the Block 1C missile.

Disestablished



VA-85 Black Falcons

A 22 September 1994 ceremony at NAS Oceana, Va., marked the disestablishment (officially 30 Sep) of Attack Squadron (VA) 85 after over 43 years of active service. Cdr. John W. Scheffler was the last CO of the *Black Falcons*.

VA-85 originated at NAS Niagara Falls, N.Y., as VA-859, a reserve squadron called to active duty 1 February 1951 as part of the Korean War build-up. The squadron gave up its TBM-3E *Avenger* torpedo planes for AD-2 *Skyraiders*, briefly moved to NAS Jacksonville, Fla., and NAS Quonset Point, R.I., and made its first deployment with Carrier Air Group (CVG) 8 on board *Tarawa* (CV 40) to the Mediterranean. Upon its return in June 1952 the squadron settled in at NAS Oceana, which would be its home for the next 42 years. The following month VA-859 was equipped with the AD-4 version of the *Skyraider*.

In February 1953 VA-859 was redesignated VA-85, the second squadron in history to bear that designation. In April it deployed to the Med aboard *Coral Sea* (CVA 43). Switching to the AD-6 (A-1H) in January 1954, VA-85 made five more Mediterranean deployments with CVG-8, one each aboard *Lake Champlain* (CVA 39) and *Intrepid* (CVA 11) and three on board *Forrestal* (CVA 59). In 1958 two VA-85 AD-6s demonstrated the long-range capability of the *Skyraider* by flying a 10.5-hour, nonstop flight below 1,000 feet from a point 80

miles east of Florida to San Diego, Calif.

VA-85 retired its *Skyraiders* in 1964 and entered the jet age as it became the Navy's second A-6 *Intruder* squadron. Its A-6As were soon in high demand as the Vietnam War escalated. VA-85 made four combat deployments between October 1965 and May 1970—two with Carrier Air Wing (CVW) 11 on board *Kitty Hawk* (CVA 63), one with CVW-6 aboard *America* (CVA 66) and one with CVW-14 on board *Constellation* (CVA 64). (During the last two combat cruises, VA-85 also operated some A-6B versions.)

VA-85's *Intruders* were particularly useful in striking enemy targets in Vietnam and Laos during the frequent periods of poor weather. The combat was costly, however; during the first three deployments, VA-85 lost 10 A-6A and 1 A-6B aircraft to enemy action. Thirteen officers were killed or listed missing and two were taken prisoner. Three of the 13 were commanding officers, two of which were lost and one captured. The fourth combat cruise was made without loss.

Upon its return from the war, VA-85 joined CVW-17 on board *Forrestal* and added KA-6D tankers to its inventory. After returning in 1971 from one Med deployment with A-6As, VA-85 became the Navy's first A-6E squadron. For the next decade VA-85 would make seven Med deployments with CVW-8 on board *Forrestal*. In 1974 the squadron supported the evacuation of American citizens from war-torn Cyprus, and in 1982 covered the landing of Marines in Lebanon as part of a multinational peacekeeping force.

In 1983 VA-85 joined CVW-3, assigned to *John F. Kennedy* (CV 67), and made a short deployment to the North Atlantic. The deployment to the Mediterranean later that year brought the squadron into combat once more: on 4 December 1983, seven VA-85 A-6Es participated in a retaliatory strike against a Syrian anti-aircraft site in Lebanon that had fired on F-14 reconnaissance aircraft the previous day. One VA-85 aircraft was lost; the pilot was killed and the bombardier navigator captured (and later released).

VA-85 returned to CVW-17, this time on board *Saratoga* (CV 60), for two deployments. During the first of these, in October 1985, squadron KA-6D tankers refueled the F-14s that intercepted the Egyptian airliner carrying the hijackers of the Italian cruise ship *Achille Lauro*. Later, when Libyan forces fired missiles at Navy aircraft in the Gulf of Sidra, *Saratoga* and two other carriers launched retaliatory strikes against Libya on 24 March 1986. VA-85's *Intruders* attacked four Libyan naval vessels, finishing off a *La Combattante II* missile boat and putting a *Nanuchka* missile corvette out of action. The following day VA-85 finished off another *Nanuchka* corvette with a Harpoon missile.

In 1988 the *Black Falcons* switched air wings for the last time, joining CVW-1 on board *America*. VA-85 made four major deployments and two North Atlantic cruises on board *America*. In 1989 the squadron covered the

evacuation of the U.S. embassy in Beirut, Lebanon. January 1991 saw the *Black Falcons* launching strikes against Iraqi forces in Iraq and Kuwait as part of Operation Desert Storm. Flying from the Red Sea and later the Persian Gulf, VA-85 flew almost 600 missions and delivered over 750 tons of ordnance, losing no aircraft to enemy action.

VA-85 made one more short North Atlantic deployment in 1991, followed shortly by a deployment to the Mediterranean and Persian Gulf. In August 1992 the *Black Falcons* became the last East Coast squadron to transition to the A-6E Systems Weapons Improvement Program version and took that aircraft on their final deployment in 1993—an eventful one that had the squadron flying missions in support of Operations Deny Flight over Bosnia, Continue Hope over Somalia and Southern Watch over Iraq.



HM-12 Sea Dragons

Helicopter Mine Countermeasures Squadron (HM) 12 was disestablished 30 September 1994 in a ceremony at NAS Norfolk, Va. The *Sea Dragons* completed more than 23 years of service since their estab-

lishment as the Navy's first HM squadron.

HM-12 was established 1 April 1971 at NAS Norfolk to advance the use of the helicopter in airborne mine countermeasures. Previously, the Navy had operated a handful of RH-3A versions of the *Sea King* in helicopter combat support (HC) squadrons. HM-12 was equipped with modified CH-53A *Sea Stallions* (borrowed from the Marine Corps), capable of towing mine countermeasures sleds.

The *Sea Dragons* did not have to wait long to practice their trade. In November 1972 HM-12 deployed to the Tonkin Gulf for Operation End Sweep, the clearing of mines from the harbors and coastal waters of North Vietnam. Returning to Norfolk in August 1973, the squadron made the transition to their new RH-53D versions of the *Sea Stallion*, the first helicopter designed expressly for mine countermeasures.

In April 1974 HM-12 was dispatched to clear mines remaining in the Suez Canal (Operation Nimbus Star) and the northern coast of the United Arab Republic (Operation Nimbus Stream) following the October 1973 Arab-Israeli war. In November 1976 the *Sea Dragons* used their RH-53Ds for vertical-on-board-delivery (VOD) operations in support of the Sixth Fleet in the Mediterranean.

The growth of the HM community in 1978 resulted in the formation of two more squadrons, HMs 14 and 16; with this development, HM-12 became the

fleet readiness squadron (FRS) for the HM community and for those other Navy squadrons flying the H-53 for VOD missions, including HCs 1 and 2, Fleet Composite Squadrons 1 and 5 and Fleet Logistics Support Squadron 24.

The spring of 1983 brought the new CH-53E *Super Stallion* to HM-12. In addition to its FRS mission, HM-12 formed an operational VOD detachment, the "Hawlin' Hawgs," to support Atlantic Fleet operations. In April 1987 this VOD detachment merged with other dets to form HC-2, leaving HM-12 with only its FRS mission. That same month, HM-12 retired the RH-53D after 14 years of service and operated a mixture of CH-53Es and the new MH-53E *Sea Dragon* mine countermeasures helicopter. During Operations Desert Shield and Desert Storm, HM-12 sent combat-ready personnel to augment other helicopter squadrons in the war zone.

During its career as an FRS, HM-12 trained 768 pilots, 1,280 aircrewmen and 11,900 maintenance personnel, logging over 75,000 mishap-free flight hours. The MH-53E FRS flight and maintenance training role was assumed in 1994 by Marine Helicopter Training Squadron 302, MCAS Tustin, Calif. (scheduled to move to MCAS New River, N.C.). Follow-on airborne mine countermeasures training is conducted at the Airborne Mine Countermeasures Weapons Systems Training School aboard NAS Norfolk.

Rick Burgess contributed the disestablishment articles.

“The Famous Fighting Ship” Ends Service



By JO2 Blake Towler

On 8 September 1995, after 29 years of outstanding service, the amphibious assault ship *Tripoli* (LPH 10) hauled down her colors for the last time as she was decommissioned at Naval Station, San Diego, Calif. Her last commanding officer, Commander C. T. Walters, hosted Secretary of the Navy John H. Dalton, the guest speaker at the ceremony, and welcomed friends, family and current and former crew members.

Nicknamed “The Famous Fighting Ship,” *Tripoli* is the second ship to bear the name of the well-known fleet-shore operation in 1805 that inspired the words in the Marine Corps Hymn “. . . to the shores of Tripoli.” During this operation, a small group of U.S. Marines under the command of Lieutenant Presley N. O’Bannon, along with a patchwork army of Greeks and Arabs, marched 600 miles over North African deserts to assault and capture the city of Derne. The land assault turned out to be a decisive action in the Tripolitan War, which humbled Tripoli, one of the piratical Barbary States.

The first *Tripoli* (CVE 64) was a WW II escort carrier. When this ship was decommissioned in 1958, one of her former crew members salvaged the ship’s plaque. This plaque was presented eight years later to LPH 10’s first commanding officer, Captain Henry Suerstedt.

Tripoli’s keel was laid 15 June 1964 at the Ingalls Shipbuilding Yard in Pascagoula, Miss. The 602-foot ship was launched on 31 July 1965 and commissioned at the Philadelphia Naval Shipyard on 6 August 1966, after which she moved to the West Coast and began operating out of her home port of San Diego, Calif. On 1 May 1967, after extensive training off the California coast, *Tripoli* departed for her first deployment to the Southeast Asian theater during the

Vietnam conflict, where she served as a member of the Seventh Fleet Ready Group and launched eight full-scale amphibious assaults. In addition to her role as a support ship, LPH 10 served as a medical base for the immediate evacuation and treatment of wounded personnel.

During the Vietnam War, as well as the years that followed, *Tripoli* was involved in numerous key evolutions, exercises and operations, constantly proving herself to be a versatile platform from which helicopters and, later, the AV-8 *Harrier* vertical/short takeoff and landing aircraft were launched and recovered. In 1973 *Tripoli* was the command ship in Operation End Sweep conducted in the waterways of North Vietnam. It marked the first time in history that helicopters were used in a mine countermeasures operation. In 1974 *Tripoli* became the first amphibious ship to carry a full squadron of *Harrier* jets.

On 1 December 1990 *Tripoli* deployed in support of Operations Desert Shield and Desert Storm. Arriving in the Persian Gulf in mid-January 1991, she began mine-clearance operations but struck a moored mine on the morning of 18 February. The mine blasted a 20-by-30-foot hole 15 feet below the ship’s waterline on her starboard bow. For 20 hours *Tripoli*’s crew controlled the damage while slowly moving the ship out of the minefield. Once clear, *Tripoli* anchored on station for five more days while continuing airborne mine countermeasures operations, making her the first U.S. Navy vessel since the Civil War to maintain combat operations after sustaining major mine damage. Afterwards, she transited to Bahrain, Saudi Arabia, and entered drydock for one month. Once the mine damage was repaired, *Tripoli* resumed duty and finished her Mediterranean cruise before returning

to San Diego on 8 August.

On 6 December 1992 *Tripoli* arrived on station off the coast of Somalia, serving as the flagship of the Amphibious Task Unit that spearheaded Operation Restore Hope. After initiating the premier invasion, *Tripoli* stayed on station until 3 February 1993 when she headed to the Arabian Gulf in support of Operation Southern Watch.

During her final Western Pacific/Indian Ocean deployment, which started in June 1994, *Tripoli* responded successfully to a wide variety of operational commitments. While operating off the eastern coast of Africa, LPH 10 provided logistics support to Operation Support Hope, the UN humanitarian relief effort to Rwandan refugees. Then, after a brief upkeep period, she returned to East African waters to assist in the relocation of the U.S. Liaison Office from Mogadishu, Somalia, to Nairobi, Kenya.

Later, while en route to the Persian Gulf for another upkeep period, *Tripoli* was diverted to the Kuwaiti coast after Iraqi troops began massing on the Kuwaiti border.

Returning from her final deployment in December 1994, *Tripoli* enjoyed a stand-down period before preparing for decommissioning. In April 1995 the ship made her last foreign port visit to Vancouver, British Columbia, hosting a record 43,000 visitors during her week-long stay.

During her 29-year history, *Tripoli* amassed numerous awards and citations, including two Combat Action Ribbons, four Navy Unit Commendations, two Battle “E” Awards and 16 Sea Service Deployment Ribbons. She sails into history as a distinguished battle veteran, never failing to live up to her motto *Semper Princeps*—Always First. ■

Information courtesy of Commander Naval Surface Force, U.S. Pacific Fleet, Public Affairs.

Watership Down

While on a training mission, an HH-46D *Sea Knight* crew heard a distress call involving a ship with five people on board. The disabled vessel was taking on water about 120 miles off the coast. The *Sea Knight* returned to base and hot refueled before proceeding to the scene. During refueling the left stubwing high fuel level shutoff valve malfunctioned. Refueling had to be terminated prior to topping off the extended range auxiliary tank. Thus, the helo launched with 3,700 pounds of fuel vice 4,100 pounds.

En route, the pilot set bingo fuel at 900 pounds per side. Upon arrival over the ship, the *Sea Knight* indicated 900 pounds per side and commenced rescue of the five survivors, who were waiting on deck wearing their flotation devices. The pilot and copilot recognized the fuel state going below the bingo mark, but they believed they

had sufficient fuel, plus they considered the survivors to be *in extremis* in the 10-foot seas.

The rescue swimmer was lowered into the water and retrieved one person via the rescue net. While recovering the second, the pilot noted 800 pounds of fuel per side remaining and decided to return to base. Three survivors remained on the ship as the helicopter departed with two survivors on board. The helo now had 700 pounds per side remaining.

When the fuel state reached 550 pounds per side, the crew jettisoned all excess gear. Subsequently, they shut down one engine to increase range. But it soon became apparent that the *Sea Knight* would have to ditch. With minimum fuel remaining, the pilot made a controlled water landing. The helicopter emergency flotation system was deployed and kept the aircraft afloat for 10 minutes, allowing egress of all hands before the helo sank.



Betcha glad
I came to save you!



A second helicopter collected the *Sea Knight* survivors, while a Coast Guard cutter retrieved the three remaining from the vessel in distress.



Grampaw Pettibone says:

Swallow me some seawater!

Like the runway behind you, gas that ain't in the tank is useless. These pilots set a bingo fuel point, then boldly went beyond it, which led to a saltwater swim for the five-man crew, plus two civilians plucked from the sea.

Gramps salutes the crew for going the extra mile to help folks in travail, and thankfully no lives were lost in this episode. But the *Sea Knight* went into the Deep Six when it really didn't have to.

Final Final

A CT-39 *Sabreliner* was en route to a northern naval air station (NAS) in winter. At its previous stop the aircraft landed with one inch of leading edge ice, requiring 59 gallons of glycol for removal. Weather at the destination was 1,200 feet overcast, 7 miles visibility. Icing was not mentioned, although two hours earlier a pilot reported rime icing to the tower and, personally, to the meteorology office.

The *Sabreliner* was cleared for an air surveillance radar (ASR) circling approach.

Some confusion existed between the NAS's tower and radar personnel, the latter consisting of the arrival controller/supervisor, final controller and a trainee. Uncertainty loomed as to the type of approach for which the *Sabreliner* was cleared. Exacerbating the situation, the arrival controller had a temporary radio problem, and the air traffic control center directed the *Sabreliner* to turn southeast and to descend to 2,000 feet.

Six miles northwest of the airfield the NAS's final controller asked the arrival controller for control of the *Sabreliner*. But the arrival controller elected to maintain control and advised the aircraft to expect an ASR approach to the south runway, followed by a circling turn to its reciprocal—the north runway—for landing.

At the five-mile point, the arrival

controller attempted to pass control to the final controller, but the final controller refused because the *Sabreliner* was beyond the approach gate. The arrival controller then asked the tower to allow the *Sabreliner*, in the clouds slightly above the base of the overcast, to cross the field at 2,000 feet.

The center, meanwhile, wanted to know why the *Sabreliner* was approaching a corridor leading to a runway at a nearby major civilian airport. After more confusion, the *Sabreliner* was vectored to the northeast and handed off to the final controller.

The *Sabreliner* was then turned toward the field. The pilot descended, broke out and reported the field in sight. He maneuvered southward, angling steeply in a righthand bank to align the aircraft with the north runway. The *Sabreliner* was now in an overshoot situation. The aircraft's wings momentarily leveled but immediately thereafter the *Sabreliner* rolled hard right, the nose pitched down and the plane crashed, killing all three personnel on board—pilot, copilot and aircrewman.



Grampaw Pettibone says:

Go! dang it! What could go wrong, went wrong!

The arrival controller panicked—and had been predisposed to do so, the investigators learned too late. Plus, the left engine failed just before impact DUE TO ICE INGESTION! The *Sabreliner* was in the cold clouds for 10 relentless minutes, allowing the fatal build-up. The pilots probably knew this but, for unknown reasons, did not report same or try to get out of icing conditions.

Gramps knows the flight crew was in a tough situation, but trying to salvage an unsafe approach when a waveoff was in order produced a catastrophe.

Plenty of blame to go around here. The arrival controller, for instance, was known to have difficulty in functioning with others. Yet, he was allowed to stay in his rating.

Bad show. Sad show.

NAS Key West Vigilance in Paradise

By JO2 Jerry Knaak

As you drive south along U.S. Route 1 through the Florida Keys, across Marathon and over Boca Chica, a billboard on the right-hand side reads, "Welcome to Paradise." About a mile further south along this picturesque American four-lane highway, which is dotted with boat slips, tiki huts and beach-combers of all shapes and sizes, you'll find another signpost which strikes you as odd: "Welcome, United States Military." You find it strange because during stages of your military career, your presence has been accepted, sometimes tolerated, but not always welcome. Ah, but you have just arrived in Key West, Fla., the southernmost city in the continental United States.

"That billboard is just a sign, empty words," you muse. But, fortunately, you are mistaken. The billboard is an indication of a unique, symbiotic relationship that transcends the differences that can divide the military from its surrounding community.

Key West is an island at the end of a chain running from the southern tip of Florida. With an average temperature of 77 degrees, it is a year-round tourist attraction. It is also a romantic getaway famous for its sunsets, and its nightlife is one of the most dynamic in the free world. But, what does it offer the military? How does the most unlimited airspace along the eastern seaboard and one of the most active search and rescue units in the world sound to you? That's impressive, but what else? How about the challenge



Naval Air Base, Key West was officially established in 1917. By 1918, the fledgling facility had become a major seaplane training center.

of living and working just 90 miles from one of the last bastions of communism left in the world? Perhaps an in-depth look at Naval Air Station (NAS), Key West will convince you that duty here has something for everyone.

History

Naval Air Base, Key West was commissioned in 1917 with a primary mission of supplying oil to the fleet during WW I. It was also paramount

in keeping the Germans away from Mexican oil supplies. Coast Guard Lieutenant Stanley Parker piloted a Curtiss N-9 seaplane safely off Trumbo Point on 22 September 1917, recording Naval Air Base, Key West's first flight. On 18 December the base was officially commissioned with Lt. Parker as its first commanding officer. Since those fateful three months, the Navy has maintained a presence in Key West off and on over the years.

The original base was established



Above: NAS Key West often plays host to the fleet's fighter and attack communities so that pilots and radar intercept officers can take advantage of the base's airspace and TACTS range. VF-84 sent a detachment to Key West in August, just a few months prior to the squadron's disestablishment. Bottom left: Various forms of wildlife can be found throughout the Florida Keys as evidenced by this blue heron wading in the water just off Key West. Bottom right: This concrete structure creates a unique photo opportunity for both tourists and photographers. Many people have their picture taken at this southernmost point in the continental United States.

JO2 Jerry Knaak



at the height of WW I as German submarines were terrorizing the shipping lanes off the east coast of Florida. To combat this threat and keep valuable oil supplies safe from the enemy, Headquarters, Seventh Naval District was established at the new base. Seaplane ramps, blimp hangars and assorted other facilities were built. In addition to antisubmarine patrol operations, Key West provided an ideal location for seaplane, submarine and airship training. In fact, 500 aviators were trained at the facility by the end of the First World War. After the war Naval Air Base, Key West all but ceased to exist. It was disestablished in 1919 and from 1920 to 1930 was hardly used at all, except for the seaplane ramps, which were still utilized for training purposes.

The outbreak of war has been known to resurrect many a military base, and Key West was no exception. As WW II began to ravage Europe, the need for a permanent base in the Florida Keys arose, and

the seaplane base was reestablished as Naval Air Station, Key West on 15 December 1940. A neutrality patrol squadron of destroyers and a PBV squadron were assigned to the air station as it began to grow and take shape. It became a vital base for operations and training for land- and sea-based aircraft as well as lighter-than-air craft. German submarine activity had begun to take its toll on



JO2 Jerry Knaak

Naval Air Station/Facility Series

John R. Leaman

Allied shipping. The elusive and silent killers sank 49 ships off the coast of Florida in May 1943. Antisubmarine efforts originating at NAS Key West and its satellite fields ultimately curtailed the threat and reduced Allied losses significantly.

At the end of WW II, the air station did not recede into oblivion as it almost did following the First World War. In March 1945 all of the satellite fields were consolidated into NAS Key West and the air station was used extensively as a training and experimental base.

NAS Key West's high state of readiness in the early 1960s gave the U.S. a foothold when Soviet nuclear missiles were detected just 90 miles away. The air station was instrumental in providing aerial reconnaissance, as well as support of the naval blockade during the Cuban Missile Crisis in 1962.

Since then, NAS Key West has evolved into an invaluable asset in air combat training and search and rescue operations. The air station, along with its four annexes, has become an integral part of the community and is one of the more interesting duty assignments in the Navy.

Geography

Key West itself is the last major island in the Florida Keys; it measures 1.5 by 4 miles and lies 93 miles north of Cuba. Five miles offshore, the last living coral reef in North America surrounds what is known as the "island city." This reef acts as a breakwater which reduces wave action that normally washes sand ashore. As a result Key West's two public beaches are composed of crushed marl—a mixture of clay, sand and shells—rather than pure sand.

The only overland route to Key West is U.S. Route 1, which is built on the road bed of what used to be the Florida East Coast Railway. Its 42 bridges span the meeting points between the Gulf of Mexico and the Atlantic Ocean, making the drive one of the most colorful and scenic trips you can take by car.

The naval air station is actually located on Boca Chica Key, approxi-



NAS Key West SAR is one of the most active in the world, recording 96 lives saved in 1994 alone. The unit flies the UH-3H Sea King, which continues to be a proven all-weather, day-night search and rescue platform.

mately six miles from Key West, and was literally built on a swamp. Runways and facilities exist there thanks to an immense dredging project when ground was broken for the base in 1917. The seaplane ramps on Trumbo Point constructed at that time are now ideal sea-fishing platforms for base residents.

Aside from Boca Chica, the rest of NAS Key West is divided into four annexes located in the very heart of the city of Key West. Each annex is unique and is indicative of the close integration of the military and civilian populations.

Operations

Whether you are in the military or not, most people can't help stopping along the street and craning their necks skyward to catch a glimpse of a Fighter Squadron (VF) 45 F/A-18 *Hornet* streaking across the sky, or to spot an NAS Key West Search and Rescue (SAR) UH-3H *Sea King* helicopter racing offshore to assist a boating accident victim. Whatever the case may be, the populace witnesses a veritable air show in the skies over Key West every day.

NAS Key West is the home of the

VF-45 fleet adversary squadron, which is one of the last of its kind. It is the only permanently based squadron aboard the air station. In conjunction with the base's Tactical Aircrew Combat Training System (TACTS), VF-45 and its F/A-18s simulate enemy aircraft during dissimilar air combat maneuvering missions against many of the fleet's fighter squadrons. Fighter squadrons regularly send detachments to Key West for this real-world training.

The TACTS range, similar to the one at NAS Fallon, Nev. (see *NA News*, Sep-Oct 1995), allows up to 36 aircraft to participate in actual dogfights and bombing runs without launching a single missile or firing one machine gun round. In addition to saving the Navy millions of dollars in ordnance, TACTS range computers and video displays capture the missions for both live viewing and video tape playback. This capability creates a virtual classroom that enhances the level of air combat training.

NAS Oceana, Va.-based VF-101, the F-14 fleet replacement squadron, maintains a permanent detachment of personnel and equipment in Key West in order to expedite aircrew training.



VF-101 established a permanent detachment in Key West in 1989. This F-4 Phantom static display pays tribute to the squadron's storied past.

Key West often plays host to both the F-14 *Tomcat* and F/A-18 *Hornet* communities. These squadrons send detachments, including aircrew, maintainers and aircraft, to the air station on a regular basis. These dets not only give the pilots and radar intercept officers the opportunity to fly against VF-45 and use the TACTS range, but they also tend to break up the monotony of day-to-day life wherever the

squadron personnel are based.

Flying at NAS Key West is unique because of the vast amount of unrestricted airspace available. Pilots have "all the room in the world" for air combat maneuvering, combat air patrols and intercept training missions. The scope of that flying is about to change, however, because of the Base Realignment and Closure Committee.

NAS Key West was selected for realignment, which means it will be downgraded to a naval air facility. According to Captain Linda V. Hutton, Commanding Officer, NAS Key West, the flying aspect of the base won't change as much as one might think. "We need to draw down. The number of people the base is losing is actually very small. We are losing our adversary squadron, VF-45, but that's a Navy-wide issue—all Navy adversary squadrons are being disestablished. We will continue to support the dets." Capt. Hutton compares Key West to another base touted for its airspace and TACTS range. "We will basically become like [NAS] Fallon. We'll be the two premier detachment sites."

In addition to providing a training ground for air-to-air combatants, NAS Key West maintains one of the most active search and rescue units in the world. It is also the southernmost SAR unit in the continental U.S. Key West's SAR teams flew a total of 29 missions and saved 96 lives in 1994, including 83 Cuban refugees fleeing Castro's communist tyranny aboard

just about anything that could float. The SAR unit has contended with missions involving civilian craft (including ocean liners) in good and bad weather, day and night.

NAS Key West SAR operates three UH-3H *Sea Kings*. No longer used by the active Navy for antisubmarine warfare and plane guard missions, the venerable UH-3H has proven worthy of its search and rescue role time and time again off the coast of the Florida Keys.

The air station also features an award-winning Aircraft Intermediate Maintenance Department (AIMD) that is responsible for supporting the station, aircraft and ground support equipment. AIMD, which earned its second consecutive NAS Key West Departmental Safety Award in 1994, maintains a 99-percent production efficiency rate and greatly assisted with VF-45's recent transition to the F/A-18 *Hornet*.

In addition to flying and maintaining aircraft, NAS Key West has a full-service air passenger terminal, which provides invaluable service to the large number of people who come and go during squadron detachments.

The base's air traffic control division not only directs aircraft for the naval air station but for Key West International Airport as well. It is also responsible for scheduling and controlling the offshore airspace used for air combat exercises, simulated bombing runs and other special military activities.

Facilities

One consistency about the Navy's presence in Key West is the neighborly way Navy people are treated in the community. The naval complex's geography seems to lend itself to this relationship, because you can't tell where the base ends and the community begins. The only indication of a military facility is a large sign on the shoulder of U.S. Route 1 on Boca Chica Key announcing, "U.S. Naval



John E. Laaman

NAS Key West SAR crew chief PR2 John A. Slezak prepares the hoist aboard one of the unit's three UH-3H *Sea Kings*.

Naval Air Station/Facility Series

Air Station, next right."

It's the annexes that make NAS Key West unique and typical at the same time. Each annex has military housing, a Navy Exchange (NEX) facility, and, of course, Navy people and their families living and working. But if you don't know where you're going, you'll drive right past the entrance because it blends in with its surroundings. Trumbo Point sits along Charterboat Row; Truman Annex lies along one of Key West's two public beaches; Peary Court, well, it's tough to spot (just like Waldo); and Sigsbee Park is easy to cruise right by.

Trumbo Point is the part of Key West that aviation detachments are most familiar with. After the plane ride from NAS Cecil Field, Fla., or NAS Oceana, this is where squadron personnel settle in, get their bearings and prepare for flight operations. NAS Key West offers a Combined Bachelors Quarters (CBQ) for detachments, visitors and military vacationers. The CBQ also maintains an outdoor Olympic-size swimming pool and a full-service restaurant. A unique feature of Trumbo Point is the U.S. Army Special Forces special warfare training group. This group trains operatives in water infiltration techniques and features the only decompression chamber for the treatment of diving injuries in the Florida Keys.

Truman Annex sports a beach available for military personnel and their families, and it is the home of Explosive Ordnance Disposal Unit 4, which locates and either disarms or disposes of any unexploded devices and provides ordnance recognition training for civilian authorities in and around the waters of Key West. Also located aboard Truman Annex is Joint Task Force 4, which combines all branches of the armed forces (in conjunction with U.S. Customs) to fight the war against the importing of illegal drugs into the United States.

Peary Court, the newest and most controversial in the quartet, contains the latest in military family housing. This annex, snugly located in the heart of the city of Key West, also maintains several indoor racquetball courts for residents to use. The con-

troversy began in January 1994 when Harry Powell, a local business owner and former Key West city commissioner, almost single-handedly prevented the construction of Peary Court. Powell barricaded himself in a construction trailer full of explosives and held authorities at bay for 10 hours before surrendering without incident.

Of the four annexes, Sigsbee Park would have to be the "downtown" of NAS Key West. Here you'll find a brand-new, state-of-the-art Navy Exchange department store, complete with florist, souvenir shop and typical NEX fare. Attached to the NEX is a new commissary, which is also of the latest design. Sigsbee is where most of the Navy families reside; both the Family Service Center and the NAS Key West housing office are located there. In addition to the homes and facilities, Sigsbee Park offers two key attractions for all Key West Navy people. For pleasure boaters there is a marina, complete with boat slips and tiki huts. The other hot spot is the Sunset Lounge, which offers outdoor dining with a panoramic view of Key West's fantastic sunsets.

Recreation

Any journalist would be remiss if he or she did not at least attempt to describe the recreation opportunities available for all military people and their families in and around Key West. The air station's Morale, Welfare and Recreation (MWR) Department maintains a gym aboard Boca Chica, which offers free weights and Nautilus equipment. Every intramural sport imaginable is available, from basketball to darts. MWR also sponsors trips to mainland Florida for professional sporting events, such as Florida Marlins baseball, Miami Dolphins football and Florida Panthers hockey. MWR manages the base club system as well, which offers everything from fast food to fine dining.

Although the list of things to do on base is staggering, leaving the base complex and exploring the world around it is also fascinating. Key West is surrounded by some of the bluest water on the face of the planet.

And at any given time of the day you can spot sailboats, jet skis, powerboats, water skiers and swimmers enjoying the warm, inviting water. Beneath the water, scuba divers and snorkelers witness breathtaking sights. The living coral reef breeds aquatic life of all shapes, sizes and amazing colors. The more industrious diver may engage a spiny lobster and take it home for dinner—when in season, of course. Sailing excursions leave various ports of call almost on the minute, scuba classes and gear are available all over the island and jet skis are a credit card number away.

If water sports are not your style, perhaps night spots are. Whatever your taste, Key West has it. Every type of gin palace—from stand-up Irish pubs to tiki bars serving tropical drinks with little umbrellas—is here. Not to be missed are some of the more famous watering holes, such as Jimmy Buffet's Margaritaville where you can get a "Cheeseburger in Paradise," the Hog's Breath Saloon where the slogan reads "hog's breath is better than no breath," and Sloppy Joe's, Ernest Hemingway's old haunt. Duvall Street offers a little bit of everything for everyone, and there are plenty of street hawkers along the way to tell you about it.

Maybe you prefer food. Who doesn't? If you were to peruse the Key West phone book, you would find that 80 percent of the listings are restaurants. Throughout Key West, you'll find every sort of eating establishment from corner hot dog stands



JOC Jerry Kraak

Truman Annex lies adjacent to one of Key West's two public beaches. Here, an NAS Key West resident basks in the ever-present sunshine while relaxing on the beach.

to "elegant" hamburger joints to fine French bistros.

It is along Duvall Street, Front Street and adjacent thoroughfares where you sense the togetherness of the military and civilian communities. There are no signs warning "No sailors or dogs allowed" and no shore patrol. In fact, you can't honestly pick a military person out of the crowd. In a poll taken in 1994, NAS Key West

John R. Leaman



The marina aboard Boca Chica provides boat slips and picnic areas for base residents to use year-round.

JO2 Jerry Knaak



sunset celebration, which takes place every day in Mallory Square. This ritual is indicative of the laid-back atmosphere in Key West and gives its populace one more excuse to party. Tourists, transients and long-time permanent residents gather each evening to gaze with wonder and excitement at the myriad street performers and to await the sun's blazing descent below the horizon. At one

You will find historic architecture throughout downtown Key West. The Audubon House is one of the many vintage buildings that is open to the public.

overall garnered an 86-percent approval rating from the residents of the island city.

The city of Key West is rich in history. For a small fee, you can take a ride on a tour train that cruises past the oldest buildings in the area while a tour guide tells tales of pirates, Spanish settlers and sunken treasure.

One of the most unique aspects of the island and its population is the

end of the waterfront, a Frenchman with two trained house cats dazzles and amuses an audience of all ages, while a tightrope walker juggles various objects at the other end. An escape artist and a sword swallower ply their trades in between, but each is respectful of the other, pausing momentarily in his act while the other attempts a death- or injury-defying feat.

When the sun finally sets behind these talented performers, the world stops, if only for an instant. The once blue sky is set ablaze with a spectrum of colors that would make Van Gogh or Da Vinci envious. Vivid reds, greens and yellows are splashed across the expanse of the horizon with an irreverence to pattern and symmetry. Somewhere, Mother Nature is smiling and holding a paintbrush as she puts a signature on another beautiful day in paradise.

But, despite the many advantages and recreational opportunities available, living in Key West has its drawbacks. It would be financial suicide for a military family to try to live on the economy. The only affordable housing is located two keys north, which presents a hefty commute. Prices for everyday items and groceries are expensive off base because everything is shipped in. A substantial amount of the real estate is a protected wildlife refuge, which leaves hardly any room for factories and farms. Tourism and fishing are the top industries.

Its foibles and faux pas notwithstanding, NAS Key West is a unique and interesting place to live and work. Whether you fly planes or fix them, control airspace or just exist in it, Boca Chica and its family of annexes can be a rewarding home for you and yours. Jimmy Buffet sang songs about it, Ernest Hemmingway wrote books about it, and Hollywood has used it as a backdrop for many feature films. As one local shopkeeper is fond of saying, "It's Key West. You gotta have an open mind." ■

For more information on the air station, contact the Public Affairs Office, NAS Key West, FL 33040-5000, DSN 483-2425 or 305-292-2425.

Key West Change of Command Breaks New Ground

By JO2 Jerry Knaak

It was a rainy, overcast morning aboard Naval Air Station (NAS), Key West, Fla., on Friday, 4 August. All of south Florida had just dodged a bullet named Hurricane Erin. The deadly storm played hopscotch with the lower section of the state before ripping through Pensacola and Mobile, Ala. Erin appeared to pay homage to what was taking place at NAS Key West by deliberately avoiding the island and turning northward. The hurricane did leave some residual effects, namely, an overnight drizzle which dampened the ground—but not the mood. Despite the weather, there was electricity in the air, a feeling of anticipation.

Approximately 200 people gathered in Fighter Squadron (VF) 45's hangar to witness a ceremony that has been played out thousands of times throughout naval history. NAS Key West personnel lined the back of the hangar in formation, while the other guests, including civic leaders, retirees and active duty, waited. There was a hush and then silence from the crowd.

At precisely 1000 the ceremony began with the arrival of the official party. After the posting of the colors by the NAS Key West Ceremonial Guard and the singing of the national anthem, outgoing NAS Key West Commanding Officer Captain Jay M. Munninghoff introduced the guest speaker, Rear Admiral John W. Craine, Jr., Commander Naval Shore Activities, Atlantic.

RAdm. Craine thanked Capt. Munninghoff for his contributions to Key West and welcomed Capt. Linda V. Hutton, who was about to become the first woman commanding officer of a naval air station in the history of the United States Navy. Capt. Hutton made brief remarks after the reading of the orders. She broke new ground for women in all branches of the armed forces when she uttered the words, "I relieve you, sir."

During the hectic week prior to the change of command ceremony, Capt. Hutton spent most of her time preparing for her biggest challenge to date, while ignoring the hype surrounding

her selection as Key West's next CO. In fact, she has always blazed a trail through the male-dominated world of Naval Aviation, disregarding chauvinism, cynicism and any other roadblocks along the way. She became the Navy's seventh female aviator in 1976 and in 1992 took over as the first female CO of an Atlantic Fleet carrier aviation squadron, Fleet Logistics Support Squadron (VRC) 40, NAS Norfolk, Va. Her career has been filled with "never done before" and many high-profile positions, but the 21-year Navy veteran has taken them all in stride.

"You work hard to do well at your job, learn as much as you can and prepare yourself for increasing levels of responsibility. You always hope someone will recognize that and select you. Because so few do get selected, it feels very special. Quite frankly, it's a tremendous opportunity and, I think, a tremendous honor," Capt. Hutton said.

As part of the vanguard of female Naval Aviators, Capt. Hutton's road to success has not always been paved with gold. "[My assignment to Fleet Air Reconnaissance Squadron (VQ) 2 flying the P-3 *Orion*] must have been a morale buster for some of the young officers. There was no training [on gender integration] for those gentlemen, and nobody gave them any guidance or ideas on how to deal with this leadership challenge. They did very well. I was made to feel welcome and I was given a lot of responsibility," she recalled. Capt. Hutton went on to say that most of her problems starting out with VQ-2 in 1976 were individual problems. "About 25 percent of the people in the Navy at the time hated the idea [of female aviators], another 25 percent thought it was neat, and the other 50 percent was undecided," she stated.

When you meet this California-born daughter of a Naval Aviator, you may not notice the Wings of Gold on her uniform, or the rows of ribbons, which include three Meritorious Service Medals. But you can't escape her eyes. Capt. Hutton's intense, piercing gaze opens a window to her



PH2(INAC) Dominick J. Haen

Capt. Hutton is piped aboard during her change of command ceremony in August.

soul. You can't help believing what she tells you. She projects honesty and integrity which carry over to her leadership abilities. "I like to think that I've tried to get people to believe in themselves and to reach higher than they think they can go," Hutton said.

After her initial tour with VQ-2, Capt. Hutton spent one more hitch in the P-3 community, this time with Oceanographic Development Squadron 8. She then went on to a two-year tour as an aviation assignments officer in Washington, D.C. "Any tour in Washington is one of the best deals going. The Navy is not just Naval Aviation. A D.C. tour really opens your eyes. You realize that your community is not the center of the universe, as we sometimes think. It gives you a better understanding of why things happen the way they do. If I had to pick a single tour in my career that's had the biggest impact, it would be my time as a detailer," she stated.

In 1982 Capt. Hutton changed aircraft platforms and flew C-1A *Trader* carrier onboard delivery aircraft for VRC-40. After graduating from the Armed Forces Staff College in 1986, she served as the flag lieutenant for the Commander in Chief, U.S. Atlantic Fleet, gaining invaluable flag-level exposure. Hutton was then selected for commander, two years early, and returned to VRC-40 (then operating the C-2A *Greyhound*) as the maintenance officer.

The Florida State graduate went on to an assignment with the 1990 Navy Women's Study Group in Washington before returning to VRC-40 for a third tour with the *Rawhides*,

A STRONG NAVY GUARANTEES PEACE





NAVY DAY

October 27, 1945

1996

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Naval Aviation News Art Director Charles C. Cooney designed this calendar using WW II artwork celebrating the war's end.
Note that then, as now, Naval Aviation was the "backbone" of the fleet.

this time as the executive officer. She assumed command of the squadron in September 1992, leading VRC-40 to a CNO Aviation Safety Award. VRC-40 also became the first C-2A squadron to deploy a permanent detachment with every deploying carrier battle group. Hutton spearheaded efforts to incorporate the *Greyhound* in Navy tactical planning as a long-range special warfare combat insertion platform.



PH2(NAC) Dominick J. Haen

Capt. Linda V. Hutton

Capt. Hutton began her flying career when women were just beginning to scratch the tarmac of modern Naval Aviation. During the past two decades, women aviators have not only increased in number, but they have also ventured into new territory with the recent repealing of the combat exclusion law. Women now fly F-14 *Tomcats*, EA-6B *Prowlers* and other tactical jet aircraft.

The pundits have argued that these women were pushed through jet training too fast and weren't ready for the demands of carrier aviation. All eyes were on Lieutenant Kara S. Hultgreen, both when she became the first woman to carrier qualify in the F-14 and when she died trying to land aboard *Abraham Lincoln* (CVN 72) during VF-213 flight operations in October 1994. Capt. Hutton, who has amassed over 385 carrier landings and has nearly 4,000 flight hours, offered her perspective.

"I think Kara was certainly qualified. She had the grades coming out of flight school. She had a reputation as a good pilot. Also, landing signal officers take their responsibilities very seriously. They will not take someone to the ship if they do not think they can qualify. Kara's death is a tragedy.

All Naval Aviators' deaths are tragedies. We're embarrassed to think that somebody or a group of somebody would denigrate a pilot's performance for whatever reason, whether it's the first black, Hispanic or woman to do something. If you're a mother who just lost a child, that tears your world apart. Then, when you hear something like that, it's so cruel."

Capt. Hutton added, "We didn't want to push a bunch of young women right out of flight school into [the fighter and attack] communities, alone. We tried to get other qualified women aviators to cross over into these communities. To say that we're pushing them when they went through the same [fleet replacement squadron] syllabus as everybody else, I think it's smoke in the wind."

After command of VRC-40, Hutton served as Air Operations Officer aboard *Mount Whitney* (LCC 20) as part of the staff of Commander Second Fleet. Once again, she gained key flag-level command insight, which would ultimately propel her toward her current assignment as skipper of NAS Key West.

Capt. Hutton, who calls Florida home, admits that leading Key West through the next two years will be a tough challenge. "We're going to see a greater interaction with the civilian community. We want to make sure the people of our country know what's going on. It will no longer be 'that fortress Key West' where the Navy is hidden behind a fence and no one knows what *those people back there are doing*," she said.

On a broader scale, Capt. Hutton sees women in the Navy accomplishing even more and views the Navy as a front-runner in the treatment of women in the work place. "Aside from submarines and special warfare, the opportunities for young women are unlimited for both officer and enlisted personnel. Someday, it'll become so routine that nobody will notice whose voice comes over the radio or who's flying the airplane or driving the ship. People will be promoted not because of their sex or ethnicity, but because of their ability. Women bring valuable tools to the table. We problem solve a little bit differently than men. As a leader, I want as many inputs to the answer as possible. Our goal is still to defeat whatever enemy our country identifies, and to do it as swiftly and efficiently as possible. If we can pick

the best combination of options, that's going to win wars. The Navy has also led the way—even in the civilian community—from zero tolerance of drug use to sexual harassment. I'm proud to belong to an organization that is in the forefront of not only women's issues but social issues."

Throughout her naval career, Hutton has helped lead the way for women in the Navy, blazing trails through uncharted territory and earning recognition, praise and respect from her peers. As more and more women take their place alongside men in Naval Aviation, Capt. Hutton now turns to lead NAS Key West.

"I am going to dedicate the next two years of my life trying to prove that I am worthy of [this command] selection," she said.

There are many differences between command of a squadron and command of a naval air station. Hutton recognizes those differences and is prepared to deal with situations unique to NAS Key West. "It is like running a 7-Eleven franchise, then becoming [chief executive officer] of Wal-Mart," she quipped. "There are so many things you have only briefly touched on as a squadron CO that become major issues for the commanding officer of a naval air station. You rarely have the opportunity to work with civilians, and now you have to work with the Human Resources Office and learn about hiring and firing practices and time-off issues. Disaster preparedness is another issue you can't just walk away from. You can't just say, 'Oh look, a hurricane is coming,' button up your hangar and fly your airplanes away. Suddenly, you're the one who's responsible for that hangar. You also have to deal with evacuation procedures. Family housing and other quality-of-life issues are major concerns. There is a big difference, but it's a lot of fun. It's the ultimate challenge."

Capt. Hutton is a consummate professional who "believes in the system." She has worked hard to achieve her success and will now focus on learning the intricacies of commanding a large shore establishment. With her impressive background, accomplishments and obvious leadership qualities, Capt. Hutton should find herself right at home aboard NAS Key West. ■



The Ghost of Midway

By Wendy Karppi

Ripples spread through the frigid water as the metal form began to break the surface; as more of the object cleared the water, it became recognizable as a WW II aircraft. The group that had gathered to watch the salvage of the aircraft had just witnessed the resurrection of a war hero—a Douglas SBD-2 *Dauntless* scout bomber.

The *Dauntless*, identified as BuNo 2106, was discovered at the bottom of Lake Michigan in October 1993 and was recovered by the National Museum of Naval Aviation, Pensacola, Fla., in January 1994. As the only existing recovered SBD-2, the find was remarkable enough, but research showed that this specific plane had had a particularly notable career. Early in its service life, BuNo 2106 survived the attack on Pearl Harbor in December 1941. Less than a year later, it fought in and survived the Battle of Midway (4–6 June 1942), considered to be one of the most significant engagements of the war. After the battle damage it suffered was repaired (its airframe sustained 219 holes), the *Dauntless* was sent to NAS Glenview, Ill., to be used as a trainer. There, a training accident in June 1943 sent it to the bottom of Lake Michigan, where it would remain for 50 years. (For a more extensive history of BuNo 2106, see *NANews*,

Jul–Aug 94, p. 24.)

The significance of the discovery of BuNo 2106 cannot be overestimated. The *Dauntless* is the only Navy aircraft in existence that survived the attack on Pearl Harbor. Before it was recovered, “the only surviving evidence of any aircraft which participated in the Battle of Midway was thought to be a small portion of one of

The *Dauntless*' rear gun mount and instrument panel show very little deterioration after years of immersion.



Preserving History from the Deep

The Naval Historical Center's underwater archaeology program was created in 1993 to provide a central clearinghouse for inquiries about submerged Navy vessels and to oversee the disposition of Navy wrecks. The program allows the Navy to preserve pieces of its history, while addressing such complex issues as how to manage war graves, unexploded ordnance and recovered weapons systems.

Although submerged Navy ships and aircraft may appear to be fair game for salvors, all such vessels

remain government property until specific action is taken to dispose of them. Some wrecks are better preserved by remaining submerged until a comprehensive recovery plan can be implemented; in other cases, a ship or aircraft may be too damaged to survive a salvage attempt and should be left alone. *All salvage requests must be approved in writing by the center's underwater archaeologist, who will consider all of these issues to determine the feasibility of salvaging a wreck.* In general, salvage will only be approved for scien-



Opposite page, top, the veteran of the Battle of Midway sees the light of day for the first time in 50 years. Above, the remarkably intact *Dauntless* is carefully lowered onto a flatbed for transport to Florida.



The marine growth has been brushed away to reveal an inscription of the plane's heritage.



Torpedo Squadron 6's TBD *Devastators*," according to the Naval Historical Center's case study of the plane's recovery. Recovered in remarkable condition, thanks in part to the aircraft's upright settling on the lakebed, the *Dauntless* will be studied and conserved. Once restored, the aircraft will be on display at the National Museum of Naval Aviation.

The sinking of the plane may have been a blessing in disguise. During the SBD's heyday, an aircraft was generally scrapped once its service

life expired. Chances are that serving as a trainer would have been BuNo 2106's last duty, and had it continued without incident it would have been destroyed thereafter. Instead, this *Dauntless* became a time capsule, joining the ranks of venerable Navy aircraft that have been resurrected to serve as "living" pieces of history for a new generation. ■

tific or educational purposes.

Sport divers may dive on Navy wrecks at their own risk. However, removal of property from a wreck is illegal; divers witnessing theft of items from a Navy wreck are encouraged to report it to the Naval Historical Center, the Coast Guard or their state's historic preservation officer. In addition, anyone discovering a wreck is encouraged to report its location to the Naval Historical Center so that its location may be properly documented in a database of ship and aircraft wrecks.

By monitoring salvage efforts and documenting locations of Navy

wrecks, the underwater archaeology program protects our finite cultural resources and helps ensure that artifacts from our past are well cared for in the future.

For a copy of the brochure "Sunken Naval Vessels & Naval Aircraft Wreck Sites," which outlines the Navy's policy regarding custody and management of wrecks, or for more information about the program, contact: Underwater Archaeologist, Naval Historical Center, Building 57 Washington Navy Yard, 901 M Street SE, Washington, DC 20374-5060; phone (202) 433-7229/7230, fax (202) 433-3593. ■



The *Dauntless* begins its long journey toward restoration.

Photos courtesy of the National Museum of Naval Aviation.

In the Wake of

By Hal Andrews

This article completes the Naval Aviation in WW II Series, which began in our Sep-Oct 89 issue.

On 14 August, WW II's fighting stopped. Planes launched on combat missions against Japan were recalled, though pilots already engaged fought through their last combat actions. Combat air patrols maintained by Task Force 38 would also claim a few more enemy planes as individual Japanese pilots made last runs against the fleet. But

for the task force, as for the rest of the world, the long and hard-fought war had come to an end. Build-up of the greatest amphibious force ever to be assembled—to conduct Operation Olympic—could stop. No invasion of Japan's home islands would be necessary.

In ships of the fleet, on island bases and wherever Allied soldiers, sailors and marines were located, as the word was passed celebrations were the order of the day. Whether exuberant or quiet, each individual's reaction reflected the fact that a whole new future lay ahead. Back in the States, it was as if the whole country were participating as one in

the jubilation. While a few dramatic incidents got media attention, for the most part it was a simple outpouring of relief, thanksgiving and joy that the war was finally over.

While preparations for the occupation of Japan and the actual signing of the surrender documents went forward, it was almost impossible to believe that the patterns of life which evolved over nearly four years were about to change dramatically. Military or civilian, there was a general feeling that "everything could go back to the way it was." However, at the same time, there was a realization that with the years which had passed and the events of those years—from the



Victory

smallest and most personal to the advent of the atomic bomb—the past could only be memories.

Today, the magnitude of the assembled Allied forces is hard to envision. Total Naval Aviation, from which the Pacific forces were drawn, numbered nearly 440,000—almost 100,000 of whom were officers, including 60,000 pilots. Less than 500 enlisted pilots still maintained that long-time tradition. Of the 440,000, 110,000 were Marines and 1,500 were Coast Guard, which was part of the Navy during wartime. These personnel operated a total of 41,000 airplanes, 28,000 of which were combat aircraft—10,000 in the Pacific Fleet. Twenty-six fast carriers and 64 escort

carriers were available to carry Navy and some Marine carrier-based squadrons into battle.

Task Force 38, operating against Japan on the last day of the war, was only one component of the total naval forces; surface forces, submarines, fleet air wing patrol planes and Marine bombers all played a part. The task force's nine regular carriers, each with its air group; six light carriers with their aircraft; and an integrated British Royal Navy carrier and air group comprised the most concentrated naval thrust, but only a part of the total Allied fighting force.

Transitioning to Peacetime

Fleet and shore activities at home

and in the war zone quickly shifted to new modes. Some—like the organization of separation centers, training of personnel to man them and the actual demobilization process—had long been planned and already been initiated. Others—like the occupation of Japan, the freeing and repatriation of prisoners of war (POWs) held by the Japanese, and the surrendering process for the military garrisons in Japan's occupied countries—were quickly planned and put into action, as were the preparations for the formal surrender itself. Recovery of POWs began almost immediately,

Fleet Admiral C. W. Nimitz, Commander in Chief, Pacific Fleet, arrives in his PB2Y in Tokyo Bay for surrender ceremonies on 29 August 1945. The surrender ceremony was held aboard the battleship Missouri (BB 63), seen here in the background, on 2 September 1945.

USN 338129



Naval Aviation in WW II

with as many as possible flown directly to Guam. Both Army and Navy planes dropped food and other necessities to POW camps that couldn't yet be taken over.

The 2nd of September saw the formal surrender documents signed on board *Missouri* (BB 63) with a tremendous flyover of Navy and Army aircraft. By this time the flow of combat equipment into the Pacific theater had been reversed, but the issue of how to get the military personnel home remained. Available war shipping could not do the job for the veterans anxious to resume their civilian lives.

While carriers heading back could accommodate large numbers of sailors if aircraft were left behind, a more direct project was established to expedite the overall troop return—Project Magic Carpet. Combat ships were modified to accommodate maximum numbers of military passengers and to shuttle back and forth. With troops still to be returned from Europe as well, these could be used for both Atlantic and Pacific transport. With their extensive hangar spaces, carriers and seaplane tenders were particularly effective. As an example, the seaplane tender *Albatross* (AV 5)

F4U Corsairs, TBM Avengers and SB2C Helldivers fly in formation over *Missouri* (BB 63) during Japanese surrender ceremonies in Tokyo Bay on 2 September 1945.

80-G-472630



had multi-stacked bunks in its hangar bay, with other spaces converted to heads and mess facilities. Carrying 2,000 passengers on each trip, *Albatross* returned 6,000 military personnel to the West Coast during the fall months. Some of the newer escort carriers (CVEs) assigned to Magic Carpet duty never did get to operate aircraft, since most of the CVEs were rapidly tied up in reserve status.

As U.S. bases throughout the war

zone were relinquished, military material was processed for retention, destruction or release for local use. Combat aircraft in at least one case were simply pushed off a cliff into the sea as the Navy pulled back from its far-flung bases. Marine squadrons accompanied the Marine ground

As more and more combat planes went into storage, blimp hangars were used to house them. This one at Weeksville, N.C., was still being used for lighter-than-air activities when it burned to the ground in early August 1995. NH 84328





Veterans were anxious to get home. One sailor's fanciful suggestion was to use a cardboard box stocked with food for the trip.

forces deployed in China as the rising conflict between Nationalist and Communist factions flared into civil war. Seventh Fleet escort carrier-based aircraft, as well as river-based patrol flying boats where airfields were not available, also covered activities in China. While the U.S. supported the Nationalist side, military forces were restrained from directly participating in a combat role.

Within the U.S., disestablishments became the order of the day for units and bases other than the separation centers. The Carrier Qualification Training Unit at Glenview, Ill., was one of the first to go, followed by decommissioning of the two Great Lakes training carriers, *Wolverine* and

Sable, ending a unique chapter in Naval Aviation history. Throughout the country, air stations were closed and turned over for civilian use—particularly the smaller NAAS and NAAF auxiliary stations and fields—as well as outlying training “bounce” fields. Officer and enlisted personnel were released according to a common system for all services, taking into account length of service, extent of combat duty and other factors. Programs to convert reservists to regular service were established, and pilot and other specialized training continued on a reduced scale as operational organization and training activities re-formed at peacetime lev-

Bougainville (CVE 100) crewmen celebrate after hearing the announcement of Japan's surrender on 14 August 1945.

80-G-377111



Naval Aviation in WW II

els. On the East Coast, training for the two battle carrier air groups to operate from *Midway* (CVB 41) and *Franklin D. Roosevelt* (CVB 42) was a priority activity in preparation for shakedown cruises on both ships after their commissionings.

In November the training command was reorganized. Among the four subordinate commands was a new Naval Air Reserve Training Command. The new command moved rapidly to organize and initiate the postwar reserve program, which was designed to maintain wartime skills for a peacetime reserve force using specially maintained bases or operating at major air stations.

Production and Advanced Technology

With production of everything needed for the planned invasion of Japan continuing at its peak rate, contracting offices worked overtime getting out stop-work and contract termination orders. Following an overall government policy, contractors and their subcontractors for all military hardware stopped work, and production workers were given time off while decisions were reached on "what next?"

Since there were adequate numbers of most major aircraft models in inventory for peacetime use, their production lines never resumed. Workers returned to finish airplanes being readied for delivery and to assess the assemblies and parts coming down the lines for retention as spares or for salvage; this was followed by scrapping most of the tooling. Automobile companies—such as General Motors with *Avengers* and *Wildcats* in production and *Bearcat* production starting up—were more than eager to fully return to their regular products, as were appliance manufacturers, many of whom were major airframe component suppliers. Having initiated engineering work for commercial models, most of the aircraft companies were anxious to move these efforts along to beat the competition into the anticipated new air age.

Carefully selecting the models, the Bureau of Aeronautics (BUAER) continued limited production of ongoing and newly developed models.



Midway (CVB 41) was commissioned in September 1945.

NH 67571

Included were advanced production models of existing types, such as Vought's F4U-4 *Corsairs*, and new types such as Grumman F8F *Bearcats*. With planned transition to new models then under development—such as the single-place VBT (later to be redesignated VA) attack types—production of current models was dropped. The SB2C, TBM and even the new TBY were closed out. Even though production of a new model under development was anticipated, low-level production of an existing model was continued in some cases to maintain the production base—regardless of adequacy of the existing model. And production schedules, both in number and timing, were adjusted to fit the development projects' status. While most production was being cut back, McDonnell Aircraft—with a production contract for its first *Phantom*, the FD-1 (later FH-1) jet fighter—moved into the former Curtiss-Wright St. Louis, Mo., plant, left vacant in July as production of Curtiss C-46/R5C transports was cut back after V-E Day.

Carrier construction was also adjusted. Two of the three battle carriers underway were completed and commissioned, *Midway* at the Norfolk, Va., Navy Yard in September and *Franklin D. Roosevelt* at Brooklyn, N.Y., a month later. Completion of the

third, and of the incomplete *Essex*-class carriers, was rescheduled for later dates.

Experimental aircraft programs were reviewed and most were continued to completion. Flight testing of prototypes, at low priority, was continued to assess the potential contribution of their design features to future designs. Prototype development and production build-up for planned replacement models already in flight testing—such as the McDonnell XFD-1



Under the guidance of plane directors, pilots aboard *Midway* (CVB 41) move their planes forward to make room for others.



After the war, Naval Aviation maintenance training was consolidated at several facilities. AMM1 Elmer Ball instructs mechanics in the use of a micrometer at NAS Seattle, Wash.

80-G-233271



The Navy seaplane base at Okinawa was devastated by a typhoon on 9 October 1945. The storm's 135-knot winds tossed aircraft about and destroyed several buildings.

jet fighter, Douglas XBT2D-1 (later AD and A-1), XBTM-1 (AM) and XP2V (later P-2)—were given higher priority. While production of the composite (piston and jet)-engined FR-1 *Fireball* was terminated, development of the XF2R-1 (similar but with its R-1820 Cyclone replaced by a GE TG-100 turboprop) was continued in support of planned production development of a similar F2R-2 turboprop plus jet fighter. While a flight test accident destroyed the first of the three XFD-1s in November, the second was already flying and the program continued with only limited delay.

Behind the scenes many ongoing and new projects aimed at enhancing

the performance of new technical advances were pursued. Both to bring Pratt & Whitney into jet engine production and out of concern for Westinghouse's ability to meet production schedules of the 19XB engine for FD-1 *Phantoms*—while developing the 24C of nearly twice the power for newer jet fighters then being designed—Pratt & Whitney became coproducer of the 19XB. The application of the high-powered airborne early warning radar successfully operated by the fleet in carrier-based TBM-3Ws to a true airborne combat information center system in Boeing B-17s modified as radome-fitted PB-

The radio-radar compartment of the PB-1W, a modified B-17G, contains the AN/APS-20 radar, radios and other communications equipment.



Boeing B-17Gs were obtained from the Army Air Corps and modified at the Naval Air Modification Unit, Johnsville, Pa. (now NAWCAD Warminster), with a belly radome for the powerful APS-20 radar and an Airborne Combat Information Center.

Jim Sullivan



Navy wartime aircraft attracted public attention when put on display around the country.

1Ws, under Project CADILLAC, was a major step on the way to today's AWACS (Airborne Warning And Control System). Exploration of space rockets and development of rocket motors, one of which would later power the Air Force's Bell X-1 through the sound barrier, and joint development of the initially jet engine-powered Douglas D-558 series of high-speed research aircraft with the National Advisory Committee for





Navy personnel pose on top of an all-white Mitsubishi G4M "Betty" with the green cross markings that it carried when transporting the Japanese delegation to the surrender signing. 80-G-344085



Aeronautics (predecessor of today's National Aeronautics and Space Administration) were among the innovative concepts and approaches that could enhance future fleet combat effectiveness. Wartime experiments were also continued with pilotless aircraft—really guided weapons—of many types.

Five-decker bunks filled the hangar and wing storage bays of Albermarle (AV 5) during "Magic Carpet" troop transport.

Typical of smaller bases being disestablished in late 1945, NAAS Pungo, Va., was an auxiliary for CVE squadron training at Norfolk.



The Year Ends

As 1945 wound down, Naval Aviation had gone through some major transitions. There was little question that wartime experience had demonstrated aviation's new importance in the Navy, but not all of the postwar signs were positive. Though typical throughout the military services, the near decimation of fleet aviation was a cause for concern. Since V-J Day, Naval Aviation's total combat aircraft had decreased by one-third, to 19,000. A better indicator of operating force decline was the decrease in operating combat aircraft to one-half of the final wartime number, and of these the number in the fleet was down to one-quarter of the V-J Day total. More than half of the carrier air groups and all of the light carrier air groups had been disestablished. Of those flying from Task Force 38's fast carrier groups on the last day of the war, only one was still active.

More unsettling to Naval Aviation personnel directly was the upsurge in proposals for unification of the military services—seen as a new bid for the Army Air Forces to become independent and take over military aviation. In mid-December an interpretation of remarks by President Harry Truman led to a directive that Navy officers could not speak out on the subject in public. The president himself stepped



Saratoga (CV 3) waits at Pearl Harbor, Hawaii, on 10 September 1945, ready to begin a speed run to the Golden Gate with naval personnel due for discharge. Many aircraft and escort carriers were used to ferry discharges during the famed "Magic Carpet Ride." 80-G-351876

in to correct the interpretation, and the directive was rescinded at the end of the month—passing on his statement that views were to be understood as personal and didn't necessarily reflect those of the administration.

On the plus side, the opening of the Aviation Fundamentals Ground School under Naval Air Technical Training Center, Jacksonville, Fla., indicated that new blood was entering enlisted ranks. Twelve weeks of generalized aviation instruction would give boot camp graduates seeking aviation duty a head start.

Two last-day-of-the-year actions closed out wartime chapters. The Coast Guard was transferred back to the Treasury Department and the Radiation Laboratory run by the Massachusetts Institute of Technology, which had led the way on many radar advances, was closed down. With continued Navy interest in high-powered airborne radar, the CADILLAC Project and personnel were re-formed as the Naval Research Laboratory Field Station to continue CADILLAC II.

A New Year

As calendars were turned to 1946, much of Naval Aviation's readjustment had taken place. Most of the veterans who would be released from service were back in the States, and Magic Carpet's job was essentially over. The carriers and seaplane tenders could be returned to their primary combat configurations; many—including most of the CVEs and the famed "Big E," the prewar *Enterprise* (CV 6)—would be tied up and readied for mothballing in the Reserve Fleet. Regular Navy and lower point reservists were integrated into operating units, and typical wartime troop trainloads moved from West Coast to East Coast air stations to balance available manpower. New recruits on flight lines and in training command classrooms became more numerous. Planning was being conducted for fleet operations later in the year. These would include February's Operation Frostbite for cold weather tests above the Arctic Circle, during which both wartime and the latest car-

01 Nov: The Naval Air Training Command was reorganized with headquarters at NAS Pensacola, Fla., and the following subordinate commands: Naval Air Advanced Training, Naval Air Basic Training, Naval Air Technical Training and newly formed Naval Air Reserve Training. By this change, the titles Naval Air Operational Training and Naval Air Intermediate Training ceased to exist,

and the facilities of the former Naval Air Primary Training Command were incorporated into basic training or absorbed by the reserve program.

and the facilities of the former Naval Air Primary Training Command were incorporated into basic training or absorbed by the reserve program.

29 Nov: The Special Weapons Test and Tactical Evaluation Unit was redesignated Pilotless Aircraft Unit and in the next month was transferred to MCAS Mojave, Calif., and directed to operate detachments at NAF Point Mugu, Calif., as necessary.

rier aircraft, along with a helicopter, would operate from *Midway*. Far more ambitious, and significant, would be the summer's Operation Crossroads, testing the atomic bomb's effects on naval targets at Bikini Atoll.

Reorganizations continued. Navy photography was transferred from BUAER to the Deputy Chief of Naval Operations (Air). BUAER organized its material functions into two groups, recognizing the increasingly complex technical issues in research and development and the need to stretch reduced resources to the fullest in support of the fleet's aviation material. Fleet air wings and other units would continue to be disestablished, while smaller air stations would be turned over to civilian use. On the other hand, looking ahead, the Naval Aviation Ordnance Test Station was established at NAAS Chincoteague, Va., and the Bureau of Ordnance's guided weapons work was transferred there, taking advantage of its out-of-the-way location and available sea ranges. Long transferred from the Navy, it is still recognized today as a prime location for space probes and small satellite launches.

Flight testing of McDonnell's XFD-1 Phantom continued in support of the Navy's first jet fighter production order.

Other events in the early weeks of 1946 would include the Chief of Naval Operation's rationalization of diverse Navy guided weapons projects; a BUAER proposal to establish a joint Army-Navy program for an earth satellite; the first flight of a twin-engine helicopter, the Navy's McDonnell XHJD-1; the assignment of some 50 radar officers to Patrol Bomber Squadron 101 to become airborne combat information center officers in the new squadron's CADILLAC II Boeing PB-1Ws; and BUAER's award of a contract to Douglas for the Navy's first jet night fighter. All portended a dynamic future for Naval Aviation. ■

This PBM-5 rests at NAS Alameda, Calif., after it was flown back from a war zone carrying "high-point" crewmen and graffiti rendered by envious squadron-mates left behind.

P. M. Bowers.



Awards

People of the Year

NAVAIRES Norfolk: Deborah Johnson—**Civilian**.

VP-11: Lt. Bob Clark—**Navy League Junior Officer**.

VP-30: AW1 Timothy Lair—**Sailor**.

NATTC Millington, Tenn., Aviation Machinist's Mate instructor Sgt. Ryland E. Matthews was selected as the **Walter K. Singleton Detachment of the Marine Corps League's Marine of the Year**.

VT-86 earned the **Vice Admiral John H. Towers Flight Safety Award** after recording over 226,000 Class A mishap-free flight hours.

Sgt. Kenneth M. Twiddy, a UH-1N "Huey" crew chief with the 15th Marine Expeditionary Force, earned the **Navy-Marine Corps Medal** for saving the life of a fellow Marine aboard *Cleveland* (LPD 7).

CVW-5 named VFA-192 **Top Hook** for 1995. The award signifies the air wing squadron with the highest carrier arrested landing grade average.

Major Paul F. Lease, 1st MAW Aviation Logistics Support Element, earned the **Captain Virg Lemmon Award** for Naval Aviation maintenance excellence.

George Washington (CVN 73) received the **Marjorie Sterret Battleship Award** for excellence in battle readiness.

Shawn Bartow, a McDonnell

Douglas employee at NAS Kingsville, Texas, received the **Teammate of Distinction Certificate** for discovering a potentially life-threatening problem with a T-45A *Goshawk* jet trainer. During a turnaround inspection, Bartow noticed that the aft fuselage temperature was abnormally hot. A hole had burned through an engine bleed line and was discharging high-temperature engine air into the aft fuselage.

VQ-5 received the **Association of Old Crows Outstanding Navy Unit Award** for its exceptional achievements and contributions to electronic warfare and related fields.

Special Records

Cdr. Richard C. Bedford, CO, VF-41, recorded his 1,000th carrier arrested landing, aboard *Theodore Roosevelt* (CVN 71).

VT-22's **Lt. Chuck Hagan** (instructor) and **Ens. Kyle Turco** (student) flew aircraft side number 222 on its 1,000th mission, making the aircraft the first T-45 *Goshawk* to achieve this milestone.

Lt. Gordon Bledsoe, NAS Kingsville, Texas, became the first instructor to log 1,000 hours flying the T-45.

VAW-117 CO **Cdr. D. T. Keuhlen** logged his 5,000th career flight hour in the E-2C *Hawkeye*.

The following members of **VFA-22** earned their "Double Centurion" patch



Top: An HS-3 HH-60G Seahawk flies alongside Theodore Roosevelt (CVN 71). Above: Members of VS-31 posed for this photo to celebrate 25 years of mishap-free flying.

signifying 200 traps aboard *Abraham Lincoln* (CVN 72): Cdrs. Dave Wood and Wade Tallman; and Lts. Tony Yoder, Carl Zeak, Bob Lawrence, Bill Miller and Ron Budde. These VFA-22 pilots earned the "Centurion" patch for 100 carrier arrested landings: LCdrs. Mike White and Bill Braker; and Lts. Pam Carel, Greg Harris, Rod Tishner, Chris Hartshorn and Tim Clesen.

VA-34 Cdrs. **Charles A. Hautau** and **David H. Buss** achieved 3,000 A-6E *Intruder* flight hours. LCdrs. **Wayne Grumney** and **Tim Carr** each recorded their 2,000th A-6E flight hour.

The Marine Corps Aviation Association named its 1995 unit and individual award winners:

Unit

Aerial Refueler Transport Squadron—**VMGR-252**
 Heavy Helicopter Squadron—**HMH-361**
 Medium Helicopter Squadron—**HMM-365**
 Light Attack Helicopter Squadron—**HMLA-269**
 Marine Aviation Logistics Squadron—**MALS-14**
 Marine Wing Support Squadron—**MWSS-172**
 Marine Air Command and Control Unit—**MWCS-18**
 Commandant's Aviation Trophy—**VMGR-252**
 Exceptional Achievement—**MAWTS-1**
 4th MAW Safety Award—**HMM-764**

Individual

Aviator—**Lt. Col. Wallace G. Duncan, Jr.**
 Marine Naval Flight Officer—**Lt. Col. Jeffrey A. White**

Marine Aviation Ground Officer—**Maj. Byron F. Stebbins**

Aviation Command and Control Officer—**Capt. Rodney D. Burnett**

Silver Hawk—**Lt. Gen. Harold W. Biot**

Enlisted Aircrew—**Sgt. Kenneth W. Jourdon**

Aviation Maintenance Marine—**SSgt. Paul D. Kogut**

Aviation Supply Marine—**GySgt. Robert E. Soto**

Avionics Marine—**GySgt. James T. Baker**

Aviation Ordnance Marine—**SSgt. Gary L. Glisan**

Aviation Command and Control Marine—**SSgt. Dean L. Jones**

Aviation Ground Marine—**Sgt. Mark L. Unger**

Non-Commissioned Officer Leadership—**GySgt. Clayton T. Kribs**

Several units marked **safe flying time**:

Unit	Hours	Years
HC-3	136,000	21
HMM-556	30,000	10
HS-3	50,000	14
VAQ-132	41,000	25
VFA-27	35,000	9
VMFA-451	75,000	18
VMFAT-101	80,000	5
VMGRT-253	30,000	
VQ-4	250,000	23
VS-31	101,000	25

Rescues

NAS Fallon, Nev., Search and Rescue (SAR) was galvanized into action on 24 August when an NAS Lemoore, Calif.-based VFA-125 F/A-18D *Hornet* crashed near Fallon's Bravo 20 bombing range. Lts. Bill Tobin and Mark Winter launched with SAR crew members AD3 Charles Wade, AMH3 Jason Cassady and HM3 Thomas Spradlin aboard an HH-1 "Huey" to locate and retrieve the downed aviators. After a 30-minute flight, the SAR team found Lts. Norman Weakland and Ty Loutsenheiser approximately 35 miles northeast of Fallon. Wade, Cassady and Spradlin administered first aid, prepped the injured pilots for transport and loaded them into the helo. They were flown to Churchill Community Hospital where Weakland received attention for his fractured vertebra and Loutsenheiser's cuts and bruises were treated.

Fallon's SAR team was called out again less than 24 hours later. The Nevada Office of Emergency Management informed NAS Fallon of two missing hikers lost near Genoa Peak. Lt. Winter was joined in the cockpit this time by Cdr. John Amicarella, along with aircrewmembers AD3 Wade, AE3 Marty Naylor and HM2 John Warfield. Thirty minutes into the search, Cdr. Amicarella spotted the hikers in a heavily wooded area. When it was determined that the helicopter could not support the additional weight at the current altitude, Warfield and Naylor rappelled to the ground to assist the hikers, who had been missing for about 24 hours. The victims were hoisted into the waiting helicopter one by one. After transporting the hikers to Douglas

County High School, where they were turned over to the Douglas County Sheriff's Department, the SAR team returned to pick up Warfield and Naylor before returning to base.

An **NAS Lemoore, Calif., SAR** team performed four rescue missions within a 24-hour period. Lts. Tim Bienlien and Marvin de la Vega, with HM2 Mike Cave, AMCS Rainer Streib and AD3 Scott Mohra aboard, set out to find a snakebite victim in the Gray Meadow area of the Sequoia National Forest. The 40-year-old man, who had been hiking with his two teenage children, was bit by a rattlesnake and was being treated by park personnel when Bienlien and company arrived. Cave rappelled from the helicopter and prepared the victim for transport while the chopper landed nearby. After being loaded into the helo, the hiker was flown to Porterville airport and then taken to the hospital via ambulance.

Upon returning to NAS Lemoore, the SAR team was assigned to assist a 22-year-old man who was clinging to a tree branch above river rapids. Once on scene AD3 Mohra rappelled down to the man—whose raft apparently overturned—and hooked him to a rescue strap. The SAR team then hoisted the uninjured victim to the helicopter, landed on the bank of the river and released him.

Later that evening, the team was asked to fly to Big Sur, just south of Monterey, to rescue a young girl suffering from hypothermia. The victim and her friends were hiking in the area without adequate equipment. Lts. Robert Hauser and Ross Moreno encountered difficulty in locating the girl because of the wooded terrain. Once found, the girl was placed aboard the helo and taken to a nearby hospital.

After transporting the hypothermia victim, the crew was low on fuel and out of daylight. The local airport was closed and the Lemoore SAR team was forced to spend the night in

Monterey. The next morning, the Monterey County Sheriff requested that the team return to the group of ill-equipped hikers to assist another hypothermia victim. After fueling, the team returned to the area where they had found the first victim, retrieved her friend and transported her to Monterey for treatment before heading back to NAS Lemoore.

On their way back to *Independence* (CV 62) from a three-hour night anti-submarine warfare exercise, the crew of an **HS-14** helicopter was sent to investigate a strobe light in the water approximately a mile from the aircraft carrier. Utilizing night vision goggles, Lts. Chris Lapacik and Brian Travers located the light and discovered a flight deck crewman in the water. After Lt. Lapacik placed the aircraft in hover, AW3 Kleif Guenther was lowered into the shark-infested water and assisted the man overboard with a rescue harness. AW2 Shawn Rothstein hoisted Guenther and the victim into the hovering helicopter. Lt. Lapacik then piloted the helo back to *Independence*, completing HS-14's first rescue using night vision goggles.

VP-46 successfully coordinated a daring at-sea rescue effort while forward deployed to Masirah, Oman. After learning of a sinking tugboat, the ready alert P-3 *Orion* was launched. VP-46's Crew 4 quickly covered the 180 miles to the disabled tug and established communications with the supertanker that the tug was towing. The tanker was unable to assist because its engines were inoperative. The crew of the *Orion* vectored the civilian ship *Nil Madinah* to the area. The VP-46 crew continued to provide valuable visual information as the *Nil Madinah's* crew rescued the tugboat's survivors from the tug's two lifeboats. VP-46's Crew 4 consisted of Lts. Mike Parker, Whitney Davey, John Pullen, John Lovejoy and Devin Brakob and AE2 Larry Peterson, AE3 Tracy Pinson, AW3 Kurt Meyer and AT2 Brett Anderson.



HS-14 SAR crew members (left to right): AW3 Kleif Guenther, AW2 Shawn Rothstein and Lts. Chris Lapacik and Brian Travis.

Scan Pattern

Theodore Roosevelt (CVN 71)-based F/A-18 *Hornets*, F-14 *Tomcats*, EA-6B *Prowlers* and E-2C *Hawkeyes*, in conjunction with other NATO aircraft, carried out air strikes against Bosnian Serb military targets in Bosnia in late August and early September. The NATO air strikes targeted surface-to-air missile sites, radar sites, communications facilities, ammunition depots and local command posts. The strikes came as a direct response to a Bosnian Serb artillery attack on a Sarajevo market.



Former president **George Bush** and his wife **Barbara** visited *George Washington* (CVN 73) while in Norfolk, Va., to mark the 50th anniversary of V-J Day. Bush is a decorated WW II Naval Aviator.

John F. Kennedy (CV 67) left the Philadelphia Naval Shipyard 13 September for her new home port at Naval Station, Mayport, Fla., after completing a two-year, \$491-million comprehensive overhaul. The 27-year-old aircraft carrier has been designated an operational reserve carrier and Naval Reserve Force ship and will embark Carrier Air Wing Reserve 20 during at-sea flight operations.

John F. Kennedy (CV 67) pierside at NS Mayport, Fla.



VMAQ-3's Cpl. Jason Newsome secures an AGM-88 HARM missile on an EA-6B *Prowler* for strikes over Bosnia-Herzegovina while aboard *America* (CV 66). *America* relieved *Theodore Roosevelt* (CVN 71) in September while deployed to the Adriatic Sea.



Theodore Roosevelt (CVN 71) aviation ordnancemen make preparations for NATO air strikes in Bosnia in late August 1995.

The Navy Flight Demonstration Team (*Blue Angels*) named its new pilots and support officers for the 1996 show season. VFA-127's Lt. Scott Beare, VF-101's Lt. William Moyer and VMFA-323's Capt. Patrick Cooke, USMC, were selected as demonstration pilots. VRC-30's Capt. James Martin, USMC, joins the team as its C-130 transport pilot. Lt. Milton Merritt of VXN-9 is the new *Blue Angel* maintenance officer, NTTC Corry Station's LCdr. Patricia Tezak will serve as administrative officer and NAS Lemoore's Lt. Richard Heinz is the new supply officer.

VMFA-314 has officially relocated to NAS Miramar, Calif., from MCAS El Toro, Calif. It is the first of three Marine Corps F/A-18 squadron moves from the soon-to-be-disestablished Marine Corps air station.

A 22-person detachment from *Independence* (CV 62)-based **HS-14** embarked aboard *Fife* (DD 991) became the first HS squadron detachment to visit Russia. During its stay in Vladivostok, the HS-14 det toured a Russian destroyer and held an open house aboard *Fife*.

NAS Alameda, Calif., held a ceremony honoring Pacific war heroes and commemorating V-J Day. More than 1,500 veterans and civilians were on hand for the festivities held, appropriately, aboard *Hornet* (CVS 12). Vintage warbirds lined the deck of the famous WW II aircraft carrier, which was temporarily moored at the air station prior to being scrapped in October. The event included a warbird flyover which featured a Grumman *Goose*, a TBM *Avenger*, a B-25 bomber and an FM-2 *Wildcat*.

Correction

An NANA News Sep-Oct 95 "People—Planes—Places" article announced that VT-19's Lt. Graham Cox earned a Strike/Flight Air Medal in support of Operation Deny Flight over Bosnia. Cox piloted an **ES-3A Shadow** vice S-3B Viking, as the article stated, during the United Nations-sponsored operation.

PH3 Brandon A. Teeple

PH3 Darren R. Downing

Anniversaries

MALS-36 43 years
NAS Whidbey Island 53 years

Change of Command

AEWWINGPAC: Capt. Michael L. Maurer relieved Capt. Michael R. Cooper, 14 Sep.

America (CV 66): Capt. Robert E. Besal relieved Capt. Ralph E. Suggs, 21 Sep.

CARGRU-3: RAdm. Robert M. Nutwell relieved RAdm. Jay B. Yakeley, 4 Jul.

CVW-1: Capt. Randolph R. Robb relieved Capt. Lewis W. Crenshaw, Jul.

CVW-2: Capt. Steven A. Kunkle relieved Capt. David C. Nichols, 7 Sep.

FACSFAC, Jacksonville: Capt. Robert D. Parlet relieved Capt. Kenneth A. Richardson, 24 Jul.

HELWINGRES: Capt. Bryan D. Lucas relieved Capt. David W. Moulton, 22 Jul.

HS-7: Cdr. Stephen C. Linnell relieved Cdr. John T. Bader, 13 Jul.

HSL-44: Cdr. Dale E. Carson relieved Cdr. Michael H. Orfini, 15 Aug.

HSL-48: Cdr. Craig K. Austard relieved Cdr. Andrew R. MacConnell, Sep.

MAWSPAC: Cdr. Stephen H. Kirby relieved Cdr. David K. Flagg, 28 Sep.

NAS Jacksonville: Capt. Robert Whitmire relieved Capt. Roy Resavage, 25 Aug.

NAS Kingsville: Capt. Kris Ackerbauer relieved Capt. Don Maxey, Aug.

NAVSTKWARCEN: Capt. David C. Nichols relieved Capt. Timothy J. Keating, 14 Sep.

PHIBGRU-3: RAdm. Charles R. Saffell, Jr., relieved RAdm. Lee F. Gunn, 15 Sep.

SEACONWINGPAC: Capt. Conrad A. Langley relieved Capt. T. Scott Douglas, 24 Jul.

TRAWING-2: Capt. Charles Nesby relieved Capt. Steven L. Counts, 1 Sep.

VA-34: Cdr. David H. Buss relieved Cdr. Charles A. Hautau, 15 Sep.

VA-196: Cdr. David J. Frederick relieved Cdr. Joseph F. Kilkenney, 15 Sep.

VAQ-140: Cdr. Thomas P. Phelan relieved Cdr. Robert K. Crumplar, 11 Sep.

VAW-117: Cdr. Nicholas A. Trongale relieved Cdr. D. T. Keuhlen, 2 Sep.

VAW-126: Cdr. Martin E. Church relieved Cdr. Martin P. Bricker, 28 Jul.

VF-101: Cdr. John W. Miller relieved Cdr. Charles A. Wyatt, 8 Sep.

VFA-22: Cdr. Wade Tallman relieved Cdr. Dave Wood, 21 Jul.

VFA-136: Cdr. T. A. White relieved Cdr. C. W. Braun, 12 Sep.

VFA-203: Cdr. Tommie D. Benefield relieved Cdr. Gary P. Hogan, 8 Jul.

VFC-13: Cdr. Gerald A. White relieved Cdr. Fred R. Hollinger, 12 Aug.

VP-10: Cdr. Frank M. Munoz relieved Cdr. Thomas J. Arminio, 8 Sep.

VQ-2: Cdr. John P. Vinson relieved Cdr. Jay S. Snowdon, 8 Sep.

VS-24: Cdr. Steven W. Dailey relieved Cdr. James M. Hart, 1 Sep.

VT-3: Lt. Col. Shawn D. Elliot relieved Cdr. William J. McDonough, 22 Sep.

VT-4: Cdr. William A. Patton relieved Cdr. Gerald E. Vandam, 29 Sep.

VT-6: Lt. Col. Thomas H. Koger relieved Cdr. Allan R. Topp, 28 Jul.

VT-21: Cdr. William O. Shewchuk relieved Cdr. Richard A. Palmer, 8 Sep.

Naval History Takes On New Director, New Direction

By JO2 Blake Towler

The Naval Historical Center (NHC), located in the Washington Navy Yard in Washington, D.C., recently welcomed its newest leader. In June 1995, Dr. William S. Dudley was appointed Director of the center. In this capacity, he also serves as Director of Naval History for the Chief of Naval Operations and as Curator for the Navy. A native of Brooklyn, N.Y., Dr. Dudley started working at NHC as a supervisory historian in 1977, and since that time has held positions as Head, Early History Branch and Senior Historian.

Dr. Dudley has already initiated ambitious plans for NHC's future. Since the primary mission of the center is the care and preservation of his-

torical collections, many of which are inherently fragile, it is necessary to have a safe and controlled environment to store these items. "A lot of the buildings that we own are old, having been built in the early 1900s or before," Dudley said. "The temperature and humidity controls for these buildings are outdated or dysfunctional, and as a result some of our irreplaceable books and manuscripts are being damaged." The center has contracted to revamp the temperature control units for these areas to prevent any further deterioration.

Another of Dudley's aspirations is to get NHC "online" by updating its communications facilities. Long-term plans include an improved phone system; a center-wide Local Area Network linking all the branches by



Dr. William S. Dudley

computer; and Internet access, including an NHC "Home Page" for researchers and curiosity seekers alike. "In order to perform our mission, we must keep up with the most modern means of communication," Dudley stated. "We need to be able to relate to the fleet in the most technologically current ways."

Another program on which Dr. Dudley wants to concentrate NHC's resources is the government's declassification program. The responsibility of this program falls heavily on the center, because it is the depository for most of the Navy's historical records. "The Navy is being ordered to declassify and release a great deal of the information that has been previously restricted," he explained. "Records from Operation Desert Shield/Storm are especially in high demand, primarily for people researching the potential causes of the Gulf War illnesses."

* But one of Dr. Dudley's primary goals is simply to get the word out about NHC and its mission. "I want to increase the center's linkages with the operating Navy, and give sailors more of an appreciation of naval history," he said. "We're going to make ourselves more visible by presenting more brochures, booklets and exhibits that will reflect history's importance to today's Navy."

"The Historical Center is an extraordinary resource for the Navy. Gathered here are some of the most knowledgeable people in naval history, from the Civil War up to Desert Storm. Together, they make available a unique nucleus of information that

can't be found anywhere else. These people are here for Navy personnel and researchers to utilize."

The center operates 10 separate branches to provide this service to the Navy. Each one covers a certain aspect or time frame of naval history, including Early History, Contemporary History, Operational Archives, Curator, Ships' History, Naval Aviation History, *Naval Aviation News*, and the Navy Art Collection Branch. Among these is also the Navy Library, which boasts a staggering collection of books, manuscripts and writings, some dating back to the 1500s. Also maintained by NHC is the Navy Museum. Hosting up to 400,000 visitors a year, this display of historical artifacts is the center's jewel, an incredible array of naval history from the Revolutionary War until the present. In addition, the center's underwater archeology program adds an interesting dimension to its capabilities.

One of the more distinctive functions of NHC is the upkeep and preservation of USS *Constitution*, located in a specialized maintenance facility in Boston, Mass. *Constitution* is the oldest commissioned warship afloat and is manned by a detachment of hand-picked active duty

sailors who keep the ancient frigate in good working order. She recently completed a three-year overhaul period, run by the *Constitution* Maintenance and Repair Division, which is a detachment of highly skilled civilian artisans accustomed to working on wooden ships.

Another module of the center is its reserve component. NHC supports two reserve units, NR NAVHISTCEN DET 206 and Volunteer Training Unit (VTU) 0615, both of which serve as Naval History Documentation Teams. The purpose of these units, which Dudley jokingly refers to as "History Enforcement Teams," is to chronicle events such as special ship or squadron exercises or unique military operations. DET 206 routinely deploys to fleet exercises to train and document these activities, while VTU-0615 conducts specific research of historical significance.

With its wide spectrum of functions, NHC strives to maintain, record and preserve the venerated history of the U.S. Navy, and to make that information available to all. "We have some of the most dedicated people in the naval service," Dr. Dudley proudly stated. "And we work hard to make sure the Navy doesn't lose sight of its cherished history." ■

ANA Bimonthly Photo Competition

Alfredo Maglione of the Naples, Italy, ANA Squadron's "Med Centurions" won the bimonthly photo competition with this night shot of Carrier Air Wing 1 aircraft aboard *America* (CV 66) in September 1995.

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.

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

Grossnick, Roy A. *Dictionary of American Naval Aviation Squadrons, Vol 1*. Naval Historical Center, Washington, DC. 1995. 562 pp. Ill. \$46.

This large book is a first-rate historical reference. In fact, you can't have an aviation library, whether oriented toward history or current events, without it. A massive compilation of dates, facts and policies that influenced, indeed created, naval attack aviation, it also includes many interesting photos that show the family of naval aircraft in a wide variety of markings and color schemes. Three-view aircraft drawings are included in the appendices.

The lengthy introduction discusses the development of designations, a rare source of information. The succeeding chapters then go on to detail VA, VAH, VAK, VAL, VAP and VFA squadrons, with information on formation and deployment dates, insignia, aircraft, commanding officers and significant milestones and events in each unit's history.

The dictionary affords both a pleasant browse, as well as a researcher's archival reference tool of material never available before without a trip to the Naval Aviation History office in Washington, DC. Together with a forthcoming chronology, *United States Naval Aviation 1910-1995*, this exhaustive effort creates a ready reference set that is a *must* for the serious researcher.

The dictionary is also available on CD-ROM which can be used on PC Windows or Macintosh computers. See page 35 of this issue for ordering information.

Boyne, Walter J. *Clash of Titans: World War II at Sea*.

Simon & Schuster, 1230 Avenue of the Americas, New York, NY 10020. 1995. 381 pp. Ill. \$27.50.

Walter Boyne has written what may be the best one-volume popular history of naval operations in WW II since Samuel Eliot Morison's *Two Ocean War* (1963). Coming from an unexpected source, because Mr. Boyne's usual area of interest is U.S. Army Air Forces and Air Force history, this new book combines a succinct, but light writing style with a finely tuned knowledge of the subject, including dates, personalities and campaigns.

For American readers, the opening chapters on events preceding Pearl Harbor and the U.S. entry into the war will be of particular interest. Isolated in our island fortress for more than two years as war raged everywhere else on the globe, we tended to ignore the fact that the British were locked in deadly combat with the Germans and Italians, with only the unreliable French as major allies.

The author appreciates some of the more darkly humorous aspects of the naval war. He writes that the Japanese "must have had an officer in charge of hubris," because they usually assigned dates and places where they expected their vanquished enemy to sign future surrender documents, so confident were they of their every success. And describing one tenacious, highly capable but outspoken Japanese admiral's ultimate fall from grace, Boyne quips, "... he was removed from sea command in late 1942, proving that in war as in peace, no good work goes unpunished."

Boyne also quickly describes the intense aircraft carrier-building program, placing it in perspective, including Naval

Aviation's overall role as one of the "tools" with which the war was started and fought around the world, and which helped decide who won and who lost the conflict.

While normally associated with aviation subjects, the author does a fine job of telling the blackshoe's standpoint. Aviation enthusiasts should read it, too. Boyne describes the war on the ocean and below it, from the brutal Battle of the North Atlantic through the pivotal Battle of Midway and the desperate encounters in the Solomons and on Japan's doorstep.

The two folios of photographs are well chosen and show a wide range of subjects, including personalities, ships and actions.

Keating, Susan Katz. *Prisoners of Hope: Exploiting the POW/MIA Myth in America*. Random House, 201 E. 50th St., New York, NY 10022. 1995. 276 pp. Ill. \$23.

A little different than most of the books we discuss, *Prisoners of Hope* is an interesting look at the nagging question of whether there are American servicemen still in Vietnam. More than 20 years after the fall of Saigon, and more than 22 years after the release of POWs accompanying the ceasefire of the Paris Accords, the country still wrestles with the guilt-ridden prospect of having left some of its sons behind. The author concludes that there is no evidence that it did, which is the official U.S. position as supported by the Defense POW/MIA (prisoner of war/missing in action) Office in Washington, D.C.

The Vietnamese did not give much assistance before 1992 when the Joint Casualty Resolution Center (JCRC) was established. Since then more than 30 JCRC teams have visited Vietnam and Southeast Asia to search for POWs. As the possibility of finding POWs decreases over time, the teams are now turning their attention to looking for remains, and the Vietnamese have been much more cooperative.

The author, who tracked the MIA problem for seven years, came to know many of the POW families closely, sharing their anguish and uncertainty. Her involvement helped her write an engrossing text, and it is obvious that she has also become a sympathetic voice for the activist groups that have sprung up around the POW/MIA subculture. Soldiers of fortune, people with political axes to grind and many unscrupulous entrepreneurs, both in the U.S. and Southeast Asia, have wrapped their lives around exploiting the hopes and fears of the families whose loved ones remain unaccounted for.

Among the U.S. pilots whose years of torture and captivity are described is A-4 pilot John S. McCain, Jr., now a U.S. Senator. The book also details the activities of the "turncoats," those Americans who chose to switch sides and fight for the Communists. The most well-known such individual is former Marine PFC Robert Garwood, who later returned to America and was tried for treason.

Prisoners of Hope is one of the few books that explores the exploitation side of the POW/MIA question; it discusses yet another aspect of American involvement in the Vietnam War.

Barlow, Jeffrey G. *Revolt of the Admirals: The Fight for Naval Aviation, 1945–1950*. Naval Historical Center, Washington, DC 20374. 1995. 432 pp. Ill. \$30.

Jeffrey Barlow has written a major work of research and reporting. In *Naval Aviation News*, Mar–Apr 95, I mentioned the need for "in-depth historical research that raises new corners of the carpet." This author's narrative of five eventful years immediately after WW II is exactly what I had in mind. Strikingly similar to today's atmosphere of competition for every dollar in the Department of Defense's budget, the period after the war saw the Navy fighting for every program against the Army and newly established Air Force.

As lines were drawn around the world, squaring off one-time allies against each other and combining other enemies in cautious alliances, the U.S. struggled to define its new role as world leader and military superpower. Nuclear weapons, and the aircraft used to deliver them, were at the top of the wish lists of the Air Force and Navy. Also, the Air Force watched the Navy for signs of weakness in conducting its traditional missions. It was a tough time, and the Navy needed "a few good men" to stand up and make their opinions known against the cumulative tirades from the Army and Air Force.

The Navy needed as much support as it could get for its ambitious programs, such as new aircraft carriers. However, some officials resigned because of confrontations and philosophical differences. Secretary of Defense James Forrestal, a WW I Naval Aviator, lost his position and later committed suicide.

In the end the true heroes in blue—who put their careers on the line—were Capt. Arleigh Burke, Adm. Louis Denfeld and Capt. John Crommelin. In Crommelin's case the sacrifice was ultimate. By constantly speaking out against the Army and Air Force, he garnered such criticism that no one could, or would, save his career and he had to retire. Arleigh Burke had his protectors, seniors who appreciated the highly decorated destroyer's aggressive loyalty. Burke eventually rose to four-star rank and served two terms as Chief of Naval Operations (CNO). Adm. Denfeld was forced to resign his position as CNO by an irate Secretary of Defense, Louis Johnson, and Secretary of the Navy Francis Matthews. Occasionally considered weak by his peers, Denfeld showed his strength when needed and his contemporaries were appreciative. When the admiral left his office for the last time, he was surprised to see several hundred Navy and Marine Corps members raising their right hand in respectful salute to their departing friend and benefactor.

This book is not a casual browse. The reader will find the deeply researched narrative heavy and slow going, and the photos are just there to show what someone looked like. But *Revolt of the Admirals* ably describes a critical point in this country's military history. The author should be congratulated, and the Naval Historical Center should also be praised for publishing such an important book.

Order from the Superintendent of Documents, Box 371954, Pittsburgh, PA 15250-7954, or call 202-512-1800.

Scutts, Jerry. *Marine Mitchells in World War Two*. PHA-LANX Publishing Co., Ltd., 1051 Marie Ave., St. Paul, MN 55118. 1993. 47 pp. Ill. \$12.95.

Another in a series of monographs from this publishing house, this book considers the PBJ version of the B-25—probably the best twin-engined light/medium bomber of the war. Although the Marine Corps planned for 15 PBJ squadrons, only 7 were established and saw combat in the later stages of the Pacific war.

The author discusses the development of the PBJ, its mission and equipment, and each squadron's contribution and record. Photographs come from traditional archives and a few personal collections.

Not much has been written on Marine PBJs except as sidebars or in photo captions. This lengthier treatment fills the gap.

Symonds, Craig L. *The Naval Institute Historical Atlas of the U.S. Navy*. Cartography by William J. Clipson. U.S. Naval Institute Press, Annapolis, MD 21402. 1995. 264 pp. Ill. \$39.95.

Guest reviewer: Cdr. Stephen D. Oltmann, USNR (Ret.), recently retired from a 30-year career as a cartographer for the Central Intelligence Agency. His military experience included service as an air intelligence officer for VA-81, a cruise aboard *Forrestal* (CV 59) in 1962, and several assignments as a Naval Reserve intelligence officer in Washington, D.C.

A more appropriate title for this book might be *Atlas of U.S. Naval Operations*, because the book's scope is limited to significant operations; it is not a comprehensive history of the U.S. Navy, which the author admits. A true historical atlas of the Navy should include other subjects that maps could illustrate, such as where the Navy has built ships and aircraft, where its crews have come from and where the Navy has located fueling stations.

Given this criticism, the maps are clear, bold and easy to read. The format for each entry of one page of text and one page of maps promises the reader, especially the layman, a good understanding of an operation without investing more than a few minutes of time.

The fact that each map faces its text is important, as is the point that certain minor compromises have kept the book's cost down. While one might wish to see blue water on these maps, a water tone would have increased the cost and the maps are just as clear without it. One could say more about appearance; for example, even though the maps were drawn by hand, the line work could have been a bit more elegant if the maps had been drawn oversize, then reduced. But this process would have probably added to the cost. I also question using latitudes and longitudes on every map. There are some maps that don't need these numbers, which just add clutter.

In general this book is an interesting and entertaining browse through the U.S. Navy's 220-year history. The text serves as a fact-filled guide, complemented by photos and, of course, the detailed cartography.

The Ultimate Naval Aviation Squadron Reference!

Dictionary of American Naval Aviation Squadrons, Volume 1
VA, VAH, VAK, VAL, VAP and VFA squadrons

By Roy A. Grossnick

This book provides an unprecedented source of information for the Naval Aviation researcher. Its main focus is squadron histories, which highlight the major operational activities of each squadron as well as provide specific data commonly requested for the units. The reader will find a squadron's lineage, insignia and nickname, operational data such as home port assignments, commanding officers, aircraft assignments, major overseas deployments, air wing assignments and unit awards; as well as a chronology of significant events.

Informative appendixes provide aircraft technical information and drawings, aircraft carrier listings, carrier deployments by year, U.S. Navy squadron designations and abbreviations, and guidelines showing how to trace squadron lineage.

Illustrated by over 700 photographs and drawings, *Dictionary of American Naval Aviation Squadrons—Volume 1* is more than a history of squadrons; it is a tribute to Naval Aviation's multifaceted role in defending its country, supporting foreign policy and providing humanitarian aid throughout the world.

The first volume of a comprehensive reference series, *Dictionary of American Naval Aviation Squadrons—Volume 1* can be yours for \$46.00 for the book or \$18.00 for the CD-ROM. To order, contact the Superintendent of Documents, PO Box 371954, Pittsburgh, PA 15250-7954 or phone (202) 512-2250 to order using a credit card. When ordering, reference stock number 008-046-00168-5 for the hardback or stock number 008-046-00170-7 for the CD-ROM.



Looking for Aviators

In October 1995 my aerial photography and topographic imaging was shown at the Frank Lloyd Wright Center on the banks of the Wisconsin River in Spring Green, Wisc. I am writing to you to thank the Navy pilots who helped me many years ago by sharing their jet flying experiences. These four aviators were stationed at NAS Glenview, Ill., which has since closed. Although I still have the sketchbook that we worked on, I no longer have their names because my records were lost in a flood two years ago.

I had wanted to invite these pilots to the exhibit to share the celebration of art and science as my way of thanking them for their support. I'm sure that if they read this, they will remember that experience at Glenview.

While studying at the School of the Art Institute of Chicago, I wanted to explore, through my artwork, various aspects of perceived time changes,

pulling different G forces and speeds that are encountered during aerobatic flight. My aerobatic flying experiences were limited to single-engine aircraft, and I wanted to know what it was like flying jets.

In 1985 or 1986 I interviewed the four jet pilots at NAS Glenview, where we spent several hours sharing flying experiences. We had a great time hangar flying, doing loops and rolls and trying to figure out what colors would work. Some of the pilots had flown in Vietnam and, depending on the season, described the color of the vegetation as a bright electric green compared to Europe's darker greens.

I had truly wanted to share my exhibit with those Navy pilots, as they helped me define and translate abstract aerial color concepts into practical applications.

I hope that someday I will find them. Until then, I just wanted to thank the Navy for having such great guys on board. They were both pilots and gentlemen in the truest sense of the word.

Cheryl Marie Mackie
S6104A Hwy. 113
Merrimac, WI 53561

Correction

May–Jun 95 cover caption, inside front cover: Regarding aircraft depicted, number 14 is the NU-1B and number 23 is the U-6A.

Sep–Oct 95, p. 11: Oops! The aerial photo of NAS Fallon, Nev., was flopped. Our apologies to photographer Bob Lawson.

VP-90



An "Airscoop" article on page 9 of your May–Jun 95 issue stated that VP-90 was disestablished on 19 March 1994 and that Cdr. G. M. Black was the last CO. I'd like to set the record straight. I relieved Cdr. Black in a change of command ceremony on 19 March and had command until

the disestablishment on 30 September 1994, so I was the last CO of VP-90. I've also included VP-90's official squadron insignia. The one depicted in the article was out of date.

Cdr. Don P. Hamblen
NAS Agana, Guam 0772
NARA Glenview, IL 60026

Ed's note: We apologize for the errors. Thanks for setting us straight!

Reunions, Symposiums, etc.

Navy V-5 Program, Battalion VI (June 1943) reunion planned. POC: Jim Houston, 2614 Penny Lee Dr., Lima, OH 45805, 419-225-7656.

VFAs 37 and 105 reunion, 1-5 NOV. NAS Cecil Field, FL. POC: Lts. John Paganelli or Scott Prinz, VFA-105, FPO AA 34099-6226, DSN 860-6350/5375; comm 904-778-6350/5375.

VB/VPB-148 reunion, 6-8 NOV. San Diego, CA. POC: Perry Ustick, 228 Pine Tree Dr., Gulf Breeze, FL 32561, 904-932-6979.

VS-721 Naval Air Reserve Recall Squadron (1961) reunion, 9-12 NOV. Pensacola, FL. POC: George Wainscott, 535 17th Ave. S., Naples, FL 33940, 813-262-6975.

VP-64 reunion, 17 NOV. Willow Grove, PA. POC: AVCM(AW) J. Brock, VP-64, NAS JRB Willow Grove, PA 19090, DSN 991-6411; comm 215-443-6411.

VA-95 disestablishment ceremony, 18 NOV. NAS Whidbey Island, WA. POC: Lt. Doug Fitzgerald, VA-95, Unit 25388, FPO AP 96601-6224.

American Institute of Aeronautics and Astronautics conference, "Acquisition Reform: Progress and Prospects," 12-13 DEC. Reston, VA. POC: AIAA Customer Dept., 370 L'Enfant Promenade SW, Washington, DC 20024-2516, 202-646-7400 or 800-NEW-AIAA.

America (CVA 66) reunion planned, 1996. POC: William Golden, 24 Apache Rd., Bellingham, MA 02019, 508-966-2568.

CASUs 13 and 42/ACORN 28/CAC Navy 3205 reunion planned, 1996. POC: William Lathan, PO Box 51, Le Roy, NY 14482-0051.

Western Conference and Exposition, "Technology and Tactics: Meeting the Fuzzy Threat," co-sponsored by the Armed Forces Communications and Electronics Assoc. (AFCEA) and the U.S. Naval Institute, 24-26 JAN. San Diego, CA. POC: West '96, AFCEA Programs Office, 703-631-6128 or 800-336-4583, ext. 6128.

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low-level test	May-Jun	5
MV-22, first simulator	May-Jun	7
PBY, formation bombing	Jan-Feb	30
P-3C, crash, VP-47	May-Jun	7
P-51, F-14 RIO rides	Jan-Feb	18
SBD-2, recovered	Nov-Dec	22
SH-2G, HSL-94 debut	Sep-Oct	35
SH-3H, crash, HS-5	Jan-Feb	6
SH-60B, first LAMPS		
Block 1 upgrade	Jul-Aug	5
SH-60F, crash, HS-14	May-Jun	7
S-3B, crash, VS-33	Sep-Oct	5
TA-4J, Kingsville High		
School	Jan-Feb	38
T-34C, crash, VT-10	Mar-Apr	6
crash, VT-28	May-Jun	7
T-45A, full-rate production	Mar-Apr	9
UH-1N, crash, HMLA-267	Jan-Feb	6
	Mar-Apr	36
crash, Essex	May-Jun	7
V-22, EMD prototypes	Nov-Dec	8
production approved	Mar-Apr	8
Aircrew Coordination Training	Jul-Aug	1
	Jul-Aug	18
Air Stations		
MCAS New River, first		
MV-22 simulator	May-Jun	7
NAS Moffett Field,		
disestablished	Sep-Oct	7
NAS Fort Worth,		
established	Jan-Feb	6
NAS Pensacola, NATTC		
groundbreaking	May-Jun	7
Antarctic Tale, An	Mar-Apr	24
Astronauts, selected	Mar-Apr	7
Aviation Career Incentive Pay,		
requirements waiverable	Mar-Apr	9
Awards		
Air Traffic Controller	Jul-Aug	40
Battle Es.	May-Jun	4
reserve	Jul-Aug	5
Bronze Hammer,		
NAS Lemoore	May-Jun	37
Bruce, Ltjg., VFA-146	Jan-Feb	36
Conway, Lt. E. F.	Mar-Apr	34
Dale, K., VMA-211	Jan-Feb	36
Davison, F. T.	May-Jun	37
Energy Conservation	Mar-Apr	35
Excellence in Medicine	Jan-Feb	36
Excellence in Naval Aviation		
Art, Ted Wilbur	Jul-Aug	45
Flatley, Adm.	Jul-Aug	41
Golden Anchor	May-Jun	37
	Jul-Aug	41
	Sep-Oct	33
Golden Wrench	Jul-Aug	41
Gram paw Pettibone	Jul-Aug	41
Gray Eagle	May-Jun	39
Hammann, Ens. C. H.	Mar-Apr	34
	Jul-Aug	41
Installation Excellence	Jul-Aug	41
Isbell, Capt. A. J.	Jan-Feb	36
	Jul-Aug	41
Lawrence, VAdm. W. P.	Mar-Apr	34
Lemmon, Capt. V.	Nov-Dec	32
Liberty Bell	Mar-Apr	34
MCAA	Nov-Dec	32
National Air and Space		
Museum Trophy	Mar-Apr	35
Natural Resources		
Conservation	Jul-Aug	41
Neal, AVCM D. M.	Mar-Apr	34
Nechtavai, Capt. C. J.	Jul-Aug	41
correction	Sep-Oct	36
Ney, E. F.	Jan-Feb	37
Ogden, A. G.	Jul-Aug	41
Personal Excellence		
Partnership	Jul-Aug	41
Pirie, VAdm. R. B.	Mar-Apr	34
Radford, Adm. A. W.	Jul-Aug	45
Ricketts, Adm. C. V.	Jul-Aug	41
Safety, CNO	Sep-Oct	32
Schram, D.	Mar-Apr	34
Sikorsky, I.	Mar-Apr	35
Thach, Adm. J. S.	Jan-Feb	36
Towers, VAdm. J. H.	Nov-Dec	32
Base Closures	May-Jun	8
Bennett, Radm. B. M.		
Aircrew Coordination		
Training	Jul-Aug	1
Dial 911—Carrier	Jan-Feb	1
Joint Tactical Airborne		
Electronic Warfare	Mar-Apr	1
Naval Strike Warfare Center		
Improves Joint Training	Sep-Oct	1
Revolution in Strike		
Warfare	Nov-Dec	2
State of Naval		
Aviation, The	Nov-Dec	1
United States Test Pilot		
School, The	May-Jun	1
Blue Angels, 1995 schedule	Jul-Aug	43
Book reviews		
Admiral William A. Moffett,		
Architect of Naval		
Aviation	Jul-Aug	47
Assault on Normandy: First-		
Person Accounts From		
the Sea Services	May-Jun	40
By Sea, Air and Land:		
An Illustrated History of the		
U.S. Navy and the War		



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NAVAL AVIATION NEWS
November-December 1995

