

NAVAL AVIATION NEWS

September-October 1990



**Grumman
A-6: 30
Going On ... 50?**

NAVAL AVIATION NEWS

Oldest U.S. Navy Periodical Volume 72, No. 6

Flagship Publication of Naval Aviation

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

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COVERS-Front: Cdr. John Leenhouts took this shot of VA-75 A-6E Intruders over John F. Kennedy (CV-67) during a joint naval exercise with the French carrier *Foch* and her battle group. Back: *NA News* Art Director Charles Cooney designed NAS Jacksonville's 50th Anniversary logo, which will be displayed during the celebration's events through October 15.

Publication Policy:

Naval Aviation News considers for publication unsolicited manuscripts, photo essays, artwork and general news about aircraft, organizations, history and/or human endeavors which are the core of Naval Aviation. All military contributors should forward articles about their commands only after internal security review and the permission of the commanding officer. Manuscripts will be returned upon request.

For further guidelines on submissions, contact Managing Editor, *Naval Aviation News*, at autovon 288-4407 or (202) 433-4407, FAX: Autovon 335-2104; (202) 475-2104.

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 Building 159E, Room 512, Washington Navy Yard Annex, Washington, D.C. 20374-1595. Second-class postage is paid at Washington, D.C., and additional mailing offices. *Naval Aviation News* is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Phone (202) 783-3238. Annual subscription: \$17.50.

POSTMASTER: Send address changes to *Naval Aviation News*, GPO Order Desk, Superintendent of Documents, Washington, D.C. 20402. 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.

A-12: Confronting the Flak

By VAdm. Dick Dunleavy, ACNO (Air Warfare)

The key to our country's ability to maintain peace and protect our interests worldwide is and will continue to be the carrier battle group and its ability to project power, wherever and whenever necessary, in just the right amounts. The very successful raids on Libya bear full testimony to this war-fighting capability. The focus of Naval Aviation's power projection punch, the 30-year-old Grumman A-6, first put bombs on real targets a quarter of a century ago – so long ago that many of today's crews are younger than their airplanes. To continue to provide this essential war-fighting capability, we chose to make a much needed jump to the A-12, instead of spending yet more funds to improve the old war wagon.

Time will prove the A-12 decision to be a very wise one, even in the face of those trying to cut our military budgets in an effort to find "peace dividends." Americans must face the facts that we in the military (especially the Navy) know all too well: while we may not be facing the Soviets themselves, we most certainly will be facing their weapons which they have exported so widely throughout the world – those who doubt need only look at the orders of battle of Syria, Iraq, Libya, and many more Third World countries.

The A-12 is critical to our ability to address the threat in the vastly different places where our Navy is used

to preserve the security of the United States. Its reduced observability (stealthiness), state-of-the-art design, and superior maintainability/reliability will be the centerpiece of our power projection forces well into the next century.

Getting through tough defenses to take out hard targets with conventional ordnance anywhere in the world is, and will remain, the offensive punch the United States must maintain to protect her interests worldwide. That capability resides only with our carrier air wings. Add to that complex task the rigors of Third World rules of engagement, which require absolute bombing precision, no collateral damage, and absolute minimum risk to our own forces, and we have a very difficult mission that requires the most sophisticated equipment and the best training America can provide. The A-12 is the only weapons delivery system which fits the bill – bringing with it the absolutely necessary features of low vulnerability/detectability, high survivability, long range with a high payload capability, and weapons delivery system accuracy that meets our warfare needs: high-intensity conflict to Third World contingency/limited objective arenas.

We've all read in the media about A-12 program delays. Unfortunately, the news media too often meet deadlines without the whole story, and some in the media seem to have their own ver-

sion of the truth; what most have not been able to report is the truth about the "why?" in the delays. Yes, there are technical challenges, but not the "showstoppers" some of the media would have us believe. The real and troublesome problem lies elsewhere.

The slowdown in defense procurement across the whole country is putting a cash/credit crunch on defense corporate industry such as we have never seen, severely limiting its flexibilities. As a result, we are seeing corporate reorganizations forced by the economies of rapidly declining defense contracts, rapidly escalating unit costs, large workforce layoffs and, soon, the inability of those corporations to produce to meet the needs of the security of the United States – a fact too often lost to those who search so hard for the peace dividend. What many don't realize is that defense spending was the peace dividend; it was that defense spending which caused the Berlin Wall to crumble and all the other radical changes we are witnessing. I don't think money was ever better spent.

The A-12 will overcome the technological hurdles and will survive the fiscal dilemmas facing our industries. It can and it will for the American people need the A-12 and the carrier battle groups to maintain the security we, as military personnel, owe them. Keep strokin'. ■



Two VA-196 A-6As from Constellation (CVA-64) drop Snakeye bombs over North Vietnam in July 1968.

Is This Trip Necessary?

The aviator was summoned from bed aboard a "Gator" ship to fly a short-notice night mission in a CH-46. This was a combat situation in the Middle East and the pilot was to transport a key officer and his staff to another ship in preparation for anticipated hostilities the next day.

Because of the urgency, the copilot and a "temporary" helicopter aircraft commander (HAC) had turned up the aircraft. The HAC took over and asked the copilot if he knew where they were to go. He didn't. Had the aircraft been preflighted? He didn't know that either, but it was assumed the crew chief had done so. The passengers came aboard and the pilots made an instrument takeoff after which they flipped down their night vision goggles (NVG) and headed for the designated ship. (The pilots, both first-tour aviators, had logged 50 hours of "goggle" time in recent months.) They could make out the lights of a distant city but the rest of the horizon was a very thin line.

The crew encountered radio difficulties on a secure network so the Combat Information Center passed nav data to them in the clear. Seven of the nine passengers, including the key of-



ficer, were to go to a destroyer 100 miles away, the other two to a cruiser about 75 miles from the destroyer. Unwritten squadron standard operating procedures precluded landing a CH-46 on a cruiser at night.

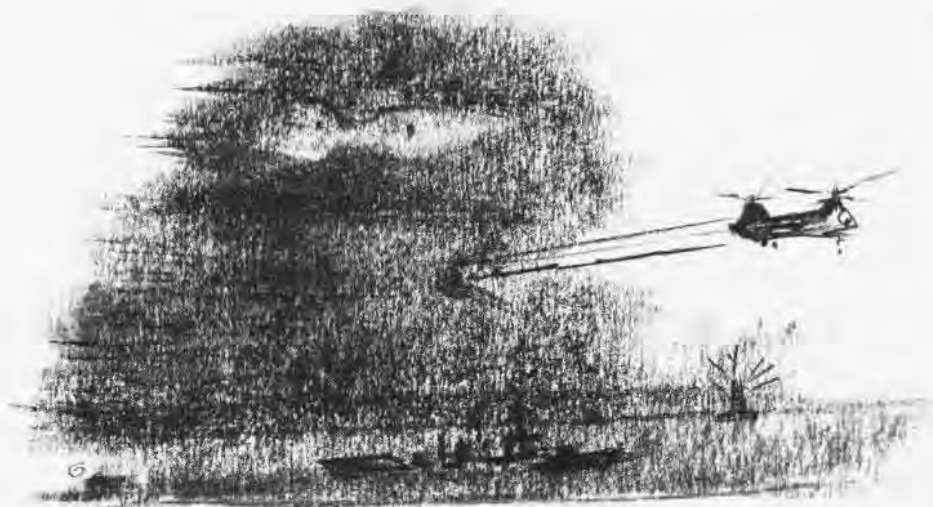
Because of the distance involved, the helo would have to take on fuel from the destroyer. The pilot discussed the matter with the key officer who, though not an aviator, had a good understanding of the HAC's concern and concurred that the leg to the cruiser should be aborted since the most important "operational necessity" was to get the officer and his staffers to the destroyer. The helo returned to home ship and landed on a spot which had been divided in half to increase the number of helicopters which could take off and land at one time. This had been approved due to contingency operations. The two passengers disembarked, the CH-46 was topped off with fuel, the crew received updated nav information, and they launched again.

Although the secure network was still inoperative, the pilot decided it was essential to get the key officer in place because of the next day's anticipated encounter. All exterior lights were turned off and the CH-46 proceeded over the sea at low altitude. Fifteen minutes later the *Sea Knight* was challenged by an "allied" ship, altered heading at its request for a few minutes, then resumed course.

Unsure of his position and unable to verify it because Navy ships had secured their TACANs (tactical air navigation) in deference to impending hostilities, the pilot conferred with the copilot and crew chief. They decided to continue because offshore oil rigs, which they had marked on nav charts, were sufficiently illuminated to use as checkpoints. As they neared one of the platforms, however, the CH-46 was "painted" by target acquisition radar. The pilot executed an immediate turn away and the threat dissipated.

Anxious to fix his position, the pilot risked a ultra-high frequency broadcast in the clear to request that the destination destroyer activate its TACAN. There was no answer. He tried home plate. No answer. Finally, he transmitted on GUARD and two minutes later the destroyer responded. A heading correction was made using the destroyer's TACAN and the CH-46 proceeded toward it and landed.

The passengers disembarked, the



It was a dark & stormy night!

Sea Knight was refueled, and the crew flew uneventfully back to their ship.



Grampaw Pettibone says:

Shouldn't happen! It was important that the officer get to the tin can, because he was a major player in "callin' the shots" in the next day's fighting (which, incidentally, turned out to be a success).

The haste that allows aircrews to leap into the air without a preflight and complete operational mission brief has got to be seriously questioned. Would the few minutes saved been worth the cost of a helo in the drink or this key officer and his staff taking refresher swimming lessons, if they survived at all?

Where were the people in command? Why didn't they better prepare this crew and provide them information and guidance? Sure the pressure was on, but somebody at the top let these people down and put them out there on a string.

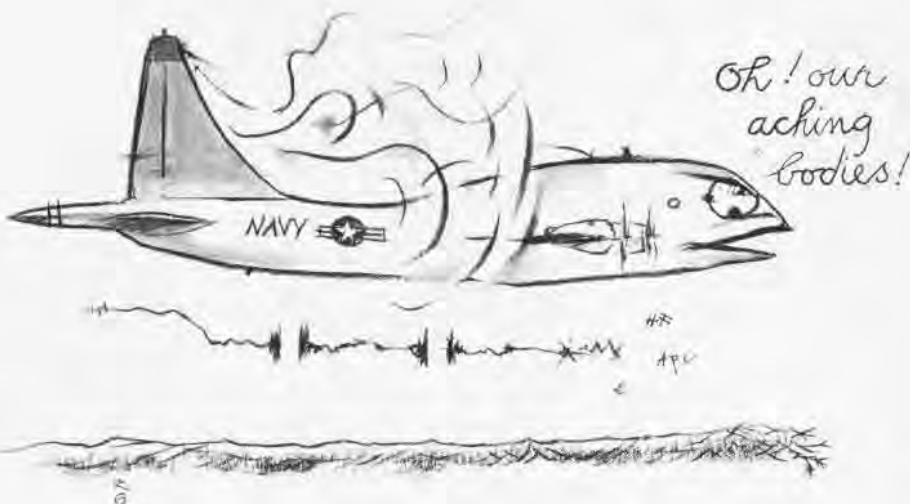
There are gonna be days – and nights – like this, but not very often, I hope. We train our aviators to be tigers. But, they've gotta be well-informed tigers!

Bird to Paradise

The P-3 crew was to fly from NAS East Coast to NAS West Islands for a professional conference. They planned the journey thoroughly. A week prior to departure, the maintenance officer told the pilot he would be flying an *Orion* fresh from SDLM (scheduled depot level maintenance). The maintenance officer wanted the crew, which included three patrol plane commanders to wring out all the systems. "Bring back a stack of gripes on this aircraft," the pilot was told.

Just before takeoff, the number three engine disconnect pressure low light came on. The P-3 returned to the line. Repairs were made and the *Orion* launched.

The P-3 landed at NAS West Coast. Prior to shutdown the pilot directed a recheck of high-frequency (HF) radios,



radar, inertials, etc. – systems that would be essential for the next day's over-ocean leg. All checked 4.0.

Next morning the airfield was shrouded in fog. On preflight, none of the gear that checked OK the previous day was operative. Both HF radios and the radar were hard down. The local NAS had depot level maintenance available, and several hours later the aircraft was mission capable once again. The fog had lifted and the *Orion* took off for the islands.

During the descent into the destination field, the starboard aft observer cautioned the pilots that the HF wire antenna on his side had separated from the vertical stabilizer and was slapping against the side of the aircraft.

Although there was no structural damage observed after shutdown at NAS West Islands, the P-3's brand-new paint job was scarred.

After the conference the P-3 crew was about to take off for the return trip east. The auxiliary power unit door would not close, however, and the *Orion* taxied back for repairs.

The exhaust door actuator had failed in the fully open position and a supply system check revealed none available on station. The pilot decided the best alternative was to bolt the door closed. It took a search of several squadrons to obtain the correct part.

Those repairs made, the P-3 finally launched. But on climbing out, both HF radios and the radar quit. The pilot decided to hold 100 miles east of the departure point and burn down to landing weight. It was about midnight and the P-3 was in a solid overcast at 15,000 feet. Icing was so severe that

constant wing deicers were required to keep the wings clean.

The crew descended below the overcast, dumped fuel, and returned to the base for more repairs.

Taxiing in to the line, both HF and the radar mysteriously fixed themselves and began working. The crew reevaluated the situation, checked the time remaining with respect to crew rest requirements, and decided to continue the nonstop flight to NAS East Coast. They topped off with fuel and took off.

For the first two hours of the hop, the equipment worked. Then the P-3 lost HF communications with the air traffic control center. The crew raised an overhead Pan Am airliner and passed position reports through it until reaching the mainland. Ultimately, they landed at NAS East Coast, just under the maximum "crew day" with just over minimum "on top" fuel.



Grampaw Pettibone says:

Ole Gramps ain't so sure its positive thinkin' tellin' the aviators to "bring back a stack of gripes" on the aircraft. And I can't tell what they did with that antenna wire, from the report I got. Sometimes those high-frequency radios worked and sometimes they didn't.

But I do know this. It's best to have a dress rehearsal before opening night. A thorough, local test hop woulda saved a lotta grief for this crew. And for the metalsmiths. I wouldna wanted be around when they saw the scraped paint and that bolt in the exhaust door!

Navy Cancels Lockheed P-7A

The Navy has terminated its \$600-million contract with Lockheed Aeronautical Systems Company for the full-scale development of the P-7A patrol plane. The cancellation announcement of the replacement aircraft for the P-3 came on July 20.

Default was noted as the reason, with Lockheed cited for having "failed to make adequate progress toward completion of all contract phases, which were to have resulted in the delivery of two prototype aircraft in April and December 1992." A production run of 125 aircraft had been planned.

Development problems surfaced late in 1989 when Lockheed estimated that an additional \$300 million in development costs would be incurred because of less commonality with the P-3 airframe than had been anticipated. Extensive discussions between the Navy and Lockheed held over several months were unsuccessful in resolving development issues.

The P-7A was the winner of the LRAACA (long-range, air antisubmarine warfare-capable aircraft) competition to replace older P-3s, which will require replacement starting in 1997. The program to install the Update IV avionics suite in the P-3C Update II fleet is still planned and will enable the Navy to maintain a formidable antisubmarine warfare capability until an alternative to the P-7A is determined.

At press time, Navy officials had not yet announced what options they were considering to meet the requirements that were to be satisfied by the P-7A.



HC-9 delivered HH-3A 151552 to the National Museum of Naval Aviation in Pensacola, Fla.

HC-9 "Protectors" Disestablished

Helicopter Combat Support Squadron (HC) 9 was officially disestablished on July 31, 1990, ending a 15-year career as part of the Naval Air Reserve and as the Navy's only combat search and rescue (CSAR) squadron.

HC-9 was established on August 1, 1975, to maintain a CSAR capability after the disestablishment of HC-7, an active duty unit famed for its rescue exploits during the war in Vietnam. HC-9 inherited the Sikorsky HH-3A "Big Mother" armed and armored helicopters from HC-7. Although HC-9 never had to use them in action, the HH-3As were busy providing training to carrier air wings and other helicopter squadrons. HC-9 established the Navy's only strike rescue school, and pioneered Navy use of night vision goggles and terrain-masking navigation. HC-9 deployed a detachment to the Gulf of Sidra during the 1986 carrier strikes against Libya, providing strike rescue support to the Sixth Fleet.

HC-9's last commanding officer, Cdr. Joseph Cimenski, closed out the unit's history in a ceremony held June 9 at NAS North Island, Calif. The squadron's HH-3As have been transferred, two to the National Museum of Naval Aviation, Pensacola, Fla.; one to NAEC Lakehurst, N.J.; one

to HS-1; and three to storage at Davis-Monthan AFB, Ariz.

Although HC-9 is gone, its legacy and mission live on in the two squadrons which absorbed the strike rescue role that HC-9 did so much to develop, HCS-4 at NAS Norfolk, Va., and HCS-5 at NAS Point Mugu, Calif. Both fly the new Sikorsky HH-60H *Seahawk*.

Macon, F9C Wreckage Located

The wreckage of the Navy's last rigid airship, USS *Macon* (ZRS-5), was located and photographed on June 24 off the coast of Point Sur, Calif., by the Navy submersible *Sea Cliff* (DSV-4) in 1,450 feet of water.

Macon fell into the ocean during a storm that fatally damaged it on February 12, 1935, while en route from fleet maneuvers to its home base at NAS Sunnyvale (now Moffett Field), Calif. Only two of the 83 crewman were lost.



Macon's sister ship, *Akron* (ZRS-4), was lost in a storm off New Jersey on April 4, 1933; 73 hands were lost, including RAdm. William A. Moffett, Chief of the Bureau of Aeronautics.

Macon was carrying four Curtiss F9C-2 *Sparrowhawk* biplane fighters at the time, which had the capability of operating from the airship using a hook and trapeze system. Two of the F9Cs were photographed by *Sea Cliff*. If recovered any *Sparrowhawks* would go on display. The only other remaining *Sparrowhawk* is now on display in the National Air and Space Museum.

Plans to recover the wreckage of the airship and its planes have not been announced.

RH-53D Joins the Corps

The Navy has transferred its last active Sikorsky RH-53D *Sea Stallion* helicopters to the Marine Corps Reserve, com-

pleting the active career of this mine countermeasures aircraft after 18 years of service.

However, the RH-53D's aerial refueling capability will enhance its value to the Marines in its new mission.

The RH-53D is noted for its role in the "Intense Look" and "Earnest Will" mine-sweeping operations in the Middle East. It is most famous, however, for its participation in the April 1980 abortive attempt to rescue U.S. citizens held hostage in Iran. Seven of eight RH-53Ds were lost in the raid.

HM-14, which operated the RH-53D since its establishment in May 1978, has reequipped with the new MH-53E *Sea Dragon*. Two reserve units, HM-18 at NAS Norfolk and HM-19 at NAS Alameda, will continue to operate the RH-53D as a mine countermeasures aircraft.

OV-10 SLEP Under Way

Naval Aviation Depot (NaDep), Cherry Point, N.C., completed the first production Service Life Extension Program (SLEP) upgrade on the OV-10 *Bronco* in June, shortly after the prototype OV-10D+ underwent carrier suitability trials.

The two-year SLEP is under way to extend the service life of the OV-10 fleet to the year 2005, and update it with improved avionics and navigation and weapons systems. The airframe is also being reinforced to withstand the stress of short landings aboard aircraft carriers. NaDep Cherry Point is programmed to convert 23 OV-10A and 14 OV-10D aircraft to the OV-10D+ configuration. The first production conversion, OV-10D+ BuNo 155499, is destined for service with VMO-2 at Camp Pendleton, Calif., after tests at NATC Patuxent River, Md.



Navy Capt. George "Spider" Webb brings the OV-10D+ prototype, "Salty Dog 021," aboard *Saratoga* during trials in June.

PH3 Terry L. Simmons

Carrier feasibility testing of the OV-10A began in the late 1960s aboard *Boxer* (LPH-4), resuming again in 1982 aboard *John F. Kennedy* (CV-67). The avionics in the OV-10D increased aircraft weight to the point where required higher approach speeds caused increased airframe stress on landing. The stronger OV-10D+ is better able to handle carrier landing impact.

The OV-10D+ prototype, BuNo 155468, assigned to the Strike Directorate at NATC, made its first carrier landing on June 7 aboard *Saratoga* (CV-60), the first of a series of trials. Eventually the Marines will have the flexibility of operating their OV-10s from carriers for tactical missions.

The four Essex-class carriers stricken from the Naval Vessel Register last year are seen here at Bremerton, Wash., destined to be scrapped. From background to foreground are *Bon Homme Richard*, *Bennington*, *Oriskany*, and *Hornet*.

Li Fallon



Cdr. Bill Arnold, HM-14's skipper, hands over his squadron's last RH-53D (BuNo 158749) to Col. H. G. Roser, C.O., MAG-46, on April 10, 1990.

pleting the active career of this mine countermeasures aircraft after 18 years of service.

HM-14 at NAS Norfolk, Va., the last active Navy squadron to operate the RH-53D, transferred seven aircraft to MAG-46 at NAS Alameda, Calif., the last on April 10. With MAG-46, a Marine Corps Reserve unit, the RH-53D will serve in roles similar to the CH-53D as a combat assault and heavy lift

Grumman Corporation



Saying No to Drugs – Three of the Coast Guard's four E-2C Hawkeyes based at USCG Air Station, St. Augustine, Fla., are shown here bearing the "Just Say No" label in connection with their mission of drug interdiction.

Corps Retires OA-4M

The Marine Corps has transferred the last of its OA-4M Skyhawks, bringing an end to the active career of the Skyhawk in the Corps.

The Personnel Support Detachments of MAG-12 at MCAS Iwakuni, Japan, and MAG-32 at MCAS Cherry Point, N.C., relinquished their 14 OA-4Ms in July 1990, with the last two departing Cherry Point on July 6. Ten of them were transferred to NATC Patuxent River, Md., to replace TA-7C Corsair IIs as chase aircraft and for other test purposes. One other was transferred to Naval Aviation Depot, Cherry Point, two others were placed in storage

and Tactical Air Coordinator Airborne aircraft, and were operated by some Headquarters and Maintenance Squadrons until they were redesignated Marine Air Logistics Squadrons. The OA-4M's mission is being absorbed in the Corps by the F/A-18D Hornet.

The last Skyhawk attack versions in active Marine service were retired in February 1990. (See NANews, May-June 1990, p.7.)

VXN-8 Retires Characters to Desert

VXN-8 at NAS Patuxent River, Md., retired its three UP-3A Orions to the Arizona desert in April, putting three cartoon characters out to pasture as well.

The oceanographic research squadron has adorned its aircraft with cartoon characters since gaining permission from Warner Brothers in 1958, when the first geomagnetic research aircraft was painted with "Roadrunner." These characters, painted on the distinctive orange and white scheme sported by the aircraft, have been seen throughout the world, contributing to the spirit of cooperation and friendship with the countries from which the squadron operates.

Retired on April 17 were UP-3As 150527 ("Tasmanian Devil"), 150528 ("Loon"), and 151384 ("Arctic Fox"), each



1st Lt. Mike DiJulio

A MAG-12 OA-4M Skyhawk passes through WestPac skies for the last time in its active duty career.

at Davis-Monthan AFB, Ariz., and one more will be placed on permanent display at MCAS Iwakuni.

Twenty-three two-seat OA-4Ms were modified from TA-4F trainers to serve as Forward Air Controller Airborne

PHAA Robert Johnson



with over 13,000 hours of flight time. They are being replaced by P-3Bs, which will eventually be painted with characters that adorned former squadron aircraft.

VXN-8 also operates two RP-3Ds, 153443 ("El Coyote") and 158227 ("Roadrunner").

In Brief...

● **George Washington** (CVN-73), the Navy's sixth *Nimitz*-class carrier, was christened by the ship's sponsor, First Lady Barbara Bush, in a ceremony at Newport News, Va., on July 21.

● The **Royal Australian Air Force** accepted delivery of its 75th and last F/A-18 *Hornet* in a ceremony May 16 at Fairbairn, Australia.

● The remains of **LCdr. Larry J. Van Renselaar** were identified in June after being turned over to the U.S. by Vietnam. LCdr. Van Renselaar was lost when his VA-196 A-6A off *Constellation* was shot down over North Vietnam on September 30, 1968.

● All **Naval Plant Representative Offices** (NAVPROs), which oversee weapons procurement on site at the factory, have been redesignated Defense Plant Representative Offices (DPROs). Their reporting command has changed from the Naval Air Systems Command to the Defense Contract Management Command as part of an overall consolidation of DoD contract management.

● **VP-22**, NAS Barbers Point, Hawaii, completed the last fleet P-3B squadron deployment when its Kadena, Okinawa, detachment returned home in June. VP-22 is transitioning to the P-3C Update II.5.

● Grumman Corporation has shifted assembly of its **E-2C Hawkeye** from Bethpage to Calverton, N.Y., beginning with the 139th E-2C.

● Grumman Corporation inducted the first **F-14A** for remanufacture into an F-14D on June 5, the first of four to be converted under FY-90 funding. Naval Aviation Depot (NaDep), Norfolk, Va., will commence conversion of two more in March 1991. A second lot (8 by Grumman, 4 by NaDep Norfolk) is planned for FY 91.

● **"Modern Carrier Aviation: Seapower in a Changing World,"** the final phase in a three-year upgrade of the National Air and Space Museum's Sea-Air Operations Gallery, opened June 14. The exhibit, funded by the Association of Naval Aviation, the Grumman Corporation, and the Adm. DeWitt C. Ramsey Fund, uses charts, photographs, artifacts, models, and video presentations to illustrate the history of carrier aviation.

● **VMA-211**, MCAS Yuma, Ariz., received its first AV-8B *Harrier II* in May, becoming the second Marine squadron to receive the night-attack version. Their *Harriers* will even-

tually receive upgraded Pegasus engines and sport a new air defense blue paint scheme.

● **VA-94**, NAS Lemoore, Calif., was redesignated VFA-94 on June 28. The *Mighty Shrikes* received their first F/A-18C on June 18 to replace the A-7E.

Randy Hepp



The first firing of an AGM-65F Maverick air-to-surface missile from a P-3 occurred in June. A P-3C from NATC Patuxent River, Md., fired the missile over the Atlantic Ocean on the NASA Wallops Island firing range.



Making a departure turn on takeoff in the first V-22, Lt. Gen. Charles H. Pitman went on to add another hour of tilt-rotor flight time to his logbook. He commented afterwards on the V-22's fine handling qualities, impressive performance, and smooth flight characteristics.

Bell Boeing

Vance Vasquez



The VX-4 "Evaluators" unveiled their new "Vandy One" F-14A on April 10 to replace the black F-4S that was retired earlier this year (see NANews, July-August 1990, pp. 5-6). F-14A BuNo 159853 will carry on the 20-year-old tradition of the black scheme and bunny logo.



Bob Lawson

VA-55 A-6Es work up near NAS Fallon, Nev., in 1985.

Grumman A-6: 30 Going On ... 50?

By LCdr. Rick Burgess



PHC R.C. Lister

VA-75 introduced the A-6A into combat over North Vietnam in 1965.



Bob Lawson

VAQ-33 operates the EA-6A in the electronic "aggressor" role.



Hidoki Nagakubo

VA-165 was the first squadron to operate the A-6C, equipped with the ventral TRIM sensor package.



VMA(AW)-224 took Marine Intruders on their first carrier deployment, off Vietnam aboard Coral Sea (CVA-43) in 1972.



Grumman



Far left, the Intruder prototype, A2F-1 147864, on a test flight. Left, the aft view of the KA-6D tanker became a welcome sight for returning tailhookers.

Thirty years have passed since the first flight of the Grumman A-6 *Intruder*. For over a quarter century, the A-6 has served as the Navy's first-line, carrier-based offensive aerial weapon. Even now, it's in a class by itself.

For a combat aircraft, 30 years of service is remarkable, even with the systematic upgrades that characterize improvement nowadays. On a simple linear scale, it's analogous to launching WW II-vintage SBD dive-bombers in 1972 against the Thanh Hoa bridge in North Vietnam. With a flatter curve in speed improvements since the 1950s, and with vast improvements in structures and maintenance, airframes last longer and remain potent weapons as long as their avionics keep pace with technology.

The A-6 was designed by a Grumman team led by Lawrence M. Mead in response to a 1957 requirement for an all-weather attack jet to replace the piston-engined Douglas AD *Skyraider* in Navy and Marine Corps service. Featuring two J52 turbojets, five ordnance pylons, and side-by-side seating of the pilot and bombardier navigator, it was to be the first Navy aircraft for which the manufacturer was responsible for the weapons system as well as the airframe. Initially designated A2F-1 under the old Navy designation system, the prototype first flew on April 19, 1960, at Calverton, N.Y., with Robert Smyth at the controls.

Fleet introduction of the A-6A did not come until almost three years later; aerodynamic corrections and development of the Digital Integrated Attack Navigation Equipment (DIANE), the impressive "brain" of the new bomber, proved to be a long process. After carrier trials aboard *Enterprise* (CVAN-65), the A-6A entered service with VA-42 at NAS Oceana, Va., which commenced training *Intruder* crews for the fleet in June 1963.

The public took little notice of the pugnacious A-6; it was still dazzled by the record-breaking F-4 *Phantom II* and the exotic A-5 *Vigilante* that preceded it in service shortly before. Headlines were dominated by the controversial TFX program, which would eventually produce the only other aircraft capable of matching the A-6's all-weather prowess, the Air Force F-111.

The *Intruder's* obscurity didn't last long. With the interdiction campaign under way in 1965 against North Vietnam, *Independence* (CVA-62) brought VA-75 around the Cape of Good Hope to join Task Force 77 in the Tonkin Gulf. The *Sunday Punchers* launched their first sorties against North Vietnam on July 1. The *Intruder* was at war.

Despite the loss of three A-6As in the first month to premature bomb detonation (the arming mechanism was subsequently modified), the *Intruder* quickly established a reputation for hard-hitting accuracy and all-weather capability, particularly useful in the soggy skies over Vietnam and Laos. Its bomb load was exceeded only by that of the B-52, for which the A-6 was on at least one occasion mistaken by the North Vietnamese on the receiving end. Other squadrons followed, and by the next year the accolades accrued by the blunt-nosed bomber caused the public to take notice. *Time* magazine devoted a feature story to the *Intruder*. The enthusiasm of the crews that flew it and the admirals that sent it to war continues undiminished to this day.

During the war, some of the 482 A-6As built were modified for special purposes: 19 became A-6Bs, armed with the *Standard* antiradiation missile, and 12 became A-6Cs, fitted with the Trails-Roads Interdiction Multi-Sensor (TRIM), tested in-country by the Naval Air Test Center, Patuxent River, Md., and VAH-21 using AP-2H *Neptunes*.

Several A-6As became NA-6A development aircraft, and three became the prototypes for the four-man EA-6B *Prowler*, which evolved as a separate program.

Seven A-6As were converted to EA-6A electronic countermeasures aircraft to replace the EF-10B *Skyknights* in Marine VMCJ squadrons; 21 more EA-6As were produced at the Grumman factory.

The EA-6A "Electric Intruders" deployed to Vietnam first with VMCJ-1 in 1966 and provided ECM support to air strikes in North Vietnam and Laos, including B-52 strikes. After the war, the EA-6As served in Marine detachments aboard carriers and were eventually replaced by EA-6Bs; they then went to reserve squadrons, and are flown today in VAQ-33 in the electronic aggressor role.

In 1971, the first of 90 KA-6D tankers modified from high-time A-6As arrived in the war zone with VA-196, replacing the KA-3B and EKA-3B *Skywarriors* in the aerial refueling role. The tanking role became an increasingly important mission for A-6 squadrons, and their efforts saved many other aircraft from fuel exhaustion. Later a buddy store enabled any attack A-6 to serve as a tanker.

One Marine and 10 Navy A-6 squadrons made 34 carrier deployments to the Tonkin Gulf during the Vietnam conflict. One of the most significant actions they undertook was the 1972 mining of Haiphong Harbor, which closed the port for the remainder of the war. In addition, four other Marine A-6 squadrons operated from Da Nang and Chu Lai in South Vietnam and from Nam Phong, Thailand. Navy combat losses totaled 49 A-6As and one A-6B; Marine losses came to 18 A-6As and one EA-6A.

The second (and final) major production version of the *Intruder* was the A-6E, which first flew in February 1970. Externally similar to the A-6A, it

featured an ASQ-133 solid state digital computer and an APQ-148 multimode radar. Entering operational service with VA-85 in 1972, it arrived too late to see action over North Vietnam.

Eventually, the A-6E replaced the A-6A in all squadrons. In addition to the 187 A-6Es built, 215 A-6As, 14 A-6Bs, and 11 A-6Cs were converted to A-6Es. Over the last 20 years the A-6E has undergone several avionics upgrades, including the Carrier Airborne Inertial Navigation System, universal wiring to handle a wide variety of missiles including the AGM-84 *Harpoon*, and, most conspicuously, the Target Recognition Attack Multi-sensor (TRAM), an infrared and laser



Bob Lawson

Naval Strike Warfare Center A-6E, with under-nose TRAM turret, demonstrates the business of the Intruder.



Intruder victim: Libyan *Nanuchka* missile frigate, March 25, 1986, stopped by a *Harpoon* from a VA-85 A-6E.

designation turret mounted under the nose.

The continuous improvements kept the A-6 in the breach as the carrier air wing's (CVW) medium attack capability throughout the seventies and eighties. The *Harpoon* standoff antishipping missile made it an even more valuable weapon of choice for the battle group commander. Two CVWs were restructured with two *Intruder* squadrons totaling 24 A-6Es and four KA-6Ds, giving up their two light attack squadrons. By the mid-1980s, however, some A-6s were 25 years old and started to develop fatigue problems. Over 50 were grounded for wing cracks and over 100 were restricted to less than 3-G maneuvers. A program to replace the old wings with wings made of composite materials commenced in 1985, with the contract awarded to Boeing and the first retrofit set flying in 1990.

The wind-down of the Vietnam war did not mean the end of combat for the A-6; four small conflicts in the 1980s attracted the services of the *Intruder*. VA-176 aboard *Independence* provided air support in Grenada in October 1983. Two months later, VAs 75 and 85 launched from *John F. Kennedy* (CV-67) to join VA-176 in the December 4 retaliatory raid on Syrian positions in Lebanon's Bekaa Valley; one VA-85 A-6E was shot down, the only *Intruder* lost in combat since the Vietnam conflict.

The A-6 saw its first war at sea in March 1986 during Operation Prairie Fire, a confrontation with Libya in the Gulf of Sidra. VA-34 (*America*, CV-66), VA-55 (*Coral Sea*, CV-43), and VA-85 (*Saratoga*, CV-60) used *Rockeye* cluster bombs and introduced the *Harpoon* missile in combat against several Libyan vessels, sinking at least one missile corvette and a *Nanuchka II*-class missile frigate and severely damaging another *Nanuchka*. The following month, on April 15, VAs 34 and 55 struck an airfield near Benghazi and a barracks in Tripoli as part

of Operation El Dorado Canyon in retaliation for Libyan terrorism.

Two years later, the *Intruder* was back in action, this time in the Persian Gulf. In the naval action that followed the Iranian mining of the gulf, VA-95 A-6Es from *Enterprise* attacked Iranian *Saam*-class frigates, sinking one and severely damaging another.

Development of a follow-on to the A-6E commenced in 1984, resulting in five development examples of the A-6F *Intruder II*, which featured not only avionics upgrades but a redesigned cockpit, more powerful turbofan engines, and wing stations for *Sidewinder* missiles. Budgetary constraints forced cancellation of this impressive upgrade, as well as a more modest proposal, the A-6G. The Navy decided to press ahead with a revolutionary stealth replacement, the A-12 *Avenger II*, which is scheduled to begin replacing the A-6 in the last half of the decade. In the meantime, another upgrade of existing A-6Es, the A-6E SWIP, is under way.

Intruder production eventually totaled 695 aircraft. The A-6 was very compatible with carrier operations and thus had a good safety record. Over its 30-year career, approximately 160 have been written off in mishaps.

Last year, the Marines began transferring their A-6s to the Navy and will complete replacement of them by the F/A-18D *Hornet* by 1995. Integration of the A-6 into the two reserve carrier air wings began last year as well. From Navy carrier decks, however, the *Intruder* will soldier on into the next century. In fact, the goal of the Navy is to eventually standardize the number of A-6s in each carrier air wing to two squadrons totaling 20 attack aircraft (see "Carrier Air Wings in Transition," *NANews*, November-December 1989), phasing out the KA-6D tanker and relying exclusively on buddy-store refueling.

Thirty years on, the A-6 has plenty of punch in it and maintains an affectionate following of the crews that fly it. A significant proportion of today's senior Naval Aviation leaders are the ones who, as junior officers, introduced the *Intruder* over Vietnam. The A-12 promises to be as revolutionary a jump over the A-6 as the *Intruder* was over the *Skyraider*. Looking at the record, that's a tall order. ■

Intruder Operators

Current

VA-34	VMAQ-4
VA-35	VAQ-33
VA-36	VX-5
VA-42	
VA-52	NATC, Patuxent River, MD
VA-55	NWC, China Lake, CA
VA-65	PMTIC, Point Mugu, CA
VA-75	NSWC, Fallon, NV
VA-85	
VA-95	
VA-115	
VA-128	
VA-145	

Former

VA-155	VAH-123
VA-165	VAQ-209
VA-176	VAQ-309
VA-185	VMAQ-2
VA-196	VMCJ-1
VA-205	VMCJ-2
VA-304	VMCJ-3
VMA(AW)-224	VMA(AW)-121
VMA(AW)-242	VMA(AW)-225
VMA(AW)-332	VMAT(AW)-202
VMA(AW)-533	

Capt. Robert E. Mitchell, MC, Retires; Becomes Honorary Naval Aviator No. 21

By JO2 Tom Hushion

Though he has "retired" twice from the U.S. Navy, Captain Robert E. Mitchell, MC, would prefer to stay in. However, his wife Liz is ready for him to come home. "She's the only reason I'm getting out," Capt. Mitchell stated, "I'd stay here till the day I die and I think the Navy would probably go along with that."

His distinguished career spanning 43 years of active duty service came to an end on June 25, 1990. Born on May 19, 1918, in Merced, Calif., he became an ensign in 1944 after completion of his B.A. and M.A. degrees. Upon receipt of his Doctor of Medicine and Master of Surgery degrees, Mitchell proceeded to the U.S. Naval Hospital in San Diego, Calif., for internship.

The year 1955 was the start of an ongoing affair with Naval Aviation medicine for Dr. Mitchell. Designated a Naval Flight Surgeon in 1955, he worked in the Research Division of the School of Aviation Medicine aboard NAS Pensacola, Fla., for three years. Mitchell later returned for tours at the Aviation Medicine Laboratory (1960-1965 and 1969-1980). It was during those two tours that his major research efforts began.

Dr. Mitchell retired from the Navy in 1980, but retirement was short lived. He turned over command on Friday afternoon and came right back to work on Monday morning. The Navy reinstated Mitchell because his services were still needed at the Naval Aerospace Medical Institute (NAMI) in Pensacola.

Over the years, Dr. Mitchell was involved in the "Thousand Aviator" project, designed to follow the careers and lives of 1,056 Navy and Marine Corps pilots over an extended period, and the repatriated Navy/Marine Corps prisoners of war (POW) program, a medical follow-up on the health of Vietnam POWs. He was also



Capt. Robert E. Mitchell in his office at NAMI where he worked for the past 10 years.

an original member of the medical team that worked with the American hostages held in Iran.

Dr. Mitchell claims the repatriated POW program as his greatest achievement. Considering the reaction which veterans of that conflict received from their own country, it's nice to know that a man of Mitchell's caliber cared. He cared enough to devote the past 18 years of his career to the POW's cause.

With Dr. Mitchell's official "departure" from NAMI and the Navy on June 25 came his designation as Honorary Naval Aviator No. 21. Only persons who have made extraordinary contributions to Naval Aviation are considered for this honor. Mitchell was cited as one of aerospace medicine's most highly regarded researchers and physicians.

Senator John Glenn of Ohio, while addressing the Senate last year, summed up Dr. Mitchell's career by saying: "I know that we can all agree that this is the biographic profile of an outstanding American who has benefited our nation and its citizens in numerous ways ... as a naval officer, medical doctor, flight surgeon, aerospace scientist, and humanitarian. Even today he continues his hectic

schedule to the great benefit of his countrymen and the world. Dr. Mitchell, we salute you."

Now that he's out of the Navy, Dr. Mitchell plans to work on his three favorite projects and one hobby. "We have a tremendous amount of data to analyze with the Thousand Aviators, repatriated POWs, and the comparison groups," he explained, "and I intend to work on that as much as possible." His hobby is the Aviation Medicine exhibit in the National Museum of Naval Aviation, with which he's been involved for a few years.



Friday, June 29, was a typical hot and muggy Florida afternoon. Dr. Mitchell ambled down the hallway in NAMI, heading home. One cannot help but feel that sometime he'll be coming back through those same doors as a civilian ... no doubt on his way to work on another project. ■

JO2 Hushion is assigned to the Public Affairs Office, NAS Pensacola, Fla.

JO3 Kori Ahola



During a pool evolution, aircrew students practice inflating their life preservers.

Naval Aircrew Candidate School

"Only the Strong Survive"

Integrity, dedication, motivation, professionalism, teamwork; these are the big five for aircrew students," stated Commander Dennis Kramer, Director, Aviation Enlisted Aircrew Training School, Naval Aviation Schools Command, NAS Pensacola, Fla.

Lasting five weeks and placing heavy emphasis on rigorous physical conditioning and team-building concepts, the Naval Aircrew Candidate School teaches Navy and Marine Corps students water survival, first aid, aviation physiology, land survival, and pistol qualifications required to begin

Story and Photos by
JO1 Milinda D. Jensen

aviation training. All this is taught in conjunction with the physical demands of running, swimming, climbing, and calisthenics.

"What this school does is qualify them as aircrew. They still have to earn their Wings of Gold out in the fleet," Cdr. Kramer added.

It was during the early part of the Vietnam war that the need for better

survival training became apparent. One search and rescue aircraft was lost for every 1.4 aircrewmen rescued.

In the early seventies, squadrons began to report that their aviators were better qualified in survival techniques than the aircrewmen, because enlisted personnel did not receive formal survival training during their rating pipeline instruction. Training for aircrew during this period meant temporary duty or on-the-job training in an operational squadron. Both methods proved to be inadequate.

In 1978, in response to the training need, the Chief of Naval Operations centralized all naval aircrewman training at NAS Pensacola.

"The school's goal is to establish a mindset. Part of that mindset is the importance of teamwork. When the weakest link in the chain breaks, the whole crew fails," Cdr. Kramer emphasized.

"Water survival skills teach the basics that aircrewmen need to feel comfortable in the water environment. If aircrewmen find themselves in the water, they will have experienced a similar situation in a controlled training environment and the possibility for panic is reduced. This allows the aircrewmen to recall lifesaving proce-



Working as a team, aircrew students learn basic survival techniques in the open water in a life raft.

dures without hesitation," Cdr. Kramer added.

Another integral part of water survival is learning how to swim in full flight gear, how to rescue a victim, and how to use different survival strokes to keep afloat.

"I have no fear of the water, but when that water started to rush up my nose, my first impulse was to panic," recalled Cryptologic Technician Techni-

"Recruit training commands give the basics. We try to put the icing on the cake...."

Cdr. Kramer

cal First Class Bill Icenogle, naval aircrew candidate.

Petty Officer Icenogle was in week four, day two of the five-week Naval Aircrew Candidate School training course when he underwent multi-place underwater egress (helo dunker) training.

"I never thought I was the kind of person who would panic, so I learned something about myself," Icenogle said. "This course teaches you a lot about your limits and your capabilities." Icenogle's training is preparing him for his next duty in a squadron. A former submarine sailor, Icenogle finds air operations new and exciting, but unfamiliar. "With some of the air accidents that have occurred recently, I think it's really a focal point to be mentally and physically prepared," he added.

Aircrew candidates agree that get-

ting the hands-on training is a valuable tool when the real thing happens.

"I'm new to the Navy and to aviation," said Airman Apprentice Wendy Cornelius, aircrew candidate, "but from hearing the senior people in my class talk, they all can relate portions of the training to a situation that could happen out there [in the fleet]. During Bay Operations [hands-on survival experience in open water], the helicopter hoist let me experience what it's going to be like if I have to be rescued in the future," she stated.

For Icenogle, Cornelius, and over 2,200 aircrew candidates annually, aircrew school will test and enhance their physical and mental capabilities more than anything to which they have ever been exposed in the past.

"We emphasize physical conditioning here to, first, make sure that they are physically capable and, second, to teach them how to establish a P.T. program that they can take with them to the fleet," said Cdr. Kramer.

The majority of students come directly from boot camp. This direct routing of aircrewmembers through aircrew training to their "A" or "C" school and then out to the fleet saves the Navy money in the long run. "We generally can tell if students are aviation material during their stay at the school. If they don't have the basic skills required, we can redirect them to another community, where they can succeed," added the school director.

Shaping personnel into professionally trained aircrewmembers takes top-notch teachers, an essential ingredient at the Naval Aircrew Candidate School.

Aircrew school instructors are

selected through a meticulous process which includes medical/psychological and performance screening to ensure student safety. All instructors are experienced aircrewmembers and know what is needed to succeed in the air community. They must have completed the training program themselves. After screening, they must have graduated from instructor school. At the end of a four-month period, they become instructors on a six-month probationary period and are continually evaluated. After that, if all goes well, they become full instructors.

"Aside from the general course of instruction, we have to deal with the personal, financial, and family problems of our students," said Aviation Structural Mechanic Hydraulic First Class Carter Dewey, Naval Aircrew Candidate School instructor. "Some of the

"Give any sailor a responsible job and he'll come through for you...."

Cdr. Kramer

students are away from home for the first time, and this is their first taste of the Navy other than boot camp. But we treat them like the young adults they are and they respond," he added.

While most of the personnel going through aircrew school are aviation rated, there are some exceptions. If you have other than flying orders to a squadron, you may be able to go through aircrew school. Entrance requirements are reasonable; however, physical and mental conditioning are necessities. To graduate from aircrew candidate school, students must have a "good" across the board on the Navy physical fitness test. In addition, students must run a 600-yard obstacle course in sand and a 1.5-mile cross-country course. Students must also be proficient in the water and able to swim a mile in flight gear. Upon graduation, the students either go to an "A" school, return to their squadron, or attend the rescue swimmer school, a four-week course.

The Naval Aircrew Candidate School may be just five weeks long, but "only the strong survive." ■



Running the sand-covered obstacle course is a test of strength and endurance.



PH1 Mike Kries

A fishing trawler's net caused extensive damage to the F3F-2 which rested at the bottom of the Pacific for nearly 50 years.

Grumman F3F-2

Return of the Last

By John M. Elliott and JO1 Jim Richeson

In 1989, Navy salvage operators, equipped with an unmanned, submersible vehicle, set out to find a downed UH-1N *Huey* helicopter that sank in the Pacific Ocean in October. During their search, they discovered what many Naval Aviation historians considered a rare find.

Located about 10 miles from the southern California community of Del Mar and resting 2,000 feet below the ocean's surface was a Grumman F3F-2 – last of the Navy biplane fighters.

Sea growth blanketed the aircraft's aluminum fuselage. Fabric from its wings had peeled away over the years. But all in all, the F3F-2 was in remarkably good shape.

Its colorful markings revealed that this particular aircraft had been assigned to Marine Fighter Squadron Two. The squadron was based at NAS

San Diego, now North Island, Calif., just before the outbreak of WW II.

The F3F series aircraft were the last Navy and Marine Corps biplane fighters. Those who have flown these Grumman biplanes credit the company for its innovative design – single seat, enclosed cockpit, streamlined fuselage, and retractable landing gear. Its stylish appearance, coupled with its speed and excellent maneuverability, convinced the Navy to purchase 54 F3F-1s in 1936. Eighty-one F3F-2s later followed, in July 1937, souped up with a more powerful Wright Cyclone engine capable of producing 950 horsepower.

Delays in delivery of the Navy's first monoplane fighter prompted aviation officials to request a final order of 27 F3Fs. The F3F-3 version sported a more streamlined fuselage. After nearly four years of service, the last F3F-3

was phased out of front-line use in May 1939. These vintage biplanes continued being flown by the Navy as fighter trainers until 1943. Until the recent find off California, no F3Fs were known to exist in museums or anywhere else.

More than a year before the bombing of Pearl Harbor, First Lieutenant Robert E. Galer piloted F3F-2 BuNo 0976 (side number 2-MF-16), on August 29, 1940, when it met its demise.

On that day, Galer was returning to the carrier *Saratoga* from a flight of more than 1,100 miles, with five to seven miles visibility. He shifted to his reserve fuel tank in preparation for landing. A few moments later, the plane's engine started sputtering. Galer managed to keep the engine running briefly by using the F3F-2's wobble pump. Minutes later, the en-

gine began sputtering again. Galer tried using the wobble pump but this time he knew what was to follow. He gave Second Lieutenant Charles N. Endweiss, flying alongside in 2-MF-17, the forced landing signal. After a few more unsuccessful tries, Galer settled into the water 300 yards astern of *Saratoga*. According to accident reports, the young aviator escaped with a few bruises.

Galer recalled being picked up by the plane guard USS *Chandler*. The F3F-2 flipped on its back and then settled vertically into a nose-down position. It sank within five minutes, preventing any salvage efforts.

After its discovery, the San Diego Aerospace Museum and Navy officials put together plans to salvage this rare aircraft. Their plans also called for restoring the plane to its original state and having it displayed at the National Museum of Naval Aviation, NAS Pensacola, Fla. Everyone was excited including retired Brigadier General Galer who traveled to California in April to be reunited with his old airplane.

Unfortunately, before the recovery operation was executed, a fishing trawler's line snagged the F3F-2 and

dragged it more than 700 feet across the ocean floor. The trawler's net caused extensive damage to the airplane. As a result, the F3F-2's fuselage had broken away from the engine. It ripped away the airplane's right wing and canopy. A large portion of the empennage was destroyed.

When the aircraft was finally retrieved, many were disappointed because what once was buried treasure became wreckage.

Still, with the skillful hands of craftsmen at the San Diego Aerospace Museum, the restoration of the Navy's last biplane fighter is predicted to be completed within three years. Initial steps began soon after it was recovered at NAS North Island.

After 50 years of being buried at the bottom of the Pacific Ocean, the F3F-2 returns as a link to Naval Aviation's past. ■



Navy Biplane Fighter



Top, Grumman's F3F series was the last Navy biplane fighter. Above, retired Brig. Gen. Robert E. Galer, a Medal of Honor recipient and one of the heroes of WW II's Solomons campaign, is now 76 and lives in Dallas, Texas. Left, Brig. Gen. Galer greets an old friend as his former airplane is readied for restoration.

With today's popular pastime of finding one's roots, it's appropriate to remember that the Naval Air Engineering Center, Lakehurst, N.J., traces its beginnings to the Naval Aircraft Factory (NAF) at the Philadelphia Navy Yard. And, with some company's name in front of all the designations of today's Navy airplanes, it's important to recall that the Navy designed and built many of its airplanes at that Pennsylvania facility. Established during WW I, the NAF produced aircraft until late in WW II when its growing business in catapults, arresting gear, and other specialized Naval Aviation material took over completely.

The factory's aircraft program was rejuvenated in the thirties by the 1934 Vinson-Trammell Act requiring the Navy to build 10 percent of its aircraft and aircraft engines in its own facilities. With only the Philadelphia plant available, the Navy turned to primary trainers as the main product since these could be most easily produced and only numbers were counted. The first production model was the N3N, a convertible landplane or seaplane primary trainer – officially the *Yellow Peril* of WW II. Typical of the time, it was a fabric-covered, metal structure biplane powered by a 220-horsepower radial engine, with open cockpits for the instructor and student.

While these were being produced, the NAF turned to new designs featuring the all-metal construction becoming universal for military and transport

XN5N-1

By Hal Andrews

Ed Diegen, courtesy of Howard Levy



aircraft in the mid-thirties, and the machinery and tooling to produce them. Coproduction of company-developed Navy fleet aircraft designs was also undertaken to meet the 10 percent law.

By 1938, it was apparent that future fleet aircraft would be all-metal monoplanes. Recognizing the value of early transition to the characteristics of these new aircraft, the factory proposed a new landplane primary trainer design on the basis of its being used late in the primary training

phase. It would be an all-metal, low-wing monoplane – the main concessions to its primary training role being a fixed landing gear and open cockpits. Flaps would be incorporated, as well as a radio installation. In July, the characteristics of the new XN5N-1 were settled between the Bureau of Aeronautics (BuAer) and the NAF. A supercharged version of the Wright R-760 engine used in the N3N would give 320 horsepower, 100 more than the N3N, to meet the short takeoff performance required for outlying field



operations with the basically heavier airplane.

The September project order for NAF to design and build the experimental prototype called for delivery to NAS Anacostia, D.C., for Board of Inspection and Survey (BIS) trials in September 1939 following the usual ground development testing and flight demonstration tests. Three NAF-built R-760 engines would be converted to the supercharged version.

In April 1940, the formal mockup inspection was held at the NAF with an exceptionally complete mockup. Among the features noted were the automatic vacuum-operated flaps and the dummy landing gear retraction control. No mechanical standby was considered necessary for extending the flaps since the landing speed without flaps was only 54 miles per hour. Flaps were included to acquaint student pilots with their use and characteristics.

The dummy gear handle was intended to get pilots in the habit of using it early, since fleet pilots had found the transition to retractable landing gears difficult – and too many gear-up landings resulted. However, with strong views from a Pensacola senior instructor pilot advising the Mockup Board on its lack of utility, it was deleted. With the other usual detail changes, the mockup was approved and the design proceeded. By this time it was apparent that the program was behind schedule. The redesign for production of the Brewster XSBA-1 scout-bomber prototype into the NAF production SBN-1 had overloaded an already understaffed engineering group and the XN5N-1's design had lagged. It was still anticipated that production N5Ns would follow the SBNs in NAF production, and a six-month delay in the XN5N-1 was accepted.

Further delays were experienced, and decisions were made for procurement of other trainers to meet the mid-1940 expansion program. In January

1941, as the XN5N-1 approached completion and first flight, the NAF proposed modification of the XN5N-1 after BIS trials as an intermediate trainer with a 420-horsepower Wright R-975 engine, retractable gear, and enclosed cockpit canopy. BuAer held that a monoplane primary trainer was what was needed and no further action was taken.

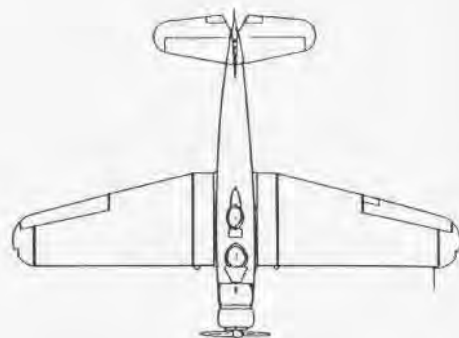
On February 15, the new trainer made its first flight. With a minimum of changes and the only major problem being its vacuum-operated flaps, it went to Anacostia in mid-April with its flaps locked up. A generally good evaluation led to its going to Pensacola for user evaluation in May and another good report. Because the flaps were considered an integral part of its training concept, it returned to the NAF in June for an electric motor-driven system – initially with individual motors and no interconnect. Following a close call when one motor failed, further development of an interconnected system followed late in the year. However, by this time, procurement of Army Vultee BT-13 "intermediate" trainers had been decided and the XN5N-1 development ended. The airplane was turned over to Project George, the Navy's glider program at the NAF, for use as a glider tow plane, with the flaps remaining inoperative. There, one last development took place. It was fitted with a cockpit canopy in the fall of 1942 for winter flying.

The XN5N-1 continued operating with the Navy's glider program into the post-WW II period, serving as a tow plane at the 1946 National Soaring Meet. It was stricken in December 1947 and donated to a local trade school, ending the career of the last Navy-designed and built new conventional airplane. The final flight products which originated at the NAF were radio-controlled drones, gliders, and pioneering missiles of various types. ■

XN5N-1



Span	42'
Length	30'9"
Height	11'9"
Engine: Wright R-760-63	20 hp
Maximum speed	135 mph
Service ceiling	17,500'
Range	420 mi
Crew	Two



Navy's Top Sailors of 1990

By JO1 Jim Richeson

Two antisubmarine warfare operators and an aviation storekeeper were among the top four enlisted sailors selected from a field of 365,000 candidates as the 1990 Sailors of the Year.

Admiral Frank B. Kelso II, newly appointed Chief of Naval Operations (CNO), kicked off a week-long celebration in honor of the selectees when he presented each a Navy Commendation Medal on July 16 at the Pentagon. Adm. Kelso also meritoriously promoted each sailor to the rank of chief petty officer.

This year's CNO Shore Sailor of the Year, AWC (AW) George R. Heider was assigned as an acoustic/non-acoustic analyst with the Maritime Surveillance and Reconnaissance Force, Sixth Fleet Detachment, Rota, Spain. AKC (AW) Garfield M. Sicard, the Pacific Fleet's top sailor, worked as Division Repairables Management Branch supervisor onboard *Independence* (CV-62). AWC (Aircrew) Michael A. West, Naval Reserve Sailor of the Year, was a NATOPS instructor with Patrol Squadron 91 at NAS Moffett Field, Calif. Machinist's Mate Chief (SS) Kevin W. Giles was chosen as the Atlantic Fleet's Sailor of the Year.

The aviation-rated selectees credited leadership in the aviation community and individual commitment to their occupations and to the Navy's mission for contributing to their selection as the sea service's best.

"I've had tremendous support from my wife for all the hours I've put in, but it was my division leading chief, AKCS Everett Harris, who helped me get where I am today," AKC Sicard said. The Jamaican-born immigrant arrived in the United States in 1981 after winning a scholarship to attend Duff's Business Institute in Pittsburgh, Pa. He became a citizen in 1985.

AWC Heider added, "There are a number of people in the Navy who are as sharp or sharper than I am. I am more or less a symbol to represent a lot of fine sailors." In addition to his accomplishment, this year's shore sailor

of the year made particular note of his background as an S-3A aircrewman. He also pointed out that he is an S-3A centurion, having amassed more than 100 carrier landings aboard *Nimitz* (CVN-68) and *Theodore Roosevelt* (CVN-71).

After the week's activities, the four sailors of the year and their families earned one week of rest and relaxation at any continental U.S. location of their choice, compliments of the Fleet Reserve and Naval Enlisted Reserve associations.

The Sailor of the Year program was established by the CNO in 1972 to honor outstanding sailors of the Atlantic and Pacific fleets. The program was expanded in 1973 to include a sailor from the shore establishment and,

later, the Navy's enlisted reservist of the year. Competition is open to all active duty and inactive Naval Reserve sailors in paygrades E-4 through E-6.

Based on each candidate's sustained superior performance, leadership abilities, educational endeavors, command and civic involvement, and past and present duty assignments, the program recognizes the best all-around sailor.

To those aspiring sailors who may someday get the chance to compete in the Sailor of the Year program, 1990's top enlisted naval reservist AWC West says, "Efforts do get noticed. If you keep plugging away, eventually somebody is going to say thanks in one form or another." ■

JO1 Jim Richeson



Front to Back: 1990's Sailors of the Year are: AKC (AW) Garfield M. Sicard, Pacific Fleet; AWC (AW) George R. Heider, Shore; AWC (Aircrew) Michael A. West, Naval Reserve; and MMC (SS) Kevin W. Giles, Atlantic Fleet.

A Rediscovered Log of the Navy's First Airplanes

By Lee M. Pearson

The beginnings of Naval Aviation were exciting and the principal events of 1910 to 1912 are often-told tales. Some of the most familiar ones include the first ship-board takeoffs and landing; Glenn Curtiss's first successful hydroaeroplane flights; Lieutenant T. G. Ellyson's flight training, under Curtiss' tutelage, at North Island, San Diego, Calif., and Hammondsport, N.Y., which earned him the title of Naval Aviator No. 1; the arrival of Lieutenant(jg) J. H. Towers at Hammondsport in June 1911; and the delivery of the first airplane to the Navy at Hammondsport on July 1. Ellyson wrote about many of these to his

superior, Captain Washington I. Chambers, in long letters. His enthusiasm is still contagious.

A recently discovered document at the National Archives reflects some of the same enthusiasm. It is a log of the Navy's first two airplanes — the Curtiss A-1 and A-2. Much of it is in Ellyson's handwriting. In the best Navy tradition, logs are sometimes informative and almost always dull. This log, at least to students of aviation history, is an exception. It shows Ellyson's spirit, and its factual content enriches and sometimes changes the known facts concerning the beginning of Naval Aviation. However, it is not likely to

drastically revise the history of early Naval Aviation. Ellyson's letters are among the standard sources and this log was also prepared by him. While it adds detail, it also reflects Ellyson's interest and generally does not clarify matters that his letters left obscure.

Logs of many of the Navy's first airplanes, including the A-1 and A-2, make up part of the Chambers papers in the Naval Historical Foundation's collection. The newfound log of the A-1 and A-2 obviously predates those. It is contained in an ordinary, hardcover, lined notebook, whereas the logs in the Chambers papers are looseleaf and written on a printed form.

This log has been in the collections of the Naval Records and Library — a



predecessor of today's Naval Historical Center — in the National Archives for some time. A notation on the inside of the front cover states, "Received, January, 1927." The log has been overlooked. A couple of years ago, however, archivist Richard von Doenhoff plucked it from the shelf and scanned a few pages. With his knowledge of naval history and documentation, he quickly recognized its unique character and became excited as to its significance.

The title on the front cover is: "1911, Log of Pensacola Air Station." A more correct name appears on an inside page: "Aeroplane Log Book, U.S. Naval Aeroplanes A-1 and A-2, Commanded by Lt. T. G. Ellyson, U.S. Navy, From July 1, 1911 to ____." The log is in Ellyson's handwriting from the time it began — his hydroaeroplane solo flight on June 8 — until the Navy set up its own aviation camp at Greenbury Point, Annapolis, Md., in September. From then on, it is in a different hand; undoubtedly, one of the enlisted men at the camp served as scribe.

This log explains the designations that Ellyson and Towers used for the various configurations of the Navy's first two aircraft:

"A-1, Triad [i.e., equipped with both folding wheels and floats; the Navy's first airplane in its original amphibian configuration.]

Aa-1 Hydroplane [i.e., floats only]

Ab-1 Big engine, land rig

A-2 4-cylinder practice machine
[Navy's second airplane]

Aa-2 8-cylinder practice machine."

This log covers the period June 1911 to October 1912. It began with Ellyson's solo hydroaeroplane flight on June 8 and included Towers' first taxi trials in late June, first flights of the Navy's first and second airplanes in July, and a few flights of the Navy's third Curtiss machine in October 1912. In contrast, the logbooks in the Chambers collection covered the life of particular machines: July 1, 1911, to October 16, 1912, for the A-1 and July 13, 1911, to November 27, 1915, for the A-2.

Basically the various logs are similar but, in detail, differ markedly. The logs in the Chambers collection are printed, looseleaf forms with tabular flight data on one side of the page and amplifying remarks on the other. In the newly discovered log-

book, remarks begin at the front of a 300-page, bound notebook and the tabulated data for each flight begin on page 150. The worn condition of these latter pages surely proves that they were filled in after each flight, or at least daily.

The existing documentation relating to the design of logs for the Navy's first airplanes is both interesting and relevant. On February 1, 1911, less than a month after he arrived at



Lt. T. G. Ellyson, Naval Aviator No. 1.

Curtiss' North Island, San Diego Aviation Camp, Ellyson wrote to Capt. Chambers:

"I keep a daily journal jotting down all of my experiences which may be of value later on when I have forgotten what my first impressions were and again in case anything should happen there will be something left for the next person that comes along."

Such a journal has never been found and it is likely that Ellyson soon abandoned it. His many long letters to Capt. Chambers recorded his first impressions and, if necessary, would be a help "for the next person that comes along." On the other hand, if Ellyson kept such a journal, it is long since lost and probably destroyed; this newly discovered log might be volume two.

As originally laid out, this log contained 25 columns intended to itemize various details of flight data. Those containing weather information, flight number, duration, time of day, and extra load carried were filled in.

Among the other columns were those for fuel and oil carried and consumed, duration of flight and altitude of place where flight was made, etc. These were seldom, if ever, filled in. It soon became clear that too many columns were useless. At least on December 14, Ellyson wrote to Capt. Chambers:

"I am sending a draft of a form which I think would be suitable for our



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Ellyson is buried at the U.S. Naval Academy, Annapolis, Md.

work. If half the page is left for 'Remarks,' I think that the above form contains sufficient data and not too much to cause it to be neglected or guessed at which is the trouble with most logs."

It took more than half a year longer to get a final design worked out and to get the forms printed. On July 22, 1912, Ellyson wrote:

"Please send me a supply of log blanks. I have the log up to date but no blanks to make duplicates. Within three days after I receive the blanks, I will mail the log complete from 1911 to present."

Thus, the logs in the Chambers papers were originally compiled in July 1912 and thereafter maintained on a regular basis.

Much of the value of the log found in the National Archives is that the remarks are generally more extensive than they were in the previously known logs. Indeed, this log is more than a log of the Navy's first two Curtiss airplanes and is in some ways a record of the aviation camp. It was not, however, rigorously maintained as a camp log. For example, it is silent about Ellyson's experiment on September 9, when he took off by sliding his machine down a wire cable — a step towards finding a means of launching an airplane from ship that would be less disruptive of normal shipboard activities than would a platform. Therefore, it does not help identify the aircraft that Ellyson used on that test, and the statement in the journal *Aeronautics* is the only source for the fact that the aircraft was "the Navy's new Curtiss hydroaeroplane."

Despite the lack of specific dates, the log is fairly good evidence of Ellyson's and Towers' departure from Hammondsport and their arrival at Greenbury Point, Annapolis, Md. It says nothing, however, about the arrival of Lieutenant John Rodgers, Naval Aviator No. 2, who had been trained by the Wright brothers at Dayton, Ohio, and who flew the B-1, the Navy's first Wright machine. This is undoubtedly in part because the aviation camp was subdivided into a two-airplane Curtiss camp and a one-airplane Wright camp; the control systems were so different that Curtiss-trained aviators could not fly the Wright machine and vice versa.

As for the particular information contained in the log, Ellyson's hydroaeroplane solo flight, on June 8, 1911, is significant. It was the first time a naval officer flew an airplane that, in accordance with the thinking of the day, might be of service to the Navy.

He made his first trial at 4:30 p.m. using a standard Curtiss machine with surface 26 feet wide (wingspan) and 4.5 feet deep. The main pontoon was 14 feet long, 2 feet wide, and 1 foot high. With this machine he made four practice taxi runs of about four miles each and with no attempt to turn. Then at 7 p.m. he made his first flight from the water and reached an altitude of 15 feet. At 7:20 he made a second flight to an altitude of about 50 feet; then he made turns, to the left and right. The next afternoon about 5:30 he made two runs over the water but was unable to rise. At 5:45 he made a flight with right and left turns and a figure eight.

Towers' first training flight is also interesting. In 1954 Admiral Towers, in a talk before the Institute of Aeronautical Sciences, told of his introduction to aviation. As he recalled, the very first time he sat in an airplane and attempted a slow speed taxi run, he crashed. He attributed this to Ellyson who, in placing a wedge under the throttle to limit engine power, hadn't allowed for the 20 pounds that he outweighed Towers. Halfway down the field, the machine, hit by a gust of wind, took to the air and crashed. Towers received scrapes, bruises, and a sprained ankle.

According to this log, Towers received his first training on June 28.

They used a Curtiss single-surface machine – a monoplane with a four-cylinder, 30-hp engine throttled to about one-quarter power. That day Towers made six taxi runs over a half-mile course at 10 mph without incident. The next day, Towers made four more runs and "on the 5th run, the throttle was given a slightly wider opening but the machine did not have enough power to fly." About halfway down the field, it was struck by a gust of wind and crashed.

It is not significant whether Towers crashed on his first or his eleventh taxi run. The differences between the two accounts, however, highlight the frailty of human memory and serve as a reminder that historians trust it at their peril.

The log describes Ellyson's trials for his pilot's license in the Navy's first aircraft, indicating the qualifications required of an aviator in 1911. On July 1:

"Lieutenant Ellyson made two flights describing on first flight 4 figure '8's around two stake boats at 500 meters apart, and on the second flight 3 circuits, obtaining altitudes of 300 feet and landing within 150 feet of designated point for pilots license."

Then on July 2:

"Lieut. Ellyson made two flights, each consisting of 5 circuits of figures of eight, course boats 500 meters apart, in A-1 machine fitted with regular Curtiss 8 cylinder engine."

Another significant event occurred at Annapolis, on July 31, 1912, when Ellyson tested the Navy's first aircraft catapult which Assistant Naval Constructor Holden C. Richardson had designed. The log entry:

"Cloudy with passing showers with light to gentle breezes from the West shifting to the SW, Barometer 29.93. @ work fitting stress wires and shortening throttle wire. @ 11:00 AM Lieut. Ellyson left with Chief Machinists Mate

Saar on a 7 min. flight and went alongside Derrick scow to be hoisted out and placed upon Launching device. 11:30 hoisted Aa-1 @ \$3.0580 [hourly rate for use of the Derrick scow?].

"Lieut. Ellyson was launched in Aa-1 off dock. The sudden impact caused machine to jump, bow raising 3 feet before machine progressed 6 feet. The wind caused machine to tilt, left wing struck. Machine capsized, one panel broken in landing. Machine wrecked before it recovered. Lieut. Ellyson unhurt. 6 seconds [sic – read as "60 seconds"] from time of launching until Lieut Ellyson came to surface. Salvaged machine & took engine all apart & oiled everything."

Note that text was altered to indicate that Ellyson was submerged 60 seconds rather than 6. Six seconds is such a short time that it would not have been mentioned, while 60 seconds is close to normal human endurance. Moreover, and putting the frailty of human memory to double jeopardy, Captain Holden C. Richardson told the author that Ellyson was underwater for at least a minute.

The A-1 was lost on October 16, 1912. According to this log:

"Cloudy and cool with gentle breezes from N.E. Barometer 29.93 @ 7:11 AM. Lieut Ellyson & Lieut B. L. Smith, USMC, left with A-1 fitted with plane extension [sic]. @ 7:17 AM in making a turn to [sic – read "too"] low down right wing struck the water & wrecked the machine & no one hurt. @ work salvaging machine & taking down engine."

From the foregoing it is clear that the Navy's aviation historians owe archivist von Doenhoff **many thanks** for discovering a significant document relating to the beginnings of Naval Aviation. While it will not necessitate extensive rewriting of Naval Aviation history, it does enrich previously known information in many particulars. In addition to those quoted or summarized in this article, some of the more interesting include the flight-by-flight account of Towers' training and his test for his pilot's license, a new detailed account of Ellyson's and Towers' first cross-country flight from Annapolis to Old Point Comfort, and new information on the 1911 tests of aircraft radio. ■

Archivist Richard von Doenhoff



JO1 Jim Richeson



Starboard wing up, port wing down, this North American SNJ-4 trainer peels off, showing its understructure in detail.

Aviation Training and Expansion

Part 2

By Capt. Matt Portz, USNR(Ret.)

This is the second of a two-part story by retired Captain Matt Portz, which reviews the Navy's pilot training within the context of the wartime and national events as seen through the eyes of some who lived at the time. Capt. Portz served in a destroyer before entering flight training and then was a Primary and instrument flight instructor. He is currently vice president of Aviation Consultants, Inc., of Los Angeles, Calif.

The pilot training program was changed again in January 1943. Flight preparatory schools were opened at 20 colleges and universities where cadets began their training with three months of academic work, and then went on for two months of elementary flight and ground instruction under civilians at War Training Service (WTS) schools, as the Civil Aeronautics Authority (CAA) Civilian Pilot Training Program

had been renamed. They continued on at the preflight schools for three months and then on to Primary. The Great Lakes steamer *Wolverine* had been commissioned the previous August, and sister ship *Sable* in May 1943, to provide flight decks in submarine-free Lake Michigan for carrier training of pilots and deck crews. By now, Naval Aviation had more than 17,000 aircraft, 26,600 pilots, 23,300 nonpilot officers, and 156,000 enlisted personnel.

On other war fronts, new *Essex*-class carriers were seeing action in 1943, and the Grumman F6F *Hellcat* entered combat. The Germans had surrendered at Stalingrad, two attempts by German officers to kill Hitler failed, Japanese resistance ended on Guadalcanal, and Admiral Yamamoto was shot down. Italy was invaded by the Allies and the Italians surrendered and declared war on their erstwhile Axis partners. Roosevelt, Churchill, and Stalin met at Tehran and agreed that the invasion of France would get first American and British priority.

At the end of 1943, the Naval Air

Training Command, under the Chief of Naval Operations, was established with headquarters at Pensacola, Fla., to direct all Naval Aviation training of the Primary, Intermediate, and Operational air training commands. At this point in the war, naval aviation cadets had completed almost a year of training before reaching Primary. During the first four months, a prospective cadet, as a seaman "tarmac," did apprentice chores at an air station, theoretically, to bind him emotionally to Naval Aviation and, practically, to make him unavailable for the draft.

Gaining cadet status, he moved to a flight preparatory school at one of 17 (formerly 20) colleges for three months of military indoctrination, physical training, mathematics, physics, basic navigation, and aircraft and ship recognition. Next came 8 to 12 weeks at one of the now 92 colleges and civilian flight operators with CAA-WTS schools, which gave him 35 to 40 hours of flight instruction in light aircraft. Most of the inept were eliminated here; the rest were exposed to three months of physical training at the North Carolina, Iowa, Georgia, or California preflight schools.

Now came 11 to 14 weeks and 90 to 100 flight hours of Primary, usually in a Boeing N2S "Stearman," officially the *Kaydet*. Precision flight was drilled into him for the necessary transition to

heavier and more powerful operational aircraft. After learning to handle an airplane in Primary, he moved to 14 to 18 weeks and 160 more flight hours in Intermediate at Pensacola or Corpus Christi, Texas. Time in higher horsepower trainers and instrument flight came before he specialized in carrier, multiengine sea or land, or observation-type aircraft designated, respectively, CV, VPB or VB2, or VO/VCS.

Intermediate trainers were the Vultee SNV *Valiant* (commonly called "Vibrator"), North American SNJ *Texan*, Consolidated PBV *Catalina*, Beech SNB *Kansan*, and Vought OS2U *Kingfisher*. Prior to graduation and commissioning, students selected as carrier pilots flew the SNJ while specializing in tactics for fighters, VF; torpedo-bombers, VTB; or scout/dive-bombers, VSB. Assignment of new

pilots to type squadron was based on "needs of the service" as well as his preference, with far more weight on the former.

Following Intermediate were two months of Operational training at one of 17 naval air stations along the Florida, Georgia, and Carolina coasts to give new Naval Aviators a 100-hour taste of combat-type aircraft as weapons. Among operational aircraft were the Grumman F4F, or General Motors FM-2, *Wildcat*; Grumman F6F *Hellcat*; Vought F4U, or Goodyear FG, *Corsair*; Douglas SBD *Dauntless*; Grumman TBF, or General Motors TBM, *Avenger*; Curtiss SB2C *Helldiver*; Lockheed PV *Ventura*; Consolidated PBV *Catalina*; and Martin PBM *Mariner*. Those destined for carrier assignment qualified aboard *Wolverine* or *Sable*, although a few used



Shots from 1944: right, Link trainers at NAS Livermore, Calif.; below, SNV-1, NAS Livermore; and below right, Howard NH-1 instrument trainer.



Naval Aviation in WW II

the escort carrier *Charger* in the Norfolk, Va., area. From here, it was on to a squadron where training was always a constant.

An unforgivable sin in Navy flying then (and now) was "flathatting." Low-altitude buzzing over a girlfriend's house or exuberant low passes down a highway were bad news. Hot pilots liked to be seen and thought themselves appreciated by the populace. Those stupid enough to make a second pass frequently wound up on report. Those with no luck at all became fatalities after encounters with unseen wires, trees, and ends of box canyons.

In an attempt to control flathatting, some air stations placed stories in newspapers asking citizens to report the time, place, and number of any sighting where the plane's large identification numbers could be read. While this system may not have eliminated sinning, it definitely generated fewer second passes.

Vineyards covered much of the land near one California base; sheep

grazed on nearby hillsides where hot shots sometimes buzzed the animals. One jockey with a strange sense of humor forced a thousand men at another base to hit the deck during a Saturday morning inspection. A court martial gave this chap the rest of the war to contemplate his folly with a mop rather than an aircraft's control in his hands.

Many farmers and ranchers accepted property damage by aircraft as a contribution to the war effort. Aviators not on an immediate flight schedule were sometimes detailed by the station's legal department to pay a public relations visit to an injured party, who was asked to sign a conditional damage release. My destination on one such detail was to the Concannon Winery in the Livermore, Calif., valley where a fatal crash had torn up rows of choice vines. The lane wound through the vineyard to an old California-style house.

A servant answered my knock and ushered me into the home's cool interior. There I was received by a fatherly gentleman, Joseph Concannon, son of

the vineyard's founder, who questioned me about my knowledge of wine. When told I knew nothing about it, he suggested that I might want to sample his product. Cheese, crackers, and several varieties of delicious white wine were brought out. While we sipped, the vintner explained about the varieties of grapes used in wine making. The grapes' history and the manufacturing process were fascinating. So was the taste.

Only when this pleasant activity came to a natural conclusion did Mr. Concannon ask, "Now, son, where is that paper you want me to sign? We lost a few vines. They can be replaced, but those two young men killed in that crash can never be." I left with a signed document and warm feelings which last to this day for Mr. Concannon and his art.

Information about the numbers of training accidents as compared to those in the fleet is unavailable. Probably there were more of the former. Overall Navy flight statistics for 1945 are available and the numbers are impressive. That year, 15.5-million



Cadets and instructors check the flight assignment board at NAS Livermore, 1944.

hours were flown. More than 13,000 major accidents occurred; half resulted in destroyed aircraft. The more than 3,000 fatalities were at the rate of 20.5 per 100,000 hours flown. Current statistics show Navy flying as being much safer. In the 2,238,777 flight hours in 1989, there were 55 Class-A accidents (involving fatalities or damage of at least \$1 million) with 54 aircraft lost and 78 fatalities – a rate of only 2.46 per 100,000 hours.

Flight students lived in barracks, and by the rules, which read in part: "Cadets are to form details and return to barracks following noon chow. It is mandatory that cadets fall in details of four men or more. Cadets are required to attend all musters for meal formations. They must be in full uniform and will be marched to the mess hall at all times. Caps off in cadet regiment. Hands out of pockets at all times. Cadets are urged to attend Divine Service held in the chapel each Sunday; 0630 and 0830 Roman Catholic mass; 1000 Protestant divine services. Cadets are required to have regulation haircuts. Cadets will use the barber shop supplied by Ship's Service." There were dozens of others.

The otherwise well-disciplined life of flight students was interrupted occasionally by juvenile high jinks. One character followed a regular evening routine – a before-taps shower followed by a naked run through the barracks screaming the Tarzan call. Reaching his upper bunk, he'd swing from a handy pipe into his sack.

One evening during the shower phase, his barracks mates replaced the basic springs with light twine, warned the man in the bunk below, and waited. Right on schedule came the naked dash, the Tarzan yell, the swing into the sack ... and crash. Some pleasures were simple then.

Women Appointed for Volunteer Emergency Service, WAVES, served on most training bases in about every kind of nonflying job. They did their jobs as well as the men. WAVES also served on the "Stearman" flight line. That aircraft's engine was started by cranking an inertia starter by a person standing on a wing from where the cranker's posterior pointed directly at the instructor and student. This fact

seldom went unnoticed when the cranker was female. Many romances were observed to blossom on the flight line.

Starting procedure required the fuel valve to be on and the engine primed. When the cranker's muscles got the starter to speed, crank handle was removed, ignition thrown on, and starter engaged. If the engine didn't start immediately, the probable cause was a cockpit goof. Such trouble was minimized by the offending cadet cranking during the next start attempt.

The Marshall Islands were occupied with support from six heavy and six light carriers in 1944. Carrier strikes against Japanese-held islands intensified, and Navy planners fixed total pilot output for 1944, 1945, and 1946 as 20,000, 15,000, and 10,000. The Chief of Naval Operations issued plans to make drastic reductions in pilot training. Some students in preflight and earlier training stages were to be transferred to other duties. Enough were retained to maintain a preflight course expanded to 25 weeks. So called "deselection" and voluntary withdrawal from flight training began in June, the month of the Normandy landings in Europe and the beginning of the Mariana Islands campaign in the Pacific. These reductions brought an end to the CAA-WTS and flight preparatory school phases of pilot training, and release of a number of training stations in September.

Before these changes began, the Naval Air Primary Training Command consisted of Naval Air Stations (NASs) at Bunker Hill, Ind.; Dallas, Texas; Glenview, Ill.; Grosse Ile, Mich.; Hutchinson and Olathe, Kans.; Livermore, Calif.; Memphis, Tenn.; Minneapolis, Minn.; New Orleans, La. (instructors school); Norman, Okla.; Ottumwa, Iowa; and St. Louis, Mo. Total aircraft numbered almost 3,600 and personnel, including students, 46,700.

At the same time, the Naval Air Intermediate Command included the Naval Air Training Centers at Pensacola and Corpus Christi; as well as the instrument instructors school at NAS Atlanta, Ga. The Pensacola cen-

ter included Naval Auxiliary Air Stations (NAASs), Barin, Bronson, Corry, Ellyson, Saulley, and Whiting fields. The center at Corpus Christi consisted of NAASs Cabaniss, Chase, Cuddihy, Kingsville, Rodd, and Waldron fields. Command aircraft numbered 4,200 and personnel, including students, almost 73,000.

The Naval Air Operational Training Command in March 1944 comprised NASs Banana River, Daytona Beach, Deland and Fort Lauderdale, Fla., and Beaufort, S.C.; NAAS Cecil Field, Fla.; Marine Corps Air Station, Edenton, N.C.; and the carrier qualification unit at NAS Glenview, Ill. Also in the command: NAAS Green Cove Springs, Fla.; NASs Jacksonville, Melbourne, Miami, Sanford and Vero Beach, Fla.; and St. Simons Island, Ga. (radar school). Other stations were the Naval Air Navigation School,



Marching cadets at NAS Livermore in 1944.



Author Matt Portz, then a Ltjg., posing with a Waco UPF-7, Lockport, Ill., 1943.

Shawnee, Okla. and NAAS Mayport, Fla. Command aircraft numbered more than 2,900, personnel almost 54,500.

More than 48,000 pilots were on Naval Aviation roles in 1944, as well as 31,000 nonpilot officers and 275,000 enlisted personnel.

Reassignment of missions of a number of training bases in 1944 should have signaled that the need for pilots was winding down. Those of us instructing in the system didn't read the signs. Perhaps we could be excused: fighting in Europe and in the Pacific was at its bloodiest. Japanese resistance on Iwo Jima was crushed by the Marines in March 1945; American fighter planes flew from airfields in Japan's front yard; our high-speed carrier task forces operated at will; the Philippines were in our hands; Boeing B-29 *Superfortresses* were incinerating Japanese cities; and the invasion of Okinawa had begun. In Europe, U.S. Army troops crossed the Rhine at Remagen into Hitler's disintegrating Third Reich. Naval Aviation now num-

bered 41,000 aircraft, 60,000 pilots, 33,000 nonpilot officers, and almost 338,000 enlisted personnel.

Attrition among Navy flight students had been increasing by plan for a year. With the end of the war in sight, cadet washout rates climbed. Granting of extra instructional time to those who flew down-checks was severely restricted. Extra instruction to smooth out flight deficiencies had been routine. No more; things had changed drastically. Many who earlier would have made it, did not. Flight or ground school, psychological or medical unfitness, or any of a dozen reasons caused washouts.

Before the axe fell on the hapless, his record was reviewed by a board of ranking officers whose recommendations were usually approved. Those eliminated, depending on the individual's background, went to officer or aircrew training. The few who had held ratings or rank before becoming cadets normally returned to their former status.

Events continued to overtake flight instructors like me. In early May, the base shifted to a work schedule of 6 days on with Sundays off, rather than the more strenuous 10 days working and 2 days off. On May 7, 1945, the Germans surrendered to General Eisenhower at Rheims. V-E Day was observed the following morning by the executive officer reading us an expression of gratitude from our national leaders for victory, and of the determination to quickly defeat the Japanese in the Pacific. I flew as usual with cadets that day, but within a week had orders to a "refresher" course to prepare for return to the fleet. The "refresher" turned out to be a holding pattern until it was clear whether those like me would be needed against Japan. Replacement pilots on hold were experienced, young, and eager.

Not until years later when top secret war plans were declassified was the holding pattern understood. The Joint Chiefs of Staff had plans for the invasion of Kuyushu on the first of November 1945, and four months later the Tokyo Plain. Some 2,700 ships, more than 100 of them carriers, would participate.

Naval Aviation in WW II

By now, most realized the war was nearing an end. Hiroshima was atomized by the bomb on August 6, 1945, dropped from the B-29 "Enola Gay," flown by the same Colonel Paul Tibbets with whom I had hitched a ride in 1944 when returning from instrument instructors school at Atlanta. The bomb hit Nagasaki August 9, most hostilities ceased August 14, and the surrender was signed aboard *Missouri* September 2.

World War II had ended. Demobilization was rapid. Within a few months, most Naval Aviators went home to civilian life, some stayed in the Navy, and many went into the Naval Air Reserve. During the war in Korea that came in five years, fleet carrier air groups, by June 1951, found that every third air strike against the Communists was flown by a reservist. *Princeton*, *Boxer*, and *Bon Homme Richard* were in action with air groups of 50, 90, and 100-percent reservists.

But that is another story. This one ends here. ■

50 Years Ago – WW II

October 5: The Secretary of the Navy placed all divisions and aviation squadrons of the Organized Reserve on short notice for call to active duty and granted authority to call Fleet Reservists as necessary. On the 24th the Bureau of Navigation announced plans for mobilizing the aviation squadrons, which called for one-third to be ordered to active duty by 7 November and all by 1 January 1941.

October 23: Within the Atlantic Squadron, an administrative command was set up for carrier aviation entitled, "Aircraft, Atlantic Squadron."

October 24: An administrative command for patrol aviation in the Atlantic Squadron was set up under the title, "Patrol Wings, Atlantic Squadron."

October 28: The Chief of Naval Operations reported that aircraft with some form of armor and fuel protection were just beginning to go into service use, and that within a year all fleet aircraft, except those assigned Patrol Wing 2, would have such protection.

Next issue: Technical development before the war

Association of Naval Aviation Bimonthly Photo Competition



Lights from the island structure of Abraham Lincoln (CVN-72) brighten the evening as the carrier sits moored at NS Norfolk, Va. This photograph by PH2 Tracy Didas won honorable mention in the fourth bimonthly ANA Photo Contest.

PH1 William Howe, PMRF Barking Sands, Hawaii, took this dramatic shot which won the fourth bimonthly ANA Photo Contest. He captured an F/A-18D night-attack Hornet over California's Sierra Mountains at dusk.

The Association of Naval Aviation Photo Contest

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.**

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.

Awards

The 1989 **Captain Arnold Jay Isbell Award** for air antisubmarine warfare excellence was awarded to HSLs 36 and 42, HS-17, VS-24, and VP-24 in the Atlantic Fleet; and HSLs 35 and 45, VS-29, HS-4, and VP-19 in the Pacific Fleet.

FY-89 **Secretary of the Navy Energy Conservation Awards** went to the following aviation units: *John F. Kennedy* (CV-67), large ship; VT-24, training squadron; and NAF Misawa, Japan, small shore.

The 1989 **Vice Admiral Robert Goldthwaite Award** was presented to VT-3. The award is given to the squadron in the Naval Air Training Command with the most superior performance in management, operations, and personnel training.

NAF Detroit is the winner of the 1989 **Robert S. Gray Award** for excellence in aircraft maintenance. The award was established by Commander, Naval Air Reserve Force to promote competition and to recognize excellence within reserve aircraft intermediate maintenance departments. It is sponsored by Grumman Aerospace Corporation and was first presented in January 1987.

The 1990 **Navy League John Paul Jones Award for Inspirational Leadership** was awarded to Capt. Lloyd Edward Allen, Jr., C.O. of *Coral Sea* (CV-43). Capt. Allen led the way with the embarked air wing in developing tactics for use of the F/A-18 *Hornet* in air/strike warfare.

The 1990 American Helicopter Society awards included the following: **Captain William J. Kossler Award** was presented to USCG Commandant Admiral Paul A. Yost, Jr., on behalf of the Coast Guard's efforts in fighting the nation's continuing war on drugs.

Paul E. Haueter Award was given to the Bell-Boeing/NavAir V-22 *Osprey* team for its contribution to the development of VTOL aircraft other than helicopters.

USCG Lt. David R. McCormick was the recipient of the **Frederick L. Feinberg Award**, presented each year to a helicopter pilot for the most outstanding achievement during the preceding year.

1990 **Captain Edward F. Ney Memorial Awards** for excellence in Navy food service were presented to: aircraft carriers, *Independence* (CV-62) and *Theodore Roosevelt* (CVN-71); and large ashore facility, Naval Station, Norfolk, Va.

Secretary of the Navy's FY-89 Action Plus Excellence Award for Quality and Productivity went to Naval Aviation Depot, Norfolk, Va. This award is based on the implementation of the principles of the Total Quality Management philosophy, which focuses on the processes by which work gets done and views employees as willing collaborators in the ongoing effort to improve products and services.

Guadalcanal (LPH-7) received the 1990 **Chief of Naval Operations Safety Award** for large amphibious ships.

VAdm. Richard M. Dunleavy, ACNO (Air Warfare), became the fifth Naval Flight Officer (NFO) to be designated the **Gray Owl**, senior NFO in the Navy. VAdm. Dunleavy succeeded RAdm. Thomas J. Johnson.

J. B. McKamey



Tom Kane, Senior Vice President of Business Development, Systems Division, Grumman Aerospace Corporation, presents VAdm. Dunleavy with the "Gray Owl" trophy.

The National Football Foundation and Hall of Fame recently announced that the 1990 recipient of the foundation's Gold Medal is **Adm. Thomas H. Moorer, USN(Ret.)**, former Chairman of the Joint Chiefs of Staff and a career Naval Aviator.

The award is given annually to a former college football player who has distinguished himself by his personal qualities, professional life, and his highly significant contributions to his country. Adm. Moorer joins two other Naval Aviators who previously received this award — RAdm. Thomas J. Hamilton, USN(Ret.), former WW II hero, sports star, coach, and athletic administrator (see *NA News*, September-October 1989) and VAdm. William P. Lawrence, USN(Ret.), former sports star, Vietnam conflict hero, and prisoner of war.

Records

Several units marked **safe flying time**. HC-4: 7 years

HM-12: 60,578 hours and 17 years

HM-14: 12 years

HMH-362: 30,000 hours and 7 years

HMLA-269: 20,000 hours and 3 years

HS-7: 4 years

HSL-36, Det. 6: 10,000 hours

HSL-74: 54,000 hours and 20 years

HT-8: 389,000 hours and 13 years

MAG-32 OMD: 27,000 hours and 18 years

MCAS Yuma: 36,000 hours and 16 years

NAS Dallas: 22,720 hours and 20 years

NAS Meridian: 30,000 hours and 20 years

NAS Moffett Field: 2,000 hours and 3 years

NAS Pensacola: 75,000 hours and 19 years

VA-65: 26,000 hours and 7 years

VA-75: 17,000 hours and 4 years

VA-85: 13,000 hours and 3 years

VA-147: 30,000 hours and 8 years

VAQ-137: 19,000 hours and 16 years

VAQ-142: 2,700 hours and 2 years

VAW-112: 32,000 hours and 16 years

VAW-122: 33,268 hours and 16 years

VC-10: 5,000 hours and 2 years

VF-41: 39,000 hours and 10 years
 VF-302: 12,660 hours and 4 years
 VFA-25: 60,000 hours and 13 years
 VFA-83: 5 years
 VFA-195: 30,000 hours and 8 years
 VFC-13: 24,000 hours and 5 years
 VMA-124: 4,000 hours and 1 year
 VMFA-134: 10,000 hours and 7 years
 VMFA-232: 35,000 hours
 VMFA-333: 40,000 hours and 10 years
 VP-23: 76,054 hours and 12 years
 VP-24: 22 years
 VP-31: 154,000 hours and 18 years
 VP-44: 18 years
 VP-45: 140,000 hours and 21 years
 and
 VX-4: 2,470 hours and 1 year.

Cdr. Steven A. Hazelrigg recorded his 1,000th trap during sea trials on-board *Abraham Lincoln* (CVN-72).

Cdr. Ken A. Richardson, skipper of VA-105, logged his 1,000th trap, aboard *Forrestal* (CV-59).

Maj. Colin Lampard of VMFA-122 recently surpassed his 3,000th flight-hour in the F/A-18 *Hornet*.

VP-9's skipper, **Cdr. Thomas M. Feeks**, completed 5,000 career flight hours.

Cdr. Larry E. Cook, skipper of VAW-114, recently surpassed his 3,000th flight hour in the E-2 *Hawkeye*.

Lexington (AVT-16) recorded her 300,000th launch on catapult No. 1 in June 1990.

Maj. Mitchell Triplett flew his AV-8B *Harrier* off the deck of the Spanish ship *Principe de Asturias*, in Sardinia, Italy, with a gross weight of 28,000 pounds. With 10 500-pound bombs affixed to the wings, the 22d Marine Expeditionary Unit's plane took off with one of the heaviest ordnance loads ever carried by an AV-8B at sea.

Cdr. Eugene K. Nielsen, VA-34's skipper, flew his 3,000th hour in the A-6E *Intruder* while deployed aboard *Dwight D. Eisenhower* (CVN-69).



Cdr. Ronald Alexander, pilot, and **Lt. Doug Bailey**, bombardier navigator, prepare to land on the flight deck of *Dwight D. Eisenhower* (CVN-69). The trap was Alexander's 600th on Ike.

Ranger (CV-61) attained an aviation milestone recently when an EA-6B *Prowler* from VAQ-129 completed the 32-year-old carrier's 300,000th aircraft arrested landing.

Rescue

Two Oahu fishermen were plucked from their life raft north of Maui by a **USCG Air Station, Barbers Point Dolphin** helo. The two men were asleep on their 65-foot vessel, *Tiare*, when fire broke out in the engine room. The men broadcast a mayday call on their marine radio prior to attempting to extinguish the fire.

The distress call was monitored by USCG Group Honolulu at Sand Island and a helo was directed to launch while the USCG cutter *Washington* prepared to get under way. The helicopter arrived in the area and its crew homed in on the heavy smoke coming from the vessel. When the helo passed over the boat, the fishermen were still onboard trying to extinguish the flames. As the deck structures began collapsing, the men abandoned ship into their life raft.

Once clear of the vessel, the two men were hoisted into the *Dolphin* and returned to Barbers Point. *Washington* arrived on the scene in time to recover the life raft and videotape the burned out vessel as it sank.

Anniversaries

The *Cosmic Cats* of VT-10 celebrated their 30th anniversary the last week in June. VT-10 is the basic and intermediate training squadron for Naval Flight Officers.

The 25th anniversary of *America* (CV-66) was celebrated on September 16, 1990.

Scan Pattern



PH1 Ted Salois

An aircrewman lifts to turn the tail of a UH-1 Huey on the flight deck of the **Seventh Fleet amphibious assault ship Peleliu** (LHA-5) during recent underway operations.

LCdr. Edward Ferrer wears two hats. A pilot in his own right, Dr. Ferrer is also a flight surgeon assigned to the MAG-42, Det. A medical detachment, a naval reserve unit which provides health services for the air wing.

To maintain his flight surgeon status he is required to fly a minimum of 48

The San Diego Aerospace Museum in Balboa Park opened a new exhibit on January 13, 1990, titled "Fly Navy-Vietnam," which features two Vietnam-era aircraft — a Navy F-4 Phantom II and a Soviet MiG-17F. The display was developed to honor those aviators who flew from the decks of the Navy carriers during the Vietnam conflict. The F-4S was a double MiG killer while being flown as an F-4J by the Navy's only two Vietnam aces, pilot Randy Cunningham and his radar intercept officer, William Driscoll.



Corwin Crowell



JO1 Harry C. Konyori

When not in a cockpit, Dr. Ferrer can be found at the NAS Cecil Field, Fla., Branch Clinic administering flight physicals and holding routine sick call.

hours per year. Given the opportunity, Dr. Ferrer dons his flight suit and climbs into the cockpit to train in deep air strikes, close air support, ordnance delivery, low altitude tactical maneuvers, and air refueling in TA-4J Skyhawks.

Navy flight surgeons go through six months of flight training compared to the Air Force or Army program which is only six weeks. The Navy is also the only service which requires flight surgeons to go through primary flight training prior to getting their wings. Basic flight training is at NAS Whiting Field, Fla., and the survival portion is done at NAS Pensacola.

Change of Command

FitWing-1: Capt. Richard W. Potter relieved Capt. Curtiss W. Schantz, Jr.
HC-1: Cdr. Robert D. Smith relieved Cdr. Leland Littlejohn, Jr.

HC-3: Cdr. Robert Payne, Jr., relieved Cdr. Kenneth O'Bannon.

HC-5: Cdr. Thomas R. Ford relieved Cdr. Allen B. Worley.

HC-9: Cdr. Joseph Cimenski relieved Cdr. Paul Huish.

MALS-13: Lt. Col. Robert I. Sickler, Jr., relieved Lt. Col. Russell V. Dudley.

MATSG Whidbey Island: Col. John M. Suhy relieved Col. Warren R. McPherson.

MAWSLant: Cdr. Carlton B. Jewett relieved Cdr. Richard D. Jaskot.

NaDep Norfolk: Capt. Thomas W. Hancock relieved Capt. Garland F. Skinner.

NaDep Pensacola: Capt. Robert L. Jordan relieved Capt. David R. Riley.

NAESU: Cdr. Bruce L. Hawk relieved Capt. (Sel.) Gary K. Ikuma.

NAF Washington: Capt. Thomas L. Sanderson relieved Capt. Edward G. Marsyla.

NAR Norfolk: Capt. Johannes Wytmsa relieved Capt. Roger Richardson.

NAS Cecil Field: Capt. Robert Nordman relieved Capt. Frank Herron.

NAS Point Mugu: Capt. Paul J. Valovich relieved Capt. Dennis L. Solomon.

NAVPRO Melbourne, Aust.: Cdr. Bert H. Johnston relieved Cdr. Douglas G. Henry.

SeaStrikeWing-1: Capt. Donald B. Roulstone relieved Capt. Sam K. Houston.

Theodore Roosevelt: Capt. Charles S. Abbott relieved Capt. Dayton W. Ritt.

VA-34: Cdr. Ronald K. Alexander relieved Cdr. Eugene K. Nielsen.

VA-46: Cdr. Mark Fitzgerald relieved Cdr. Ed Fahy.

VA-95: Cdr. John R. Worthington relieved Cdr. John F. Schork.

VA-165: Cdr. John Indorf, Jr., relieved Cdr. William H. Shurtleff IV.

VA-176: Cdr. William G. Ballard relieved Cdr. Frank W. Montesano.

VA-205: Cdr. Randall C. Schultz relieved Cdr. Daniel E. Caldwell, Jr.

VA-304: Cdr. John F. Hines relieved Cdr. Michael F. DiBello.

VAQ-34: Cdr. Rosemary B. Mariner relieved Cdr. Charles H. Smith.

VAQ-131: Cdr. Pat O'Neil relieved Cdr. Bob McNamara.

VAQ-132: Cdr. Thomas P. Lane relieved Cdr. W. Dan Joslin.

VAQ-140: Cdr. Steven J. Underriter relieved Cdr. Donald W. Stoner.

VC-6: Cdr. Donald C. Fox relieved Cdr. John J. Nacht.

VF-11: Cdr. Steven R. Nichols relieved Cdr. Robert Lee Kimmel.

VF-101: Cdr. Charles K. Crandall, Jr., relieved Capt. J. M. Lyle.

VF-201: Cdr. Robert A. Duetsch relieved Cdr. Ross Burgess.

VFA-25: Cdr. Greg Peairs relieved Cdr. Dan Gabriel.

VFA-137: Cdr. Craig B. Henderson relieved Cdr. Phillip G. Howard.

VFA-203: Cdr. William C. Bailey relieved Cdr. Richard A. Bailey.

VFA-303: Cdr. Charles Askey relieved Cdr. John S. Wood.

VP-4: Cdr. Robert L. Cunningham, Jr., relieved Cdr. Daniel J. Brennock.

VP-8: Cdr. Bruce W. Crawford relieved Cdr. Robert J. Scott.

VP-9: Cdr. Paul E. Hallowell, Jr., relieved Cdr. Thomas M. Feeks.

VP-24: Cdr. Michael L. Holmes relieved Cdr. George J. Murphy.

VP-44: Cdr. Alan M. Harms relieved Cdr. Walter C. Spearman, Jr.

VP-45: Cdr. James R. Cannon relieved Cdr. William B. Evers.

VP-48: Cdr. Chalker W. Brown III relieved Cdr. Rory Fisher.

VP-68: Cdr. Daniel Puzon relieved Cdr. Gregory Hinchcliffe.

VRC-30: Cdr. John Ford relieved Cdr. Michael Beresky.

VS-28: Cdr. Joseph G. Gershon relieved Cdr. Michael J. Green.

VT-2: Cdr. Charles M. Mason, Jr., relieved Cdr. Daniel E. Erndle.

VT-6: Cdr. Dennis A. Hathaway relieved Cdr. James C. Grover.

VX-4: Capt. Philip Howard relieved Capt. Frederic G. Ludwig.

By Cdr. Peter Mersky, USNR-R

Hata, Ikuhiko and Yashuo Izawa/Translated by Don Cyril Gorham. *Japanese Naval Aces and Fighter Units in World War II*. U.S. Naval Institute, Annapolis, MD 21402. 1989. 480 pp. Illustrated. \$46.95.

The Japanese have always been quietly proud of their role in WW II. Whatever we in the West might think about their raid on Pearl Harbor or the atrocities by their ground troops, they have always looked upon their accomplishments and ultimate defeat as the fortunes of war. The Japanese also maintained an air of anonymity around their pilots, although continued performance was hard to hide.

This unique book offers a fascinating, in-depth look at the other side. For those whose only exposure to Japanese air operations is the classic *Zero* or *Samurai*, this translation of an earlier Japanese volume offers a trove of personal and operational facts. In a recent review of *The Jolly Rogers*, I noted that I had not heard of the ace Iwamoto. Yet, his successful career – 80 kills over eight years as a front-line fighter pilot – is highlighted on page 241. Another unusual revelation is that the Japanese had at least one night ace, a Chief Kudo, with six confirmed kills in the twin-engine *Irving* night fighter.

There are too many unusual aspects to cover in a short

review. Briefly, the text discusses ship and land-based fighter squadrons, as well as the individual aces who rose from the pack. It seems that no one beyond lieutenant became an ace, and for the most part, the top scorers were first-class petty officers.

This raises the somewhat confusing practice of posthumously awarding a jump in rank, sometimes two grades. Saburo Sakai – the top *surviving* ace – spent most of his tours as a first-class, however, the book refers to him as a "WO," then a jaygee.

A number of line profiles of various fighters with appropriate markings accompany the text. The translation could have been cleaned up, relying less on clichés like "died a hero's death" and other stilted language which hinders readability. There are some areas that need an explanatory footnote. On page 26: What is a "Deboachim," referred to in a discussion of Chinese aircraft that defended against Japanese attack?

These points aside, this book might be considered a publication event for the interesting portrait it presents of the Imperial Navy's Sea Eagles. There is also a sister volume on the Japanese Army Air Force. Could there be a translation of that book in the works?

WEATHER FRONT

By Capt. Neil F. O'Connor, USN(Ret.)

WestPac Typhoons



Typhoons are the weather scourge of WestPac. Even the name is onerous! The term is believed to come from the Cantonese "t ai fung" meaning "great wind," which is probably an understatement! The lessons learned from the December 1944 typhoon that wreaked havoc on Task Force 38 steaming off the Philippines are now part of many Seventh Fleet OpOrds. The Navy lost 790 men, three destroyers were sunk, and 146 aircraft damaged beyond repair when the seas finally subsided from that storm. Eighteen ships ultimately had to be taken off line due to major damage. Although typhoons to Pacific Fleeters, Atlantic Fleet sailors know these storms as hurricanes – while the Aussies frequently refer to them as Willy-Willys.

Over the millenium, few areas of the Western Pacific have escaped the fury of a typhoon strike. Even Guam – home of the weather guardian for WestPac, the Naval Oceanography

Command Center, currently commanded by Captain Bill Plante – has evoked the wrath of Mother Nature. In May 1976, "Super Typhoon Pamela" took a vicious slap at Guam, causing record-breaking damage with her 138-knot winds (160 mph). The intense gusty winds of Pamela varied as much as 80 knots (90 mph) between peaks and lulls, resulting in pronounced fluctuations of atmospheric pressure. Few unreinforced structures survived the wrenching effects of the 60 to 70-pound pressure load exerted on each square foot of exposed surface – washed down with 27 inches of rain in a 24-hour period. It took more than 30 hours before the force of Pamela finally cleared the island.

WESTERN NORTH PACIFIC TROPICAL CYCLONE SUMMARY TYPHOONS: 1945-1988

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
0.4	0.1	0.3	0.4	0.7	1.1	2.0	2.9	3.2	2.4	2.0	0.9	16.3

TYPHOONS: 1959-1988

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
0.3	0.1	0.2	0.5	0.7	1.0	2.7	3.2	3.3	3.0	1.7	0.7	17.4

Source: 1988 Annual Tropical Cyclone Report: Joint Typhoon Warning Center, Guam

The table of Western North Pacific Tropical Cyclones indicates the frequency of typhoons for each month from 1945 to 1988. Usually there are

about 17 typhoons each year in WestPac, compared to about 5 hurricanes in the North Atlantic. But unlike the Atlantic and Gulf of Mexico, which still come under the scrutiny of USAF weather recce flights, 1988 was the first full year in WestPac without the benefit of such support. From 1959 to 1987, forecasters at the Joint Typhoon Warning Center on Guam had the service of USAF WC-130 recce aircraft weather observations in, above, and



around the eye of these storms. While these on-scene observations are sorely missed, changes have been implemented to maintain the quality of fleet support. As an example, according to Capt. Plante, "All typhoon warnings and plotting is now done on a series of interconnected computers. The manpower [time] to produce a single forecast has been reduced from 90 to less than 15 minutes. The forecast team now has time to think rather than simply react..."

Kudo

I want to compliment your staff, as well as the personnel of the Aviation History Branch, for the outstanding job you are doing with *Naval Aviation News*. In the past year, *NA News* has dramatically improved the quality and interest range of its content. To start with a fine product, then make it better can only be done with a great amount of dedicated effort of the staff, guided by the fine hand and fertile mind of the editor. Congratulations.

We here at *The Hook* are definitely "checking six" to keep up with our friendly competition.

Robert L. Lawson
Editor-in-Chief, *The Hook*
5126 Central Avenue
Bonita, CA 92002

CH-53E Photo

According to the caption below the CH-53E photo on page 33, *NA News*, July-August 1990, HMH-466 is the only southern California-based squadron capable of external cargo lifts of 31,000 pounds. As C.O. of a similarly equipped squadron that routinely performs the same type of missions, I would like to point out some of our recent accomplishments: lift of an AV-8C from Davis-Monthan AFB, Ariz., to NAF El Centro, Calif.,

U.S. Navy Memorial: Unfinished Business

The Navy Memorial plaza was dedicated in 1987. With the exception of 22 bas-relief panels, which will commemorate Navy people, the outdoor part of the memorial is complete.

What you see outside is half the story. Still to come is the \$8-million Visitors Center, the heart of the memorial. This educational and heritage facility will feature the Navy Memorial Log, a film about the adventure of going to sea, and interactive videos telling about the Navy and its history — the living part of the memorial.

The Navy Memorial needs your gifts now. Without your help, the memorial is unfinished business.

Please contact the U.S. Navy Memorial Foundation, P.O. Box 12728, Arlington, VA 22209-8728, (800) 821-8892 or (703) 524-0830.

and more than three years and 10,000 hours of mishap-free flying.

It should also be noted that HMT-302, also Tustin based, flies the CH-53E as does HC-1 at NAS North Island, Calif.

I opine that the officers and enlisted personnel of HMH-465 are much like the great silent majority of Americans: quiet, hard-working, dependable, and dedicated. However, a little recognition would be appreciated.

Lt. Col. R. S. Johnston
Commanding Officer, HMH-465
MCAS Tustin, CA 92710-6060

VQ Speaks

Regarding your May-June 1990 issue, I have two comments:

Lt. Krotow is to be commended for her achievement; those who have worked with her are not surprised. (See "NAO Wings Stage a Come-back," p. 18.) I differ with paragraph two in the article. Are not the 1610s and radio battalion Marine officers who fly also designated Naval Aviation Observers?

I enjoy Hank Caruso's cartoons. I think his cover is another masterpiece, but I notice some aircraft missing. Although restricted from further carrier ops by the Chief of Naval Operations in November 1987, the "Whale" is still flying operationally. I have yet to see an A-3 cartoon done by Mr. Caruso. I also noticed the absence of the EP-3E "Skypig" and the C-130 "Hog."

Your magazine is very popular with Allied aviators here in Naples, leaving the Air Force publications on the shelf gathering dust.

Lt. Henry H. F. Baker
ComStrikForSouth
FPO New York, NY 09524

Thank you for informing us that flying "crippies" are also designated Naval Aviation Observers. Our research did not find any mention of them. We will ensure that our archives reflect that Navy and Marine cryptologic officers who fly with VQ squadrons are also designated as NAOs.

Reunions, Conferences, etc.

VC-12 reunion, 20-23 SEP, San Antonio, TX. POC: Myron Matsler, Box 880, Sinton, TX 78387, 512-364-4482.

Fleet Air Wing 7 reunion, 21-23 SEP, Boston, MA. POC: Dick Gale, Box 1, Hebron, CT 06248, 203-228-3442.

TAILHOOK '90
Naval Aviation Symposium
September 6-9, 1990
Las Vegas Hilton
The Tailhook Association
P.O. Box 40, Bonita, CA 92002
(619) 689-9233

TAILHOOK 1990 is almost upon us! Block out September 6 through 9 on your squadron ops calendar, climb aboard one of the many C-9s provided by the Tycoms, and come participate in the best professional symposium offered. This is the single time of the year when Naval Aviation can get together, exchange sea stories, swap lies and, most important, let the JOs exchange ideas with industry and senior officers of Naval Aviation. This year's HOOK promises to be the best ever. I'll see you on the third deck, and keep strokin'!

Dunleavy

Air Group 12 (Randolph, WW II) reunion, 23-26 SEP, San Diego, CA. POC: Glenn Chaffer, 30 Anchorage Dr., Bridgeport, CT 06605, 203-384-8034.

VS-1-D14/VSs 51, 66, 65 reunion, 4-7 OCT, San Antonio, TX. POC: Billy Locke, 5419 Keystone, San Antonio, TX 78299, 512-684-0186.

VC-42 reunion, 5-9 OCT, San Diego, CA. POC: John Hibbs, 86 Meadow Run Pl., Harrisburg, PA 17112, 717-652-0423.

NAS New York reunion, 7-11 OCT, Las Vegas, NV. POC: G. Giacalone Reunion Assoc., Box 7687, Redlands, CA 92375-0687.

Lexington (AVT-16) reunion, 9-14 OCT, Tucson, AZ. POC: Al Rogers, 568 Kingswood, Eugene, OR 97405, 503-485-4100.

VP-14/VB-102/VPB-102 reunion, 18-20 OCT, Tucson, AZ. POC: Ted Marshall, 4662 E. Don Jose Dr., Tucson, AZ 85718, 602-299-9130.

VP-45 reunion, 26-28 OCT, Pensacola, FL. POC: Jay Thomas, 7016 W. 12th, Wichita, KS 67212, 316-943-3304.

VA-175 (WW II VT-82/VA-18A) officers reunion, 8-11 NOV, Pensacola, FL. POC: James Fritze, Box 5696, Bossier City, LA 71171-5696, 800-256-7890.

VPs 881/882/883 reunion, 9-10 NOV, Overland Park, KS. POC: George Thompson, 2907 Wroxtton, San Antonio, TX 78217, 512-655-3676.

Shamrock Bay (CVE-84) reunion, 16-18 NOV, Charleston, SC. POC: Fred Griggs, 1989 Dandy Rd., Dallas, GA 30132, 404-445-4770.

Corrections to *NA News*, July-August 1990: page 10, 06 February 1989 entry, should read Secretary of the Navy (vice Secretary of Defense) William L. Ball III; page 16, Carl Vinson's cruise was in NorPac/WestPac not NorLant/WestPac.

