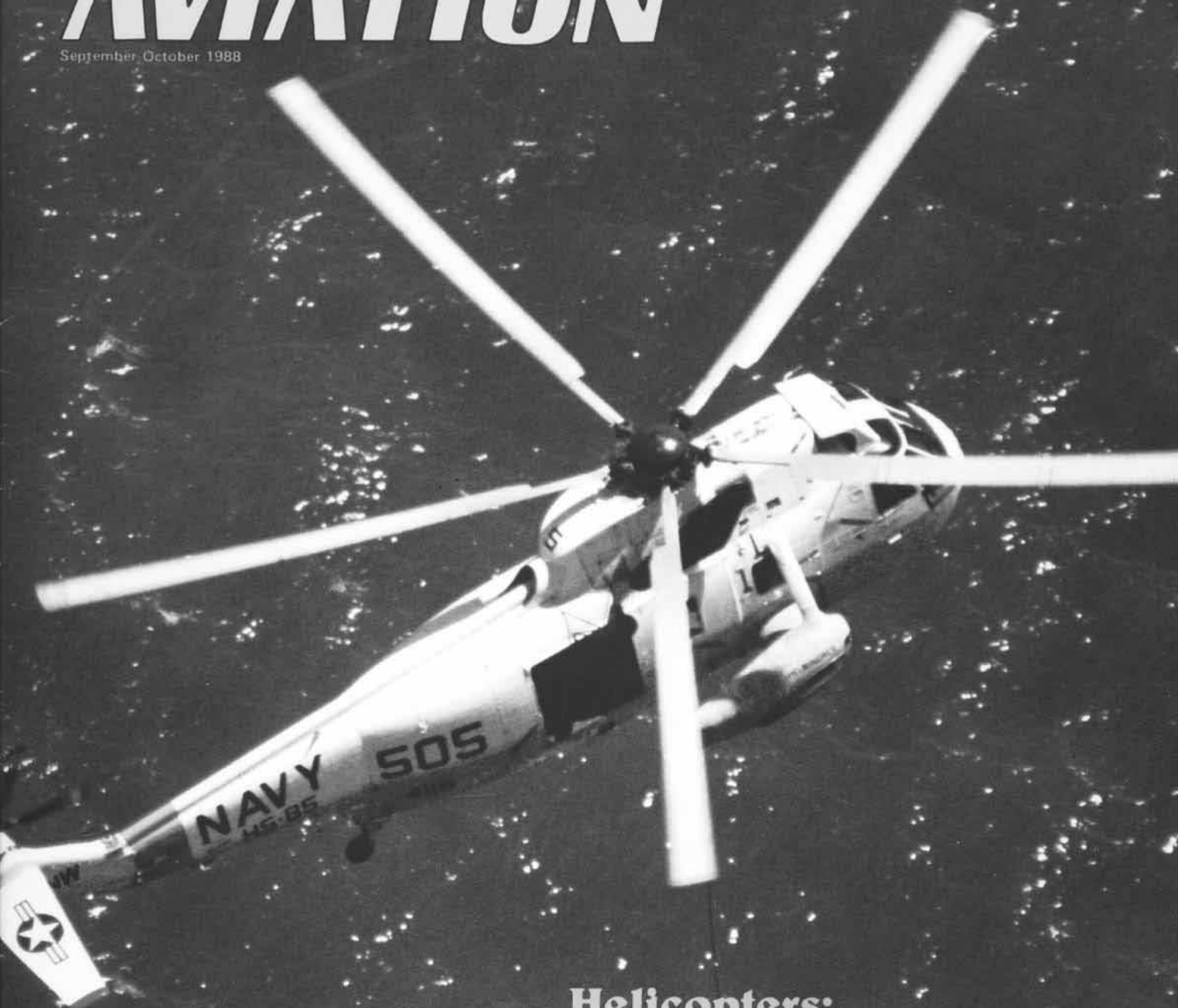


# NAVAL AVIATION NEWS

September-October 1988



## Helicopters:

A Growing Community

# NAVAL AVIATION NEWS

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**COVERS**—Front, an HS-85 SH-3D employs dipping sonar outside San Francisco Bay (AW1 Joe Martinez). Back, a VRC-40 C-2 carquals aboard USS *Independence*, CV-62 (JO1 Jim Richeson).



VRC-40's "Codfish Airlines" brings the fleet a little closer to home with delivery of vital cargo, such as mail and spare parts. **Page 4**



RAdm. Ronald H. Jesberg, Commander, Helicopter Wings, Atlantic, discussed the growing helicopter community during an interview with *Naval Aviation News* in his NAS Jacksonville office. **Page 10**



The Naval Air Development Center, Warminster, Pa., is the principal RDT&E facility for naval aircraft systems. Learn about NADC's responsibility for "Developing the World's Most Sophisticated Navy." **Page 12**



Peter Mersky visited the *Blue Angels* at their winter training site, NAF El Centro, Calif., for "An Inside Look" at the Navy's Flight Demonstration Squadron. **Page 18**



Ghost stories cause shivers in people of all ages, and sailors on board a Navy carrier are no exception. Read the chilling tales of George in "Ghost Aboard Forrester." **Page 24**

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By Vice Admiral Robert F. Dunn, ACNO (Air Warfare)

# Helicopters

The Department recognizes the value of the helicopter principle in the design of naval aircraft and is following closely the efforts of others in this direction." So wrote the Secretary of the Navy upon the expenditure of "not more than \$50 for developing models of a helicopter design proposed by CMM F. E. Nelson of the battleship USS *West Virginia*." The year was 1912.

In September 1931, Lieutenant (later Admiral) A. M. Pride, one of Naval Aviation's greatest pioneers, took off and landed several times aboard our first flattop, USS *Langley*, in the XOP-1 autogiro. The autogiro was a fixed-wing aircraft with rotor blades overhead capable of vertical flight.

Years later, when asked what the Navy had in mind with the autogiro, Pride said, "Well, I'm not sure we had anything in mind. I suppose there was some consideration for using the aircraft's vertical flight capability to move things from one ship to another, or to shore. I do know that I sure had fun flying it!"

It took another decade or so but, in October 1943, following a one-hour test flight by U.S. Coast Guard Lieutenant Commander F. A. Erickson, the Navy accepted its first helicopter, a Sikorsky YR-4B, later designated HNS-1, at Bridgeport, Conn. Earlier in the year, the Coast Guard was assigned responsibility for seagoing development of helos. Rotary-wing aircraft, it was reasoned, might be able to operate from merchant ships and assist in combating submarines. On New Year's Day 1944, a pilot training program was established at Floyd Bennett Field in New York under the auspices of the Deputy Chief of Naval Operations (Air) with the Coast Guard in charge. In 1948, CNO issued training standards for helicopter pilots in the Navy and Marine Corps.

Only three years later, on September 13, 1951, HMR-161 took helicopters into combat for the first time when squadron personnel conducted mass resupply of armed troops in Korea. At Ellyson Field in Pensacola in 1964, 15 astronauts completed helicopter flight familiarization training. They were preparing for lunar landings. Instruction was designed to simulate operation of



An SH-3H Sea King of HS-15 makes a rescue at sea.

the lunar excursion module of Project Apollo.

These are but a few milestones in the dramatically successful development of rotary-wing aircraft. Interest in helicopters has never been greater. In the Navy alone, nearly a third of our aviators are rotary-wing pilots. Helicopters can do just about anything except maybe go one on one with a supersonic fighter. They can hunt subs, sweep for mines, attack an enemy force, transport troops, deliver supplies, conduct reconnaissance, carry the President, retrieve a downed flyer, what have you. Never have helicopters been more important to the Navy and Marine Corps.

Never has the caliber of our rotary-wing pilots been better. Some of our helicopters, like the *Sea Kings*, have been around for more than a generation, while the state-of-the-art *Sea-hawks* are exceeding expectations. All are performing yeoman service.

The community is growing by necessity. As CNO has said, the number one Navy mission today is antisubmarine warfare. Helos are in the front line of this effort and face a hard and persistent challenge as Soviet subs get quieter and quieter. Meanwhile, other helos continue to be in high demand for logistics, minesweeping and SAR. In the Persian Gulf, they have been pressed into service for other missions heretofore undreamed of. Their helicopter aircrews and maintainers have had to hone their skills commensurate with this increasing threat and are doing a superb job.

Looking ahead, helicopter pilots are likely to be the initial operators of the tilt-rotor V-22 *Osprey*, an aircraft of the future which holds great promise. I am sure that Adm. Pride, a recent inductee into the Naval Aviation Hall of Honor, who is 91 years old and going strong, would have a lot of fun flying it, too. ■

### Mentor Malady

An instructor and his student were practicing approach turn stalls (ATS) with gear and flaps down in a T-34C. Beginning at 7,500 feet msl, the student executed a satisfactory ATS to the right but was a little rough with rudder control on the first two ATSS to the left. On the third, the aircraft dipped a bit on the wing so the instructor recommended that the student let out a little more back stick and not kick the rudders so hard on recovery.

The *Mentor* began the fourth ATS to the left at 6,500 feet. The aircraft had lost about 300 to 500 feet per maneuver up to this point.

At the stall, the student added full right rudder, maximum power and right aileron. The aircraft rolled steeply to the right as the power was added. The instructor told the student to let out some back stick because a secondary stall buffet was felt.

The student actuated the rudder pedals vigorously and the aircraft rolled rapidly to the left almost "standing on its left wing."

The instructor took control of the aircraft and quickly checked to see that power was at maximum. He raised the flap and gear handles to prevent damage in the event of excess stress. He tried to roll the aircraft back to wings level by "kicking" right rudder and moving the stick out of his lap and to the right.

He then realized that the aircraft was inverted as he felt himself hanging in the seat harness.

Now disoriented, he realized the aircraft was rotating and noted that the altimeter was indicating descent. Neither flyer noticed an airspeed reading while inverted. The instructor looked out of the cockpit but could not find the horizon and concluded he was in an inverted spin. He added right rudder and neutralized the stick. The revolutions continued and the instructor could not gain control of the *Mentor*. He tried back stick, forward stick, neutral stick and full right rudder without result.

When he saw the altimeter unwinding through 5,500 feet, he gave the command to bail out and opened the canopy. The student went first, dropping straight out. The instructor was hung up momentarily but quickly worked himself free. While in his chute, the student saw the T-34 in an upright position, left wing down, just



before impact with the ground. The aircraft was destroyed. The men landed in a field about 50 yards from each other.



**Grampaw Pettibone says:**

Great sufferin' stalls! Goes to show ya that trouble can find you in any aircraft — big, small, fast or slow. He don't care much if you're a high flyin' fighter or a primary flight trainer.

Looks like the student flew the bird into a secondary stall and got the machine up on that left wing. When the instructor took over, his initial control inputs were correct — for a normal approach turn stall recovery. The T-34 had gone beyond that point, however, and was at least in an unusual attitude, a post-stall gyration that was a might violent. It's all hindsight but could be that if the instructor realized when he took over that the *Mentor* was already in an unusual attitude, he might have been better off neutralizing the controls. He ran out of time, though, because ATSS are supposed to be completed by 5,000 feet and he was fast nearing that altitude.

The T-34 NATOPS, by the way, is a bit short on inverted spin entry info, post-stall gyrations and incipient spins. It does say that inverted spins are difficult to achieve and doin' 'em on purpose is a no-no.

It was also noted that the majority of instructors in the T-34C community come from fixed-wing, multiengine or helicopter backgrounds with little or no

training in uncontrolled flight.

Maybe so. But the main message is: If you're gonna do such maneuvers as ATSS, be prepared for the worst of consequences and save yourself and your aircraft with smart procedures. Wouldn't hurt to hold some special briefings on such matters in Mentor country, and maybe adjust the NATOPS manual somewhat.

### Boomin' Around

An *Orion* pilot had landed at a naval air station and was taxiing the aircraft between a row of P-3s, the tails of which were oriented inward toward the taxiway. The pilot felt he was in extremely tight quarters due to extensive ramp construction and the proliferation of *Orions* in the area.

He directed his copilot and flight engineer to look out the right side of the aircraft to ensure proper clearance was maintained as he motored the patrol plane along the taxiway's centerline under control of a lineman.

As the P-3 passed the second *Orion* in the row on the right, the pilot asked the flight engineer, "How are we doing over there?"

"It looks a little tight," the flight engineer responded, giving a thumbs-up signal, "but we're OK."

The lineman signaled the pilot to make a left turn into the assigned parking spot. As the four-engine bird swung slowly to port, the MAD boom — which extends from the tail of the P-3 — struck the MAD boom of the aircraft just passed on the right. There was damage and an aircraft incident investigation was conducted.

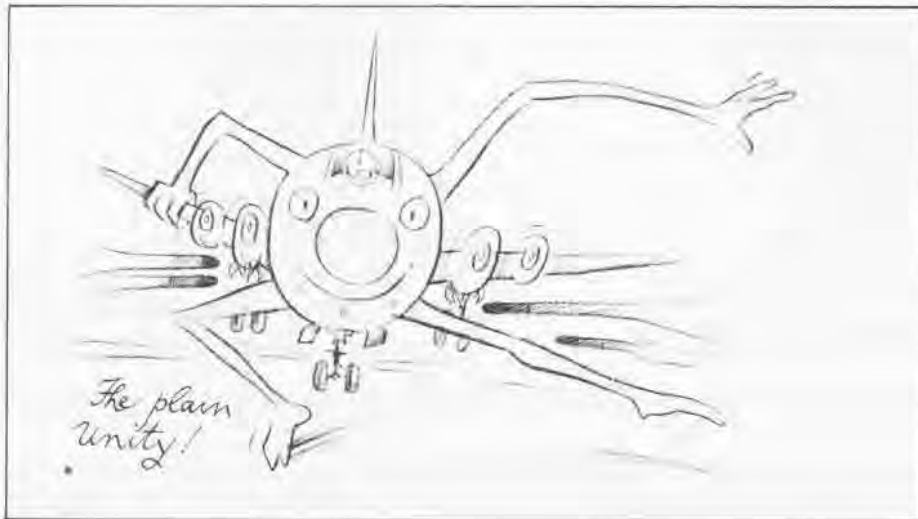


**Grampaw Pettibone says:**

I'm as mad as those booms! Smackin' into each other on the ground ain't easy to accept, specially when you got plenty of help tryin' not to do so.

First off, in a P-3, MAD boom clearance is 10.5 feet further than the wing tip clearance during the radius of turn. In this case, it appeared the movin' *Orion* would clear the one that stayed put. But all hands forgot about that extra 10.5 feet.

The pilot noted that his skipper cautions flyers to "strap on the aircraft," which is different from "strappin' into the aircraft." The former phrase, as the pilot put it, means "the aircraft should be an extension of yourself and



you must be as familiar with the airframe you fly as you are with your own body."

Good message!

### Confusin' Corsair

An A-7E pilot was hooked up to the carrier's number two catapult for a scheduled functional check flight. The pilot went to full power with throttle friction set at some point below full friction. A catapult officer under training (UT) was handling the launch under direct supervision of a qualified cat officer.

The pilot raised and lowered both hands above the canopy rail. In his left hand, he held a white functional check flight checklist card. He made writing motions with his right hand, indicating that he needed more time to record engine parameters. The cat officer (UT), interpreting these motions as a salute, acknowledged the pilot's hand motion with a salute, looked to center deck, deck edge and bow, and gave the launch signal. The qualified cat officer gave a thumbs-up.

The qualified cat officer, who had been checking deck edge and bow safety, had returned his attention to the aircraft and had observed a downward motion of the pilot's hand.

Still, the pilot's head was down since he was checking cockpit gauges and recording data.

Though they scanned the entire aircraft after the cat officer (UT) saluted, neither of the cat officers looked directly at the pilot until they observed the topside petty officer (TSPO) giving a suspend signal. The TSPO realized the pilot was not ready for launch. The deck edge operator, however, initiated the final portion of the firing sequence *before* the suspend signal was given.

The cat officer and several catapult crew members repeated the suspend signal but the *Corsair* was fired down the track and launched with 18 knots of excess end speed.

Surprised by the launch, the pilot was thrown back into the seat and his hands were pressed into his lap. After an instant of confusion, and at the end of the cat stroke, he gripped the stick. The engine was winding down and he reached for the throttle. The aircraft

rotated normally, although one observer thought the aircraft's attitude was slightly flat, but the generator dropped off the line and engine rpm was in the high 30-percent range and decreasing.

Unable at first to locate the throttle, the pilot worked his hand aft, got a grip on it, and tried to advance it. He could not do so, however, because the throttle was stopped at the outboard idle detent position. The throttle had moved to the "off" position during the stroke.

The pilot then moved the throttle forward of idle while holding the air ignite switch. At this point, he realized he was approaching the edge of the ejection envelope. He continued to fly the A-7 with his right hand, positioned his body, and initiated a lower handle ejection with his left hand. Ejection altitude was approximately flight deck level.

The *Corsair* struck the water slightly nose down about 2,000 feet from the carrier and sank immediately. The seat and chute worked as advertised and the pilot was quickly rescued by the plane guard helo and a swimmer who was sent in after him. The aviator suffered cuts and muscle strains.



Grampaw Pettibone says:

Sufferin' salutes! Everybody was tryin' hard but what a mess up.

It ain't easy takin' notes when you're cinched down on the cat with that turbine burnin' at full power — and Gramps admits we might oughta find a better way of collectin' such data — but when you do the unexpected, unexpected things can follow. The pilot was tryin' to explain he needed more time to do his checks by holdin' up that card and makin' a writing motion. That signal ain't in the books. But the guys in the yellow shirts thought they saw him salute instead. If they (the cat officers involved) had double-checked to ensure that the pilot had his head back against the head rest instead of bowing forward, this unhappy shot might not have taken place. So we gotta spread the blame around a bit.

And boy oh boy, when you carrier types have got that throttle at max thrust, you best have a strong paw on it and the cat grip, otherwise she might unwind and ruin your whole day. Taint easy restartin' the fire when you're low and slow and outa time.

Go by the numbers, folks, 'specially when you're workin' around the business end of that sling shot. Pilots, deck crew, everybody . . . give positive, no nonsense signals. The flight deck's crowded enuff. There's no room for doubt.



# VRC-40's "Codfish

## Maintaining a

**M**ail: the most precious of all the commodities which sailors receive on deployment. Letters from loved ones provide them with news from home, inspiration, support and the encouragement that the next seven months will somehow pass quickly until they are once again united with their families.

For thousands of sailors in the fleet, the sight of a stubby, twin-engine turboprop aircraft, buzzing slowly to land on the carrier's flight deck, means that home is minutes away.

COD, or carrier on board delivery, means mail. For more than 28 years, Norfolk-based Fleet Logistics Support Squadron (VRC) 40 — affectionately

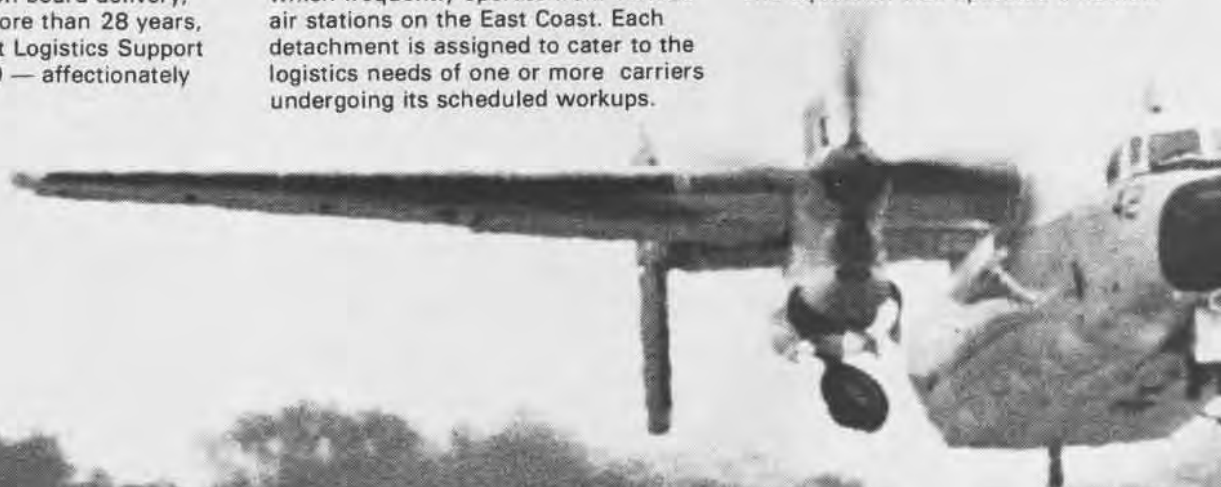
known as "Codfish Airlines" — has been bringing the fleet a little closer to home each time its C-2A *Greyhounds* pay a visit to one of the Atlantic Fleet's aircraft carriers.

In addition to delivering mail, VRC-40 bears the sole burden of providing air logistics transport services to Atlantic Fleet carriers by ensuring the safe and timely arrival of personnel and badly needed spare parts. The squadron also serves as the Atlantic Fleet's T-39 NATOPS evaluator.

VRC-40 has three detachments which frequently operate from various air stations on the East Coast. Each detachment is assigned to cater to the logistics needs of one or more carriers undergoing its scheduled workups.

Depending on the carriers' schedules, the squadron's dets are on the road anywhere from two days to three weeks at a time.

Its sister squadron, VRC-30, based at NAS North Island, Calif., provides COD service for aircraft carriers operating off the West Coast. In the Republic of the Philippines, NAS Cubi Point's VRC-50 is tasked with the same mission for carriers deployed in the Western Pacific and Indian Ocean. It is the only VRC unit which flies the twin-turbofan US-3 COD configuration of the S-3 *Viking*. The squadron also operates a number



# Airlines"

Story and Photos by JO1 Jim Richeson

## Proud Mission

of C-130 *Hercules* heavy-airlift transports.

Fleet Logistics Support Squadron (VR) 24 aboard NAS Sigonella, Sicily, and VR-22 at NS Rota, Spain, support Sixth Fleet units in the Mediterranean. VR-22 also flies five C-130s which provide transport services to naval forces in Europe. With the exception of VRs 22 and 24, the bulk of the Navy's fleet logistics support squadrons — who operate C-9 *Skytrain IIs* and C-9Bs — are manned entirely by the reserves.

Nestled in the confines of NAS Norfolk's Hangar SP-2, VRC-40's

aircrews and ground support personnel ready the squadron's five Grumman-built *Greyhounds* and its two CT-39E *Sabreliners* for COD missions, which will take them as far north as Gander, New Foundland, and down the eastern shore to NS Roosevelt Roads, P.R.


The *Greyhound*, which replaced the vintage C-1 *Trader* as the mainstay of carrier air logistics support, has the largest cargo payload of any COD aircraft. It was designed to haul 10,000 pounds of bulk cargo or seat 26 passengers.

The squadron's sleek *Sabreliners*, on the other hand, provide round-the-clock support to Fleet Air Reconnaissance

Squadron Four's maintenance contingencies, as well as, executive airlift and priority-one cargo transport. The Rockwell-built aircraft has a cruising speed of 430 knots, a range of about 1,500 miles and can comfortably accommodate six passengers or 1,300 pounds of cargo.

For many people, the transport mission may seem dull and uneventful — lacking images of roaring jet aircraft, locked in mortal combat, bursting through the sound barrier — but the facts present a critical need for the services which today's fleet logistics support squadrons provide.

The concept of air logistics support evolved from the vision of Captain



Today, the C-2 *Greyhound* is the workhorse of carrier air logistics support.

Right, with a cruising speed of 430 knots and a range of 1,500 miles, the squadron's CT-39E Sabreliners are used for executive airlift and priority-one cargo transport missions. Below, after delivering the goods, the C-2's crew takes on more cargo and passengers from USS Independence (CV-62).

Clarence H. Schildhauer, a reserve officer on inactive duty, working as operations manager of the Pacific and Atlantic divisions of Pan American Airways.

On July 25, 1941, he wrote the Bureau of Aeronautics in Washington, D.C., suggesting "a transoceanic air transport service and its development, in conjunction with, and as an asset to, the Navy." Capt. Schildhauer subsequently forwarded in September of that year a map delineating the routes to be covered and analysis of equipment and personnel that would be needed to support the logistics needs of the fleet and naval shore facilities worldwide.

Five days after the Japanese bombed Pearl Harbor, then-Secretary of the Navy Frank Knox authorized the product of Capt. Schildhauer's vision — the Naval Air Transport Service (NATS).

Before this era, the United States managed to keep the Navy afloat during WW I by using commercial vessels to transport the necessary men and materials to its forces in Europe. This system proved to be inadequate. In some cases, the crews of the commercial ships were poorly trained and all too frequently there was not enough space for Navy cargo. And some of the commercial ships' officers were reluctant to go into hostile waters.

In WW II, the Navy drew on the expertise of commercial pilots, such as Captain C. K. Wildman of the Sperry Gyroscope Company; Lieutenant Commander H. C. Hollenbeck of Western Air Express; TWA's Captain D. W. Tomlinson, who was also the leader of the Seahawks, one of the Navy's first flight demonstration teams; and countless others to lead its transport squadrons on both the Atlantic and Pacific coasts.

Grumman's TBM torpedo bombers became the Navy's first COD aircraft after WW II. Several of the TBMs, nicknamed "Turkeys," were stripped of their armament and outfitted to permit loading of cargo and installation of extra seats or litters. It wasn't until 1953 that the Navy procured approximately 45 C-1A Traders which were COD versions of the S-2 Tracker antisubmarine warfare aircraft.







Left, Lt. Chris M. Liphardt copilots one of VRC-40's C-2s during a COD mission to USS America (CV-66). The lieutenant is one of the squadron's two carrier-qualified female aviators. Below, Secretary of Defense Frank C. Carlucci and his staff are greeted by AMSC Rich Schafer, one of VRC-40's loadmasters, during SecDef's recent visit to the aircraft carrier America.

When NATS' operations began in March 1942, three squadrons supported the Navy's air logistics needs worldwide: VR-1, NAS Norfolk, Va.; VR-2, Alameda, Calif.; and VR-3, Kansas City, Kans. They flew aircraft, such as the dependable Douglas R4D *Skytrain*, affectionately named the "Gooney Bird," which was later joined by the R5D *Skymaster*, Martin *Mariner* and the Consolidated *Coronado*. NATS delivered mail, cargo and troops, and transported the wounded from the front lines.

By October 1944, these aircraft were flying more than one million miles per month and carrying approximately 4,000 passengers and nearly two million pounds of cargo every 30 days, half of which was mail destined for



troops in isolated areas.

Shortly after NATS began flying its missions, Marine Air Group 25, headed by Lieutenant Colonel Perry Smith, formed the South Pacific Combat Air Transport Command (SCAT). By December 1942, LCol. Smith's planes had evacuated more than 2,800 casualties from Guadalcanal. SCAT later expanded to become the Marine Corps' air logistics transport service for the entire South Pacific.

After six and one-half years of distinguished service to the fleet, NATS was officially disestablished on July 1, 1948. It was replaced by the Navy's Fleet Logistics Air Wings and the Air Force's Military Air Transport Service (MATS).

The greatest challenge to the Navy's air logistics transport capabilities came when VRs 6 and 8 were ordered to join MATS' units in Europe, on October 27, 1948, in one of the most historic humanitarian airlifts of the century — Operation Vittles.

Crews of Navy R5D *Skymasters* and Air Force C-54s flew round-the-clock operations for nearly a year after the Soviet Union suspended all air traffic and travel to West Berlin on June 22, 1948.

The Navy and MATS maintained more than 550 flights a day, with both Navy squadrons averaging more than 10 tons of food, coal and supplies per trip, to provide 2.5-million West Berliners with the basic necessities of life. VR-3 joined the operation when it began flying the North Atlantic route from the United States to Frankfurt, Germany, in December 1948.

The Berlin Airlift had a profound impact on the Navy's air logistics mission. It had gained valuable knowledge in handling large volumes of air cargo, and made technical advances in the development of maintenance systems for transport aircraft.

Since NATS' humble beginnings, and missions during WW II, the Berlin Airlift, and support of U.S. and United Nations forces in South Korea and Vietnam, the Navy has learned the critical importance of strategic air transport as a powerful and essential element for national defense.

Today, VRC-40, like its predecessors, provides air logistics support through the versatility of its aircrews and ground support personnel. As Lieutenant Commander John LaBella, VRC-40's operations officer, pointed out, "We have to be flexible to meet our commitments. All of our people have to be flexible. We do the best with what we have and we do a pretty damn good job," he added.

LCdr. LaBella emphasized the catastrophic consequences in the event



A VRC-40 plane captain gives an aircraft a thorough check during preflight.

his COD aircraft fail to meet the fleet's air logistics needs. "It would have a snowball effect on the carrier's ability to fight and survive," he said.

This statement was echoed by Lieutenant Commander Richard Lutman, Commander, Tactical Support Wing One's readiness officer. "Without them, the carriers couldn't survive," he

said. "Most sailors have visions of home when they see that aircraft." Aside from VRC-40's vital link to home, LCdr. Lutman pointed out their mission's critical importance in providing the fleet with the needed electronics and mechanical parts for downed aircraft.

Within VRC-40, a handful of selected



The squadron's eight loadmasters are an essential part of every COD mission. They calculate each aircraft's weight for takeoff and landing, and determine how to load the plane so that there is an even distribution of weight.

# VRC-40 Has Top Shore Sailor

By JO1 Jim Richeson



Sporting the U.S. Postal Service's logo, VRC-40 COD aircraft carry a precious cargo to sailors in the fleet — mail.

reservists form the nucleus of Fleet Logistics Support Squadron Augment Unit 4086. The unit was established in October 1985 to train its personnel for augmentation in the event of mobilization.

Led by Commander Gerald D. Haser, VRC-4086 began with one qualified C-2 pilot in 1985. Today, the unit comprises 11 Selected Air Reserve officers who fly VRC-40's COD aircraft along side their active duty counterparts, 33 enlisted members, and 19 TARs (Training and Administration of Reserves) who augment and train with VRC-40's maintenance departments daily.

During FY 87, VRC-40's COD aircraft hauled approximately 820,710 pounds of cargo and mail to all Atlantic Fleet carriers. The squadron also transported more than 10,000 passengers, including 567 dignitaries, such as the King and Queen of Norway, U.S. Secretary of Defense Frank C. Carlucci and General Sergei F. Akhromeyev, Chief of the General Staff of the Soviet Union. The squadron's C-2 pilots logged more than 600 arrested landings last year.

Also during 1987, VRC-40's two CT-39E *Sabreliners* transported about 16,000 pounds of cargo and more than 900 passengers, 672 of whom were VIPs.

One of the squadron's senior chiefs summed it up best when he said, "Ours is not a glamorous job. We seldom get the recognition and publicity that most squadrons in the fleet get, but I'm willing to put our squadron up against any squadron in the Navy. Our mission is air logistics support. This means hauling anything, from a CH-53's rotor blades to VIPs, in any kind of weather. The only thing that makes every trip worthwhile is seeing the smiles on those sailors' faces when they get their mail." ■

Aviation Structural Mechanic (AMS) First Class (Air Warfare) Beth L. Blevins, VRC-40's airframes supervisor, believes that you can go as far as your own initiative can carry you.

In fact, her initiative led her to become the Navy's top Shore Sailor of the Year for 1988 after competing against 365,000 enlisted men and women.

The 28-year-old native of North Fort Myers, Fla., began her naval career in July 1978 as a personnelman with Training Squadron (VT) 19 in Meridian, Miss. After several months of filing and updating service records, Blevins felt that her career had ended before it began. She knew then that she was not going to excel in a clerical rating.

It took a little encouragement from her peers and a lot of confidence for the young seaman apprentice to break into another occupation. She had her sights set on converting to aviation structural mechanic. "I was always fascinated by the work that the guys did on the squadron's planes," Blevins said. "I knew that I could work well with my hands."

She began her career in Naval Aviation in 1982, after completing required rate training manuals and passing VT-19's striker selection board. The newly converted wrench turner soon got her orders to NS Rota, Spain's Aircraft Intermediate Maintenance Department.

Blevins returned to the United States in 1986 and was assigned to VRC-40's airframes division. Little did the twin daughter of a Cape Coral, Fla., high school principal know that she would end up as the division's leading petty officer, supervising more than 30 aircraft mechanics who were struggling to cope with the squadron's stringent schedule.

To add to this, VRC-40 had just received its first C-2 *Greyhounds*, which were destined to replace the squadron's aging C-1 *Traders* as the Navy's primary COD aircraft.

As supervisor, Blevins' overwhelming task was to ensure that the vintage C-1s were always ready to meet the squadron's air logistics support commitments, as well as ensuring that her mechanics were ready to tackle the maintenance needs of the squadron's newest COD aircraft.

The task was monumental and frustrating. In the beginning, her crew's

morale sagged. The lack of technical manuals and their unfamiliarity with the C-2's mechanical specifications caused longer delays in servicing downed aircraft. But where others had failed, Blevins and the squadron's airframes mechanics succeeded.

Later, as a seasoned mechanic, Blevins began her surge to the top when she was selected as VRC-40's sailor of the year in December 1987. A chain reaction started. She became Commander, Tactical Support Wing One's top sailor in January 1988, followed by her selection as sailor of the year by Commander, Naval Air Force, U.S. Atlantic Fleet.

Just when she thought she had reached the peak, Commander in Chief, U.S. Atlantic Fleet recognized Blevins' many talents by designating her the best Atlantic Fleet shore sailor last April. "I always thought I was a good sailor because I try hard," she said. "But I wasn't prepared for the outcome. It's easier to find outstanding qualities in somebody else."

Apart from her squadron duties, Blevins balances her career with the needs of her family. In between her roles as supervisor, wife and mother, Blevins also contributes her time as a volunteer in America's battle against illiteracy and in Norfolk's local special olympics events.

After being chosen as one of the top four enlisted members for 1988 (see "Navy's Top Sailors for 1988," page 25) and her promotion to chief, Blevins said she would like to be the first woman selected as master chief petty officer of the Navy. The only obstacle to keep her from reaching this goal is Congress' exclusionary law which prevents women from serving on board combatant ships.

"Since 1978, there have been a lot of changes in the Navy that have allowed us to grow. But until women are allowed to pull their weight at sea, there is no equal advancement opportunity," Blevins emphasized.

It may take some time before Congress changes its views about allowing women sailors to deploy aboard the Navy's combatants, or before a female master chief petty officer of the Navy voices the enlisted community's concerns, but based on AMSC Blevins' past performance and her initiative, that time might be sooner than expected. ■

# Helicopters:



**R**ear Admiral Ronald H. Jesberg is Commander, Helicopter Wings, Atlantic. A highly experienced rotary-wing pilot, he has flown helos just about everywhere, including the Arctic, Antarctic and Africa. He was in HU-4 based at Lakehurst, N.J., earned a master's degree in aeronautical engineering at the Navy's post-graduate school, flew SH-3s in HS-3 and UH-1s in HAL-3 in Vietnam, where he logged more than 400 combat missions. In addition to other assignments, he commanded HS-7, HSL-30 and USS Guam (LPH-9) when that ship helped evacuate American citizens from Beirut, Lebanon, in 1982 and landed the first contingent of the multinational peacekeeping force. He also commanded USS Nassau (LHA-4) and, later, the U.S. Naval Forces Central Command with responsibilities for naval operations in the Persian Gulf. He began his current assignment in the fall of 1987.

Naval Aviation News interviewed the admiral in his NAS Jacksonville, Fla., office.

**NA News:** Please describe your duties as Commander, Helicopter Wings, Atlantic.

RAdm. Jesberg: I am responsible for the operational readiness, training and logistical support of four helicopter wings composed of 23 squadrons and over 8,600 people. These squadrons are based at Naval Air Stations, Jacksonville and Pensacola in Florida and Norfolk, Va. I am the [immediate superior in command] of NAS Jacksonville, NAF Mayport, Fla., Air Test and Evaluation Squadron One at Patuxent River, Md., and the Personnel Support Activity in Jacksonville. I am also tasked with

## A Growing Community

area coordination for the four southeastern counties of Georgia surrounding the Naval Submarine Base at Kings Bay and all Navy commands in the state of Florida, excluding the Pensacola area.

**What's the general state of rotary-wing activity today?**

Helicopters comprise the only growing community in Naval Aviation today. Thirty-two percent of all pilots in Naval Aviation are helicopter pilots.

The relatively new SH-60 *Seahawk* is performing well above expectations and approval was recently granted for acquisition of the SH-60F variant as a replacement for the hard-working but aging SH-3H *Sea King*. The dipping sonar capability of the SH-60F will make it a formidable weapon in the hunt for Soviet submarines.

**Why is the helicopter community growing?**

We're expanding our mission. In LAMPS [light airborne multi-purpose system] MK I, SH-2 *Seasprites* were married to 1052-class frigates. The MK III [SH-60B] system was designed specifically for FFG-7 and 963 (DD)-class ships, plus *Aegis*-capable cruisers. Simply put, there are more ships requiring helo support to enhance the ASW [antisubmarine warfare] capabilities. Also, vertrep [vertical replenishment] and AMCM [airborne mine countermeasures] requirements are increasing.

**How good is the quality of the aircrews?**

A cut above from what we had in the past. They are super young people and we are very fortunate in having such talented individuals. The enlisted aircrew members not only have to handle technologically demanding work involving sonobuoys and sonar gear, but many must also be fully qualified SAR

[search and rescue] aircrewmembers. They are smart, athletic, determined and courageous. They have to be ready to go into the water, day or night, regardless of the weather, to help save lives. The pilots are eager, extremely professional and first-rate. Regardless of the mission, whether it's tracking a sub, countering a mine or hoisting a heavy load of cargo from one ship to another, they consistently do a marvelous job.

**Are they getting more flight time than their fixed-wing counterparts?**

About the same; 25 hours a month appears to be the average. Although some in deployed status, principally in the Persian Gulf, are getting 100 hours a month.

**What is the duration of the flights?**

Our H-46s and UH-1s usually fly a 2-hour cycle, the *Seasprites* normally fly 2 to 2.5 hours, while the H-60s, H-3s and H-53s fly 4 to 4.5 hours.

**How is the Seahawk doing?**

Outstanding. It's a smooth-flying, state-of-the-art machine. It has a tremendous ASW capability, and its over-the-horizon radar and electronic support measures capability are assets to the ship commanders in the Persian Gulf. Sikorsky built a very fine airframe and IBM integrated a superb avionics system.

**The Sea Kings?**

The H-3s have been around for nearly 30 years. They have been upgraded periodically and still perform yeoman service. They have a good safety record. Some have flotation gear which has enhanced our ability to save downed aircraft. I might add that the Navy made a very sound decision years ago when it elected to employ two engines, rather than one, on helicopters.

**How capable are today's helicopters with respect to the Soviet submarine threat?**

We are doing fine now. But Russian subs are becoming quieter and quieter, so we must continue to improve our detection systems. The dipping sonar capability of the SH-3H is excellent. It will be quantitatively improved when the SH-60F joins the fleet and, in another five to eight years, it will be even better. The SH-2G version of the *Seasprite* is a solid performer. The SH-60B has been exceeding all of our

expectations. In other words, we are holding our own but the pressure is on to improve our systems in order to ensure that we can master the threat in the future.

Digressing from your question a little, our capabilities in other rotary-wing areas are moving ahead. Logistically, our H-46s and H-53s are unsurpassed in providing the underway fleet with vital supplies. Whether moving passengers, delivering mail or slinging bombs to the carrier, nobody does it with more versatility.

Our AMCM assets and capabilities are expanding also. The transition of our minesweeping squadrons to the new MH-53E is currently under way. I might add that these fully loaded giants can weigh as much as 73,000 pounds — not your stereotype news helicopter. Also, most people don't realize it but SAR support for the Marine air wing on board helicopter carriers is actually provided by our Navy pilots flying the UH-1 *Huey*, a workhorse which most people recognize from the Vietnam era.

Additionally, our capabilities in other rotary-wing areas are moving ahead.

### **Considering the superb quality of enlisted personnel in helicopters and their high degree of training, how are the retention rates?**

They're good. Our sailors really like what they're doing. They like the high-tech responsibilities as much as the SAR duty. We do have a problem in that there are very few billets for AW [antisubmarine warfare operator] chief petty officers in the LAMPS community. As a result, AWs who have spent much of their career in helos are often transferred to other aviation communities, such as S-3s or P-3s. This constitutes a severe drain on leadership. We are seeking ways to solve the billet problems and retain chief petty officers in the LAMPS community.

### **Are there career-related problems for officers as well?**

Yes. Even though the community is growing, the opportunities for command are not expanding at a commensurate rate. We are looking at ways to ensure that better command opportunities are available, such as splitting squadrons and shortening command tours. It's a tough problem but it is essential that we solve it. We also need to get post-command commanders to sea to improve their opportunities for major command. Most of our shipboard billets are with the amphib, and we are continuing to get some good billets on the CVs.

Unfortunately, the lure of the airlines and flying jobs in the civilian community affects helo drivers as well as fixed-wing pilots.

### **What is the helo det-ships company relationship like nowadays?**

The tandem is working well. Years ago, we used to marry the helo detachments to a ship a couple of days before a deployment. People didn't know each other. They were like Johnny-come-latelies. As a result, there were some problems, particularly in communication.

Now, the detachments are assigned to ships well before predeployment exercises. They become integral to the overall operation of those ships, as the air department. The people get to know each other better and everyone benefits from a more effective flow of communication. Teamwork and morale are enhanced.

### **Are you utilizing "ASW University" at NAS Norfolk?**

Absolutely. The school is a great innovation. It's only been in existence for a couple of years but has proven to be very effective. We have an apprentice-type course here at Jacksonville known as CATS [coordinated ASW training seminar], a kind of prerequisite for ASW U, which I describe as a master's course. At the Norfolk school, having people from related ASW communities — helicopters, submarines, destroyers, maritime patrol, black shoes, brown shoes, etc. — creates an especially effective forum. The instruction and exchange of information among the variety of representatives in this seminar atmosphere is most beneficial and is paying dividends in the fleet.

### **Do you fly now and then?**

I do. I try not to overburden any one unit but it helps me in my job to keep a hand in. Because most of my flight time has been in H-3s, I try to spend more time flying other helos. Each has its own challenge but they are all fine to fly. I especially like to fly with junior pilots, because they really let you know what is happening in the fleet.

**In the wake of films like *Top Gun*, it is quite obvious that a good number of youngsters today would prefer to fly fighters. If you were to address a group such as NROTC students, what would you say about helicopters as compared to the seemingly more glamorous fighters?**

I would tell them that helicopters fly close to the ground, that you can see more of the world from a helo compared to a high-flying jet. You could take a trip from Norfolk to Jacksonville along the Atlantic coast and see the coast and its cities and beaches. Not necessarily so at 35,000 feet.

I would admit that tactical jets do air-to-air maneuvering, which is undeniably exciting. But they don't do that all the time. I believe that every helicopter flight is exciting. They are certainly not as fast, but the challenge of flying a helo through miserable weather conditions is as tough as any in Naval Aviation.

It is also extremely exciting when you are searching for and trying to save a downed pilot or some other shipmate. You really want to find the guy. The adrenalin flows and if and when you do make a recovery, well, there are few achievements that give such satisfaction.

I would also tell them about the challenge of vertrep and AMCM missions, and about the skills required in landing a helo aboard a small frigate in a high sea state at night as compared to coming into a big, more stable platform like a supercarrier.

### **What's it like to track a Soviet sub in a helicopter?**

I'll give you an example. When I was X.O. of a squadron, we were operating in the Mediterranean and detected a Russian submarine. We were so caught up in the adventure of keeping on top of him that our crew stayed with that sub for 11 hours! We had to return to the ship for fuel but we went right back out again. The crew wanted to continue as much as I did. Our squadron stayed with that submarine for 104 hours until it finally surfaced.

### **Are you concerned about the esprit de corps in the helicopter community?**

The helicopter community has always had to scramble to meet its mark, to measure up. It's easy to forget that if the SAR helo goes down on a carrier, the fixed-wing planes aren't going to launch. We are not treated like second-class citizens anymore and, in today's environment and in the Middle East in particular, we have proven our worth.

Truly, rotary-wing aviation has come of age and the future has never been more exciting. A degree of "we try harder" energy has been injected into our mindsets. I have always felt that helicopter people are basically happy people. We simply like what we're doing and are very proud of our contribution to the Navy. ■

# NADC

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## DEVELOPING THE WORLD'S



HM2 Elvin Santiago prepares to spend a couple of hours in frigid temperatures to help test the CWU-62/P antiexposure suit. PR1 Robert Elliott helps him suit up.

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# Most Sophisticated Navy

Story and Photos by JO2 Julius L. Evans

*Visibility was poor in the winter sky as the sudden cloudburst subsided. Even though the A-6E Intruder was the perfect all-weather aircraft, and this was a routine training mission, the pilot's sixth sense told him that this would not be just another flight.*

*The repetitiveness of four training flights in one day normally would make a pilot and bombardier/navigator (B/N) listless, but they both had logged countless hours which had taught them the dangers of complacency. On this flight, both men were particularly on the ball. Interestingly, the pilot's intuition was correct.*

*The aircraft, while proceeding on its night course over Puget Sound, encountered headwinds and turbulence. A blinding flash of light followed by a loud, crackling sound preceded what seemed to be an earthquake in the sky. The Intruder was struck by a bolt of lightning which knocked the aircraft's radar system off line.*

*As the B/N worked to restore radar guidance, the pilot realized they had flown into a thunderstorm. As he guided the Intruder through the oncoming downpour and rapid updrafts and downdrafts, the aircraft suddenly experienced a violent thrust downward. They were in the midst of low-level wind shears. As they exited the tunnel, the winds shifted 180 degrees.*

*The pilot fought to keep control of his aircraft as the B/N worked frantically to bring the radar back on line. Both men faced the possibility of ejecting just as the aircraft again climbed toward the clouds. If they had been forced to eject, both knew the importance of their cold-weather survival suits. Yet, they couldn't help wondering if their gear would have withstood the icy waters below.*

**T**he survivability, reliability and maintainability of cold-water survival suits are among the responsibilities assigned to the Naval Air Development Center (NADC) Warminster, Pa., which supports the Navy's worldwide needs.

NADC is the Navy's principal research, development, test and evaluation (RDT&E) facility for naval aircraft systems, not including aircraft-launched weapons systems. Commanded by Captain Curtis J. Winters, the center is under the direction of the Space and Naval Warfare Systems Command.

The center spans 824 acres, including more than one million square feet of office and laboratory space, and has an airfield suitable for all types of naval aircraft. It also has two remote sites for testing and experimentation. One is a flooded former quarry used primarily for deep-water acoustics development. The other comprises a permanent detachment aboard NAS Key West, Fla., where considerable open-ocean developmental testing and technical evaluation are conducted.

Cold-environment survival testing is conducted by one of seven functional departments at NADC. The Environmental Physiological Laboratory, Environmental Effects Branch of the Air Vehicle and Crew Systems Technology Department performs and modifies environmental tests which have been conducted for at least 40 years, according to Jonathan Kaufman, branch director.

Technological innovations within the department include the CWU-62/P continuous-wear antiexposure flight suit, which is currently being introduced to the fleet Navy-wide. "The suit is constructed of a polytetrafluoroethylene semipermeable membrane which allows water vapors to pass through the material but constricts liquid

water," Kaufman explained. "This is an excellent heat stress theory. By allowing evaporative cooling to take place while giving a waterproof shield, the suit acts as insulation." The overall garment is also fire-resistant.

Volunteers are selected to participate in immersion testing which takes place in an environment-controlled chamber. Tests require air temperatures of 32 degrees Fahrenheit and water temperatures of 45 degrees Fahrenheit. "We just completed a test for NASA designed for 24-hour exposure in cold temperatures. The longest anyone has withstood the environment was 13.5 hours," Kaufman said.

"This is important to cold-environment testing because there is very little data documented on the physiological effects of withstanding cold temperatures for long periods of time. Now, instead of speculating on those effects, we have the documentation," he continued.

"We also test how long a person can withstand the elements using damaged gear. By getting an idea of how long people can tolerate the lab conditions, we can make assumptions of how that relates to real survival situations," Kaufman added.

The other six departments have equally important RDT&E requirements. NADC's technical project analysis consists of a diversified field of programs, some of which follow:

Antisubmarine Warfare Systems provides a full range of antisubmarine warfare program management, system engineering, warfare analysis, and advanced concepts functions.

Tactical Air Systems furnishes the technical performance, schedule and cost control for anti-air and antisurface ship warfare, strike warfare and reconnaissance systems.

Warfare Systems Analysis supplies a

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single point of accountability for analysis and fleet support.

Communication Navigation Technology conducts research and development of navigation systems for all naval platforms and communication systems for all naval air platforms, as well as command and control architectures, information exchange systems, and integration concepts for naval tactical air platforms.

Research, design and development of airborne sensors, subsystems and components for anti-air, antisubmarine and antiship warfare, and ocean surveillance are the responsibilities of the Mission Avionics Technology Department.

Finally, Systems and Software Technology performs systems and software RDT&E for Navy airborne systems.

In addition to NADC's functional

departments, the center has 23 technological facilities and advanced laboratories which enable the RDT&E mission to be accomplished in accordance with Navy guidelines.

The Dynamic Flight Simulator (DFS) is the world's only manned, full-system simulator which reproduces the total G-force environment associated with controlled or uncontrolled flight of modern high-performance aircraft. The simulator fills a void in the wide range of research programs which focus on how flight-related stresses influence a pilot's performance during his mission.

The human centrifuge provides the motion base for the DFS. The centrifuge's 50-foot arm minimizes G-gradient and Coriolis-force sensations. Its controllable and highly responsive gimbal system enables the DFS to reproduce an unlimited range of rapidly varying multidimensional G profiles up to a maximum of 40 Gs.

HM2 Elvin Santiago withstood two hours of 45-degree F. water temperature and 32-degree F. air temperature.





A canister holding thousands of yards of fiber-optic tubing fits neatly on the belly of NADC's remotely piloted vehicle.



NADC Photo

Not all of NADC's work is conducted on the ground, however. "You can always get some things to work in the lab, but when you put gear in an airborne environment — where there's shock, vibrations, pressure and temperature changes, and G forces — you can determine if it will work as advertised or not," said Commander Roger Hill, Deputy Director, Tactical Air Systems Department, and currently the center's only jet test pilot.

"For instance," he went on, "we have the first fully implemented fluidic flight control computer capable of controlling airborne aircraft.

"Today's tactical aircraft are basically unstable, which means the aircraft would be uncontrolled if the pilot didn't have his hands on the controls. We want them to be unstable so that they will maneuver well. An airliner is very stable but does not maneuver well. Advanced aircraft will be very unstable and, in order for pilots to fly them, they will need the help of a flight control computer," Hill explained.

With current advanced technologies, there is the possibility of an aircraft being hit with weaponry that may pulse the aircraft with some type of energy surge, causing an electrical flight control computer to fall off line. One way this can be avoided is to power the computer with a source other than electricity. The fluidic flight control computer uses either engine bleed air

or hydraulic fluid for power. It would provide a backup system in case the electrical power failed during flight.

"We have it mechanized in our T-2 to use engine bleed air to run the analog computer," Hill said. The analog computer takes inputs from the flight conditions and the pilot, and determines which flight controls to move for the desired flight movement.

"In most conventional airplanes, the pilot would move the aileron to achieve a roll. In the advanced airplanes, depending upon the flap configuration, he may need to move the rudder or the elevator to get roll, or the horizontal tails or a combination of both. The pilot is a voting member, but the airplane decides which controls it will move to make the plane roll," he added.

Another fascinating laboratory at NADC is the Ships' Motion Simulation Facility, which consists of two Scorsby test stands capable of simulating ship motion experienced at sea. The facility permits navigation system research and development, exploration of advanced system requirements and controlled diagnostic investigation of inertial navigation systems, without lengthy and costly at-sea periods.

The Full Scale Aircraft Test Facility is housed in a three-story building which supports a full-size aircraft and a transmit tower. It is designed specifically to evaluate antennas and avionics systems on full-size aircraft. Presently,

an F/A-18 *Hornet* is being tested, but other aircraft can be used as required.

The extensive research conducted at NADC requires a staff of civilian employees and military personnel with diversified backgrounds. Within the center's walls, more than 2,500 civilian scientists, engineers, technicians and administrative workers help support the RDT&E role. About 250 military personnel round out the NADC family. Their primary mission is to perform the organizational and intermediate level maintenance on the center's seven P-3 *Orions*, two helicopters, one T-2 *Buckeye* and an A-7 *Corsair*. On some projects, the enlisted personnel offer their expertise to engineers who may be less familiar with the aircraft.

The needs of the Navy are wide and varied and NADC has its share of challenges in meeting them. It leads the way in the development of air warfare and air antisubmarine warfare analysis, as well as air combat systems engineering and integration.

Other NADC Navy-wide RDT&E programs include aircraft, antisurface ship and submarine navigation systems; air vehicle-related human factors; aircraft crew equipment life support; air command and control systems; and aerial targets.

Current major developments in RDT&E programs feature a remotely piloted vehicle (RPV) fiber-optic data link system. In the past, radio frequency (RF) transmitters and receivers were used for various reconnaissance applications. These systems permitted imagery to be collected and transmitted to ground receiving stations in real-time.

The RF data link system required line-of-sight operations and was susceptible to multipath degradation and could be jammed or intercepted. As transmission ranges increased, the platforms were required to fly higher to maintain the line of sight. With the use of fiber optics, most RF link limitations are eliminated.

The fiber-optic link will permit an RPV to perform its mission free of electronic interference and at low altitudes beyond the line of sight. It's just one of the many projects at the center.

NADC's highly technical taskings are demanding and solicit maximum production from all its personnel. The center's distinguished achievements and ongoing projects mark it as the leader in innovative Naval Aviation Technology.

# F6F Hellcat

By Hal Andrews

**A**mong naval aircraft, the WW II F6F *Hellcat* achieved a fighter record that remains unsurpassed: it was the fighter flown by Naval Aviators when credited with downing 5,155 enemy aircraft — by far the largest number credited to pilots flying any Navy fighter. This record was achieved in less than two years of combat operations, an indication of the intensity of air combat in the Pacific. It wasn't the fastest WW II fighter, and one can argue how it might have fared in the European air war, what the capabilities were in the second half of the Pacific war, or many other "what ifs," but the record stands.

The F6F was clearly the right airplane at the right time. An earlier appearance in Pacific combat would have been welcomed, but it would have been a different and less capable fighter, so even that issue joins the other "what ifs." And Grumman's record of getting the F6F from first contract into combat in only a little over two years, while incorporating post-Pearl Harbor combat dictated changes, was outstanding, even by the standards of that era. Admittedly, its roots trace back some additional years — but not the development of the final F6F.

In 1938, with the Grumman XF4F-2 in flight test, the Navy and Grumman began looking at putting a larger engine in the F4F. When it became clear that the F4F needed more wing area to take full advantage of its basic design and engine, resulting in the ultimately successful XF4F-3, the design studies for the follow-on shifted to reflect that experience.

In the 1939-40 time period, the Navy and Grumman focused their attention elsewhere for the next generation fighter — to Vought's inverted gull-

wing XF4U-1 and Grumman's twin-engine XF5F-1. But single-engine fighter studies continued at Grumman, taking into account growing European wartime experience. The advent of folding wings introduced with the F4F-4 pointed the way for another desirable feature on what was becoming a much larger carrier aircraft.

With considerable push from the Navy, designs concentrated on use of the 1,700-horsepower Wright R-2600 Cyclone 14. The R-2600 was also being incorporated in Grumman's XTBF-1 torpedo bomber, already being built. But with their F4F experience, Grumman's engineers didn't follow the usual fighter dictum — the smallest fighter possible — for their evolving design.

By the end of 1940, circumstances and the status of the design work reached the stage where serious Grumman-Navy discussions began for a new fighter project. The XF5F-1 attracted a lot of press attention, but it didn't look like a next fighter project for Grumman. With its usual desire for two competing models in development/production, preferably with different engines (so all its airplanes wouldn't be grounded in the event of engine problems), the Navy looked to Grumman for another answer. In June 1941, with details resolved, two R-2600-powered XF6F-1 prototypes were ordered.

Development proceeded normally during the rest of 1941, accelerating after December 7. By early 1942, plans had been initiated for production F6F-1s, while prototype construction was underway. Interest in turbosuperchargers for increased altitude performance led to the design of an XF6F-2 with a turbosupercharged R-2600. March brought a production contract. By this time, a 2,000-horsepower, P&W R-2800-powered version was recognized as more promising than the turbosupercharged R-2600 aircraft, and revision of the second XF6F-1 was initiated, as the XF6F-3 with an R-2800 engine. Production plans were also shifted to the -3 model.

The first flight of Grumman's new *Hellcat*, the XF6F-1, took place on June 26, 1942. Six weeks later, it was joined by the XF6F-3. The first production F6F-3 flew in September. With 10

delivered by the end of the year, production increased rapidly in 1943, as Navy fighter squadrons were introduced to the Navy's newest fighter, and development testing continued.

A low-wing monoplane with wing-mounted, rearward-retracting landing gear, the cockpit was above the main fuel tank which placed the canopy high on the fuselage. Downthrust of three degrees for the engine and propeller improved the forward visibility. While many details changed as improvements were made, the configuration changed very little for all the production *Hellcats* to come.

Changes dictated by tests and squadron experience were introduced into the production line as output climbed through 1943. In August, VF-5 and VF-9 pilots flew their *Hellcats* into combat for the first time and rapid transition of all Pacific CV fighter squadrons followed. Advances in radar led to two radar-equipped versions. Those with AIA/APS-6 airborne intercept radar in a nacelle, well outboard on the starboard wing, became F6F-3Ns, while others were -3Es with ASH/APS-4 search/attack radar in a "bomb unit" carried on a mid-span starboard wing rack. The British Royal Navy's Fleet Air Arm also received F6F-3s as *Hellcat Is* for operations from their carriers.

Provisions for water injection to increase combat power were added in late 1943, as production -10W engines fitted for it became available. Wing stub racks were added for bombs, or for additional fuel tanks, to supplement the single centerline belly tank that had become a standard operational feature. In April 1944, when necessary strengthening of the rear fuselage and horizontal stabilizer were incorporated, along with other improvements — including engine cowling changes to reduce drag and aileron spring tabs to reduce roll stick force in combat maneuvers — the designation of the production aircraft was changed to F6F-5. With the structural changes, dive speed and pull out restrictions on the *Hellcat* were removed.

A four-cannon armament installation was tested on the first prototype. Already modified with an R-2800 engine as an XF6F-3, it was redesignated XF6F-4 when testing the cannon installation. While the four-cannon configuration didn't go into production, a two-cannon, four-gun armament could be fitted to later production F6Fs and was carried by many F6F-5Ns.

F6F-5N





XF6F-1



XF6F-2



XF6F-6



F6F-3



Continued interest in turbo-supercharged engines resulted in a -3 being fitted with one using the early XF6F-2 designation, though the engine used was an R-2800 rather than the original R-2600. The new "C" model R-2800 engine promised sufficient performance improvement to result in two F6F-5s being converted to XF6F-6s with -18W engines; they flew in summer 1944. Production changeover plans were shelved, however, and -5/-5N production continued to increase, reaching a peak of 605 delivered in March 1945.

Along with the *Hellcats'* principal role as day fighters and their growing night fighter use, both -3s and -5s were converted for photographic missions to -3Ps and -5Ps. They retained their wing gun armament. The British also received -5s and -5Ns as *Hellcat IIs* for RN carrier operations in the Far East.

After the March peak, with production of the F8F *Bearcat* getting underway and *Corsairs* finally assuming a larger role in U.S. carrier operations, F6F production began to drop off and -5Ns became a larger proportion of those delivered. Following the August VJ day terminations, a small group of nearly completed *Hellcats*, mostly -5Ns, were finished up in October and November 1945 to bring production to a close. With the two X prototypes, a total of 12,275 *Hellcats* were built. Unlike most WW II fighters, except for the two Xs and the first few production airplanes, all were rolled out of one plant — the largest number of a single model of fighter ever built in one factory.

At war's end, the already underway conversion of remaining F6F-3s to -3K drones continued. Most -3s joined the rows of surplus aircraft waiting for the smelters. F6F-5s were standardized for postwar use, including conversion to -5K drones. Early use of -5Ks was in Operation Crossroads, the 1946 "atomic bomb" tests. Fighter squadrons, both Navy and Marine, continued to use -5s and -5Ns, while *Bearcats* and improved *Corsairs* came off the line and into the fleet. The first carrier jet fighters weren't far behind.

*Hellcats* became mainstays of fighter squadrons in the postwar Naval Reserve. Already widely used for advanced training, they took over the tactical training role in the training command. The -5Ks expanded their target role and explored potential assault drone operations, used by research and development and fleet organizations, as the missile age dawned. Other *Hellcats* became drone controller -5Ds.

As the Korean War unfolded, *Hellcats*

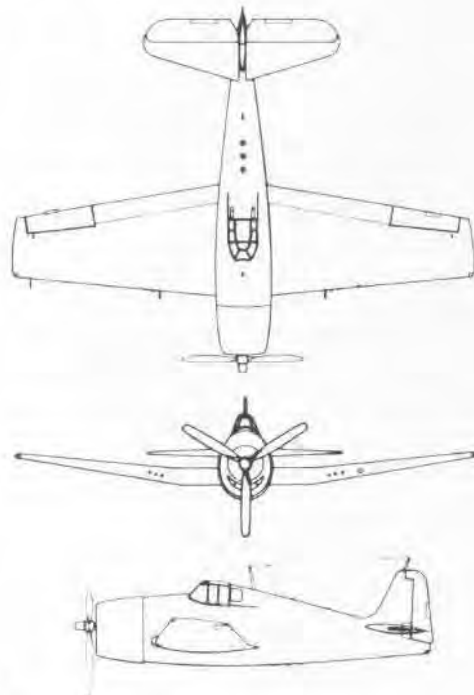
were out of the fleet, except for a limited number of -5Ns among the many types in composite all-weather fighter squadrons, -5Ds and -5Ks in utility squadrons, and a small group of -5Ks in a combat demonstration of assault drone potential against North Korean targets in August-September 1952.

From this time on, F6Fs were gradually phased out; the last from composite squadrons in late summer 1953 and from the advanced training command in spring 1956. Conversions to -5Ks at O&R Pensacola, Fla., ended in 1957. Four years later, in May 1961, the last flying Navy *Hellcat* made its final drone flight at Point Mugu, Calif. ■



	F6F-3	F6F-5
Span	42'10"	42'10"
Length	33'7"	33'7"
Height	13'1"	13'1"
Engine: P&W R-2800-10W, 2,000 hp		
Maximum speed (mil)	370 mph	380 mph
Service ceiling	37,200'	37,300'
Maximum range		
Clean	1,090 mi	1,130 mi
150-gal. tank	1,590 mi	1,650 mi
Armament:	Six .50 machine guns or two 20mm cannon and four guns; up to two 1,000-lb. bombs; and six five-inch rockets.	

Crew: One



# The Blues

## An Inside Look

By Peter Mersky

It's a familiar scene: six blue aircraft aligned in perfect formation, flashing over the crowd of thousands of upturned faces, people gasping in astonishment. Or all six planes aiming for a preestablished "center point" on the ground, appearing to come together for a split second, then angling off in gut-wrenching climbs, trailing white smoke to mark their paths.

These are the *Blue Angels*, the Navy Flight Demonstration Squadron, at work. In the 42 years since their formation, over 202 million people have watched the *Blues'* breathtaking air work, many of them lining up after the show to have their programs autographed by one of the team's blue-suited aviators. Others, perhaps confined to a bed in a children's hospital ward, have been visited by one of these ambassadors of Naval Aviation.

The public sees the *Blue Angels* for eight months. With their final show in mid-November, the team stands down, assesses the past year's performance, then takes a break during the Christmas holidays. The new year begins the cycle all over again. It is a time for beginning and renewal; it's the time when members from the previous year's team assume more responsibilities as they move to a senior position in the formation. They also train the new members of the team, recent selectees who, while experienced Naval Aviators, find themselves once more in the role of students. This period is intense, sometimes difficult for everyone as all the *Blue Angels* — officers and enlisted personnel — get



Peter Mersky

ready for the new season, coming all too soon.

The *Blue Angels* have been traveling to NAF El Centro since 1967 to work out the winter kinks and prepare their new season's maneuvers. The squadron's current aircraft inventory includes six F/A-18As, one two-seat F/A-18B and one C-130F transport.

I visited them at their winter training quarters in California's Imperial Valley, 120 miles east of San Diego. Here, dependably clear and sunny flying weather prevails most of the year, although the air gets a bit choppy, especially within 1,000 feet of the ground.

At the desert center point, several miles west of the base, I watched during one morning session as four *Hornets*, including the two-seater, practiced several maneuvers. Once, as the planes passed, the "slot" pilot, Lieutenant Commander Donnie Cochran, pulled his aircraft out of the formation, climbing toward the clouds to check the ceiling. He had been detached by the flight leader, Commander Gil Rud, always called "the Boss," whose responsibility is maintaining situational awareness as the team practices. Watching the rain and clouds only 1,000 feet above the desert floor, Cdr. Rud wanted to know exactly how low were the clouds.

As soon as the pilots land after each practice flight, they immediately begin



Peter Mersky

Top, two Blue Angel F/A-18s fly in tight formation. Above, Lt. Doug McClain (right), the 1988 narrator, practices his routine with help from Lt. Mike Campbell (left), the events coordinator, and Capt. Mark Mykityshyn (center), one of the three C-130 pilots.

Right, number 6, the opposing solo, in a typical pose over the California desert during winter training.

an intensive debrief. Personal and professional matters are discussed and smoothed out. At this time, the team sees the video tapes which are filmed at every practice and air show.

The new pilots listen and learn, and it's a full-time job. After all the time it takes to be selected for the *Blue Angels*, the selectee's work really begins when he becomes a functioning member of the team. In 1987, 47 applicants tried for the three vacancies. The field was narrowed to seven semifinalists, who spent several days with the team, traveling to show sites, attending social functions and getting to know the team up close. Finally, the selection was made, with the approval of the Chief of Naval Air Training, and the three new *Blue Angels* reported to the squadron's home base at Pensacola, Fla.

The new members got into the swing of things, visiting show sites for the 1988 season and, most importantly, transitioning to the *Hornet*. Since the F/A-18 is still new to the fleet, it's a pretty safe bet that most new *Blue Angels* will not have much previous time in the aircraft. The *Blues* transi-

tioned to the *Hornet* after their 1986 season, and most of that year's team was extended for a rare third year to facilitate the transition.

Though *Blue Angel* pilots add 500 hours to their log books each year, they get their first 30 *Hornet* hours with VFA-106, the East Coast F/A-18 fleet readiness squadron, soon after joining the team. Prior to going to El Centro in early January, they add another 20 to 30 hours of local sorties in the Pensacola area.

The squadron uses a building-block approach to indoctrinating and training new members, keeping the education within a two-plane section. For example, within the four-plane diamond formation, the left wingman (number 3) is trained by the slot pilot (number 4). The right wingman (number 2) is usually a Marine pilot and flies with the Boss (number 1), although he receives much of his indoctrination and training from the slot pilot, who has overall responsibility for the entire formation. The lead solo, position 5, trains the new member in the opposing solo role (number 6).

Eventually, as the section leaders

rotate out at the end of the year, the once-new pilots move up to the senior positions. Thus, number 3 moves to the slot position, and opposing solo becomes lead solo. Only the right wingman remains where he is for the entire duration of his tour with the *Blue Angels*. In time, he helps "train" a new flight leader.

While pilot positions for the new year are usually determined by the previous year's assignment, the narrator (number 7) is a wild card. This important position is a three-year assignment, instead of the regular two-year tour for designated demonstration pilots. The narrator, normally a more junior pilot, spends his first year learning the long vocal accompaniment to the air shows. It's a deceptively difficult job. The words and voice inflections — timed just right for each sequence in the air — provide information, rhythm and timing, and are an integral part of each show. A miscue from the *Blue Angel* at the mike can spoil the whole effect of a maneuver for the spectators.

The narrator also has two important secondary roles: site inspector and

Katsu Tokunaga



two-seater pilot, which involves making media and VIP indoctrination flights, a major portion of the non-air show flight schedule. Number 7 makes pre-show inspection trips to airfields to ensure the team will have the needed facilities and cooperation from military and civilian officials, including any FAA considerations. While the narrator gets valuable assistance from the Naval Flight Officer who is the events coordinator (number 8), he has a busy schedule for his first year.

Positioned behind the other aircraft, the slot pilot sees the entire formation, whether in the four-plane diamond or the six-plane delta. His experience and calm judgment throughout the air show constantly refine the maneuvers. Number 4 keeps an eye on weather, emergency field status, fuel altitude and airspeed. He can call for a little more room between wingtips, or advise the Boss to increase roll rate.

LCdr. Donnie Cochran is in his third year with the *Blues*, as the slot pilot for the 1988 team. He made one of the last RF-8 cruises with VFP-63 in 1980, then transitioned to the F-14. He commented that teaching a new pilot to safely clear a formation and the necessity for proper communications on the correct frequencies are among the team's prime concerns during the winter training cycle at El Centro.

Discussing his responsibility of training the two wingmen, LCdr. Cochran said, "Most tactical aviators have not done aerobatics below 10,000 feet, and their first time with us below 2,000 feet is an eye-opener. We do something like 50-60 roll-loop combinations before bringing the two wingmen together with number 1.

"There's a lot more than just flying the show," Cochran said. "Number 4 has to have the big picture, as well as to sound positive and calm on the radio when he makes calls to the formation. Everyone depends on you for backup. By the same token, the slot also has to be conservative and make timely calls. A lot rides on him. He can't be a wimp, but he has to be patient."

Skipper Rud agreed, "Number 4 sets the formation and has to be rock-solid. He's a safety valve behind the Boss."

Lieutenant Wayne Molnar, operations officer and lead solo, commented, "New guys have a hard time breaking in because this squadron is so much different than a fleet squadron. It takes a while to catch on to the tempo and operation. . . ."

Lt. Molnar indoctrinated Lieutenant Cliff Skelton, last year's narrator, who took over the opposing solo position for 1988. One of the team's newest routines with the F/A-18 is Lt. Skelton's

slow flight, which was added because many fleet pilots wanted to see a demonstration of the *Hornet's* controllability at minimum speed.

During a practice air show for a class of 30 El Centro fifth graders, I watched this new maneuver, and it's an attention-getter. Approaching the center point, Lt. Skelton reduced his airspeed to 135 knots, not much above the *Hornet's* stall speed, and increased his angle of attack — gingerly jockeying his big fighter down the length of the runway, literally walking on his tail. In the choppy air above the valley floor, flying the sensitive *Hornet* at minimum controllable speeds is very demanding.

Captain Kevin Lauver is the 1988 Marine Corps representative in the flight demonstration squadron. He is also unique as the first selectee from the V/STOL community; his previous tour was with VMA-542 in AV-8A, then AV-8B *Harriers*. As a Naval Aviator, Capt. Lauver received the nor-

mal fixed-wing training. Subsequently, during his assignment to a *Harrier* squadron, he established a solid reputation as a formation pilot, which made him an attractive candidate for the *Blues*.

"It's been an eye-opener," Lauver commented, "to see how the team goes together — from the ground up — from preliminary formation training with the slot pilot chasing you, to communications and integrating the sequence with other members."

Cdr. Rud, a light attack pilot now in his third year as flight leader for the *Blue Angels*, was recently selected for promotion to captain and for a deep draft command in the future. "The training schedule is tough," the Boss said. "It tests your mettle and prepares you for the show season.

"My job is great," he added. "Most people who have commanded a tactical air squadron could do it. It's very rewarding, but a lot of work, and a lot of flying — twice as much flying as a C.O. of a regular squadron could expect."

An integral part of the *Blue Angels* organization is the team of Marine aviators and aircrewmembers who operate the C-130 transport dubbed "Fat Albert." The blue-and-white *Hercules* hauls ground crewmen and officers, maintenance apparatus, and other supplies to the various show sites. The *Herk* also makes a dramatic jet-assisted takeoff performance during air shows, demonstrating its short-field takeoff and supply-drop capabilities. (See "Fat Albert Airlines — Flying the *Blues*," *NA News*, May-June 1987, p. 24.)

One area which always fascinated me, watching the *Blue Angels* during the regular show season, was how they were able to continue training, fly to and from the various sites during their 75 annual air shows, fly the

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Peter Mersky

Top, a walk-down follows each flight and requires the same precision as every in-flight maneuver. Above, the four-plane diamond overflies Fat Albert, the *Blues'* C-130.



Katsu Tokunaga



Peter Mersky

Above, meeting the crowds after a performance is part of the Blue Angel package deal. Left, number 5, the lead solo, in a high-performance climb.

shows in all kinds of weather, and then meet the huge numbers of people afterwards.

The pilots, individually or in groups, speak at various functions or at impromptu meetings. There is no "charm school" which trains a *Blue Angel* for this nonflying portion of his tour. Obviously, part of his selection to the team came from his demonstrated maturity and personality which allow him to live in the constant pressure of a "fishbowl."

After my visit, I realized I was a little surprised at what I had seen: these guys work *hard!* They give 200 percent, if such intangibles can be measured. There's no doubt about it. All the flash and perks aside, being a *Blue Angel* — especially a new *Blue Angel* — is fraught with pressure and potential problems. It is not just a glamor-filled job as many people might suppose.

But, like many other jobs in Naval Aviation, the rewards are great and, in some cases, immediate. These "perks" include the smile of a delighted youngster watching the show or receiving an autographed program from a *Blue Angel*, and the animated questioning of older teenagers as they begin to decide what they want to do with their lives, and perhaps are considering the Navy. Of course, the biggest reward of all is flying a high-performance jet in a demanding routine with other equally skilled aviators. ■

# The Gray Eagle

Story and Photos by JO1 Jim Richeson

## Navy's Most Ancient Aviator



LGen. Frank E. Petersen, Jr.



Adm. Ronald J. Hays is the Navy's new Gray Eagle.

**A**dmiral Ronald J. Hays, Commander in Chief, U.S. Pacific Command, became the 37th Naval Aviator to defy gravity and the law of averages long enough to become the Gray Eagle.

Lieutenant General Frank E. Petersen, Jr., the Navy's former Gray Eagle and the Marine Corps' Silver Hawk, presented the award to Adm. Hays during a brief ceremony held at the Pentagon, June 15. Before ending his 38-year military career, LGen. Petersen also relinquished his title as the Marine Corps' senior aviator to Lieutenant General John I. Hudson, Deputy Chief of Staff for Manpower.

Petersen, the first black to hold the distinction of being the sea services' most senior aviator by date of designation, noted that "Being the Gray Eagle carries with it a sense of accomplishment. There is satisfaction in knowing you have lived long enough to reach this point, and in knowing that you have avoided certain pitfalls along the way."

He added, "Being the first black to attain these honors demonstrates the maturity of our military forces today and accentuates the fact that success is not predicated on race or ethnic origin."

During the ceremony, the commanding general of the Marine Corps' Development and Education Command in Quantico, Va., expressed his regrets in turning over the Gray Eagle Award to the Navy, but joked, "I have encouraged Gen. Hudson to stay

in long enough so that we can have the trophy returned to the Marine Corps."

The Gray Eagle trophy depicts an eagle landing on a flight deck which represents the Navy's oldest flattop, USS *Langley* (AV-3). The award, which was first presented to Admiral C. E. "Cat" Brown, during Naval Aviation's 50th anniversary, honors the most senior naval aviator and represents the recipient's long years of dedicated service to the Navy or Marine Corps.

The inscription reads, "The Venerable Order of the Gray Eagle, the Most Ancient Naval Aviator on Active Duty...In Recognition of a Clear Eye, a Stout Heart, a Steady Hand, and a Daring Defiance of Gravity and the Law of Averages."

Adm. Hays, who earned his wings in November 1952, said that the word "ancient" in reference to the Gray Eagle was a bit misleading because boldness, not antiquity, is required to reach such a milestone.

"In the eyes of junior officers, this honor may seem an anachronism. Still, the Gray Eagle is symbolic of a successful lifetime of Naval Aviation and it is something to strive for. The occasion lends itself to reflection on great moments like the first solo, the first carrier landing, getting wings, the first squadron, the first combat mission, the first command...." the leader of the Pacific Fleet's largest unified command said.

Adm. Hays, who commanded Attack Squadron 85 on board USS *Kitty Hawk* (CVA-63) during Vietnam, added, "It is also a time to contemplate the near-misses, the outcomes of which — had they been different — might have preempted my standing here today for this honor." In summary, he pointed out that becoming the Gray Eagle requires perseverance, skill and a great deal of luck. ■



# Bushey is Seventh MCPON

**M**aster Chief Avionics Technician (Air Warfare) Duane R. Bushey will assume duty in September as the seventh Master Chief Petty Officer of

the Navy (MCPON). Bushey's appointment was announced by Chief of Naval Operations Admiral Carlisle A. H. Trost in a ceremony on

June 17.

Prior to his selection for the top enlisted billet in the Navy, Bushey served as command master chief of USS *Theodore Roosevelt* (CVN-71). Other navy assignments included: NAS Patuxent River, Md.; USS *Kearsarge* (CVS-33); VAH-123; VAQ-130; VRF-31 as command master chief; and command master chief for Commander, Tactical Support Wing One. He is also a graduate of the U.S. Army Sergeants Major Academy.

One of his primary goals is to continue improvements in the Navy family support program. "[I want] to educate [the fleet] that you can have a family and have quality time with your wife and children and still be able to be a sailor," Bushey said.

AVCM Bushey is married and has two sons.



Left to right, AVCM Bushey, Mrs. Bushey and VAdm. Leon Edney, Chief of Naval Personnel.

## Navy's Top Sailors for 1988 By JO1 Jim Richeson

**A**dmiral Carlisle A. H. Trost, Chief of Naval Operations, kicked off a week-long event when he formally recognized the Navy's four top sailors of the year for 1988 during ceremonies at the Pentagon, July 18.

Adm. Trost awarded each sailor the Navy Commendation Medal and meritoriously promoted each one to the rank of chief petty officer.

Selected from a field of 365,000, the best of 1988 are: AMS1 (AW) Beth L. Blevins, the Navy's top shore sailor; AMH1 (AW) Keith A. Galang, the Naval Reserve's best sailor; TM1 (SS) Arthur P. Arko, Atlantic Fleet's Sea Sailor of the Year; and MM1 (SS) Peter G. Fleck, Pacific Fleet's top choice for 1988. Along with their families, they visited the nation's

capital on an expense-paid trip sponsored by the Fleet Reserve and Naval Enlisted Reserve associations.

Highlights of the week included a banquet sponsored by the Northern Virginia and District of Columbia councils of the Navy League, at which Adm. Trost spoke to more than 300 guests. CNO cited the four sailors' performance, leadership and civic involvement as the key areas embodied in today's active duty and reserve personnel. "Our sailors get the job done, get it done on time and better than the competition," he said. "These sailors before you, whatever their natural abilities, have learned to be leaders. They learned that all leadership begins with a good example and depends on high standards, including high ethical

standards," Adm. Trost told the crowd.

CNO was particularly impressed by each of the four sailors' active community involvement. "Society badly needs to acquire the standards of performance, leadership and community involvement demonstrated by our sailors," he added. The overall result of what sailors do, according to Adm. Trost, is readiness.

The four sailors and their guests toured the Capitol, Navy Memorial, the site of the Lone Sailor statue, the Pentagon and Navy Museum. They also attended a traditional dinner sponsored by Naval District Washington's Chief Petty Officer Mess and were again honored at the historic Washington Navy Yard's Summer Pageant.

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 Naval Reserve sailors in paygrades E-4 through E-6.

After the week-long celebration, 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, complements of the Fleet Reserve and Naval Enlisted Reserve associations. ■



Left to right, TM1 (SS) Arthur P. Arko, AMH1 (AW) Keith A. Galang, CNO Adm. C. A. H. Trost, AMS1 (AW) Beth L. Blevins and MM1 (SS) Peter G. Fleck.

# GHOST

## Aboard Forrestal

Story by Lt. James E. Brooks  
Photos by PH2 J. Buckner

Everyone can remember a time when they sat around a smoldering campfire, or in a dim room illuminated by a single flashlight or candle, sharing ghost stories with friends. Mysterious shadows, the moaning of the wind or unusual noises added suspense to the tales. But whatever the unknown was that sent a chill down your spine, the stories never seemed as scary the next morning.

Ghost stories and things that "go bump in the night" cause shivers and chills in people of all ages. The unexplained always leaves one wondering. But are these stories to be believed? Are there such things as ghosts? In the U.S. Navy, there have always been tales of the "Flying Dutchman" or lost shipmates who returned to haunt the decks of warships. USS *Constitution*, "Old Ironsides," is rumored to have a few. But what about a modern warship of the twentieth century? Ask certain crew members of USS *Forrestal* (CV-59) and you're sure to hear about the carrier's poltergeist.

"George," as *Forrestal* supply department personnel call their friendly ghost, is said to haunt the carrier's number one and number three "holes." These below-the-waterline spaces are where the ship's storerooms, frozen food storage areas (or reefers), and pump rooms are located. The largest reefers are in number one hole, where most hauntings have occurred. Men who tell the tales of *Forrestal's* ghost know that number one reefer forward is also the ship's morgue.

"If there's a ghost down there, then I want to know about it. Because if there is, I want to put him to work!" said *Forrestal's* cargo and food service division officer, Chief Warrant Officer Otha Davis. He doesn't believe the stories. "But when the executive officer asks me about a zone inspection discre-



Crewmen who work in the cargo division aboard *Forrestal* say that they have seen a khaki-clad ghost in the ship's reefers. A double-exposed photo helps one imagine what they saw.

pancy, I always blame it on George," he laughed.

Some *Forrestal* personnel who have worked in these spaces don't share CWO2 Davis' disbelief of a ghost on the 1,039-foot supercarrier. Mess Specialist (MS) First Class Daniel Balboa recalls strange happenings in number one and three holes.

"When I first came aboard in January 1985, I was a little apprehensive about the things I heard. I thought everyone was pulling my leg," said Balboa. We had problems keeping the reefer doors closed. They always seemed to be opening up. The engineers who monitor

temperatures in the reefers blamed the mess specialists. We blamed them. One night, I went down to take temperatures myself. As I worked from one reefer to the next [you must go through one to get to the next], I closed the door behind me. Fifteen minutes later, when I turned to leave, all three doors were open," he said.

Balboa explained the seeming impossibility of this occurrence, "It was impossible for anyone to open the reefer doors from the outside, behind me. Opening them from the outside requires a key, since the doors lock automatically. I had the only key. That

incident put me on the verge of believing.

"I told some other guys what happened and one of the engineers said that when he was climbing the ladder out of number one pump room below the reefers, something grabbed his leg and pulled down," Balboa added. "When he turned around and looked, nobody was there."

MS1 Balboa has had other experiences with the *Forrestal* apparition. He says that George is known to haunt aft in number three hole. "I was taking inventory one night and heard a noise like deck grating being picked up and dropped. I turned around and looked but didn't see anything. When I returned to my work, the noise started again," he said.

According to Balboa, this happened three more times before he turned and



saw the deck grating rise from the deck and drop, as if someone had picked it up and let go. "I've got one guy working for me who refuses to go down there alone. I've never seen any ghosts, but you can hear weird things down there."

Petty Officer Balboa isn't alone in strange experiences. MS2 James Hillard worked in cargo from April 1986 until April 1987. He recounted a time when he was retrieving frozen foods from the rear of the reefer. The lights began to go on and off. When he told his partner on the outside of the reefer to stop kidding around, his partner denied that he was playing with the lights. When the lights went out again, Hillard felt someone or something tap him on his shoulder. The lights came back on. His partner was outside the reefer, too far away to have done it.

Lights turning on and off, footsteps on the metal deck grating, and noises of people going up and down ladders seem to be the hauntings observed by personnel who work in number one and three holes. Hillard remembered a time when they were moving supplies and a shipboard telephone kept ringing. It was reportedly disconnected. When he shouted up to the personnel working above him and asked if they were trying to call him, they replied "No."

"The phone rang again and I answered it," Hillard said. "This time there was a faint voice calling, 'Help! Help! I'm on the sixth deck!' Rumor had it that a crew member was killed there. I'm very scared to go there alone. If I do, I get out as fast as I can," he added.

Only a handful of crewmen have claimed to see George. Petty Officer Hillard is one of them. "I was working cargo in number three hole on the fourth deck. A buddy and I sat down to take a break. We heard someone walking on the deck grates. I looked out in the passageway and saw someone walk by about five feet away. He was wearing a khaki uniform like an officer or chief would wear. He went into the spice rack. I waited a few minutes for him to come out. When he didn't, I went in to take a look. There was nobody in there, and I swear that is where he went," Hillard emphasized.

MS2 Gary Weiss saw the khaki-clad ghost go down a ladder to pump room number one. According to Weiss, whoever went down the ladder never came back up. When he investigated the pump room, nobody was there. The ladder was the only access to the room.

MS1 Daniel Balboa (standing) and MS2 James Hillard claim experiences with the *Forrestal* poltergeist.

There is much speculation as to the identity of the ghost. The guesses range from a chief who was killed during the *Forrestal* flight deck fire of 1967, which claimed 137 lives, to a pilot who lost his life while flying and whose body was stored in the reefer until it could be transported off the ship. No one seems to know for sure. But everyone agrees that the ghost was named after the former cargo division officer, Lieutenant George Conway.

MS3 Jeff Scott and Airmen Dave Goeddertz, Brett Reynolds and Napoleon Hayes recalled the most recent of the ghost's shenanigans. While breaking out frozen foods, a stack of beef fell against the reefer door and jammed it shut, trapping them inside temporarily. They said that the beef had been stacked against the wall near the door for over a week. With the ship in calm seas and no one outside the reefer to move it, they can only blame George for the prank.

The cargo division is responsible for the storerooms and reefers that are nestled below the ship's waterline. There are many new personnel in the division who are making their first deployment on board *Forrestal*, and the stories of strange happenings continue. Men who spend time in the below-deck spaces say they sometimes hear echoes inside the sound-proof chill boxes. Though indistinguishable, they say that once it sounded like "Good morning, shipmates" — much like the greeting that skipper Captain John A. Pieno gives over the general announcing system before he addresses the crew.

"I think it's the guys' imaginations," said Senior Chief Petty Officer James Williams, *Forrestal's* leading chief petty officer of the enlisted mess decks. "I'm not superstitious but when I go down there by myself, I'm uneasy. When that happens, your imagination is going to play tricks on you."

The people who work in cargo and those who visit number one and three holes say that doors still open when they should be locked, noises of footsteps on deck gratings are still heard, and the lights still go on and off even though the electricians say there is nothing wrong with the circuits. Whether one believes in ghosts or not, the stories add excitement to a long deployment that can be otherwise uneventful.

Sailors' tales of sea monsters and the Flying Dutchman have always been a part of sea lore. Not everyone aboard *Forrestal* believes in the George's existence but, fact or fiction, *Forrestal's* ghost will be a part of the carrier's legacy that crewmen remember in the years to come. ■

# Looking for Earhart

By RAdm. Francis D. Foley, USN(Ret.)



*The following article is reprinted with permission from Air & Space/Smithsonian magazine. It appeared in "Above & Beyond," February-March 1988.*

I didn't decide to become an aviator until after graduation from the Naval Academy. At the time, I was serving aboard a cruiser and the skipper was very reluctant to see me go. Not that I was that good an officer — he just didn't care much for aviation. But when his daughter married an aviator, he relented and approved my transfer to flight training.

When I finished, I was assigned to a scouting squadron aboard the aircraft carrier *Ranger*. I flew the Vought SBU-1, a rugged and reliable fixed-gear biplane the Navy used as a scout-bomber.

It was while I was stationed aboard the *Ranger* that I became involved in the search for Amelia Earhart, who was lost on her attempt to fly around the world. She was an experienced aviator with a number of risky flights and firsts to her credit, including the first flight from Hawaii to the U.S. mainland and another solo flight across the Atlantic. For her world trip, she and navigator Fred Noonan were flying west to east, roughly along the equator, in a twin-engine Lockheed Electra.

They set out June 1, 1937, from Miami. On June 29, they arrived at Lae, New Guinea, and were poised for the longest nonstop leg of the trip, 2,556 miles across the South Pacific to a refueling stop at tiny Howland Island.

This leg would demand the most of Noonan's navigational abilities. Once a navigator for Pan Am, he had helped that airline establish routes in the South Pacific, so he was as familiar with the area as anyone could be. To help guide them in, a Coast Guard cutter named *Itasca* had been stationed

near Howland and Baker islands.

Earhart and Noonan never made it to Howland, though they apparently came heartbreakingly close. The radio operators on *Itasca* could hear Earhart calling them, but apparently the two aboard the *Electra* could not hear *Itasca*. The airplane, Earhart, and Noonan disappeared without a trace in the broad reaches of the Pacific.

The news of Earhart's disappearance hit the newsstands on the Fourth of July weekend but, by then, the Roosevelt administration had authorized the Navy to begin preparations for a search. The carrier *Lexington*, preparing for holiday festivities at Long Beach, Calif., was ordered down to San Diego. In the meantime, an air group, including my squadron from *Ranger*, was being organized at the naval station at North Island. Because fighters had limited fuel capability and were single-seaters with no room for observers, the air group consisted of scouts and bombers, supplemented by two amphibious airplanes from the carrier.

Fourteen airplanes from each of six squadrons flew aboard *Lexington*, while maintenance and enlisted personnel for the squadrons arrived by small craft. Three destroyers — *Cushing*, *Drayton* and *Lamson* — were assigned to this hastily organized search mission.

Most of us came aboard *Lexington* thinking that we would only go out a thousand miles or so before the whole thing was called off, so we brought along only an overnight bag with a pair of pajamas, a razor, and perhaps a change of underwear. As it turned out, we stayed aboard for a month and eventually had to buy clothes from the ship's store.

We left on July 5, making good speed for Hawaii. In fact, our trip was the fastest ever made to Hawaii at the time. As we approached the islands,

the destroyers peeled off to refuel at Pearl Harbor. *Lexington* refueled at Lahaina Roads on the island of Maui. Normally *Lex* and her sister carrier *Saratoga* would fuel only to 95-percent capacity because the weight of the eight-inch guns and the carrier's island on the starboard side would make a fully fueled ship heel over about three degrees. Nonetheless, we fueled 100 percent, then on the way to Howland we burned the fuel from tanks on the starboard side first until the ship was back on an even keel.

Other ships had done some preliminary searching in the area before *Lexington* arrived. One was *Itasca*; another, the battleship *Colorado*, had three Curtiss seaplanes on board that were launched by catapult.

We started our search on July 13 with a plan that had been devised by the ship's senior officers on our trip out. One destroyer stayed with the carrier as the plane guard, meaning it would rescue anyone who went overboard on takeoffs or landings. The other two destroyers were deployed to port and starboard about 60 miles out. Each search entailed 48 aircraft. Smoke bombs were dropped off the ship's stern, and the first airplanes to take off dropped two smoke bombs off the bow. Twelve airplanes circled each smoke bomb and, at a given signal, 24 airplanes formed a line on each side of the ship and began flying away from each other, 90 degrees from the ship's course. After flying 120 miles out, each line made a 90-degree turn and flew in one long column for 24 miles. Another 90-degree turn brought the two lines back toward the ship.

We kept the airplanes separated by a mile and flew at 500 feet, and the sight of 24 aircraft stretching across the horizon was impressive. The line was ragged the first couple of times out, but we eventually got pretty damned good at it.

During the flights, which lasted about three hours, the pilots all gazed toward the center of the line and the rear-seat men looked in the opposite direction with binoculars, ensuring that the ocean was covered thoroughly. Each of us was anxious to be the first to sight Earhart and Noonan or any clue to their fate, so we paid close attention to the ocean below us. We figured that they would be in a rubber boat and, from our altitude, we could see anything — garbage, trash — floating in the water. If there had been a life raft or a life jacket, we would have seen it, but there was nothing more than an occasional bit of flotsam to arouse hope.

We were all conscious of the adventurous nature of our mission. And as we covered miles and miles of empty ocean, we got a good idea of how the two in the Electra felt as they searched for a tiny bit of land in an endless sea.

The search mission took 10 days, during which we covered 250,000 square miles, an area the size of Texas, to a density of one-half mile. And in all that air time, there were no accidents — a remarkable performance for such concentrated flying. But, of course, we weren't abusing the airplanes by dive-bombing or strafing. We

flew at cruising speed and then made carrier landings under good conditions.

Two searches were flown each day, with each crew flying twice one day and once the next. The rest of the time, naturally, was spent on the ship. They say that an aircraft carrier is a poker game with a flight deck over it, and we did play a lot of cards during the month at sea. Those who didn't care for poker could play basketball, volleyball or badminton on the hangar deck. We also watched movies, but we had only two on board and it wasn't long before we had them both memorized. One was a Rin Tin Tin movie and every time the dog barked, the whole crew barked along.

Of course, we never found a trace of Earhart, Noonan or their Electra. Some people have speculated that Earhart had been on a secret mission to spy on the Japanese in the Marshalls and on Truk Island, but I think the idea is absolutely ridiculous. Others have suggested that the Japanese shot her down and held her prisoner, but I discount all that.

I believe that Earhart and Noonan, perhaps blown off course by winds during the night, missed Howland Island. As navigator, Noonan would have tried to use the sun to calculate

their longitude, then hoped that by running north and south they would pass over the island. In fact, the last radio communication from the Electra indicated that this is precisely what Earhart and Noonan were doing, as their gas gauges crept toward empty and their world flight approached its tragic end.

On July 23, the Navy called off the search mission and we headed home. But first we put all the airplanes in the air and flew over the equator on the international date line. It's an old nautical tradition that people who cross the equator become "shellbacks," so we had the privilege of painting a flying turtle on each airplane. On the way back to San Diego, we didn't have any air operations since we only had about enough fuel left to fly the airplanes off when we got back to port.

One thing we didn't run out of during the entire search was steak. Apparently, they had just stocked the cold storage aboard *Lexington*, and it seems to me we had steak nearly every meal until we started to get sick of it. And when I got back to San Diego, my mother and brother met me and took me out — for a steak dinner. ■

## WEATHER FRONT

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

### Wind Chill

Wind reduces body temperature by evaporating perspiration — which draws heat from the skin's surface. The influence of temperature and wind on human performance is based on the fact that with no wind, the body will still lose a degree of measurable heat.

When the wind increases, as shown in the table, the loss of body heat is accelerated. The relationship between wind and temperature and the impact on the human body is approximated by the wind chill equivalent temperature.

The wind chill effect can be efficiently

put to use in the heat of summer. Many home owners have already installed the wide-bladed ceiling fans once found only in the local ice cream parlor. The systems move air efficiently and are economical to operate. The circulation creates the effects of lowering air temperature from 6 to 10 degrees.

During the colder months, line and flight deck crews and ship's lookouts are routinely subjected to the combined effect of wind and temperature. Super-

visors should be aware that the wind chill table provides only the equivalent temperature at best. A specific individual's reaction to cold and wind is more often determined by his or her age and physical condition. However, in selecting that impeccable award-winning wardrobe this winter, let the wind chill table be your guide!



		Air Temperature (F)					
		45	40	35	30	25	20
Wind Speed (mph)	05	43	37	32	27	22	16
	10	34	26	22	16	10	03
	15	29	23	16	09	02	-05
	20	26	19	12	04	-03	-10
		Equivalent Temperature					



## Rescues

The crews of three Navy helicopters attached to ComTraWing-5 aided volunteer fire fighters in extinguishing a house fire near the community of Munson in northwest Florida.

Crewmen of two helicopters from HT-8 spotted the residential fire while flying a nighttime formation in the squadron's eastern training area. One helo landed to assist. A third helicopter from HT-18, on a scheduled instrument flight, also landed near the burning home. All five crew members from both helos assisted the firemen in manning the hoses to fight the blaze which consumed one-third of the residence before the fire fighters and helo crews gained control. All three helicopters later continued their training.

AW2 Frederick M. Setzer, Jr., a Naval Air reservist drilling with HS-1197, described the first moments of his rescue of a radar intercept operator (RIO) from a downed F-14 as deadly serious and real.

A VF-32 *Tomcat* had "cold catted" off the bow of USS *John F. Kennedy* (CV-67) into the cold, dark waters of the Atlantic. The pilot, Lt. Eric Lampela, and RIO, Lt. Nick Filippone, had been forced to eject. AW2 Setzer and the crew aboard the HS-7 rescue helo immediately sprang into action.

The first attempt to rescue Lts. Filippone and Lampela failed. About 15 minutes later, the second attempt worked. Setzer connected the cable and he and the RIO were hoisted aboard the helicopter. A ship's motor whale boat crew rescued the pilot. Neither aviator was seriously injured, but Setzer felt the effects of spending 15 minutes in cold sea water in only a 'shortie' wet suit.

This was Setzer's second rescue — he once pulled a "man overboard" from the sea off the coast of England when he was returning from another active duty deployment with HS-7.

## Records



Forrestal skipper Capt. John A. Pieno (left) receives the tailhook of the S-3 Viking in which he made his 1,300th carrier arrested landing, from Cdr. Gerard Lennon, C.O., VS-28. Capt. Pieno made the personal milestone landing on June 5, 1988, while Forrestal was deployed in the North Arabian Sea.

Maj. Clarence L. "Skip" Urps, HMM-162 aircraft maintenance officer, recently logged his 4,000th mishap-free flight hour, while on a squadron deployment. Maj. Urps has flown over 2,300 hours in the CH-46.

Several units marked safe flying time: VP-49, 180,000 hours and 26 years; VP-47, 100,000 hours and 15 years; VS-31, 72,000 hours and 18 years; and VMA-311, 10,000 hours.



VS-31 aircraft demonstrate the versatility of the S-3 Viking, dropping MK 82 general purpose bombs during training at NAF Fallon, Nev.

## Honing the Edge

As the NATO military exercise *Dragon Hammer '88* began to wind down, VAW-121 welcomed aboard USS *Dwight D. Eisenhower* Capt. Lothar Peltz and Lt. Guenther Fersch, of the German air force. Both men are stationed at Geilenkirchen, West Germany, the primary operating base for the AWACS E-3 *Sentry*. As surveillance controllers for the AWACS, both men had the opportunity to work with E-2C *Hawkeyes* of VAW-121.

The *Fighting Redtails* of VS-21 again demonstrated their versatility and flexibility by operating in the diverse environs of the northern and western Pacific and the Indian Ocean.

Transiting northwest as far as Adak,



PH3 Robinson

One of VS-21's S-3s makes a successful landing.

Alaska, VS-21 encountered major challenges during its NorPac deployment, highlights of which included successful long-range prosecution of a Soviet submarine and winning top honors in landing grades for the entire air wing work-up.

The *Fighting Redtails* then departed for WestPac determined to exceed their performance. Battle Group Exercise commenced upon reaching the Hawaii ops area. Ninety-six hours of continuous flight operations occurred as VS-21 located and prosecuted two simulated Soviet submarines and conducted numerous simulated attacks.

During the transit from Hawaiian ops to the Philippine Islands, Battle Group Foxtrot participated in an "Encounterex," again testing its ASW capabilities. VS-21 played a major role in denying the hostile forces an opportunity to attack the carrier.



The red star on the tail is a recent addition to the VFC-13 fleet. The "humps" on the Super Fox have since been removed but the "hot dog" antenna still remains and identifies the A-4F as king of NAS Miramar's A-4s.

At a time when regular Navy adversary squadrons are acquiring new F-16s for their air combat maneuvering (ACM) role, VFC-13 is about to transition from A-4Es to A-4 "Super" Fs.

The A-4F is powered by a J52-P-408 engine which delivers 11,200 pounds of thrust. It has one-to-one thrust-to-weight performance at basic fuel weight — which means it can nearly maintain forward speed going straight up. In a horizontal fight, the A-4F is able to sustain 5 to 6 Gs without bleeding airspeed.

The A-4 has always been a "hands-on" aircraft, relying on the pilot's skills rather than electronic "magic" to win in the ACM arena.

#### Et cetera

Fifteen members of VF-43, NAS Oceana, Va., accompanied by their commanding officer, Cdr. Jerry Merritt, traveled to the Navy Memorial in Washington, D.C., to be reenlisted

at the statue of the Lone Sailor by VAdm. Leon A. Edney, Chief of Naval Personnel.

Reenlistees included PO3s David R. Lampe and Jane M. McClain; PO2s Douglas E. Driggers, Stanley A. Jordan, Pamela J. Morlock and Michael L. Russo; PO1s Joseph Johnson, Barry R. Moore, Philip P. Puglisi, Jr., Brian M. Shipley and William G. Ward; and CPOs Alfredo J. Almazan, Michael D. Carpenter, Kristine M. Haynes and Patricia A. Hubbard.

Reminiscent of a county fair, USS *Independence* crewmen were guests of a two-day "San Diego Real Estate Fair" in preparation for the ship's home port change to San Diego later this fall.

The 1,047-foot aircraft carrier hosted the fair and invited many San Diego realtors and brokers, at their own expense, to Philadelphia to talk to the crew about prospects in the real estate market. The spacious ship's hangar bay, normally used for parking aircraft during flight operations, became the temporary offices for 16 real estate companies, brokers and lenders during the fair.

According to PR3 Ben Beacham of the paraloft aboard USS *Dwight D. Eisenhower* (CVN-69), rigging parachutes has to be exact. For a pilot, parachute riggers are probably the most important people in the process of flying since the PRs "are the last to let a pilot down," Beacham said.

Having packed more than 100 chutes in his three-year career, Beacham said seven have been used — all successfully. Tradition dictates that when a pilot must use his chute, he buys the rigger champagne or other beverage in token of his appreciation. But if the pilot uses his chute and it

doesn't open, it could mean an investigation and possible disciplinary action. PRs get only one chance for error.

USS *John F. Kennedy* (CV-67) recently conducted its first air operations with AV-8B *Harriers*, flown by VMA-542, Cherry Point, N.C. Impressive to the carrier's crew was the AV-8B's ability to take off from the carrier's flight deck after a short roll without needing a catapult, and to land without arresting cables.

While the versatility of the aircraft is an integral part of the plane's success, the test run was scheduled to find out what problems, if any, are incurred by having *Harriers* aboard. The main concern of many *Kennedy* crew members was damage to the flight deck's non-skid surface, caused by powerful *Harrier* exhaust jets. While some cleanup was necessary, long-term damage didn't appear to be a problem.

#### Disestablished

VA-174 was disestablished on June 30, 1988, at NAS Cecil Field, Fla.

#### Redesignated

On April 22, 1988, Naval Reserve Force squadrons VCs 12 and 13 were redesignated Fighter Squadron Composites (VFCs) 12 and 13. The change recognizes the increasing adversary role that the squadrons play in support of fleet readiness training at NAS Oceana, Va., and NAS Miramar, Calif., respectively.

#### Established

The VAW community established Carrier Airborne Early Warning Weapons School (CAEWWS), which will provide graduate-level warfare training for E-2C *Hawkeye* aircrews.

CAEWWS is located at NAS Miramar, Calif., and under the administrative command of Commander, Fighter Airborne Early Warning Wing, U.S. Pacific Fleet. The school became an independent command on July 13, 1988.

The Grumman E-2C *Hawkeye*, the



VF-43 personnel reenlist at the Navy Memorial in Washington, D.C.

Navy's only carrier-based airborne early warning aircraft, is instrumental in early warning, anti-air warfare battle management, surface surveillance, strike control, air intercept control, search and rescue coordination, electronic surveillance, and air traffic control.

### Change of Command

CTF-72/PatWing-1: Capt. Michael D. Haskins relieved Capt. Charles C. Nute.

CVW-14: Capt. W. Stewart Orr relieved Capt. Dennis W. Irelan.

HC-1: Cdr. Howard O. Frankenfield relieved Cdr. Terry W. Waldbeesser.

HC-11: Cdr. Michael A. Lutkenhouse relieved Cdr. Vernon H. Overall.

HM-18: Cdr. Robert Thomas relieved Cdr. Walter Steiner.

HS-6: Cdr. Murat Shekem relieved Cdr. Bradd C. Hayes.

HS-12: Cdr. John H. Winter relieved Cdr. William D. Young.

HT-8: Cdr. Jim Mader relieved Cdr. Kris Tande.

Lexington: Capt. C. Flack Logan relieved Capt. H. G. Sprouse.

MAG-13: Col. Jay C. Lillie relieved

Col. James E. Sabow.

MAWTS-1: LCol. Michael D. Ryan relieved LCol. Fred McCorkle.

NAMI: Capt. Ronald K. Ohslund relieved Capt. Richard A. Millington.

NAR Jacksonville: Capt. Joseph W. Harris relieved Capt. Michael A. Nash.

NAR Norfolk: Capt. Roger Richardson relieved Capt. W. T. Parker, Jr.

NAS Pensacola: Capt. Harry A. Jupin relieved Capt. James W. Dickson.

NavAvScolsCmd: Capt. James W. Dickson relieved Capt. Carlton L. Lavander.

NavPRO Stratford: Capt. Spencer E. Robbins II relieved Capt. Barton D. Strong.

PatWing-11: Capt. Richard L. Norwood relieved Capt. Jon S. Coleman.

SeaStrikeWing-1: Cdr. Sam Houston relieved Capt. Frank Herron.

StrikeFitWingsLant: RAdm. James W. Partington relieved RAdm. Henri B. Chase.

VA-115: Cdr. Dave Polatty relieved Cdr. Paul Cash.

VAQ-33: Cdr. Manuel Y. Durazo, Jr., relieved Cdr. Dennis E. Fandrei.

VAW-113: Cdr. Christopher J. Remshak relieved Cdr. David A. Ersek.

VAW-115: Cdr. Leo F. McGinn, Jr., relieved Cdr. Franklin S. Achille.

VF-114: Cdr. Rod Casey relieved Cdr. Bill Trainor.

VFA-15: Cdr. Milton W. Smith relieved Cdr. John W. Curtin.

VFA-83: Cdr. Michael Longworth relieved Cdr. Terry Miller.

VFA-106: Cdr. W. O. King, Jr., relieved Capt. Leslie G. Kappel.

VFA-195: Cdr. Thomas G. Otterbein relieved Cdr. Patrick D. Moneymaker.

VMA-211: LCol. Daniel L. Hughes relieved LCol. Jonathan E. Ingersoll.

VMA-311: LCol. Gary O. Norris relieved LCol. Gregory G. Sloan.

VMA(AW)-242: LCol. Carl H. Ertwine relieved LCol. John M. Valovich.

VMFT-401: LCol. Edward P. Hay, Jr., relieved LCol. Bruce B. Knutson, Jr.

VP-5: Cdr. George T. Hodermarsky relieved Cdr. P. S. Semko.

VP-19: Cdr. Dennis J. Kerns relieved Cdr. Richard A. Crosby.

VP-31: Cdr. William G. Bozin relieved Cdr. Raymond J. Morris.

VQ-3: Cdr. Michael A. Davidson relieved Charles B. Fitchet.

VR-51: Cdr. Charles A. Fitz-Gerald relieved Cdr. Wilbur A. Davis.

VR-60: Cdr. Stephen D. Caviness relieved Cdr. Bernard F. Carlson.

VS-31: Cdr. Robert D. Parlet relieved Cdr. John L. Ahart.

VT-28: Cdr. John Scott Atkinson, Jr., Cdr. William W. Wittman.

VXE-6: Cdr. John V. Smith, Jr., relieved Cdr. Jack B. Rector.

## AWARDS

### Battle Es

The 1987 Battle Es, awarded for combat readiness, efficiency and excellence, were presented to the following units:

ComNavAirPac: USS *Ranger* (CV-61), VAs 22 and 165, VAQ-139, VAW-115, VF-114 and VFA-25.

ComNavAirLant: USS *Saratoga* (CV-60), HS-3, VA-35, VAQ-137, VAW-124, VF-84, VFAs 81 and 137 and VS-30.

### Aviator's Valor Award

Lt. Keven L. Koshiol, of St. Paul, MN, received the 1988 Aviator's Valor Award "... for conspicuous valor in aerial flight on January 3, 1987, as a P-3 patrol plane commander with Patrol Squadron Six [Barbers Point, HI]." The *Orion* was on routine patrol north of Hawaii when two engines failed and caught on fire. Lt. Koshiol brought the aircraft and its crew of 13 to a safe landing 800 miles away.

Sponsored by American Legion Aviator's Post No. 743 in New York, the gold medal is presented annually to an aviator in each of the uniformed services. Lt. Koshiol joins a long list of aviation heroes beginning with the first



Lt. Koshiol received the Aviator's Valor Award from his former wing commander, Capt. Ron Testa. The recipient credited his Navy training. "There was never a question of not being able to handle this emergency," he said. "In Naval Air, you always train for the worst and anything less seems like a cakewalk."

awardee, Army Air Corps General "Hap" Arnold.

Lt. Koshiol is currently assigned to the Naval Air Development Center, Warminster, PA, as the aviation/armament division officer in the aircraft maintenance department.



## F-14A with Yaw Vanes



An F-14A equipped with yaw vanes flies over the Naval Air Test Center during tests of new vectored thrust technology. The paddle-like devices, which deflect jet engine exhaust to provide additional yaw control power, are installed near the Tomcat's engine exhausts.

## P-3 Interactive Configuration System

A joint Naval Air Systems Command (PMA-240) and Lockheed Corporation venture is leading the way in electronic publishing for the Navy.

The Interactive Configuration System (ICS) is providing the Navy's maritime patrol community with real-time configuration information updates on the P-3 *Orion*. This information is currently published in the semi-annual *Configuration Status Accounting Report*.

ICS is an unclassified data base designed to track configuration changes to the P-3's airframes, avionics, weapons systems, power plants, and other modifications on all models.

Updated twice weekly, the system is a local phone call away from nearly any location in the continental United States. A demonstration at the *Naval Aviation News* offices by Lockheed's Greg Delezynski, the system's on-

## Aircrew Gas Mask



GySgt. John B. Barron of MAG-29, MCAS New River, NC, models Marine Corps Aviation's newest gas mask. The A/P 22P-9(V) chemical, biological, radiological protective assembly, also known as the AR-5, is currently undergoing final stages of testing before replacing the more than 20-year-old M-24 mask. The new device has a thin, rubber hood that covers the head and neck, and a face mask. Two ventilator hoses hang from the front of the mask, adding to the AR-5's sci-fi appearance. They attach to a separate box that blows air into the hood and face mask, which helps keep the aircrew member comfortable. The AR-5 provides increased visibility and can be used with night vision goggles.

Sgt. Melissa L. Eustris

line manager, revealed ICS to be simple to use and packed with information. The only equipment required to access ICS is a personal computer, a modem, and communication software.

Those commands desiring access should contact the system manager at (818) 847-4970.

## EA-6B Improvements

The Navy awarded Eaton Corporation's AIL Division \$45 million to provide advanced electronic components to improve the effectiveness of the EA-6B *Prowler*. The company will furnish 96 universal exciters — sophisticated packages of electronics which boost the flexibility of the aircraft's on board ALQ-99 tactical jamming system. The exciters are carried on the *Prowler* in under-wing and fuselage equipment pods. Their design includes a programmable techniques generator, which provides a versatile jamming capability over wide operating frequency ranges.

## F-4 Phantom II

This year, the F-4 *Phantom II* observed the 30th anniversary of its first flight, on May 27, 1958. Today, F-4s are flown by active and reserve units of the Marine Corps, Air Force and Air National Guard, and the air forces of nine allied nations. The aircraft began operational service in 1961 with the Navy. Production at McDonnell Aircraft Co. ended in 1981 after 5,195 F-4s were built. The *Phantom II* was a powerful and capable fighter of the Vietnam era.



This specially painted F-4E from the Missouri Air National Guard's 131st Tactical Fighter Wing in St. Louis is one of approximately 2,400 Phantom IIs still in service around the world.

## Thermal Imaging Navigation Set

Hughes Aircraft Company's Electro-Optical and Data Systems Group developed a night-vision navigation system that will enable F/A-18 *Hornet* pilots to fly low-level missions at night and in adverse weather. The first of five prototype systems, called thermal imaging navigation set (TINS), was delivered to McDonnell Douglas under a \$3.8 million full-scale development contract, and flight tests are currently underway. Production deliveries of the systems are expected to begin in the fall of 1989.

TINS, designated AN/AAR-50, utilizes a thermal imaging sensor that provides pilots with a TV-like image of the terrain ahead. The image is projected onto a heads-up display for viewing at night or in poor visibility. The TINS system is pod-mounted in a fixed, forward-staring position and can be reconfigured into different pods for a variety of aircraft.

By Cdr. Peter Mersky, USNR-R

Y'Blood, William T. *The Little Giants: U.S. Escort Carriers Against Japan*. U.S. Naval Institute, Annapolis, MD 21402. 1987. 448 pp. Illustrated. \$28.95.

This volume is a fine piece of historical research and reporting. With the author's previous account of Atlantic CVE operations — *Hunter-Killer* (USNI) — it makes an authoritative two-volume history of the escort carrier in WW II.

Beginning with a riveting introduction on the loss of the *Liscome Bay* from a single Japanese torpedo on the early morning of November 24, 1943 — while the ship was supporting the invasion of the Gilbert Islands — *The Little Giants* details the development and operational service of the CVEs in the Pacific. Campaigns in the Marianas, Philippines and right up to Japan's doorstep in 1945 thrust the escort carriers into the forefront of the battle. The tremendous contribution of these quickly built, sometimes easily lost, little flattops cannot be overstated, and Y'Blood has written an enjoyable, fact-filled history of their career.

Well-printed archival photos also complement the text, as do the two-page ship drawings of carriers which were sunk by enemy action. These drawings detail specific damage, and give a good idea of the configuration of these oddly-shaped aircraft carriers.

Soward, Stuart E. *A Formidable Hero: Lt. R. H. Gray, VC, DSC, RCNVR*. CANAV Books, 51 Balsam Ave., Toronto, Canada M4E 3B6. 1987. 176 pp. Illustrated. \$21.95.

Not many books have been written on British carrier aviation in WW II, and even less on the role of the many Commonwealth aviators who flew in the Fleet Air Arm. This book is a biography of the last aviator to win the Victoria Cross, Britain's highest award for military valor.

"Hammy" Gray grew up in Canada and volunteered for military service early, eventually winning his wings as a pilot in the Royal Navy's Fleet Air Arm. Well liked personally and professionally, Gray served in several squadrons before being assigned to 1841 Squadron aboard HMS *Formidable*, flying *Corsairs*.

After his *Corsair* was struck by intense Japanese flak as Gray and his flight attacked enemy ships on August 9, 1945, the Canadian continued his dive, delivering a bomb which sunk the ship. His squadronmates saw Gray dive into the sea.

Written by a retired Royal Canadian Navy pilot, this book deals with the actions of a relatively unknown individual

whose act of leadership and courage is little known outside of enthusiast circles. It is well illustrated with photos of Gray and his squadron.

Gunston, Bill. *Grumman: Sixty Years of Excellence*. Orion Books, Crown Publishers, Inc., New York, NY. 1988. 160 pp. Illustrated. \$19.95.

Another book from the highly prolific pen of Bill Gunston, this effort is one of several books on this pioneer company. We reviewed Michael Hardy's *Sea, Sky and Stars* in the March-April 1988 issue. Gunston's text carries through to the F-14D and A-6F programs and includes the company's involvement with the experimental X-29 and the U.S. space program.

At the end of the second chapter, the author says, "Grumman's forte has always been powerful airplanes with a maritime connection," and that is shown in this well-illustrated book, which includes many color shots. America's involvement in Southeast Asia receives scant mention, although Grumman aircraft were in Vietnam nearly from the beginning to the end. British readers will be interested in the material on F-111s, which participated in the April 1986 Libyan raids.

While this is not a definitive history of Grumman, it does have value as a quick reference.

Crocker, Mel. *Black Cats and Dumbos: WW II's Fighting PBYs*. TAB Books, Blue Ridge Summit, PA 17214. 1987. 273 pp. Illustrated. \$14.95.

The Consolidated PBY *Catalina* was deservedly one of the most famous naval aircraft of WW II. The Cat served throughout the war in every theater — in and out of combat — in many roles, including patrol bomber, search and rescue, transport and even as a lumbering fighter.

In recent years, several books have been written about this aircraft. This latest volume is a worthy addition to the growing list of *Catalina* literature. Written by a former PBY crewman, it discusses the plane's career immediately before U.S. entry into the war, as well as its wartime service. The book's title refers to the PBY's two most famous roles — nocturnal raider and rescue.

Well supported with photos and useful maps, *Black Cats and Dumbos* relies heavily on personal experiences, salted throughout the text, which make interesting and humorous reading.

## Kudo

I want to commend your periodical for the article, "Hooked But Not Trapped" [by Dr. Malcolm Muir, Jr.] in the May-June issue. For over seven years, I have worked in Army aviation, yet I have never seen such an interesting and dynamic article. The author's enthusiasm and unique manner of describing carrier operations have a way of placing the reader on board USS *Dwight D. Eisenhower* during

*FleetEx 1-88*. The vocabulary and sense of fast pace which Dr. Muir skillfully painted are a close substitute to being present as F-14s and A-7s maneuvered on the flight deck. Also important were Dr. Muir's graphic accounts of the ship's support functions.

"Hooked But Not Trapped" . . . upgrades the caliber of military writing. The vibrant sentences have rekindled

my interest in our field.

James C. Carey  
U.S. Army Plant  
Representative Office,  
Boeing Helicopters

## Historical Trivia

The nice piece about El Centro [by Peter Mersky, *NANews*, May-June

## Job Opening

Rank/Designator: CDR/Naval Aviator  
Position: Editor, Naval Aviation News  
Requirements:

Writing experience  
Available January 1989  
Computer skills  
Love of Naval Aviation

For more information, contact: Cdr.  
John Norton at (202) 433-4407/8/9  
or autovon 288-4407/8/9.

1988) brought back fond memories. Our reserve squadron — VMF-232 from Floyd Bennett Field, NY — was activated for the Korean War and sent to El Centro to train our *Corsair* pilots in close air support tactics and to finish the John Wayne movie, "The Flying Leathernecks," for which we were selected to provide support. Our aircraft were washed over with water-based paint, on only one side, to resemble WW II fighter bombers. One of our pilots was a Duke look-alike and flew the hops for him before the camera. I have been immortalized in film by allowing my hands to appear in a three-second sequence, stuffing ammo in Wayne's right wing boxes.

Moving into enlisted barracks at El Centro meant a full-scale, house-to-house, search-and-kill mission as the places were loaded with scorpions and small rattlesnakes. They kept coming back "home" even after we moved in. The social life was almost nil for us guys waiting to be part of a replacement draft headed for Korea. Most of us on family budgets stayed on base and prospected the local hills in borrowed jeeps.

The Parachute Testing outfit was there and advertised to us Marines to get jump qualified. Bored, dozens of us signed up. An instructor would fly over the middle of the field in an R4D and throw out a red farmer's style milk can, filled with sand to test the wind or whatever. That chute never opened and most of the names were off the list when the parachute school "opened" for Marines. I made my first and last jump there!

Joe Rychetnik  
1141 Ocean View Blvd.  
Pacific Grove, CA 93950

## Info/Photos Wanted

I am working on a two-volume set of books on the export and service use of MiG fighters outside the Soviet Union. I need photography of MiGs used in

African, Asian and Middle Eastern nations and in Cuba. I am willing to purchase good quality photographs of non-Soviet MiGs and all information/photos will receive full credit.

Nicholas J. Waters III  
5509 Darby Ln.  
The Colony, TX 75056

I am preparing a monograph on the Curtiss SOC and would like to obtain photographs as well as interview VO and VCS personnel about pre-war and WW II experiences in the aircraft. I also want to learn about powder-type catapults.

James A. Crossman  
15404 Eleanor Ln.  
Moreno Valley, CA 92388

I am collecting detailed, firsthand accounts of military actions associated with the 1968 Tet Offensive for a book. I am interested in hearing from anyone who was in Vietnam between January 29 and April 1, 1968.

Eric Hammel  
1149 Grand Teton Dr.  
Pacifica, CA 94044

I am researching the last 50 years at NAS Barbers Point and wish to contact ex-naval air station personnel. Call AV 474-7101 or (808) 684-7101 or write:

Barb Conrardy  
Public Affairs Office  
NAS Barbers Point, HI 96862-5050

I am gathering interesting stories involving Naval Aviation incidents and accidents for a book I am writing. If you've had a wild ride in any Navy aircraft or know someone who has, I'd appreciate hearing your war/sea story from any time frame.

Blake L. Stichter  
1768 Leyburn Ct.  
Jacksonville, FL 32223

## Reunions, Conferences, etc.

**VAL-4 Black Pony pilots planned reunion.** Interested members please contact Len Zavortz, 205 Yoakum Pkwy. #1606, Alexandria, VA 22304, (703) 751-9078.

**NASWF Kirtland AFB (1953-57) reunion,** September 9-11, Holiday Inn, Albuquerque, NM. Contact Wayne Downing at (614) 474-2496 or George Liedel (313) 750-9236.

**NAS New York reunion,** September 16-18, Virginia Beach, VA. Contact Pat Giudice, USNAS NY Reunion Assoc., P.O. Box 14414, Norfolk, VA 23518.

**Berks County Vietnam Memorial Parade and Dedication,** September 24,

Reading, PA. For information, contact B.C.V.M.C., P.O. Box 4222, Mt. Penn, PA 19606, (215) 779-1457.

**USS Wasp CV/CVA/CVS-18 proposed reunion,** early 1989. Former shipmates contact Richard G. VanOver, 6584 Bunting Rd., Orchard Park, NY 14127, (716) 649-9053.

**USS Langley (CVL-27) reunion,** October 1-2, Alexandria, VA. Contact A. Nick Chagaris, 11 Bourn Ave., Hampton, NH 03842, (603) 926-7545.

**Odin Squadron reunion,** September 29-October 3, Hanalei Hotel, San Diego, CA. Contact RAdm. Earl Forgy, 25 Sandpiper Strand, Coronado, CA 92118.

**VB-305 (Solomon Islands, February-June 1944) reunion,** Fall 1988, San Diego, CA. Contact Bob Rice, 1976 Bucklin Hill Rd., Bremerton, WA 98310, (206) 692-8734.

**USS Badoeng Strait (CVE-116) reunion,** October 16-19, Reno, NV. Contact Henry C. Trotter, 106 Sage Dr., Universal City, TX 78148, (512) 658-3447.

**VS-49 (Dutch Harbor, 1943-44) reunion,** November 1988. Contact C. Fred Joseph, 19904 Clutter Rd., Utica, OH 43080.

**USS Langley CV-1/AV-3 reunion,** September 30-October 2, Ramada Inn, Bentonville, AR. Contact Dean Perry, 27 Lunsford Ln., Bella Vista, AR 72714, (501) 855-9040.

**USS Nassau (CVE-16) reunion,** October 20, Charleston, SC. Contact Sam A. Moore, 78 Gay Dr., Ventura, CA 93003, (805) 644-8390.

**VT-305 reunion,** October 20-23, Town & Country Hotel, San Diego, CA. Contact Carl E. Roberts, 1818 E. Missouri Ave., Phoenix, AZ 85016 (602) 265-5214. VB-305 personnel also invited.

**USS Princeton (CVL-23) reunion,** October 21-23, Charleston, SC. Contact Sam Minervini, 251 Marlboro Rd., Wood-Ridge, NJ 07056, (201) 935-6125.

**Defense Conference on Nondestructive Testing,** November 1-3, Sheraton at St. Johns Place, Jacksonville, FL. Contact John Lundeen, Naval Aviation Depot, Code 340, NAS Jacksonville, FL 32212-0016, AV 942-2165 or (904) 772-4521.

**VP-14/VB-102/VPB-102 WW II Pacific reunion,** November 10-13, Pensacola, FL. Contact Robert E. Dimmitt, 5186 Pale Moon Dr., Pensacola, FL 32507, (904) 492-3194.

**16th Biennial Scientific Session of the Joint Committee on Aviation Pathology,** November 15-17, Toronto, Canada. Contact Secretary, Joint Committee on Aviation Pathology, Armed Forces Institute of Pathology, Washington, DC 20306-6000, or call Col. Gormley at (202) 576-3232.

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