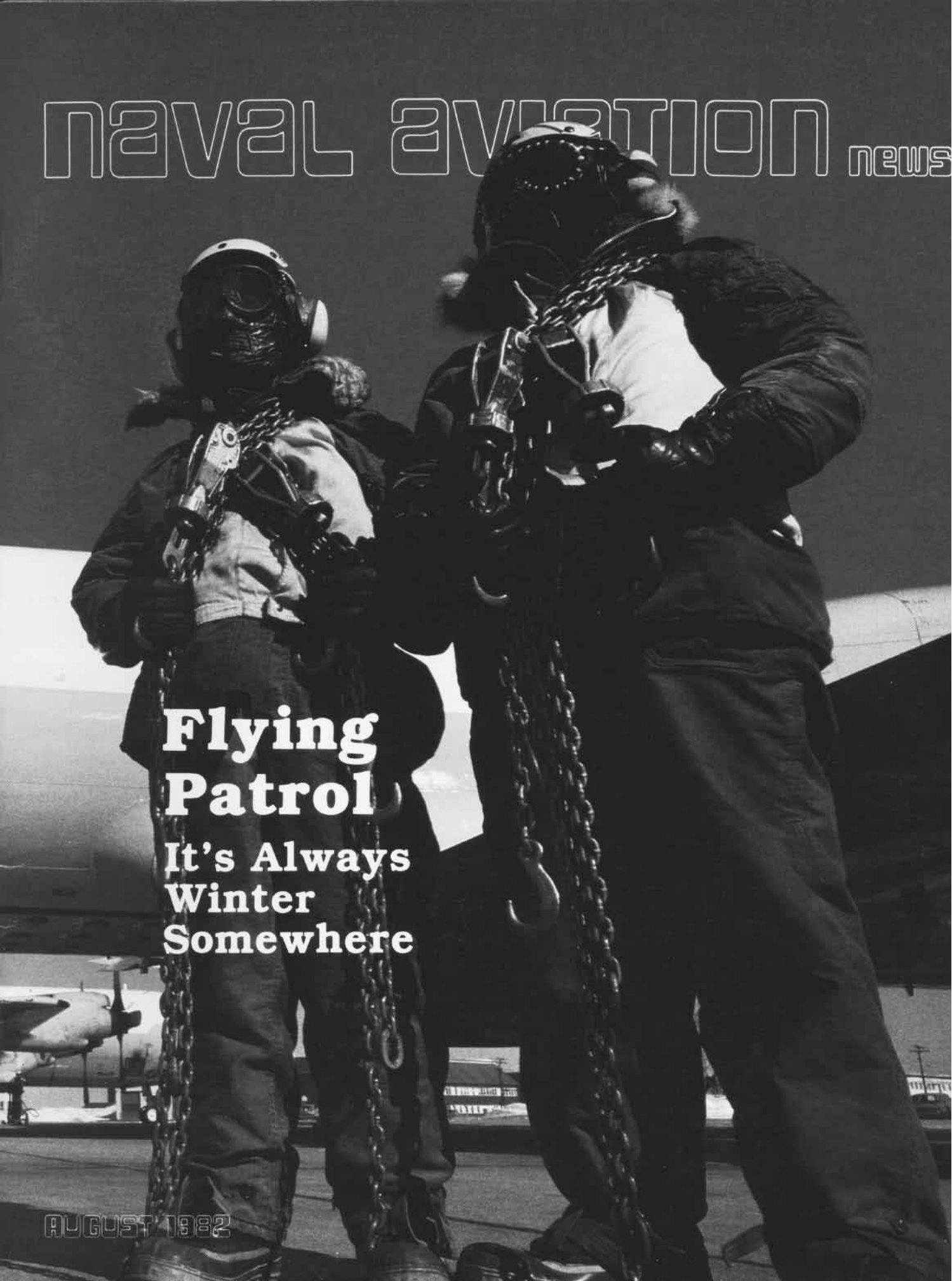
naval aviation news



Flying Patrol

It's Always Winter Somewhere

AUGUST 1982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PHC C. C. Curtis

naval aviation news

Sixty-Fourth Year of Publication

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Vice Admiral E. R. Seymour Commander, Naval Air Systems Command

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COVERS – Front/back, two ground crew members prepare to tie down patrol aircraft at VP-8 in Brunswick, Maine. Winters at NAS Brunswick can be bitterly cold and, despite the blue sky and sun shown in the cover photograph, temperatures at the time were below zero, with winds gusting up to 30 knots making it even colder. Inside, a P-3B from VP-17 passes by a Soviet *Kynda*-class guided missile armed destroyer leader.

Features

Departments

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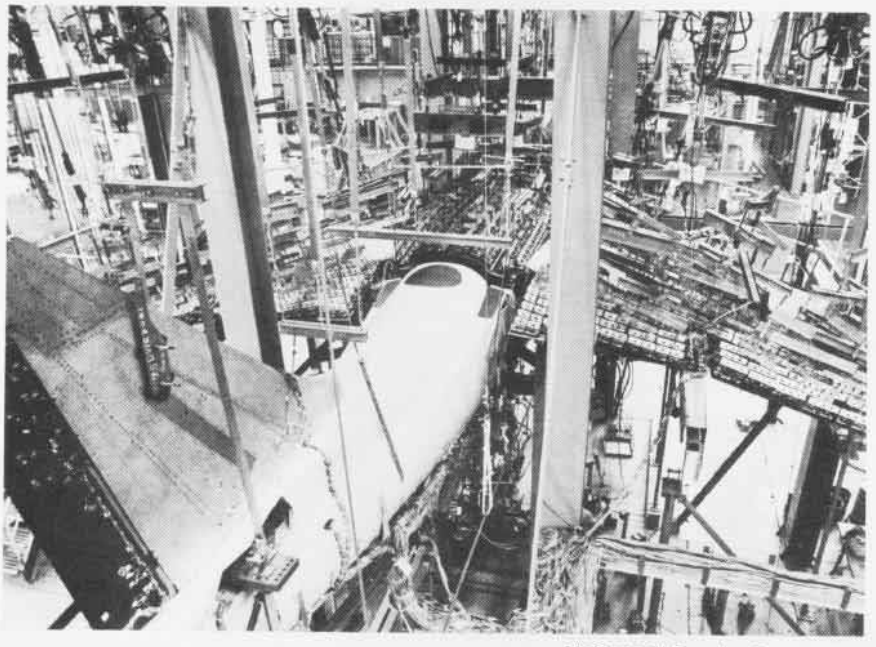
STATE OF THE ART

AV-8B Harrier II Tests Forces 10 times the weight of the AV-8B *Harrier II* did not bend, twist or shear its airframe during tests conducted recently by McDonnell Douglas engineers in St. Louis, Mo. Sixty tons of force were distributed throughout the airframe by tension pads and straps which supply the loads from computer-controlled hydraulic systems. Strain and stress were measured by gauges placed on the airframe. The forces normally encountered during aerial combat are only half the loads simulated in the tests.

The tests are equivalent to twice the normal service life of a *Harrier II* airframe, or 12,000 flight hours. One service life is the equivalent of 20 years of flying at 300 hours per year. Static testing will continue through 1983. Fatigue testing has also begun.

The Marine Corps intends to buy 336 AV-8Bs to replace aging AV-8As and A-4 *Skyhawks*. Britain's Royal Air Force intends to purchase 60 which are to be designated *Harrier GR Mk 5s*.



McDonnell Douglas Corporation

Stress tests were conducted in a McDonnell Douglas laboratory on a Harrier II's graphite-epoxy composite airframe stripped of avionics and hydraulic systems to see if it could withstand the same forces as one made mostly from metal. It did.

Project START for P-3 A Lockheed program to enhance the quality of P-3 *Orion* maintenance is now under way at NAS Barbers Point, Hawaii, after successful year-long experiments at Naval Air Stations, Moffett Field, Calif., and Jacksonville, Fla.

Called Project START (squadron training and readiness team), the program provides intensive on-the-job training to crews responsible for maintaining the P-3 antisubmarine warfare aircraft. The primary objective of START is to raise

the practical skill level of squadron maintenance personnel, with emphasis on those aircraft systems that have the greatest impact on mission capability. Subjects emphasized are avionics, electrical and automatic flight control systems, aircraft structure and utilities, propulsion and aircraft maintenance.

While Lockheed technical representatives hold formal classroom sessions, 80 percent of the instruction time involves on-the-job training. START sharpens maintenance skills by providing hands-on experience and underscores the proper use of P-3 test equipment, technical manuals and maintenance procedures.

Barbers Point's project START will last eight months. The program is also continuing at Moffett Field and Jacksonville where it has already improved P-3 operational readiness.

Last Test Flight for Shuttle

Navy Captain Thomas K. Mattingly II and retired Air Force Colonel Henry W. Hartsfield put the frosting on the nation's Independence Day birthday cake, flying the space shuttle *Columbia* to a perfect landing on a three-mile-long concrete runway in the Mojave Desert. Not only did they bring *Columbia* down onto a concrete runway instead of the desert floor for the first time, but they landed precisely where expected. Returning to Earth on July 4 after seven days in space, they put the wheels down on the white markers smack in the middle of the 300-foot-wide strip.

Having completed the last of its four test flights, *Columbia* is now ready for its first operational flight scheduled for November 11. *Challenger,* the second shuttle spacecraft, is expected to make its first flight in early 1983.

Changing the Watch

Admiral James D. Watkins relieved retiring Admiral Thomas B. Hayward as Chief of Naval Operations in a ceremony on June 30, 1982, at the U.S. Naval Academy, Annapolis, Md. Formerly Commander in Chief, U.S. Pacific Fleet, Adm. Watkins takes over the Navy's top military post with a background of varied assignments in a 37-year career that began with his appointment to the Naval Academy in 1945.

After graduation in 1949, he served aboard destroyers and submarines, later commanding the nuclear attack submarine USS *Snook*. Following selection to rear admiral in 1971, he became the first flag officer to be assigned as Director of Enlisted Personnel. A tour as Commander Cruiser-Destroyer Force, U.S. Seventh Fleet preceded his promotion to vice admiral. He was then appointed Deputy Chief of Naval Operations for Manpower and eventually became Chief of Naval Personnel, duty which earned him the Distinguished Service Medal. Adm. Watkins left that billet to command the U.S. Sixth Fleet but returned to Washington, D.C., in 1979 to take a fourth star and assume duty as Vice Chief of Naval Operations. From there, he was posted to Hawaii as CinCPacFlt.

At the change of command ceremony, Adm. Watkins concluded his remarks by saying, "I'm encouraged by the way the Navy is on the move. I think we're headed in precisely the right direction. There is still much to be done. I assure you I will do all in my power to keep our great Navy fully at the ready. . . ."

Grampaw Pettibone

Shackled Tomcat

The squadron LSO/pilot departed the outlying field LSO shack at 1920 to hustle back to the squadron for his turn at field carrier landing practice (FCLP). He arrived in the squadron area at 1945, talked briefly with the squadron duty officer (SDO) and then reviewed his assigned aircraft logbook. His departure to the flight line was delayed briefly while he borrowed an oxygen mask from the SDO. His personal mask was in the shop for repair. He then manned a waiting "hot switch" aircraft which had just returned from the FCLP pattern.

At 2005, with takeoff checks completed, the F-14 crew executed a zone 5, no-flap takeoff. Once airborne, the pilot retracted the landing gear and immediately noted "unsafe" barber poles on both main landing gear indicators, along with a "safe-up" nose gear indication, a gear transition light and "wheels" warning light. The pilot reduced power, lowered the landing gear and observed all three gear indicating "safe-down-and-locked" gear transition and wheels warning light extinguished.

The crew assessed the situation and elected to proceed to the outlying field with landing gear extended to complete the FCLP mission. After executing 11 field carrier touch-and-go landings, the F-14 departed the pattern with a VFR recovery at home base. En route, the pilot, with the concurrence of the NFO, raised the landing gear handle in an attempt to trouble shoot the previously observed landing gear discrepancy. With the gear handle up, they observed a "safe up" on the nose and left main gear, an "unsafe" barber pole right main gear, and a gear transition light. The pilot then lowered the gear handle, obtaining a "safe-down-and-locked" nose and right main gear, with an "unsafe"

barber pole on the left main gear.

The troubled *Tomcat* crew discussed the Natops procedure for an unsafe main gear with a gear transition light. The pilot again raised the gear and observed the same indication as before. Upon relowering the gear, they felt the bi-directional hydraulic pump engage and observed the same "unsafe" left main gear. Shortly thereafter, the hydraulic warning light illuminated with 2,100 psi showing on the combined hydraulic gauge. The pressure held at 2,100 psi for approximately one minute, then dropped to zero, at which time the pilot secured the bi-directional pump.

At five nautical miles south of the field, the pilot declared an emergency and executed a rendezvous on a near-by F-4 *Phantom*. The F-4 pilot verified that the left main gear was up and the gear door was closed.

The F-14 pilot next initiated emergency gear extension procedures and was successful in lowering the left main gear. The F-4 crew verified that the gear now appeared "down and locked." However, the cockpit gauge still indicated "unsafe" with an associated flashing "wheels" warning light.

Accelerating to 280 knots, the F-14 pilot applied 2.5 positive Gs and yawed the aircraft in an effort to force, unsuccessfully, a safe-gear-down indication. He then extended the hook and positioned the aircraft for a short field arrested landing, choosing not to wait for an LSO to arrive at the runway.

The aircraft touched down at optimum airspeed, landing 300-400 feet short of the arresting gear. The

ILLUSTRATED BY Osborn

port main landing gear collapsed approximately two seconds after touchdown. The hook failed to engage the arresting gear cable.

The aircraft skidded for 2,500 feet as the pilot held full right lateral stick and right rudder to maintain directional control. As the speed slowed to 90 knots, the aircraft veered off the left side of the runway and came to rest midway between the two parallel runways. The crew ejected as the aircraft departed the runway at the 8,000-foot remaining mark.

Grampaw Pettibone says,

Great limping leg irons! A two-legged aluminum *Tomcat* sliding across 2,500 feet of rough concrete is more painful than the old turpentine and corncob treatment given four-legged fuzzy felines down on the farm. It is certainly more expensive and, in the latter case, only the cat gets a pain in the fanny.

As you might have guessed, this crew's problem resulted from failure to remove the landing gear downlocks before takeoff. Several possible factors contributed to this. First, it seems to me that the pilot had inadequate time to prepare for preflight and flight. Secondly, two unqualified plane captains were assigned to launch the aircraft. The trainee assigned to remove the downlocks was working his first night "hot-switch" launch. He was unfamiliar with procedures and failed to pull the downlocks. The more experienced plane captain failed to check the trainee. The pilot was busy adjusting the borrowed oxygen mask and overlooked the downlock removal. The NFO did not check for downlock removal. No final checker was assigned.

Up to this point, at least four people had actively contributed to setting up this mishap. These four do not include an undetermined number of operations and maintenance supervisors who may also have contributed.

Had the crew returned to base upon getting a "safe-gear-down-and-locked" indication, they may have lost the night mission but they would have saved the day! The decision to raise the gear after the touch-and-go landing resulted in the port main gear downlock swivel/shuttle valve being ripped off by the detached downlock clamp, and resulted in hydraulic failure.

Established Natops procedures are, in part, a result of lessons learned by others' painful mistakes or misfortunes. One lesson relearned here — to leave the gear down once you get it down — has just added another expensive chapter to our book. The printing cost of this lesson came in at slightly less than $1 million and, unfortunately, we are unable to buy the copyrights that prohibit future reproduction without our consent.

Naval Aviation Hall of Honor

Increased to Eighteen

The Naval Aviation Museum, Pensacola, Fla., has officially announced the selection, approved by the Chief of Naval Operations, of those who will be enshrined in the Naval Aviation Hall of Honor in 1982.

The six distinguished men – three Navy officers, one Marine Corps officer, one Coast Guard officer and a civilian – will be added to the first twelve who were enshrined last year.

Those who are so honored are selected for their exceptional contributions to technical or tactical development, and unique and superior achievements in combat or noncombat flight operations in and for Naval Aviation.

The enshrinement will take place at a ceremony at the Naval Aviation Museum, tentatively scheduled for May 1983, with the unveiling of bronze plaques commemorating the accomplishments and contributions of those selected.

In alphabetical order, they are:

General Roy M. Geiger, USMC. Fifth Marine Corps officer to be designated a Naval Aviator. Commander of the First Marine Aircraft Wing at Guadalcanal. Commander of First/Third Marine Amphibious Corps at Bougainville, Guam, Palau Islands and Okinawa. Became Commanding General, Fleet Marine Force, Pacific, in July 1941. Graduate of Stetson University, Class of 1907.

Glenn Martin. Pioneer civilian aviator, inventor and industrialist. Founder of the Glenn L. Martin Company which designed and produced many significant naval aircraft.

Admiral Marc A. Mitscher, USN. First commanding officer of USS *Hornet*. Forerunner in the development of Naval Aviation during pre-WW II era. One of the most outstanding combat leaders of WW II. Graduate of the U.S. Naval Academy, Class of 1910.

Admiral Arthur W. Radford, USN. Conducted aerial surveys of Alaska in late 1920s. As director of Naval Air Training at the start of WW II, he was responsible for the rapid buildup of the training program. Distinguished combat record as carrier division commander in WW II. Served as Chairman, Joint Chiefs of Staff, June 1953 to July 1957. Graduate of the U.S. Naval Academy, Class of 1916.

Vice Admiral Charles E. Rosendahl, USN. Most prominent leader in lighter-than-air development and operations in the U.S. Navy throughout his career. First chief of naval airships training and experimentation. Compiled distinguished combat record as cruiser commanding officer between tours of duty in lighter-than-air. Graduate of the U.S. Naval Academy, Class of 1914.

Commander Elmer F. Stone, USCG. First Coast Guard Officer ordered to flight training. Naval Aviator Number 38 and Coast Guard Aviator Number 1. Pilot of NC-4 on historic transatlantic flight of 1919. Leader in Coast Guard aviation throughout his career. Graduate of U.S. Coast Guard Academy, Class of 1913.

Beginning next month, *NANews* will tell the story of each of these men.

Those presently in the Hall of Honor are:

- Adm. John Henry Towers, USN
- Eugene Burton Ely
- Lt.Col. Alfred Austell Cunningham, USMC
- RAdm. Richard Evelyn Byrd, Jr., USN
- Cdr. Theodore Gordon Ellyson, USN
- Glenn Hammond Curtiss
- VAdm. Patrick Nelson Lynch Bellinger, USN
- RAdm. William Adger Moffett, USN
- RAdm. Albert Cushing Read, USN
- Lt.Cdr. Godfrey deCourcelles Chevalier, USN
- Capt. Holden Chester Richardson, USN
- WO Floyd Bennett, USN

A VP-8 ground crewman keeps warm with a face mask during sub-zero weather at NAS Brunswick.

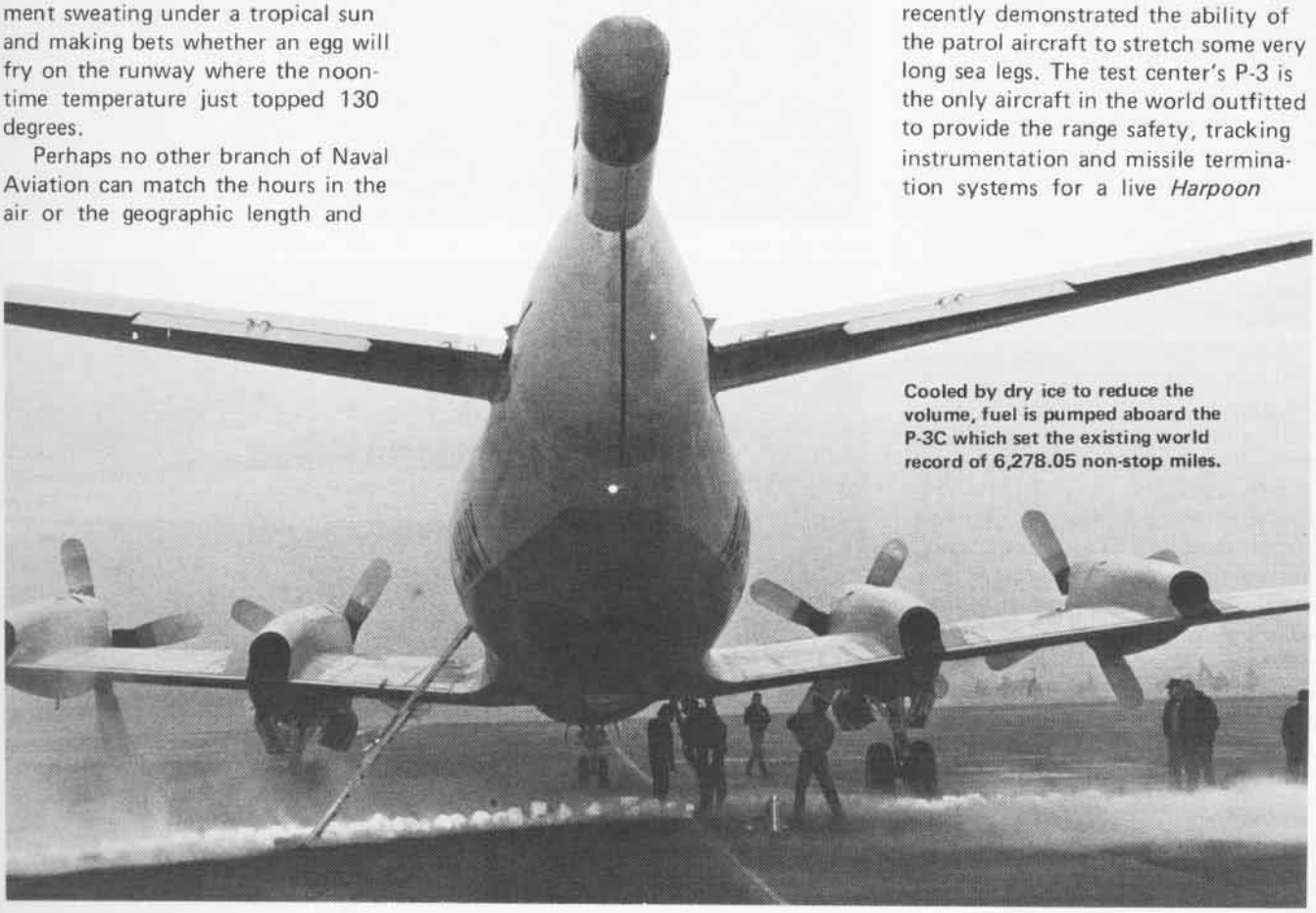
It's Always Winter Somewhere

By JOC Kirby Harrison

If you're assigned to a patrol squadron, there are two things of which you can be sure. First, it's always winter somewhere. At any time, in some far-flung corner of the world, there is almost certainly a patrol squadron detachment shoveling snow off the parking ramp and working outside in 10-minute shifts to avoid frostbite. Second, the opposite is true. Somewhere else there is another detachment sweating under a tropical sun and making bets whether an egg will fry on the runway where the noon-time temperature just topped 130 degrees.

Perhaps no other branch of Naval Aviation can match the hours in the air or the geographic length and breadth of operations of land-based patrol aviation. Ten and twelve-hour missions are standard, and the flight that began in the freezing winter of Keflavik, Iceland, may end (after refueling in the Azores) in the bright summer of Ascension Island, 400 miles south of the equator. Patrol squadron responsibilities extend worldwide and, according to Rear Admiral Edward Wilkinson, Commander Patrol Wings, Atlantic, the job demands rapid response to constantly shifting global tensions and to the high tempo of daily normal operations. He dismisses a suggestion that the patrol community may be stretched too thin. "We stretch," he says with a smile. "We don't break."

A P-3 crew from the Pacific Missile Test Center at Point Mugu, Calif., recently demonstrated the ability of the patrol aircraft to stretch some very long sea legs. The test center's P-3 is the only aircraft in the world outfitted to provide the range safety, tracking instrumentation and missile termination systems for a live *Harpoon*



Cooled by dry ice to reduce the volume, fuel is pumped aboard the P-3C which set the existing world record of 6,278.05 non-stop miles.

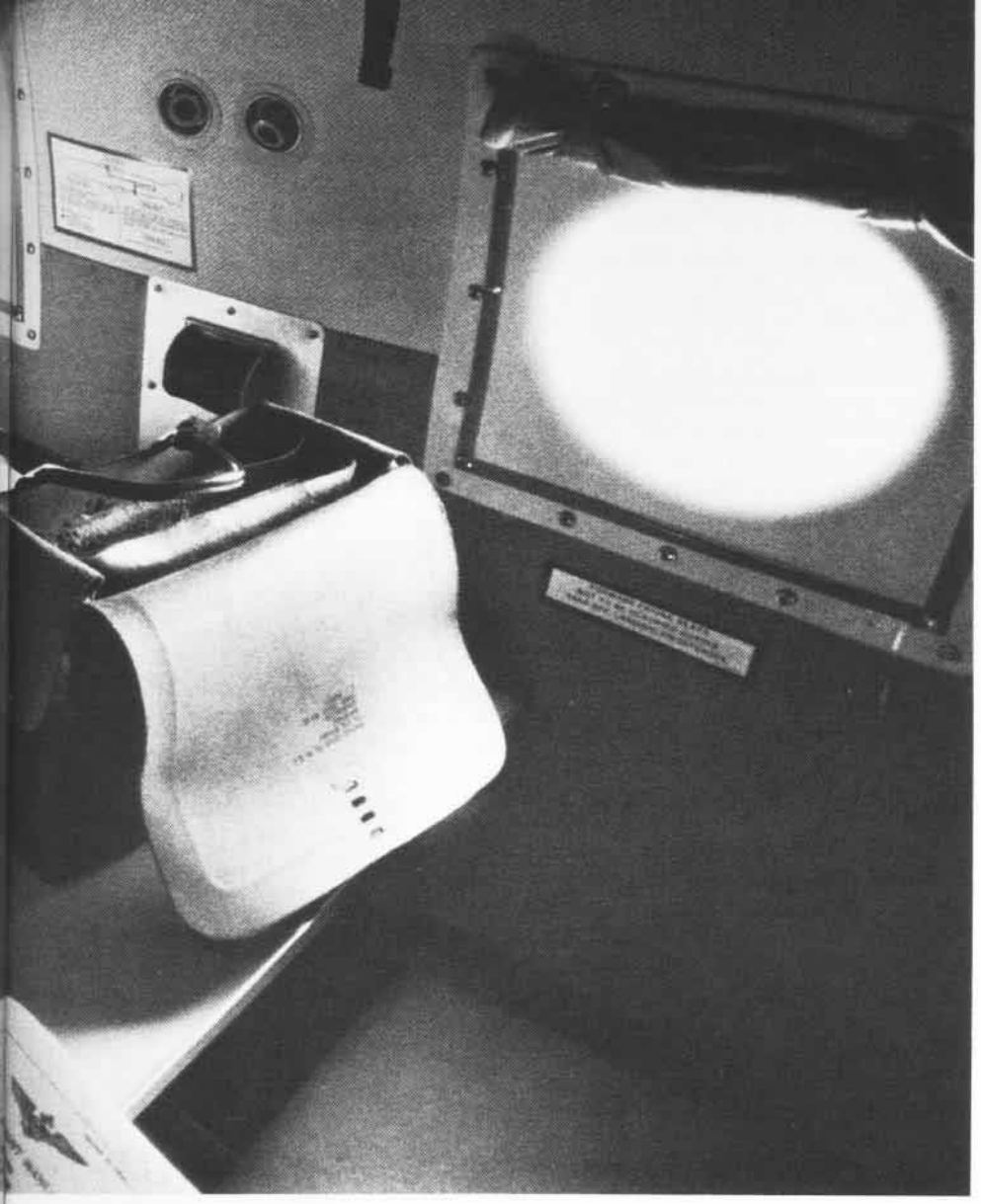
missile firing by other aircraft. But it does more than serve the needs of the test range. When Seventh Fleet units in the Indian Ocean needed similar support, P-3 *Bloodhound 36* was dispatched to do the job. The 15-day odyssey included stops at NAS Brunswick; Rota, Spain; Athens, Greece; Nairobi, Kenya; NAS Cubi Point; Bangkok, Thailand; Guam; and Hawaii. In terms of flying time, it was a trip around the world in 80 hours, including three flights out of Diego Garcia for the missile exercise. "It wasn't just a job," says *Bloodhound 36* pilot Lieutenant Commander Richard Timm, echoing Navy Recruiting's slogan. "It was an adventure."

The value of long aviation sea legs and extended loiter time was obvious in 1975 when Cambodian forces seized the U.S. merchant ship *Mayaguez* and the first order issued was to locate the ship. Commander Jack Kaiser was then the operations officer for Patrol Squadron Four, flying a detachment out of Utapao, Thailand. "We had our ready alert launch off the ground at Utapao in less than an hour — and less than an hour after launch they had tentatively identified a vessel as the *Mayaguez*," he recalls. At first light, a P-3 from VP-17 went in for a positive visual identification. Cambodian gunboats opened fire on the aircraft and several hits caused minor damage to the tail section. The *Orions* moved out of gunfire range but remained in contact and helped direct U.S. rescue forces to the area.

Covering the patrol community's commitments today are more than 200 P-3s in 24 operational squadrons. Another 40 *Orions* are part of two replacement fleet readiness squadrons, both of which have immediate operational capability. An additional 130 *Orions* belong to 13 Naval Air Reserve patrol squadrons. The active duty operational squadrons, with nine aircraft each, are home-based at Brunswick and Jacksonville naval air stations on the East Coast, and at NAS Moffett Field and NAS Barbers Point on the West Coast and in Hawaii. Commander

PH3 A. M. Page

Top, AMHC Tim Waller of VP-8 confirms the notion that every flight begins and ends with paperwork. Above, heat from the runway blurs a VP-11 aircraft during operations out of Roosevelt Roads, Puerto Rico.



Flying over one of Iceland's newly formed volcanos near the Vestman Islands, a VP-10 Orion crew gets an aerial view seen by relatively few persons.

Patrol Wings, Atlantic oversees patrol operations from his East Coast headquarters at Brunswick, and Commander Patrol Wings, Pacific coordinates operations in the Pacific from NAS Moffett Field, including Indian Ocean and Western Pacific deployments. Five patrol wings exercise immediate operational control, with Wings Five and Eleven, based at Brunswick and Jacksonville, and Two and Ten at Moffett Field and Barbers Point. Patrol Wing One is at Kamiseya, Japan, and controls the squadron deployed in the Western Pacific and Indian Ocean.

Thirteen reserve patrol squadrons are organized into two reserve patrol wings at NAS Norfolk and NAS Moffett Field. The squadrons are based at 11 naval air stations and facilities from NAS Whidbey Island, Wash., to NAS South Weymouth, Mass. The squadrons are described as "very active," frequently taking on roles in the normal active duty deployment schedules. According to Commander Hank Davis, P-3 program coordinator with the Deputy Chief of Naval Operations (Air Warfare) in Washington, D.C., "We have three aircraft and four crews from the reserves deployed in the Atlantic and Pacific five months out of the year." He emphasizes that the deployments not only train the reservist but provide a big maritime patrol augment to the Navy's deployed active fleet squadrons.

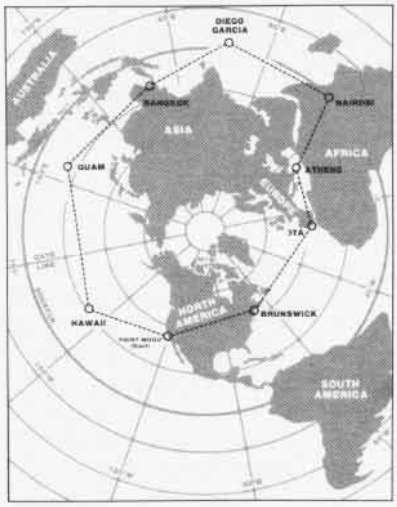
Varsity Player, a major Navy antisubmarine warfare (ASW) exercise held in April off the California coast, featured a large reserve contingent representing five patrol squadrons. A unit from VP-60 came all the way from its home base at NAS Glenview, Ill. More than 2,000 reservists and 1,000 active duty personnel took part in the exercise.

ASW is a major concern of the men and women in patrol aviation. "One of the most exciting aspects of our job is in working with surface and subsurface units in ASW," says RAdm. Wilkinson. "The respective capabilities of each melds well with the others to form a fine team."

The dedication with which the squadrons approach their ASW role can be seen readily in the myriad of squadron emblems illustrating the subject. Patrol Squadron Eight has a tiger clutching a broken submarine in its claws, and VP-40 shows a submarine impaled on the point of a swordfish.

Maritime patrol is the broad mission of the P-3 crews, and a major part of that is support of the battle group in the form of ASW patrol. The introduction of the P-3C (Charlie) Update II version of the *Orion* has added to the enthusiasm of the patrol community and to its ability to detect and track submarines. A former P-3 pilot recalls the frustration of ASW operations in the old *Alpha* aircraft with its old state of the art sensor and computer systems.

"We were flying off Bermuda and caught an unidentified nuclear submarine with his pipes up (periscope, antenna, etc., above water). After trying to raise him on the radio, unsuccessfully, we dropped three signaling depth charges, the international signal requesting identification. He just pulled in his pipes and disappeared, so we laid out sonobuoy pattern and began tracking him. We had a really good crew and my tactical coordinator was a mathematician by background. He was unbelievably good but he had to make all the calculations and put the information together manually. Even though he was sharp and all our gear was working, that sub got away. By the time we had laid our buoys and started to process incoming data, he was long gone. Fortunately, he turned out to be one of our nuclear boats."



Eighty hours in the air recently took a P-3 Orion from the Pacific Missile Test Center at Point Mugu, Calif., to the Indian Ocean on an around-the-world route, via the Indian Ocean, in support of a live Harpoon missile firing.

That wouldn't happen now, says Cdr. Davis. "The major impact of the P-3C Update II was in the data processing. In the Update II, the sensor systems are tied to a central digital computer that processes the information almost instantly, and gives the tactical coordinator rapid clues for the various possible locations of the submarine.

"With the P-3C, the crew has about five times more time to make tactical decisions than the P-3 Bravo crews had. The guys who fly the P-3 Charlie say that an exceptional crew in a P-3B will barely keep up with an only average crew in a P-3C."

Only five active duty P-3 squadrons are still flying the older P-3B model, says Cdr. Davis, all of them at Barbers Point. The Bravos are being replaced as rapidly as the Charlies become available, "but it is still a matter of money."

Coming on fast is the Charlie Update III *Orion*, which carries dramatically improved acoustics. Programs are also planned to upgrade radar, the electronic surveillance measures package, and the communications suite. As for new aircraft to replace the *Orion* itself, Davis foresees the P-3 continuing into the 1990s.

That is part of the beauty of the P-3 *Orion* line, explains Cdr. Davis, pointing out that Deputy Secretary of Defense Frank Carlucci has described it in military hardware acquisitions as "planned program improvement." "We've been doing that for 20 years in the P-3 program," says Cdr. Davis, "and it's proven very successful."

Planners are also brainstorming ways to improve P-3 survivability in combat situations, according to Cdr. Davis. In light of the growing Soviet blue water surface navy, the threat to the P-3 is here today, and we are going to handle it."

At least one improvement due to reach the patrol community soon is a new low visibility paint scheme to reduce the big, four-engine Lockheed aircraft's visual profile. It is being tested by crews at Air Test and Evaluation Squadron One (VX-1) at Patuxent River, Md. "The folks there are very enthusiastic. They say you can hear it before you see it."

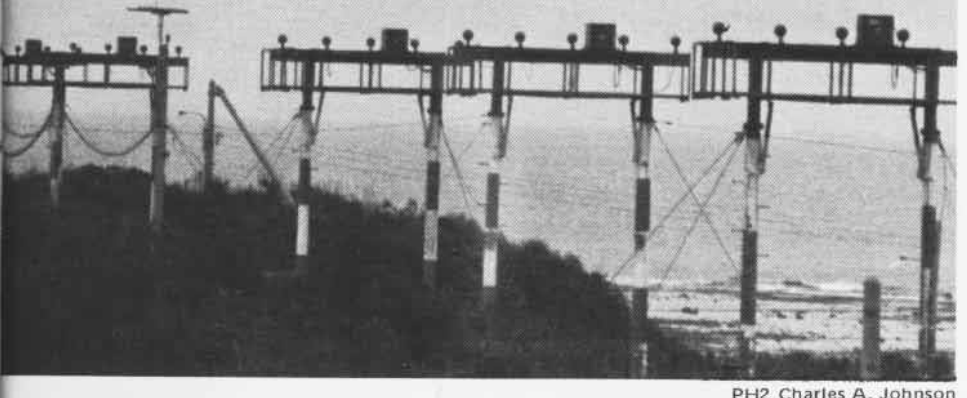
A major step in improving the offensive punch of the P-3 is the successful introduction of the *Harpoon* air-to-surface missile. Prior to the *Harpoon*, the Navy's P-3 aircraft had little or no bite against surface targets. Most of the load was in homing torpedoes and depth charges (including a nuclear depth charge) for use against submarines. The *Harpoon* is a radar-seeking missile which carries a 500-pound warhead and has a range of about 60 miles. Depending on the mission, the P-3 *Orion* can be configured to carry six missiles. The patrol community is enthusiastic over the weapon. As RAdm. Wilkinson notes, "Very few Soviet ships have an anti-air weapons system with greater range than that at which we can effectively launch our *Harpoon*."

Commander Michael Bruner, in the Aviation Plans and Requirements Division of Deputy Chief of Naval Operations (Air Warfare), adds, "For a long time, the P-3 was thought of by some as an air-to-surface 'non-player.' *Harpoon* now gives us a tremendous offensive punch."

Those in the patrol family agree and, despite the long hours in the air on patrol and just as many hours by ground support people to keep them there, they are proud of being part of it.

"It's an important job, and they know it," says RAdm. Wilkinson. "The threat is obvious and no thinking person could deny our dependence on freedom of the seas. We go a long way toward maintaining that freedom."■

Coming home, a VP-46 crew ends their mission on approach to NAF Kadena, Okinawa.



PH2 Charles A. Johnson

Rocked back on his heels by an enthusiastic greeting, a VP-8 pilot shows his pleasure at being home again.

P-3 Orion Twenty Years Young

By Lt. Rick Burgess

Lt. Rick Burgess was designated a Naval Flight Officer in October 1976 and served three years with VP-9 as Tactical Coordinator and Mission Commander. He is presently assigned to the Department of Defense in Washington, D.C.

On August 13, 1962, Lockheed P3V-1 BuNo 149671 was officially presented to Patrol Squadron Eight (VP-8) in a ceremony at NAS Patuxent River, Md. Vice Admiral R. B. Pirie, Deputy Chief of Naval Operations (Air), was on hand to accept the Navy's first operational *Orion* from Courtlandt Gross, chairman of the board of Lockheed Corporation, who said, ". . .This is a husky helpmate anxious to be put to work. Treat her well, love her a little and she will work long and hard."

With those prophetic words the P-3 *Orion* officially joined the fleet and was soon to win recognition as one of the finest patrol and antisubmarine aircraft in the free world, a status it still enjoys and expects to enjoy for years to come. By late August, VP-8 and its sister squadron VP-44 were well under way at Patuxent River transitioning from the venerable Lockheed P2V *Neptune*. By the end of October 1962, VP-8 was fully equipped with 12 P-3As.

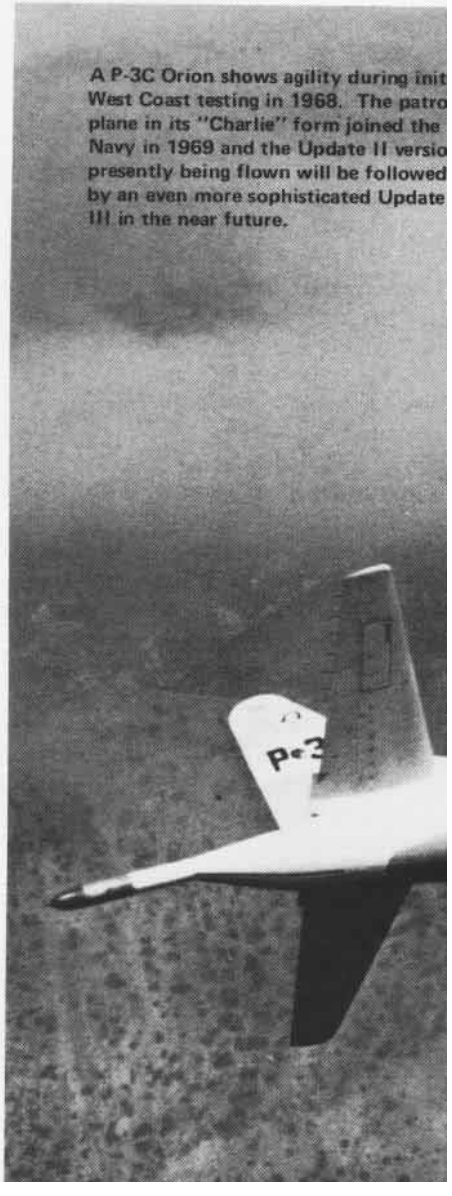
The operational debut of the *Orion* could not have been better timed. The Cuban missile crisis in October 1962 gave the P-3 a sterling opportunity to prove itself under demanding operational conditions. As the Navy's blockade of Cuba swung into place, P-3As from VP-8, VP-44 and VX-1 deployed to Bermuda and the Azores, and conducted round-the-clock surveillance of Soviet shipping until the crisis ebbed. In February 1963, VP-44 was called upon to conduct surveillance of the Venezuelan freighter *Anzoategui* which had been hijacked by communist terrorists. Soon after, on April 30, a VP-44 detachment took the P-3A on its first scheduled deployment to Argentia, Newfoundland.

P-3A deliveries were in full swing in 1963, while fleet replacement squadrons VP-30 and VP-31 established detachments at Patuxent River and NAS Moffett Field, Calif., respectively, to commence transition and pipeline training. VP-46 at Moffett Field became the first Pacific Fleet squadron to transition to the *Orion*, receiving its first P-3A on January 29, 1963. Eventually, 18 fleet SP-2 and SP-5 squadrons were completely re-equipped with the standard P-3A or its Deltic improvement.

P-3A production, which ended in late 1965, totaled 157 aircraft. Three major improvements were incorporated in the P-3A production line: a mine-laying capability; an auxiliary power unit, which greatly enhanced operations away from home base; and the Deltic improvement. The heart of the Deltic improvement was the replacement of the AQA-3A/4 acoustic processor with the AQA-5 which gave the aircraft crew the capability to monitor 16 sonobuoys simultaneously, double the number monitored by earlier P-3As. Other modifications included improved navigation equipment, an acoustic tape recorder and an improved ESM direction finder. The ASR-3 "sniffer," used to home in on the exhaust of diesel submarines, was considered obsolete and eventually deleted. Many earlier P-3As were retrofitted with the Deltic improvements.

As transition of fleet patrol squadrons progressed, P-3As began to displace SP-2s at overseas deployment sites at a steady rate. VP-46 took the the P-3A to Adak, Alaska, for the *Orion's* first Pacific deployment, on April 7, 1964. VP-9 became the first P-3 squadron in WestPac when it deployed to Naha, Okinawa, in October 1964. With the conflict in Vietnam increasing in tempo, VP-9's aircraft were the first *Orions* to support U.S. naval forces in the South China Sea, beginning eight years of support in Southeast Asia.

By late 1965, the P-3B had succeeded the P-3A (Deltic) on the pro-



A P-3C Orion shows agility during init West Coast testing in 1968. The patro plane in its "Charlie" form joined the Navy in 1969 and the Update II versio presently being flown will be followed by an even more sophisticated Update III in the near future.

duction line. Among many changes, the P-3B featured uprated T56-A-14 engines and a radar altitude warning system (RAWS). The last 63 of the 144 P-3Bs built featured structural strengthening to accommodate heavier loads. All P-3Bs were either produced or retrofitted with the *Bullpup* air-to-surface missile system. (Many P-3As were also retrofitted with *Bullpup* and all were retrofitted with RAWS.) The avionics suite was essentially identical to that of the P-3A which allowed for rapid squadron transition.

VP-26 at NAS Brunswick and VP-9 at Moffett Field were the first fleet units to receive the P-3B, transitioning in January 1966. Eventually, 13 fleet squadrons transitioned to the basic P-3B. By 1970, fleet patrol squadrons had become an all-*Orion* force.

The P-3B was also the first version exported abroad, with the Royal New Zealand Air Force receiving five in 1966, the Royal Australian Air Force getting 10 in 1968 and the Royal Norwegian Air Force acquiring five in 1969.

VP-9 was the first to deploy with the P-3B – to Naha, Okinawa, in July 1966 followed by VP-26 a few days later to Keflavik, Iceland.

With the buildup of U.S. military forces in Vietnam, P-3 squadrons became increasingly involved in patrols over the South China Sea, flying from bases in the Philippines, Thailand, Taiwan and Vietnam. They provided surveillance of shipping bound for North Vietnam, ASW protection for Task Force 77 and anti-infiltration barriers off the 900-mile coastline of South Vietnam to hamper the flow of supplies to Vietcong forces in that country. In Operation *Market Time*, P-3s augmented and eventually replaced SP-2s and SP-5s, and were instrumental in intercepting cargo vessels attempting to infiltrate.


Lockheed-California Company

Although the air war over Southeast Asia was largely a tacair show, patrol planes did encounter hostile fire. Several P-3s were damaged by automatic weapons, and in April 1968, a VP-26 P-3B was shot down (with all hands lost) by a Cambodian gunboat. Two months earlier, a VP-26 P-3B was lost to unknown causes in the Gulf of Thailand, possibly due to hostile fire.

By the ceasefire in 1973, all 13 Pacific Fleet P-3A/B squadrons and 7 of the 12 Atlantic Fleet P-3A/B squadrons had served in the conflict On October 2, 1973, a VP-17 P-3A flew the last *Market Time* patrol.

While attention was focused on Southeast Asia, P-3s also kept vigilant watch over much of the world's oceans from such places as Iwakuni, Japan; Adak, Alaska; Keflavik, Iceland; and Sigonella, Sicily, in spite of a reduction in the number of VP squadrons from 30 to 24 by 1969.

As successful as the P-3As and Bs were, the quantum improvement in patrol aviation came with the advent of the highly computerized P-3C. As early as 1960, the Naval Air Development Center, Warminster, Pa., was tasked with developing a digital, integrated ASW avionics suite for the P-3. Eventually, the first production P-3A became the flying test bed for the A-NEW project, as the program came to be known. The program was to integrate the various sensor and navigational systems with a digital computer to enhance the speed and accuracy of tactical information and to free crews from laborious log-keeping, leaving more time for decision-making. P-3B BuNo 153443 was converted on the production line as the YP-3C and made its first flight on September 18, 1968. The aircraft was essentially a P-3B airframe with extensive avionics improvements in every area, especially in acoustic processing, ESM and navigation. The central computer automatically tied together the new low-light level television, radar, ESM and the AQA-7 (V)1/2 directional acoustic processor DIFAR – with the accuracy offered by ASN-84 inertial navigational systems. Sonobuoy deployment was enhanced by a larger, improved

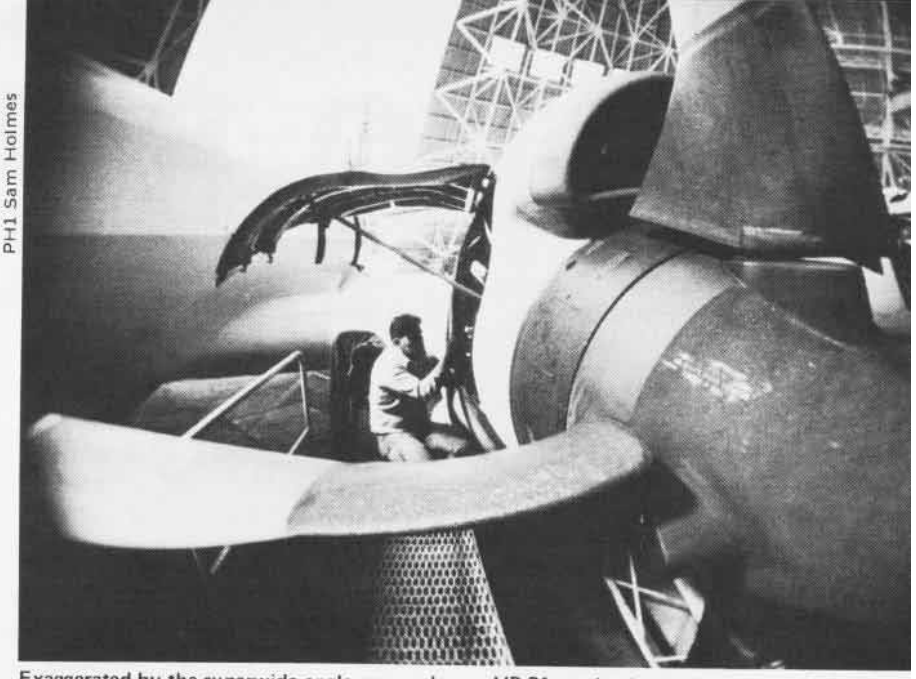
launcher system. A digital data link system enabled a computer exchange of tactical data with other aircraft, ships and shore bases. Cathode ray tubes gave crew members (including the pilots) clear, real-time diagrams of the tactical situation. Countless other avionic improvements were incorporated, with a single P-3C containing more electronic components than the entire P-3B production run.

VP-56 was the first P-3C squadron, commencing transition in June 1969, followed by VP-49 which became the first to deploy with the P-3C on July 16, 1970, to Keflavik. Eventually, six Atlantic Fleet squadrons were equipped with the basic P-3C, with all finally consolidated at NAS Jacksonville, Fla. In October 1970, VP-47 was the first Pacific Fleet VP squadron to transition to the P-3C, taking the new aircraft to Adak in June 1971 for its first Pacific deployment. It wasn't until August 1975 that the P-3C operated in WestPac (with VP-48) and over the South China Sea. Overall, 117 basic P-3Cs were delivered before production switched in 1975 to an improved P-3C.

Even before the advent of the P-3C and the complete replacement of the SP-2, several early production P-3As were modified for other duties. The *Orion's* excellent performance and spacious fuselage made it an attractive platform for other missions. The prototype YP-3A was acquired by NASA on June 10, 1966, for *Gemini/Apollo* spacecraft support missions -- after a career at NATC Patuxent River in developmental work. Redesignated NP-3A, this aircraft continues to serve NASA from Wallops Island, Va.

Three P-3As were extensively modified in the mid-1960s to special electronic configurations, one eventually serving in turn NATC, Naval Weapons Laboratory, Dahlgren and VX-1 as an EP-3A; and two joining VQ-1 by 1969 as EP-3B electronic reconnaissance aircraft. Beginning in 1970, four more were modified into WP-3A weather reconnaissance platforms to replace WC-121Ns in VW-4, tracking hurricanes in the Atlantic. VXN-8 acquired two RP-3As for oceanographic research; and the Naval Research Laboratory acquired an RP-3A for research and development. Ten P-3As were modified to the EP-3E configuration, six of which joined

PH1 Sam Holmes



Exaggerated by the superwide angle camera lens, a VP-31 mechanic checks a turboprop engine on one of the squadron's P-3 Orions.

VQ-2 starting July 1971, with the other four delivered to VQ-1 starting in late 1974. Several other P-3As entered service in mission support roles in various areas. One P-3A served as an avionics flying test bed for the S-3A carrier-based ASW aircraft.

Shortly after the introduction of the P-3C into the fleet, the Naval Air Reserve underwent a reorganization and modernization in 1970. A significant part of the modernization was the delivery of P-3As to Naval Air Reserve Detachments at Moffett Field and Patuxent River in July 1970. On November 1, 1970, these units were commissioned VP-91 and VP-68, respectively, with 10 other newly organized SP-2H reserve squadrons which later transitioned to the P-3A. One additional P-3A reserve squadron was established on July 1, 1976.

Operating aircraft similar to those of fleet VP squadrons, the reserve units have proven to be able to augment deployed fleet squadrons on a routine basis, and to supply the sole detachment in locations such as Adak and Guam for months at a time.

Those P-3 squadrons which had not yet transitioned to the P-3C by 1971 began receiving P-3A/B aircraft retrofitted with the AQA-7(V)1/2 DIFAR acoustic processor. During P-3C transitions of the early 1970s, two specialized versions of the *Orion* were produced and two more countries adopted the P-3 into their inventories. An RP-3D was produced as a geomagnetic survey aircraft for VXN-8 and two WP-3Ds for the National Oceanographic and Atmospheric Administration for environmental research. Three P-3As were delivered to the Spanish Air Force in 1973, and six P-3Fs, a peculiar hybrid of the P-3B and P-3C, to the Imperial Iranian Air Force in 1974 and 1975.

The prototype P-3C Update I began flying in April 1974 and in January 1975 VX-1 accepted the first of 30 production P-3C Update I's. This improved version featured a five-fold increase in computer memory capacity, the Omega worldwide navigation system, and an improved DIFAR processor – the AQA-7(V)4.

In August 1977, the first P-3C Update II was delivered to NATC Patuxent River. This variant, still in production, incorporated all of the Update I improvements, plus new features of its own, such as an infrared detection sensor, a sonobuoy positioning system, improved inertial navigation systems, the AQA-7(V)6 acoustic processor, DICASS and the *Harpoon* anti-shipping missile. A program to bring all P-3C aircraft to the Update II standard began in 1979.

The P-3C Update II was also ordered by three foreign air arms: the Royal Australian Air Force, the Japanese Maritime Self-Defense Force and the Royal Netherlands Navy.

While the P-3C was undergoing improvement, many P-3Bs were upgraded with a remarkably successful avionics modernization, featuring a

modest digital data processing capability, improved inertial navigation systems, the Omega navigation system and the AQA-7(V)5 DIFAR system. This version, called the P-3B (MOD), was very effective and became extremely popular among the crews that flew it.

As more P-3Cs became available in the fleet in the late 1970s and early 1980s, more P-3As were transferred or modified, serving in a wide variety of operations.

Right from the start of its career, the P-3 like its predecessors has proved to be a very capable and versatile aircraft, able to perform a wide variety of tasks, both military and civilian. Most of its flight time is, of course, devoted to ASW and maritime patrol flights. The long range and excellent communications capability of the P-3 have made it a valuable and frequently used search and rescue platform. Its speed and spacious fuselage have also made it desirable as a medevac aircraft, a role in which it is often the sole means available from such places as Adak and Shemya in the Aleutians.

Orions are also used for ice and weather reconnaissance, oceanographic and geomagnetic survey, and various research and development projects. They also support the fleet in threat simulation, missile range clearance, communications relay and pathfinder services for transoceanic crossings by tactical jets.

The safety record of the P-3 speaks impressively for itself. After over 20 years of demanding and often dangerous flight conditions, only 31 of some 550 *Orions* built to date have been destroyed in accidents and ground incidents, or as a result of hostile action.

While it rarely makes headlines, the P-3 is often the first U.S. military presence at the scene of an international crisis. During the initial stages of the Mayaguez incident in 1975, P-3s were the only U.S. forces at the scene. *Orions* supported Seventh Fleet ships during the 1975 evacuation of Vietnam and in the Iranian hostage crisis. Perhaps the P-3's finest hour was its participation in Operation *Seasweep*, during which thousands of Vietnamese refugees fleeing communist rule in frail fishing boats were picked up in the South China Sea by ships vectored to the scene by P-3 crews. The Cuban boatlift in 1980 was also aided by P-3 squadrons.

There is a saying that one cannot argue with success. The end of P-3 production is not yet in sight. The improved P-3C Update III featuring the IBM Proteus acoustic processor is scheduled for production in 1983. Regardless of when the *Orion* production line finally shuts down, the P-3 is expected to serve well into the next century. The past 20 years have proven the outstanding achievement of the *Orion*.

The superb professionalism of the Navy's patrol squadrons is in some part due to the availability of a very capable airplane. ■

Plowshares into Swords

The P-3 design was the answer to the Chief of Naval Operations' call for a land-based maritime patrol antisubmarine warfare aircraft, in August 1957, to replace the P2V *Neptune* series. Of the companies which responded, only Lockheed met all the requirements in its proposal, and so it was chosen to produce the next generation of patrol aircraft for the Navy.

The proposal resulted in the modification of the third prototype (N1883) of its *Electra* turboprop passenger airliner, complete with a mockup of a MAD boom and a fairing under the forward fuselage to simulate a weapons bay. The modified *Electra* flew for the first time on August 19, 1958. The tests showed the advantage of reducing the length of the forward fuselage by seven feet, which served to improve the aerodynamic efficiency of the design and save considerable weight. On October 7, 1958, the Navy awarded Lockheed a preproduction contract for conversion of the *Electra* prototype N1883 to the YP-3A full-systems developmental prototype, which first flew on November 25, 1959.

Nearly one year later, the Navy awarded Lockheed a contract for seven production aircraft, the first of which flew on April 15, 1961. The YP-3A and six of the production P-3As were involved in three preliminary evaluations and Board of Inspection and Survey trials at NATC Patuxent River, Md., and NWEF Albuquerque, N.M. By June, the P-3A was pronounced fit for service, with VP-8 and VP-44 the first units to transition to the new patrol aircraft.

The P-3A's initial popularity owed more to its status as an advancement in patrol plane airframe design rather than its avionics suite. Equipped with a spacious fuselage, over twice the volume of the P-2, which greatly reduced crew fatigue on long missions and accommodated a large volume of easily accessible avionics, the P-3A was powered by four Allison T56-A-10W turboprop engines that gave it almost twice the speed of the P-2. It also proved to have superb low-speed handling characteristics and could loiter on station with two engines feathered for fuel conservation. The airframe allowed for more of just about everything, including weapons, fuel and sensor systems. It is probably true that the only thing that transitioning P-2 crews missed was the flexible wing of the P-2. The stiffer wing of the P-3 made for a slightly rougher ride.

The initial P-3As carried a sophisticated sensor suite of radar, MAD, ESM, "sniffer," and the AQA-3A/4 Jezebel acoustic processor with the capability of monitoring four sonobuoys simultaneously. The navigation and communications equipment was some of the best available at the time with the capability to communicate on HF, VHF and UHF frequency bands.

The arrangement of the tactical crew in the "tube" followed that of the P-2, with crew members arranged side by side, facing to one side. Weapons options available to the crew included a mixture of acoustic homing torpedoes, depth bombs and rockets in significantly greater quantities than those carried by the P-2.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Patrol Squadron Eight

The Long Distance Flyers

Story and Photos by JOC Kirby Harrison

In the whiteness of an early winter morning at the naval air station near Brunswick, Maine, Navy P-3 *Orion* planes line the parking ramp at Patrol Squadron Eight in neat rows. Noses aligned, slender sensor booms extended beyond huge vertical tails, they appear to feel the coming daylight. But the Maine winters are cold, and daylight brings little warmth.

Crews preparing the aircraft for flight work quickly in 10-minute shifts to avoid disabling and painful frostbite. The wind is gusting stronger with daylight, whistling across the ramp with bits of ice and snow, and plucking at the fur collars of the ground crew's arctic parkas. It is no fit day for man or beast, but the P-3s will fly. They are tough and reliable, like the men who maintain and fly them.

A crew from VP-8 will take an early flight and they are already out on the ramp, loading equipment and going through preflight checks. It won't be a particularly long haul by patrol standards — only eight hours. They will leave Brunswick and head south for waters off the Virginia coast to lend a hand in torpedo recovery operations, and then spend a few hours in surface surveillance in antisubmarine warfare (ASW) training.

Some of the crew grumble about flying a "loaner." VP-8 still hasn't received a full complement of the new P-3C aircraft, so the mission will go with a *Charlie* from VP-23. They grudgingly admit, though, that the planes borrowed from the sister squadron have been well maintained.

Left page, rows of towering vertical stabilizers line the parking ramp at NAS Brunswick as a P-3 Orion banks after takeoff. Above, a VP-8 crew gets a low-level look at their antisubmarine warfare teammate, a U.S. guided missile cruiser, during ASW training off the Virginia Capes .

"Sort of like driving your brother's Cadillac," explains one crewman. "You're proud of your brother and the Caddy feels great, but it would feel a lot better if it were yours."

On this flight there will be a crew of 16. A P-3C crew usually consists of 12, but for this mission there will be three trainees and an observer. Training is a big part of patrol success, especially in ASW work. For each mission, there is a tactical team of key members and the importance of teamwork is such that the transfer of one person to a new assignment may mean the entire group must requalify.

A standard crew will include the patrol plane commander (pilot); two co-pilots; tactical coordinator; navigator; one man each at sensor stations one, two and three; two flight engineers; an ordnanceman; and an inflight technician. The mission commander may be either the patrol plane commander or the tactical coordinator.

At approximately $1,000 an hour to fly a P-3, training can be expensive and that doesn't include the cost of any weapons which may be dropped, or sonobuoys that might be laid in tracking a submarine contact.

So, to make it more cost-effective in the air, training is available on the ground, in a simulator at NAS Brunswick that duplicates virtually every situation, as well as the realism a P-3C pilot, co-pilot and flight engineer might expect to encounter. Says Senior Chief Training Deviceman James Thompson, chief petty officer in charge of the operational flight trainer, "We can give them the training in a three-hour hop that they would spend ten hours getting in actual flight, including weapons drops and laying buoys. And, if you do it wrong, you just keep doing it 'til you get it right." The simulator's repertoire includes about 400 possible malfunctions from engine fires to hydraulic failure. Yaw, pitch, and roll are duplicated to give

An Orion from VP-8 is moments from touchdown at NAS Brunswick, home base for VP-8 and five other patrol squadrons.

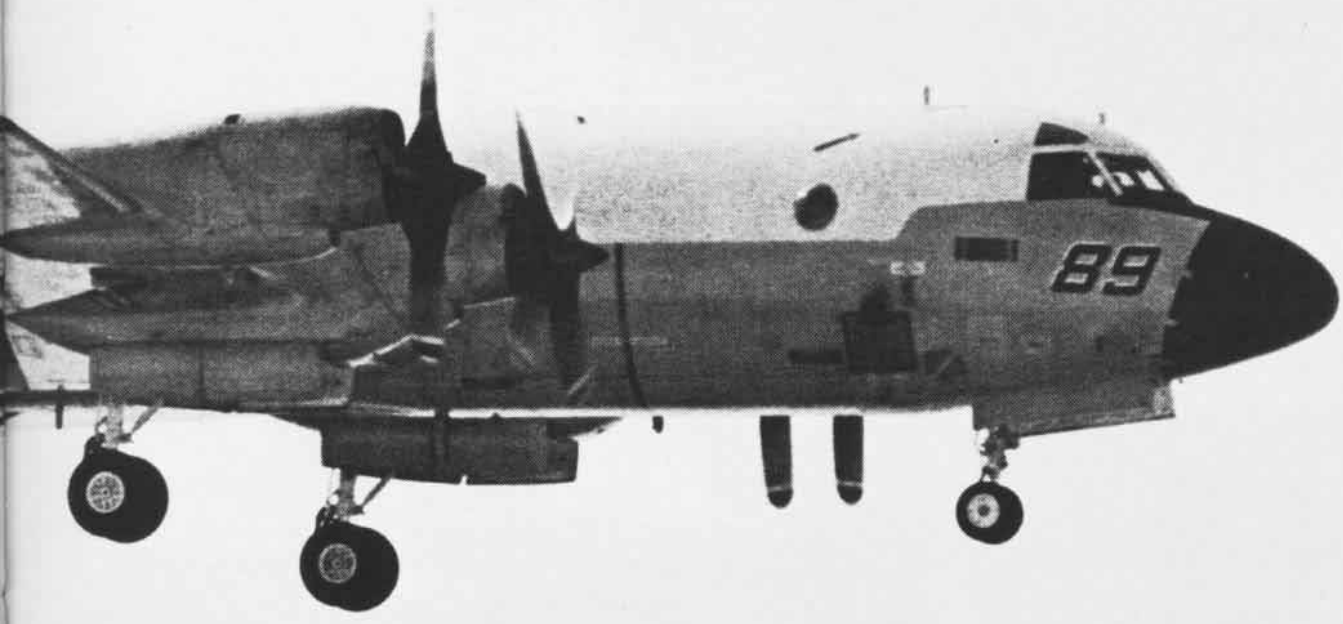
the sensation of flight, along with the appropriate sounds, and visual image takeoff and landing (VITAL IV) shows nearly every landing field the pilot might expect to encounter, even on deployment. "Pretty fancy," says Thompson with some satisfaction, "and at $255 an hour it's a bargain compared to the real thing." He admits, however, that no amount of simulation can ever replace the real thing.

But today is a real flight and, even before reaching cruising altitude, the men at the sensor stations begin pushing buttons and watching lights go on and off. Despite the improvements in the computer system to digital display and sensor coordination with the system, it is still a matter of concentration. Their faces show the same compressed fixation seen on younger faces at video arcades. "There's a difference, though," explains the tactical coordinator. "This is for real and one day what we're doing here may be for all the marbles."

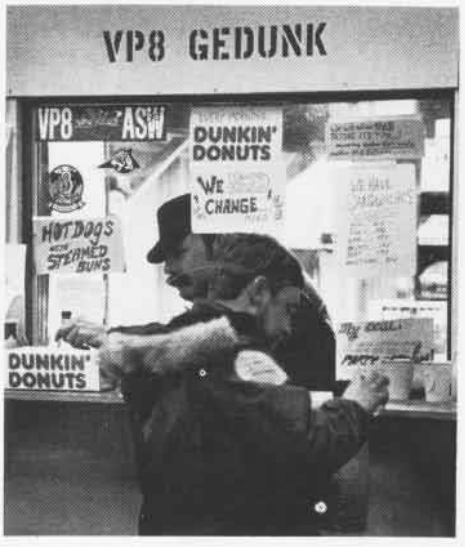
Off the Virginia Capes, after helping to spot expended practice torpedoes, they conduct surface surveillance and practice ASW tactics. An American fast frigate lends support down at sea level and, as the *Orion* maneuvers with precision, they go through the drill of locating and tracking an enemy submarine. At acoustic sensor stations one and two and nonacoustic station three, information comes back from sonobuoys and other sources, and is fed automatically into the data processing computer for the tactical officer to evaluate. Flying as low as 200 feet above the water, the skills of those in the cockpit must be as precise as those of the technicians in the aft cabin. It is one good reason for carrying a third pilot on long missions.

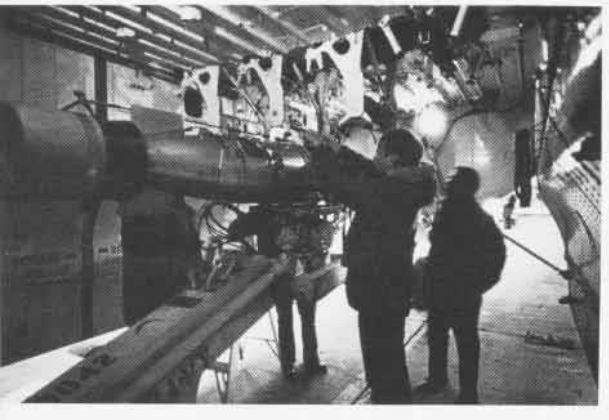
The drills go on for more than an hour, the aircraft loitering along with No. 1 engine shut down and feathered to conserve fuel. Finally the exercise is broken off and with all four engines back on the line the plane climbs quickly to a cruising altitude. Even without pushing it, the climb is rapid.

The *Orion* still holds three turboprop world records. In 1971, a P-3C piloted by Commander Donald Lilienthal set a speed record of 434.97 knots (501.44 mph) over a 15-25 kilometer course and a time-to-height record of 12,000 meters in just 19:42.24. A P-3 also holds the nonstop distance record at 6,278.05 miles, set in 1971 by Commander Philip Hite. The Soviet Union holds almost every other turboprop record.

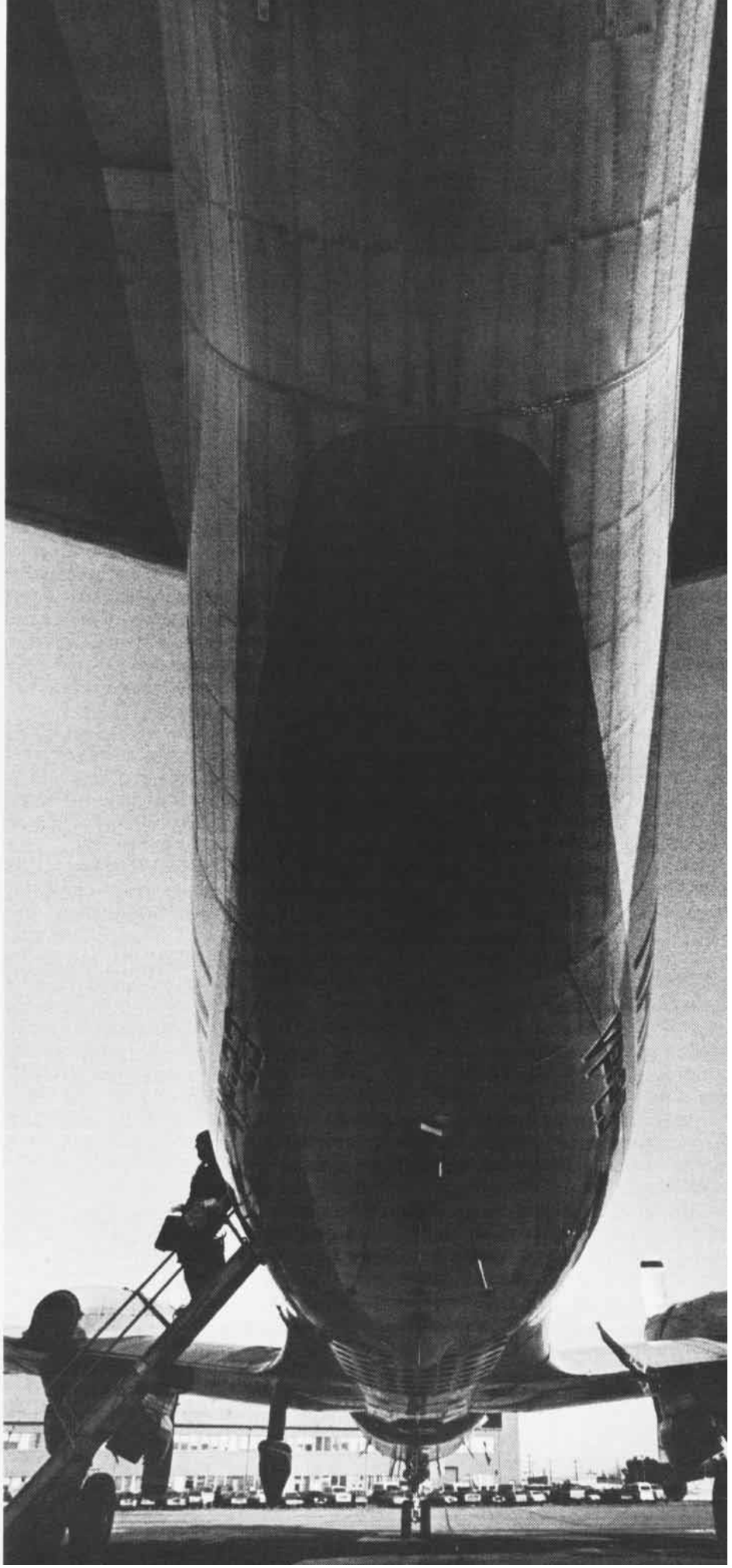


Right, AO2 Randy Kimler loads sonobuoys aboard a VP-8 aircraft. Below, the schedule at the squadron is sometimes hectic and a hangar "gedunk" provides nourishment for those who may miss a meal. Bottom, ordnancemen carefully load a torpedo in the weapons bay of a P-3.





Home from another long mission off the Virginia coast, a VP-8 crew debarks from their borrowed VP-23 Orion into the sub-zero winter of NAS Brunswick, Maine.



En route home to Brunswick, clouds below cover the frozen earth like a down comforter, and it feels only a little warmer on the plane because the banks of computer and avionics gear demand a cool, dry interior. There are two bunks in the aft section for those not working but they are often ignored for spots on the cabin floor amidships that are next to the warm computer cabinets.

The crewmen become more cheerful as they start the homeward-bound leg of the mission, some popping TV dinners into the small oven in the galley area next to the bunks. Others dig into large box lunches provided by the air station galley. Like most P-3 crews, they eat and drink sparingly before and during a mission. "Sharpens the senses," they say. Patrol plane commander Tony Mallory good naturedly fends off laughter as he pulls out a large bag of carrot sticks.

The plane touches down at Brunswick and, as it taxies back to the flight line, there is an exchange of plans for the rest of the day. Some plan to stop for dinner. "The funny thing is," says one, "we'll go out to relax, and probably the thing we'll talk about most is what we did on this mission and what we'll do on the next one."■

Harpoon

By Harold Andrews

Recent events in the Falklands have highlighted the role of one of the newest additions to naval power — the anti-ship missile.

The U.S. Navy's newest anti-ship missile, *Harpoon*, is capable of skimming low over the sea surface for more than 50 miles and inflicting lethal damage on surface warships in all-weather conditions. *Harpoons* can be launched from Navy surface combatants, submarines and aircraft, including the P-3C Update II and A-6E.

The *Harpoon* traces its beginnings to the late sixties when the Egyptians demonstrated the potential of anti-ship missiles to all the world by sinking an Israeli destroyer

with *Styx* missiles fired from two patrol boats.

After exploring a number of alternatives, the Navy settled on the idea of a single missile design suitable for launching from submarine torpedo tubes, shipboard launchers and patrol, carrier ASW and attack aircraft. Powered by a small turbojet engine and capable of all-weather operation, it would offer the potential for extended cruise flight before maneuvering to hit the target.

With the Naval Air Systems Command designated as the lead, the field was narrowed to two competing prime contractors with McDonnell Douglas Astronautics East in St. Louis selected as the winner and awarded the development contract in June 1971. Two engine contractors were then given further competitive contracts before Teledyne CAE was selected to build the *Harpoon* engine. Texas Instruments was McDonnell Douglas' major subcontractor for the missile guidance system.

The *Harpoon* today follows closely the original concept of over a decade ago. Designed to be launched from existing ship and aircraft launchers, it was to be equipped with a self-contained mid-course guidance system and an active frequency agile radar for terminal guidance, allowing all-weather operation in over-the-horizon target situations. Aircraft would carry and launch the basic missile; a booster would be added for ship launching; and the missile with booster would be fitted into a buoyant capsule for launching from submarine tubes. In all cases, a "wooden round" concept was employed with only checkout required before the missile would be ready for launch. Fuel for the 600-pound-thrust engine was in a sealed tank, and an ejectable panel covered the semiflush engine inlet.

Left, a Harpoon missile hangs from the wing of a VP-23 Orion. Above, the devastated bow section of a target destroyer attests to the power packed in the Harpoon warhead.

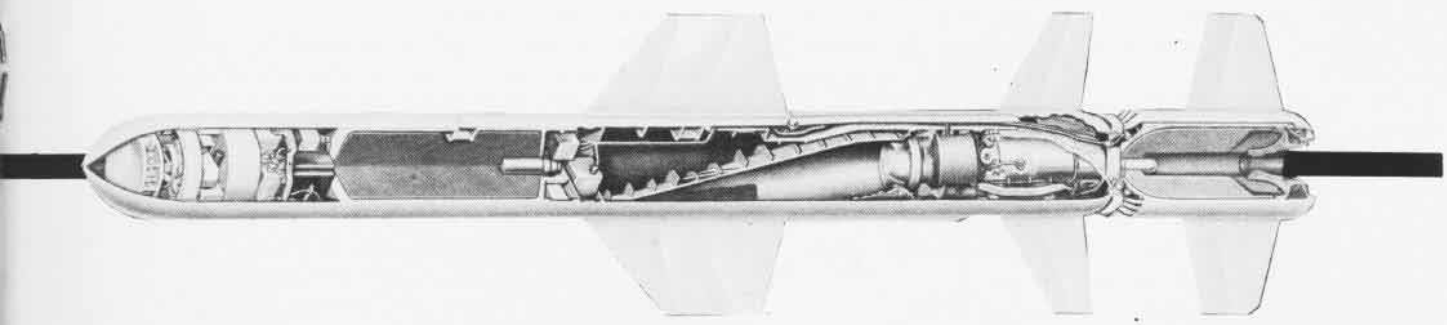
Development testing involved a large number of initial flight test vehicles, each devoted to specific systems or flight phases, and having the appropriate system components and test instrumentation installed. Most testing centered at Point Mugu, with the Pacific Missile Range playing a mjaor role in the total development and operational test program.

Air launches were made from a P-3A, and surface launches from an ASROC launcher at Point Mugu, beginning in the late spring of 1972. The first boosted capsule launch was made in the fall. In December, the first guided test against a ship target was successfully completed.

Development continued over the next two years and in July of 1974, a full-up missile with a live warhead made a direct hit on a destroyer target. Pilot production also started in 1974, leading to OPEVAL and to full production start the following year.

In the years since, the *Harpoon* has found its way into the fleet — on frigates and destroyers, submarines and, beginning with VP-23 in August 1970, with Naval Aviation. Currently, both P-3C Update II VP and VA squadrons flying A-6Es are *Harpoon*-equipped.

In April of this year, during *Readex 2-82*, the full potential of coordinated attacks by *Harpoons* launched from submarine, surface and air platforms was first demonstrated in successful strikes against a target hull.



P-3C

No matter how well an aircraft does its job, there is always room for improvement. Air Test and Evaluation Squadron One (VX-1), NAS Patuxent River, Md., recently conducted operational test and evaluation of the P-3C Update III weapons prototype aircraft system to determine the operational suitability and effectiveness of the antisubmarine warfare avionics package for service use.

The P-3C aircraft has undergone two previous improvement programs of major significance. Update I, introduced in 1975, incorporated new data processing avionics and software, while Update II in 1977 featured an infrared detection system, a sonobuoy reference system, the *Harpoon* antiship missile and a 28-channel magnetic tape recorder/reproducer.

The IBM *Proteus* acoustic processing system will be featured on the Update III. The presently employed directional frequency analysis and recording (DIFAR) system allows sonobuoy reception on only 31 separate radio frequencies. *Proteus* will employ up to 99 different radio frequencies. Each receiver channel is tunable to all of the frequencies, so that the loss of one receiver channel does not result in the loss of that particular sonobuoy's information.

Four major elements will be incorporated into the Update III.

A single advanced signal processor (SASP) will process the acoustic signals for display to the acoustic operator and determine whether such sounds are produced by random ocean noises or submarines. Two video screens enable crew members to study a graphic representation of acoustic signals transmitted by many sonobuoys simultaneously. The SASP utilizes three programs internally as well as interfacing with the aircraft's CP-901 computer for tactical data transfer.

The adaptive controlled phased array (ACPA) is a sonobuoy antenna system which consists of four antennas arranged in a diamond formation on the belly of the aircraft. This system is controlled by the tactical coordinator via keyset entries to the P-3's CP-901 computer. The ACPA, which boasts increased VHF reception range, rejects undesired electromagnetic signals.

Acting as the sonobuoy receiver system, the advanced sonobuoy communication link (ASCL) extracts acoustic data received from the sonobuoy as it is picked up by the antennas.

A sonobuoy signal testing device, called the acoustic test signal generator (ATSG), broadcasts sonobuoy signals and simulated acoustic data on all 99 radio frequencies to check the system while the aircraft is on the ground. The ATSG's signals are transmitted to the ACPA antennas which in turn route them to the SASP. The device can simulate all passive and active sonobuoy types, including the bathythermograph sonobuoy.

Another new system, although not unique to the Update III aircraft, is the digital magnetic tape system (DMTS). It has been installed in all Update IIs since March 1981 and functions as a program loading device for both SASP and CP-901 program loading, as well as a digital data extraction device for the CP-901.

Aircrews and maintenance personnel, as well as VX-1 acoustic sensor operators and tactical coordinators, underwent extensive training to study the Update III's new acoustic system, in preparation for operational test and evaluation.

VX-1's role in the test and evaluation of the new antisubmarine weapons system requires that testing be conducted in an operational "real world" environment using fleet aircrews and maintenance personnel. The squadron deployed with the Update III to several operational sites, including the Atlantic Undersea Test and Evaluation Center range, Bahamas; Atlantic Fleet Weapons Training Facility, Roosevelt Roads, P.R.; the operating areas of Jacksonville, Fla., Brunswick, Maine, southern California and the Virginia Capes; and from deployed sites at Sigonella, Sicily, and Keflavik, Iceland.

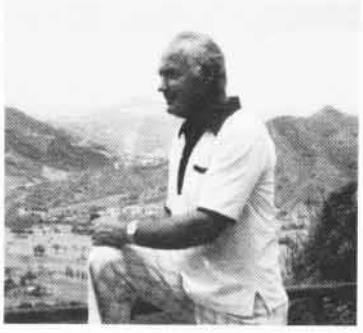
The P-3C Update III and its antisubmarine avionics improvements were found to be operationally effective and potentially suitable for operational use. Based on the test results, improvements incorporated since operational test and evaluation, and the low risk associated with correcting the deficiencies noted, it has been recommended that provisional acceptance for service use be continued.

VX-1 expects to conduct follow-on test and evaluation to verify these corrections in June 1983. The first full-scale production deliveries of the P-3C Update III are scheduled to commence in 1984. ■

Update III

An Orion from the Naval Air Test Center, Patuxent River, Md., comes in over the Solomons Island Bridge, just ahead of a gathering storm.

AT WAR



George Poulos, December 1981, looks out over MCAS Kaneohe Bay, Hawaii, where 40 years earlier he began his great adventure as a VP pilot.

Recollections of a VP Pilot

By George Poulos

The PBY Catalina was a mainstay of VP aviation during WW II.

At 0752 hours, Sunday, December 7, 1941, Japanese *Zeros* began their attack on Naval Air Station, Kaneohe Bay, Hawaii (now the U.S. Marine Corps Air Station), with strafing runs against the flight line occupied by VP-11 and VP-12 and the two rows of the squadron's PBY aircraft lined up neatly along the ramp area between the hangar and the sea wall. Since the attackers approached from the north of Oahu, they arrived at NAS Kaneohe several minutes sooner than their compatriots arrived at Pearl Harbor, which was the primary target but not the first.

The first damage inflicted by the enemy on that fateful day occurred at NAS Kaneohe and because VP-11 occupied the ramp side of the hangar it received the first shots of the first attack. The records have never clearly shown, to my knowledge, that NAS Kaneohe was the first military or naval base installation and VP-11 the first operating unit to be attacked by the Japanese during their raid on the Hawaiian Islands.

The scene at VP-11 looked like this. In order to expedite preparations for a deployment, one of the crews had worked the graveyard shift in the hangar that Sunday morning installing self-sealing fuel cells in the wings of PBY-5 aircraft 11-P-4, and was in the process of securing to go to breakfast. The day crew was gathering for muster. Ensign Rodney Foss was the offgoing duty officer and was to be relieved by the Sunday duty officer in about eight minutes, when he was suddenly struck by a 20mm cannon shell during the first strafing run. He was killed instantly. It is highly probable that Ensign Foss was the first U.S. casualty in the WW II Pacific theater.

Ensign Joe Smartt was the VP-11 Sunday duty officer and arrived at the hangar to relieve Ens. Foss, only to find him fatally wounded. He escaped injury during the first attack and dutifully went into the office area with other shipmates to call his superiors and secure valuable squadron records.

The initial attack was highly successful for the enemy. Thirty-three PBY-5 airplanes were destroyed or incapacitated – 30 on the ramp and three tied to buoys in Kaneohe Bay. Of the 36 in the three squadrons that used NAS Kaneohe, the only planes to escape damage were three VP-14 airplanes on antisubmarine security patrol in local fleet maneuver areas.

All personnel at NAS Kaneohe responded to the enemy attack instantly and those who survived have their memories of the shock and horror. Each remembers the spontaneous reaction to defend the air station, extinguish the fires and save as many of the airplanes as possible from complete destruction. I remember seeing, during the lull that followed the initial attack, the dead and wounded who were gathered and transported to the station hospital.

Guns and ammunition were removed from the burning airplanes, and those that escaped the flames were moved to positions where they could be used effectively as jury-rigged gun emplacements for the next attack. Pipes were driven into the ground as mounts for the guns removed from the burning airplanes. Makeshift barricades were placed around the crude gun emplacements, using trucks and automobiles that were destroyed and all other available material.

Many of the men had dressed in their white uniforms that Sunday morning in preparation for church or shore leave and the dirty work they were doing presented a bizarre picture.

The next attack came at approximately 0930 hours. Two nine-plane formations of bombers approached from the northwest at about 10,000 feet and made a bombing run. A flight of nine *Zeros* followed them for a coordinated strafing attack. There was insufficient time for all the personnel to evacuate the interior of the VP-11 hangar. Those of us on the outside took shelter as best we could and watched the clusters of bombs drop toward the hangar. Coordination by the strafing *Zeros* was poorly executed, since the bombs were dropped on us before the fighters hit us. For good coordination they should have strafed sooner to destroy or distract antiaircraft fire from the bombers. As it turned out, however, this was not particularly important because there were no prepared antiaircraft emplacements. Notwithstanding the poor coordination, the damage was devastating.

In the VP-11 office area on the hangar mezzanine, Ensign Charles Muckenthaler had joined his friend and Pensacola classmate Joe Smartt. Miraculously, Ens. Muckenthaler escaped unharmed when the bombs hit but, when he looked back, Ens. Smartt was lying on the deck, dead. VP-11 had lost two duty officers during the first hour and one-half of the battle.

A short time later, the hangar collapsed completely and took with it a number of VP-11 and VP-12 personnel. Those of us outside the hangar were battling the strafing *Zeros* with our makeshift gun emplacements and hand guns. The nine *Zeros* made two to three passes each before they retreated. Although our tracer bullets seemed to hit many of them, none fell.

From behind the protection of a tree trunk, I expended all the ammunition I had for my .45 pistol, and so I ran about 50 yards to the advance ordnance shack for more ammunition. Inside, I found the ordnanceman badly wounded in his left shoulder, chest, hip and thigh. Summoning help, I tore down the door to use as a stretcher and within four or five minutes we had moved him outside. I heard shouts announcing another attack coming in from the bay. Looking up, I saw a lone *Zero* approaching over the sea wall firing at personnel fighting fires. All the gunners saw him coming and this time they were able to concentrate their fire on a single target rather than nine. The *Zero* went by me flying at perhaps 300 knots. I clearly saw the pilot and watched our heavy concentration of fire rip his canopy apart. About 50 yards beyond me, his engine coughed and stopped. There was a weak attempt at a pullout and then the *Zero* nosed in and crashed.

We all felt a degree of satisfaction at shooting down the last of the attackers. I learned later that he was the leader of the *Zero* flight, Lieutenant Fusata Iida.

The shock effect of the sneak attack lingered throughout the day. Reports from Pearl Harbor did little to raise our spirits. Most of us had come to the realization that we had been caught in a war flying a "clumsy, awkward and slow aircraft that would be worthless under combat conditions." We wondered aloud, "Why can't we have B-17s or B-24s or any kind of modern aircraft?"

Little did we realize that the unassuming old PBY would prove us wrong and would emerge as one of the greatest and most venerated WW II aircraft. The PBY proved its capability to perform considerably more than its intended mission – and return to hit again. It also required very little maintenance per flight hour. Although we were frustrated and demoralized, the timing of the events would enable VP-11 to win recognition as one of the squadrons to introduce new techniques that expanded seaplane operations and turned the PBY into an offensive weapon against ship and shore installations.

We learned that Pearl Harbor had some PBY-5 airplanes that had escaped damage and we made plans to fly every one of them, every day, with maintenance to be accomplished on an expedited basis during the night. The next morning, transportation of Kaneohe flight and ground crews began to augment Pearl Harbor's personnel. I arrived there at 1100 hours on Monday, December 8, 1941, and during the late afternoon I took off with a quickly selected crew for my first wartime mission to investigate an unidentified ship at a specified distance and bearing. The search continued until darkness but no contact was made. The return to Pearl Harbor was made at night in total darkness. After a careful landing to avoid the damaged battleship *Nevada* beached at the seaplane approach to Drydock Channel and also avoid the debris which littered the channel, I made several passes to the beaching ramp but was flagged away by the beachmaster. Finally a boat came out and advised that there was no more beaching gear available and we would have to tie up to a buoy in Pearl City Channel. Finding a buoy in a darkened channel with no lights was not easy. Taxi time from landing to buoy tie-up was over three hours.

VP-11 was not very active in the early months of 1942 and long patrols out of Hawaii were the routine fare. In 1942, however, activity picked up. Some squadrons were deployed to Midway for patrol missions and by June 1 these flights were greatly intensified. We, at the squadron level, were not privy to the reasons but we later found out we had broken the Japanese code and had information on Japanese plans for Midway. (See *NANews*, June 1982, "The Unsung Chorus.")

VP-11 did not get a Midway assignment. Instead, we were split into two groups, one assigned to Johnston Island with PBY-5s while the other was given PBY-5A amphibians for patrol from the land strip at Barking Sands, Kauai. We felt we were being left out of the mainstream but were soon to find out that there were reasons why we were excluded. Shortly after the Battle of Midway, we were advised that VP-11 would be permanently deployed to the South Pacific commencing about July 1, 1942. The ground crews and ground equipment were loaded aboard tenders for rendezvous at Suva, Fiji. The flight from NAS Kaneohe to Suva was made in three legs with stops for fueling and overnight rest – Kaneohe to Palmyra Island, Palmyra to Canton Island, then Canton to Suva.

Section by section the PBYs of VP-11 departed daily. I was in the last section to leave. By coincidence, it was July 7, 1942, my twenty-fifth birthday. When we arrived in Suva, we learned that the Japanese were building an airfield on Guadalcanal Island in the Solomons chain. In conjunction with the excellent harbor at Tulagi, 20 miles across the channel, they would establish a major base to support their attacks on New Guinea, Australia and New Zealand.

Suva was not to be our permanent base but rather a staging area for further deployment. Six crews would remain for the time being, however, to patrol from Fiji while the other nine would redeploy to Noumea and Efate at New Caledonia. I would stay at Fiji.

Across the island from Suva near Lautoka, the second largest city in Fiji, in an area generally known as Nandi, there is a natural harbor named Saweni Bay. Seabees were assigned to build an operating base there for our six PBYs, and an advance group of officers, chiefs and key enlisted men were sent to provide advice to the Seabees regarding maintenance, anchorage and ramp requirements. In the meantime, our PBYs patrolled from Suva. On August 2, 1942, the entire group moved to Saweni Bay and a daily three-plane patrol was set up with sectors chosen to guard for possible "end around" sweep by the Japanese Fleet.

Each airplane and crew flew every other day and engine time accumulated rapidly. Under the direction of the maintenance chief, the ground crews built crude "A" frames to suspend the engines for buildup, but the task of removing the engines from the high PBY wings and hoisting the replacement engines had not been addressed when the

Seabees built the camp. To remedy this, a tall coconut palm near the beaching ramp was selected and one of the men climbed to the top and attached a line. A chain hoist was used to bow the coconut tree over and another chain hoist attached to the crest of the bow. Steel Marston matting was laid to enable us to bring a PBY under the ingeniously devised crane and engine changes were made as necessary to meet all patrol schedule commitments.

Fueling presented still another problem. Gasoline had been offloaded from tankers at Suva, trucked for storage in Lautoka, and redistributed to crude underground tanks which the Seabees had provided. To fuel an airplane, it was necessary to hand-pump from the underground storage tanks to barrels, transport the barrels to the ramp, repump into a crude tank mounted in a whale boat, then proceed to the buoy and hand-pump into the airplane.

With all this handling, the fuel became contaminated with water, sand and other contaminants. The old faithful Pratt & Whitney R-1830 engines coughed, shook and sputtered each time a slug of the contaminants came through the carburetor but never once, to my knowledge, did they stop. The crews came to regard the Pratt & Whitneys with great respect.

The orders to discontinue operations at Saweni Bay and join the rest of the squadron came very fast. On August 25, 1942, we learned that the Marines had landed on Guadalcanal and had entrenched themselves on Henderson Field. They intended to stay. By the morning of August 26, all equipment had been packaged for shipment and airplanes and crews were ready to go. Our orders were to proceed to the island of Espiritu Santo in the New Hebrides group and join the remainder of the squadron based on the aircraft tender *Curtiss*.

Upon arrival, we found out that although *Curtiss* was considered home base, the rest of the squadron was operating from smaller tenders 400 miles closer to Guadalcanal, at Graciosa Bay on the island of Ndeni in the Santa Cruz Islands, and we immediately took off again for the new destination. At Graciosa Bay, we found the tenders *Mackinac* and *Ballard* anchored and providing the necessary operating provisions. Reunion with the squadron group was, of course, a happy occasion. We who just arrived discovered that although we had experienced a busy month at Saweni Bay, we had not encountered the hardships the others had. During the Guadalcanal invasion and the Japanese counteroffensive, they had come in contact with Japanese fleet units daily while patrolling from Efate, Vanakoo, Tulagi and now Santa Cruz. We were to get our indoctrination shortly.

On August 27, my crew and I had our first encounter with the Japanese since December 7, 1941. One of the early morning patrol PBYs had made contact with a Japanese surface force. There were no carriers in this group but it was powerful and included battleships. Since it was at the extreme end of his 700-mile search sector, the PBY pilot was not able to track them for long. This fleet posed a serious threat to friendly forces ashore and afloat and it was essential that we keep track of its movements. I drew the assignment.

Takeoff had to be timed carefully. We had to depart early enough to make contact before dark or greatly reduce the possibility of making contact at all. On the other hand, we could not take off too early or we would run out of fuel before daybreak. There were no provisions for night landings at Graciosa Bay or any other sheltered water. During August at these southern latitudes, sunset occurs at six o'clock local time with almost no twilight. Likewise, sunrise occurs at six o'clock in the morning with very little elapsed time between total darkness and full daylight.

Based on my prior experience with maximum endurance

A Catalina on the step for takeoff.

flights and the distance involved, I decided on a noon take-off, anticipating contact at darkness, tracking until mid-night and landing at Graciosa Bay at daybreak.

Plans went like clockwork. The sun had just set when we saw a line of battleships on the horizon with their escort cruisers and destroyers on the periphery. Immediately I reduced altitude to water level, hoping that the enemy had not yet detected us. My plan was to get within two miles, pop up suddenly so we could see the entire fleet, take a ship type and numbers count, and retreat to send our messages.

We were not that lucky. By the time I judged that we were two miles away, a destroyer appeared headed straight for us and firing his forward guns as rapidly as possible. We had been detected. Within seconds, geysers of water were spouting on all sides of us as the shells hit the water and exploded. Because we were just high enough to skim over the waves, the water spouts towered above us and in one instance it was necessary to maneuver rapidly to avoid flying into one that exploded directly in front of the airplane.

The accuracy of the destroyer's aim and the statistical probability of being hit when bracketed by gunfire caused me to reconsider getting an exact ship count. We retreated out of range, gained altitude, let out the trailing wire antenna, and sent a coded contact report. By then, it was totally dark. We loitered in the area for an hour and then attempted to relocate the contact.

This proved to be harder than we anticipated and it took four hours of searching. We first searched the area that they would have been in if they had not changed course. We didn't find them. To ensure that they had not taken a course into the Solomons battle area we searched that next, again with negative results. The next possibility was that this fleet was headed for a provisioning station. That would be their large base on the island of Truk. This time we were successful.

It was somewhat eerie to come upon a large enemy battle fleet in the middle of a large ocean on a very dark night with a solid overcast above and not a star nor a flicker of light showing anywhere. You first sight the phosphorescent wake of one of the ships. Gradually more wakes appear on all sides and the dark silhouettes of the ships are discernable. Suddenly you realize you are in the middle of a force with enough firepower to destroy a city. I wondered why they hadn't put a searchlight on us and opened fire. At about 30 degrees off the port bow, an especially big wake is visible – five battleships in a line. If they are going to be this docile, why not attack them? We had four 500-pound bombs under the wings. The chance of a successful hit on the last battleship would be very good, I thought. Probably wouldn't hurt her too much, though, unless we got a lucky hit on a magazine or down a stack. The probability of an escape was another consideration. Still, it might be worth a try. But first and foremost, the amplifying report had to be made and we retired a safe distance to accomplish this most important task. By this time, fuel had become a critical factor and an attack was no longer a practical consideration.

The night had turned stormy and, as we headed back to base, we could see neither sky nor water. Only dead-reckoning navigation was possible. Fuel management was our biggest concern. The engines were leaned back and they performed magnificently.

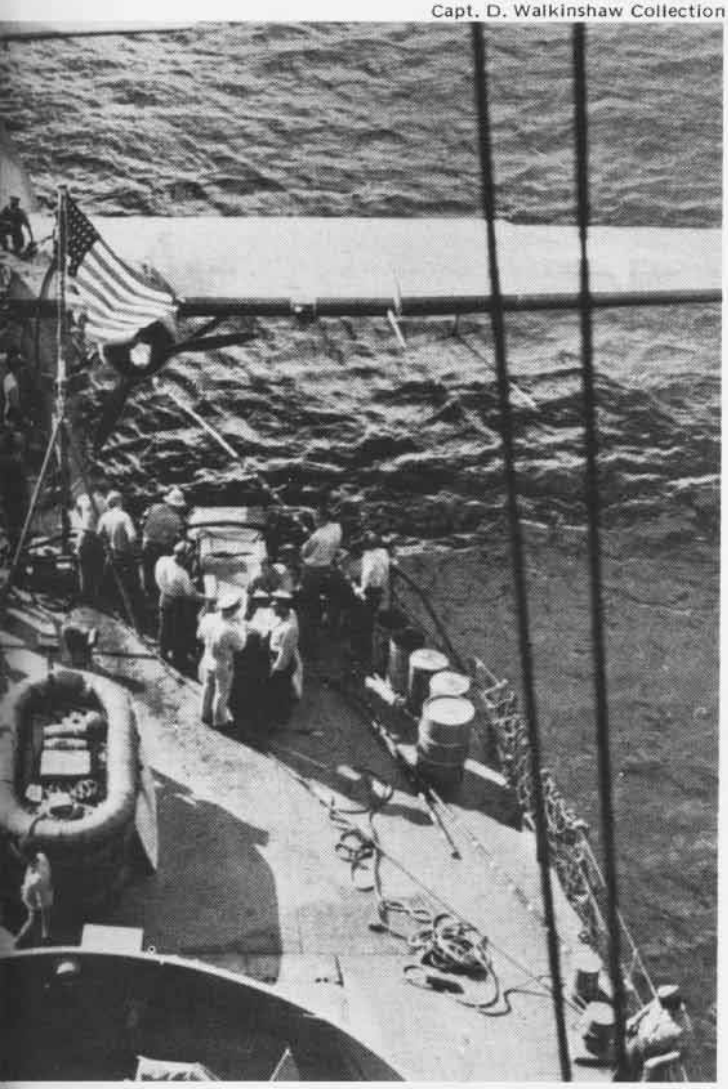
About an hour before daylight, I smelled the navigational aid we were waiting for. About 80 miles north of Graciosa Bay was an active volcano which jutted out of the ocean to about 5,000 feet above sea level. The fumes from eruption contained a very pungent hydrogen sulphide smell that permeated the air for several miles in all directions. Despite our inability to navigate precisely by traditional means, I knew that if we could smell the volcano, we were close enough to find our way to Graciosa Bay at daylight, provided of course that we did not fly into the volcano itself. Fortunately, our crude radar equipment could be expected to give us a warning within five miles

and we didn't have to use precious fuel to climb over the top.

We landed just as the daylight patrol PBYs were taking off. The duration of our flight was 18.4 hours. Fuel remaining from a full load of 1,430 gallons at takeoff was 30 gallons. Only a PBY could have fulfilled such an exacting mission.

The next two weeks were filled with action. The treacherous winds in the narrow bay resulted in several damaged and lost airplanes during the early morning takeoffs. Among the daily enemy contacts made, Lieutenant Carlton "Dopey" Clark found a single Japanese destroyer and was hit by the destroyer's guns as he was making a medium-level bombing attack. He landed his crippled PBY at sea and the crew was picked up by the destroyer and imprisoned for the duration. Lieutenants Junior Grade George Clute and Charles "Whiskey" Willis had to make open sea landings after enemy contacts and, although both crews were picked up by our destroyers within a few days, this further depleted our precious inventory of PBYs.

A PBY refuels from the tender Mackinac in the South Pacific, 1942.
Capt. D. Walkinshaw Collection



Each crew flew two out of three days and the heavy flying schedule was beginning to take its toll. For the 40-day period August 1, 1942, to September 10, 1942, my crew and I flew 287 hours. This was typical for many crews. Fatigue started showing up in various ways. My problem was severe earaches and fungus growth in the ear canals. All day and night I could hear the beat of the engines in my ears. No matter how carefully I synchronized the engines there was always a drift and the offbeat pressure wave would go through my head.

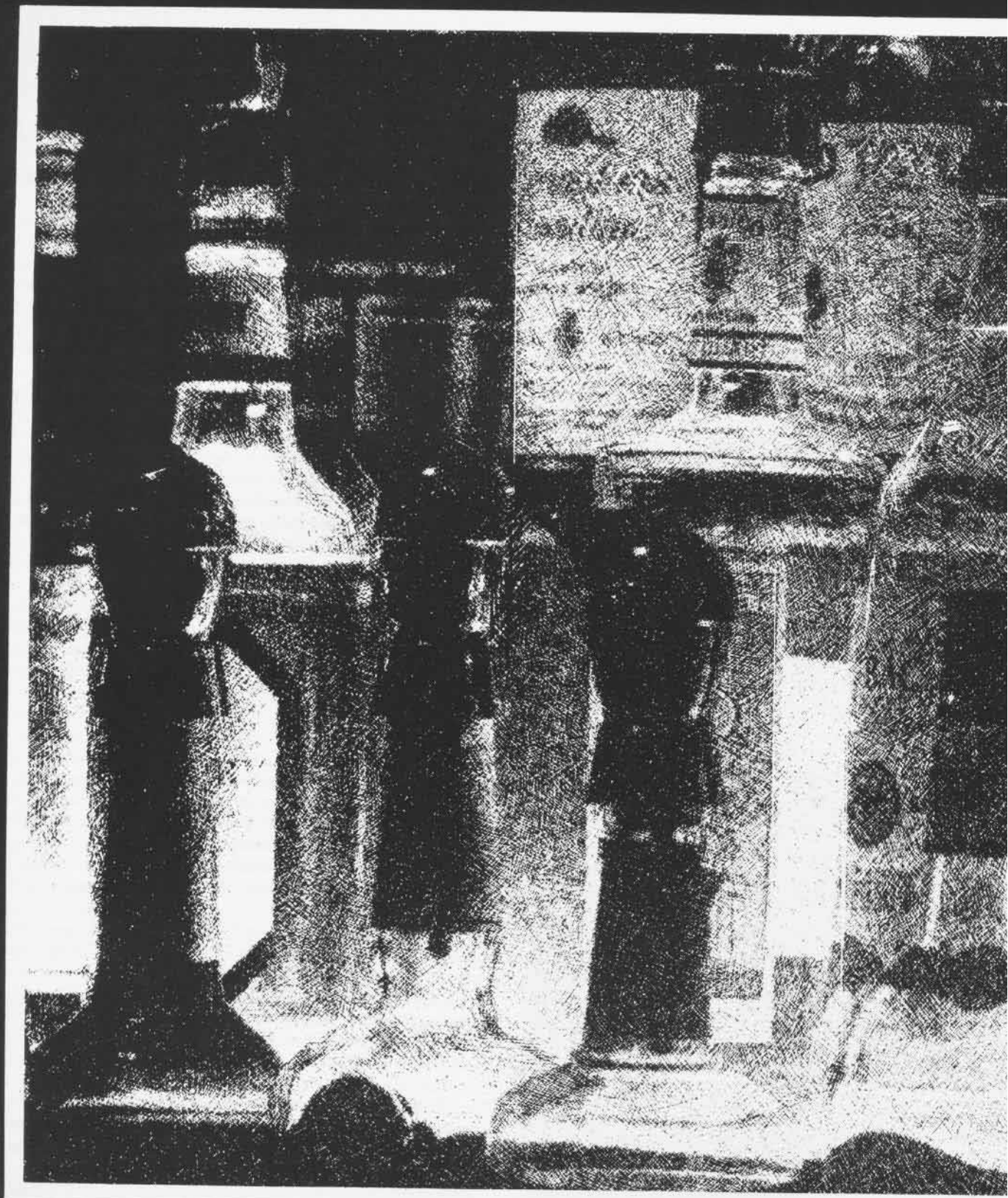
Before dawn on the morning of September 11, a Japanese submarine surfaced at the entrance of Graciosa Bay and commenced firing at the tenders *Mackinac* and *Ballard*, and the PBYs at the buoys. Immediately, the ship's duty officer came to my bunk stating that the captain wanted me on the bridge since I was senior squadron officer aboard *Ballard* that night. He announced his intention to slip anchor and go after the submarine, and he wanted my decision on whether we should put the crews, who were scheduled to fly that day's patrols, in the planes. My decision was "No," since it was still an hour till daylight and a dark takeoff in Graciosa Bay was inadvisable in view of the heavy crosswind that prevailed that morning. Thereupon, he slipped anchor and we were off to find and kill the submarine.

In the meantime, *Mackinac* had put up a very heavy barrage with its guns — a surprising firing capability for a ship that was specifically designed and built as a seaplane tender. Before we could reach the mouth of the harbor, the enemy submarine ceased firing and submerged. *Ballard* set up a search pattern but with limited equipment could not make contact. At daybreak, the captain gave up the search and returned to launch the PBYs for the day's patrol.

During the day, my misery from the earaches intensified and I knew that I would not be able to make my scheduled patrol the next day. However, late in the afternoon, a message came from headquarters to abandon the advance base at Graciosa Bay, and all planes and tenders were ordered to return to Espiritu Santo as early as possible on September 12, 1942.

Our new home was USS *Curtiss*, a large and well-equipped ship that could hoist two PBYs on its aft deck for maintenance, a welcome feature since our PBYs had had no maintenance performed to speak of since at least August 26. Upon arrival, I reported to sick bay and was immediately grounded by the flight surgeon. The rest of my crew and some others were grounded for general fatigue. ■

In spite of the weariness of George Poulos and his VP-11 squadron mates, he would continue to fight the enemy. NANews *will finish his recollections in the next issue.*



1000 Proof

Success

By Sandy Russell

In the business of marketing liquor, the proof shown on the bottle represents twice the percentage of alcohol. In the Navy's business of alcohol rehabilitation, proof measures the success of its program.

Studies show that the Navy gets a 500-percent return on its investment in treating alcoholics in the career age group (26 years and older) versus recruiting and training replacements. That equates to 1,000 proof success.

The Navy's alcohol program has evolved over the last 10 years into one of the largest and most successful employee assistance programs in the nation. Its accomplishments have served as role models for other similar programs set up by large corporations in the civilian sector over the years.

Alcoholism is still the number one substance abuse problem in the Navy. It affects everyone – active duty, dependent, retired, young, old, male, female, black, white, enlisted, and officer. No one is immune. According to figures developed by the National Institute on Alcohol Abuse and Alcoholism, one out of every 10 adult drinkers nationwide is likely to develop a drinking problem.

Like other social problems, alcoholism has come out of the closet in recent years. As the public becomes more educated about the disease, the stereotype of the skid row bum as a typical alcoholic is being dispelled. The fact is that less than five percent of alcoholic Americans are in that category.

Alcohol abuse in our society is deep rooted. Based on research data, there is a substantial risk that 15 percent of high school sophomores, juniors and seniors will develop a drinking problem or are currently problem drinkers. There has also been a steady rise in the abuse of alcohol by women. It is estimated that at least one-third of the nation's problem drinkers are women.

The field of alcoholism treatment constantly changes as new methods and procedures develop. The Navy is presently revising and consolidating the instructions which administer its Alcohol and Drug Abuse Program. The new directives will result in a reorganization of the entire program, including a change in terminology to "substance abuse." The Navy Alcohol and Drug Abuse Program has been a consolidated program effort that is funded separately.

Traditionally, alcoholism was treated as a separate problem. However, the Navy's long-term rehabilitation programs and experience have proven that the disease of alcoholism is not usually the only problem a person may have. Most problem drinkers are multiple substance abusers. An individual may combine abuses of drugs, alcohol and even food. For example, a pilot program was started a couple of years ago at the Alcohol Rehabilitation Center, Jacksonville, Fla., to treat compulsive overeaters. It was found that half of this group had other dependencies. They may have abused diet medication in an attempt to lose weight, or they may have abused alcohol or tranquilizers because of the stress brought on by their excessive weight. The foodaholics program will soon be extended to the two other alcohol rehabilitation centers in Norfolk, Va., and San Diego, Calif., as part of the Navy's new integrated substance abuse prevention program.

The Navy's interest in dealing with its alcoholics got a boost when it began to focus on the drug abuse problem. After a 1980 Department of Defense survey and a subsequent Navy survey in early 1981, both of which showed a high percentage of E-1 through E-4 personnel using marijuana, the Chief of Naval Operations directed that the Navy's Alcohol and Drug Abuse Program be stepped up. Last fall, he officially declared a "war on drugs" in the Navy, and the crackdown started in December. This past year, resources for the alcohol program were increased by 14 percent, in conjunction with 21 percent for drugs.

Recent court decisions have given

the military some powerful tools to strengthen its war on alcohol and drugs. Urine test results can now be used to identify personnel for referral to counseling, treatment and rehabilitation programs; as evidence in actions under the Uniform Code of Military Justice, when constitutional safeguards are followed; and as a basis for characterizing discharges as less than honorable.

The Department of Defense (DOD) has an aggressive research plan to better understand the problem of alcohol and drug abuse and to evaluate its present programs. Through surveys of its civilian and military personnel scheduled for this fall, DOD hopes to get a measure of the actual impairment of behavior associated with alcohol and drug use. In FY 83, a thorough scientific evaluation of treatment and rehabilitation programs will be made to compare their relative success.

When asked what the Navy in particular is doing in the war against alcohol abuse, Rear Admiral Paul J. Mulloy, Director, Human Resources Management Division, emphasized the importance of enlightened leadership and peer responsibility. Peer pressure, especially in the 18-25 age group, is the essential ingredient in making the alcohol program work, he says.

"Help your shipmates, and you help yourself," is his advice. He calls the young drug abusers today "chemical gourmets." They jump from one drug to another, resulting in behavior patterns which can injure either themselves or their shipmates. In today's high technology Navy, that can be disastrous.

RAdm. Mulloy advises, "If you take care of your people, you won't have to put valuable resources into these programs. With the right care, they won't turn to abuse. If you help them feel proud of themselves and concerned for each other, that will nip the problem in the bud." He feels that a lot of the young people today came into the Navy to get away from the drug problem, and that most of them are basically good. "What we need in the Navy," he says, "is to set the example of excellence and set the environment that encourages it." Find out why a person feels he needs to abuse a substance and, if he has a problem, try to help him.

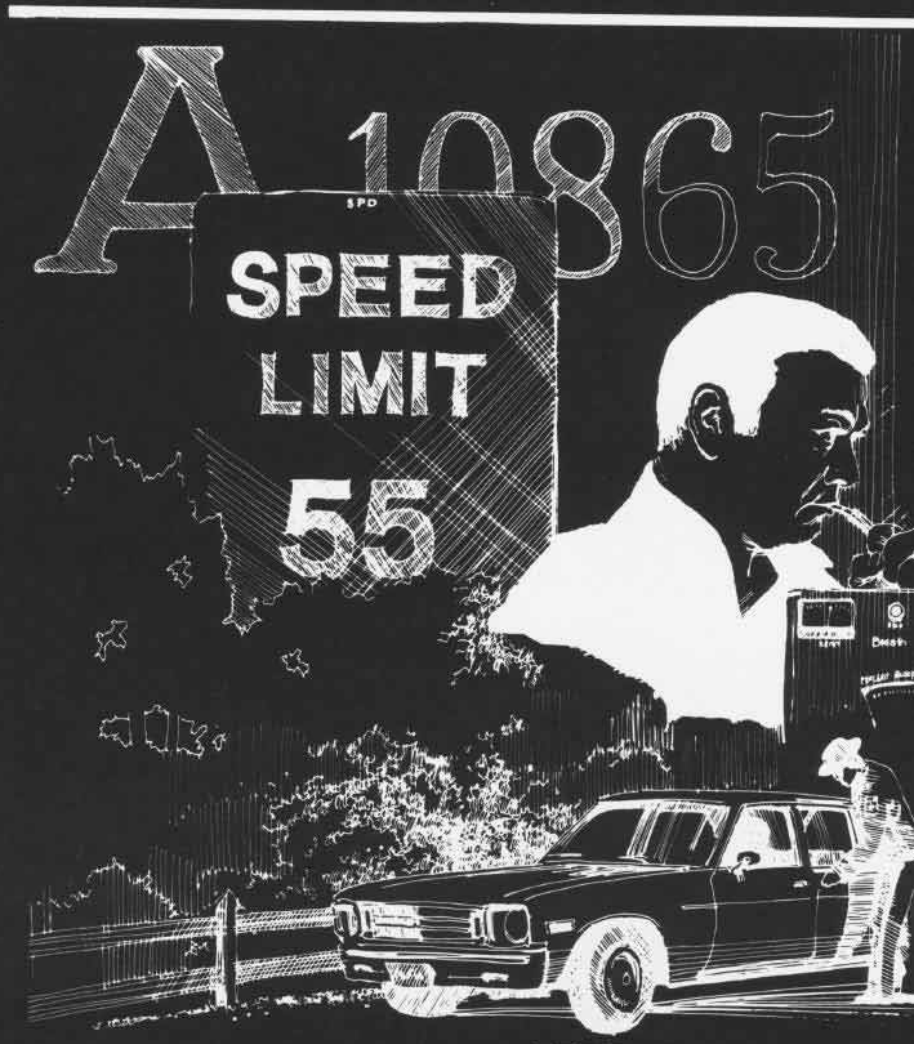
"In traditional leadership," RAdm. Mulloy goes on, "the most precious responsibility is your people and it's 24 hours a day, seven days a week.... When the young ones see that and *feel* it, they're going to want to come aboard. They're looking for that. Our major effort will be at the unit level...."

RAdm. Mulloy rejects suggestions such as banning happy hour at base clubs. Such a course of action is not a solution to the problem of alcohol abuse, he believes, because it would only drive people off base into town. "Happy hour can be a means of preventing problems," he says. When relaxed, in a social setting, people are more apt to let down their hair and, if there's a problem, it's likely to surface then and there. The point is, members need to control their drinking no matter where they are, and closing the bars will not solve the problem."

An aviator himself, RAdm. Mulloy addresses the problem of alcohol abuse in the aviation community. He feels that the traditional image of an aviator or aircrewman heading over to the club for some heavy drinking with the boys is probably exaggerated and should be changed. "Sure, the macho image of aviators is a heritage of sorts," he says, "but should it be thought of in terms of alcohol abuse? A gathering at the club after work over a drink or two is not abuse. For most people, more problems are likely to be solved during a discussion over a bottle of beer than are created."

There is an extensive deglamorization drive afoot to emphasize that the stereotype two-fisted drinker in the Navy no longer constitutes a desirable image. RAdm. Mulloy points out that the squadron skipper today is different than in years past. He's more savvy. He realizes that there is a serious problem with alcohol and, because of the various educational programs within the Navy, he has a better understanding of how to deal with it.

Today's Naval Aviator is also better



informed. In aviation officer candidate school, a student is taught the signs and symptoms of substance abuse; confrontation, documentation, referral techniques and requirements; and reentry assistance techniques for those who have completed rehabilitation. In flight training, he is instructed in Navy policy regarding substance abuse in relation to cost savings and human resources management; how policy is enforced; consequences of noncompliance with policy; and attitudes, values and awareness as leadership assets.

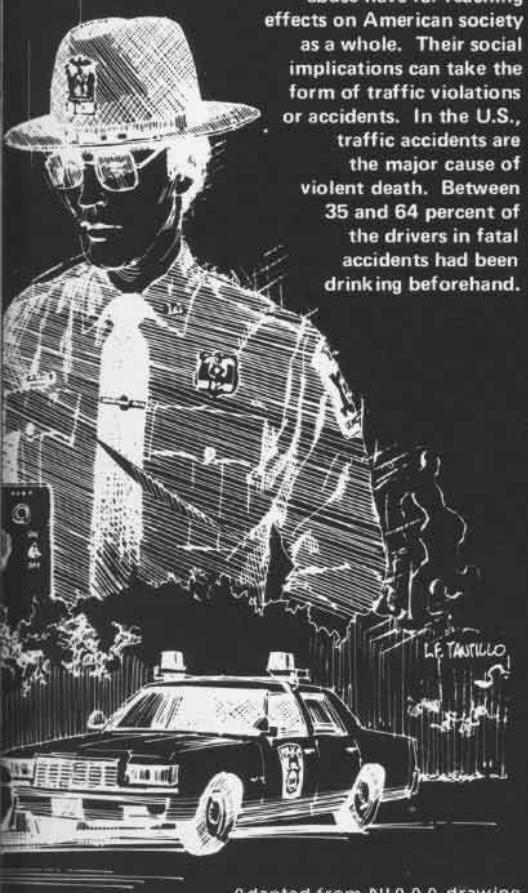
This education continues at the unit level where trained advisors assist the commanding officer in maintaining a viable alcohol and drug abuse program. The collateral duty alcohol advisor (CODAA) is often a recovering alcoholic himself or someone who has a close association with alcohol problems. He knows how to detect and counsel those people with alcohol-related problems. He helps to educate supervisors in understanding alcoholism as a disease and on how to provide treatment for those people who need it.

The drug and alcohol program advisor (DAPA) is generally a junior officer or senior enlisted person, preferably a volunteer, who advises the C.O. on Navy policy and the proper administration of the Navy's Alcohol and Drug Abuse Program, including urinalysis testing.

One highly effective command prevention tool is the Navy Alcohol Safety Action Program (NASAP). Originally based on a similar program created by the U.S. Department of Transportation, the Navy expanded the idea to apply not only to Navy personnel involved in driving-while-intoxicated offenses but to all alcohol-related medical referrals, as well as violations against both civil and naval authority. Located at 28 sites navy-wide, NASAP provides a means of early identification by screening offenders and placing them in a 36-hour educational/motivational course or, if deemed necessary, into more intensive treatment programs. CWO4 Dottie Stowe, OinC, NASAP Washington, D.C., says, "We're in the business of intervention. . .that's why the education is so valuable."

Attendees come to NASAP through three primary sources: command referrals, court referrals and individuals requesting to participate for their own information. Besides fulfilling court requirements imposed on individuals charged with alcohol-related offenses, NASAP offers 3.6 hours of undergraduate college credit upon completion of the off-duty course. In FY 81, of 26,507 persons screened, 24,148 entered the course and 2,358 were subsequently referred to rehabilitation facilities.

If an individual has an alcohol problem which requires further in-depth screening, he may be referred to one of the Navy's 67 counseling and assistance centers (CAACs) – including 14 afloat – which make recommendations to local commands for processing identified alcohol and drug abusers, both military and civilian, into the appropriate treatment programs. CAACs are staffed by both alcohol and drug abuse counselors who have received special training. The counseling centers make it possible for those persons who do not require



Alcoholism and alcohol abuse have far-reaching effects on American society as a whole. Their social implications can take the form of traffic violations or accidents. In the U.S., traffic accidents are the major cause of violent death. Between 35 and 64 percent of the drivers in fatal accidents had been drinking beforehand.

Adapted from NIAAA drawing

Glossary

AA (Alcoholics Anonymous)
A worldwide self-help organization, established in 1935, in which members help each other recover from alcoholism in a type of group therapy setting that utilizes common experience for mutual support.

Al-Anon
An organization patterned after Alcoholics Anonymous in which *adult* persons who have a significant relationship with an alcoholic help each other.

Alateen
An organization patterned after Alcoholics Anonymous in which *adolescent* persons who have a significant relationship with an alcoholic help each other.

Alcoholism
A disease characterized by the dependence on alcohol and loss of control over one's drinking.

Alcohol Rehabilitation Center (ARC)
A separate command of the Navy that provides residential rehabilitation within a structured military environment.

Alcohol Rehabilitation Service (ARS)
A clinical service organized within a naval regional medical center or naval hospital that provides residential rehabilitation in a medical environment.

Counseling and Assistance Center (CAAC)
Navy outpatient units that provide assistance to individuals and their commands in the processing and disposition of personnel with alcohol and drug-related problems.

Co-alcoholic
A family member of an alcoholic. Co-alcoholics are both victims of and contributors to the disease.

Collateral Duty Alcohol Advisor (CODAA)
A trained counselor, often a recovered alcoholic himself, who assists those people with alcohol-related problems at the command level.

Drug and Alcohol Program Advisor (DAPA)
A trained advisor who assists the commanding officer in maintaining a viable alcohol and drug abuse program within his command.

Navy Alcohol Safety Action Program (NASAP)
A Navy educational and awareness program administered under a university contract designed to educate naval personnel to the dangers of alcohol.

Rehabilitation
A structured process whereby a person suffering from alcoholism is restored to effective service.

the intensive treatment available at one of the inpatient rehabilitation facilities to receive the necessary rehabilitation or remedial education treatment at the local level with minimum time loss to the command.

From a CAAC, a civilian employee may be referred to a private rehabilitation center or to a local hospital. Active duty military personnel can go to one of the many Navy facilities for the treatment of alcoholism.

The Navy's three alcohol rehabilitation centers (ARCs), located in Norfolk, Va., Jacksonville, Fla., and San Diego, Calif., provide six weeks of intensive inpatient treatment for active duty personnel in the Navy, Marine Corps and Coast Guard. These are commands under the Naval Military Personnel Command, usually headed by a Navy line captain or commander. With a capacity of approximately 80 patients, the centers generally have a staff of paraprofessional counselors, predominantly senior grade enlisted personnel, and supporting medical officer psychiatrists and psychologists.

The Navy considers alcoholism a disease of three facets: physical, mental and spiritual. At the ARCs, a multidisciplinary treatment approach is used, including medical treatment, individual and group counseling and therapy, education, and spiritual reinforcement. Because a whole-life approach to recovery is stressed, the family is encouraged to participate as much as possible in the rehabilitation process. Experience has shown that the lives of at least four other persons are affected by the behavior of one alcoholic. That is why the Navy places such importance on including the families in the program. Outside resources, such as Alcoholics Anonymous, and Al-Anon and Alateen for the families of alcoholics, are an integral part of the path to recovery.

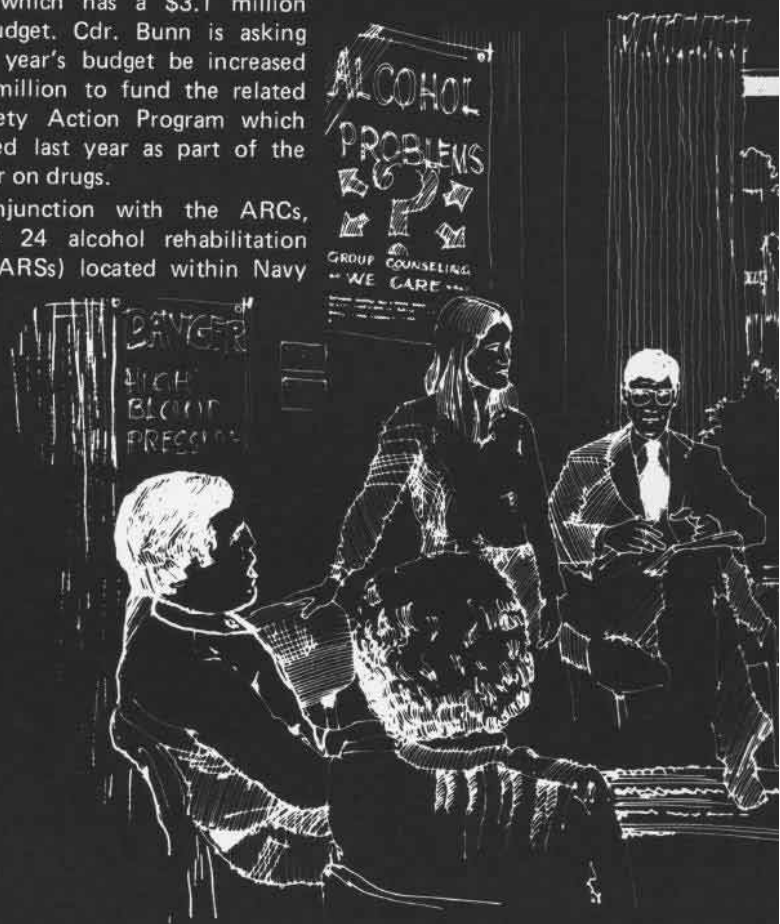
ARC San Diego is not only a treatment facility but it is a training institute for all the Navy's alcohol advisors. Individuals designated as CODAAs within the commands go through a two-week course which is conducted at San Diego seven times a year. This course has gained such popularity that, for the past six years, all Canadian Force counselors have attended, as well as representatives from Australia, New Zealand and the United Kingdom. The same course is taken on the road seven times a year in the Atlantic and Western Pacific areas. Additionally, the center is responsible for training all inpatient alcohol counselors serving the Navy, Marine Corps and Coast Guard throughout the world, through a 10-week course taught four times a year. Army counselors are now attending as well.

ARC San Diego is also headquarters for the worldwide NASAP organization. Commander Jere Bunn, C.O. of the center, has been with the program almost since its beginning over 10 years ago. There are more than 100 Navy employees at the various NASAP sites and 700 part-time university associates under contract, who teach the courses to help administer the program which has a $3.1 million annual budget. Cdr. Bunn is asking that this year's budget be increased to $3.8 million to fund the related Drug Safety Action Program which was started last year as part of the Navy's war on drugs.

In conjunction with the ARCs, there are 24 alcohol rehabilitation services (ARSs) located within Navy hospitals and headed by a medical officer. These are smaller versions of the ARCs, with capacities of 15 to 60 patients, and are staffed much the same as the centers.

ARS Long Beach is the oldest and largest of the services and perhaps best known recently for treating such notables as Betty Ford and Billy Carter. It also provides a two-week physician education course given every month in which a physician is acquainted with the symptoms and treatment of alcohol-related problems.

The Navy has one of the finest systems and best facilities for the treatment of alcohol-related problems available today. And the success statistics are very impressive. But what does all this actually mean in



REHABILITATION LOAD FY 81

	Beginning of Year	Admitted	Rehab Completed	Failed to Rehab	End of Year
Alcohol Inpatient (i.e., detoxification)	150	5,420	5,212	356	70
Alcohol Resident	1,305	5,137	3,687	920	1,703
Alcohol Nonresident	704	1,254	681	275	709

terms of a person's career in the Navy? Does the stigma of being a recovered alcoholic hurt his chances of advancement? If a Naval Aviator, for example, is found to be an alcoholic and goes through rehabilitation, can he ever fly again? The answers to these questions are encouraging indeed.

The emphasis is on sound leadership and education for the purpose of intervention and prevention of alcohol problems. But if something still goes amiss, the Navy believes in "taking care of its own," which is one reason why rehabilitation is cost-effective. As Commander James Philbrick, X.O., ARC Norfolk, put it, "Rehabilitation and recovery are based on successful employment, and continuing employment is based on successful rehabilitation." He says that one way to approach an alcoholic and effect a change in his behavior is through his job. "We're in business because we're a profit-making organization," he goes on, "but we wouldn't do it if we didn't love 'em and care for 'em."

The Navy's criteria for successful rehabilitation is that the patient be able to complete his current enlistment and be recommended for reenlistment and promotion. Historically, the second-tour, married, career person has the most successful recovery rate. Perhaps that is because he has more to lose in job and family. Measured three years after treatment for alcohol abusers who completed treatment and enlistment, 82.2 percent age 26 and older were retained, compared with 46.5 percent age 25 and younger.

Even if an individual has battled an alcohol problem and won, it's hard to predict if the process will hurt his career. In the past, by the time the problem was diagnosed, a person may already have had a couple of unsatisfactory fitness reports or evaluations due to counterproductive behavior associated with alcoholism. That's why the main thrust of the Navy's program is on intervention *before* a person becomes disfunctional or does irreparable damage to his career.

RAdm. Mulloy tells the success story of one captain years ago who had been heading toward a court-martial because of his drinking problem and related behavior. Instead, he was sent to a treatment facility and subsequently ordered back to the same job where his problem came to bear. Within a year, he was awarded the Legion of Merit for outstanding contributions to the Navy.

An aviator, aircrewman or air controller who goes through rehabilitation can eventually return to full duty status, after certain criteria are met. He is given complete aviation physical exams every three months during the first year after return to duty from an alcohol rehabilitation center. An aviator or aircrewman is assigned limited flying duty for a period of time while being closely monitored by the flight surgeon for sobriety. After reevaluation and with the authorization of the flight surgeon, he may resume unrestricted flying duties. He is then reexamined at six-month intervals for the next two years to insure continuance of alcoholic recovery without psychological or physiological complications.

The Naval Aviation community is fortunate to have the services of the flight surgeon in the intervention and treatment of alcohol-related problems. His close contact with squadron personnel makes it possible to detect a problem earlier and to provide more closely monitored aftercare for aviators than is needed for personnel with less critical assignments.

The Navy's alcohol program enhances operational readiness, effective management, and retention of naval personnel. It provides facilities for evaluation/assessment, education/training, detection/deterrence and treatment/rehabilitation. Its primary objective is to enhance the quality of life in the Navy.

One fact is certainly true about the Navy's alcohol program – it works. And the Navy has proof!■

Group therapy is an effective tool used in the rehabilitation process.

Adapted from NIAAA drawing

Tri-SARF

A unique treatment center is located on the grounds of the National Naval Medical Center, Bethesda, Md., known as the Tri-Service Alcoholism Recovery Facility (Tri-SARF). It accepts members of all branches of the military for treatment. Established to encourage cross-pollination between Army, Air Force and Navy, the 56-bed unit contains the best that each service has to offer. The Army contributed its family program designed to treat those close to the alcoholic patient. The Air Force donated the concept derived from its very successful aftercare system. The Navy added its progressive philosophy and the recovered alcoholic counselor concept.

With a program structured much like the ARCs and ARSs, a typical patient goes through six weeks of residential treatment at Tri-SARF. The first two weeks, he attends lectures, films, small group therapy sessions, AA meetings every night and a physical training program. At the end of that time, his progress is evaluated and his willingness to continue determined. Almost all choose to stay.

The remaining four weeks are filled with much of the same activities as the first two, except that something very important is added – treatment for the spouse and children, and sometimes a parent. These co-alcoholics are as much victims of the disease as the alcoholic. They are strongly encouraged to attend AA meetings to help them understand the alcoholic, and Al-Anon and Alateen meetings for their own benefit. Helping the co-alcoholic recover from the effects of alcoholism is not only an act of compassion but a sound investment in the future sobriety of the recovering alcoholic and the future of his family.

When an individual leaves the program, an aftercare or follow-on system is initiated to track his progress. Eighty percent of the people over 36 years of age maintain at least two-year sobriety rates.

From Novice to

By JO1 Ken Marcum

It's a long way from the novice student pilot learning in a radial engine, prop-driven T-28 to the experienced Naval Aviator tucked neatly into one of the most sophisticated fighter/attack aircraft in the world. There are many stops in a Naval Aviation career. One of the most important is the tactical training phase at the naval air station near Fallon, Nevada. And, after 40 years of placing the seal of approval on the Navy's fighter/attack pilots, NAS Fallon is bigger and better than ever.

The celebration marking the station's 40th anniversary on June 5 included a wide array of aircraft that have flown at Fallon. Most of the Navy and Marine Corps attack community have deployed to NAS Fallon at least once since the station's birth in the early 1940s.

Perennially, Navy Fallon offers the best training areas for tactical Navy and Marine squadrons. There are three electronically scored bombing ranges, one electronic warfare range and even a small mountain that has managed to resist onslaughts of heavy bombings over the years. The facilities, combined with unrestricted airspace and 300 guaranteed good flying days a year, make this naval air weapons training complex the best in the Navy.

According to one senior Naval Aviator, "Fallon is like an aircraft carrier in the desert. The training available to the entire squadron, as well as the aviators, is not unlike what is found aboard a carrier."

The air station is presently undergoing the biggest building boom in its history. To complement its 99 square miles of bombing ranges, negotiations are under way to acquire an additional 150 square miles. The increase will permit Navy Fallon to handle a larger number of supersonic aircraft, while allowing them to exercise their full capabilities. The additional space has interim approval, pending completion of an environmental impact statement due in December 1982. The ability to fly supersonic in an overland training environment is essential to the *Phantom*, *Tomcat* and *Hornet* training syllabus.

The bombing ranges offer the deployed squadrons diverse targets for practice. In addition to the familiar bull's-eye targets, there is also a "submarine" with accompanying harbor craft, long truck convoys on steep mountain passes, mock military installations with airports, and some of the most sophisticated electronic warfare training offered anywhere.

The future calls for even more advanced air warfare training in the form of the Tactical Aircrew Combat Training System. Approximately two years down the road, this system will be capable of presenting challenging situations for more than 35 aircraft at one time. It is being designed to give the modern aviator the best training in missile avoidance and retaliation possible, and will be installed

as an overlay on the present electronic warfare range. Specific features will provide new air combat maneuvering capabilities, *Shrike* missile delivery, and no-drop bomb scoring using enhanced electronic warfare training.

At the air station's mainside area, 73 miles east of Reno, major construction changes will begin this year. Not since 1972 has there been so much new construction. Funds have already been allocated and a contract awarded for a 12-aircraft hangar to house the F/A-18s. The $8 million building will include maintenance spaces for weapons systems and a new ramp area between the present transient hangar and operations tower. The completion date for the new hangar is set for December 1983, at which time it will become a second home for the *Hornets* scheduled for permanent deployment to Navy Fallon. Approximately 25 of the new attack fighters will be kept at the air station for training, as an adjunct to Fighter Attack Squadron 125 located at NAS Lemoore, Calif. With the aircraft "in residence" at Fallon, pilots with the replacement air group squadron (VFA-125) will be ferried in for training.

A new weapons loading area will eventually be located on the north end of the main runway, providing easy access to the weapons buildup area. There are also plans for a 3,000-foot extension of the cross-strip (runway 7/25), giving it a total of 10,000 feet of hard surface needed when there are more than 45-knot winds out of the west.

Another innovative addition is the planned "direct refueling" area to be located east of the fuel farm. This facility will provide aircraft a quicker turnaround time

Expert: NAS Fallon Fills the Bill

PH2 R. Sforza

during high-tempo training operations.

According to NAS Fallon commanding officer Captain Dennis Taft, while the above projects are as yet unfunded, they are well along in various stages of planning.

Alternative energy sources are not a foreign subject to those at NAS Fallon. The Navy considers geothermal energy under Fallon and its adjacent areas, in the form of hot water and/or steam, to be an extremely valuable asset. Plans are under way to tap these resources with contractor-provided funds as an electrical energy source. The Navy would benefit under the agreement with the private contractor, by paying lower rates for electrical power. It is hoped the resource may be large enough to provide electrical power to other naval installations in northern California.

A new airspace management center has recently been installed at Fallon, replacing the mobile GCA units. The greater radar capability extends its range from 40 to 60 miles. The second phase of the center began last month and will provide a 500 x 200-mile radar coverage area. A state-of-the-art communications system is part of the more-than-$8-million center, with air traffic control and range-scoring operating adjacent to one another.

Quality of life is a feature at Navy Fallon that is scheduled for more attention. Major construction includes another bachelor officers quarters and two new enlisted quarters to match the complexes erected in 1972. Currently unfunded, these planned structures will be needed to house the larger volume of personnel expected with the increased capabilities of the air station and tenant commands. The

PH2 R. Sforza

Above, two young visitors to NAS Fallon's 40th anniversary open house try out the cockpit of one of the station's UH-1N Huey search and rescue helicopters. Top left, backed by a cloudy sky, an EA-6B from NAS Whidbey Island's VAQ-133 awaits training on NAS Fallon's extensive ranges.

annual transient population of NAS Fallon is more than 15,000 persons, and that number is expected to approach 18,000 in FY 82.

Also on the drawing board is a new recreation park to be located between the year-round, heated, Olympic-size swimming pool and the Top Four Club. Already funded, the park will include a softball diamond, horseshoe pits and picnic area with barbecue grills and restrooms. Completion is expected this year.

Forty years after coming into existence far from the ocean, Navy Fallon is a reflection of the Navy's recruiting slogan, "It's not just a job, it's an adventure."

TOUCH and GO

Antisub Centers Get Together

Naval Reserve Antisubmarine Warfare Operations Centers (ASWOCs) 191 and 791 from NAS South Weymouth, joined in a combined drill weekend in June, to train with their active duty hosts at NAS Brunswick's Patrol Wing Five Antisubmarine Warfare Operations Center.

The weekend of intensive training was described as "contributing significantly" to the operational readiness of the reservists. Among the subject areas covered were P-3C Update II aircraft capabilities: ASW aircrew training and qualifications, hostile submarines, communication procedures and security, and watchstanding. These subjects are considered critical elements in the development of battle tactics in an antisubmarine environment.

The ASWOCs play a critical role that is not generally known outside the ASW community. The centers serve primarily as clearing houses for intelligence data gathered by P-3 aircrews. They are also heavily involved in aircrew training and tactical proficiency. The ASWOC may also serve as an arena for briefing and debriefing P-3 crews.

Lieutenant Commander Cyrus E. Hendren is commanding officer of ASWOC 191. The skipper of ASWOC 791 is Commander Thomas Meckley. **Lt.Cdr. Dan Kelley, Jr.**

Lugo's Hunch Saves Super Stallions

"Sometimes a gut feeling will do right by you," says Sergeant Eduardo Lugo, HMH-464, whose gut feeling may have saved the Marine Corps and Navy a lot of money

During an inspection, crew chief Lugo grabbed one of the tail rotor blades of his *Super Stallion* to lock the blades into place. But the normal solid feel was missing and Lugo described it as a little mushy. Checking further, he discovered that vibration was causing bolts which connect the cam assembly to the rotary rudder hub to come loose and back out. He examined the rest of the *Super Stallions* and found the same problem with each.

"It is impossible to measure the loss . . . avoided by Sgt. Lugo's alertness," said Major General Keith Smith, 2d Marine Air Wing commander, in a message.

Engineers are working on ways to prevent the problem and, in the meantime, Sgt. Lugo and other CH-53E mechanics are keeping a close watch on the problem. **Rotovue, March 18.**

Air Reserves Are Varsity Players

What began as the brainchild of a San Diego-based Naval Air Reserve helicopter squadron ended this spring as a major Navy antisubmarine warfare exercise. Lieutenant Commander Jeff Wallin and Lieutenant Commander Bruce Pollack of HS-84 started the event when they expressed the feeling that their unit's training could be enhanced by a "small joint reserve exercise."

Dale Scherfling

An HS-84 ASW helo is topped off for exercise Varsity Player.

The exercise snowballed into a major event dubbed *Varsity Player*. The operations order captured the imagination of those at the Fleet Training Command in San Diego. By the time the exercise began April 16, five reserve patrol squadrons had also become involved. The diesel submarine *Gudgeon* was tagged to play the *bad guy*. The reserve frigate *Lang* completed the *enemy* forces. In addition to the patrol aircraft and helicopter squadrons, the *friendlies* consisted of three active duty frigates from San Diego.

Rear Admiral Louis Williams, Commander Antisubmarine Warfare Wings, U.S. Pacific Fleet, said that *Varsity Player* is "invaluable" as a tool in the Navy's readiness program. "The strength of the Navy's overall readiness posture has always been contingent on the readiness of our reserve forces," he said.

According to *Lang's* skipper, Commander James Lee, "The beauty of the exercise is that reservists participated in all stages of planning the operation. It was a reserve operation from start to finish." **JO2 Carolyn Spurgeon.**

ASW Crews Hound the Hunter

In separate hunt-to-exhaustion exercises, the antisubmarine warfare (ASW) team of *Enterprise* pounced on the "enemy" beneath the sea and gave notice that the ASW portion of the air wing could effectively perform the role of defending the battle group.

Working with the guided missile cruiser *Bainbridge*, destroyer *Cushing* and fast frigate *Albert David*, VS-37 and HS-6 aircraft tracked and repeatedly "attacked" the submarines *Gudgeon* and *Bates* during the fleet exercise.

"We were on 'em like ugly on an ape," said Lieutenant Guy St. John, a VS-37 tactical coordinator. "Even when *Gudgeon* ran her batteries, she couldn't get away from us. With them (the helos) leapfrogging their dipping sonar, plus our sonobuoy patterns, we had 'em nailed."

The ASW crews had good reason to be enthused. There were several difficulties that could have changed the outcome. In addition to it being the first fleet exercise for *Enterprise* since her three-year major overhaul, it was the first time the men in the carrier's ASW control module had directed aircraft against a submarine. It was also the first time any of the ships and squadrons involved had worked together in coordinated operations.

Testimony to the effectiveness of the ASW team came from one of the submarine officers following the exercise. "We felt pretty well worked over," he admitted.

Lieutenant Jack Buckingham, VS-37's ASW training officer, said simply, "The exercise was by any standards an unqualified success."

VS-37 and HS-6 will embark aboard *Enterprise* this fall to provide ASW protection during the Western Pacific/Indian Ocean deployment. **Lt. Frank Rodrick.**

An S-2 Viking on patrol in the Pacific carries the rainbow tail of VS-37.

Wing Nine Flies Home

In May, the VF-24 *Fighting Renegades*, VA-211 *Fighting Checkmates* and RVAW-112 *Golden Hawks* of Carrier Air Wing Nine returned to NAS Miramar after a seven-month Western Pacific/Indian Ocean deployment aboard *Constellation*.

The three squadrons spent 80 percent of the 206-day cruise at sea. The *Renegades* and *Checkmates* each flew over 2,900 hours and together logged more than 2,700 carrier landings during that time. The *Hawks* accumulated over 1,640 hours and had 472 carrier landings.

The squadrons participated in major naval exercises involving both U.S. and Allied naval and air force units. Among these was an extensive intraservice air combat maneuvering exercise involving U.S. Air Force F-16 fighters, along with F-4s and A-4s, flying out of Hawaii.

VF-24, flying the F-14 *Tomcat*, was the first fleet squadron to deploy with the new tactical air reconnaissance pod system (TARPS). The system worked so well that the *Renegades* obtained imagery equivalent to or better than previously deployed RF-8 squadrons.

Also during the deployment, the air wing squadrons participated in a weapons exercise during the visit by Secretary of Defense Casper Weinberger.

A number of awards were won by the squadrons while on deployment. The *Checkmates* won the Golden Tailhook Retention Excellence Award for the first quarter of FY 82, and the *Hawks* set a record with the highest availability rate of any squadron in the airborne early warning community. **Lt. Sally Robins.**

Argonauts of VA-147 fly in formation during a recent deployment.

Corsair Convention At Cubi Point

When the carrier *Midway* was scheduled for a two-month dry-dock period this past winter, the *Champs* and *Ravens* of VA-93 and VA-56 took advantage of the lull by going to what ended up as an impromptu A-7 *Corsair* convention at NAS Cubi Point in the Philippines. The plan was to take advantage of the good winter flying weather and good station facilities to stay active and further improve combat readiness.

When the two squadrons arrived at Cubi Point, VA-147's *Argonauts*, the swing squadron of A-7E *Corsairs* off *Constellation*, were already there. And VA-97 and VA-27 from *Coral Sea* arrived within hours of the two *Midway* squadrons.

Said one pilot, "It was like a big *Corsair* jamboree."

During the month-long training schedule, instructors from the Light Attack Weapons Employment School taught and evaluated. Lectures on low-level awareness, electronic warfare and close air support were followed by a four-sortie flight to refine those skills. There was also a conventional technical proficiency inspection by the school staff.

The *Champs* and *Ravens* also participated in the Air Force *Cope Thunder* exercise, which is designed to give pilots high-risk missions of the type they may expect in a real combat situation, but with the peacetime opportunity of learning from their mistakes. The latter part of the exercise was a war-at-sea situation, using general purpose bombs and more sophisticated weapons in coordinated strikes against a target ship.

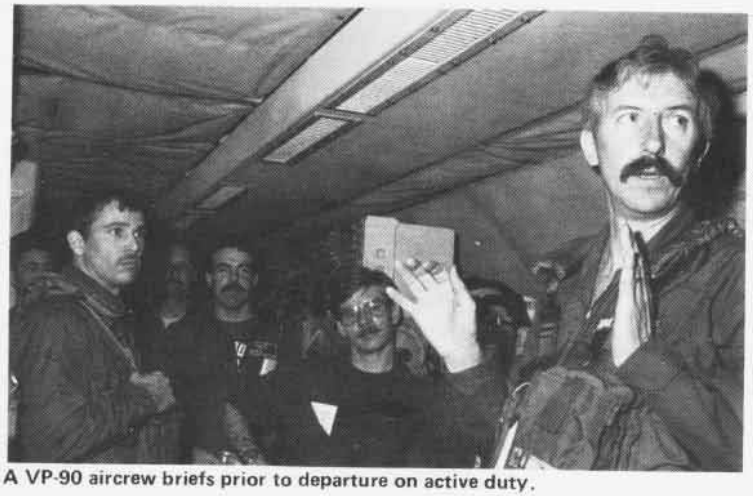
During the last week of the stay away from *Midway*, the *Champs* and *Ravens* worked on field carrier landings at Cubi Point in preparation for carrier refresher training aboard *Coral Sea* later.

Air Reserve Patrol Squadrons Go West

Nearly 200 members of Naval Air Reserve Patrol Squadron 90 spent two weeks last spring on active duty for training with Patrol Squadron 22 at NAS Cubi Point.

Two groups of selected reserve personnel augmented VP-22 for 14 days each, flying operational ocean surveillance and antisubmarine warfare missions in support of Task Force 72.

Full integration of the reserve personnel and assets into the VP-22 tasking provided realistic "hands on" ASW experience and professional training for nine Alpha status P-3B aircrews and ground support personnel. The operation was also a valuable addition to overall active duty patrol tasking in the Western Pacific. **Lt.Cdr. G. M. Black**



A VP-90 aircrew briefs prior to departure on active duty.

PEOPLE·PLANES·PLACES

Records

Several squadrons reached accident-free flight-hour milestones: VMGR-252, 250,000 hours; VP-30, 180,000; VT-26, 35,000; HS-10, 31,000; VA-27, 27,000; VA-304, 26,000; VAW-126, 23,000; VF-124, 17,600 and VF-1 and VP-50, 13,800.

The VF-11 *Red Ripper* aircrew Lt.Cdr. Larry Lakser and Cdr. Don A. Sharer (l-r), and ground crewmen AZ3 G. Patrizo and ADAN S. Aston (l-r) stand by their *Tomcat* after making the 150,000th arrested landing on board *John F. Kennedy*. The milestone was achieved during operations in the Indian Ocean. The *Rippers* have been deployed since January and are scheduled to return to NAS Oceana in midsummer.

Rescues

A routine HS-84 training mission recently turned into a rescue at sea when the squadron received a distress call from a downed F-4 *Phantom* relayed from the Fleet Air Surveillance Facility at North Island. Two Marine Corps pilots from El Toro, 1st Lt. Michael Flood and RIO 1st Lt. John Williams, were hoisted from icy waters by HS-84 crewmen seven miles east of San Clemente Island. The HS-84 SH-3 crew members were pilot Lt.Cdr. Ron Youtsey, co-pilot Lt. Cdr. Swede Gamble and AW1 Dennis Sullivan. The F-4 crewmen, who sustained no injuries, were taken to NAS Miramar.

Earlier this year, *San Diego* (AFS-2) was returning to Norfolk following a six-month Mediterranean deployment when she received a call for medical assistance. The *Golden Dolphin*, a Swedish merchant ship, had burned and sunk earlier that day in the northwestern Atlantic, and 16 of her crew had been rescued by the Swedish merchant ship *Norrland*. One survivor was a diabetic who had left his insulin behind on the abandoned ship. The U.S. Coast Guard contacted *San Diego* which was about 40 miles from *Norrland*. Lt. Martin Bacon, *San Diego's* medical officer, was airlifted to *Norrland*, where he cared for the diabetic and other survivors.

The crew of *Belleau Wood* (LHA-3) have proven that they know the meaning of pride and professionalism. The San Diego-based amphibious assault ship was awarded seven departmental excellence awards and the ComPhiBron Five Battle Efficiency "E". The awards were presented for *Belleau Wood's* efforts during the 1981 Pacific Fleet competitive cycle in communications, engineering, damage control, air, AIMD, CIC operations and amphibious assault. *Belleau Wood* is commanded by Capt. Henri B. Chase.

Et cetera

Korean President Chun Doo Hwan, accompanied by U.S. ambassador to Korea, Richard L. Walker, recently visited USS *Midway* to observe the carrier's operations during Exercise *Team Spirit 82*. VAdm. M. Staser Holcomb, Commander U.S. Seventh Fleet, briefed the presidential party on the exercise before visiting *Midway's* flag bridge to observe flight operations. *Midway*, home-based at Yokosuka, Japan, as part of the Navy's overseas family residency program, is commanded by Capt. Robert S. Owens.

The F/A-18 *Hornet* strike-fighter, the Navy's newest aircraft, stands waiting behind RAdm. Frederick F. Palmer moments before man and machine went aloft for a get-acquainted flight at NAS Lemoore, Calif. RAdm. Palmer is Chief of Naval Reserve and commander of the Naval Air Reserve Force headquartered in New Orleans. The *Hornet* is scheduled to become part of the Reserve Force. It will be the first time that naval reserve units will receive right off the assembly line the same aircraft as the active duty fleet.

HSL-30, Norfolk, Va., recently received a VIP visit from the Mexican Navy's Chief of Naval Operations, Admiral Gomez Ortega. The foreign dignitary was accompanied by the Mexican Navy's Vice Admiral Hector Elias Robels, and Commander Romas Martinez. They were hosted by Commander in Chief, U.S. Atlantic Fleet and welcomed by Cdr. C. Kiseljack, C.O. of HSL-30. This visit gave them the opportunity to observe the command's SH-2F antisubmarine warfare aircraft, after which Admiral Ortega was briefed on the mission and capabilities of the light airborne multi-purpose system (LAMPS). He was given a demonstration flight in the LAMPS 2F106 flight simulator. The weapons system trainer gave the Admiral a chance to experience from a pilot's viewpoint the night approach/landing procedures in the SH-2F during simulated flights at NAS Norfolk and various U.S. naval ships.

Change of Command

Belleau Wood: Capt. Henri B. Chase relieved Capt. James C. Hayes.

CarGru-1: RAdm. Paul F. McCarthy, Jr., relieved RAdm. Thomas F. Brown III.

FitWing-1: Capt. Frederick L. Lewis relieved Capt. Robert E. Tucker.

HS-74: Cdr. Theodore V. Drozdz relieved Cdr. John T. Williams.

HSL-37: Cdr. Joseph R. DeNigro relieved Cdr. Dennis H. Christian.

MAG-42: Maj. James F. Leonard relieved Lt.Col. Robert W. Coop.

MAG-46: Col. Ward B. Johnson relieved Col. Robert C. Finn.

NARF San Diego: Capt. Philip A. Monroe relieved Capt. John H. Kirkpatrick.

NARU Jacksonville: Capt. Vincent J. Schuppert relieved Capt. William H. Saunders III.

NAS Oceana: Capt. Charles L. Tinker relieved Capt. Robert W. Jewell, Jr.

PatWing-10: Capt. Joe A. McElmurry relieved Capt. Craig L. Barnum.

VA-12: Cdr. James M. Gill relieved Cdr. A. B. Whitten.

VA-94: Cdr. Michael A. Gary relieved Cdr. James I. Maslowski.

VAW-116: Cdr. William M. Bokesch relieved Cdr. Robert P. McClendon, Jr.

VF-151: Cdr. Charles Buchanan relieved Cdr. Richard Farrell.

VMFAT-101: Lt.Col. Gary Braun relieved Lt.Col. Philip Hinkle.

VP-45: Cdr. Richard Phelan relieved Cdr. David C. Bennett.

VP-50: Cdr. Quentin S. Masters relieved Cdr. Robert L. Bushong.

VP-0516: Cdr. Robert B. Kidd relieved Cdr. William B. Clayton.

VP-26: Cdr. D. A. Crump relieved Cdr. B. R. Gladin.

Professional Reading

By Lieutenant Commander Peter Mersky, USNR

Sullivan, James & Greer, Don, *F9F Panther/Cougar in Action*. Squadron/Signal Publications, 1115 Crowley Dr., Carrollton, Texas 75006. 1982. 49 pp. $4.95.

In keeping with the rest of the "In Action" series, this latest effort is mainly a picture book, filled with large, full or half-page, black and white photographs of the F9F line. The Navy's first major production combat jet aircraft, the *Panther*, served in the Korean Conflict with the Navy and Marine Corps. The *Cougar*, equipped with more powerful engines and sweptback wings, served through the mid-sixties, first as a front-line fighter and reconnaissance aircraft, and then as a staple of the training command, with the single and two-seat versions. (A few of the two-seaters actually saw a great deal of combat in the opening stages of the conflict in Vietnam, serving with the Marines as forward air controllers.)

Covering a rarely-detailed yet historically important aircraft, this new book is a good value for the money, including two pages of color profiles and line drawings of interior and exterior details. With scale models of the F9F having made their appearance in recent years, the model enthusiast will also be well served because the *Panther* had some colorful schemes applied during its career, both in Korea and afterwards.

Andrews, C.F. and Morgan, E.B., *Supermarine Aircraft Since 1914*. Putnam and Co., Ltd., 9 Bow Street, London, England WC2E 7AL. 1981. 400 pp. Indexed, heavily illustrated. $45.00

The latest in the highly-regarded series of Putnam Aeronautical Books, this book is one that should be on every serious enthusiast's bookshelf and in the library of the more casual reader of military/aeronautical literature, assuming they can manage the steep price. This book gives a good introduction to the Supermarine Company's history beginning with its founding in 1914 by Pemberton Billing, who took the name Supermarine to reflect the company's products as being the opposite of submarine.

Supermarine's two most famous designs, the Schneider Trophy seaplane racers of the twenties and their derivative, the legendary *Spitfire*, are described in detail covering over 100 pages, including appendices of aircraft serial numbers. In the case of the *Spitfire*, service squadron allocations and countries which used the fighter are listed. There are well chosen, and many previously unpublished photographs, particularly of the *Spitfire* and its naval version, the *Seafire*.

Postwar activity is also covered, with accounts of some of Britain's first jet aircraft, such as the *Attacker* and the *Swift*.

This volume, with a general arrangement drawing of each aircraft described, is a really good account of one of the pioneer companies of aviation.

LDO Aviator Program Deadline Soon

Second class, first class and chief petty officers interested in earning commissions and becoming Naval Aviators through the Limited Duty Officer (LDO)/Aviator Program must submit their applications to Commander, Naval Military Personnel Command not later than October 12, 1982.

The LDO Aviator Program was established in 1980 to provide further upward mobility for qualified enlisted personnel, while improving utilization of unrestricted line aviators and increasing flight instructor stability in the training command. It is an opportunity worth careful consideration, but only for those who can qualify. Generally, applicants must:

- Be United States citizens.
- Be on active duty in the regular Navy or Naval Reserve (including TAR).
- Have clean military records and no civil court offenses (other than minor traffic violations) since July 1, 1980.
- Be under 30 years old with at least four years of active duty as of July 1, 1982.
- Have successfully completed at least 60 semester hours (or 90 quarter hours) at an accredited college or university, or have a service-accepted equivalent.
- Have a minimum academic qualification test/flight aptitude rating (AQT/FAR) score of 3/5.
- Be physically qualified to be student Naval Aviators.
- Be recommended by their commanding officers.

For more details see NavMilPersCom Notice 1120 of June 3, 1982. Also, read the *NANews* story in the April 1982 issue of the Navy's first two Flying LDOs to complete the program.

Letters

C-2A Photo

On the inside cover page of your April 1982 issue you show a C-2A COD being positioned for launch on *Kitty Hawk*. Based on the soft head gear being worn, I would guess the photo is mid-1960s.

The photo contains a few unsafe practices. On the catwalk there is a man on crutches with his sleeves rolled up and a flashlight about to fall out of his hip pocket. To the left side of the picture, there is another man sitting down with his shirt pulled up under his arms thus exposing his back.

The overall photograph is good but I feel that it is more beneficial to print pictures that emphasize sound safety practices.

Charles K. Duncan
SSgt, U.S. Marine Corps
36th MAV NCOIC HML-167
FPO New York, N.Y. 09502

Ed's note: NANews completely agrees with you and two other readers who brought this to our attention. The photograph is the best in our files that shows a C-2A involved in flight deck operations. It certainly will not win any safety awards. Thanks for keeping us on our toes.

VU/FASRON Ops

I am a former Marine doing research on the history of threat/adversary, target, and utility operations conducted by the U.S. Navy and the Marine Corps since WW II, for a book I am writing.

I would greatly appreciate hearing from past or present Navy and Marine Aviators, flight officers, aircrewmen and support personnel with any information and anecdotes concerning VJ, VC, VMU squadrons and KD units; GMGru; GMS; FASRON, VS-2; and NAS Chincoteague regarding their support of target and adversary/threat-type operations since 1945.

I would also be interested in information on the "will-do, jack-of-all-trades" operations of VU and FASRON squadrons.

Sean Paul Milligan
137 Olympia Avenue
Pautucket, RI 02861

Fighter Museum

Have just finished reading the June 1982 issue of *Naval Aviation News*. Perhaps your readers would be interested to know that the original oil painting of Ensign "Bert" Earnest's TBF *Avenger* on pages 22-23 hangs in our museum along with over 55 other original oils depicting WW II fighter and combat art. The artwork shares the museum with over 25 fighter aircraft from WW I to WW II, all of which are flyable. The U.S. Navy aircraft include the F8F *Bearcat*, F6F-3 *Hellcat*, FM-2 *Wildcat*, FG-1D *Corsair* and an SNJ-6.

Thank you for producing and publishing such a fine magazine.

Lt.Cdr. James E. Fausz, USN(Ret.)
Director, Champlin Fighter Museum
4636 Falcon Circle Drive
Mesa, AZ 85205

R4D in NATS

I am presently researching a book on the role of the R4D in the Naval Air Transport Service (NATS). I would like to hear from anyone connected with these aircraft, and especially with R4D-6 #50819 currently restored (as it was in 1945) and flown by the Mid-Atlantic Air Museum. Photos, recollections and any other loaned material will be carefully handled and returned.

Jan Churchill
727 Spenrock Avenue
Chesapeake City, MD 21915

Blue Angels Recruiting

The *Blue Angels* will be selecting a Marine Corps navigator and first mechanic in September 1982 for assignment to the squadron's Marine support detachment which operates a C-130 *Hercules*. All applicants must be career-oriented volunteers and should be sergeants or staff sergeants. It is preferred that navigator applicants have completed an overseas tour as navigator. First mechanic applicants must have one of the following MOSs: 6016, 6031 or 6036.

All applicants should be of outstanding character, bearing and personal appearance. Additionally, they should have completed two years on station with an overseas control date, or two six-month detachment cycles. The letter of application should include a general statement concerning personal and educational background, military and aeronautical experience and previous duty assignments. Photographs similar to promotion photos should accompany the application, which must be endorsed by the applicant's commanding officer. Applicants should write to: Commanding Officer, U.S. Navy Flight Demonstration Squadron (Blue Angels), NAS Pensacola, FL 32508, with a copy to Commandant Marine Corps (Code MMEA-84).

Reunions, Conferences, etc.

NAS Twin Cities reunion to be held on August 28, 1982, at Naval Air Reserve Center, Twin Cities, East 62nd Street and 31st Avenue South, Minneapolis, Minn. Contact: Kirk Johnson, 7325-14th Avenue South, Minneapolis, MN 55423, (612) 866-7194.

Combined VP reunion of former members of VP-11, VP-51, VP-54, VB-101 and PATSU 1-2, 1936-45, will be held in Pensacola, Fla., November 11-14, 1982. For information, call Capt. W. Frank Culley, USN(Ret.), (904) 456-5617, or write Patrol Squadron Reunion 82, P.O. Box 6332, Brent Station, Pensacola, FL 32503.

Silver Eagles reunion of all former enlisted Naval Aviation Pilots of the Navy, Marine Corps and Coast Guard, October 7-9, 1982, Stouffer's National Center Hotel, 2399 S. Jefferson Davis Highway (U.S. 1), Arlington, Va. For reservation information, contact John Beaton, Box 9, California, MD 20619, (301) 863-6135.

Selection board meeting for Test Pilot School, August 31, 1982, two days.

The Great Seal of the United States

This year marks the 200th anniversary of the designation of the Bald Eagle as our national symbol. A native American, this bird is singularly impressive in size and beauty and suggests the qualities of pride, resourcefulness and strength. Although Benjamin Franklin may have favored the Wild Turkey, Congress seems to have preferred the more dramatic figure of the Bald Eagle as depicted by Charles Thompson in 1782. Holding forth the olive branch of peace in its right talon, the eagle serves warning to would-be aggressors with a quiver of arrows displayed in the left.

The Bald Eagle was quickly embraced by the audacious young nation as its own and was soon seen in a variety of poses over doorways, aboard ships, on furniture, coins and any number of other objects. Inevitably it became a popular military symbol and is currently used on official devices of all the U.S. military services. The Bald Eagle has also become a prominent feature in the insignia of many individual military units among which are five U.S. Navy patrol squadrons. They are: VP-1 and VP-17, NAS Barbers Point, Hawaii; VP-16 and VP-30, NAS Jacksonville, Fla.; and VP-47, NAS Moffett Field, Calif.

naval aviation news