naval aviation news

AUGUST 1980

Covers – Wraparound cover shots, courtesy of Merco International Photo, feature scenes at NARF Alameda, including gases from jet engine test cell tower which are "washed" before being discharged into the atmosphere (see feature beginning page 8). Here are two S-3 Vikings from VS-29, based aboard USS Ranger.

naval aviation news

SIXTY-SECOND YEAR OF PUBLICATION

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Commander, Naval Air Systems Command

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editor's corner

Sign of the Times. There's a message on the wall of a Navy public affairs office that has a fatalistic ring to it but is posted, we hope, in the interest of good humor. It reads: The light at the end of the tunnel may be the beacon of an oncoming train.

Stand By to Hoist an Angel. Not really. Marine Corps Major D. P. Reichert photographed this CH-53, which was actually unloading a 105mm howitzer during the April

1979 open house at MCAS El Toro. The *Blue Angel Skyhawk* just appears to be the subject of a pickup. Specks on the helo's fuselage are actually blades of freshly-mown grass stirred up by the rotor blades.

Naval Air War 1939-1945 is the title of a book recently published by The Nautical & Aviation Publishing Co. of America, Inc., which may be of interest to readers.

Naval Aviator #1091. Dr. Stephen A. Freeman was born in 1898. He earned his Golden Wings and Ensign's commission on June 12, 1918, in Pensacola. He looks impressively fit in this recent photo, wearing his WW I-vintage uniform. Dr. Freeman served with the Army after Naval Aviation

duty and is a widely-acclaimed pioneer in teaching foreign languages, as well as a member of the Golden Eagles Pioneer Naval Aviators Association. He was affiliated with Middlebury College in Vermont, having served that institution in various capacities for 45 years, longer than any other individual in its 180-year history.

New Editor

Captain Richard C. Knott has relieved Commander Rosario "Zip" Rausa as editor of *Naval Aviation News*. Cdr. Rausa has been transferred to the Naval Reserve Center, Whitestone, N.Y., as its commanding officer. Capt. Knott, who was previously assigned to the Maritime/UN Negotiations Division of the Joint Chiefs of Staff brings excellent credentials to the job. He has written many articles on aviation and is the author of the recently published book *The American Flying Boat*.

Look Out, Old Glory. Although this appears to be a direct attack on the American flag, it's really a quirk of the camera angle. A missile was being test fired by officials at the Pacific Missile Test Center, Point Mugu.

DID YOU KNOW?

Astronaut Candidates In May, the National Aeronautics and Space Administration announced the names of 19 new astronaut candidates for the space shuttle program, who were to begin a one-year training and evaluation program in July 1980 at the Johnson Space Center in Houston, Texas. NASA had received 2,880 applications for mission specialist positions and 585 for pilot positions.

Of the 19 selected, 8 are pilot and 11 mission specialist candidates. The new group includes William F. Fisher, husband of Anna Fisher who was selected for the astronaut candidate program in 1978.

Seven of the 19 come from the Navy and Marine Corps. Pilots: LCdrs. Richard N. Richards and Michael J. Smith, both USN, and Maj. Charles F. Bolden, Jr., and Bryan D. O'Connor, USMC. Mission specialists: Lt. David C. Leestma, USN, and Maj. Robert C. Springer and Capt. David C. Hilmer, USMC.

Pilots will operate the space shuttle orbiter, maneuvering it in Earth orbit and flying it to Earth for a runway landing. Mission specialist astronauts will have the overall responsibility for the coordination, with the commander and pilot, of space shuttle operations in the areas of crew activity planning, consumables usage, and other space shuttle activities affecting experiment operations.

After one year of training and evaluation at the Johnson Space Center, successful candidates will become astronauts and enter the shuttle training program leading to selection for shuttle flight crews.

ANA Award Aviation Structural Mechanic First Class George B. Edwards is the recipient of the Association of Naval Aviation award for the most outstanding contribution to Naval Aviation by an enlisted person in the Naval Air Training Command. The award was based on his outstanding meritorious service and specific contributions to the operational readiness of Training Air Wing One on three occasions.

Two instances involved the management of major safety inspections. Edwards carried out the X-ray inspection of aileron and elevator attaching points on 32 TA-4J aircraft and returned them to operational status in minimum time, thus preventing major setbacks of scheduled training flights. He also expedited the inspection of elevator hinge pins on all 36 assigned T-2Cs, so that the squadron was able to maintain its normal flight schedules while the inspection requirements were going on.

Edwards also directed the on-site repair of a damaged TA-4J which was returned to operational status in 11 days, although the time needed for repairs was orginally estimated to be six months.

Petty Officer Edwards and his wife received an all-expense paid trip to Washington, D.C., where he was presented a plaque and a cash award.

New Phoenix In its first airborne launch, Navy's improved AIM-54C *Phoenix* air-to-air missile successfully intercepted a drone aircraft target, at a greater range than has ever been achieved by the AIM-54A against a target whose radar image was not augmented electronically.

In the recent long-range, high-altitude test firing from an F-14 against a QF-4 fighter drone, the Hughes Aircraft Company radar-guided missile passed well within what would have been a lethal distance of the target if the *Phoenix* had been equipped with a warhead. The test was conducted at the Pacific Missile Range off the coast from the Pacific Missile Test Center. The target drone and the launching aircraft were approaching each other nearly head-on, the F-14 traveling at subsonic speed, with the target moving supersonically. The missile

DID YOU KNOW

operated continuously in the semi-active radar mode in which it guides itself to the target with the aid of radar returns reflected off the target by the *Tomcat's* AWG-9 weapon control system. The *Phoenix* has the capability of guiding itself with its own active radar system when close to the target.

This was the first of 12 test launches planned in the joint U.S. Navy/Hughes engineering development test program.

New ASW Torpedo

Air drop tests with a mock-up of the advanced lightweight torpedo (ALWT) were completed earlier this year at the Navy's San Clemente Island test facility off the California coast. Engineers and technicians from McDonnell Douglas Astronautics Company conducted the tests with the support of the Naval Ocean Systems Center in San Diego and Navy air crews.

The January and February tests demonstrated the aerodynamic stability, parachute retardation and water entry dynamics of the new torpedo. Low altitude drops were made from the bomb bay of a P-3A long-range patrol aircraft. The torpedo's trajectory was controlled by a cruciform parachute. The ALWT is designed for launch by surface ships, helicopters or fixed wing aircraft and is intended to replace the Mk 46.

FLIGHT INFORMATION

The Naval Flight Information Group (NavFIG) is a member of the Navy team to promote Naval Aviation safety. Its function is to provide vital flight information to the Chief of Naval Operations, Flight Information Branch (Op-513). The group reviews, evaluates, validates and disseminates flight information for all Navy and Marine Corps air facilities worldwide, as well as certain host government procedures for which the Navy Department has a need. The eight aeronautical information specialists and air traffic control specialists who perform these functions bring a broad cross section of experience to the task as military pilots, navigators and air traffic controllers.

Many fleet aviation personnel will recognize the functions of the group from the days when it was attached to the Navy Hydrographic Office. However, through a succession of administrative changes, the group was reassigned to the Naval Oceanographic Office, then to Defense Mapping Agency Hydrographic Center, and back to the Naval Oceanographic Office. In August 1978, the Naval Flight Information Group was established under the direct cognizance of the air traffic branch of the Deputy Chief of Naval Operations (Air Warfare), with offices at NAF Washington, D.C., on Andrews AFB.

Directed by Ray Kirsch, the group fulfills its mission through two branches. The instrument procedures branch reviews and approves all instrument approach and departure procedures involving Navy/Marine Corps air stations. The air information and warnings branch is responsible for the accuracy and dissemination of published flight information.

Initially, standard instrument approach procedures (SIAPs) and standard instrument departure procedures (SIDs) are formulated by Navy and Marine Corps air station personnel in accordance with the terminal instrument procedures (TERPS) handbook, OpNavInst 3722.16, and the air traffic control facilities manual, OpNavInst 3721.1. Each procedure, designed to meet local mission requirements, takes into account airspace constraints, ground obstacles to safe air navigation, and airport facilities. After coordination with the affected air traffic control agencies, the package is submitted to NavFIG.

The air traffic control specialists review the procedures to ensure that they conform to TERPS and various OpNav instruction standards. They pay particular attention to the obstacle clearance requirements and to the minimums (descent altitude, decision height and visibility) which are established by the approach procedure; and to obstacle clearing and climb gradients on departure routes. Where peculiar problems exist, they give guidance to station personnel to assure that necessary flight safety standards are maintained. Official approval is then issued certifying that the procedures are acceptable for operational use. This branch also establishes the minimums, in accordance with U.S. standards, for host government procedures used by DOD throughout the world.

The aeronautical information specialists then translate these procedures into graphic form for publication in the appropriate flight information publications (FLIPs). These specialists also collect, evaluate, edit and transmit for publication other types of flight information pertaining to Navy/Marine Corps air facilities, such as data on airfield and en route facilities, special-use airspace, radio aids to navigation, and operational procedures.

NavFIG also reviews and evaluates air traffic control radar video map requests. After validating the data, the branch forwards the requests to the Defense Mapping Agency Aerospace Center for video map plate fabrication. The warnings section receives offshore warning area schedules from various scheduling agencies, collates them and distributes the information to flight and surface operational units via the central NOTAM (notices to airmen) facility and naval message.

The Naval Flight Information Group provides a unique service to the Naval Aviation community. It is a one-of-a-kind organization within the Navy Department, whose goal is to provide whatever assistance may be required to the fleet aviation operational and training community regarding instrument approach/departure procedures or flight information. It should be noted, however, that the degree of completeness of flight information is highly dependent upon the completeness and accuracy of input data received from the using and developing agencies.

Ray Kirsch and his staff can be reached between 7 a.m. and 4:15 p.m. local time, Monday through Friday, at autovon 858-5745/5440/4839 or commercial (301) 981-5745/5440/4839. A call can be directed to the appropriate specialists by indicating whether the caller has a procedural, a flight information or an airspace question, and from where he is calling. The correct mailing address is Naval Flight Information Group, NAF Washington, D.C. 20390. Messages should be addressed to OPNAVSUPPACT FIG NAF WASHINGTON DC.

Mr. Kirsch notes that the group's many transfers have made it necessary to revise various OpNav instructions, particularly the 3721 and 3770 series, to reflect its current address. Annual procedure submissions, flight information revisions or questions should now be forwarded directly to the above address. For prompt SID, SIAP, FLIP, NOTAM and minimum descent altitude information concerning Navy/Marine Corps flights, contact the Naval Flight Information Group directly.

Grampaw Pettibone

T-for-2 Taxi

A T-2C *Buckeye* piloted by a student Naval Aviator (SNA) and instructor pilot (IP) was scheduled for a FAM safe-for-solo check. The brief was completed as scheduled but takeoff was delayed due to late aircraft assignment. Starting was routine, the aircraft was cleared by the final checker, and the IP took control, telling the SNA to complete the takeoff checklist. The student complied, then assumed control of the aircraft and continued taxiing, choosing to remain on the left side of the taxiway.

The IP then directed him to call for takeoff clearance. The student switched to tower frequency, made his request and was instructed to hold short. The student acknowledged.

The instructor encouraged him to add some power to maintain speed while taxiing up the incline to the hold-short line. The IP then became aware that the aircraft was too close to the left side of the taxiway and told the SNA to come right. The student, who had directed his attention back into the cockpit, looked up and tapped the right brake. Unfortunately, the left wheel was already off the taxiway at a point where the shoulder was badly eroded, creating a 14-inch drop-off.

The aircraft came to a stop after the left wing-tip impacted the edge of an adjacent asphalt mat area. The instructor saw fuel leaking from the left wing fuel tank, reported the situation to the tower, and shut the aircraft down.

Grampaw Pettibone says:

Dang it all, this is just plain old dopin' off! The simple truth in this

case is that the IP overloaded an inexperienced SNA, in an attempt to make up a few minutes of ground operation time. The student's attention was diverted from controlling the aircraft. Both flyers failed to properly monitor the aircraft's position on the taxiway until a mishap was unavoidable. Had the IP been more attentive, and applied the right brake himself instead of directing the student to do so, he could have stayed on the taxiway. This violates a Gramps' rule for instructors during taxi: "Don't divert the duty driver with distracting directions and doze while he drifts disastrously into the ditch."

Misaligned Maintenance Misfortune

The mission, although unknown to this crew, was to be an unscheduled A-6E catapult ejection exercise following a 1330 launch. The aircraft, number 505, taxied into position on the number one catapult and was readied for launch. As the catapult fired, the B/N, in his normal procedure, turned his head to observe the left side of the cockpit. He saw the pilot's VDI control box come out of its mount and jam between the stick and the forward instrument panel, forcing the stick full aft. The B/N informed the pilot of the problem. Leaving the catapult, the aircraft immediately pitched 70 degrees nose-up. The pilot was unable to move the stick forward. Realizing the situation, the B/N attempted to initiate ejection with the lower ejection handle, while pointing to the control box with his left hand and transmitting "eject" over the ICS. The aircraft climbed to 140 feet and began a slow right roll. The B/N exited shortly after the nose yawed to the right, at 60 degrees nose-up and 80 kias. The pilot ejected after his third attempt to grab the lower handle. The aircraft continued to roll off to the right, pitched nose down and impacted the water 12 seconds after launch.

Grampaw Pettibone says:

Great sufferin' supervision! Accidents like this make your hair stand on end. One look at this maintenance program revealed more loose ends than a double tub of spaghetti.

On the evening before the accident, a fire control technician (AQ) was directed by his shop supervisor to troubleshoot four discrepancies on aircraft 505, located on the flight deck. The supervisor failed to notify maintenance control that the aircraft was going in or out of work at any time. The AQ corrected one discrepancy, troubleshot another and was working on a third (B/N's VTR control box) when another AQ offered to assist with the fourth discrepancy, a malfunctioning VDI pilot's control box (PCB). They decided to trouble-

ILLUSTRATED BY Osborn

shoot the problem by swapping a good PCB from aircraft 504. The first AQ removed the good PCB from 504 and then went back to work on the B/N's VTR control panel. The second AQ connected the PCB cables and slid 504's box into place in 505 but did not secure any of its fasteners. When he discovered that the swap had not cured the discrepancy, he informed the first AQ but failed to tell him the box was not secured. He left the suspected bad PCB on the pilot's seat and began to assist with the work on the B/N VTR. When this repair proved unsuccessful also, the second AQ left to work on another aircraft. The first AQ now secured the B/N VTR, closed the aircraft canopy, and took 505's original PCB to 504 and installed it.

He informed his supervisor of this action but did not mention the second AQ. A maintenance action form was signed off for the first discrepancy and time was logged against the others.

The supervisor was the only night shift quality assurance collateral duty inspector (CDI). Trusting the work of the technician, he made only a casual inspection of 505's cockpit from the B/N boarding ladder by shining a flashlight through the canopy. Rain showers were falling on the flight deck and he did not want to open the canopy and get the parachute and cockpit devices wet. He knew of the cannibalization but failed to inform maintenance control.

The canopy was not opened again until about one and one-half hours before launch. A thorough cockpit check was never made.

You would think that one of four guys (tech, CDI, plane captain or pilot) would have discovered this loose PCB. Particularly, when this very piece of gear has cost us aircraft and lives before by coming loose on cat shots. It should be considered a safety-of-flight item for CDI and preflight inspections.

Dang it all, gents, this is another costly example of how a job that's only half done is worse than one that isn't done at all. Just how many birds do we dump in the drink before we get the big picture?


NAVAL AIR REWORK FACILITY
ALAMEDA

NARF ALAMEDA

By Cdr. Rosario Rausa

"Customer support is our main task," said Captain Barton L. Smith, "And the fleet is our customer."

As Commanding Officer of Naval Air Rework Facility, Alameda, the captain oversees a civilian work force of nearly 5,000 civilians and an active duty military contingent of 15 officers and 15 enlisted personnel. The facility contains over two million square feet of covered shops in 70 buildings. "We have an organization of considerable industrial might," said Capt. Smith, "and we apply that might to rework of aircraft and related components. We can also send special teams of maintenance specialists to places around the globe to solve problems and make repairs.

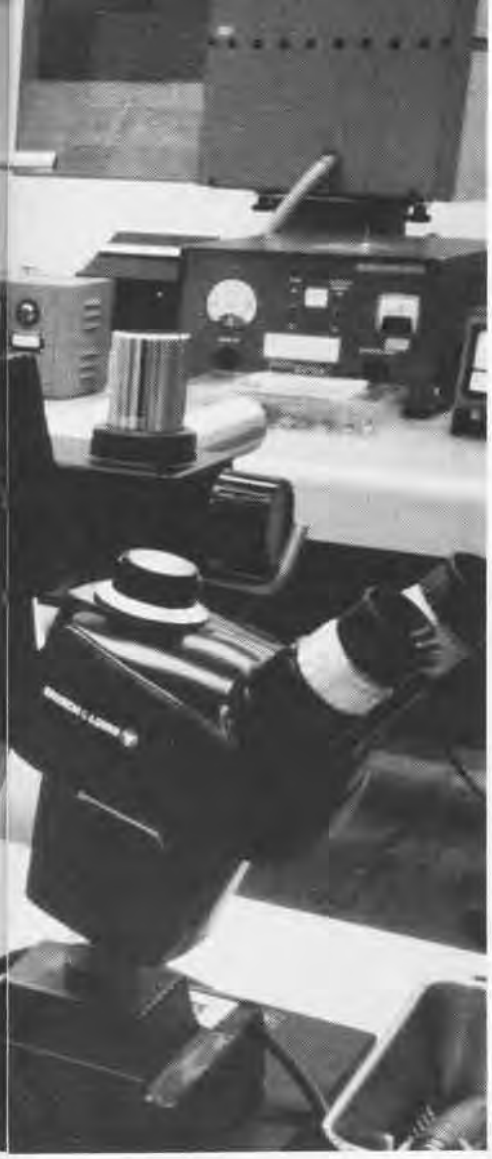
There was an example of that capability recently when a field team was sent to the Philippines to rework a vitally important S-3. "Not long ago," he continued, "a US-3A *Viking* COD aircraft required standard depot level maintenance (SDLM). Trouble was, the operational schedule precluded sending the *Viking* all the way back to the U.S. for the work. We were asked in late January 1980 if a team could be dispatched to Cubi Point in the Philippines to perform the work. We sent our people and equipment and by March 16 the SDLM was completed and the *Viking* was ready for full-scale operations well ahead of schedule."

Flexibility and mobility are key attributes at Alameda. In addition to the special group that reworked the US-3A, voyage repair teams are on continuous duty abroad. They handle a variety of customer needs. Still, the main thrust of the NARF's efforts are focused on repair of aircraft, engines, missiles, and aircraft components at its extensive facilities located on 139 acres of Naval Air Station, Alameda, across the bay from San Francisco. The station is easily accessible by railroad and freeways, and features a deep-water harbor where aircraft carriers, including the Navy's large nuclear-powered types, can be berthed. Another of the NARF's functions, incidentally, is to make repairs and modifications to carrier catapult systems and related equipment.

The NARF, which is NAS Alameda's major tenant, is organized into five directorates under Capt. Smith who, like most of his officers, is an Aeronautical Engineering Duty (AED) Officer. The directorate's overall tasks include management services (Code 03), production (02), quality and reliability (04), all of which are aligned with day-to-day operation of the plant and the handling of financial, production, planning, quality flight test, and plant engineering matters. Other directorates include weapons systems management (05) and NavAir engineering support (07), which are responsible for engineering support for major products like aircraft and engines.

More than 75 percent of the civilians are blue-collar or

NARF Alameda "clean room" employees perform instrument tests. A Viking, fresh out of rework, undergoes night ground check.



wage-grade employees, representing a broad range of technical skills. In fact, there are 160 different blue-collar and 60 different white-collar professions at Alameda, reflecting the variety of talent needed to keep today's naval aircraft and components in satisfactory operating condition.

Capt. Smith pointed out that "there is a growing emphasis on NARFs and what they can do to keep today's aircraft in the air. Funding restraints on new aircraft purchases, coupled with the fact that we have fewer planes now than in the past, dictate the need for updating current assets and modifying them as necessary so that they can continue to meet mission requirements. An important part of our mission is to make these modifications."

In FY 1980, NARF Alameda will have performed SDLM on 142 aircraft; in 1981 that number will increase to 200. In the component program, 80,000 aircraft, missile, and engine subassemblies are repaired annually. They support the fleet through the Aviation Supply Office. About 3,000 missiles and 700 engines, both Navy and Air Force, are reworked each year at the Alameda complex.

All of the Navy's S-3 *Vikings* are reworked at Alameda. Other aircraft which are handled are A-3 *Skywarriors,* which have been around since the early 1950s and, according to estimates, will be flown into the 1990s, A-6 *Intruders,* P-3 *Orions,* and the C-118 *Liftmaster,* another venerable aircraft which like the A-3 continues to perform yeoman service.

Briefly, the sequence of events for reworking an aircraft begins with a thorough inspection of the plane after its arrival from the parent squadron or unit. Certain repair actions are anticipated in advance of induction, but an inspection may reveal special areas needing work. Structural or electrical discrepancies beyond what is normally expected might be discovered, in which case arrangements are made for them. The aircraft is disassembled, examined and its condition thoroughly evaluated. The engine(s) and various components, including hydraulic pumps, sonar instruments, control systems, and "black boxes" are removed and routed to cognizant shops.

The very heart of the rework process includes the disassembly, cleaning, repairing, modifying (as necessary) and reassembly of the individual items while the main structure itself undergoes "rehabilitation." After individual items have been processed, the assembly stage begins. Flaps, ailerons and various control mechanisms are rigged. Landing gear and brake systems are actuated for proper operation. All surface controls are checked and the engines are reinstalled.

Next, the aircraft is stripped and painted, a more complex task than it sounds. In the case of the S-3 *Viking,* for instance, no less than 850 decals — the "no step" and "rescue"-type markings that proliferate throughout an aircraft — have to be put on after the main coats of gray

A-6 during rework.

paint have been applied. The squadrons apply their own insignia markings.

Painting usually takes about a week. The *Intruder,* for example, can be completed in four days, while the *Orion* (which has 750 decals) takes longer because of its size.

Flight test follows during which NARF pilots and aircrews put the finished product through its paces in the sky, evaluating all the systems. Most of the enlisted personnel at the NARF are assigned to the flight check department as aircrewmen.

A computerized master list of aircraft parts and their individual status is available for instant reference. This allows planners and production personnel to accurately track a plane's progress as it journeys through SDLM. Also, an automatic storage, kitting and retrieval system helps maintain positive control over the multitude of parts and components.

Despite having a standardized list of tasks that can be followed for each aircraft, unusual problems often surface during the extensive SDLM process. During examination of a *Liftmaster* inducted earlier this year, a sharp-eyed technician detected what seemed like a miniscule crack in the wing's spar cap. Similar cracks were discovered on some other C-118s. The cracks will take some time to repair, so the C-118s will probably be in SDLM for more than 120 days. Under the circumstances, the additional effort is certainly justified. The discovery also points out how thoroughly trained and motivated the NARF work force is.

The length of time to complete SDLM varies with each model of aircraft. About 13,000 man-hours are expended reworking a C-118 while an S-3 requires 5,200. The other aircraft handled at Alameda range in between these extremes.

In addition to SDLM, the NARF conducts in-service repair (ISR) and in-service modification (ISM). A special rewiring job may be required on an *Orion,* for example. The P-3 could be inducted into the NARF for ISR or ISM rather than an entire SDLM. Such evolutions usually require only a few days once the aircraft is on board. Although they don't fall into the ISR or ISM category, the snow skids used on VXE-6's C-130s are overhauled at the NARF and give an idea of the activity's wide-ranging capabilities.

Generally speaking, aircraft engines are not completely disassembled at NARF Alameda. They do, however, undergo detailed scrutiny. An ultra-violet light mechanism helps detect cracks or pits in combustion chambers and on turbine blades which are invisible to the human eye. Mr. Donald Dugan, who heads the division, explained that "tolerances are much closer in modern power plants. If we don't achieve the proper tolerances, the engine will not provide the proper amount of thrust. We have to be exact."

The engines include TF34s which power the *Viking* and the USAF's A-10 *Thunderbolt II;* the T56 for the E-2 *Hawkeye,* C-2 *Greyhound,* P-3 *Orion* and C-130 *Hercules;* the T56-501K which is a shipboard auxiliary power unit; the TF41 for the A-7E *Corsair II;* the TF30 for the F-14 *Tomcat;* the J52 for the A-4 *Skyhawk* and A-6 *Intruder;* and the J65 for the B-57 *Canberra.*

Engine test cells with monitoring stations adjacent to them give NARF experts precise readings on an engine's performance after it has been reassembled. The test cell allows the technicians to operate the power plant throughout its full range of operations.

Such materials as cobalt and titanium are used extensively in today's engines, and the availability of these materials, especially cobalt, needed for reworking turbine blades and other components, can affect turnaround periods. The average flow time of an engine through rework is 40 days.

In a separate building dedicated exclusively to missile repair, we find the *Sparrow, Shrike* and *Phoenix* guidance

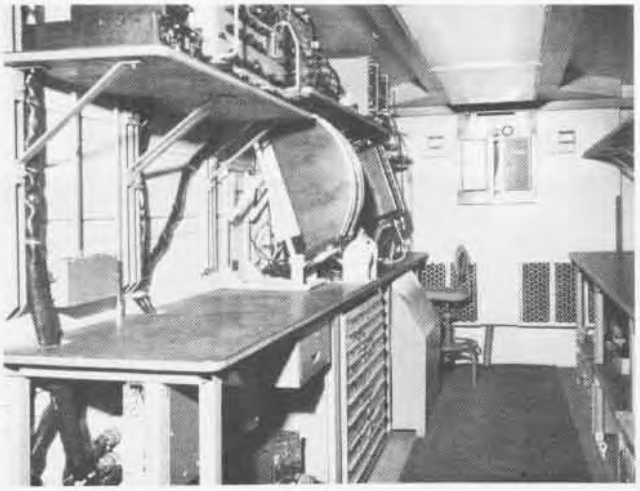
NARF performs maintenance, update and rework of air-launched missile guidance and control systems.

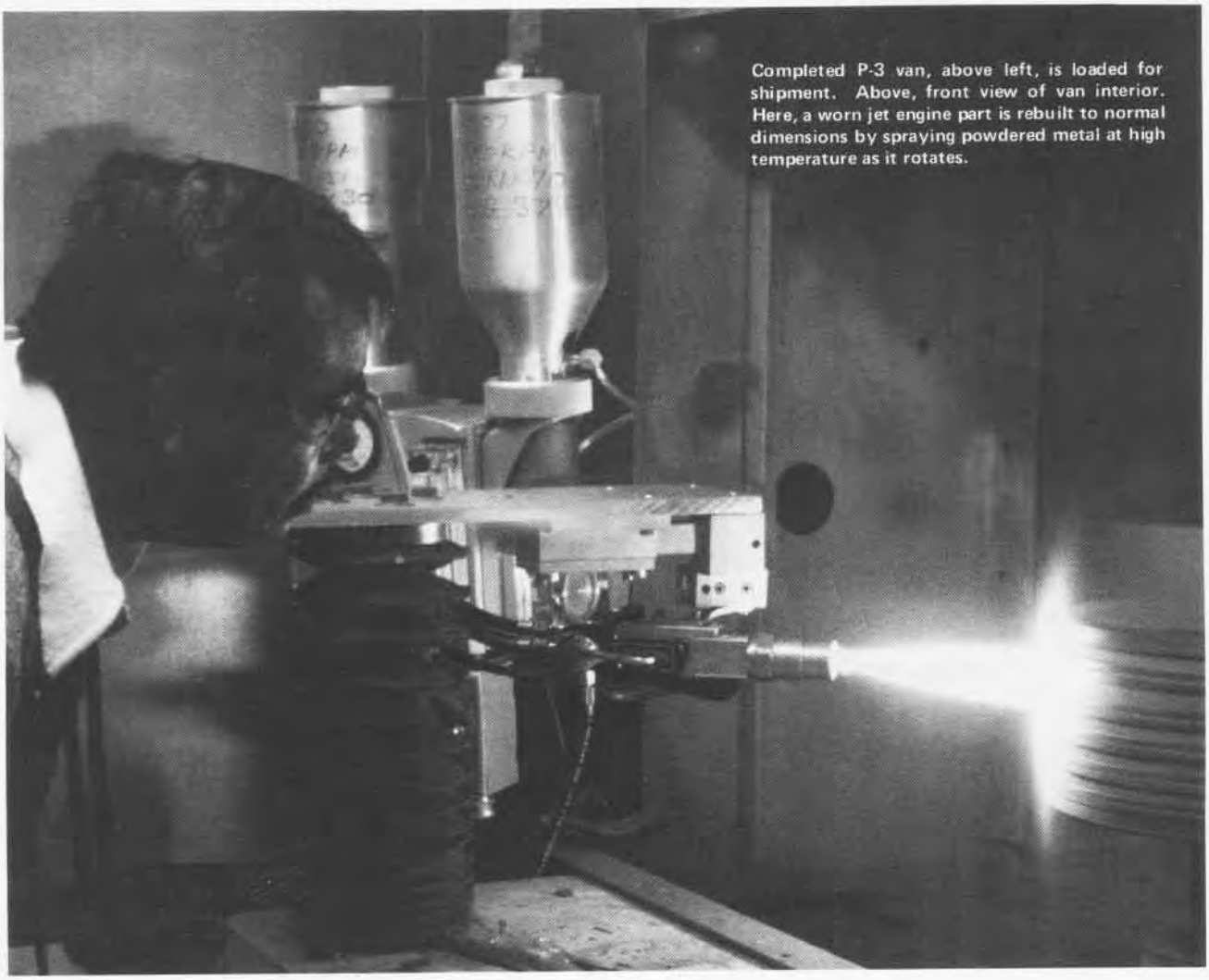
Test check on P-3C acoustic data processing system.

and control shops. The warheads and motor sections of the weapons are removed before shipment to the NARF. The missiles are processed at the rate of about 700 every three months, each requiring an approximately 30-day turn-around. The shop also modifies or incorporates changes on the missiles. With the exception of NARF Norfolk, which overhauls *Sidewinders,* NARF Alameda is the only such organization that reworks missiles. A "clean room" is used for processing the intricate control mechanisms inside the missiles. The facility features vibration test equipment and automatic test chambers for evaluating the weapons after they have been reassembled and before their return to the fleet.

Although not new on the Navy scene, the Basic Mobile Facility (BMF) represents an innovative approach to solving space problems for fleet and shore activities around the world and on the high seas. A building and a trained task force are devoted to constructing these vans, or trailer-like units. The NARF receives the aluminum shells of the BMF from a manufacturer and converts them into maintenance shops, offices, or photo labs. Everything that is installed in the vans is put there by NARF personnel.

The BMFs vary in weight from 7,000 to 18,000 pounds when completed and measure 20 by 8 by 8 feet. They are used in places as far-reaching as the Antarctic and aboard our aircraft carriers in the Indian Ocean. On carriers, BMFs





Completed P-3 van, above left, is loaded for shipment. Above, front view of van interior. Here, a worn jet engine part is rebuilt to normal dimensions by spraying powdered metal at high temperature as it rotates.

Engineers confer on production cycle.

help accommodate the growing need for working spaces associated with today's multimission aircraft. They can be quickly put in place and later removed as units for calibration and update.

"Imagine a barren land where, for one reason or another, a military unit has to be established in a hurry," said one observer. "BMFs can be transported to the scene by trailer-truck, sea, air, or rail and expeditiously arranged in a variety of patterns to satisfy the mission. In the process, a kind of instant station is created." Each BMF has its own set of jacks for leveling and uses external power, normally from an auxiliary unit. When used in multiple groups, they can be butted up against each other and sealed by rubber coverings.

The propeller shop at the NARF handles propeller systems from *Orions, Liftmasters, Hercules, Hawkeyes* and *Greyhounds.* Blades are removed from the hubs, cleaned and examined for cracks or pits and then stripped. The next step calls for anodizing the blades, an anticorrosion measure. In some cases, blades are transferred to the grinding room where pitted areas are smoothed out. Afterwards, the blade thickness and taper is carefully measured. On those blades with anti-icing boots, technicians in the "rubber room" replace heaters (in the boot itself) as necessary, sand down the boots, refill holes, replace old Teflon coatings with new ones and, finally, check the temperature range of the heaters.

The propellers are then calibrated. It is essential that the individual blades weigh precisely the same. Even a minor imbalance in one blade could eventually cause a runaway propeller or other discrepancy during flight operations. Once the balancing is complete, the propeller tip is painted and the whole unit preserved by a special oil.

The hub control mechanisms undergo their own overhaul. They are broken down completely, degreased and cleaned. Each part is replaced or repaired as necessary and the mechanism is reassembled. It is tested and calibrated before being matched up again with the blades and installed on the respective engines.

Amplifying the NARF's capabilities, Commander Bill Ryan, production officer at the NARF, said, "We can make almost anything here. We have extremely talented people and excellent machinery. We have a complete foundry with electrically-controlled ovens, huge metal presses, numerous state-of-the-art, numerically-controlled machine tools, and a broad spectrum of other equipment.

"When the A-6 community ran short of landing gear uplocks and none were available in the supply system," he added, "we were tasked with manufacturing them, which we quickly accomplished."

Another NARF task, less unique perhaps than building uplocks, involves ordnance plugs which convey electrical power to the weapons such as rockets. Because they are exposed to the elements, especially at sea, plugs tend to corrode. The plating shop is devoted to cleaning and replating the plugs with gold, which is an excellent conductor of electricity. The same shop may apply chrome, nickel or cadmium plating on other components.

The NARF can manufacture fiberglass items, rework nose radomes and repair aircraft windshields. In the instruments branch, where detailed maintenance is performed on altimeters, rate of climb indicators and the like, personnel work in "clean rooms" wearing white garments which cover most of their bodies to keep harmful particles from invading the instruments. Most gauges are disassembled completely to the face card. The unsealing, cleaning, remarking of the cards, and resealing is a delicate process calling for as much patience as it does dexterity.

The NARF has an upholstery shop for refurbishing aircraft interior sections, a paraloft for packing parachutes and overhauling aircrew survival equipment. It has a full standards lab for precision-measuring equipment. The lab provides standards for Navywide calibration purposes. Some scientific organizations also have measuring devices calibrated at the lab. Numerous pieces of automatic test equipment are installed in Alameda's avionics repair building. Alameda provides vitally needed software support for automated electronic test equipment in the fleet.

This has been a condensed account of NARF Alameda and the extensive amount of work which is accomplished there on a day-in, day-out basis, year round. The vast network of hardware assets and the skilled people who operate them are dedicated to providing quality services in a timely manner to customers afloat and ashore. In a time of dimin-

Test pilot and avionics engineer check out radio and navigational systems problems in Orion cockpit.

ishing inventories, each aircraft and related component in Naval Aviation must be maintained and serviced more attentively than ever before. NARF Alameda and her sister rework facilities are facing that continuing challenge head-on.

"We are judged on the quality of our product," said Capt. Smith, "and our ability to meet our customers' requirements on time and at reasonable cost. These are challenging goals, and we are determined to achieve them."

Captain Barton L. Smith
C.O., NARF Alameda

Technical Manuals by . . .

NATSF

The adage that a mechanic is only as good as his tools should have added to it". . . and his technical manual." This is especially true when referring to Naval Aviation mechanics. As naval aircraft and weapon systems become more sophisticated and complex, the methods of supporting those aircraft must keep pace.

One unit tasked with providing the fleet with the best aeronautical technical manual support available is the Philadelphia-based Naval Air Technical Services Facility (NATSF), with quality assurance (QA) divisions in Norfolk and San Diego. NATSF's task is not an easy one.

Since modern technology is in a constant state of flux, hardware state-of-the-art is continually being redefined. The ramifications of this ever-changing environment are especially significant in terms of technical manual development, where Navy hardware configurations and configuration changes, vendor source data inputs, and copy freeze dates are major factors in the acquisition cycle.

It is the function of the NATSF technical manual QA organization to deliver to the fleet technical manuals that are adequate and accurate. The existing QA program places a lot of emphasis on what is termed "verification." This is a Navy function performed by teams of technical documentation specialists and fleet personnel in a user environment. NATSF QA divisions, Atlantic and Pacific, conduct virtually every technical manual verification. In 1979, QA divisions conducted 58 verifications which covered 430 technical manuals and involved 210 fleet personnel.

The intent of verification is to provide the user an opportunity to perform maintenance procedures in a fleet environment. Verification teams have to detect errors and judge the validity of technical content in the manuals. Technical data accuracy, readability and completeness are the responsibility of the contractor. The emphasis in quality assurance must be at the "front end" of technical manual development.

In other words, the contractor quality program needs to be strengthened to ensure early detection of errors or potential problem areas during the actual development of the manual, rather than after the manual has been delivered. Small problems must not be allowed to develop into large ones.

In the past few months, NATSF QA people, working together with their counterparts at various Naval Plant Representative Offices, have conducted technical manual quality reviews with three of the aerospace industry's largest contractors. Quality Program Requirements (specification MIL-Q-9858A) was used as an assessment criterion to evaluate each contractor's quality program. The results of the reviews provided real evidence that many important functions in technical manual development receive little attention. One of the conclusions emphasized the role of "in-process review" and "validation" in technical manual development.

In-process review (IPR) is a coordinated monitoring, by the contractor and the government, of technical manual preparation, in the draft stage. The IPR addresses the contractor's most common problems relative to manual style, format, specification conformance, and adequacy of the data, based on the maintenance philosophy. While these areas should and will continue to be addressed, a greater emphasis will be placed on assuring completion of manuals which meet quality requirements in terms of adequacy and accuracy. Also, greater attention will be paid to technical content in an effort to identify data deficiencies while corrective action is still economical.

Validation is the responsibility of the contractor and is performed to ensure that accurate and adequate technical manual content exists for support of the weapon system. Front-end validation is essential to the development of an accurate, usable technical manual. QA personnel must become more intimately involved in the actual validation procedure. Government QA personnel will witness and evaluate maintenance procedures in conjunction with the contractor to ensure identification and correction of existing mistakes before the manual is delivered to the fleet.

A study performed by NATSF confirmed that improvements in technical manual quality could be obtained through early application of QA techniques. Accordingly, NATSF is currently promulgating quality assurance documentation to support the front-end approach. Military specifications, handbooks or work guides, and quality assurance letters of instruction will be implemented in contracts procuring NavAir technical manuals. Increased emphasis will be placed on the contractor's development of a QA plan, in-process review and validation.

In an age in which adequate tools are required to deal with the complex hardware of modern technology, NATSF is striving to provide the fleet mechanic with the best possible tool — an accurate, usuable technical manual.

Jim Larsen


NAVY
U.S. NAVY

CNO SPEAKS OUT

Chief of Naval Operations, Adm. Thomas B. Hayward, spoke with Naval Aviation News recently about current and future issues of interest to our readers.

NANews: Has the Naval Aviator "migration" to the airlines and the civilan world abated? If so, why?

CNO: Airline hiring rates have declined steadily during the past couple of years from 4,100 in 1978 to 3,400 in 1979 to what is projected to be somewhere around 1,300 this year. Because of the economic situation, many airlines are not hiring at all, and some are laying off the more junior people they took on during the past several years. This trend will help our pilot exodus problem but we still have a very significant loss rate in Naval Aviation which must be turned around. It will take a combination of factors to do so.

Clearly, improved compensation is the one which is on most people's minds these days. That certainly is important and is one of my leading goals. At the same time, I don't want anyone to underplay the importance of leadership and the responsibility of squadron commanders and other senior people to run their squadrons right, to motivate our people, and work vigorously and sensitively toward the solution of their problems. Intelligent scheduling, building esprit de corps, reducing unnecessary paperwork — all these are important, too.

This is not a simple problem, and it is not "the other guy's" problem — everyone in the chain of command has a piece of the action, and we won't solve it until everyone realizes that. On the positive side, the quality of aviators we do have is just superb, some of the best the Navy has ever produced. I recognize my responsibilities in trying to keep them on the team, and I am working hard to solve the aspects of the problem which lie here at the Washington

Photos by Dave Wilson

level. I need a lot of help from squadron COs and others in the chain of command, however.

If we have a prolonged "hot spot" in the Indian Ocean, where a large-size naval force must be maintained, are we diluting our strength elsewhere in the world?

In terms of "peacetime" deployments, yes. We have had to draw down on our forces in both the Western Pacific and the Mediterranean in order to maintain the force we have in the Indian Ocean. This naturally leaves gaps in our power in those areas and, given the size of our Navy today, we cannot "stretch" the rest of our forces to maintain the same level of peacetime forward deployers as before without serious degradation of material and personnel readiness.

If a higher state of defense readiness condition is required, we can always sail more ships from CONUS and cover the "hot spots."

As a practical matter, we are stretched thin as a Navy right now, both in the number of our ships and the sacrifices being asked of our people. We recently had *Nimitz* return from the Indian Ocean after having been at sea for 144 consecutive days without hitting port. That's longer than we did it in Vietnam by a long shot, and even longer than we did during World War II, and is one of the best examples I can think of about how far we are stretching ourselves right now. I would add that our people out there have been doing a whale of a job under these conditions. They deserve all the credit in the world for the job they've been doing.

Under the circumstances of maintaining such a large force in the Indian Ocean, can normal rotation of ships and people be achieved?

Not altogether, but there shouldn't be a need for any major perturbation. There are a lot of good reasons for trying to maintain as close to normal a tempo of operations as possible, and that's taking into account that "normal" involves considerable family separation and long periods at sea. While meeting our overseas commitments, we have to seriously consider both the needs of our people and the material readiness of the units involved. We also must have the time to train, work up, fix gear and do all the other things which are important to a ready fighting force.

In those instances where there is a special need to extend a deployment, as has happened in the Indian Ocean, then of course we'll do it. But all extensions get a hard look by the Fleet CinCs and I review the more significant ones in Washington. They are made only after being measured against the tough yardstick of the nation's vital interests. Surely we all agree that, when the vital need exists, the U.S. Navy will always be there, ready and eager to show its stuff. After all, that's what the Navy is all about, isn't it?

Do we have technological superiority over the Soviets (assuming we do not have numerical superiority)? (Soviets have 30 percent more combatant ships than we do and are outbuilding us. Also, we have one-half the number of carrier air wings we had 15 years ago.)

Yes, in most areas. Technological and qualitative superiority is what we have depended on, and will continue to depend on, given the numerical superiority of the Soviets in several areas. But we cannot take our present technological preeminence for granted because the Soviets are working hard to catch up; so it is a constant race which requires that we put the right amount of money into research and

development every year as an investment. Given the continuing growth in the sophistication of the Soviet ships, aircraft and weapons systems, we have no choice but to build systems of our own which are faster, smarter, tougher and better.

Going for quality rather than quantity does give you numbers problems. That is, the ability to have the Fleet spread around in different places worldwide to meet the increased commitments we have today. It would be nice indeed to have more of the kind of ships and aircraft we have today — tough, capable units — so we could meet those commitments more easily. It is just as important to me, though, that the units we do have can take the measure of any other naval force in the world they might encounter on the high seas. The phrase "going in harm's way" has great relevance here. If you haven't got the punch and survivability to handle your competition, then you haven't saved anything by building cheaper ships and airplanes. In general, I think we have made the right decisions in the past and expect that we will continue this way. An airplane like the F/A-18 is designed specifically to give us both quality and number.

Do the Soviets (respect or) fear U.S. Naval Aviation and sea-based aviation or do they feel confident they could "take" us?

A good look at the Indian Ocean right now will give you a feel for the relative import of Naval Air. No one, including the Russians, doubts our ability to overwhelm any naval formation or air power in the area, if we need to. Our margin of superiority over the Soviets is largely vested in our carriers and the carrier aircraft. The Soviets know this, certainly, and want to do something about it. They are now in the aircraft carrier construction business, and while they have a long way to go from the standpoint of technology and know-how, they recognize the need for manned tactical aircraft at sea if they are to have a Navy which can successfully challenge us at sea in the years ahead. My objective, in working hard toward getting Congress to adopt the Five-Year Shipbuilding Program proposed in the 1981 budget, is to ensure that we maintain the building rates which will enable us to maintain our edge of superiority.

Where will we get fuel (in the future) to power the carriers and their aircraft plus all other airborne assets? Are we "on top" of this problem?

The Department of Defense overall uses about one percent of all the petroleum products consumed in the United States, which means that our availability of these products is tied to national policies and other factors which affect the country as a whole. One thing for certain, petroleum is never going to cost less than it does now, which means that it will continue to have a very significant impact on our budgets. We are, of course, looking to every possible way to conserve energy without degrading operational effectiveness, and have done a lot up to now. I believe that we will have the proper amount of fuel for the next decade or so, because it is a national priority and an element of the national defense, and the leaders of this country and our people recognize the need. Beyond that, the crystal ball gets a lot fuzzier. The day will come, perhaps during the careers of many of you, when petroleum scarcity will have a major impact on warfare. Of course, it will have already forced a major change in worldwide economies before that.

In the future, is it feasible to expect approval of expansion beyond the 12 existing carrier battle groups?

Absolutely. I have often stated that 12 carrier battle groups are the minimum this country needs. Events in the Indian Ocean and our need to keep significant force levels there for some time underline the fact that our commitments are heavy and our forces stretched thin even in peacetime.

At present we are looking at a wide variety of methods of putting more aircraft to sea on a wider range of ship types, thereby expanding our capability and flexibility but that, too, is down the road. Much depends upon how much progress we make in VSTOL/STOVL development. I am anxious to see much more done here than the Congress has been willing to support. In the long run, it seems to me that catapults and arresting gears are liabilities which we ought to try to do away with. Only time and money will tell. I have been pushing hard to gain additional aircraft procurement funds in the Navy budget and will continue to do so as long as it takes. Adequate spares are an important part of that equation, too, and we are vigorously pursuing funds for those as well.

In a time when most Americans must lower their standard of living just to keep their financial heads above water, how do you, as CNO, try to convince them how necessary it is to increase defense expenditures? Or is that up to the President and Congress?

Well, I suppose that all goes back to perspective and priorities. First, perspective. We are spending considerably less of our gross national product for defense now than we did 20 years ago when the threat was considerably less. While the budget looks big in dollar terms, most of that perception is the result of the damaging impact of inflation. Purchasing power is what counts, and that has been declining for the most part. What we need is a steady dose of six to seven percent GNP devoted to defense, not the five percent or less we have seen over the past several years.

Then there is a matter of priorities. If you believe that the first duty of a government to its people is to ensure their safety and security, then you'll agree we must provide the means to enable our government to do so. If our government is unable to protect the interests of our people from outside domination or even significant economic and political coercion, then we are in a pretty poor posture. The best way to prevent war and its awesome destruction and loss of life is by maintaining forces which will dissuade a potential enemy. The cost of this insurance, when compared to the alternative, is miniscule. Given the aggressive history and recent moves of the Soviet Union, it is not hard to see that we need a viable defense. There is no doubt in my mind that the American people will support such defense, even in difficult economic times.

No one seems to question the quality of the enlisted personnel in our Navy/Marine Corps flight crews. However, in view of the retention problems service-wide, should we expect a degradation in that quality?

No, because I fully expect us to solve the retention problem. Some of the best enlisted people in the Navy are in our flight crews, and there's no question in my mind that these are the same bright, hard-charging people that industry wants. This is an age-old competition – it's not new. The reason we have the more senior people we do is because they *want* to be in the Navy; they *want* to fly in Navy aircraft; they *like* their work and its rewards. Compensation is the big retention issue, of course. Not the only one, but the largest. And I'm hopeful that the future will bring the beginning of a move toward equitable compensation.

A Rare Bird

By PA2 Michael L. Boursier, USCG

Thumbs up, signals the ground crew at Coast Guard Air Station, Cape Cod, Otis AFB, Mass., as two large engines crank the antiquated props of a dying breed of aircraft. Taxiing on an old familiar Otis runway, the HU-16E *Albatross* stirs up a strong vibration.

Aboard, the pilot and copilot complete the checklist. Making sure everything is secure, including the eight passengers, a crewman gives the "aft station ready for takeoff" call to the aircraft commander. Complete with packed parachutes, water jug, flight vests and a cooler holding box lunches, the HU-16E is a flying workhorse.

The plane is brought to a stop while the pilot gets clearance. As he pushes the throttle forward to 51 inches of manifold pressure and eases off on the brakes, the *Albatross* rolls ahead. The pilot slowly raises the nose and flies off, roughly 3,000 feet down the asphalt stretch. At approximately 120 knots, 500 feet above ground and after the wheels are retracted "into the well," he reduces power and begins the climb-out.

The Coast Guard had 88 of these 1950s-vintage seaplanes, but only six are still in use. They have flown more than 500,000 flight hours since their Coast Guard service began in May 1951. At various times, they have operated as Air Force SA-16s and Navy UF-1s (later designated HU-16s), as well as with the flying services of foreign governments.

The HU-16 or *Goat,* as it is affectionately known to Coast Guard aircrews, may not be as sleek as many modern planes but it has served its purpose well. Since it began as a search and rescue aircraft, it has set nine world-class amphibian records, including a nonstop flight in October 1962 from NS Kodiak, Alaska, to NAS Pensacola, Fla.

Designed by the Grumman company shortly after WW II, the amphibious aircraft features a boat-type hull, enabling it to make water landings. Lieutenant Junior Grade Ted Ohr, an *Albatross* pilot, said, "These planes have the capability to land in the water but, because of the corrosion factor on an old frame, we make a water landing strictly an emergency procedure."

The aviation machinist's mates who work on the *Albatross* are instrumental in keeping the 32,000-pound plane in the air. Coming from Coast Guard Aviation Mechanic School in Elizabeth City, N.C., they train to repair the aircraft's 1,425-horsepower engine. Fifty-five enlisted personnel and 16 HU-16 pilots are assigned to Otis.

On April 1, 1980, the last six *Goats* had only 7,215 service hours left, foreshadowing the end of an era for a rare bird.

PEOPLE·PLANES·PLACES

Relocation

On April 28, most of VA-45's personnel arrived from Cecil Field for permanent duty aboard Key West. The squadron's relocation provides a partial solution to the current imbalance of air assets at Atlantic Fleet naval air stations and is part of a long-range redistribution plan. The move reduces overcrowding at Cecil Field and fills a gap created at Key West by the disestablishment of the RA-5C squadrons. VA-45 joined VAQ-33, which arrived at Key West last March.

Rescue

An afternoon jog aboard *Constellation* nearly ended in tragedy for Ltjg. William Keeney of HS-6, but the quick thinking and professionalism of *Connie's* crewmen saved his life. Keeney was rounding the flight deck when a sudden blast of exhaust from a parked A-7 hurled him 60 feet into the choppy mid-Pacific Ocean. The stunned helicopter pilot's frantic efforts to attract attention were noticed by SN Joe Edinger. He threw a life ring into the water and called "man overboard." HS-6 pilot Lt. Stephen Cox and copilot Ltjg. Dan O'Brien were launched in an SH-3H within 10 minutes. After locating the victim, AWAN Steve Wheeler, a wet swimmer aircrewman, was hoisted down. He swam 35 yards through swells to reach Keeney, who was holding on to a stray bag of garbage to stay afloat. Both men were hoisted aboard the helo and returned to *Connie*.

Awards

The *Garudas* of VAQ-134 aboard *Nimitz* recently won the Eye in the Sky Award, which recognizes the CVW-8 squadron that has taken the most and best airborne photography durings its missions. VAQ-134 totaled 1,485.2 points for the grading period from February 15 to March 27, 1980.

Honing the Edge

The F/A-18 showed off its arsenal recently during a weapons-loading demonstration at Pax River. All 11 test *Hornets* and one production aircraft are currently flying at NATC and at the McDonnell Douglas flight test facilities in St. Louis. Weapons visible in the photo include the 20mm Vulcan cannon, AIM-7F *Sparrow* and AIM-9L

Sidewinder missiles, flare dispensers, rocket launchers, advanced fuel-air explosives, and *Rockeye* and other bombs. Other *Hornet* weaponry not shown include *Walleye, Maverick, Harpoon* and *Harm* missiles and laser-guided bombs. The first *Sparrow* missile launched by a *Hornet* scored a direct hit on a drone during a recent test at NATC Patuxent River.

VA-127, led by Cdr. J. A. McAuley, deployed to Davis-Monthan AFB to provide dissimilar air combat training to the students and instructors of the Air Force's 333rd Tactical Fighter Training Squadron. Four *Skyhawks* flew 51 sorties in four and one-half days, providing the *Thunderbolt II* pilots with in-flight and ground instruction in air-to-air tactics. LCol. Tony Veal, 333 TFTS C.O., called the training "the finest, most professional aggressor support ever experienced by his *Lancers*."

Sea Cadets

Twenty-four Miami Naval Sea Cadets trained aboard Key West last April. Led by LCdr. Donald D. Brammer, the Miami division toured the air station's AIMD, air operations, weather facility, VF-171 and VAQ-33. The NAS search and rescue team simulated a water operation and rescue (in photo), and then flew the cadets in its SH-3G, all as part of the group's aviation orientation program. Several cadets were assigned to the air traffic control office while others assisted personnel in the Naval Oceanographic Detachment Center.

Et cetera

Nine HM-14 personnel took part in the Key West Last Resort Marathon while the squadron was on deployment. The race is a yearly event and is used to raise money for the local YMCA and Florida Keys Marine Institute. The *Vanguard* runners who competed in the 10,000-meter event were: C.O. Cdr. T. H. Hoivik, X.O. Cdr. F. T. Massey, Lt. Jim Haggart, Ltjgs. Dan Hartwell and Norm Edwards, AMS1 Bob Horst, AE2 Frank Ramirez, and OS2s Bob Ford and Bill Hall.

On a recent visit to Perth, Australia, *Midway* was visited by Miss Australia 1980, Eleanor Morton. The newly crowned beauty queen and her entourage were welcomed as they entered VF-161's spaces. *Chargers* Lt. Dave Bryant, left in photo, and Ltjg. Al Downer pose with Miss Morton at a farewell party.

Maj. Gen. Robert E. Kelley, USAF, recently flew in a *Buckeye* belonging to VF-126, Miramar. The general received a special briefing from LCdr. Gordon Stewart on the squadron's out-of-control flight program which covers the aerodyna-

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mic theory of out-of-control flight, controls, inputs required for recovery and the ejection seat system of the T-2C. In photo, Maj. Gen. Kelley (in cockpit) and LCdr. Stewart discuss aircraft procedures prior to takeoff on demonstration flight. The general is commander of U.S. Air Force Tactical Weapons Center, Nellis AFB.

This odd-looking aircraft was recently off-loaded from a Navy barge which carried it from Norfolk, Va., to a pier adjacent to NANews' editorial office at the Washington Navy Yard. From there, the historic XFY-1

VTOL aircraft was transported to the National Air and Space Museum's preservation and restoration division at Silver Hill, Md. The 36-year-old "Pogo" had been in its vertical position on display at Norfolk for more than a decade.

After receiving her wings last April 18, Ens. Elizabeth M. Toedt became the first female Naval Aviator to enter into the Order of Daedalians. The organization is predominantly an Air Force aviation group headquartered at Kelly AFB, Texas. After training in VT-28 at Corpus Christi, she reported to VRC-30, Alameda.

Change of Command

CVW-8: Cdr. Frederick L. Lewis relieved Capt. Robert H. Ferguson.

CVWR-30: Cdr. James B. Hamilton relieved Capt. H. David Alexander.

HT-18: LCol. Robert G. Clapp relieved Cdr. Gary L. Kochert.

MABS-32: Maj. Charles E. D. Stewart relieved LCol. John E. Meade.

NAEC: RAdm. Allen D. Williams relieved RAdm. William L. Hinkle.

NAS Dallas: Capt. Ren E. Stedman relieved Capt. Tommy F. Rinard.

VA-27: Cdr. James S. Zayicek relieved Cdr. James W. Partington.

VAQ-136: Cdr. Barry N. Jeffers relieved Cdr. Dean E. Sloan.

VAW-117: Cdr. J. W. Law relieved Cdr. R. L. E. Prath.

VF-124: Cdr. Gary Hakanson relieved Cdr. Jerry Unruh.

VP-19: Cdr. Howard R. McDaniel relieved Cdr. Paul C. Moessner.

VP-49: Cdr. Michael A. Nash relieved Cdr. Joseph C. Payne.

VP-50: Cdr. Jerry F. Huss relieved Cdr. John H. Grotenhuis.

VP-92: Cdr. William D. Dobbs relieved Cdr. John A. Wills, Jr.

VQ-3: Cdr. R. G. Niederstadt relieved Cdr. D. S. Thompson.

VRC-40: Cdr. Eugene B. Bieraugel relieved Cdr. Jerry L. Wright.

VS-38: Cdr. Richart T. Myers relieved Cdr. Don W. Baird.

VT-22: Cdr. Jon Dekker relieved Cdr. Ross Underhill.

VXE-6: Cdr. Victor Pesce relieved Cdr. David Srite.

TOUCH and GO

Military Posture today

Two Lemoore naval officers have launched a campaign to inform California's San Joaquin Valley residents about the disparity between Russia's current military buildup and America's declining military superiority.

Lieutenants Gene Pache and Kim King, ComLAtWingPac staff, offer military and civilian audiences what they call "the much needed truth" about U.S. military posture today.

"Most people don't know what our military situation is because they don't have the time to read and analyze all the necessary information," Lt. King explained. He added that the information they present is available through the media, but is usually buried under headline-getting social news.

"The government constantly updates the current inflation rate," Pache said. "But the fact that we are facing an immense Soviet threat rarely makes it to the front page." The reason the U.S. is falling behind in military strength, Pache said, is because there is diminished support of the military these days.

Pache and King, both Naval Academy graduates, have given their presentation to military personnel of NAS Lemoore and to interested civic organizations in California's central valley, on a collateral duty basis. Pache serves as aide to the wing commander. King is the wing's intelligence officer.

Their presentation discloses little known comparisons of U.S. and Soviet Union military might. Examples range from the number of ships each country has to interpretations of the *Communist Manifesto*. The policy of naval supremacy as it relates to each country is also examined. Audience reaction, they related, ranges from snock and frustration to anger.

"Most people ask why they haven't heard of this before," said Pache. "Some wonder if we're telling the truth," King added, "We're just giving them straight information. I feel this is the most dangerous decade in our history and people should know it."

Both men have spent many off-duty hours researching, writing, refining and updating their material. Their goal is to provide information.

PH1 Richard J. Boyle

GMU-41 Sole Unit

Serving the Navy in a unique way, Guided Missile Unit 41 (GMU-41) is the sole remaining unit of its type in the Navy today.

A tenant activity at Point Mugu, GMU-41's 45 enlisted personnel are specialists who provide on-scene support of air-to-air missile tests at NAS Miramar and Point Mugu, and MCAS El Toro and Yuma.

"Our men are always on travel," says Lieutenant Andrew Stich, officer in charge, "to ensure that the missiles and the aircraft are interfacing correctly. Sometimes this requires temporary sea duty aboard the aircraft carriers *Constellation, Coral Sea, Ranger* or *Kitty Hawk*."

GMU-41's aviation electronics technicians, aviation fire control technicians, and aviation ordnancemen use their expertise to service AIM-7 *Sparrows*, AIM-9 *Sidewinders*, and AIM-54 *Phoenix* missiles. "Because our work is so specialized, each person is required to know more than what is normally expected of his rating. There is a lot of cross-training," says Lt. Stich.

In addition, GMU-41 has men stationed at range operations during flights to monitor and record flight telemetry of the various missiles. Upon completion of the flight, telemetry is analyzed to determine if the missile came within an effective distance of the target.

"If something malfunctions we can analyze the data for failure information," adds Lt. Stich. Information which GMU-41 collects from tests and training exercises is used for design development and rework of guidance and control systems.

Commissioned in 1953, GMU-41 was initially assigned the task of supporting Air Test and Evaluation Squadron Four (VX-4) at Point Mugu in their operational and environmental testing of air-to-air missiles. GMU-41 now also provides technical and telemetric data on various missiles to Navy, Marine Corps and Air Force squadrons during training exercises.

With seven of the original eight GMUs now gone, GMU-41 remains the only Navy unit to provide support for air-to-air missiles.

A-7 Recovery

By Ensign L. C. Rutledge

Midday on February 12, 1980, an A-7E *Corsair II*, home-ported at NAS Cecil Field, Fla., experienced engine trouble. The pilot ejected and was rescued, unharmed, less than an hour after his aircraft plummeted to the ground. There was a routine investigation but the problem of recovering the wreckage from an obscure swamp about nine miles north of Moody AFB, Ga., proved to be anything but routine.

On paper, it appeared relatively easy to recover the aircraft fuselage and the engine, which had separated from it in the air. But in reality it took the cooperation of "small units who pulled together with a handful of personnel," according to Lieutenant "Mac" McDaniel, officer-in-charge of Cecil Field's explosive ordnance disposal (EOD) team.

Those who participated in the salvage were the EOD team – HTCS Max Owens, EMC Walt Kaiser and AD1 Brian Spurger; six members of Construction Battalion Unit (CBU) 410, led by Lieutenant R. D. George; the search and rescue crew who flew a CH-46 from NAS Jacksonville, Fla.; and the Army National Guard sky crane crew.

The recovery of the aircraft began in a conference room, where various solutions were considered. The Seabees and the EOD team made the first trip to the site to survey the situation. EOD divers searched for engine parts in a 20-by-20-foot muddy hole, by hand as well as with metal probes. At the fuselage site, the EOD team searched for possible hook-up points on the plane's body and checked to see if the wings were intact.

Meanwhile, CBU-410 decided that it would be quicker to fabricate a modular, air-transportable lifting apparatus which could be assembled at the swamp, than to build a walkway from the nearest road, over 800 yards away.

The NAS Jacksonville public works department designed a crane with a lift-load capacity of 10,000 pounds. Other equipment included a shelter, fuel drop tanks on which to construct the crane (using local materials) and plywood walkways to facilitate movement to and from both sites. The mire was six inches deep in some places, with unexpected chest-deep holes scattered about.

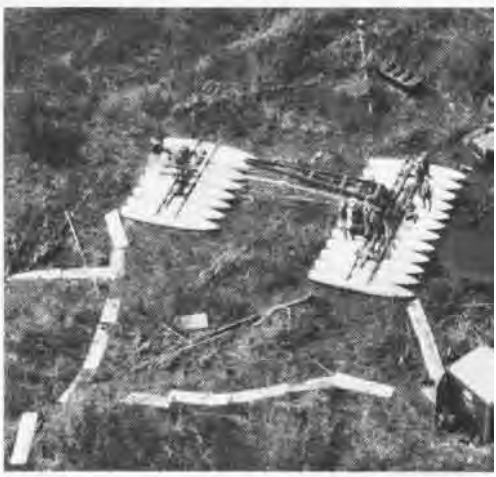
The first real breakthrough during the operation came at the end of a long day when tired bodies ached to board the helo back to Moody AFB. EOD member Spurger had succeeded in hooking a cable into a two-inch-diameter hole on what he thought was the engine. During the next hour, everyone watched the cable links inch their way upward at about one link every 10 minutes.

In a last ditch effort that day, a come-along, or clamp, was secured to the engine, which added another 4,000 pounds of strain to the newly constructed crane. To everyone's delight the engine slowly appeared above the murky water line.

EOD divers continued to search for any small components which could be missing links in the investigation. Finally, they detonated a 55-pound TNT bomb in 12 feet of mud, blasting the debris up and out, and the last remaining engine parts were recovered.

The Seabees worked a few more days at the fuselage site before they were able to lift the aircraft out of the swamp. The right wing was removed first, followed by the left wing and the fuselage. Divers had to maneuver in shoulder-deep water to attach slings under each section of the plane's body. The fuselage had to be lifted up on one of the crane's pontoons to prepare it for removal by the National Guard's sky crane. EOD divers then scanned and probed the fuselage area for the last bits of metal.

The return of the aircraft parts and lifting apparatus to NAS Jacksonville marked the completion of the salvage operation, and the beginning of a tedious job for the accident board to determine the cause of the crash.



Early Encounters

By Carlton D. Palmer, NA #116

Mostly, this is a story of early Naval Aviation, of the first carrier operations, of flying off the turret of the battleship *Texas* before installation of a catapult, of the unreliability of World War I aircraft engines, of the many dead-stick landings in those early days, and of the rigid airship *Shenandoah's* almost-trip to the North Pole. It is a short account by the now 88-year-old Naval Aviator #116 who had those many interesting experiences.

In 1912 I joined the Navy and was sent to the Brooklyn, N.Y., Electric School. Upon graduation a year later, I transferred for duty to the Arlington Navy Radio Station, just outside of Washington, D.C. It was the largest radio station in the world and remained so for many years. Its 600-foot towers and 100 and 250-kw transmitters were large, even by today's standards. I handled traffic with such places as the Panama Canal and Alaska and many stations along the Atlantic Coast from Maine to Key West and New Orleans.

There was no voice radio; no radio stations. Yet one morning while I was on watch in the soundproof receiving room (walls two-feet thick with eight-inch thick doors), I heard beautiful music in my earphones — "Alexander's Ragtime Band." At first I thought it was probably a band or phonograph playing just outside. But when I took off the earphones, the music stopped. When I replaced them, it started again. I reported this to the commanding officer, Lt. Woodworth, who put on the earphones and listened, but didn't hear anything. The music had stopped. He walked out shaking his head. Later, other operators made similar reports and we learned that we had listened to some of the earliest experiments in voice radio.

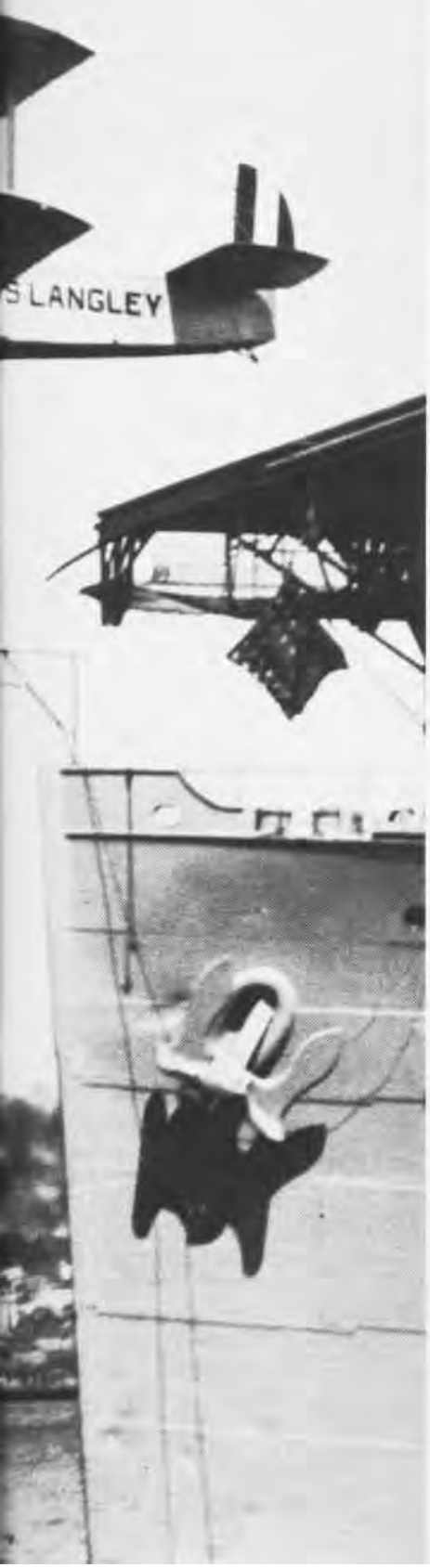
I was ordered to a Navy ship on her way to Mexican waters during the Pancho Villa episode (sometimes called the 1915-16 war with Mexico).

The weather was hot and humid and our ice machine broke down. All our meat and frozen food supplies spoiled and had to be thrown overboard.

About this time a letter came from the Navy Department asking for volunteers for Naval Aviation. At that time, the Navy had less than 50 aviators and about 10 airplanes that could fly. Being "fed up" with the miserable shipboard duty, I decided that Naval Aviation couldn't be any worse. I asked for a transfer, and six months later it was approved.

Early in 1916, I arrived in Pensacola for flight training and was soon put in charge of the radio school. In those days, aviators had to learn to transmit 20 words per minute in continental code.

My flight training started in midsummer. I received my wings and was designated Naval Aviator #116 in early



DT leaves Langley.

1917. I soon transferred to Naval Air Station, Hampton Roads, where I became a test pilot for the Electronic Laboratory. I also made regular submarine patrol flights after we entered the war. I never spotted a German submarine; however, one nice sunny day while about 100 miles off the coast, I spotted a submarine which did not have the required U.S. identification marks (they were changed weekly) painted on her deck. I had two 50-lb. bombs with me, and either one would have sunk that sub – with a hit or a close miss. But because I couldn't believe that a German sub would just sit there without its guns being manned, I circled several times, gradually descending enough to identify our bluejackets.

Later, during a conference with our submarine officers, I described the episode. The sub commander replied that he had seen me but wasn't afraid because he didn't believe I could hit him. Furthermore, he didn't believe the bombs would sink the sub if they did hit it – an example of early naval estimates of the effectiveness of Naval Aviation.

During the latter part of WW I, I was stationed at the Anacostia, Washington, D.C., air station. While there, I persuaded the Army air station, just across the field, to let me qualify in landplanes. (Very few Navy pilots had any experience in landplanes at that time.) This experience later proved valuable.

The first time was in 1919 when I flew landplanes off the forward turret of the battleship USS *Texas*. (Each battleship was to have its own airplanes for use in spotting targets for its long-range big guns.) We built a 51-foot-long wooden platform over the upper forward turret and made many flights under our own power. (Catapults had not been developed.) We had two Sopwith *Camels* and one Sopwith two-seater. We never had flying speed when we fell off the end of that short runway, but we picked up flying speed as we fell toward the water. Much to everyone's surprise, no one was ever hurt. But I know at least one of us who was slightly scared every time he did it. Four of us made those flights: Eddie McDonnell (a tough, but very fair skipper), Haviland, Wardwell and myself. We couldn't land on the ship so we had to land ashore. All of the flights were made in the vicinity of Guantanamo Bay and, because no landing field was available, we landed on a nearby tidal flat. I was assigned the job of getting the aircraft back to *Texas*. On our first attempt we were to land one of the airplanes near the beach where a sizeable number of sailors from *Texas* would meet us and lift the airplane onto a motorboat. On one flight, the skipper had the controls; I was in the back seat. As we flew into the very small tidal flat between the trees and shrubbery, he hit the top of a tall palm tree and went into the bushes. Eddie shouted, "Get the axe, Palmer, and get me out of this." (We always carried an axe in our airplanes.) I did, and turned the airplane back toward that short runway. Eddie shouted, "Hurry up, Palmer. We can't stay here all day." I started getting into the plane while he was taking off, but didn't even have time to buckle up before he flew into a tree. The airplane was completely wrecked. I was catapulted 50 feet into the bushes but didn't get a scratch. Eddie was buckled in and when I returned to the aircraft, he was unconscious and bleeding severely in the facial area. Medical assistance was hours away. After about 20 minutes, while I was wondering what to do, he regained consciousness. After looking at the wrecked airplane, he looked at me and said, "You are damn lucky you didn't do this, Palmer." This was the only time I ever showed the slightest discourtesy to him; I replied, "Don't I know it, sir."

I walked through the dense shrubbery and found a couple of sailors who were swimming at Hycacle Beach. They got a boat and returned with me to help the skipper into the boat and back to *Texas*. As I said before, he was a real tough guy. It wasn't long until he was flying off that turret again.

One Saturday morning while we were living in the old Spanish Battery

near the mouth of the bay, with our airplanes nearby on the tidal flat. Eddie said to me, "Palmer, get in one of those *Camels*. I'll take the other and we'll land on the parade ground at the foot of San Juan Hill near Santiago." When we reached Santiago, the first airplanes ever to visit, we found that the parade ground was too small for a landing, so we searched for a tidal flat. We found one but, by the time we buzzed it a couple of times, it was filled with astonished Cuban sightseers. We found another and while we were buzzing that one, the sightseers left tidal flat #1, so we went back there and landed. We stayed two days.

How many of you have ever seen 20 battleships race each other for four hours at full speed? Sailing north from Cuba, the admiral in command decided to determine just how reliable the battleships were at full speed. At 0800, all were in line at 20 knots; each hour thereafter they increased their speed one more knot. Four hours later, all speeds were increased to maximum for one hour. Many ships were coal burners, and the smoke and hot ash that poured out of the smoke stacks were really a sight.

Soon after our return to the States, I was ordered to Rockaway Beach, where the NC flying boats were being prepared for the first flight across the Atlantic. My job was to assist in the installation of the radio equipment, including the radio compasses.

This was several years before the Lindbergh flight and, even today, few people know that the Navy flew the Atlantic years before Charles A. Lindbergh. Of three NC seaplanes, only one, NC-4, completed the flight. Commander Read made proper use of his radio compass through the competent efforts of his radio officer, Lt. Herb Rodd (one of my closest friends). They reached the Azores, refueled and continued on to Portugal.

In 1922 my landplane qualifications aided in my assignment to USS *Langley*, our first carrier. We started training for those carrier landings many months before *Langley* was ready.

We built a circular rotating (because of the changing wind conditions) arresting gear at one corner of our landing field. One day, early in 1922, I taxied a WW I, DH-4-type airplane into that arresting gear at the maximum possible speed (about 85 miles per hour). We had stripped the fabric off the wings so it could be held on the ground. When I struck, the entire landing gear stripped off and I slid clear through the arresting gear and darned near into the bay at the far corner of the field. Lt. Mel Pride was the man who developed that arresting gear.

When *Langley* arrived in the summer of 1923, the first 99 landings were made at anchor using an *Aeromarine*.

LCdr. Chevalier made the first landing. It was his last on *Langley*; he was killed in a crash only a few days later. I made 22 of the next 98 landings. The very low landing speeds of the *Aeromarine* made these landings quite simple, even while at anchor. With a 15-knot wind over the deck, I could easily land, even without using the arresting gear. There were only five (active) aviators on board for several months during those early landings.

About 50 of the earliest landings were made while we were at anchor off the mouth of the York River in Chesapeake Bay. When winter and cold weather approached, we moved to Pensacola Bay where we finished the last of the *Aeromarine* landings.

I made the first landing (the carrier's 100th) of a VE-7 type (with landing speeds about double that of the *Aeromarine*).

Some folks will remember the airships *Shenandoah*, *Macon*, *Akron* and *Hindenburg*. About 1923, Washington decided that *Shenandoah* would fly to the North Pole. I was ordered to prepare the communications equipment and to be the communications officer. After a few months of intensive effort, we were ready to go. But, just prior to departure, the President cancelled the flight because of a national depression and economy wave.

However, we did fly from the East to West Coast via San Diego, Calif., Tacoma, Wash., and back, about 9,000 miles. I witnessed one of the most beautiful sunrises I have ever seen as we passed over northern Oregon. The land below us was obscured by fog for many miles, yet we could see mountain tops stretching from California to Canada. All of us in the control car were spellbound. Hardly a word was spoken for many minutes.

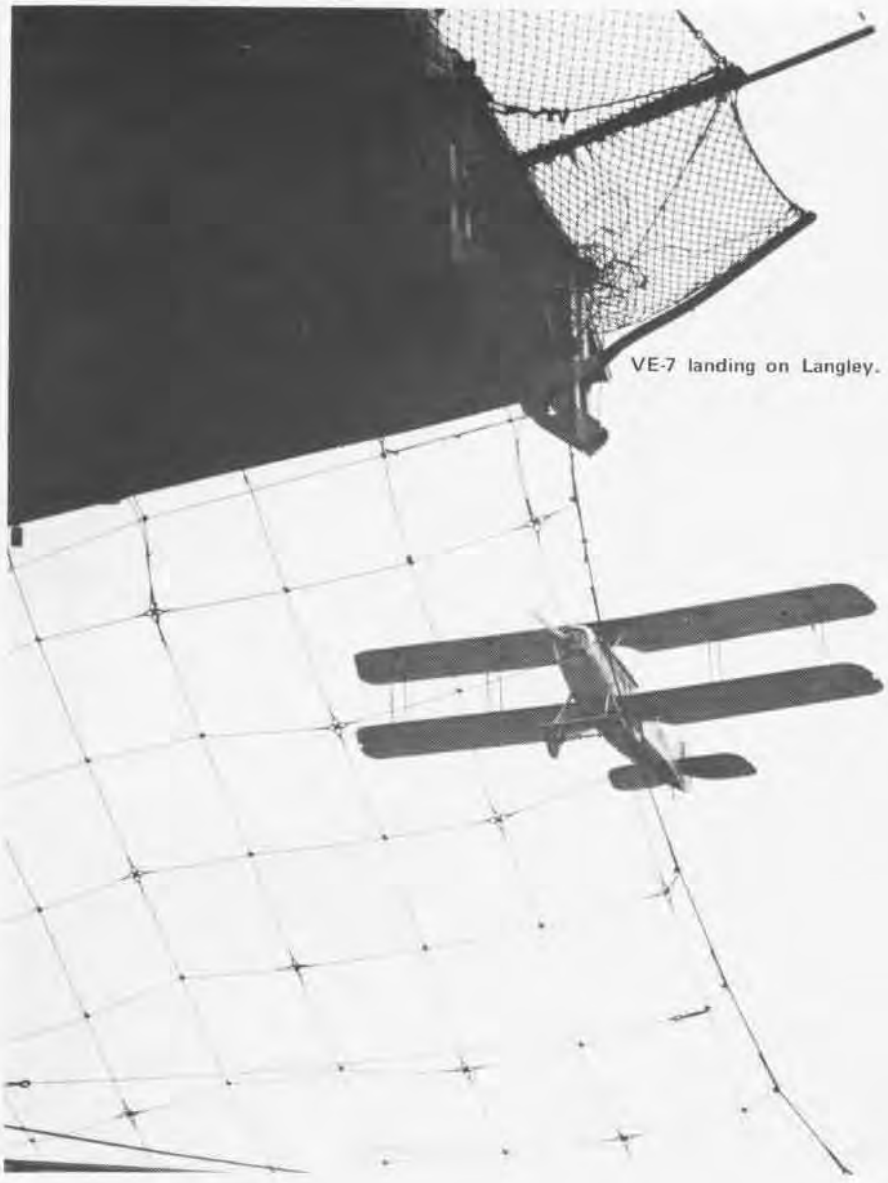
Now a few short stories about the unreliability of those early airplane engines. But first let me define a dead-stick landing. When an engine has lost all power, the propeller ceases to function. All propellers were made of wood in the early days, hence a dead-stick landing. I made many between 1917 and 1930.

I was flying a DH with a Liberty engine from McCook Field, Ohio, to Washington, D.C. As I was passing over the most rugged part of the mountains in West Virginia, the engine lost all power. I had about two minutes to glide down and find a place to land. I landed in a very narrow hayfield along the ridge of a 4,000-foot high mountain. Didn't even blow a tire. (No brakes in the wheels in those days.)

I phoned Washington from a farmhouse half a mile away and asked that a new engine be trucked to us. When the engine was delivered, I borrowed a block and tackle from the farmer and we installed the engine using the strong limb of a nearby tree. (Malcolm Hanson, one of the finest radio engineers in the Navy at the time, was with me.) In Romney, W.Va., five miles away, the former gave a party for us one night. The mayor was there and while he and Malcolm Hanson were talking, they learned they had both graduated from Wisconsin University. The mayor told Malcolm he had worked his way through the university by milking cows in one of the dairies. Malcolm said, "You were a plutocrat. I worked my way through at the same dairy, but I *scrubbed* the cows."

Another time on a flight from

Dayton to Washington, as I approached the Ohio River, I noticed the engine was losing power and jumping up and down in the engine bed. (Later I found the aluminum crankcase casting was broken more than half way around.) I stretched out the glide with very slight power and landed at an Army base near Wheeling. We changed engines on Sunday and, on Monday, continued. Thirty miles from Washington, the new engine failed. I landed in a cornfield and stayed overnight at a nearby farmhouse. I phoned Washington for new parts, had them flown up, repaired the engine and finished the flight.



VE-7 landing on Langley.

Three days before Christmas 1918, because of an approaching storm, all flying was cancelled at Hampton Roads. I got special permission to flight-test some new radio equipment which was awaiting production. Fifty miles north of Norfolk over the Chesapeake Bay, about six miles off the entrance to the Rappahannock River, I landed to repair the new radio. (The northeast sky was very black.) With me in the HS-1 seaplane were Ens. Else, the radio engineer (later a vice president of RCA), and my second pilot, Ens. Fitzpatrick. After we repaired the radio, we tried to start the engine. The hand starter for the Liberty engine broke and there wasn't time to repair it — or to start the engine without it. Capt. Morgan, master of a beacon about a mile away, came rowing over in a small boat. About that time the storm hit. We took the seaplane in tow and took turns rowing. Within 30 minutes the winds were about 50 miles an hour and it was snowing. Soon it was dark. That big seaplane, the gale winds and the waves (about 10 feet high) were in complete control of our destiny. About an hour later, I saw heavy breakers a few yards ahead. I knew we had to get out of the rowboat and out of the way of the seaplane (only a few yards behind us). As I jumped overboard, a wave washed me ashore and I ran up the beach holding the tow line. If you don't think that water was cold, just try it about Christmas time in Chesapeake Bay. The wind helped us push that seaplane up on the beach and we buried the anchor in the sand.

Morgan thought he knew where we were, a few miles south of an entrance to a small harbor. We pushed that rowboat out through the heavy surf and rowed north, found the harbor and a summertime hotel on a small island. We knocked on the door and an elderly lady holding a lighted candle opened the door. She listened to our story, then said, "Being as how I consider you sea-farin' folk, I'll take you in." We were there four days. On Wednesday the storm subsided and several islanders boated us back to the seaplane and towed us into smooth water. We fixed the starter and flew home.

In the early 1920s, I was returning from a hayfield landing on Jamestown Island (of John Smith and Pocohontas fame), when a fuel pump failure indicated an immediate landing. As I was about to land in a freshly plowed field, the motor suddenly started functioning again. I resumed the flight, making a fast turn away from the river and out over a 15-mile-wide virgin forest (between the York and James Rivers). At about 500 feet, the motor quit again. I

had no choice. There was no open ground space within gliding distance, so I landed in the forest, hitting the top of a big tree and crashing through a couple more. The airplane reversed direction, 180 degrees, and gently settled down through the dense foliage to the ground. It was a total wreck, but I sat there without a scratch. I walked five miles to the nearest road, found a country store and telephoned for transportation. All was well but I had left my gold watch in the airplane. Driving past several days later, I stopped and asked the storekeeper if he had any news about my watch. He handed it to me. (That was bootlegging country in those days. Who said bootleggers are never honest?)

During and between WW I and II, I flew many types of aircraft — from large twin-engine sea and landplanes to the British *Camel*, the German *Junkers* and the *Fokker* F7. I also flew in two of the earliest well-publicized races of the early Twenties. In one on Staten Island, I came in first of 12.

Dive bombing is the most accurate type of bombing, also the most hazardous. My dive-bombing days consisted of about three weeks per year with five to ten dives daily, for eight years. Load four ten-pound practice bombs under each wing, climb to 12,000 feet altitude, spot position relative to the target being towed 20 knots below, throttle down, dive almost straight down to 2,000 feet, release one bomb, quickly reverse direction, then go almost straight up and look over your shoulder to see where the bomb hit. Then back up to 12,000 feet and do it again, and again, and again, most of the day. Our flight cabins were not pressurized and that routine was one of the best ways to get an all-night earache. Doing it for years is sure to reduce your hearing ability. After every one of those dive-bombing practices, I had a big E_B painted on each side of my plane's fuselage. I'm proud of that.

Gunnery practice was also exciting fun. Machine guns were installed on the upper wings or on the motor, shooting through the propeller. We would dive almost straight down at a moving cloth target, towed by another airplane, shoot as we flew close by the target, repeat, except approach the target from underneath, and then again, from both sides. Don't pull the trigger at more than 50 feet from target and, if you want a sure hit, approach even closer (15 or 20 feet). For many years I also had an E_G painted on the side of my fuselage.

In the late Twenties, I was transferred to USS *Saratoga*, being built near Camden, N.J. I had charge of inspection of all communications equipment and, for several months, all other electrical equipment. *Sara* was by far the biggest ship in the Navy, except for *Lexington*, which was the same size. *Lex* was being built at about the same time near Boston, Mass. After the ship was commissioned, I became communications officer, made many of her first landings, and was one of the crew which took her to the West Coast through the Panama Canal. (The locks were only four feet wider than *Sara*.)

When we reached San Diego, the entire Pacific Fleet was about to leave for maneuvers and war games off the Hawaiian Islands. But *Sara* was not ready to join the fleet. The Scouting Squadron needed a communications officer, so Admiral Reeves transferred me to *Langley* (my third cruise with her).

A few years later I was back on *Saratoga* when she became Admiral Reeves' flagship. We were conducting a mock battle — attack and destroy the Panama Canal. We were the enemy and the Army was protecting the Canal. Leaving San Diego, we went several hundred miles west, then south across the Equator, then east and, during darkness, headed north toward the Canal. Within 200 miles of the Canal, we launched all aircraft about two hours before daylight, reached the Canal just before daybreak, and found the Army asleep in their tents. Naturally, we had quite a party that night when we went ashore in Balboa.

Most of my old flight logs are gone. I had so many of them they became a nuisance to carry around and I tossed them into the trash can. There went the exact dates I would like to have now.

I first retired from the Navy about 1933, but during WW II, I had a couple of interesting jobs. My first duty was at NAS Norfolk, Va. A few days after I arrived, I noticed some queer-looking antenna on a few of the big seaplanes and asked about their function. When told they were radar antenna, I had to ask what radar was. I remembered that many years earlier we had known of those radio bounce-offs at the radio lab at Anacostia and considered them a darned nuisance, but didn't realize they might be put to use. It wasn't long before I was in charge of installing radar on all the scouting aircraft of the Atlantic Fleet. With about 50 Navy enlisted men and office personnel, I set up shop in a hangar and we completed the first installations in 30 days. Nearly all were completed in 10 months. We worked 24 hours a day, seven days a week.

I transferred to San Diego and we began installing radio and radar in the production line at Convair.

About a year later, I transferred to Lockheed Burbank, where I was in charge of inspection and acceptance of all Navy planes. From 1944 to 1946, the Navy bought some 500 two-engine PV-2 types.

When I retired, with over 30 years service, I had accumulated over 5,000 hours pilot time and over 1,000 carrier landings.

Aeromarine 39B

LETTERS

Operation Mariner

I am trying to contact one or more of 43 pilots who took part in NATO Operation *Mariner* more than 26 years ago. On September 23, 1953, I was aboard the battleship *Iowa*, flagship for the exercise, as a weather observer. Weather in the North Atlantic south of Iceland was unusually severe and flying conditions impossible. During the afternoon of the 23rd, the weather broke and 43 pilots in their F9Fs were launched from *Bennington* and *Wasp*. At about 1500 hours, the weather closed in, stranding the pilots without enough fuel to reach land or enough visibility to land on the carriers. Ditching instructions had been issued to the pilots and we had already begun to implement rescue procedures when suddenly the sky cleared. The planes poured onto the carriers in a steady stream. As the last plane touched down, fog and clouds rolled over the fleet and darkness set in again for the next 12 hours! It was one of the most emotional experiences of my life and I suspect that it was equally so for those pilots. As a nonmilitary pilot for the past 25 years, I've had a few hairy experiences myself and can identify with the terror they must have felt. If any one of those lucky pilots reads this, I hope he will contact me.

Bud Sellick
P.O. Box 110872
Nashville, Tenn. 37211

Tactical Reconnaissance

Your short article on page 4 in the May issue regarding "Reconnaissance Wing Disestablished" and the attendant comment "bringing to an end the only naval warfare community dedicated to tactical reconnaissance" is incorrect.

All weather tactical reconnaissance is alive and well in the hands of VMFP-3 at El Toro and various other sites, including USS *Midway*. The resident RF-4Bs, which contain sensor systems far exceeding those of the RA-5C, are eager to provide tactical reconnaissance to the Department of the Navy. Recce Town, USA, is alive and well at MCAS El Toro.

Lt. Col. L. P. Reiman
MCAS El Toro

Patches

I am sure your readers would like to see my collection of carrier patches and how impressive they look when framed. I am a police officer and well away from the Navy scene here in Scotland, but *Naval Aviation News* keeps me up to date on fleet activities. I would like to have patches from VF, VA, VP and VS squadrons, to give them similar treatment. So, I am directing the following verse to all public affairs officers: PAOs, come on and get with it, please send me a patch of your unit, so I can frame them one and all, and have them hanging from my wall. I do not know commands and ranks, but will hopefully say many thanks.

John S. Haldane
60 Glenogil Terr
Forfar
Angus DD8ING Scotland

First Kapitanleutnant to Carqual

On page 32 of the May issue, you stated that Kapitanleutnant Bunke, German Navy, is believed to be the first German naval officer to carqual on a U.S. carrier.

My logbook shows that in late 1956 a Kapitan Hefele (approximate spelling) of the German Navy, went through the carrier training syllabus at NAAS Barin Field, Foley, Ala., flying the SNJ. I was his demo pilot and, later, Lt. Hal Averyt rode in the back seat while Kapitan Hefele made six arrested landings on USS *Saipan*. As I remember, he was the German liaison officer for all German naval aviation students in the U.S. Congratulations to Kapitanleutnant Bunke, but a German eagle beat you aboard a U.S. Navy carrier by about 24 years!

Capt. Randall L. Williams
Professor of Naval Science
NROTC, University of N.M.
Albuquerque, New Mexico

Reunions

There will be a reunion of USS *Phoenix* (CL-46) crew members at the HI Q Hotel, Orlando, Fla., December 1-3, 1980. Please contact Mel Fragassi, 1316 Linden Avenue, Deerfield, Ill. 60015, (312) 945-5667.

USS *Taylor* (DD-468) reunion on October 18, 1980, at the Holiday Inn, Torrance, Calif. Write to John Kinder, 307 W. Enos Drive, Santa Maria, Calif. 93454.

The Ole Miss Naval Alumni Association is trying to establish contact with all former midshipmen, staff and sponsors of the NROTC Unit at the University of Mississippi. Please contact Lt. Barnett at P.O. Box 69, University, Miss. 38677.

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squadron insignia

The Vigilantes of Fighter Squadron 151 are embarked aboard Midway, homeported in Yokosuka, Japan. Led by Commander Gary M. Hughes, the squadron flies F-4Js equipped with the updated AWG-10A radar. As part of CVW-5, its mission is to provide rapid response to any U.S. power projection requirements in the Asian theater. The squadron traces its lineage to VF-23 which flew F4U-4 Corsairs, F9F-2 Panthers, F2H Banshees, F3H Demons and F4D Skyrays. Redesignated VF-151 in 1959, the Vigilantes operated F-8 Crusaders before transitioning to the Phantom II.

The squadron insignia depicts a skull symbolizing death to the enemy, a sword for striking power, electron orbits representing the squadron's electronic and special weapons capability, and a dark and light background for night and day missions.