

NAVAL AVIATION

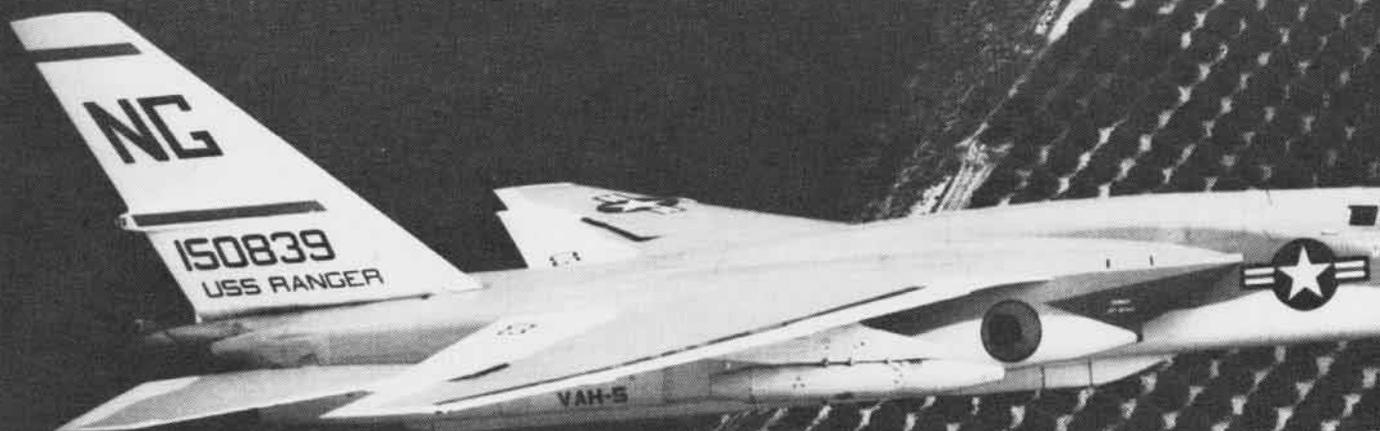
NEWS



46th Year of Publication

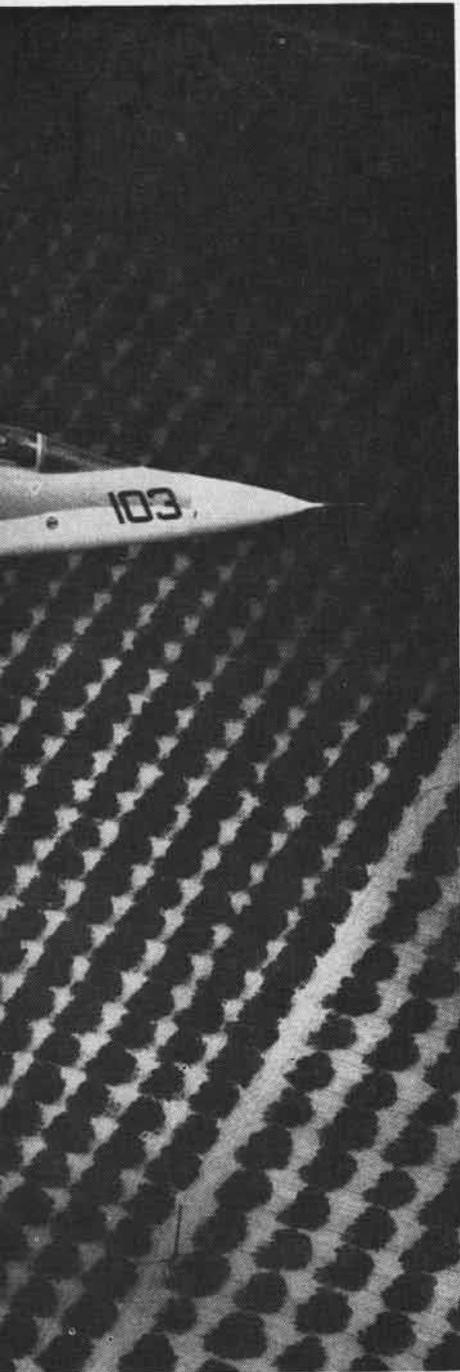
NOVEMBER 1964





PATTERNS IN NAVAL AVIATION

A Florida orange grove forms a geometric pattern below this banking Vigilante. Ground surface patterns are of vital concern to the new RA-5C's with their added reconnaissance mission. The aircraft's sensor systems give them unequalled recon capabilities. Now the pilots and B/N's of RVAH-5 are operating in the Pacific in accordance with the pattern which alternates training with deployments to keep our carrier task forces at peak operational efficiency.



NAVAL AVIATION NEWS

Selected BEST INTERNAL PERIODICAL 1963-64 by Federal Editors Assoc.

FORTY-SIXTH YEAR OF PUBLICATION NOVEMBER 1964

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- NMSE and the A-7A 12** *The Chiefs of BuShips, BuDocks and BuSandA present views of Bureau membership in NMSE in terms of their part in A-7A planning.*
- Farnborough 19** *This year's events at the Farnborough show, after a two-year pause, are told by Capt. Edward L. Barker, USNR.*
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- Rota, Spain 24** *U.S. Naval Aviation activities at one of the most strategically important ports in Europe are described.*

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■ COVER

The front cover features the heaviest aircraft ever to land on and take off from a carrier. A C-130 accomplished this feat in 1963 on the flight deck of the USS Forrestal (CVA-59). For details concerning the experiment by NATC Patuxent River, see pp. 20-22.

Issuance of this periodical approved in accordance with Department of the Navy Publications and Printing Regulations, NAVEXOS P-35

Published monthly by Chief of Naval Operations and Bureau of Naval Weapons to disseminate data on aircraft training and operations, space technology, missile, rocket and other aviation ordnance developments, aeronautical safety, aircraft design, power plants, aircraft recognition, technical maintenance and overhaul procedures. Send mail to Naval Aviation News, Op. 05-A5, Navy Department, Washington D. C., 20360, located at 3704 Main Navy Bldg.; telephone Oxford 62252 or 61755. Annual subscription rate is \$2.50 check or money order (\$1.00 additional for foreign mailing) made payable and sent to Superintendent of Documents, Government Printing Office, Washington, D. C., 20402. Single copy is \$.25.



NAVAL AVIATION NEWS

New Class at Pre-Flight Extra Course for College Cadets

On June 24, an extra cadet class started its training under the Naval Aviation Program at NAS PENSACOLA. Designated AVROC II, this group of 40 cadets is the first under the new Aviation Reserve Officer Candidate Program.

This program permits college students to complete their pre-flight training during summer vacations before graduation from college.

AVROC training is divided into two eight-week segments, the first being taken between the sophomore and junior years and the second between the junior and senior years of college.

As an option, however, AVROC II (basic course) may be taken during the last academic summer and AVROC I (advanced course) during the summer following graduation. The syllabus covers the same subjects as those taken by other cadets under a consecutive 14-week schedule.

During the academic year at college, the AVROC students are required to attend training periods as members of organized Naval Air Reserve units.

Upon completing both eight-week pre-flight training segments, plus certification of completion of all requirements for a Bachelor's degree, cadets under this program are commissioned as ensigns in the Naval Reserve and

immediately ordered to active duty.

After reporting for active duty, the new officers complete the remainder of their training under the pilot or NAO programs. This training is followed by three and a half years of obligated service.

Qualifications for selection under the program are as follows: Minimum age for applicant is 17; maximum age for applicant is 26½ upon commissioning, while NAO's may be 27½ when commissioned. All applicants must also pass a thorough physical examination and take an Aviation Qualification Test and Flight Aptitude Rating Test.

Test Pilot's Idea Realized Jet Pod Installed in Martin Marlin

An idea generated by a Naval Aviator at NATC PATUXENT RIVER is the basis of a BUWEPs contract with Martin Company, Baltimore, Md., for a prototype installation of a P&W J-60 jet engine in the SP-5B *Marlin*.

Cdr. Richard A. Hoffman of NATC submitted the original design in the form of an official letter to BUWEPs. His proposal included preliminary diagrams and data on the improved performance expected for takeoff, cruise with one recip out, and increased mission capability. As a Naval Aviator and test pilot with wide experience in seaplanes, Cdr. Hoffman was, by background and experience, equipped to make such a proposal. He has worked in both the Service Test and Weapons Test Divisions of NATC.

Although the need for increased power in the SP-5B has been evident for many years, new engine proposals heretofore have been rejected for various reasons among which were minimal performance gains and high cost. Cdr. Hoffman's proposal has



NEWLY ARRIVED A-1E Skyraiders joined in formation with T-28 Trojans of the Vietnam Air Force in the Republic of Vietnam in August. The reliable Douglas aircraft can carry four times as many bombs as the T-28. With greater range and firepower, it bolsters airborne forces.

the merit of being technically feasible, operationally desirable and economically practical.

The center-line-mounted installation in the tail of the P-5 requires no extensive airframe structural modifications because that area was originally designed to hold a tail turret and 20mm cannons which weighed more than the proposed jet engine. The center-line mounting minimizes longitudinal aerodynamic problems and avoids asymmetric thrust control problems. Jet exhaust/wake problems are avoided because they do not impinge upon the aircraft structure. The air intake is a reverse flow type mounted in the former tail gunner's window



CDR. HOFFMAN, LT. KELLY, MARTIN'S BONAS

which is well outside the main spray envelope.

The J-60 engine is expected to provide 3000 pounds of thrust which, at 140 knots true airspeed, is approximately equal to 1200 horsepower at sea level. It is estimated that it will reduce takeoff time from 56 to 30 seconds and the takeoff distance from 4950 to 2600 feet.

Flight test evaluation is scheduled to start in December at NATC PATUXENT RIVER.

In the picture above, Cdr. Hoffman, Lt. Tom Kelly, both of NATC PATUXENT RIVER, and Mr. W. K. Bonas of the Martin Company examine the tail area where the prototype engine installation will be made.

Squadron is Redesignated

VF-111 Sundowners Become VF-26

VF-111, based at NAS MIRAMAR,



ADM. THACH PRESENTS EMBLEM PLAQUE TO COL. BRADLEY WHILE MR. NITZE LOOKS ON

became VF-26 early in September.

The *Sundowners*, under the command of Cdr. C. E. Ray, won the best squadron and best division honors in the Pacific "Fighter Sweep" competition in August.

The VF-26 *Sundowners* are assigned to Carrier Air Wing Two and are to be deployed to the Seventh Fleet with attack aircraft carrier, USS *Midway*.

VT-6's Lucky Number is 6

Safe Flight Hour Total is 66,666.6

On September 3, 1964, Advanced Training Squadron Six of NAAS WHITING FIELD logged 66,666.6 accident-free flight hours.

The pilot of the TC-45J Beechcraft which took VT-6 to that mark was Capt. Robert V. Evans, USMC. With Capt. Evans were 2nd Lt. John C. Chester, USMC, and 2nd Lt. Norman A. Long, USMC, two students undergoing training at VT-6. Capt. Evans is a veteran of Vietnam operations, returning to the United States in June 1963.

The plane captain who guided number 723 to its spot was James E. Powell, ADRAN.

VT-6's record has been compiled over almost two and a half years of accident-free student Naval Aviator training. This flying includes the logging of an estimated 114,000 landings.

The squadron completed its second consecutive year of accident-free flight operations on Jan. 16, 1964 and won the 1963 CNO Safety Award.

Thach to Head War Aces

Takes Over Presidency of Group

VAdm. John S. Thach, DCNO (Air), became national president of the Fighter Aces Association in ceremonies held at the Army-Navy Country Club in Washington, D.C., October 2. Secretary of the Navy, Paul Nitze, attended and congratulated both Adm. Thach and his predecessor, Col. Jack T. Bradley, USAF (Ret.). A plaque was presented to Col. Bradley in appreciation of his leadership as president and his support of projects of the association.

Other new officeholders are Col. Ralph Watson, USAF (Ret.), executive vice-president; Col. Robert Long, USMC, vice-president for programs, and Capt. Arthur Munson, USN, secretary-treasurer.

Members of the association are aviators who have registered five or more aerial combat victories in the World Wars and Korea. A non-profit organization, the Fighter Aces help to stimulate interest in modern aviation. Included in their projects is a scholarship fund designed to assist worthy dependents of Fighter Aces. The association also recently contributed \$500 to the Meridian House in Washington, D.C., an organization which assists international visitors by providing them with indoctrination in the American way of life.

VAdm. Thach is the first Naval officer elected Association president.



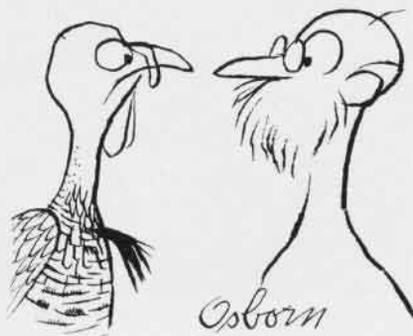
GRAMPAW PETTIBONE

Up and Locked

A Pacific Fleet CVA departed for two days of intensive flight operations after spending 48 hours in port where all hands took maximum advantage of the time ashore. The ship got underway at 0800 for the operating area and began flight operations at 1000 with almost all of the Air Group scheduled to fly between then and midnight.

During the course of events that morning, an A-4 pilot was grounded with a blocked ear. A pilot who originally had not been scheduled for a flight volunteered to replace him. After a series of delays and mission changes, he launched at 1700 as part of a flight of A-4's on a weapon delivery flight to the beach. The flight landed ashore at 1845 where they ate dinner while training weapons were being unloaded from the aircraft.

Knowing the pilots had spent the better part of the inport period on liberty and had either been flying or waiting to fly since early that morning, the Executive Officer of the squadron asked them how they felt. Were they too tired to fly back to the ship? One pilot told the X.O. he felt rather tired and he was immediately told to remain over night and to come out



to the ship the following morning.

The lad who had volunteered to replace the pilot with the blocked ear took off at 2220 and rendezvoused with his section leader for the short flight back to the ship. The flight out was routine in all respects. After receiving marshal information, the section made a normal break for a CCA landing. The section leader made a CCA to final but was waved off owing to a foul deck. On downwind leg to a second CCA, he was instructed to clean up, take angels 2.5 and expect a 15-minute delay.

The wingman, who was approxi-

mately one minute behind the section leader, was instructed to "dirty up" by the CCA controller at the 10-mile gate. He promptly acknowledged the transmission. The LSO picked the aircraft up visually about two miles out but saw no approach light, so he immediately asked the pilot for a gear and hook check. The LSO received a prompt reply of "gear down, hook down but no indexer light."

A few seconds later the pilot called the ball and continued the approach in a rather clean configuration, on-speed-on glide slope to touchdown where the aircraft engaged the #2 cross deck pendant near centerline with the landing gear up. The pilot at first thought his nose gear had collapsed and knew things seemed a little odd when the deck crew ran out and looked down in the cockpit at him. But he quickly realized his problem when he saw the status of all three gear indicators and the landing gear handle in the UP position.

A somewhat embarrassed but uninjured pilot climbed from the cockpit. The deck crew quickly hoisted the aircraft, lowered the gear and towed it to the elevator.

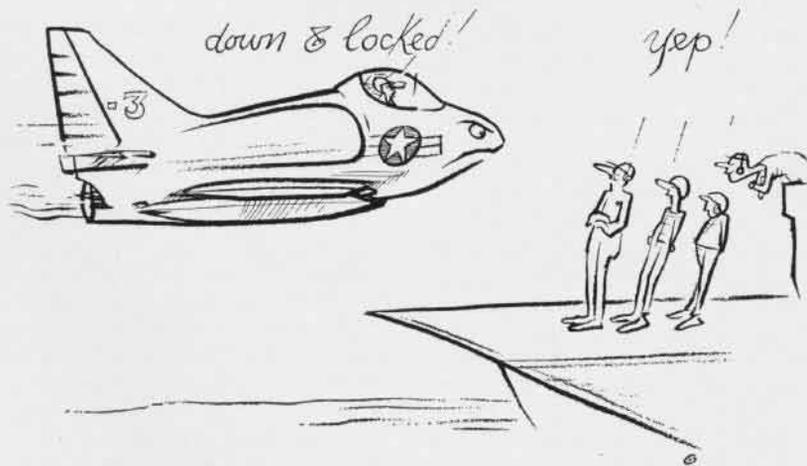


Grampaw Pettibone says:

Well, singe my old gray whiskers and fetch me a few more aspirin tablets!

This is the second one of these we've had in the past six months. There's really no sense in complicatin' a case of pure and simple pilot error, but I'm just wonderin' why it took so long for this lad's bad habits to catch up with him. Even after bein' asked twice for a gear and hook check because of no approach light, he didn't even touch the gear handle to be sure it was down. He did recycle his hook, but it never dawned on him that he wouldn't have a light if either the gear or hook was not down.

The LSO isn't the cleanest guy in the world and I'll bet he never spoke any truer words than those he put in his statement; "In the future, I will insist on a visual check for no-



approach light regardless of what the pilot says."

The Pri-Fly observer also had a hand in this one as he saw the aircraft approaching with no approach light. He heard the chatter between the LSO and pilot, but, after hearing the lad state his gear was down, he let him come on in. I just imagine they took a hard look at the procedures in Pri-Fly and the next time that approach light isn't showing the gent up there will, real quick like, foul that deck.

Somethin' like this is a little hard to take from a "tiger" with nearly 500 hours in the bird, but I really don't think he was the sharpest lad in the Fleet that night. He had been ashore 31 out of the 48 hours the ship was in port and only had a few hours sleep the night before.

Bein' a "tiger" is great, but there's a big difference in tigers. A *Tiger* that's a *Professional* pilot is the only one that makes out in this business.

Helpless Helo

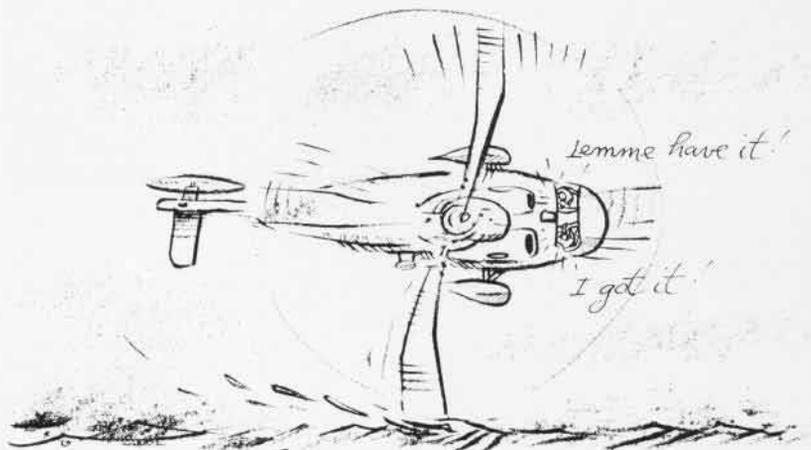
An SH-3A departed a CVS off the East Coast for a routine night ASW mission. Weather at the ship was clear with no moon and the helo proceeded to the datum area at 500 feet—115 knots. By the time the helicopter reached datum, there was no horizon and an S-2D plane commander who was on station advised the helo pilots that dipping conditions were poor. He recommended that no Doppler approaches be attempted because of a very smooth sea state. He also informed them that one helicopter had already departed the area with possible damage to the sonar dome.

Prior to departing the smoke light for the first dip station, the pilot experienced vertigo and gave the copilot control of the helo and instructed him to try an automatic Doppler approach first. At 150 feet and 75 knots, the coupler was engaged and the helo immediately started to roll from side to side. At an altitude of 100 feet, the roll became more pronounced. The nose started to move up and down. At 80 feet, control became even more erratic and the co-

pilot informed the pilot that he was going to pickle off, but the pilot told him to continue and see if it would settle down. At about 50 feet and 40 knots, the copilot requested the pilot to rotate the aircraft to the left as a strong wind was coming in his window. The helo immediately went into a violent skid. As the nose pitched up, the pilot took control, disengaged the coupler and climbed to an altitude of 150 feet.

The pilot began to circle for another

attempt. At one time, the copilot noted the gyro horizon indicated 20° nose up. Both pilots fought the aircraft for the next few seconds but were unable to regain control. The aircraft contacted the water in a nose down, right wing down attitude, and immediately rolled to the right. The crew abandoned the helo and were rescued by whaleboats from two destroyers operating in the area. Two of the crewmen were suffering from exposure but otherwise they were all right.



er approach. The copilot suggested that they discontinue dipping but the pilot said he wanted to try a no-Doppler approach. The pilot set the helo up for another approach with the cyclic coupler off and instructed the copilot to switch to Doppler as they passed through 80 feet. The coupler was engaged at 150 feet and, at 80 feet, the copilot switched to Doppler as instructed. Almost immediately everything became very erratic with the aircraft attaining some weird attitudes. The pilot quickly disengaged the coupler in a desperate attempt to recover.

When the aircraft entered a near-uncontrolled attitude, the copilot said, "I have it" as he thought the pilot had vertigo, but the pilot said he still had it. The collective was in the full-up position during most of the recovery



Grampaw Pettibone says:

Jumpin' Jehosaphat! These lads worked like beavers to booby-trap themselves and darn near bought the farm doin' it.

I'll admit a pretty weird set of conditions got together during this fiasco, but a little good judgment based on sound operating procedures could have saved the crew a cold swim and Uncle Sam a costly helo.

When you completely ignore the advice of other pilots in the area and pay no attention to such clues as vertigo, disorientation, haze, poor horizon and the better judgment of your copilot, you're really askin' for it.

After this thing reached a point of no return, both pilots got on the controls and ended up fightin' each other until the helpless helo crashed. Cockpit discipline like this will get you nothin' but a peck of trouble.

These destroyer boys have fished a lot of birdmen out of the drink; it's mighty comfortin' to know they're around and eager to lend a helpin' hand. My hat is off to them any time. This helo crew would have been in real bad shape if the DD's hadn't been around for this one.

- ★ Famous last words—"I can make it. I'll just lean it all the way back." ★
- ★ The world's best safety device is situated slightly above and between your ears—use it. ★
- ★ Follow the rules and give the poor taxpayers a break. ★

SECNAV'S PACIFIC WHIRL CHECKS DEFENSE

FROM TIME to time the Secretary of the Navy, the Honorable Paul H. Nitze, personally visits Navy and Marine Corps units throughout the world in order to keep abreast of their current needs, achievements and state of readiness. A tightly packed schedule of events is typical of SecNav trips.

A journey of this sort makes great demands on the Secretary. In comparatively short intervals of time, he meets hundreds of people, gives and receives significant information and absorbs thousands of essential facts.

The following is an account of one of SecNav's recent whirlwind tours, written by a frequent contributor to *Naval Aviation News*.

By Lt. Joseph Pursch, MC, USN

THE SECRETARY and his party board a MATS C-135B at Andrews AFB for the first leg of this nine-day tour. The weather is CAVU and the flight is smooth. While the aircraft races the sun, the Secretary and his aides read through thick folders of last minute information covering commands, personnel, equipment and capabilities, as well as related problems which might be encountered at the next stop.

One meal and eleven hours of flight time later, the Secretary is greeted at Hickam AFB, Honolulu, by CinCPacFleet. Informal briefings continue throughout the evening meal. It is only 2300 hours for our clear-eyed hosts, but for the Secretary's party, it is 0500 Washington time when we turn in at the Makalapa BOQ. Message traffic from Washington indicates nothing unusual.

August 1 begins at 0630. The morning is taken up in detailed conferences with CinCPacFleet and the CinPac Staff. Matters discussed include South East Asia planning, air interdiction, and a briefing on the daily tasks and needs of the 35,000 Navy and Marine personnel based here.

Before noon we are conducted on a boat tour of Pearl Harbor. (A similar tour is available, free of charge, every hour throughout the day, to anyone who wants it.) Our guide gives a clear, dispassionate account of the



CONSTANTLY on the move, Secretary of the Navy Nitze tours ship, *Bon Homme Richard*.

events of December 7, 1941, and points out the historic sights. The party debarks at the Arizona Memorial. It is an enclosed memorial bridge which transversely spans the hull of the sunken battleship, the USS *Arizona*. In the American tradition, this shrine was built through many individual donations. It includes a carillon and a marble wall on which are inscribed the names of over 1100 American men who remain buried in its hull.

The tide is such that the air vents and the snapped-off mast of this man-of-war are protruding from the water. After nearly 23 years, rivulets of oil from the ship's body continue to rise slowly to the surface where they spread into multi-colored slicks in the Hawaiian sun. It is as if we are reminded that we must always be ready "lest we forget."

As our launch pulls away from the memorial, we all feel a tug at the throat when our guide points out that each American Naval ship in passing dips her flag to the *Arizona*. We pass a destroyer of the present-day Japanese Navy at one of the piers, an event seemingly designed to give us the right perspective in history. The ship's bridge is gaily decorated with festive ribbons, and scurrying sailors are making last minute preparations for an "open house" for American and Japanese Navy personnel.

At 1500 hours, the doors close on

our C-135 at Hickam. ComASWPac accompanies the Secretary. More briefings, rifling through thick folders and a snack follow.

Eight hours of flight time later it is 1800, Sunday, August 2. We touch down at Tokyo International Airport. Secretary Nitze is greeted by the Commander, 7th Fleet, ComNavForces, Japan, and U. S. Embassy representatives. On the drive into town, we pass many ripped up street car tracks. An occasional sidewalk is canopied against falling objects from construction sites above. The driver explains that Tokyo is preparing for the Olympics 24 hours a day.

For several hours, the Secretary has had knowledge of the attack by North Vietnamese PT boats on the USS *Maddox* in Tonkin Bay. For the present, the full implications of the incident must await further messages from Washington and the 7th Fleet.

The night is spent in a military hotel. Although additional messages concerning activity in Tonkin Bay have been studied, the following day's schedule is carried out as it was planned weeks ago:

Monday, 3 August 1964

- 0700 Breakfast for SecNav
- 0750 SecNav Briefing
- 0800 Briefing by Staff, ComUSJapan
- 0908 Depart for American Embassy
- 0915 Call on Ambassador E. O. Reischauer
- 0945 Press Conference
- 1050 Depart Embassy
- 1100 Arrive Japanese Defense Agency
- 1105 Call on State Minister
- 1125 Call on Chief, Maritime Staff, JMSDF
- 1145 Depart Japanese Defense Agency
- 1200 Luncheon at Ambassador's Residence
- 1320 Depart Ambassador's Residence
- 1330 Depart Hardy Barracks via Helo
- 1350 Arrive NAS ATSUGI
- 1400 ComFAirWestPac Briefings
- 1500 Tour NAS ATSUGI and a Japanese Aviation Plant
- 1515 Arrive MAG-11 Headquarters
- 1530 Observe Scramble of F-4 *Phantoms*
- 1535 Depart NAS Atsugi by Helo
- 1545 Arrive NavSecGruAct Kamiseya
- 1550 NavSecGruAct Kamiseya Operations Briefing
- 1630 Depart Operations Building
- 1635 Depart NavSecGruAct Kamiseya via Helo for Fleet Activities Yokosuka (FAY)
- 1645 Arrive FAY
- 1750 SecNav, Party Depart for Reception



ONE OF MANY stops in Japan made by the Secretary includes a visit to the Japanese Defense Agency where he conferred with officials.



THE SECNAV reviews troops at the Japanese Defense Agency. The crisis in the Gulf of Tonkin was at hand but schedule went as planned.



AFTER FIRE POWER demonstration on Okinawa, Mr. Nitze, in shirt-sleeves, mingles with Marines and gathers first-hand information.



THE SECRETARY meets leader of Okinawan village whose inhabitants participated in practice battle exercise demonstrated by the Marines.



MARINE CORPS tanks render gun salute. While in Okinawa, Secretary views weapons ranging from carbine to flame thrower in action.



THE SECRETARY passes through sideboys on flight deck of CVA-31, cruising in Pacific, after landing in VR-21 C-1 in which he was copilot.

TUESDAY, August 4, officially begins at 0800 when the Secretary addresses the Commander 7th Fleet Scheduling Conference. Other items on the agenda include a call on ComNavForces, Japan, with briefings and a tour of FAY; a call on CTF 76 aboard the USS *El Dorado*; a call on Commander 7th Fleet aboard the USS *Oklahoma* where further briefings will be held; a jet helo flight back to Tokyo; and a call on Mr.

3rd Marine Division. We bed down in Quonset huts, roughing it Marine style.

The next day is packed with briefings, a combat review, honors, helo flights between the four camps and jeep rides to outlying training areas. Anti-guerilla warfare indoctrination methods are observed in an Okinawa village. The local inhabitants have put their land and their homes at the disposal of our Marines and par-

a light walk and tremendous stamina for this kind of outing. After the firepower demonstrations, he mingles informally with the troops, shaking hands and affably praising what he has seen. Through detailed questions, which show previous knowledge, he quickly absorbs enormous amounts of information on the spot.

MCAF FUTEMA, Fleet Activities and NAF NAHA are visited in the afternoon and a call on the High Commissioner, Ryukyus, completes the business day. Because of the Tonkin Bay situation, however, all troops on the island are in an alert status and some have already been shipped out. Twenty medical officers, among many others, reflect the high state of morale here when they volunteer to extend their rotation dates "until this crisis—or whatever it might become—is over."

Next morning, Friday, August 7, we fly by C-1 to the USS *Bon Homme Richard* (CVA-31), steaming somewhere in the South China Sea. We are met by a fighter escort of F-8 *Crusaders* which, hanging by their snouts, accompany our slow-flying C-1 to the ship. The Secretary, flying as copilot, gets his first look at a carrier meatball and a Naval Aviator's view of the on-rushing flight deck.

HE is piped aboard and spends the day observing flight operations and weapon drops on the towed spar. These aircraft are the same types, which only a short while ago, from the carriers *Constellation* and *Ticonderoga*, unleashed a "limited and fitting response to an aggressor." He views static displays of aircraft, weapons and equipment, talks with numerous individuals and asks many questions. In this way, the Secretary gets the feel of that state of readiness which, in carrier aviation, has become a way of life.

He tours CCA, Pri-Fly, the Captain and Admiral's bridges, is briefed by CVW-19 and later, watches replenishment at night in heavy seas. For the evening meal the Secretary is guest of honor in the officers' wardroom. He speaks at length on various Navy projects which are being developed in Washington. Since this happens to be another "thousandth" day for the *Bonnie Dick*, he extends his best wishes to LCdr. Tom J. Cawley of VF-191, who made the



MILITARY OFFICERS and officials from Japan and the U.S. render military honors during Nitze stay at the Japanese Defense Agency. In the same day he visits units at NAS Atsugi.

Takoshi Kitamura, Secretary General, National Defense Council.

Even though Tonkin Bay was aflame again during the night, the Secretary's schedule, with the exception of a few additions, remains unchanged. Briefings and a first-hand look at MCAS IWAKUNI and the First Marine Air Wing along with CTF-72 and Fleet Air Wing Six are followed, after lunch, by a flight in a U-16 to Sasebo.

The afternoon is crammed with a tour of Fleet Activities Sasebo and briefings on CTF-73, CoMinFlot One and ComFltActs Sasebo, aboard the USS *Ajax*. A float-hop-and-a-flight later, the U-16 has dropped us off at Itazuke AFB where the C-135 is waiting.

After one hour and 30 minutes of jet time, we land at Kadena AFB, Okinawa, for a 36-hour look at the

participate as "natives" during these regularly scheduled exercises.

Later, the Secretary holds a brief conversation with the townspeople and presents small tokens of appreciation for their good will and continued support. During a firepower demonstration, the Secretary views weapons ranging from carbines through flame throwers to mobile 105's in action. In the concluding demonstration, Marine pilots, flying A-4 *Skyhawks*, sweep in low over the deck, then pull up sharply to bomb, strafe and drop napalm on the imaginary defenders of a "target" hill.

The heat, the dust and the furious pace have grayed our white uniforms and the VIP tour is beginning to look like a whip trip. But you could never tell it by watching the shirt-sleeved Secretary. His hobbies of swimming, tennis and skiing give him



VF-191'S Lt. T. E. Fredrich explains tactics to Nitzze; Cdr. C. R. Johnson, CVA-31 X.O., Cdr. J. L. Gammel, squadron C.O., look on.



FULLY-GARBED pilot from Bonnie Dick air group shows Nitzze "basket" and explains procedures used in in-flight refueling of aircraft.

ship's 102,000th arrested landing. At the cake-cutting ceremony, LCdr. Cawley reminds his comrades that they are the standby ship behind the *Ticonderoga* and *Constellation* and that no matter how well things have gone for our Navy, so far in the Gulf of Tonkin, "they haven't seen the first team out there yet."

Saturday, August 8, we are shot off number two catapult with the Secretary again flying in the copilot's seat. At Kadena AFB we transfer to our C-135. Three and a half hours later, the party is received with full honors at NAS AGANA, Guam. A call on the Governor of Guam, a briefing at ComNavMar and an auto tour of the Apra harbor area occupy our three-hour stay on the island.

After takeoff we set our clocks the other way in preparation for the long flight home. A fuel stop is made at Hickam in Honolulu, and, after more briefings by officials of the CinCPac-Fleet, we head for Washington. Time still flies, but our pace has slackened. Now there is occasion to lean back and reflect on the highlights of the tour.

Nine days ago this journey began. Forty-five flight hours, 20,000 air miles, thousands of words, and innumerable impressions later, certain things can be said:

The man who is at the helm of the Navy has had a first-hand look at a large part of his organization. He has gathered personal knowledge to lend added substance to future de-

isions. A timely event in East Asian waters gave proof of his organization's ability to roar into devastating action at a moment's notice. Like a sleepy-seeming tiger, it thrust out a lightning paw and smashed a paper dragon. And it showed that readiness is not a paper concept, nor patriotism an archaic sentiment.

It is 2230 on August 8 when our C-135 swoops down toward Andrews AFB. As the light blinks atop the Washington Monument, so the oil continues to bubble from the USS *Arizona*. Yet the USS *Maddox* still patrols the Tonkin Bay.

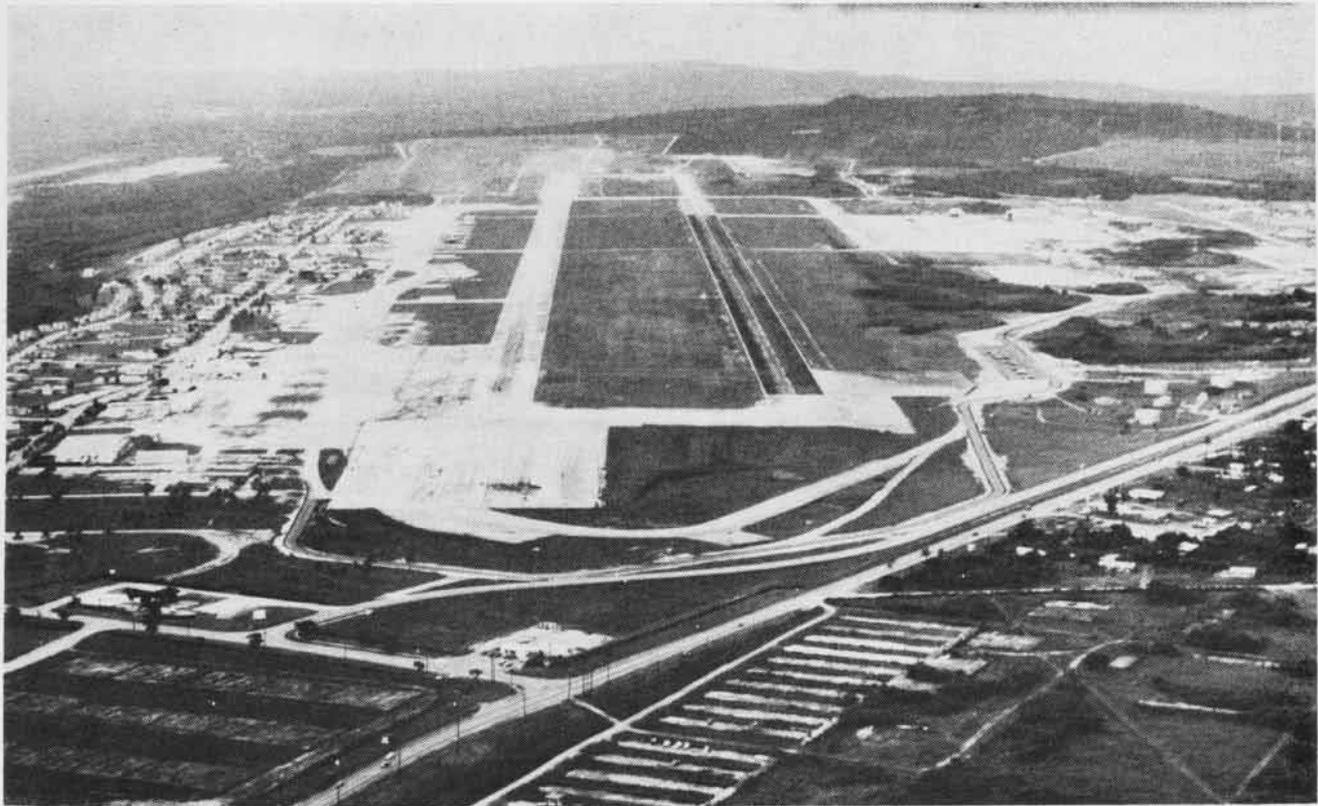
History does not repeat itself, necessarily, and a strong Naval Air Arm in a constant state of readiness seems to have made the difference.



WEARING SHIRT ship gave him, SecNav administers reenlistment oath to A. L. Richmond, YN3, H. Middleton, ABH2, B. D. McHenry, BMI.



THE SECRETARY enjoys a cigar on Bonnie Dick's bridge while surveying flight operations along with carrier's C.O., Capt. G. S. Morrison.



DEVASTATED BY TYPHOON KAREN IN 1962, NAS AGANA HAS QUICKLY BEEN REVITALIZED TO FULFILL ITS SUPPORT MISSIONS

NAS AGANA MARKS ITS 20TH MILESTONE

THE WESTERNMOST naval air station on United States soil, NAS AGANA, Guam, marked its 20th anniversary in September. Commanded today by Capt. Jerry M. Barlow, the base has been in action since the Allied Forces recaptured the strategically located island fortress from the Japanese in 1944. It immediately became an outpost for Army, Navy and Marine Corps aviation units.

In August of that year, construction began on East Field, later to be designated Agana. The first American plane landed on the 6600-foot runway on September 11th, and another runway was completed by the end of the month. Twenty years ago, 19 units, comprised of 1522 officers and 9506 enlisted personnel, were assigned to the station.

Today Agana has a parallel set of runways, one 10,000 feet long. The air station also operates the Apra Harbor seadrome. An all-weather facility, NAS AGANA averages more than 32,000 landings each year.

Through the years, Agana has supported military aviation units of all services. It has also been a major supply activity for air groups based in the Marianas area. It has provided elaborate search and rescue services in the Pacific.

Now represented at Agana are Heavy Photographic Squadron 61, Airborne Early Warning Squadron One, a Coast Guard Air Detachment and Pan-American Airlines. MATS aircraft have also used the Agana facilities, but

moved just last summer to Anderson Air Force Base.

Tragedy struck the station in November 1962 when Typhoon *Karen* swept her violent way across the Pacific. Agana and surrounding areas were literally leveled. But dedicated efforts have revitalized the field with new hangars, a Coast Guard facility, recreation areas, an air terminal and a number of office buildings which had been needed.



BUILDING ON GUAM BEGAN RIGHT AFTER ITS RECAPTURE IN 1944

KEARSARGE'S OWN 'JOHNNY APPLESEED'

Story and Photographs
by John D. Burlage, J01

FEW PEOPLE call him "Johnny Appleseed," but the name sort of fits. Aboard the *Kearsarge*, he is Lawrence Gallagher, AT1, a blond-haired New Jerseyite with a machine-gun style of talking. Ashore, on liberty in Japan, he is a one-man people-to-people proponent, spreading seeds of good will, American agriculture, and Yankee spirit and culture.

Gallagher's philosophy is that if you go overseas, you might as well enjoy yourself in a way that will benefit you, your country, the people you meet, and their country. He does.

During a recent visit to Yokosuka, the *Kearsarge* sailor hit out for Gotenba, a large town halfway down the island of Honshu, some miles inland from the eastern coast. He went by train. Said Gallagher: "If you really want to come in close contact with the Japanese, don't ride first class. Take the second class car. That's where you'll bump into plenty of average people. I make it a point to get as far away from most liberty ports as I can. How can you hope to meet people and see how they really live if you stay in an area obviously designed to please Americans?"

This was his third visit to Gotenba and the culmination of a one-man friendship program he started a year ago. On his first visit, he met Koichiro Hayashi, a farmer. Their conversation centered around farming, for Gallagher grew up on a 150-acre truck farm in New Jersey. He discovered an intense interest by Mr. Hayashi in the American way of life and in Americans.

This gave him an idea. When he returned to the aircraft carrier, he wrote a friend in New Jersey and received from his buddy several packets of seeds. Next time in port, he gave the seeds to about 35 students who were members of the Japanese equivalent of a 4-H club.

"They planted them last winter," Gallagher said, "but unfortunately the area was hit by an unexpected cold wave that destroyed the plants."

On his third visit, Gallagher carried some 10,000 replacements, packets of



IN THE KEARSARGE, Gallagher, AT1, checks modulator voltage of APS-38 radar transmitter.

parsley, pumpkin, carrot, cucumber, melon, radishes, corn, lettuce, cabbage, and a variety of flower seeds. They were bought in New Jersey during his last leave period.

During his second trip to Gotenba, the students asked him many questions about farming. "Then they got a little political," he said, "and started to ask me questions I couldn't answer. So, while I was back in the states, I wrote about 100 letters to a variety of authorities, including the State Department, to get the right answers. I have the knowledge I need now."

Late in the afternoon of his last



HAYASHI, interpreter Masayo Osbino, and Gallagher discuss the current crop in Japan.

visit, Gallagher unloaded his satchelful of gifts on the table. Jams and jellies his mother made went to the Hayashis. The seeds were presented to Haruo Katsumata, a local agricultural improvement representative, who had been notified of the occasion.

Later he was invited to a local temple where he held English language conversations with a group of students. The two-hour session was enlightening. Without plan or format, he managed to hold his own against questions that ranged from American motion pictures to religion.

During his stay in Gotenba, he set up a portable slide projector and showed a variety of slides depicting farm and family life. He made this presentation at both the Hayashi home and at the nearby temple. He spent the night at the Hayashi home and returned to his ship the next day.

THERE CAN be little doubt that Gallagher thoroughly enjoys his own way of meeting people in the lands he visits. It's been his habit for years, and it hasn't been restricted to Japan.

"It's my own kind of people-to-people program," he said. "It gives me a lot of pleasure to meet Japanese, for instance, and to learn their way of life. That way I can return to America and explain what Japan is like to my own people.

"More important, though, by getting to know Japanese, I think I can dissolve a lot of misconceptions they have about us. I'm no scholar on either America or Japan, but it's amazing how much you can learn by just talking to the Japanese. I think it's made me a better American."

There's a clincher to this little tale. Gallagher is scheduled for transfer to Rota, Spain, (via NAS PATUXENT RIVER, for three weeks training) sometime this month. He is determined to continue his one-man project on that side of the world—much as he's done elsewhere.

He's already started to read the history of Spain. But he still has a very important question he has to get answered soon.

"What kind of farms do they have in Spain?" he wondered.

A-7A: MAIDEN VOYAGE FOR NMSE

IN THE OCTOBER issue of Naval Aviation News appeared a presentation of the work of the Naval Material Support Establishment. VAdm. William A. Schoech, Chief of Naval Material, gave the over-all view of NMSE, and RAdm. Allen M. Shinn,

Chief of the Bureau of Naval Weapons, presented the work of his bureau in terms of the development and support of the A-7A.

We continue and conclude the panel in articles by the Chiefs of the Bureau of Ships, Bureau of Yards and

Docks and the Bureau of Supplies and Accounts. Each presents a broad view of his bureau's membership in the NMSE with specific focus on its part in the A-7A program. A presentation in relation to a specific project reveals NMSE's great scope.

A DECK FROM WHICH TO FLY

THE HEART of the Bureau of Ships' business is the design, construction and maintenance of ships—Polaris missile-firing submarines, guided missile frigates, minesweepers, amphibious assault ships, tugboats—all kinds. We are largely on our own in accomplishing most of our work—that's why we exist as a separate entity. But for many major ships, such as aircraft carriers, this job requires extremely close coordination with other material bureaus of the Navy, notably the Bureau of Naval Weapons.

For example, take the design of the recently awarded aircraft carrier CVA-67. Right at the start, when roughing out the flight deck, we had to be familiar with the characteristics of the aircraft she is expected to handle—including the A-7A. We had to consider the A-7A's weight, strength and landing patterns in blocking out the landing area, with appropriate distances for touchdown, for run-out after engaging the arresting gear and for a turn-out area. We had to consider aircraft loads and stresses which affect catapult installation; a study of these in CVA-67's aircraft indicated catapult installations about 280 feet long. These, and other requirements, dictated an over-all deck length of 1067 feet and a beam of about 250 feet.

Designing the hull beneath CVA-67's deck was not an independent BUShips operation either. It too involved the inter-Bureau club. For example, a knowledge of the A-7A's electronics gear was essential to designing the ship's electronics repair shop. Incidentally, this shop will have a computer programmed to test each A-7A electronics system for adequacy and to locate trouble spots.

Or consider the problem of design-



RADM. WILLIAM A. BROCKETT, USN

ing facilities for handling, checking and storing weapons. Obviously, we had to know what aircraft will be aboard, what weapons each will use and the rate at which they will use them. The magnitude of the problem is indicated by the fact that nowadays our carriers must be able to handle as many as 20 different weapons. It was important to know, for example, that the A-7A can carry roughly twice as much conventional ordnance as other attack aircraft over an equal distance. This indicates a high ordnance expenditure. Designers take such items into account, weighing the trade-offs of weapons storage space versus frequency of replenishment in wartime along with other factors.

The need for a Support Establishment approach in CVA-67's design

By RAdm. W. A. Brockett
Chief of the Bureau of Ships

extended beyond the deck and hull to electronics gear by which the carrier and her aircraft are linked. We anticipate that ultimately CVA-67 and the A-7A will be equipped for command and control, using computerized tactical data systems for precise control of the A-7A's circling in the pattern, and for automated ship control of landings. These are in addition to such conventional electronic links as UHF communications equipment and similar gear.

Other carrier design considerations involve the Bureau of Naval Weapons as well as the Bureau of Ships. BUWEPs designs and builds the catapults and arresting gear; we must assure that they are happily married in the ship.

The finished design reflects the multi-bureau or Naval Material Support Establishment involvement which I have discussed. CVA-67 ends up as an 80,000-ton ship able to carry more aircraft, ammunition and more people and having more avionic shop space than any of her predecessors. CVA-67 will have better ammunition handling and stowage. She will have a new command and control complex using the Naval Tactical Data System. In brief, CVA-67 is well suited to operate and maintain the A-7A and other advanced, high performance aircraft.

Costs of the CVA-67 have been and will continue to be carefully controlled. BUShips has a change review board which closely monitors all proposed changes in ship designs, permitting only those whose cost effectiveness is unassailable. Storage of spaces, future aircraft assignment and other items which will influence future costs come under the jurisdiction of other bureaus, so this too is a support

establishment problem with which the new organization is equipped to deal.

The degree of inter-bureau coordination needed in designing CVA-67 is by no means the most extensive we anticipate. On the contrary, we are finding that far more effective ships can be designed and built if we stress integrated design to an even greater degree that we have in the past.

Integrated, total-system development demands extremely close coordination of disciplines in various areas of the organization. Several projects are under way as joint BU SHIPS and BU WEPS projects, jointly manned. There is no reason to believe that the need for such coordination will abate. On the contrary, we expect that it will grow apace. Clearly there are fertile fields for the improved coordination which the support establishment machinery affords.

As I have indicated, there is ample opportunity to achieve technical improvement through the use of Naval Material Support Establishment machinery. For example, BU SHIPS welcomes a Navy-wide approach to the problem of improving the reliability and maintainability of Navy ship systems and equipments.

Owing to the extraordinarily rapid pace of technical development, many of the old reliable shipboard systems have been left behind. In their places are the radically new and sophisticated systems needed to meet the postulated threats. Complexity has multiplied and with it the opportunities for slipup—on the drawing board, in the production shop and in the on-line maintenance.

The new systems are tough to maintain. Often they are difficult even to get at and open up. Diagnosis oc-

asionally seems to require a Ph.D. in engineering, rather than a Blue-jacket's normal, and frequently considerable, skills. Remedies are sometimes difficult to come by, too, once the diagnosis is made.

We have been laboring to solve these problems. We have made some progress and we will make a great deal more. Since reliability and maintainability are clearly a Navy-wide problem, the Naval Material Support Establishment is, it appears, well suited to the job.

Some of the necessary coordination between the bureaus can and should be achieved informally. Some of it requires more formal inter-bureau machinery or joint bureau projects. But clearly there is a growing field for a Navy-wide producer approach which is being satisfied through the Naval Material Support Establishment.

NAVAL SUPPORT FACILITIES

AS ONE OF THE FOUR Material Bureaus on Adm. Schoech's Naval Material Command team, the Bureau of Yards and Docks makes an important contribution to the successful accomplishment of the team mission.

Sea power is only built with a sound foundation behind it of Naval support facilities. Sooner or later, ships, airplanes and other mobile weapons systems—even the mighty, nuclear-powered *Polaris* submarines—must put into base for maintenance, overhaul and resupply. This will also be true of the operational A-7A.

BU DOCKS has the major responsibility for providing Naval support facilities. As it happens, studies of the requirements for A-7A facilities indicate that A-7A should prove to be almost completely compatible with existing facilities that we already have. Therefore, it places practically no new requirements upon us.

This compatibility stretches the Navy share of the national defense dollar. It also helps to assure, in the words of our Commander-in-Chief, the President, "A dollar's value for every dollar spent."

As an extension of the organizational information that Adm. Schoech has given of Yards and Docks, I should like to give you a feel for the bureau



RADM. PETER CORRADI, USN

and its field activities which are a part of the Naval Material Support Establishment.

In recent years, the engineering or technical task of BU DOCKS has not materially changed, in that the support provided to the Operating Forces of the Navy in facilities engineering is as it was in the past.

The major functions of BU DOCKS

By RADM. Peter Corradi, CEC
Chief, Bureau of Yards and Docks

and the Civil Engineer Corps is to provide this engineering know-how to Naval facilities in a wide spectrum of functional areas. This includes planning, design and construction of new facilities, maintenance of completed facilities, and management of real estate.

The Chief of Naval Material organization has integrated this effort in our relationships not only with the Operating Forces, but also with the other bureaus, especially the other three Material Bureaus under the command and supervision of the Chief of Naval Material.

Concurrent with the establishment of the Material Support Command, and in addition to the construction task that we have had, I have been designated as the Single Executive of Facilities Maintenance. This means that the Bureau of Yards and Docks is responsible for efficient and economical engineered maintenance of the entire Shore Establishment, including the technical programs that provide us with good maintenance and funds under which maintenance is conducted. Before, this total task was splintered among a multitude of sponsors.

At this point, I might emphasize that I do not speak to only that part of the Navy Establishment designated

as the Naval Material Support Establishment. The facilities responsibility assigned to me through the Chief of Naval Material encompasses all Naval Shore Activities whether in the United States or overseas.

Some comparisons may be in order as to magnitude of this job—the Naval Shore Establishment has a replacement value of more than \$20 billion—more than that of the physical plant of General Motors, Standard Oil of New Jersey and the Ford Motor Company combined.

We maintain more than 100,000 buildings. We are in the railroad and highway business. We maintain airfield pavement equivalent to that of 112 jet airports. Our funded maintenance is in excess of \$300 million per year, and requires a work force of more than 40,000 men.

In construction, we administer about \$200 million annually for new construction in support of the Weapons Systems Programs and the Fleet, or in replacement of obsolete structures. Ours is no small task; it is, in fact, "big business."

OUR ORGANIZATION under the Chief of Naval Material encompasses not only the main office in Washington, but a number of field engineering and construction offices in various locations throughout the world. We have decentralized our operations to these local offices as far as possible, bringing us physically nearer to the activities and the Operating Forces. We work in Thailand, Antarctica,

England, Africa and many other locations. These field offices also support various other government agencies: AID, our sister services, military missions, etc. In fact, our other-than-Navy construction workload for this year amounts to \$176 million.

However, within the Navy, the centralization of the facilities task under the Bureau of Yards and Docks eliminates multiple sponsor competition for the limited maintenance and construction dollar. It allows us to work under standard parameters toward a single goal—a better shore establishment with which to support the Fleet.

It follows that our working relationship within the Naval Material Command is better, owing to the coordination now applied by the Chief of Naval Material. We are now the single entity for facilities who can work with the special systems "project managers," such as the A-7A system.

The past has taught us that the facilities associated with any new weapons system must receive consideration during the formative stages of the weapons system planning. Often facilities were more or less an afterthought on the part of the people developing the system; and when the product was in hand, support facilities had to be developed immediately on a "crash" basis.

Using the F-4 *Phantom II* as an illustration, let me give you some examples of the additional facilities that can be required to support a single new weapon system. To sup-

port the F-4 at NAS OCEANA, it was necessary to lengthen the runway 4000 feet to satisfy operational needs. F-4 tire pressures of 400 psi called for a \$750,000 runway overlay. A new training building was required to house maintenance training facilities. Two new hangars were needed for post-flight radar facilities. Engine test cells, high-speed re-fuelers, arresting gears, and supplementary power systems, were necessities.

All this called for additional land acquisitions, for highway and rail relocations, and finally, engineering, design and construction with, I might mention, further maintenance in mind. Yet the F-4 was a minor challenge. Fulfilling F-4 needs was a comparatively simple task compared to providing facilities to support a program such as the *Polaris* Weapons System.

Under a single program manager, as is the case with A-7A, we will have enough time to engineer the facilities necessary for the operation of the weapons system. The Bureau of Yards and Docks, at this stage of the program, has about \$2 million worth of military construction planned at four different locations to meet the need of training facilities for the people who must operate A-7A.

Our job within BuDOCKS is to continue to work with the project management personnel on the planning, engineering, construction and maintenance of the facilities necessary to support the new aircraft—and all within the time-frame required for the system to become operational.

FORESIGHT IN PLANNING LOGISTICS

BUSANDA's role in the A-7A program will last throughout the life of the A-7A. I will not attempt to run the gamut of BUSANDA projects. By confining myself to the BUSANDA role in the A-7A program, I hope to "close the ring," so to speak, drawing together some reasons for our joint effort and NMSE's *raison d'être*.

Although the A-7A will initially be contractor-supported (until September 1967), BUSANDA has been working on support of the aircraft since the inception of the program.

BUSANDA is responsible for ensuring that coverage contained in the

original contract provides adequate documentation for the selection of necessary repair parts and equipments for the supply system.

We will review approximately 20,000 blueprints on this aircraft and consider nearly 100,000 spare parts. From these, we will select 8000 to 10,000 spare parts or equipments for stock in the Navy supply system.

The determination of range, depth and positioning of stock for the A-7A is an extremely complex problem, re-

By RAdm. John W. Crumpacker
Chief, Bureau of Supplies & Accounts

quiring the closest liaison between the Bureau of Weapons and BUSANDA members of the NMSE team.

In selecting the range of materials to be stocked in the supply system, the BUWEPS representative, using past usage of like parts on other aircraft, contractor recommendations, and usage data collected by the contractor during the contractor support phase, will determine whether or not an item will be procured, manufactured by the Navy, bought in limited quantities and repaired by the Navy industrial sites, or not bought at all. The BUSANDA representatives will then

screen each item to determine whether or not the items selected for procurement are already in the Department of Defense supply system.

Once these decisions are made, we are in a position to *buy material*.

The problem here lies in the determination of how many of each item to buy within the dollars available. *We must first know how many aircraft we will be supporting, where they will be located, and how many hours per month they will be flying.* We then determine how many repairable assemblies to buy and from there, how many bits and pieces to stock to support the repair of equipments. Armed with this information, we are also in a position to determine the amounts of consumable supplies to buy in support of the scheduled overhaul of the aircraft itself.

WE MUST also determine how many repair parts will be necessary to "outfit" or stock those aircraft carriers with the A-7A on board to ensure that the aircraft can be kept flying while the carrier is deployed out of the area of the continental United States. A consideration must be made here of space availability on the carrier. Once again, this requires close teamwork between members of the NMSE—this time BU SHIPS and BU SANDA. Initial stocks of repair parts must also be purchased for the sites that will be performing overhaul or repairs of the aircraft, engine, or equipments.

As with all weapons system procurement that BU SANDA is a party to, this buying process must begin in the early stages of the development of the A-7A, so that hard-to-procure repair parts can be manufactured concurrently with the aircraft to ensure material availability as soon as the aircraft is introduced into the Fleet.

The second major task is the identification of those parts selected. Once again, we must ensure that we do not duplicate the procurement of any stock that may be on hand in excess quantities in any federal agency.

As with all weapons system projects in which BU SANDA is involved, we must next specifically *pinpoint those items that are managed by the Defense Supply Agency*. Materials that are used in large quantities by more than one service are, as many of you know, centrally procured and stocked



RADM. JOHN W. CRUMPACKER, USN

by DSA. This takes advantage of the economics of quantity buying. In the case of A7A, we will pass to DSA the total quantity of each centrally managed item that we will require during the first year of operation. From then on, usage data will be developed during that first year to determine what the future support requirements will be.

The last, but certainly not the least major problem area, is the *distribution or positioning* of these spare parts to ensure availability as near as possible to the operating sites to keep transportation and shipping costs to a minimum as well as to provide the parts to the user as quickly as possible.

The A-7A will be used by both the Atlantic and Pacific Fleets. Training aircraft will be located at several points in the U.S. There may or may not be operating squadrons located at various air stations both inside the U. S. and overseas.

The aircraft will be overhauled at two points: Alameda, Calif., and Quonset Point, R. I. The engine will be overhauled at Norfolk, Va. Major equipments will be repaired at all three places. Our problem, then, will be to position a sufficient stock of fast-moving items at each of the operating bases, either inside or outside the U. S., at each training base and at each repair facility.

We must also locate a sufficient stock of fast-moving, slow-moving, and insurance items on each carrier to ensure their successful deployment. Back up stocks of the entire range of

items must be positioned on each coast.

As is the case with all weapons systems supported by BU SANDA, funds available do not allow for the positioning of all items where needed, so we are depending more and more upon rapid transportation rather than larger investments in dollars.

During the first three years of Navy support, this aircraft, if it follows the pattern of other new aircraft, will undergo many, many design changes. Each design change results in the same decisions as the initial buy, and generates new items for procurement and distribution. It also results in some items becoming obsolete and in disposal action. These design changes, together with variations from the anticipated usage of items, result in redistribution action on many of the system stocks.

In summary then, the Bureau of Supplies and Accounts will:

1. Determine the requirements of spare parts and equipments to support a predetermined number of aircraft for a predetermined number of flying hours each month;
2. Procure, within the dollars available, those repair parts selected;
3. Identify all items and screen federal assets to prevent duplications of stock;
4. Distribute or redistribute material as necessary to ensure availability when and where needed; and finally the last responsibility;
5. Take disposal action on items that become obsolete as a result of design changes.

Having projected the A-7A from its inception through all phases—virtually all the way to "disposal planning," my fellow Material Bureau Chiefs and I hope we have made the NMSE picture clearer.

The "rare good sense" of the NMSE concept that Adm. Schoech spoke about earlier becomes abundantly evident when we consider the benefits derived from our new organization. For NMSE, through centralized direction, closer liaison, and spirited teamwork, makes for *economical, efficient, and effective Fleet support*.



THE EC-121K 'WARNING STAR,' belonging to Airborne Early Warning Squadron 13, touches down for the 70,000lb GCA approach for Radar Air Traffic Control Center #15 at NS Argentia, Newfoundland, September 11, 1964. This station experiences the widest possible range of varying weather conditions, usually in a short period of time. Records show that more than 23 per cent of the GCA landings at Argentia were made during actual instrument flight.

'Mr. Polaris' is Honored Raborn Hall Opened at Dam Neck

On September 24, the new Raborn Hall, at the U. S. Naval Guided Missile School, Dam Neck, Va., was dedicated.

The guest of honor was VAdm. William F. Raborn, Jr., USN (Ret.), for whom the building was named. The admiral is known as "Mr. Polaris" because of his work in developing, producing and perfecting the Polaris Fleet ballistic missile system. The dedication of Raborn Hall commemorates the admiral's 35 years of loyal and devoted service.

Raborn Hall contains the latest equipment found in the newest Polaris submarines. Here personnel will be trained to man the weapon and navigation departments in the submarines.

Group Award for MAG-14 Achievement Trophy Given Unit

Marine Air Group 14, MCAS CHERRY POINT, recently received an Achievement Trophy, given annually, as the outstanding attack aircraft group in the Second Marine Aircraft Wing. The presentation was made by BGen. George S. Bowman, Jr., 2nd Wing Commanding General.

MAG-14 competed against all units of the wing assigned similar missions. The group, consisting of a headquarters and maintenance squadron, a Marine air base squadron and three attack squadrons, is commanded by Col. J. J. Windsor. The squadrons are VMA-224, VMA-225, and VMA-332.

During fiscal year 1964, MAG-14 deployed nine times, conducted fire-power demonstrations for the Joint

Civilian Orientation Conference, and carrier-qualified all three squadrons. Over 50% of MAG-14 personnel are enrolled in off-duty education. They exceeded their blood donation quota by 200 per cent and had over 95% participation in special fund drives.

'Union Square' Operation First Fleet Conducts the Exercise

Two attack aircraft carriers, *Coral Sea* and *Hancock*, based at NAS ALAMEDA, headed an armada of First Fleet ships on Operation *Union Square*. The operation was a naval war game type fleet exercise designed to increase First Fleet readiness in anti-aircraft and antisubmarine warfare strikes.

Exercise commander, VAdm. L. P. Ramage, said in a pre-exercise statement, that *Union Square* would provide an opportunity to thoroughly test and evaluate participating units under the "most realistic conditions."

Both *Coral Sea* and *Hancock* were assigned to the "Friendly Task Force," commanded by RAdm. E. S. Miller. "Enemy Task Force" was commanded by RAdm. John McNay Taylor.

Nation's Top Pilots Meet Attend Annual Patuxent Reunion

On October 3 several hundred of the nation's top aviators and some 100 persons associated with aviation arrived at NATC PATUXENT RIVER for the 16th annual reunion of the U. S. Naval Test Pilot School.

Formally established in 1948, the school has graduated over 850 students in 37 classes. Among alumni who have completed the intensive

eight-month course are pilots from all branches of the U. S. Armed Services. Among other graduates are NASA astronauts, major airframe contractors, and members of foreign services. Nine of the school's graduates are currently assigned to the nation's space program.

A seminar of technological and academic interest for the graduates formed the major part of this year's reunion. Host was Cdr. N. J. Smith, III, tenth director of the school.

VR-22 Gets New Test Stand Will be Used for Hercules Repairs

A mobile engine test stand which enables maintenance personnel to make an engine "do anything it can do in an aircraft, except fly the test stand," has been delivered to Air Transport Squadron 22.

The \$100,000 piece of equipment will be used for all engine repairs and replacements for the squadron's C-130E *Hercules* aircraft.

"The test stand can be used to test some equipment that can't be tested on the aircraft," says CWO H. B. Hopson, VR-22 Propulsion Officer.

Mounted on a 33-foot flatbed trailer, the 13-ton unit is completely self-contained. It has its own air starter, auxiliary generator power unit, built-in fire extinguisher system and air-conditioned control cabin. Three large fuel cells feed the engine being tested.

Before the stand arrived, maintenance personnel could not test engines received from O&R. Now each engine is tested as it is received. The new test gear is also used to speed engine discrepancy trouble-shooting when it appears the job will take too long if the engine remains in the aircraft. The sick engine is then removed to the stand and another put in its place.

Marines, Sailor are Lauded Helped Cost Reduction Program

Two Marines and a sailor based at MCAS CHERRY POINT have been awarded letters of commendation for their contributions to the station's cost reduction program. Station Commanding General, BGen. Norman J. Anderson, signed the letters for LCol. Robert L. Allen, WO Marvin L. McDonald and John B. Dunlap, HM2.

They are credited with helping to save the government more than \$800,000 over an 18-month period.

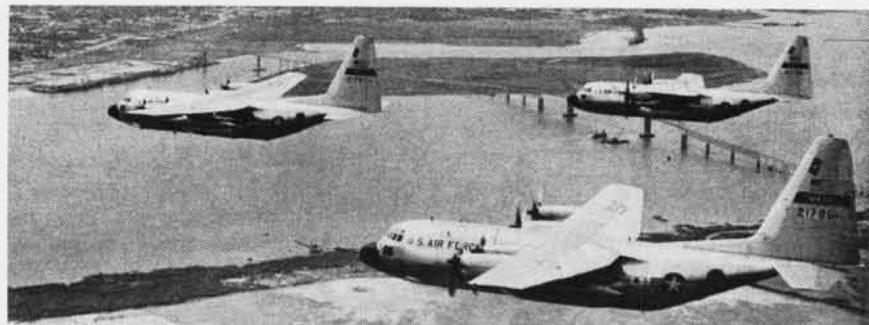
As production manager at the O&R department, LCol. Allen established new procedures which allowed a reduction in the number of days required for in-process inventory of aircraft. Through the new program an average of \$18,000 per aircraft was saved in man-hours and cost in a nine-month period.

WO McDonald, while serving as a gunnery sergeant and non-commissioned OinC of high speed aircraft refuelers, devised a system for reclaiming and repairing previously discarded fueling hoses and associated equipment. This resulted in a six-month savings of over \$3000.

Assigned to the Industrial Dispensary at O&R, Dunlap devised methods for adjusting and repairing safety glasses which resulted in an annual savings of nearly \$4000.

VW-11 Honored for Safety Also Receives Lockheed Trophy

Airborne Early Warning Squadron Eleven has been designated winner of the Lockheed Meritorious Squadron Award for excellence in administration, training and operational perfor-



IN A JOINT NAVY-USAF exercise, composed of crews from the Military Air Transport Service, 18 C-130 Hercules thunder over the sun-baked plains of Utah at almost 300 mph. The aircraft are from VR-7 and VR-8, Naval Air Transport Wing, Pacific, based at Moffett Field, and the 86th Air Transport Squadron, Travis AF Base. In a new concept of aerial delivery of U.S. combat troops and equipment, the aircraft approach the drop zone only ten seconds apart. Skimming over the desert floor, the transports "pop up" to drop altitude seconds before reaching the drop area, thus evading enemy radar while their high speed exposes them to enemy fire only briefly. The new tactic allows for a large scale drop in a matter of minutes.

mance during the past fiscal year. The squadron also has been recognized by VAdm. Paul H. Ramsey, Commander Naval Air Force, U.S. Atlantic Fleet, for meritorious achievement in aviation safety.

As of August 1, 1964, VW-11 had flown approximately 69,000 consecutive accident-free hours.

At ceremonies at NS ARGENTIA, VAdm. Ramsey presented the ComNavAirLant Safety Award to Capt. L. W. Bunce, Commanding Officer of VW-11, and said that the squadron

could take great pride in the outstanding record it had made.

At the same time, Capt. Raphael Semmes, Jr., Commander Airborne Early Warning Wing, Atlantic, presented the Lockheed Award to Capt. Bunce. This was the second consecutive year VW-11 had won this distinction.

Flying the Lockheed *Warning Star* from Keflavik, Iceland, VW-11 crews have provided a seaward extension of the Distant Early Warning Line. In fiscal year 1964, the squadron's crews flew approximately 14,000 hours.



THE GRAY GHOST RIDES, no, flies, as the P-3's lose their distinctive coloring. A recent addition to VP-8's flight line at NAS Patuxent River, Md., is the first Orion of the Atlantic Fleet with the low visibility paint job. The gull gray and white paint scheme was proposed for patrol aircraft after an evaluation by VP-8's air tactical development group. Soon all new production and reworked Orions will sport the gull gray paint modelled above by BuNo. 149675.

Flyer Awarded Air Medal Flew Combat Missions in Vietnam

LCdr. L. B. Day, Jr., a pilot in VR-7 based at NAS MOFFETT FIELD, was recently awarded the Navy Air Medal. During inspection ceremonies, the pilot was honored for flying combat support missions in the Republic of Vietnam from Jan. 11 to Feb. 17, 1963. Capt. E. W. Bergstrom, C.O. of the squadron, read a citation to LCdr. Day from the President of the United States.

It commended him for "meritorious achievement in aerial flight as pilot of an interceptor aircraft of VAW-13 during combat support missions carried out against insurgent communist guerrilla forces... Completing 20 missions during this period, LCdr. Day (then a Lieutenant) contributed materially to the success of his squadron."

LCdr. Day currently flies the C-130 Hercules in the transport squadron.



ONE DAY THIS FALL for six hours, a group of young men was dunked, dropped from a 25-foot tower and, garbed in flight suits and pressure suits, was dragged from one end to the other of a large pool at NAS Pensacola. They were astronauts from the NASA Manned Spacecraft Center at Houston. Instructed by Jack E. Martin, civilian, they learned how to get out of a space capsule, remain afloat, rest in the water and, if necessary, move through water with the least amount of effort. The training is concerned with escape from a space capsule at sea. This is the third astronaut group to receive this survival training at Pensacola.

U.S.-Canadian Exercise Nearly 300 Aircraft Participate

A joint Canadian-United States antisubmarine warfare exercise, lasting two weeks, took place the month of September.

ASW ships and aircraft from East Coast Canadian bases and from U.S. bases from Argentia to the Caribbean, participated in an exercise conducted by Commander Antisubmarine Warfare Forces, Atlantic, VAdm. Charles E. Weakley, and Canadian Maritime Commander, Atlantic, RAdm. J. V. Brock.

Forces also included units of the U. S. Coast Guard, Naval Reserve and the USAF. Almost 100 ships and nearly 300 aircraft were involved.

U.S. and Canadian-based submarines acted as the enemy. The operation was designed to exercise the Canadian and U.S. ASW command control organization and facilities, and their operating forces over a large area.

'Strike' Plaques Awarded VA-25, VA-164 Win Top Honors

Top honors in Exercise *Ready Strike II* for light attack aircraft were cap-

tured by propeller Attack Squadron 25 and jet Attack Squadron 164.

Announcement of the honors was made by Capt. K. L. Sanger, ComFAir Alameda/ComNAB 12, at a gathering of all NAS LEMOORE Fleet

squadrons. Adm. T. H. Moorer, CinCPacFlt, presented the plaques to Cdrs. J. W. Roberts and R. F. Smith, Commanding Officers of VA-164 and VA-25, respectively.

Ready Strike is a low-level, navigational bombing exercise, designed to test the participant's ability to locate, identify and hit accurately a pre-designated target in an unfamiliar environment within a specified time.

Radar Test is Conducted Terrain-Following Type Evaluated

The concept of carrying an externally-mounted, terrain-following radar has been evaluated by the Naval Air Test Center, Patuxent River, Md. A prototype system made by General Dynamics/Electronics was tried out on an A-4C *Skyhawk*.

The pod, which contains the radar gear, is 14-inches in diameter, 80-inches long and weighs 168 pounds when loaded. The radar and computer combination weighs 122 lbs.

A 10-inch antenna moves approximately eight degrees in the vertical plane in response to angle of attack. This allows the radar antenna, which does not sweep, to maintain a constant angle with respect to the aircraft's flight path. The angle can be changed when the pilot resets the terrain-clearance height in the cockpit.

The new radar will greatly assist pilots on low-level attack missions.



THREE SUPERSONIC F-8 all-weather fighters, bearing the tri-colors of France, arrived late in August at Naval Air Test Center, Patuxent River, Md., to begin U.S. Navy flight test trials. The French Navy purchased approximately 40 F-8E (FN) fighters from Ling-Temco-Vought. The test center is responsible for certifying contractor guarantees for the performance of the airplane as a weapons system. There are many differences between the French model and the latest USN model, but the major ones are the addition of boundary layer control and certain structural modifications needed to accommodate the French-built Matra missile installation.

THIS YEAR'S SHOW AT FARNBOROUGH

By Capt. E. L. Barker, USNR

THE 1964 FLYING DISPLAY and Exhibition held at the Royal Aircraft Establishment, Farnborough, in September was the first to be presented in the name of the Society of British Aerospace Companies. It was also the 24th in the series which began in 1932. This year's event, held after a two-year pause, lasted the usual one week. The Farnborough event had previously been held annually.

The magnetism of Farnborough still prevailed in September. Aviation enthusiasts from all ends of the globe were in evidence, including professional teams from Russia, Japan, India and the new African nations.

The mornings were devoted to static displays on the airfield and in the exhibition tents. The latter literally bulged with sightseers.

Considering the scarcity of new aircraft, the static displays offered the greatest interest. Highlights in this category included a model display of the new *Sea Dart* ship-to-ship missile system by Bristol Siddeley. Originally known as the CF-299, *Sea Dart* is a new weapon system designed and developed primarily for use by destroyers and British type frigates. A land-based version of *Sea Dart* is also under consideration.

In the afternoon, the crowds around the stands and display aircraft thinned as the hour drew near for the flying display. First on the agenda were three large *Belfast* transports followed by a bevy of *Wessex*, *Whirlwind*, *Scout* and *Wasp* helicopters. The helicopters performed a variety of eye-catching aerobatics, capped by a new trailing hose refueling operation performed by two *Wessex* helos.

While this was in progress, an SR.N5 hovercraft was put through its paces. Designed and built by the Saunders-Roe Division of Westland Aircraft, Ltd., the SR.N5 is the first type of air cushion vehicle (ACV) to attain some degree of commercial success. Production of these versatile two-to-three-ton payload machines has begun at the rate of one a month. There was only one SR.N5 on display and its performance was restricted to



HAWKER SIDDELEY GNATS FLY IN FORMATION FOR THIS YEAR'S FARNBOROUGH AIR SHOW

a few skittish runs over the turf in front of the reviewing stand. As the SR.N5 came to rest on its flappy rubber skirts, it looked like a huge jelly fish sprawled on the runway.

When operating at sea, these craft leave no wash—only a flat wake. Power is provided by one Bristol Siddeley Marine *Gnome* engine. Maximum speed with six inches clearance is reported to be 70 knots.

Navy *Buccaneers* were again present at Farnborough. The two *Buccaneers* with a VTOL P.1127 flew a number of passes over the field. This was followed by three P.1127's in formation. The appearance of this trio marked the first time three VTOL aircraft had ever been displayed in flight.

At the top of the commercial aircraft list on flying display was the *Trident* medium range jet transport. It was followed by the popular HS-125 executive twin-jet with a rear-engined configuration similar to the *Trident's*. Also shown was a large Super VC.10.

To many, the most spectacular item in this year's flying display at Farnborough was undoubtedly the Services' demonstration of an airborne assault. Before the simulated airborne landing, enemy troops were "softened up" by *Scimitar* and *Sea Vixen* strike aircraft of the Royal Navy and by *Hunters* and *Canberras* of the RAF.

These were immediately followed by a landing of 90 troops from Royal Navy *Wessex* helicopters. A further wave of 12 RAF and RN helicopters came in with six 106mm recoilless

rifles, for the Marines, and six 105mm pack howitzers for the gunners. The loads were carried slung below the aircraft.

Two RN and RAF helicopters then demonstrated the speed with which the artillery's equipment could be picked up and redeployed. Other methods of deplaning troops were also demonstrated, including the "abseiling," controlled decent on a nylon rope, by six men from 200 feet.

The assault was followed by six *Argosy* aircraft which landed 120 members of the RAF regiment with their vehicles and equipment. These constituted a defense force for the constituted a defense force for the continued protection of the landing zone.

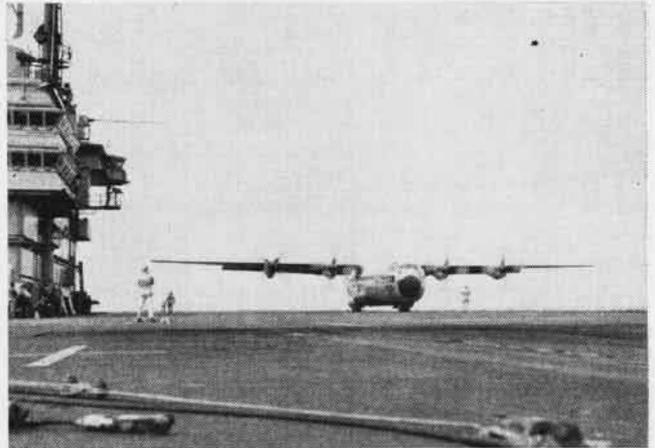
Missing from Farnborough this year, however, were the high-speed fighter displays of earlier air shows.

An innovation at this year's display and a form of retrogression to a bygone era was the appearance of an old 1930 *Bulldog* biplane. This particular plane, the only one in existence, crashed unfortunately while making a test hop. With something of the aplomb of a battered Roman gladiator, the pilot, after being helped from the wreckage, waved to the cheering crowds on his way to the ambulance.

Farnborough 1964 ended in a blaze of sunshine and snarled traffic. On the last day a record 200,000 attended. And there were still other thousands who were caught in Britain's famous weekend traffic jams and failed to reach Farnborough in time.



PAINTED ON THE C-130 ARE THE WORDS, 'LOOK MA, NO HOOK'



PROPELLERS ARE REVVED UP AS C-130 IS READIED FOR TAKEOFF

CARRIER SUITABILITY EVALUATION: C-130

EARLY IN October 1963, NATC PATUXENT RIVER, Md., received a problem assignment which caused all hands to do a double-take: "Determine the feasibility of operating the C-130 Hercules aircraft aboard

*By Lt. James H. Flatley, III, USN
Project Pilot*

the CVA-59 and later class carriers." Once authenticated, the assignment was passed to Carrier Suitability

Branch of the Flight Test Division. The branch, having never had a multi-engine pilot on its roster, had an immediate problem. It was decided that it would be easier to teach an experienced carrier pilot to fly the C-130



TO AID THE PILOT IN GUIDING THE BIG HERCULES, A WHITE CENTER LINE WAS PAINTED ALONG AXIAL DECK FROM BOW TO RAMP



TAKEOFF ROLL IS ALMOST COMPLETED AS PILOT NEARS THE END OF THE DECK WITH THE BIG BIRD JUST STARTING UPWARD COURSE

than it would be to teach an experienced C-130 pilot to fly a carrier approach.

The aircraft, a KC-130F (Buno. 149798), on loan from the Marines, was delivered October 8th. Minor modifications, accomplished in three days, consisted of removing the refueling pods from the wings, installing a smaller nose-landing-gear orifice, and replacing the standard C-130 antiskid brake system with the Hytrol Antiskid Braking System Mk II used on the Boeing 727.

To facilitate familiarizing the two "fighter" pilots assigned to the project, Lockheed-Marietta provided a

C-130 test pilot. A volunteer flight engineer from VR-1 completed the crew.

The entire conduct of the evaluation centered around one restriction on the aircraft, a maximum safe limit sink speed of 9 f.p.s. In the first analysis, this was quite a restriction considering that the lowest average sink speed for aircraft currently operating in the fleet is 11 f.p.s. (Grumman's S-2's and C-1A's).

Shore-based Trials

The shore-based test program at Naval Air Test Center, Patuxent River, had two principal objectives:

1. Determine the optimum pilot technique for takeoff and landing with emphasis placed on reducing sink speed and touchdown dispersion.

2. Obtain enough data from a series of maximum effort landings and takeoffs between 80,000 pounds to 120,000 pounds gross weights to determine realistically the feasibility of taking the aircraft aboard ship.

Objective No. 1 was accomplished on the second flight. It was found that approaches on the optical landing system (OLS) provided the most positive control of sink speed and



DURING FIRST TRIAL LANDINGS, SHIP SPEED WAS INCREASED 10 KNOTS TO REDUCE YAW MOTION AND STABILIZE WIND DIRECTION

touchdown dispersion. In fact, during shorebased tests, the sink speed averaged only 5.6 f.p.s. in a 3° OLS glide slope. The touchdown dispersion was within plus or minus 50 feet of the established touchdown point. The standard OLS approach was modified to include a verbal "cut" by the Landing Signal Officer (LSO) when the airplane was two to four feet above the deck. The "cut" substantially reduced ground roll distance in that it enabled the pilot to safely initiate engine reversing while airborne, so that the elapsed time between touching down and reaching full reverse thrust was minimized.

The pilot and copilot procedures during the approach and landing, both ashore and afloat, were as follows:

The pilot maintained complete control of the airplane to touchdown. The boosted flight control system enabled the pilot to fly the aircraft very easily with his left hand while manipulating the throttles with his right hand. At the "cut," the pilot smoothly but expeditiously moved the throttles to the fully reversed position. At touchdown, both the pilot and copilot commenced maximum braking action. Coordinated with touchdown and braking, the copilot relieved the pilot on the control column. The copilot maintained a wings level attitude with ailerons while neutralizing the elevator. Upon being relieved on the control column, the pilot shifted immediately to nose wheel steering while continuing to hold engines in full reverse.

All approaches were flown at 1.15 V/stall, 79 knots at 85,000 pounds to 99 knots at 120,000 pounds. A sensitive airspeed indicator was installed for preciseness. Because glide slope and lineup corrections required all the pilot's attention in the final stages of the approach, the copilot monitored airspeed verbally over the "hot mike." An angle-of-attack system was installed prior to the tests but proved incompatible with the procedure outlined above.

Measured maximum effort takeoffs were made following most of the landings. Minimum takeoff distances were obtained with a flap setting of 75 percent (50 percent for normal field takeoffs) and rotation at 3 knots below takeoff stall airspeed. At the predetermined rotation speed, 57 knots at 85,000 pounds to 75 knots at 120,000 pounds, the nose was rotated

smartly to 5° on the gyro horizon and held until reaching the one-engine-out minimum control speed.

Sinking speeds, touchdown dispersion, takeoff and landing distances were recorded by the Mitchell camera and the Fairchild flight analyzer. Results of shorebased tests reduced to standard day, zero wind conditions showed shipboard trials feasible.

Shipboard Trials

The first of three separate shipboard evaluations conducted aboard USS *Forrestal* (CVA-59) was concerned with determining the effects of carrier airflow disturbances on airplane control characteristics during the approach.

Prior to making approaches to the carrier deck, the flight deck was cleared with the exception of airplanes and equipment that could be parked even with or outboard of the island structure. The cross-deck pendants were disconnected at one terminal end and placed along the edge of the flight deck. A white center line was painted along the axial deck center line extending from the bow to the ramp. The LSO windshield was lowered to protect it from the propeller wash during takeoff and for wingtip clearance during landing.

The Fresnel Lens Optical Landing System Mk 6 Mod 0 was used for all carrier approaches and landings.

Surface winds during the initial trials on October 30 (just 22 days after receiving the airplane) were 25 to 30 knots and varying in direction up to plus or minus 30° relative to the axial deck. Deck motion was moderate with noticeable yaw as a result of the low speed of the ship (5 knots). The gusty and variable winds produced excessive lateral and directional disturbances during the latter stages of the approach. The speed of the ship was increased 10 knots to reduce yaw motion and stabilize wind direction. Although the resultant winds over the deck were 40 to 50 knots, the lateral control problems encountered previously were lessened and were tolerable.

Vertical glide path control under all conditions was adequate. It was noted, however, that the aircraft exhibited a tendency to rise above glide slope, requiring frequent nose-down corrections to maintain a centered "meatball." The airplane is insensitive

to longitudinal trim; however, the airplane is extremely sensitive to power changes with almost instantaneous positive acceleration. As a result power could not be coordinated effectively with longitudinal trim to trim out the sawtooth characteristics of glide slope. Nineteen touch-and-go landings were accomplished under the conditions outlined above.

The second and third shipboard evaluations were conducted under more favorable wind conditions, and full stop landings and deck launches (21 of each) were completed successfully. Gross weights for the first landings were 85,000 pounds and were raised by increments by refueling to 121,000 pounds. Takeoffs at a gross weight of approximately 90,000 pounds were made from the angle deck. The landing distances were within the predicted values based on shorebased test data and ranged from 270 feet at 85,000 pounds to 460 feet at 121,000 pounds. One landing made during a rain squall at 109,000 pounds required 495 feet to stop.

The average shipboard sink speed was only 5.2 f.p.s., a real surprise.

Airspeed control throughout the approaches was easily maintained within plus or minus 2 knots of the desired with a minimum of power corrections.

Waveoff characteristics were excellent. Late waveoffs were accomplished in close proximity to the ramp.

Directional control on landing rollout was maintained easily with nose wheel steering. Wingtip-to-island clearances were adequate, provided that the aircraft was on or to the left of the axial deck center line.

Deck handling during the trials was accomplished entirely by judicious use of reverse thrust and control of wind-over-the-deck. Extreme caution had to be exercised when turning the ship with high winds across the deck as the airplane in the static position could have been easily tipped over on either wing tip. Since the flight deck was coated with a nonskid material, the data would not be directly applicable to uncoated steel decks.

Takeoff distances were within the predicted values and ranged from 325 feet at 88,000 pounds to 745 feet at 121,000 pounds. Takeoff performance data are not optimum because precaution was taken not to rotate until past the island structure.

A JACK OF ALL SEA-GOING TRADES



OFFICERS AND MEN of HMM-364, commanded by LCol. John Lavoy, pose on deck of the *Happy Valley*. Squadron won Aviation Safety Award for 1964 and ship won a Battle "E."



MAIL AND CARGO are delivered on LPH-8 by helicopter. Although primary mission is vertical envelopment, ship-air team provides numerous services for other ships and units in Pacific.

THE AMPHIBIOUS assault carrier USS *Valley Forge* is a jack of all sea-going trades. Conducting routine operations in the Pacific, the *Happy Valley* and her helicopters from HMM-364 provide a variety of services for Seventh Fleet units. At the same time, the ship-air team maintains a high degree of combat readiness in order to perform its essential mission in vertical envelopment and amphibious tactics. The *Happy Valley* won the Battle Efficiency "E" and the Amphibious Assault Award while the Marine flying unit was honored with the 1964 Aviation Safety Award.

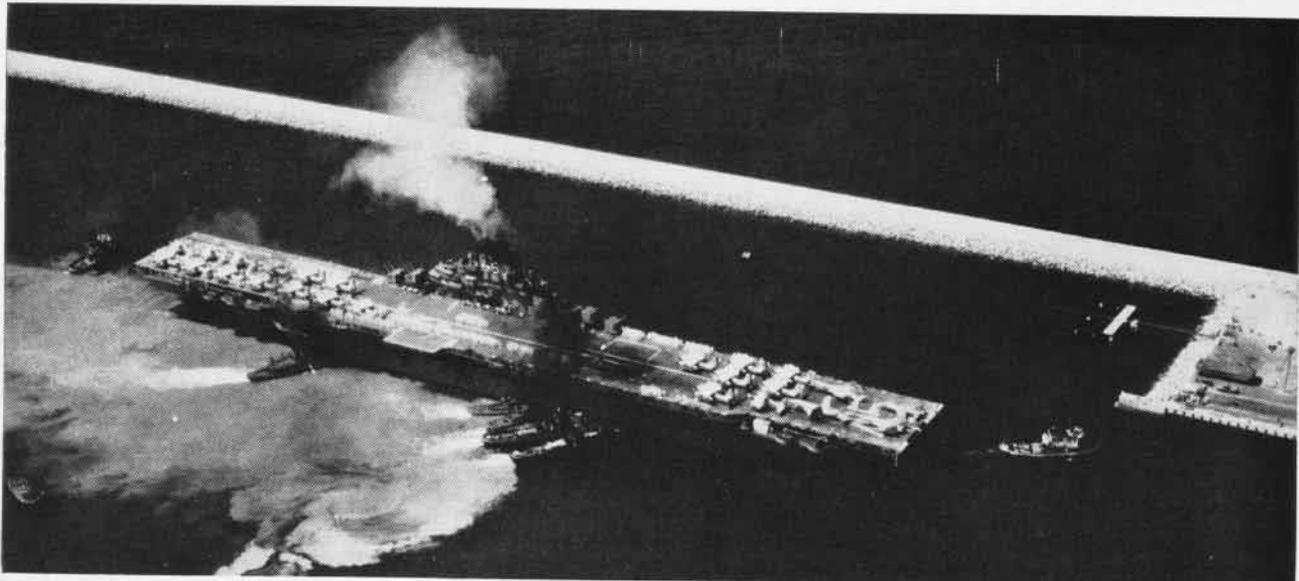
In the light of recent assignments, there has been some talk by the men of LPH-8 regarding a change of the ship's designation. She has been active in refueling destroyers in the task force and is believed to be the first Pacific Fleet ship to give minesweepers JP-5 aviation fuel underway (for use in turbine helos) by using a special high-line, close-in fueling rig. With this special rig, the *Valley Forge* can service the minesweepers in less than an hour. In one case, three MSO's took on 11,790 gallons of JP-5 in a four-hour period. This event took place in the South China Sea with USS *Fortify*, USS *Loyalty* and the USS *Inflict*, ocean minesweepers.

The ship, which is a converted *Essex*-class carrier, has made use of its spacious storage capacity. LPH-8 has transported and delivered to the task group just about everything from ice cream to stamps, frozen meat to flash bulbs and JP-5 to electric motors. Once the *Happy Valley* even supplied hamburger to the Headquarters Support Activity in Saigon. Destroyers have been especially appreciative of LPH-8 crewmen for the excellent repair work they've done on electric motors.

Helicopter crews have done journeyman duty in airlifting many conferees to special contingency planning sessions aboard the carrier. Further, HMM-364 has spurred high morale by prompt, continuous delivery of the mail.

The men of the USS *Valley Forge* have an appropriate and enthusiastic motto in which they sincerely believe: "YOU CALL, WE HAUL YOU ALL."

ROTA AND ITS AVIATION ACTIVITIES



USS VALLEY FORGE, then CVS-45 and now LPH-8, was the first aircraft carrier to dock at Rota's marginal wharf. This event occurred on June 20, 1960. Six tugs are shown easing her into her berth. Since then, several aircraft carriers have made brief visits to NS Rota.

THE WORD *rota*, in nautical Spanish, means "course." It is also the name of a township in Spain, just north of the Bay of Cadiz. A travel brochure distributed in the area points out that for thousands of years Rota had "played no significant part in the history of Spain," despite the fact that at one time or another it had been invaded by the Greeks, the Romans, and the Moors. Rota survived these attentions.

The town is typical of quiet, Spanish country. It is a short distance

By Scot MacDonald

from the world-famous *bodegas* (wine cellars) of Jerez. Fruit and vegetables are cultivated in small plots of land by the *Roteños*, the townspeople. In the town square, dominated by a 14th century church, is a plaque commemorating Bartolome Perez, who accompanied Columbus to the New World in 1492. Almost year-around, the *Roteños* find the sun warm and the Atlantic breeze cool and refreshing. Their town is situated only 60 air

miles northwest of Gibraltar and now is one of the most strategically important ports in Europe.

In 1953, Spain and the United States signed economic aid and mutual defense agreements, one result of which was the establishment of a joint Spanish-American base, *La Base Naval de Rota*. For the Americans, the major mission of the base is to assist in the support of Atlantic and Mediterranean Fleets, as well as major Air Force bases in Spain. For the *Roteños*, their quiet, colorful town,



AS FAMILIAR to NS Rota as the Empire State Building is to New York are these giant tetrapods, specially designed to control tidal flow.



THE INEVITABLE "Follow Me" sign appears at Rota, this time in Spanish. It is carried by a donkey, driven by a *Roteño*, a Rota native.

ignored for centuries in the development of Spain, began to take its place in history.

In April 1955, ground was broken for the construction of the base. Building progressed slowly, for some problems were encountered. Cdr. R. C. Gordon, CEC, summed up one of them in a 1957 article.

"The ultimate utilization of the naval complex at Rota," he wrote, "cannot be realized until the port facilities are completed. The construction of the naval harbor at Rota is not the enlargement of an already existing port but the development of a complete facility with no more than an open exposed beach in the Bay of Cadiz to start with.

"The work includes construction of a breakwater and rock dikes, a gravity masonry marginal wharf, a POL (petroleum, oil and lubricants) pier and trestle approach, and the dredging of the area and the placing of hydraulic fill, along with attendant utilities and support structures and equipment. . . .

"The breakwater, the key structure in any harbor on an open sea shoreline, is unique in its employment of more than 9000 tetrapods (precast concrete units of 8-, 16-, and 25-tons) as the armor cover." These tetrapods, looking much like children's jacks, are now symbolic of Rota. The entire harbor design was checked by a series of model tests run at the Central Hydraulic Laboratory of Paris before work began.

"One of the most difficult problems for the construction contractor to handle in the construction of the breakwater," Cdr. Gordon continued, "is the provision of 1,100,000 cubic meters of rock ranging in size from 0.01 to five metric tons.

"The magnitude of this as a problem is demonstrated by the fact that 650,000 cubic meters of this rock are being hauled from a limestone quarry that is 75 kilometers from job-site. This haul is made in three steps from quarry to the breakwater . . . over poor roads . . . by rail . . . and by trucks."

Scarcity of construction equipment in Spain made man, oxen and mule labor a necessity during much of the building of the base. While this work was going on, an integrated base system in Spain was being designed and constructed elsewhere, including three

major Air Force fighter-bomber bases at Torrejón, Zaragoza and Morón, a group of small material and supply and communications facilities at or near San Pablo, Sevilla, two subsidiary Naval facilities for fuel and ammo storage at El Ferrol and Cartagena, as well as a chain of auxiliary interceptor stations. When completed, Rota would provide a POL system of storage and transmission of liquid petroleum products in addition to the air station facilities. Under the 1953 agreements, most of these were not completely new constructions, but rather the expansion of existing Span-

miles from Madrid. The plane, Buno. 12428, and its crew were to provide the nucleus of the aviation facilities when the station was commissioned at Rota.

In October 1956, a combination of runway and taxiway at Rota's Naval Station was completed and the first landing made. About a year and a half later, LCdr. Sidney Edelman made the first night landing on the airstrip, in an R4D *Skytrain*. Cdr. Edelman said that conditions were ideal on the 8000-foot (since lengthened to 12,000 feet) strip which was "beautifully illuminated by a three-



MEMBERS OF VR-661, a Reserve squadron based in Washington, D.C. and on two weeks active duty for training, inspect a team of burros used by a local employee, passing a C-130.

ish military facilities to meet the requirements of the new joint commands. Insofar as was possible, work on these projects was subcontracted to Spanish concerns.

A small force of U.S. naval aviation personnel was assigned to Commander U.S. Naval Activities, Spain, supporting contractors and the OinC of construction of the military bases being built in Spain. One R4D-8 and crew (pilot, LCdr. Albert T. Hall) were assigned the group. Besides Navy and civilian engineers, the plane carried a variety of cargo, ranging from concrete specimens to turkeys. It was affectionately called "the Toonerville Trolley." Major maintenance work was done on the aircraft at Port Lyautey, but most situations were handled by the U.S. crew at Getafe Spanish Air Force Base, about ten

quarter moon." Outlining the runway were 25 flares; fixed field lighting, navigation aids, control tower, and GCA for instrument landings were under construction.

In November 1957, Naval Station Rota was commissioned. However, it was not until September of the following year that Detachment A of VP-5 arrived, becoming the first patrol squadron to be based there. Fleet Air Support Squadron 104 had previously sent in a detachment from Port Lyautey, set up shop, and taken over the servicing and maintenance of the patrol aircraft, becoming the first Fleet unit to be homeported at Rota.

A transient A3D *Skywarrior*, also from Morocco, was logged as the first jet to make an operational landing at the base. The plane was piloted by Commander Robert B. Spark.



THIS VIEW OF ROTA, Spain, shows the housing area on base, the harbor at left, the administration area at top center, and the flight line, upper right. NS was commissioned October 1957.

Slightly over three years after the ground-breaking ceremonies were conducted at Rota, in October 1958, the tetrapodal triumph in control of tidal flow paid off. USNS *Buckner*, a Military Sea Transportation Service ship, made the first of many MSTs ship visits to Rota. And in June 1960, USS *Valley Forge* (then CVS-45) became the first aircraft carrier to dock at Rota's marginal wharf.

In July 1961, Commander Naval

Activities, Spain, moved from Madrid to Rota and ComNavActs Rota was disestablished. Most of the Naval Aviation units at Rota are responsible to Commander in Chief, U.S. Naval Forces, Europe, headquartered in London. Immediate in the chain of command is ComFAirMed, at Naples, which exercises management and operational command for CinCUSNavEur—in regard to all the activities relating to Naval Aviation at Rota.

The two major squadrons at Rota are a patrol squadron and Fleet Air Logistics Squadron 24 (VR-24). The current patrol squadron is VP-7, now serving a five-month deployment. It is homebased at NAS JACKSONVILLE and commanded by Cdr. T. A. Graham.

"The World's Biggest Little Airline," VR-24, can almost be described as indigenous to the Med.

During the summer of 1946, a survey showed a need existed for a Utility Transport Squadron to serve the U.S. Naval Forces in Europe. In consequence, on December 3 of that year, VRU-4 was commissioned at London, and headquartered at Hendon, England. A detachment was established at NAS PORT LYAUTEY. A week later, a second detachment was established at Naples, but was disestablished the following April, upon ratification of the Italian Peace Treaty.

By the autumn of 1947, the workload in the Med had increased so much that two additional aircraft, an R4D and a JRB, were transferred from Hendon to Port Lyautey and the personnel allowance, consisting of 29 officers and 141 men, was split approximately equally between headquarters and detachment.

Facilities at Port Lyautey were meager, at first, but improved in time, and on August 1, 1950, headquarters for VR-24 (its designation was changed on September 1, 1948) was moved to Port Lyautey, with a detachment remaining at Hendon.

There were several reasons behind this move: Port Lyautey was more strategically located as a focal point for incoming air traffic from the U.S. The Navy anticipated an increase in



BASE HOUSING at Rota is squat, sleek and modern ranch style in design. See Nav-Pers-O, All Hands, April 1964, for details on Rota.



TYPICAL of civilian housing off base is this finca near Rota Naval Station. Rents average \$55-\$65 a month, but units lack heating.

commitments of the Sixth Fleet in the Med, with a parallel expected increase in aircraft, personnel and maintenance—all major maintenance was performed at Port Lyautey. There was a decrease in commitments in the Air Transport Service required in the North European area; quarters and messing facilities were not available at Hendon; and the weather conditions in the London area frequently hindered operations.

By June 1951, it was apparent that the great air-mile distances between Port Lyautey and the various Eastern Med ports used by the Fleet units required a staging area in the Central Med. Capodichino Airport at Naples was selected as the site for the new detachment, and an R4D-5R was sent there until a permanent detachment could be established. In June 1952, VR-25 took over the work of VR-24 Detachment at London.

In 1957, operational and administrative control of VR-24 changed to ComFAirMed and the squadron's designation was changed from Air Transport Squadron to Fleet Tactical Support Squadron.

The final move of the squadron was made on July 1 of last year, when CNO ordered a permanent move from Port Lyautey to NS ROTA. In an historical summary report sent to Washington, the squadron described its activity at that time.

"In addition to special logistic flights in support of the Sixth Fleet and the Naval units in Europe, and as host squadron to reserve squadrons on active duty, the squadron moved all equipment, furnishings, personnel, dependents, and household effects in record-breaking time, by completing the military portion of the move on 10 August, vice 1 October. Forty-two flights with both the C-130F and C-54S aircraft were made, moving 870,000 pounds of cargo.

"VR-24 also assisted moving NOACTS and NAS PORT LYAUTEY terminal personnel to NS ROTA, completing their move on 2 September. VR-24 also made 17 additional flights to various Air Force bases in Morocco, moving 170,000 pounds of cargo consisting of transferred items from the Air Force to the Navy on decommissioning of these bases."

During this period, the squadron hosted six Reserve VR squadrons: VR-914, NAS SOUTH WEYMOUTH;

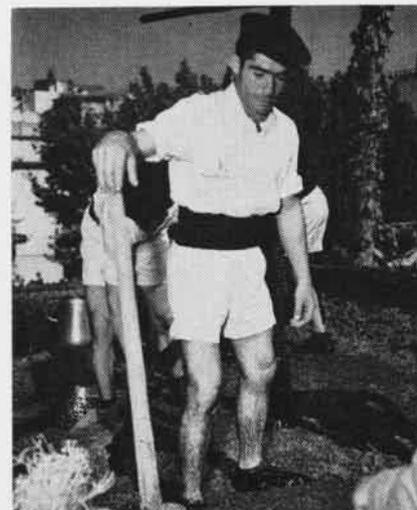


THE FLAMENCO is by far the most popular dance in Spain, enjoyed here by Navy men.

VR-714, NAS JACKSONVILLE; VR-813, NAS MINNEAPOLIS; VR-674, NAS ATLANTA; VR-832, NAS NEW YORK; and VR-913, NAS SOUTH WEYMOUTH.

VR-24 currently operates a total of six four-engine C-130 and C-118 aircraft from Rota, and eight twin-engine C-1A COD aircraft from a permanent detachment in Naples. All aircraft operate on a non-scheduled basis in response to ComFAirMed, acting as the Naval Air Logistics Coordinator, Europe, Representative (NALCoEurRep), also at Naples.

The logistic pattern calls for the large transports to haul incoming ConUS mail, passengers, and cargo from Rota, directly to Mediterranean



SUSPICION confirmed. This grape stomper presses grape harvest for a local festival.

and/or European ports for visiting ships or local Naval Activity pickup, and to return the ConUS-bound traffic on their return trips. The heavy transports also pre-position mail, passengers and cargo for pickup and delivery via COD aircraft to the aircraft carriers and ships in company of the Sixth Fleet. Instant response to the kaleidoscopic requirements of the highly mobile Sixth Fleet is a constant challenge but always handled successfully by "the world's biggest little airline."

Work accomplished by the squadron has not always been of a military nature. Frequently it is called upon to assist people in some Mediterranean country when tragedy strikes. A few excerpts from the squadron history point up such instances:

"A great inundation in the fall of 1955 caused untold grief in the loss of life, personal injury and property damage in India. VR-24 transports flew round-trips of more than 10,000 miles with blankets and dispersed needed medical supplies to these unfortunate flood victims. . . .

"In the spring of 1956 three R5D Skymasters from VR-24 carried blankets, food and other supplies to Turkey where a series of earthquakes accounted for much suffering near Eskisehir. . . .

"Also in the spring of 1956, a disastrous flood struck the country of Lebanon. R5D's from VR-24 expeditiously flew to the scene. . . .

"In November 1959, a small child sustained severe brain damage in an automobile collision in Accra, Ghana. Two Navy doctors from Port Lyautey were flown to the scene by VR-24 to join a team of specialists in an endeavor to save the child's life. It was a successful mission. . . .

"On 29 February 1960, a violent earthquake transformed Agadir, Morocco, into chaotic rubble in a matter of seconds. . . . For the next week, VR-24 aircraft flew around the clock evacuating the injured and homeless and providing a major portion of the logistic support. . . ."

Capt. John C. Azab assumed command of VR-24 in March 1964. He was impressed by the long history of accomplishment of the squadron. But he was perhaps most impressed with the knowledge that VR-24 is a three-time winner of the annual Safety Award presented by CNO.

Squadron Report

VU-10 DOES MORE THAN GO AND TOW



AN F-8 CRUSADER, OF UTILITY SQUADRON 10, FLIES OVER LEeward POINT, GUANTANAMO

UTILITY SQUADRON TEN, tucked away on the southeastern tip of Cuba at Guantanamo Bay, has had more than its share of excitement and glamor in the past two years, owing, in large measure, to its geographical location.

When the Cold War got a little warmer in October 1962, VU-10 had its F-8 Crusaders airborne continuously, flying around the clock. Its aircraft acted as couriers, provided close air support, flew combat air patrols and fulfilled escort duties. In one brief period of three days, the squadron provided 338 flight hours.

When relieved by other air units, VU-10 deployed, for the first time in its history, to NS ROOSEVELT ROADS. A month later it returned to resume its duties with the Fleet Training Group.

In April 1963, VU-10 again deployed, this time to allow for the repair of the Leeward Point runway. It returned to Gitmo in July and resumed its training work. Thus after some 20 years at Gitmo, during which the squadron had never deployed, VU-10 did it twice in a six-month period.

Certain tasks of VU-10 parallel those of other utility squadrons. With the US-2C, VU-10 provides banner tow services for the ships' surface-to-

air gunnery programs. The Crusader is used to provide high altitude radar intercept, guided missile and low altitude, high speed, gunnery training exercises. Using the MQM-36A (KD2R-5) drone, the unit provided surface-to-air gunnery exercises, servicing 52 ships in calendar year 1963.

A vigorous pilot training program was introduced in September 1963 to augment VU-10's Fleet training commitments and prepare it for special mission work. This has since been expanded to include many phases of fly-

ing found only in the Fleet squadrons.

Utilizing the Mostest gear, squadron F-8's are making trips weekly to NAS McCALLA FIELD. The training is essential for two reasons: McCalla is the only divert field within 140 N.M., and since many VU-10 pilots will be returning to Fleet squadrons upon completion of the present tour, they need the practice in "on the ball" arrested landings.

Tactical hops in the F-8 launched regularly keep all pilots current in flying the aircraft to its maximum performance. Close air support missions are flown under the control of Marines, simulating actual air strikes against ground forces.

In addition to its regular aircraft maintenance work load, VU-10 donates a sizeable amount of manpower to Commander Naval Base and his defense efforts. These men receive many hours of classroom and field training from qualified Marine instructors in the use of light weapons. During the year 1963, VU-10 contributed over 33,600 man-hours in support of the base defense program.

To this squadron of wide commitments and varied tasks, safety is important. In September 1963, Utility Squadron Ten received its second consecutive certificate of award from ComNavAirLant for accident-free operations during fiscal years '62 and '63.



WITH US-2C, VU-10 PROVIDES BANNER TOW SERVICE FOR SURFACE-TO-AIR GUNNERY DRILL



ROYAL CANADIAN NAVY HELICOPTER APPROACHES A DESTROYER ESCORT TO LAND



CABLE IS ATTACHED TO SECURING DEVICE

NEW CANADIAN COPTER CAPER

THE ROYAL CANADIAN NAVY is fusing the helicopter and a destroyer escort into an anti-submarine team. The Canadians are experimenting with a cable-winch "haul down" which allows the helicopter to land and be secured in heavy seas with perfect safety.

HMCS *Assiniboine*, stabilized to reduce pitch and roll, is the landing platform. First, the aircraft hovers over the deck. The messenger cable, lowered through the aircraft probe,

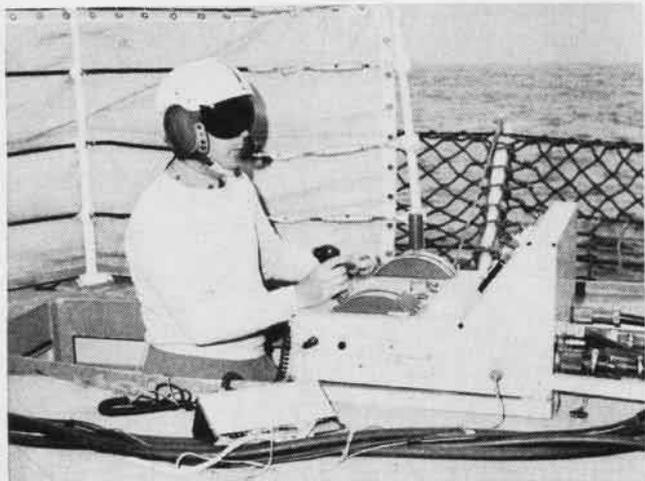
is attached to the haul-down cable. The haul-down cable is then drawn up into the aircraft probe and locked. The helicopter is ready.

The Landing Signal Officer controls the tension on the cable. This cable runs through the bear trap and guides the aircraft probe into the trap. The pilot applies lift which is overcome by the cable tension. When the deck is fairly steady, the LSO increases tension and hauls the aircraft down. The probe is locked in the

trap, securing the helo to the deck.

The bear trap is used to center the helo over the deck track. When the copter is centered, the tail probe is lowered to keep the helicopter line up. A second winch drum is used to traverse the trap which, in turn, moves the helicopter into the hangar.

Canadian pilots have made more than 300 landings to date in winds up to as much as 40 knots. Next step ahead in experiments with the helicopter-destroyer team: night landings.



LSO AT ONE SIDE OF FLIGHT DECK CONTROLS TENSION AND SPEED



BLADES, WINGS FOLDED, PROBE GUIDING, HELO ENTERS HANGAR

SELECTED AIR RESERVE



VADM. A. S. HEYWARD, JR., Chief of Naval Air Training, visited NARTU Norfolk where he conferred with Capt. G. R. Crittenden.



CAPT. JIM B. BOCK, C.O. of NARTU Alameda, inspects line after presenting aircrewmen wings to nearly a dozen VP-876 Weekend Warriors.

Twins Cities Wins Lockheed Trophy

NAS TWIN CITIES, Minn., is the Fiscal Year 1964 winner of the Lockheed Recruiting/Retention Trophy.

The trophy is awarded annually to the NAS or NARTU within the Naval Air Reserve Training Command which attains the highest recruiting and retention of Naval Air Reservists.

Winning of the trophy carries with it an all-expense trip to the Lockheed Aircraft assembly plant, Burbank, Calif., for the members of the recruiting division of the winning activity.

At the same time Capt. William J. Scott, Commanding Officer of NAS TWIN CITIES, was notified of the winning of the trophy, the station received the congratulations of VAdm. Alexander S. Heyward, Jr., Chief of Naval Air Training. The official presentation of the trophy is scheduled to take place during the Annual Military Inspection this month.

Record Flight Hours

A new record in C-119 aircraft hours was set by the reserve pilots of the Marine Air Reserve Training Detachment, NAS SEATTLE, in August, with 817.7 hours for five Flying Box-cars.

Except for a record of 778.8 set in

July, the previous high flight time for Seattle transports was a little over 600 hours in a single month. Both the July and August figures are believed by the detachment to be new highs for any transport unit with so few aircraft.

Seattle's transport men are divided into two squadrons, VMR-216 and VMR-353. The tables of organization



AFTER RECEIVING word that NARTU, NAF Andrews AF base had won both the Conway Trophy for efficiency and the CNATra Trophy, Capt. E. A. Parker, C.O., showed where enlisted men will wear "E." R. E. Jones, SN, modelled.

call for 24 pilots each, and Seattle has 47 C-119 pilots for the five aircraft.

LCol. S. Frank Leis is detachment commander; LCol. Richard L. Watson and Warren W. Bestick are squadron C.O.'s.

Appomattox, Va., April 9, 1865

Browsing at a French Quarter book stall in New Orleans, GySgt. Joseph Hurban, VMJ-4 (MARTD), leafed through an old book in a Royal St. shop. He found a folded piece of paper tucked in its pages. Opening the paper he discovered it to be a letter addressed to "R. E. Lee, Confederate States of America." The body of the letter contained terms for surrender. It was signed, "U. S. Grant, Appomattox, Va., April 9, 1865."

GySgt. Hurban paid two dollars for the book and immediately took the letter to the Louisiana State Museum. There he was told the document looked authentic. It was next shown to experts on old books and documents. One of the experts offered \$3000 for it, but on advice from his lawyer, he refused. Since then he has received a new offer of \$8200.

Authenticity of the document has not been definitely established. GySgt. Hurban may have either a two-dollar curiosity or a very dramatic, valuable and historic piece of paper.

The Fighting Sullivans

When Ens. Patrick W. Sullivan administered the oath of enlistment to his brother, Airman Robert E. Sullivan, he made him the fourth Navy man in the family. The father of both of them, Capt. Patrick J. Sullivan, USNR, witnessed the ceremony at NAS NEW YORK. Capt. Sullivan was a WW II flier and is still a member of the Naval Reserve, 3ND.

The latest recruit and youngest of the Sullivans is a graduate of Georgetown University.

A third son, Ltjg. Dennis O. Sullivan is a member of VF-142 aboard the USS *Constellation*. Ens. Patrick is stationed at NS ADAK, Alaska.

Books for Indian Children

VMGR-222, commanded by LCol. Charles Whitacre, Jr., from the Detroit, Mich., area, changed its schedule slightly to fly 16,000 pounds of textbooks to school children on the Navajo Indian Reservation at Window Rock, Ariz. The Reservists, on two weeks active duty at MCAS EL TORO, Calif., carried out the mission in their C-119 *Flying Boxcars*.

The books were made available by Beverly Hills (Calif.) High School authorities with the Leathernecks Air Reservists furnishing the transportation while perfecting their flying proficiency.

Year-Around Helo Pilots

Two civilian helicopter pilots—one who spends 50 weeks a year spotting and fighting fires and performing res-



CDR. R. E. BROOKS, C.O. of Fleet Tactical Support Squadron 871, NARTU Alameda, leads crew aboard one of squadron's aircraft for flight to Whidbey Island. The crew had returned recently from training duty in Hawaii.

cue missions with a whirlybird and one who is a chief helicopter pilot for an aircraft company—were among the Naval Reservists on training duty in Hawaii recently.

The two, Lt. James V. Patten of the Los Angeles Fire Department and Cdr. James A. Mann of Douglas Aircraft Co., serve with Anti-submarine Helicopter Squadron 773, NAS LOS ALAMITOS.

Patten, who serves as navigation and photo officer for the squadron, has been with the LAFD for nine years. Mann, the squadron's Commanding Officer, has worked for Douglas the past ten years.



CDR. MANN and Lt. Patten are helicopter pilots in civilian as well as military life. On *AcDuTra* at Barber's Point, they check a copter.

HS-773 joined Seattle and Alameda helicopter squadrons to participate with submarine, surface and other branches of the naval service in joint maneuvers.

Survival Training for Boots

Trainees of NAS NEW ORLEANS took part during their 85-day Boot Training School in a real test of survival.

Led by LCdr. D. H. Keith, OinC, and six enlisted instructors, the trainees lived in the true atmosphere and surroundings of a jungle. Operation *Survival* took place at Mandeville, La. Thirty-nine recruits took part, as well as four Seamen who were attending the photographic unit of the school.

"The terrain in the camping area was extremely dense, the kind one would normally consider a jungle," reported L. C. Jordan, BM2, an instructor. A path had to be cut and an area cleared in which to set up camp and practice the actual survival techniques. Machetes were used to do this.

The men constructed their beds from palmetto leaves, using vines to provide strength for the makeshift bunks.

The men were put through the paces of living off the land. They hunted, killed and cooked rabbits, squirrels, coons and other wildlife during the temporary bivouac.

One advantage of the location was that it was in the vicinity of an outlet from Lake Ponchartrain. Since the accommodations did not include running water, a Solar-Still proved invaluable in distilling the water.

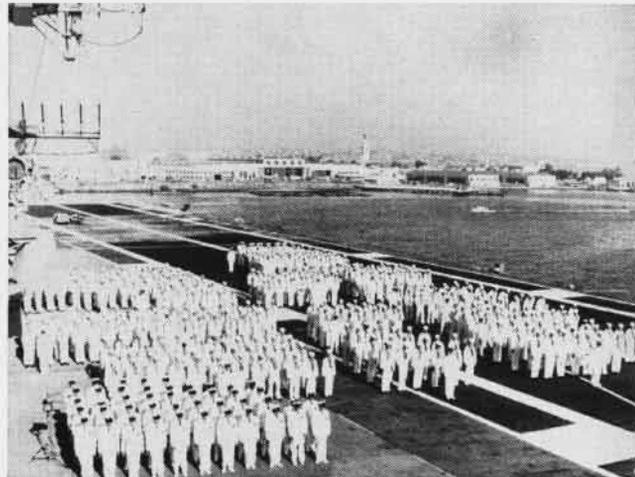


NAVAL AIR RESERVE trainees of NAS New Orleans get down to the business of evening "chow" after first day of "Operation Survival."

AT SEA WITH THE CARRIERS



BREMERTON WELCOMES the *Kitty Hawk* as she arrives at Washington for an 8-month overhaul period in the Puget Sound Naval Shipyard.



ON THE FLIGHT DECK of the *Oriskany*, the carrier's crew falls in for an address by Undersecretary of the Navy P. B. Fay, Jr., at San Diego.

PACIFIC FLEET KITTY HAWK (CVA-63)

Sailing toward Bremerton, Wash., and the Puget Sound Naval Shipyard, *Kitty Hawk* participated in an interesting experiment with the icebreaker *Staten Island* off the shores of Oregon. Lines were attached from the carrier's bow to the smaller ship which towed the 80,000-ton CVA. The exercise, termed a success, established as fact that a smaller vessel could come to the aid of a large carrier in distress.

At Bangor, the task of removing the carrier's ammo was an around-the-clock process. The ammo will be inspected, reworked and stored until *Kitty Hawk* returns next spring on completion of her overhaul period.

Two prize-winning school bands greeted the carrier at Bremerton's pier, along with the city's mayor. Crowds stood in the sun in queues 10 and 12 deep, awaiting to board the ship during an open house that followed. People came from Seattle, Tacoma, and surrounding areas to view the biggest ship ever to visit Puget Sound.

NAS WHIDBEY ISLAND's crash crew is training CVA-63 men in an intensive course in fire fighting. The carrier men comprise *Kitty Hawk's* field

fire fighting crew while she is in drydock.

On September 4, the carrier was floated into the 1180-foot long drydock, the world's largest, and had 55½ feet to spare at either end. She will remain in drydock until January for major repairs on her hull, flight deck and interior. Because the length of her yard period is about eight months, her home port has temporarily been changed from San Diego to Bremerton.

ORISKANY (CVA-34)

A surprise was in store for VAdm. Paul D. Stroop, ComNavAirPac, when he boarded the *Oriskany* for an address by Under Secretary of the Navy Paul B. Fay, Jr. Mr. Fay took the occasion to present the Distinguished Service Medal to the admiral for his work in consolidating the Bureaus of Ordnance and Aeronautics to form the Bureau of Naval Weapons.

If any newcomer to the *Oriskany* wonders how the ship's paper got the improbable name *Herkimer Herald*, the carrier's latest cruise book elucidates with a brief history of the Battle of Oriskany written by New York State historian, Dr. Albert B. Corey, an expert on the famous battle.

Terming it "the bloodiest battle of the Revolution," Dr. Corey notes that "Oriskany was not a large battle. It lasted but a few hours and involved but a small number of men. Yet it was crucial for the success of the American cause.

"Americans found themselves threatened by a well planned, large scale, triple threat attack by British forces led by General Sir William Howe northward up the Hudson River from New York City and by General Burgoyne southward from Montreal. A third force under Colonel St. Leger was to proceed westward from Montreal to Oswego on Lake Ontario, from there southward to Fort Stanwix (the present Rome), and thence through the Mohawk Valley to Albany where they would join forces with Burgoyne and Howe. If this plan had succeeded, the consequences might have been fatal to the American cause."

By the time St. Leger reached Fort Stanwix, BGen. Nicholas Herkimer called the local militia, 800 of whom began a march under his command to relieve the garrison at the fort. Herkimer's men were ambushed. During the fighting, the General was wounded in the leg and subsequently died—but not before he successfully directed the hand-to-hand fighting.



FRAMED BY PALM TREE fronds, the *Kearsarge* returns to Subic Bay for a liberty period. She left Subic earlier to avoid Typhoon "Sally."



USS HANCOCK turns toward Hawaii and a mid-Pac cruise during which she qualified Lancer pilots of Marines (AW) Fighter Sqdn. 212.

Half the Americans who took part in the Battle of Oriskany were either killed or wounded, but St. Leger's forces were weakened and 17 days after the battle, he broke camp and fled to Oswego and Montreal.

KEARSARGE (CVS-33)

Kearsarge, pushed out of port by Typhoon *Sally*, returned to NS SUBIC BAY less than a week later, permitting the men aboard to go on liberty. Prior to the original visit, CVS-33 had completed more than 30 days operations in the South China Sea.

BON HOMME RICHARD (CVA-31)

Latest member of the Ten Thousand Trap Club is Capt. G. S. Morrison, C.O. of the *Bonnie Dick*. The record landings number was achieved in a nine-month period. The cinching trap was made by Lt. John F. Smith of VAH-4, in an A-3B *Skywarrior*. The same landing qualified the lieutenant as a Double Centurion.

TICONDEROGA (CVA-14)

Cdr. Hank Urban, Jr., C.O. of VA-55, logged in his 500th carrier arrested landing, aboard the *Ticonderoga*. He made his first carrier landing in June 1946, aboard USS *Ranger* (CV-4). It was his 180th landing aboard the *Ticonderoga*.

VALLEY FORGE (LPH-8)

The 22,000th helicopter landing

aboard the *Valley Forge* was made by Capt. J. W. Warner, USMC, of Marine Medium Helicopter Squadron 364.

Capt. Charlie N. Conatser, USN,

relieved Capt. John E. Parks as C.O. of LPH-8 while in WestPac waters.

HANCOCK (CVA-19)

During her four-week mid-Pac cruise in Hawaiian waters, *Hancock* provided semi-annual carrier quals for the *Lancers* of VMF(AW)-212. The Kaneohe Bay-based Marines made ten landings each in the unit's F-8D's.

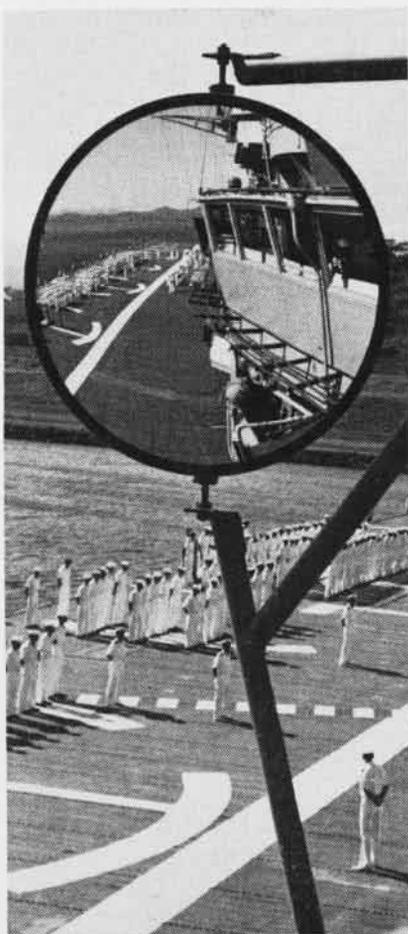
Hancock now has a new portable worship center. It is rigged just forward of the quarterdeck and consists of three sections, reredos (ornamental altar screens), backdrop and side curtains. The center can be rigged for services in one-half hour.

MIDWAY (CVA-41)

An Air Force captain and a Marine Gunnery sergeant have a particular fondness for *Midway's* helicopters.

The carrier received an emergency message from the Naval Hospital at Subic Bay in the Philippines, requesting the ship pick up GySgt. John C. Wilson from the cargo ship *Banner*. Wilson suffered from a bleeding ulcer and needed emergency medical attention. *Banner* had no doctor aboard and no means of giving the necessary blood.

The ships steamed toward each other. At maximum range, a UH-2A *Seasprite*, covered by an E-1B *Tracer*, launched with a doctor aboard. Ltjgs. Everett Miller and Michael McClelland steadied the helo as air crewman Rudy Diaz, AMH2, and Ben Clark, HM3, assisted in embarking the patient. Wil-



PHOTOGRAPHER W. C. Carruth, AN, caught a view of personnel inspection on *Valley Forge*.



DIAMONDBACKS of VF-102 fly F-4B Phantoms over *Enterprise* in Operation Sea Orbit.

son received medical attention in *Midway's* sick bay.

A week later, the ship received another emergency message. An Air Force pilot, Capt. William M. Dalton, had ejected over the Pacific 220 miles southeast of Okinawa. Following the same procedure used in the previous rescue, the ship launched the radar plane and the helo. Capt. Dalton was quickly located, drifting uninjured in a liferaft. After a shower and a change of clothing aboard the *Midway*, Capt. Dalton was flown to Kadena AFB in a carrier-launched transport aircraft.

Piloting the second rescue helo were LCdr. Bernard Samuals and Ltjg. George Arthur. Aircrewmembers John Frush, AMH3, and Rodger Symsma, ATN3, assisted in the rescue.

Newspaper readers throughout the country stared with fascination at a picture carried by both United Press International and Associated Press. The picture showed *Midway* Seaman Elman R. Ernst clinging to a line and refueling hose over the side of the aircraft carrier. Ernst had been blown from the flight deck while the carrier operated off the coast of California. He fell atop the hose on his drop toward the cold ocean waters below.

Nine members of the Association of American Airport Executives boarded the *Midway* to observe arrested landing techniques. Vincent A. Carson, president of the association, said a modified system is now being tested for use at civilian airports to prevent planes from running off the ends of runways.

CONSTELLATION (CVA-64)

Men in the *Constellation* set a new record in contributions to the Navy Relief Society. VAdm. H. B. Jarrett, USN (Ret.), president of the society, reported contributions totalling \$13,000 from CVA-64.

The British Red Cross at Hong Kong reported "the best response by any unit, American or British, in the history of blood donor units." *Constellation* men donated 137 pints of blood.

The 28,000th arrested landing aboard was recorded at night by LCdr. Thomas W. Durant of VA-145. The 29,000th landing was made by Ltjg. M. A. "Spook" Johns from the same squadron while the *Constellation* was operating off the coast of South Vietnam.

Constellation C-1A aircraft, with assistance from VR-21, transported the 1000th passenger off the carrier since relieving the *Kitty Hawk* in June. Reason given for the excessive number is the ship's heavy schedule.

The 30,000th arrested landing aboard the *Constellation* was made by LCdr. Theodore Lloyd, Jr., of VA-146, piloting a Douglas A-4C *Skyhawk* light jet.

ATLANTIC FLEET

ESSEX (CVS-9)

Essex joined *Independence*, *Wasps* and an armada of U.S. Navy ships from seven East Coast ports to participate in Operation *Masterstroke*, a training operation in the Western Atlantic for the Second Fleet. VAdm. Kleber E. Masterson, ComSecondFleet, directed the exercise. Upon completing her part in the operation, *Essex* pulled into Halifax, Nova Scotia, Canada, before returning to NAS QUONSET POINT.

FRANKLIN D. ROOSEVELT (CVA-42)

The 132,000th arrested landing aboard the *FDR* was made by Lt. Arthur C. Stallings of VAH-11.

INDEPENDENCE (CVA-62)

Capt. R. W. Windsor, Jr., commanding *Independence*, received a letter of commendation from RAdm. R. L. Townsend, ComCarDiv 6, for outstanding achievement during refresher training in fiscal year 1964 in ceremonies conducted on the carrier's flight deck.

Ltjg. N. C. Taylor of VA-86 recorded the 65,000th arrested landing.

INTREPID (CVS-11)

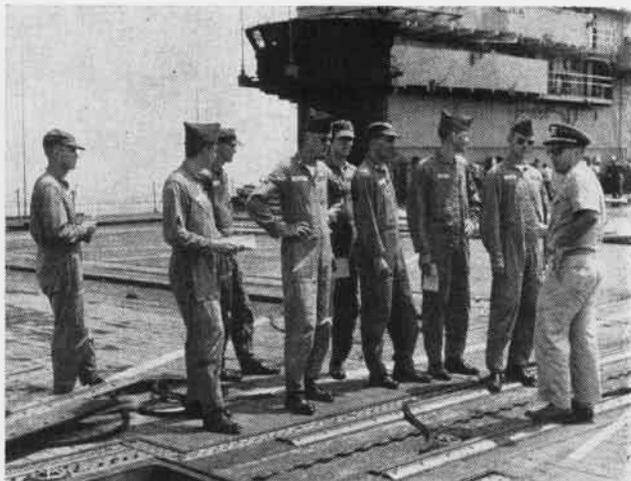
Intrepid teamed up with the oiler *Pawcatuk* to establish a new approach and rigging record near the Straits



CRUISING IN ATLANTIC waters is USS *Shangri La*, with a screen destroyer accompanying to starboard. The carrier's SAR helicopter is spotted at ship's bow in event of man overboard.



MIDSHIPMEN from USS *Intrepid* distribute Project Handclasp material at the Asilo Mironas Orphanage for young girls at Palma, Majorca.



EIGHT PILOTS from the U.S. Army Aviation School at Fort Rucker, Ala., tour CVA-38. Ens. R. D. Knott, Jr. (R), explains port catapult.

of Gibraltar. The carrier refueled the oiler on her way back to Norfolk after a three-month Midshipman cruise in the Med. *Intrepid's* approach time took three minutes and 24 seconds; all rigging to the *Pawcatuk* was completed in six minutes, 39 seconds. Both speeds topped the previous record, held by *Saratoga*, by 30 seconds. *Intrepid* is commanded by Capt. Joseph G. Smith.

Back in the U.S., CVS-11 hosted 22 parliamentarians from nine NATO countries.

RANDOLPH (CVS-15)

VS-36 in the *Randolph* performed a feat which may stand as a record for peacetime ASW exercises. During a 36-hour exercise involving three target submarines, two squadron aircraft obtained simulated "kills" on all three subs within a period of two hours and eight minutes. The pilots were Cdr. O. R. Quelland and LCdr. D. G. Hager.

The contacts on the target submarines resulted from visual sightings, two of which were also detected by radar, as they were snorkelling to recharge batteries.

"This outstanding performance," says the squadron, "has emphasized the importance of the 'Mark I Eyeball' in ASW, even in this age of sophisticated electronic detection devices. In World War II, a large percentage of submarine detections by aircraft were visual."

In a change of command ceremony held aboard, Capt. John F. Refo relieved Capt. Richard J. Davis.



THIS CACHET of Nuclear Task Force One appeared on mail cancelled during *Sea Orbit*.

SARATOGA (CVA-60)

Work on the *Saratoga* in Norfolk Naval Shipyard was set back a little when a 64-ton crane, lifting a 5600-pound test weight to the flight deck, developed brake trouble. The 18-wheel crane ran over the port side, fell 40 feet, hit the middle of the forward flight deck elevator and careened half-way off, before coming to a halt. The crane crash produced only one minor injury to a yard worker.

AMERICA (CVA-66)

More than 600 men and 50 officers have already reported to Newport News to become plankowners in the *America* being constructed there. By December, another 1400 men will have arrived. *America's* total personnel complement is 4965 officers and crewmen.

ENTERPRISE (CVAN-65)

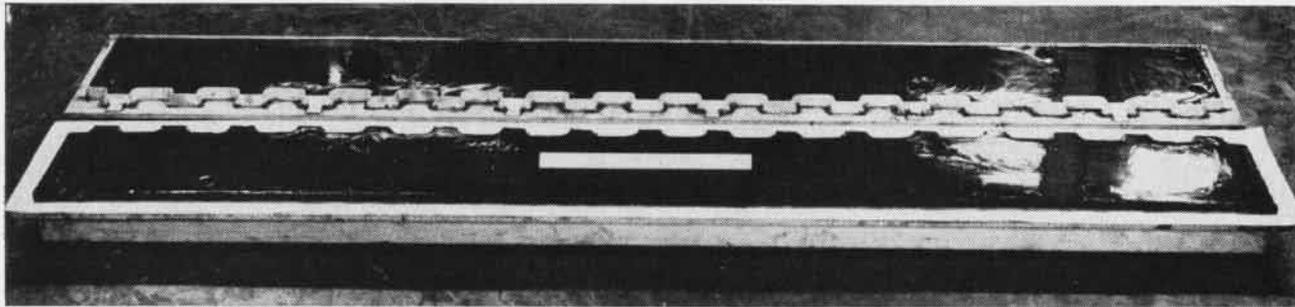
Having successfully completed *Sea Orbit*, *Enterprise* sailors did indeed complete the two-month cruise without replenishing either food, fuel or supplies. But there was one permissible break in the "isolation" imposed by the self-imposed "fasting" period: mail call.

Men in Task Force One received at least one pound of mail during the cruise. Argel Greene, PC1, who handled all task force mail in the *Enterprise* post office, said approximately 6700 pounds of mail were received from pick-up points at Monrovia, Liberia; Nairobi, Kenya; Karachi, Pakistan; Sydney, Australia; Wellington, New Zealand; and Rio de Janeiro, Brazil.

Problems in coordinating the mail on the world cruise were unique for the task force, in that the ships were not accustomed to getting mail in such volume so few times. In the Med before the cruise, the ships got almost daily service through Fleet Post Office, New York.

FPO N.Y. routed the mail by air to the pick-up points where it was COD-ed aboard. Letters for the men on USS *Long Beach* and USS *Bainbridge* were sent out to them by helicopter from the *Big E*.

The big job for Greene and his eight-man crew began after the mail arrived—that of sorting it. Following the pickup at Nairobi, it took 85 manhours to sort before two of the most popular words aboard could be sounded at 0200—Mail Call.



AN ATHWARTSHIP VIEW OF THE IMPACT PAD SET SHOWS THE SIMPLICITY OF DESIGN AND INDICATES THE EASE OF INSTALLATION

The Soft Touch AN APPROACH TO COST REDUCTION

RECENTLY, preliminary Fleet evaluations have been completed on a relatively inexpensive, quickly-installed buffer pad which promises to extend several fold the service life span of aircraft deck holdbacks and tension bar retainers.

One of the more perplexing problems has been the short service life of expensive catapult deck holdback components. These holdbacks, forming the link between aircraft and ship, contain a release element or "tension bar." These resemble the test specimens used to demonstrate tensile loading. The release element (being the weakest link in the system) separates and the airplane is propelled rapidly forward by the catapult shuttle. This assistance enables an aircraft, which normally requires 5000 feet of runway travel, to become airborne in less than 200 feet. Unfortunately, the release of energy experienced upon tension bar rupture is transmitted into the entire holdback system.

In 1963, the Bureau of Naval Weapons assigned the Naval Air Engineering Laboratory at Philadelphia the task of perfecting a shock-absorbing surface to relieve impact stresses on the holdback and particularly its retainer terminal after a catapult shot. The laboratory immediately began design studies of the problem and, in short order, presented a preliminary model for evaluation.

This prototype employed a pair of 8x1-foot polyurethane pads, bonded on a quarter-inch steel plate. The pads are configured so as to be com-

By Lt. James J. Mulquin, USNR

patible with the carrier's deck cleats and may be installed immediately adjacent to the track and still permit location of various type cleat links. They are positioned between the Van Zelm tracks and just aft of the nose gear launch guide track and ramp (aboard ships having this feature) and in no way affect either operations. The pads are installed by drilling and tapping the deck at 11 points with the aid of a template. The pad halves are then bolted in position and become a semi-permanent portion of the deck.

In the event of excessive wear at the forward end (corresponding to the most "popular" impact point), the pad halves may be interchanged and reinstalled, providing, in effect, doubled service life.

INDICATIONS to date are that the grade of polyurethane employed resists wear and deterioration from aircraft taxiing, the corrosive effects of heat, cold, salt spray, constant humidity, and the blast from jet engine exhausts.

Initial testing of the prototype was conducted by the Carrier Suitability Branch at the Naval Air Test Center, Patuxent River. The pads were located at the c-7 steam catapult site and subjected to impact by various types of aircraft holdbacks. Whereas the customary recoil/impact effect was sporadic gyration and occasional flailing of the entire assembly upon deck contact, the use of the pads has

reduced this far below the tolerable maximum.

The pads are relatively inexpensive and, compared with current prices of machined tolerance holdback accessories, would constitute a bargain at many times the cost.

Initial Fleet usage reports describing results obtained with the prototype pad aboard USS *Ranger* (CVA-61) indicate negligible wear has occurred during recent operations. These launches have included 21 RA-5C shots, 26 with the F-4B, 28 with the A-1J, 42 with the E-1B, one with the C-1A, and 127 A-4C shots.

No damage was sustained by any holdback or component in use during this test period, with the same F-4 holdback assembly being employed for all 26 *Phantom II* launches. Predictions are that each pad installation will last for several thousand launches, with every possibility that this figure will be extended when more data is available.

There have been no reports of pad decomposition or introduction of a foreign object hazard, either at NATC or aboard ship.

At the present time, plans are being completed to produce impact pads for every attack and support aircraft carrier. In addition, proposals are under consideration to develop a similar pad for use at the forward part of the flight deck. Such an installation, located near the end of the catapult tracks, could reduce impact damage to launching bridles and pendants, and eliminate the frequency of cable contact with aircraft.

TROUBLESHOOTERS FOR THE FLEET

LESS THAN A YEAR after the attack on Pearl Harbor, in the early fall of 1942, mass installations of search radar, altimeters and other electronic devices, previously unknown in naval aircraft, were in full swing. The Navy, at once, faced the problem of supplying unprecedented numbers of highly trained technicians and engineers to installation and training centers for the new field of electronics.

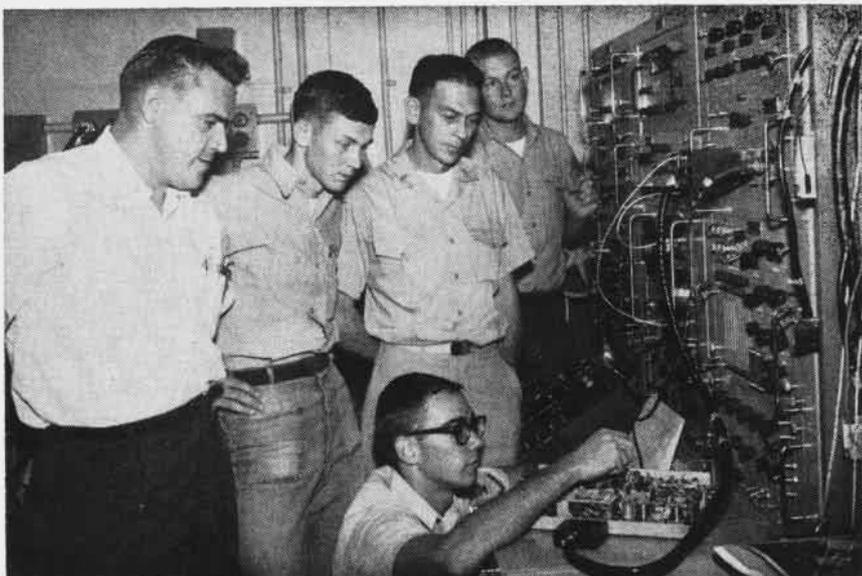
Schools for officers and enlisted personnel had been well established by the Bureau of Naval Personnel, but the courses were necessarily long and



the supply of trained operators and maintenance men fell far short of the demand.

Operating squadrons, recently equipped with radar, initiated urgent requests for assistance in maintenance and instruction on the new and complicated gear. Improvements in existing models and totally new types of radar were being developed and put into production at an increasing rate.

To solve the pressing problem of installation and maintenance, the Bureau of Aeronautics established a pool of highly trained radar specialists whose services would be available on request to naval aeronautical units the world over. These specialists were available for temporary duty only—for tours of two to four months. During this temporary duty, the specialist would indoctrinate and train "on the spot" personnel to maintain and operate airborne electronic equipment. Between assignments, the specialist would return to home base for refresher courses in the latest modifica-



NAESU ENGINEER, R. D. Justice, C. G. Norman, AT2, R. E. Allecy, ATCA, G. B. Allen, ATN3, observe as S. D. Uhtbuff, ATR-3-P1, works on AN/ASM-35 console in special training session

tions of existing equipments and for thorough training in new models shortly to be introduced.

On December 31, 1942, the Airborne Coordinating Group was officially formed. Despite many changes of name, mission, and master, this group continues today as the Naval Aviation Engineering Service Unit (NAESU). As modified in 1959, NAESU's mission is to "provide field engineering assistance and instruction to Naval Aviation activities in the installation, maintenance, repair and operation of all types of aviation systems and equipment."

NAESU, with headquarters in Philadelphia, Pa., now administratively controls approximately 750 field engineers and technicians. These specialists are obtained from private industry under a multitude of contracts for which the Bureau of Naval Weapons allocates funds. Each engineer procured under these contracts is directed to the field and controlled under orders similar to those issued to Naval personnel.

The "systems specialist" concept remains today in the persons of 350 NAESU Engineers, identified in official DOD terminology as Contract Technicians, who are selected by NAESU—from candidates provided by industry—on the basis of technical

competence, teaching ability, resourcefulness and personality. Once selected, these engineers undergo detailed training at NAESU Headquarters in one of many systems areas (AEW, ASW, GSE, CNI, etc.) prior to assignment to the Fleet. When new equipment is introduced in their specialty areas, the engineers are given additional training at headquarters.

The remaining 400 engineers, sent to the Fleet under NAESU contracts, are Contract Technical Representatives. They provide support for products manufactured by the company they represent. NAESU has been directed by BUWEPs to assume more contract administrative responsibility in this area and eventually may assume the total burden for aviation Contract Technical Services.

NAESU Engineers and Contract Technical Representatives are not in the Fleet to replace or do the work of military technicians. Neither are they inspectors nor spies for BUWEPs. They are there to provide knowledge, experience, and advice in helping to solve technical problems.

NAESU's business is to do itself out of business. But until the events and circumstances leading to its creation are history, NAESU will continue to provide the Fleet with "field engineering assistance and instruction."

COLD FRONTS

Lt. N.F.O'Connor

1



MOST MAJOR CHANGES OF WEATHER ARE ASSOCIATED WITH FRONTS.

AT THIS TIME OF YEAR IT IS THE COLD FRONT THAT BRINGS THE BIG CHANGE IN WEATHER TO THE U.S.

2

A COLD FRONT IS DEFINED AS A LINE OF DISCONTINUITY SEPARATING



TWO DIFFERENT AIR MASSES. IN THIS CASE, COLD AIR IS UNDER-RUNNING, DISPLACING A WARMER AIR MASS.

3

ALONG A COLD FRONT THE TEMPERATURE CONTRAST BETWEEN THE TWO AIR MASSES IS USUALLY MUCH GREATER THAN THAT OF THE WARM FRONT.

USUALLY, THE WINDS IN ADVANCE OF A COLD FRONT ARE SOUTHWESTERLY AND GUSTY.

4

THE AREA OF PRECIPITATION ALONG THE COLD FRONT IS LIMITED IN EXTENT AND USUALLY IS CONFINED TO SHOWERS. THUNDERSTORMS, HAIL, LIGHTNING AND STRONG GUSTY SURFACE WINDS ARE NOT UNCOMMON.



5



THE SPEED OF THE COLD FRONT VARIES CONSIDERABLY, BUT USUALLY MOVES AT 15-25 KNOTS. THE SLOWER THE FRONT MOVES HOWEVER, THE BROADER THE WEATHER BAND ASSOCIATED WITH IT.

6

WHEN A COLD FRONT PASSES A STATION, THERE IS USUALLY A SHIFT OF WIND TO THE NORTH WEST WHILE PRESSURE RISES, THE TEMP. AND HUMIDITY DROP. ALSO RAPID CLEARING TAKES PLACE.



N.F.O'Connor

Saufley Uses New System 'Aircraft Control' Set Up by VT-1

A new section of the maintenance department, called Aircraft Control, has been established at Saufley Field's VT-1 to improve the method of assigning planes to some 350 students and 130 instructors who train in T-34 Mentors.

Formerly, each flight was assigned a set number of aircraft to fly a training mission. If the number of pilots exceeded the number of available planes, an aircraft was borrowed from another flight, thus causing a chain reaction of plane shortages.

This, in turn, hindered maintenance personnel in scheduling routine checks on the T-34's. Often, men had to remain after working hours to work on certain planes.

Lt. J. C. Moore came up with the idea of Aircraft Control. With the help of the maintenance and public works departments, a special space was formed for the new unit. Equipped with intercoms, phones and status boards, Aircraft Control maintains a long counter behind which a team of nine men work.

The men assign aircraft to pilots and, after flights, check the planes back into a common pool. Any flight

can draw an aircraft from the pool. This method enables personnel to keep a systematic record of the status of aircraft and assists maintenance in the scheduling of checks. An aircraft can be drawn from the pool and another one can be replaced without directly causing a shortage for another scheduled flight.

The Aircraft Control section has been in use by VT-1 since Sept. 21.

VA-65 Wins Safety Award Made World Cruise on Enterprise

Attack Squadron 65, flying A-1 Skyraiders, has won the CNO Safety Award for fiscal 1964. Based aboard the USS *Enterprise* and commanded by Cdr. N. E. Larsen, the squadron returned to the ship's home port at Norfolk along with other units from CVW-6 in October. The carrier had made a round-the-world cruise in Operation *Sea Orbit*. Announcement of the squadron's award came while the *Big E* was off the West Coast of Africa.

During its accident-free year, VA-65 flew 8050 hours, 6025 of them from the decks of CVAN-65. Embarked for 251 days, pilots logged 2568 day and night arrested landings. The squadron will begin transitioning to the Grumman A-6 *Intruder* jet this fall.

'Redeye' Missile Displayed VIP's Attend the China Lake Show

"Highly successful" firings of *Redeye*, the world's smallest guided missile system, were scored late in September at Naval Ordnance Test Station, China Lake, Calif. The audience included U. S. congressional representatives, high ranking military officials, representatives of nine NATO nations and U. S. allies, and scores of newsmen.

The missile first knocked down a helicopter drone target. A second test against another drone was equally successful. *Redeye* resembles a WW II "bazooka" type weapon in configuration.

The demonstration, held as a public "unveiling" of the only guided missile system that can be fired from the shoulder of a man, came after several years of engineering research and development conducted as a joint Army-Marine Corps project. Prime contractor for the R&D phase is Convair Division of General Dynamics.

Editor's Corner

SIGN OF THE TIMES. For years the Naval Air Basic Training Command's Whiting Field has named its top instructor of the month "Instructor of the Month." A simple but descriptive title. Times change. Perhaps prompted by a certain TV and national media advertising campaign sponsored by a major oil company, the "Instructor of the Month" henceforth will be known as "Tiger of the Month."

Man, Tiger and Computer? A recent U. S. Navy *Medical Newsletter* (Vol. 44, No. 4) included the following on eating habits:

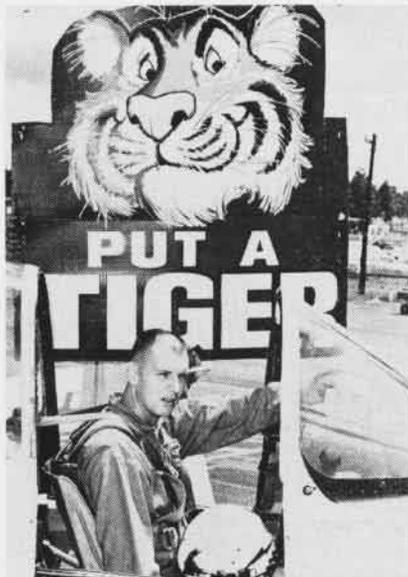
"Man acts as a system component in the man-machine relationship we call aviation. The Naval Aviator reacts to various inputs from the machine, artificial horizon, air speed indicator, etc. He reacts to inputs from his cockpit and ambient environment, such as vibration, engine sounds, clouds, rain, fog, lights, attitude, acceleration and, in addition, he receives feedback to his muscles from the stick, rudder, and many subtle input stimuli. From these inputs he makes decisions to perform certain control movements. These movements affect the machine which in turn furnishes new and different inputs to the pilot. In essence, man becomes a biologic sensor, data processor, decision maker and controller component inserted between the displays and the controls.

"In his role as a bio-sensor, computer and data processor, the pilot requires better than ordinary management of fuel replenishment in order to cope with the demands of flying.

"Flying involves only moderate exercise; therefore one should eat to fly the aircraft, not to carry it."

"Skipping meals prior to flights can be as dangerous as over-eating; this is especially true if the meal skipped is the morning meal. No one in his right mind would consider taking off with practically no fuel on board, yet if you take a morning hop without an adequate breakfast, this is exactly what you are doing.

"The aircraft is engineered and designed to operate within certain



. . . in your cockpit.

known physical environmental parameters whereas man has a fixed design and will only operate effectively within the physical environmental parameter imposed by this design. There does not seem to be a newly engineered and redesigned human in the offing within the foreseeable future; it is therefore vital that the parameters of the physical environment for the aviator be maintained within his design limits.

"... The over-all problem is further complicated by the fact that much of the time the Naval Aviator is not mated to his aircraft but is functioning in his normal environment where he could, and many times does, impose severe stress on his biologic system."

(*Editor's Note:* The quotes, taken from *Physiological Notes*, NAS NORTH ISLAND, propose as "pilot preventive maintenance" a list of do's and don't's about diet and drink.)

SQUADRON'S FLOATING FUND. On June 14 an F-4B *Phantom* carrying two pilots and three checks worth \$19,000 (representing a half-month's pay for an entire squadron) was forced down on a flight between Atsugi, Japan, and NAS CUBI POINT,

Philippines. The pilots ejected into the sea 50 miles northwest of Manila; the checks went down with the aircraft. On July 14 the checks were washed ashore on Mindoro Island, 80 miles from the ejection point. Eventually the checks reached their assigned squadron, "somewhat soggy but still intact."

Year of the Typhoon. The Pacific's weather recon squadron, VW-1, had one for the books this year. In one 14-hour flight, the squadron's Crew #3, commanded by Lt. K. A. McKnight, managed to pinpoint the location of two typhoons, Kathy and Marie. The same crew had a busy week, logging 38 hours and 7000 miles in only four days of tracking. On successive nights, the crew made operational stops in Guam, Okinawa, Japan and the Philippines.

YEAR OF THE HURRICANE. VW-4's *Hurricane Hunters*, operating in the Atlantic and Caribbean, ran into a covey of vicious females named Cleo, Dora and Ethel. Cleo bounced one of VW-4's *Connies* and its crew severely, turbulence causing several broken limbs to crewmen while the aircraft was departing the eye of the hurricane. The aircraft lost both wingtip tanks and parts of the wings, one engine was knocked out, a wing panel ripped out, an external liferaft compartment door was knocked out, an antenna was lost, and there were wrinkles on the fuselage and a radome.

Integrated Services. At NAS BARBER'S POINT, Hawaii, the Fleet Airborne Electronics Training Unit selected James L. Shiver as its "Sailor of the Month." Shiver is an Air Force Staff Sergeant who has been working with the unit as a technician, instructor and troubleshooter since 1962.

THAFETY FIRST. When pilots attached to Utility Squadron Seven reach a total of 1000 flight hours accident free (during a single tour), they are designated members of a club called THAFE (Thousand Hours Accident Free Each). At mid-August this year, the club had seven safe, THAFE flyers on its rolls.

Still Making Records. USS *Saratoga* made "new records" even as she idled in a shipyard. According to the ship's newspaper, CVA-60's "firsts" included July 1964 as "the first month in a year when no aviation mark was topped. It was also the first month when there were no major cake-cuttings held on board."

LETTERS

ACCURACY, PLEASE

SIR: Just completed the August 1964 issue of your fine magazine. In the interest of accuracy and with no reflection on the submitting squadron, your attention is invited to the article on VP-46 on page 3.

The initial sentence may—with further consideration be a fact—but at least, it is misleading. P2V squadrons (VP-1, VP-2, VP-4, VP-6) were on a three-month deployment rotation in 1948-49 from Whidbey Island to Adak with P4Y rotation at Kodiak (VP-20, VP-27, VP-29).

Technically Adak was not a U. S. Naval Station, but during the 1940's and 1950's, it was at various times a Naval Air Facility, a Naval Auxiliary Air Facility and a Naval Air Station. It was ADAK, and anyone who deployed there is not likely to forget it.

A. R. DUNN, JR., CDR.
VR-7, NAS MOFFETT FIELD, Calif.

MEMORIES REVIVED

SIR: In the August issue of *Naval Aviation News* in a group picture of early Naval Aviators, I was pleased to see one face which I haven't seen or heard of since he left the USS *Shammut*, B. G. Leighton, on whose F-5L I was assistant plane captain.

Pat Byrne was also in the group. He was then a chief mech and one of the plane captains. Brings back old memories.

R. J. SCHMIDT, ACMM, USNR (RET.)

SCHOLARSHIPS AVAILABLE

SIR: The Society of Sponsors of the United States Navy awards scholarships to young men for preparatory schools to prepare them for entrance to the United States Naval Academy.

Young men are eligible as follows:

CATEGORY I—Sons of deceased, retired and active Navy and Marine Corps personnel.

CATEGORY II—Sons of personnel of the other military services.

CATEGORY III—Sons of civilians.

(Sons of deceased and retired Navy and Marine Corps personnel shall have precedence over sons of active duty personnel who shall, in turn, have precedence over sons of personnel of the other military services. Sons of military personnel shall precede applicants whose parents are not members of the Armed Forces.)

To receive such an award, an applicant must be acceptable to the Scholarship Committee of the Society of Sponsors as to character, aptitude for the Naval Service, scholastic standing and physical fitness. The financial situation of his parents or of the applicant himself in case he is an orphan, must be such as to warrant the expenditure of the funds of the Society in making such an award.

Application blanks may be obtained from Mrs. Roy S. Benson, Quarters "O", Navy Yard, Washington 25, D. C.

ROY S. BENSON, RADM.
Assistant Vice Chief of Naval Operations

VQ-1 RESPONDS TO A CHALLENGE

SIR: If VAP-61 provides the "eyes" for the Seventh Fleet, then the airborne "ears" of the Seventh Fleet are the A-3B *Skywarriors* of Fleet Air Reconnaissance Squadron One, flown by highly experienced jet carrier pilots.

In acceptance of the challenge from the "old pro's" of VAP-61 in the *NANews* July edition, may we first say our pilots and crewmembers have had the pleasurable opportunity to work with the "old pro's" on many occasions both on and off the carriers in WestPac.

The following statistics were taken from the Pilot's Annual Flight Time Report. As of 1 April 1964, the 12 VQ-1 A-3B pilots averaged over 4100 hours total flight time as compared to the "old pro's" 3400 hours. In contrast to the "old pro's" average of 1000 hours logged in the *Skywarrior*, the pilots of VQ-1 have logged an average of 1200 hours in the Douglas-made aircraft. With nine of the twelve being qualified centurions or better, they have a combined total of 2988 carrier landings while the "old pro's" have 2980. Need we say more for the "older pro's" from the "NAVY'S NUMBER ONE SQUADRON," except this is one case wherein the "eyes" don't have it!

D. M. TANT, LTJG.

Public Information Officer
VQ-1, FPO, San Francisco, Calif.

VF-31 DATA SOUGHT

SIR: Fighter Squadron 31, now at NAS CECIL FIELD, Fla., wishes to communicate with former members of VF-1B, VF-6, VF-3, VF-3A and VF-31. We are particularly interested in personal experiences and squadron pictures of former members for use in compiling a squadron history that goes beyond the usual date and place history. Interested parties please correspond with Commanding Officer, VF-31, c/o FPO, New York, New York, 09501.

We will appreciate any assistance you can give us in this matter.

N. SABIN, VF-31

RECOLLECTIONS REQUESTED

SIR: I am now embarked on a major non-fiction effort, a book about the Battle of Coral Sea. I would appreciate hearing from air group members and crewmen of other ships than *YORKTOWN*, so I can obtain their recollections of the period May 4-8, 1942. My address is 12104 Linden Lane, Bowie, Maryland, 20715.

JOSEPH D. HARRINGTON, JOC, USN (RET.)

SIR: Patrol Squadron Four is in the process of compiling materials for a book that will trace the history of patrol and ASW aviation in the Navy, giving both their general aspects and reflecting the activities of VP-4 since its beginning. We hope to produce a volume of historical value to everyone interested in Naval Aviation and one of personal significance to all former VP-4 personnel.

We hope that all old VP-4 sailors and others in patrol aviation will assist us by sending in personal reminiscences. Stories con-

cerning the various aircraft flown over the years, about deployments and missions, and touching on squadron incidents and outstanding achievements would be greatly appreciated.

ARTHUR K. BENNETT, JR.
Commanding Officer, VP-4

FPO San Francisco

And Now It Can Be Told Klumann was on Sept. Cover

The Navy's most recent escaped prisoner, Lt. Charles F. Klumann, was featured on the inside front cover of our September 1964 issue. The shot was taken two years ago when Lt. Klumann was Catapult Officer on the *Bon Homme Richard*.

In June, this year, he launched an F-8 *Crusader* from the *Kitty Hawk* for a reconnaissance mission over Laos while a member of Light Photographic Squadron 63. His plane was shot down and he was captured by Pathet Lao forces. On June 30, his wife received for him the Distinguished Flying Cross in Pentagon ceremonies. The White House announced his escape, September 1, and he returned to the United States.



KLUMANN AS CVA-31 CATAPULT OFFICER

VF-124 Receives Last F-8 Squadron is Largest Crusader Unit

VF-124, commanded by Cdr. H. E. Camp, was selected recently to receive at NAS MIRAMAR the last *Crusader* built for the U.S. Navy by Ling-Temco-Vought. The selection is appropriate since VF-124 is the largest *Crusader* squadron in the Navy. VF-124 has been training Pacific Fleet replacement pilots since 1958.

The first F-8 was delivered in 1955 and the last on September 3, 1964. This was the 1219th *Crusader* built for the Navy and the 286th F-8E.



SQUADRON INSIGNIA

Among the proud units who celebrate the Marine Corps' 189th anniversary this November is VMFA-314. First Marine squadron to operate the F-4 Phantom, the 'Black Knights' are deployed to Atsugi and are a unit of MAG-11. Flyers from 314 have made carquals aboard the carriers Midway, Ranger and Kitty Hawk and are well known for their firing accuracy at Point Mugu's missile range. LCol. Robert J. Barbour is skipper.



BE AN AMERICAN LEADER



NAVAL AVIATION **NEWS**

High school seniors and graduates may earn a commission in the Regular Navy or Marine Corps through the Naval Reserve Officers Training Corps (NROTC) College Program. Male U.S. citizens, who pass a rigid physical examination, must file prior to the 3rd Friday in November to take an NROTC Educational Examination the 2nd Saturday in December. For application forms and details, see your high school principal, guidance counselor or Navy recruiter.