

NAVAL AVIATION

NEWS



45th Year of Publication

DECEMBER 1963

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WE KNOW WHAT MUST BE DONE

'The dawn of the New Year reveals our country at war. The initial blow was struck by the enemy, and it was a hard one. We have been trained to fight, and this we must do with everything we have. Naval Aviation's part is vital. We know what must be done, and we know how to do it. It is now up to every officer and man to do his part. . . . I extend my most earnest wishes for the success of your efforts, for only through that success may we retain the privileges won for us by the sacrifices . . . of our forebears.'—RAdm. John H. Towers, Jan. 1, 1942.



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FORTY-FIFTH YEAR OF PUBLICATION DECEMBER 1963

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■ COVERS

The young men on this month's cover are launching an A-3 Skywarrior from the deck of USS Forrestal (CVA-59) while with the Sixth Fleet in the Mediterranean. . . . Above, sailors on the attack carrier USS Constellation do honors at deck edge as the ship passes the Arizona Memorial at Pearl Harbor.

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Safety Conference Held RAdm. Outlaw Hosts Service Reps

A two-day joint Army-Air Force-Navy safety conference was held in mid-October at the U.S. Naval Aviation Safety Center. RAdm. Edward C. Outlaw, commanding the Center, and his staff were hosts.

BGen. J. T. Robbins, Director of Aerospace Safety, Norton AFB, Calif., and Col. R. H. Hamilton, Director, U.S. Army Board of Aviation Accident Research, Fort Rucker, Ala., and representatives from their respective staffs participated in the meeting.

Among problems discussed were determination of aircraft accident rates, investigation of accidents, specifications for improving safety of design, as well as the exchange of safety information with industry.

In addition to discussing safety ideas, the staffs explored possible needs and advantages of an interservice approach to resolve various safety problem areas.

A special feature of the conference was an address by VAdm. Paul H. Ramsey, Commander, Naval Air Force, Atlantic. The safety organizations are charged with accident prevention and investigation for their services.

Fiftieth Orion Delivered Seven Squadrons Now Have the P-3

A major production milestone for the Lockheed P-3 anti-submarine warfare patrol plane has been reached: delivery of the 50th *Orion* to Navy squadrons.

The four-engine prop-jet aircraft was officially introduced to Fleet service August 13, 1962, at NAS PATUXENT RIVER, Md. Since that date, quantities of the 405-mph, long-range ASW airplane have been delivered to seven squadrons: VX-1, NAS KEY WEST, Fla.; VP-8, VP-44, VP-30 and VP-49, NAS PATUXENT RIVER; VP-31, NAS NORTH ISLAND, San Diego; and VP-46, NAS MOFFETT FIELD, Calif.

Orions assigned to VX-1 at Key West are flown in air development and evaluation work. Another P-3 is stationed at NATC PATUXENT RIVER for weapons systems programs.

The P-3 *Orion* can be armed with torpedoes, rockets, bombs, depth charges. It is manned by a crew of ten, including a tactical coordinator who monitors electronic detection equipment.

Aviator of the Year Chosen Colonel Wins Annual Marine Award

Col. Michael R. Yunck has been named Marine Aviator of the Year, and received the Alfred A. Cunningham Award in ceremonies held on November 1st. The presentation was made by the First Marine Aviation Force Veterans Association during their annual reunion in Miami Beach.

The award honors the late LCol. Cunningham, father of Marine Corps Aviation and original commanding officer of the First Marine Aviation Force formed in WW I. Last year, this award was bestowed on LCol. John H. Glenn for his contribution to the aerospace program.

Col. Yunck was cited for his exemplary individual accomplishment as a pilot, Air Group Commander and professional ability while participating in numerous developmental flight test programs, including the longest unrefueled flight of an F-4B *Phantom II*.

Two in a Row for VF-33 Win CNO Safety Award 2nd Year

Fighter Squadron 33, commanded by Cdr. Larry N. Smith, has won the CNO Aviation Safety Award for the second consecutive year. A unit of Carrier Air Group Six, the squadron is shore-based at NAS OCEANA.

In fiscal year 1963, VF-33 was deployed for over nine months aboard



THE FIRST SEVEN ASTRONAUTS received the 1963 Robert J. Collier trophy in a ceremony at the White House October 10. In making the presentation, the President emphasized the importance of this country's space effort. NASA Administrator James E. Webb said that the award indicates "we are on the road in space." Maj. Donald K. Slayton accepted the award as the representative of the total team. Standing next to the President, left to right, are Maj. Virgil I. Grissom, Cdr. Walter M. Schirra, Jr., Maj. L. Gordon Cooper, Jr., LCol. John H. Glenn, Jr., Maj. Slayton and Cdr. Alan B. Shepard, Jr. LCdr. M. S. Carpenter is hidden from view.



VF-33 SQUADRON PERSONNEL RECEIVE SECOND STRAIGHT CNO SAFETY AWARD AT OCEANA

USS *Enterprise*. The squadron flew a total of 4125 hours in their F-SE *Cruaders*, 3411 of which were during ship-board operations. In addition, 1988 day and night carrier landings were logged.

No pilot or maintenance error accidents were experienced during the year.

HIPEG Tests Completed Will Increase Aircraft Firepower

The Navy has completed initial development tests of HIPEG (High Performance External Gun) which is expected to give attack aircraft 10 times the firepower of their World War II counterparts.

HIPEG consists of three 20mm cannon capable of firing at a combined rate of 210 rounds per second. Each of HIPEG's guns is a self-powered,

twin-barrelled weapon mounted in a pod hung from the aircraft in the same manner as external fuel tanks or bombs. A cylinder feeds the two barrels which fire simultaneously. A pod can be attached to aircraft in three minutes and removed in only one. Reloading the 750 rounds of ammunition in each pod requires 10 minutes.

Initial tests of the system were conducted at the Naval Ordnance Test Station, China Lake. The Marine Corps is testing HIPEG for use in helicopters.

New Volume is Published Dictionary of USN Fighting Ships

Volume II of the encyclopedic *Dictionary of American Naval Fighting Ships* is now available from the Superintendent of Documents, Government

Printing Office, Washington 25, D.C. The 581-page book is priced at \$4.25.

This volume covers ships having names that range from C through F, and gives concise histories of all previous ships bearing the current name. Ships' specifications and characteristics are given.

The first volume of the set became a best seller. Historians and ship enthusiasts began to press at once for subsequent volumes.

Naval Aviators will be particularly interested in a two-part appendix devoted to aircraft carriers and escort aircraft carriers, 1908-1962.

New AX School Started First Class Begun at Memphis

An advanced Aviation Anti-submarine Warfare School has been organized at NATTC MEMPHIS. Six students make up the first AXI(B) class for the six-week course.

Before attending the school, a student must complete the 26-week ATI(B) school.

The AXI(B) phase is divided into three units with the first lasting one and a half weeks, the second three weeks, and the third, another one and a half weeks.

Future plans for the school call for an expansion to eight weeks, the installation of the newest anti-submarine warfare equipment and an improved curriculum. Training officer for the school is Cdr. John Monahan. Course officer is Lt. Don Kahler; the leading chief is Richard Mudge, ATCS.



BELL AEROSYSTEMS is testing on Lake Erie the Navy's SKMR-1 Hydroskimmer, largest air cushion vehicle ever built in the United States. The test program is being conducted under a contract awarded by BuShips. The Hydroskimmer has been extensively instrumented for the test program, which consists of operating the craft in its present configuration and later with flexible trunks, or skirts, affixed to the hull



to raise it higher above the surface. Among the military missions considered by the Navy for the craft are anti-submarine warfare, landing and patrol operations, mine countermeasures, high-speed transport of personnel and cargo and rescue operations. The most attractive features of the Hydroskimmer from a military standpoint are its speed, ability to operate at zero draft and amphibious capability.



GRAMPAW PETTIBONE

Sad Selection

A water survival-helicopter rescue training exercise was being conducted just off the West Coast, using a CH-19 as the rescue aircraft. The crew was composed of an experienced, well qualified pilot (right seat) and an observer in the left seat flying in this capacity for the first time. In fact, this was the first month the observer had been placed on the non-crew member flight list.

The helicopter's mission was to pick up personnel in the water and discharge them ashore. After the sixth "pickup," the forward fuel warning light came on. After landing to discharge personnel, the pilot changed the fuel selector to the aft tank. He experienced extreme difficulty in turning the selector but was able to do so. This difficulty was discussed with the hoist operator, a member of the maintenance crew. It was decided to check the selector when they returned for fuel.

The crew continued the exercise. After a reasonable time, the warning light for the aft tank came on. As the pilot had experienced difficulty in operating the fuel selector previously, he instructed the non-crew member observer in the left seat to change tanks for him when they landed to discharge personnel.

Upon landing the observer started to move the fuel selector. The pilot told him not to go through the OFF position when selecting a different tank. About this time, the pilot's attention was distracted by activities outside of the aircraft. The observer, who was accomplishing the critical task of selecting a different fuel tank for the first time, experienced difficulty in



understanding the instructions because of static in the ICS. He heard the word OFF and, although it didn't seem just right, he turned the fuel selector to the OFF position.

The pilot was concerned with other things and, after receiving an "all clear," added takeoff power and lifted. At an altitude of approximately 15 feet and a forward speed of 30 knots, the engine quit. The pilot immediately split the needles, initiated an auto rotation and landed the helo on a macadam road in an upright position. The main roto blade severed the tail pylon, causing substantial damage. The crew abandoned the aircraft uninjured.



Grampaw Pettibone says:

Holy mackerel! Now doesn't a thing like this really frost you? Here is a pilot with much time in a bird—maybe too much, if experience breeds this kind of over-confidence. It's just plain difficult to see how a guy can utterly disregard that "check-off list" and trust a lad on his first flight to select the fuel. A stunt like this has no place in this business we're in, and the files are full of statistics to prove it. Failure to use the check-off list is like gambling with loaded dice—you can't win.

Delayed, Diverted, Drenched

An RF-8A pilot was aboard a carrier off the East Coast for refresher landings. Squadron aircraft were to be

flown out from the beach, and he was to switch places with one of the incoming pilots when he had finished qualifying. The pilot needed refresher landings before beginning regular flight operations the following day. For varied reasons, there were delays in attempting to accomplish the landings. Delays encountered were about as follows:

1400—Pilot donned flight gear waiting for squadron aircraft to arrive.

1510—Aircraft landed and pilot waited 40 minutes before he could man the assigned aircraft.

1550—Flight cancelled; pilot returned to ready room and undressed.

1600—Donned flight gear, waited for call to man aircraft.

1700—Undressed and started for wardroom when he was called to man his aircraft.

1800—Manned assigned aircraft and fired up. Fuel aboard 3600 pounds.

1825—Launched with 3000 pounds.



After making three traps in five approaches, the pilot assumed his refresher landings were complete. While he was being taxied onto the starboard catapult, however, information was transmitted that he was being diverted to home base. He failed to receive the transmission owing to radio failure. His TACAN had also failed, but he did not notify the ship.

At 1846 the aircraft was launched for the beach with 1800 pounds of fuel, no radio and no TACAN. After realizing his radio had failed, the pilot rocked his wings, turning down wind to indicate the failure to the ship. He received a bingo and "good-bye" from



the LSO and headed in the general direction of the beach using bingo information that was nearly four hours old.

By the time he was squared away on a westerly heading his fuel gauge read 1500 pounds. Optimum altitude for a 120-mile divert would have been 30,000 feet, but owing to a cloud layer at 3000 feet and no navigational aids, the pilot elected to remain below the clouds. He departed with old bingo information of 259°/90 NM vice 278°/124 MN, actual bingo data at time of departure.

The first lights the pilot saw were at St. Augustine. Then he saw lights from Jacksonville Beach. At this time the fuel gauge read 700 pounds, but he figured he had only 400 pounds. The pilot pulled the EEP to insure adequate control of the aircraft in case of flame-out and immediately heard a side tone on the radio. He contacted Mayport tower and informed them of his situation. Shortly thereafter the engine flamed out and the pilot ejected. All safety and survival equipment operated as advertised and a helo was overhead for rescue in approximately 30 minutes.



Grampaw Pettibone says:

Great horned toadies! It sure took a bag full of unusual circumstances, varied equipment failures, decisions based on incomplete or unknown information and lack of coordination to set this one up. Divert information should be fed to pilots during carquals, but there is certainly nothing against a pilot's asking for it if he hasn't received it. This is a perfect example of how a seemingly innocent but uninterrupted chain of events can lead to the loss of extremely valuable equipment and/or personnel.

Cross Country Nightmare

A DB-26J departed a West Coast air station late one Friday afternoon with a crew consisting of a pilot, safety-observer and three passengers. The pilot filed an IFR flight plan to Clinton-Sherman AF Base requesting an en route altitude of 9000 feet.

The flight departed at approximately 1700 and proceeded normally to Phoenix, at which point the altitude was increased to 13,000 feet. Between Phoenix and Tucumcari, actual instrument conditions were encountered. No instrument lights were available except a console-mounted light and the pilot

did not have an oxygen mask. Flashlights were used to replace the inoperative instrument lights and the safety-observer shared his mask with the pilot.

The flight landed at Clinton-Sherman at approximately 2100 to refuel, discharge one of the passengers and repair the instrument lights. A VFR flight plan was filed for Olathe. An intermediate stop at the pilot's home town was included in the planned VFR flight to NAS OLATHE.

The flight proceeded uneventfully to



the en route stop where the pilot attempted to establish radio contact. After several unsuccessful attempts, he decided to land without radio contact. The pilot circled the field several times, then set up an approach for the lighted runway.

The approach was normal with a rather hard touchdown. Immediately after touchdown, the aircraft began to yaw and the pilot added power and again became airborne. Because of the explosive noise heard during touchdown and the pronounced yaw, the crew checked the aircraft upon regaining altitude. The pilot was amazed to discover the port main gear and part of the port engine nacelle gone. The crewmen reported a bad hydraulic leak in the aft station.

An immediate heading was established for Olathe with the intention of landing on a foamed runway. Upon arrival at Olathe, the damage to the aircraft was confirmed by tower and crash crew personnel using Aldis lamps. The pilot cycled the gear several times in an effort to retract the starboard

main gear and nose gear but was unsuccessful. The nose gear trailed with the wheel 90° to the aircraft. The starboard remained down and locked.

The decision was then made to abandon the aircraft rather than try to land it and a suitable area was requested from the controlling agency. An area was assigned by Air Sea Rescue Headquarters and the aircraft vectored to the bail-out area.

The crew abandoned the aircraft one at a time on successive passes from an

altitude of 10,000 feet. All bailouts were successful. The aircraft exploded and disintegrated on impact in an open field—a total loss.



Grampaw Pettibone says:

Great heavenly days! If a fiasco like this wouldn't wilt a lily, nothin' would. An experienced pilot on a night flight at 13,000 feet without an oxygen mask is really asking for trouble. Now this lad must have had some misgivings concerning the en route stop at his home town airport. However, he elected to attempt a night landing at a strange field without radio contact which precluded getting a current altimeter setting. Now that's really askin' for it.

Reportin' and controllin' custodians approve cross-country training flights for just that purpose—training. They expect the flight to be flown as requested unless an emergency situation is encountered. To do otherwise is not shootin' square.

Things could have been a lot more serious without the able assistance of NAS Olathe, Area Air Sea Rescue and Air Force crash/rescue personnel.

ROOSEVELT ROADS—CARIBBEAN KEYSTONE



THE NAVAL STATION at Roosevelt Roads, Puerto Rico, covers some 8000 acres. It stretches more than nine miles from one end to the other. The station has excellent harbor facilities. Shown here are the housing area (lower right), airfield (center) and the harbor (upper right).

Roosevelt Roads Naval Station, once a sleepy little base on the Caribbean island of Puerto Rico, is now a bustling city of 3500 Navy men, Marines and civilians with a challenging workaday task.

The history of this sprawling 8000-acre naval station dates back more than 50 years, but actually takes on little importance except during WW II and from 1957 to the present.

Its location was first considered as the possible site of a naval station as far back as 1919, when a report was compiled discussing the advantages of locating a naval station in the area. Taken into consideration in the report were the area's excellent harbor facilities, feasibility of locating an airfield, and positions for key defense command posts in the rolling hills which surround the station.

In the early 1940's, a program of massive proportions transformed the hilly marshland into a booming wartime base with a task of supporting a great many ships of the Atlantic Fleet.

A dry dock built during that period began repairing battle-damaged ships

By Bill Missett, JO2

before the dry dock itself was completed. It is still capable today, more than 20 years later, of handling any ship in the world. A complex machine shop was also built to repair damaged ships.

The station, located on the easternmost tip of Puerto Rico, has one central harbor and two lesser ones. The main harbor can handle dozens of ships at one time by virtue of its huge size and protected anchorage. Its capacity will soon be increased by dredging.

During the war years, most of the important structures of the station were built in the area surrounding the harbor.

The station has a self-sustaining power supply, not used today, but still capable of providing adequate power for the entire station. Water, obtained from external sources, is processed and filtered by a modern plant within the confines of the station.

A 6000-foot runway built during WW II was expanded to 11,000 feet during the late 1950's, and today it is

capable of handling any aircraft in existence. The airfield is more than two miles from the harbor area, but two miles means little to the men who operate Roosevelt Roads. This station stretches more than nine miles from stem to stern.

After the war years, Roosevelt Roads lapsed into an almost inoperative status, with an off-again-on-again history that saw it close seven times and open eight times.

The last time it was re-established, in late 1956, it was for keeps. In the past six years the station has been facelifted to a degree almost as astounding as its initial buildup. Its growth rate has been steady and significant. Since 1958, its air operations and number of personnel have tripled. The number of ship movement has doubled.

Absorbed during this rejuvenation was the U.S. Army's Fort Bundy, on the western end of the station, which had been built during the early days of the station's birth to protect the fledgling naval station. Acquired over the years have been the operational control and responsibilities of an additional



A UTILITY SQUADRON EIGHT helicopter brings back a Ryan BQM-34A (Q2C) Firebee drone to the naval station after recovering it from sea.



TWIN RADAR TOWERS on a mountain top near the station provide information for safety control of the missile-firing air spaces in the area.

30,000 acres on nine adjoining islands, which all fall under the direction of the station's Commanding Officer, Capt. Henry C. Bridgers, Jr.

The area that was once Fort Bundy is now the home of the naval station berthing and administration buildings. Five new 250-man barracks for enlisted personnel, a new 200-man quarters for bachelor officers, and a Seabee compound comprise the berthing facilities for the unmarried men in this area of the station. Also located in this area are a new hospital and dental clinic; an air-conditioned theatre, bowling alley and library; a 1500-man messing facility, and recreational areas.

In spite of these new additions and facilities, it still becomes necessary to use the older barracks, mess hall and bachelor officer quarters built during WW II near the airfield to absorb the requirements placed on the station.

Located between the eastern and western ends of the station are 770 housing units for married personnel. There are more than 2000 dependents living on the station. Schooling and recreational facilities for the children are located near the housing area. Also located in this area is the base's Armed Forces TV station, which weekly beams 70 hours of stateside entertainment into homes of station personnel.

Roosevelt Roads has excellent outdoor recreational facilities available for

its personnel and their dependents. Three fine, white sand beaches, three swimming pools, six tennis courts, a nine-hole golf course, basketball courts, and two baseball diamonds are available for their use. There is a marina with sail and power boats, a riding stable, and skin-diving and sky-diving clubs.

The station's indoor recreational facilities are old and inadequate, but in view of the expected increase in importance of the station, this situation may be remedied.

The basic mission of Roosevelt Roads is to support the Fleet. The station and its permanently attached commands



ONE OF THE WORLD'S LARGEST, the dry dock at Roosevelt Roads, 1088 feet long, can accommodate any ship in the world. It was built during WW II and serviced ships through the war.



LTJG R. I. TAYLOR, veteran "hurricane hunter," checks weather map for AEW Squadron Four.

and units provide support in many forms. Operations here represent a veritable cross-section of naval activity. Air, land, sea, subsurface and amphibious exercises and both conventional and missile weapons training are conducted in the area.

A bustling Supply Department handles the logistic end of the station's mission, providing goods for the outlying islands within the Roosevelt Roads command, as well as the many ships of the U. S. Navy which visit the area. The station's Ships Department lends a big helping hand to the local Supply Department, by doing the actual delivery work. More than 700 trips were made to the station's islands—some more than 100 miles away—last year alone.

Several highly sophisticated squadrons and units furnish the drones and drone launching support used to evaluate the missile systems on our Navy's ships, a task vital to the U.S. Navy's defense capabilities.

Utility Squadron Eight provides the drones—either converted *Panther* jets with remote control systems which are ground launched by ten-man crews, an operation that requires amazing coordination—or highly efficient Ryan Q2C *Firebee* subsonic jet drones, launched from airborne patrol bombers of the squadron.

The Atlantic Fleet Weapons Range, which is unique in the U. S. Navy, oversees the entire missile-firing operation. Working with radar units atop an adjoining mountain top—Pico del Este—and other out-of-sight control areas, the Atlantic Range maintains rigid control over the missile-firing areas adjacent to Roosevelt Roads. The

drones, escorted by jets from the station to one of two missile-firing areas, act as targets to evaluate U. S. and NATO ship's missile systems.

Guided Missile Evaluation Detachment does just what its name implies, analyzing the data obtained during every missile test launch to correctly determine each ship's particular missile launching problems (pp. 20-21).

One of the Range's many units, located on the island of Culebra, 20 miles offshore from Roosevelt Roads, acts as a scorekeeper for the guns of U.S. Atlantic Fleet ships. The unit evaluates ship gunnery exercises, as well as all aerial bombardments, to advise ship ordnance departments how to boost their gunnery efficiency.

Anti-submarine warfare training is also a big item on Roosevelt Roads daily working schedule. Operation *Springboard*, a massive yearly exercise for ships and aircraft of the free world, often brings as many as half a dozen anti-submarine patrol squadrons to operate from the station.

Permanently located at Roosevelt Roads is Airborne Early Warning Squadron Four, the Navy's *Hurricane Hunters*, who have spread their fame throughout North America by making flights into each and every hurricane spawned in the Caribbean and South Atlantic to obtain weather information. All data obtained on each of these harrowing flights is relayed to weather bureaus throughout the nation to warn and advise residents of the communities endangered by the storm.

Other squadrons, including Marine jet units, operate from the station on a year-round basis, benefitting from the station's excellent target facilities, wide open airspaces, and continuously perfect flying weather.

A 100-man Marine contingent provides the station with perimeter and internal security, with regular patrols throughout the station, and guard service at the station's two gates.

The station is also one of the Underwater Demolition's Teams' training camps. Each graduating class makes Roosevelt Roads their home for 12 weeks, during which they receive intensive demolition practice on several nearby islands.

Also part of the Roosevelt Roads command is a section of the large island of Vieques, just seven miles from the station. It is a huge training



CAPT. BRIDGERS, NS C.O., gives R.D. Ciepiela bond for best appearing house in the Roads.

ground for Marine ground and air maneuvers the year round. The island has been used for several large assault exercises during the past few years, at times involving dozens of ships, hundreds of aircraft, and thousands of men. The Marine's vertical assault techniques were tried and tested on this island. Operation *Springboard* makes use of the island for maneuvers, as well as UDT trainees.

A 600-man civilian work force supplements the military manpower in many departments aboard the station, particularly the public works and supply offices.

Roosevelt Roads played an extremely active part in the Cuban Crisis, providing logistic support for air squadrons and ships involved in the event. An excellent example of the station's logistics: 10,000 box lunches prepared for pilots and crewmen during that busy three-week period.

The station has also had a highly favorable percentage in another of its more important missions, that of providing search and rescue service throughout the Caribbean. Its "finds" include the hijacked cruise liner *Santa Maria*, astronaut Scott Carpenter, the caravel *Nina II*, the pirated Venezuelan freighter *Anzoategui*, and innumerable smaller vessels. All of these were found by aircraft based at or attached to the station.

Roosevelt Roads grows each day, adding to its busy schedule an ever-growing importance in the Navy's task capabilities. The station has a future deeply involved in the strategic importance of the nation, a future which some day promises to be foremost in the Atlantic Fleet. ★ ★ ★



THE DEPARTMENT OF DEFENSE has awarded Boeing's Vertol Division a \$31 million contract for CH-46A Sea Knight helicopters. Their primary, all-weather mission is the rapid dispersal of troops, equipment and supplies from amphibious assault landing ships and established air fields to advanced and undeveloped areas with limited logistic support. The two Sea Knights (above) are flying at Vertol Division's Flight Center, Philadelphia International Airport.

HS-3 Aircrewman Honored SecNav Award Made for Pilot Rescue

Aircrewman John W. Porte, Jr., AX3, attached to Helicopter Anti-Submarine Squadron Three, NAS NORFOLK, has been awarded the Navy Commendation Medal for rescuing an unconscious downed Navy pilot off the coast of Virginia Beach.

RAdm. Forsyth Massey, ComFAir, Norfolk, awarded Porte the medal for the Secretary of the Navy at ceremonies held in Norfolk.

The citation reads in part: "For heroism in connection with the rescue of the pilot of a downed aircraft while attached to Helicopter Anti-Submarine Squadron Three. Porte as a helicopter aircrewman in an SH-3A helicopter, without regard for his personal safety, in heavy oil-slicked seas, did enter the sea, suffering second degree burns to his hands during the descent and, though himself injured, saved the life of the pilot of the downed aircraft."

NS Rota to be Televised National Geographic Society Film

A three-man crew from the National Geographic Society recently completed filming a show at Naval Station, Rota, Spain, to be televised by the National Broadcasting Company next spring.

During the show, the camera follows the travels in Spain of Washington Irving, the 19th Century American author. Irving was U.S. Consul General in Sevilla, and kept a detailed

diary of his travels in Spain. Many of the areas he visited have not changed through the years. Rota has, and this change interested the cameramen.

Patrol Squadron 18 assisted the three-man team. Three P-2 Neptunes—one flown by squadron C.O., Cdr. V. F. Anderson—made several dramatic takeoffs before the camera.

Training in the Hawkeye Five Weeks at the Grumman Plant

Nine members of Carrier Airborne Early Warning Squadron 11 went to Bethpage, Long Island, N.Y., for five weeks of indoctrination and training

in the new Grumman E-2A Hawkeye.

The nine officers, pilots and Naval Aviation observer-controllers have extensive AEW experience gained through flying the E-1B and the EA-1E.

The five pilots had also completed a two-week engineering course on the T-56 turboprop engine at the Allison Division, General Motors Corporation at Indianapolis, Ind.

Knowledge gained from Grumman's course will be passed on to other prospective Hawkeye crew members of VAW-11.

VAW-11, based at NAS NORTH ISLAND, provides AEW detachments to all aircraft carriers in the Pacific Fleet.

Marine Unit 20 Years Old Battle-Proved VMO-1 Celebrates

Marine Observation Squadron One located at MCAF NEW RIVER, celebrated its 20th year October 27.

The oldest squadron in MAG-26, VMO-1 was commissioned on October 27, 1943, at Quantico, Va. It was originally designated VMO-155.

VMO-1 in WW II was the first squadron on Guam and also the first squadron on retaken American territory.

Its missions today are varied. Although its primary task is flying air support for Fleet Marine Force, Atlantic, the squadron is also engaged in aerial photography and reconnaissance, message drops and pickups, supply drops, wire laying, medical evacuation and search and rescue. Squadron commander is LCol. J. A. Nelson.



FIRST TRI-SERVICE VTOL to be rolled out is the Curtiss Wright X-19. A tandem tilt-propeller design, the X-19 is powered by two Lycoming T-55 engines. The four propellers tilt forward through approximately 90 degrees from the vertical takeoff and landing position (shown here) to the forward flight position. Built under the cognizance of the U.S. Air Force, the first X-19 is at present in the early stages of a very extensive ground and flight test program.

FOURTEEN NEW ASTRONAUTS SELECTED



THE NASA INTRODUCED ITS 14 NEW ASTRONAUTS ON OCTOBER 18. THERE ARE NOW 30 ASSIGNED TO THE MANNED SPACECRAFT CENTER

THE 14 ASTRONAUTS selected in October by the National Aeronautics and Space Administration possess backgrounds in both aerospace research and aviation. Most of their flying has been in jet aircraft. There are now 30 U. S. astronauts.

The average age of the new group is 31. The oldest is 34; the two youngest are 28.

Three of the seven Air Force pilots received bachelor's degrees from the U.S. Naval Academy. Maj. Edwin E. Aldrin, Jr., is the first holder of a Ph.D. to be selected as an astronaut.

The new astronauts are listed with short notes on their background. Seated left to right:

Edwin E. Aldrin, Jr., Maj., USAF, was third in a class of 475 at U.S. Military Academy, 1951; holds B.S. and Ph.D. in Astronautics from MIT; was most recently assigned with USAF at Manned Spacecraft Center, Houston, where he was doing experiments in the *Gemini-Titan II* flights; 33 years old.

William A. Anders, Capt., USAF, was graduated from the U.S. Naval Academy in 1955; holds M.S. degree from Air Force Institute of Technology, Wright-Patterson Field; was assigned as nuclear engineer-instructor pilot at Air Force Weapons Laboratory, Kirtland AFB; 30 years old.

Charles A. Bassett II, Capt., USAF, graduated with high honors in electrical engineering from Texas Technological College, Lubbock; has done graduate work at the U.S.C.; last

assigned as an experimental test pilot in the Fighter Projects Office, Edwards AFB; graduate of the Aerospace Pilot School and Air Force Experimental Test Pilot Course; 32 years old.

Alan L. Bean, Lt., USN, was graduated from the University of Texas in 1955 with a B.S. in aeronautical engineering; is a graduate of the Navy's Test Pilot School at Patuxent; last assigned to Attack Squadron 44, NAS Cecil Field; 31 years of age.

Eugene A. Cernan, Lt., USN, was graduated from Purdue in 1956 with a B.S. in electrical engineering, entering the Navy the same year; a candidate for an M.S. in aeronautical engineering at the U.S. Naval P.G. School, Monterey; has been a member of VA-126 and VA-113 at NAS Miramar; 29 years old.

Roger B. Chaffee, Lt., USN, was graduated from Purdue with a B.S. degree in aeronautical engineering in 1957, entering the Navy the same year; served with VAP-62 at Jacksonville; last assigned to the Air Force Institute of Technology at Wright-Patterson AFB to work toward an M.S. in reliability engineering; 28 years old.

Standing left to right:

Michael Collins, Capt., USAF, was graduated from the U.S. Military Academy, received his B.S. in 1952; was, on his last AF assignment, experimental flight test officer at the USAF Flight Test Center, Edwards AFB; 33 years old.

R. Walter Cunningham joined the Navy in January 1951 and went into flight training in July 1952; joined a Marine squadron in 1953 and was a Marine Air Reservist with the rank of captain, flying with VMA-134 at NAS Los Alamitos; has been a research scientist for Rand Corporation; received his B.A. in physics

with honors in 1960, an M.A. in physics in 1961, and is currently completing his doctorate in physics; 31 years old.

Donn F. Eisele, Capt., USAF, was graduated from the U.S. Naval Academy with a B.S. degree in 1952, and chose an Air Force career; received his M.S. in astronautics from the Air Force Institute of Technology; was experimental test pilot at the Air Force Special Weapons Center at Kirtland AFB and flew experimental test flights in support of special weapons development program; 33 years old.

Theodore C. Freeman, Capt., USAF, was graduated from the U.S. Naval Academy in 1953 with a B.S. degree; received M.S. in aeronautical engineering from the University of Michigan in 1960; was a flight test aeronautical engineer and experimental flight test instructor at USAF's Aerospace Research Pilot School at Edwards AFB; is 33 years old.

Richard F. Gordon, Jr., Lt. Cdr., took his degree in chemistry from the University of Washington in 1951 and entered the Navy that year; a graduate of the All-Weather Flight School and the Navy's Test Pilot School; served with VF-96 at NAS Miramar, and at the time of his selection as an astronaut was a student at the Naval P.G. School, Monterey; won the 1961 Bendix Trophy Race from Los Angeles to New York, a distance of 2445.9 miles at a speed of 869.739 mph in the F-4B *Phantom II*; 34 years old.

Russell L. Schweichart, civilian, received his B.S. degree in aeronautical engineering from MIT in 1956 and an M.S. in astronautics and astronautics in 1963; entered the Air Force in 1956 and became a pilot; went on inactive duty in the fall of 1961, holds rank of captain in the Air National Guard; was.

prior to his selection as an astronaut, a research scientist at the Experimental Astronomy Laboratory at MIT; 28 years old.

David R. Scott, Capt., USAF, was graduated from the U.S. Military Academy with a B.S. degree in 1954, fifth in a class of 633; attended MIT from 1960 to 1962 and earned an M.S. degree in aeronautics and astronautics; was, at the time of his selection as an astronaut, a student at the USAF Aerospace Research Pilot School at Edwards; 31 years old.

Clifton C. Williams, Jr., Capt., USMC, was graduated from Auburn University in 1954 with a bachelor of mechanical engineering degree, entered the Marines the same year; is a graduate of the Navy Test Pilot School, Patuxent, and was a student at the Marine Corps Intermediate Staff and Command School at Quantico; has served as the F-8 project officer, A-4 project officer, and in short airfield tactical support projects; 31 years old, only bachelor in new group.

Probe Made at 142,000 Feet Ozone Layer Measured on Flight

A new altitude record of 142,000 feet was set in September by a balloon flight of a probe, developed by NOTS CHINA LAKE, Calif. The balloon began its ascent at Sioux Falls, S. D., in a final evaluation test for a project supported by the Office of Naval Research.

Aim of the probe was the penetration and evaluation of the ozone layer of the earth's atmosphere (the ozonosphere) by the NOTS ozonesonde (ROCOZ).

According to Arlin J. Krueger, NOTS project leader of the ROCOZ program, the instrument functioned



W. L. BURSON, H. P. PATTON INSPECT ROCOZ

successfully throughout the balloon flight and parachute descent. The telemetered data was recorded on magnetic tape, for assessment by computer.

Basically ROCOZ is an optical instrument which uses the sun as a light source. The vertical distribution of the ozone is measured through the attenuation of solar energy by ozone at selected wavelengths in the ultraviolet. The objective of the program is to provide a means of studying the ozone distribution and solar flare fluxes at 250,000 feet.

August X-15 Mark Revised Record Altitude of 354,200 Feet

The NASA Flight Research Center, Edwards, Calif., has announced that final tabulation of radar tracking data showed research pilot Joseph A. Walker reached a record altitude of 354,200 feet, or 67 miles, in his X-15 flight which took place the 22nd of August.

This is 3200 feet higher than the preliminary figure announced earlier for the flight and is 6400 feet above the previous record for the X-15 research plane which was set by Walker July 21.

Instruments Lab Milestone Quarter of Century Commemorated

The Aeronautical Instruments Laboratory of the Naval Air Development Center, Johnsville, Pa., celebrated its 25th anniversary October 26 at a banquet. The principal speaker was RAdm. Wellington T. Hines, Deputy Chief of the Bureau of Naval Weapons.

Among the distinguished military personnel who have served the laboratory and later become prominent are VAdm. John T. Hayward, VAdm. Ira E. Hobbs, RAdm. Francis E. Nuese. This group of officers, combined with a small group of scientists, many of whom are still in the laboratory, formed the nucleus of the organization in 1938 at the Naval Aircraft Factory in Philadelphia. The laboratory expanded continuously at the NAF until 1953 when it moved to larger quarters at Johnsville.

During the last quarter of a century, the laboratory has made significant contributions to the Navy in the areas of navigation, automatic controls, cockpit instrumentation and integrated avionics systems. The work is sponsored by the Bureau of Naval Weapons.

Today, the organization includes 130 scientific and mechanical personnel.



BLACK BRANT III, one of five rockets being tested by the Pacific Missile Range for possible use during the International Quiet Sun Year (IQSY) beginning next July, sits on launcher rail at Point Arguello (Calif.) Launch Complex B, Naval Missile Center. One such rocket was launched from Arguello July 1, 1963. In preparation for the IQSY, the Pacific Missile Range is testing also Archer, Seagull,

Dac-Roc and Thunderbird sounding rockets to determine which will be used in over 200 solar experiments scheduled for next year. The selected rocket will be launched an additional 20 times before IQSY begins. If Black Brant III or Dac-Roc is selected, the 20 additional firing will be made from Point Arguello. The Naval Missile Center may also figure in the added firings of the Thunderbird rocket.



DACHSHUND WITH A MISSION

The story of Schatzie and the USS *Oriskany* is one of many true stories contributed by military personnel to a collection entitled 'The Friendly American,' edited by Phillip R. Wheeler, BuWeps, and Cdr. John Paul Dickson, USNR. The stories were gathered during a contest sponsored by the Armed Forces Writers League and the Army-Navy-Air Force Register. Theme of the contest was 'What I have Done to Make Friends for America.' Of the 50 tales selected for publication, this one still goes on. Those interested in reading more People to People stories will be glad to know it is tentatively planned to have additional copies of 'The Friendly American' printed by the Government Printing Office, Washington, D.C.

IT ALL BEGAN in September 1950, when the Navy's carrier, the USS *Oriskany* (CVA-34) lay at anchor in Tripoli Bay, Libya. American Consul General, Andrew Lynch, presented the commanding officer, Capt. Percy Lyons, and the 3000-member crew with the longest, sleekest, four-legged seadog ever to tramp the deck of an aircraft carrier. Little "Schatzie," which means "Sweetheart" in German, soon became the "Sweetheart" of the Fleet.

Oriskany's little "pin-up" has met her four-legged brothers and sisters all over the world including such countries as Greece, Crete, Libya, Turkey, Italy, France, Malta, Switzerland, America, Cuba, Brazil, Chile, Peru, Africa and Japan. She is the only dachshund in the history of the American Navy ever to be initiated into the Royal Order of Shellbacks and Mossbacks for crossing the equator and rounding Cape Horn, respectively—and she has her certificates to prove it!

I was introduced to "Schatzie" moments after I saluted the quarter-deck when I first boarded the *Oriskany* as Protestant Chaplain on 8 May 1952 in Bayonne, New Jersey. It was a case of love at first sight. Even the chaplain was smitten by her charms. . . . "Schatzie" was the "Sweetheart" of every man aboard and a Prima Donna of the Deep.

This Canine Cutie was sweet, sassy and spoiled. What girl wouldn't be spoiled by the constant adoration of 3000 sailors! Why, "Schatzie" never thought of climbing a ladder. She was treated like a VIP and handled with tender, loving care by all hands, including the Skipper. She knew that ship from bow to stern, from flight deck to the bilges, including the miles of intricate passageways. Her chief delight was to snitch a free ride on the



LTJG. F. G. MITCHELL AND 'BIG O DAUGHTER'

escalator which ran from Hangar Bay to Flight Deck with the "Fly-Boys" just before they catapulted off into the wild blue yonder. She made several trips a day to the steak locker and never without her reward. She ate T-bone steak daily while the crew was lucky to get this delicacy once a week. Schatzie grew in wisdom and stature (length) and in favor with officers and men alike.

One of the most frightening, yet rewarding, collateral duties of a Chaplain is that of Combined Charities Officer. He is in charge of promoting fund drives for everything from Navy Relief to the relief of flood-stricken Ubangi in the Belgian Congo.

Well, it didn't take long for this charity-minded Chaplain to capitalize on the fund-raising potential of this many splended dachshund. So, the Chaplain arranged for Schatzie to get married following a brief Labor Day weekend-liberty romance in Coronado, Calif., in September 1952. This particular military wedding was considered "classified info" between the

By Robert K. Wilson

Chaplain and a certain 1st-class petty officer until the *Mighty O* was well past the 180th Meridian en route to Korean waters to keep a rendezvous with the Russian Migs. The Commanding Officer would have decided that a fighting ship is no place for a married woman in Schatzie's "condition."

Sixty days and 5000 sea-miles later on November 8, 1952 while operating off the Korean Coast, amid the withering scream of jet blasts of a very active flight deck, Schatzie went into labor. The Senior Medical Officer (Chief Veterinarian) and the Chaplain (priestly functions) were summoned to the emergency operating room of the ship's Sick Bay. In just 38 minutes, Schatzie had fulfilled the mission of motherhood and presented the ship with four of the most perfect little carbon copies of herself imaginable. The story of their birth appeared in the Saturday Evening Post in August 1953.

Schatzie and her brood were discharged from Sick Bay, after all rites and ceremonies were dutifully performed, and placed in an air-conditioned kennel adjacent to the ship's post office. Within 24 hours after the birth announcement was flashed over the ships inter-com system, 90 percent of the crew had stolen a fatherly glance through the expanded metal cage where the proud mother suckled her young. . . . "Mail Call" was never so popular!

Every man in the ship wanted a puppy to send home for Christmas. Letters by the thousands went home announcing the good news about Schatzie and her pups. Capitalizing on the high degree of morale which characterized the *Mighty O* at the time, the Chaplain threw the charity campaign into full speed ahead. It was determined that every man who con-

tributed \$1.00 to charity would be entitled to one chance on a puppy at a drawing to be held in Japan just before Christmas. Tickets went like wild fire. Within 30 days a total of \$10,000 had been collected for charity.

It has always been good Navy tradition for ships at home or abroad to sponsor Christmas parties for needy children. Christmas 1952 was no exception. It was our pleasure to welcome aboard a group of Salesian Sisters with 20 or more orphan children from the Shizuoka district of Japan. These dedicated nuns told us of their desire to start an orphanage for "fatherless" children. It was decided then and there that a portion of Schatzie's charity fund would be donated to this worthy cause. We were told that they could build a dormitory, class rooms and boarding hall, replete with all utilities, for 1,000,000 yen (approximately \$3000).

By virtue of this gift, Schatzie became an honorary member of the Salesian Sisterhood for the protection and care of Japanese-American orphans. The newspaper publicity resulting from the "Mascot to Missionary" enterprise paved the way for a most effective People to People Program for the *Mighty O*. Schatzie became a household word throughout Japan.

Four months later, just before Easter 1953, the orphanage was completed and dedicated. The *ORISKANY HOME* today stands as a living memorial not only to the "Sweetheart of the Seventh Fleet," but to the thousands of *Oriskany* sailors whose generous hearts pledged a continuing maintenance fund in the amount of \$1000 annually to keep that memorial ship-shape for years to come.

After the Korean truce was accomplished and the *Mighty O* returned to the states, Tripoli Schatzie, K-9 1/C, signed her transfer papers at the San Francisco Naval Shipyard on November 13, 1954 and bade shipmates and friends adieu amidst what is probably the Navy's greatest tribute ever rendered to a mascot. . . .

This versatile Dachshund was piped over the side with full military honors after successfully completing a three-year hitch of naval service and service to humanity.

During her three years aboard the *Oriskany*, this little canine lived up to the very highest traditions of the U. S.



AT END OF 1962 CARRIER VISIT, LITTLE GIRL FALLS ASLEEP IN THE ARMS OF HER GUIDE

Naval service. She proudly wore the National Defense Service Ribbon, the Korean Service Ribbon, the Korean Presidential Unit Citation, the United Nations Service Ribbon (European Clasp), the China Service Ribbon and the Purple Heart.

Schatzie was commended by Capt. Leroy C. Simpler in ceremonies held at the Oakland, Calif., Civic Auditorium on the occasion of the annual Ship's Party. The commendation reads as follows:

"While serving on board the USS *Oriskany* (CVA-34) from 21 June 1951 until this occasion, you have contributed in an outstanding manner, above and beyond the call of duty, to the happiness and morale of your shipmates by your very presence, and towards the betterment of hundreds of the unfortunate of our own and foreign-countries through your assistance and contributions of your personal prestige and your offspring towards charity as follows: March of Dimes, \$6000; Red Cross, \$6000; *Oriskany Home* (Shizuoka, Japan), \$5000; Navy Relief Fund, \$3000; Miscellaneous Charities, \$1500; a total of \$21,500.

"Your efforts were recognized and carried in pictures and stories by national magazines, contributing immensely to the prestige of your ship and her crew. You have made liberties in foreign lands as well as at home. Your conduct has been exemplary, having always returned to the ship on time, and traversed the gangway under your own power in a very seamanlike manner.

"You will be missed from the flight deck to the berthing spaces, from fo'castle to fantail. Your continuous company on the hangar deck lent a humanness which made even the steel seem warm and friendly. Wherever your shipmates gather, be it in the chow line or at the gangway, your absence will be felt, your memory treasured.

"For this exceptional meritorious service the personnel of the *Oriskany* award Schatzie, Tripoli, K-9 1/C, a place in the record of the *Oriskany* and in the hearts of her shipmates . . . forever."

During the ceremonies, Schatzie marched with regal elegance through the ranks of naval men and women. She had every right to be proud of her military career, for the good will she created around the world and especially for her missionary activity in Japan. Schatzie will be remembered as a great Lady of Charity and a grand champion of the President's People to People Program, for in a most effective manner she has acquainted citizens of other nations with the true meaning of the "American way of life."

(The story of Schatzie is not finished. Capt. H. J. Trum, Commanding Officer of the USS *Oriskany* (CVA-34), reports that during the ship's 1962 WestPac cruise, the sum of \$3000 was contributed by the carrier to continue to help the orphanage the "Big O" had first aided in 1952. The big carrier has certainly not forgotten its "Schatzie.")



CDR. WILKINS accepts "E" and CNO Award from ComFAirNorfolk, RAdm. F. Massey.



CREWMEN AND PILOTS of HS-3 pose beside squadron SH-3A Sea King and bug "E" emphasizing their clean sweep of 3 honors, Battle Readiness "E," CNO Safety Award and Isbell Trophy.

CLEAN SWEEP SCORED BY HS-3

HELICOPTER Anti-submarine Squadron Three, based at NAS NORFOLK and currently deployed aboard the USS *Intrepid* (CVS-11), has won three coveted awards for fiscal year 1963. It is the first SH-3A squadron to walk away with all three helicopter awards: the CNO Aviation Safety Award, the Battle Readiness "E" and the Isbell Trophy. In addition, CVSG-56, HS-3's air group, won the Rhode Island Navy League ASW Air Group Award and the Atlantic Fleet ASW "A" Award for excellence in

anti-submarine warfare. The *Intrepid* also received the "A" citation.

Flying the jet-powered *Sea King*, HS-3 pilots and crewmen flew nearly 7000 accident-free hours and logged 2000 day and 500 night carrier landings during the year. They spent two-thirds of this time at sea and participated in the Cuban Quarantine. First squadron to operate with the SH-3A, the unit has flown more than 18,000 hours without an accident since November 1960.

Cdr. James C. Wilkins, Jr., C.O.,

commented after winning the awards that "no one-man safety program can achieve such a record. The credit must be given to every squadron member."

Requirements for pilots and aircrewmen are demanding. Plane commanders must pass a rigid flight check and examinations administered by the Standardization and Training Board. ASW doctrine, NATOPS and knowledge of the *Sea King* are emphasized.

All hands combine to perform HS-3's mission—the detection, classification and destruction of submarines.



JET-POWERED Sea King searches depths of Atlantic for hostile subs. HS-3 logged 7000 accident-free hours, fiscal 1963.



OPERATING in the western Atlantic, a flight of HS-3 helicopters prepare to launch from *Intrepid* for ASW exercise.



STUDENTS AT NAAS MERIDIAN get their first taste of jet flying in the T-2A Buckeye. The final phase of intensive 20-week syllabus includes formation flying. In the lower photo, flight passes over some of 110 aircraft operated by station's top-notch squadrons, VT-7 and VT-9.

MERIDIAN, WHERE JET PILOTS ARE 'BORN'

NAAS MERIDIAN is an expertly designed training facility which operates with a singular purpose in mind—teaching young pilots to become professional jet Naval Aviators. An integral link in the chain of flight training command units, the air station stands on 8000 acres of land 17 miles northeast of the city of Meridian, Mississippi.

Formally commissioned in July 1961, the airfield is named after Adm. John

Sidney McCain. A Mississippian, Adm. McCain was a distinguished hero during World War II.

Every structure in this Navy complex is sparkling new, modern in architecture and wisely positioned for convenient utilization. There are 29 permanent buildings at Meridian with ten miles of paved roads and six miles of unpaved roads providing access to them. Nearly all buildings are air-conditioned. The perimeter of the base

is marked by over 35 miles of fence.

The operations area, which includes an elevator-equipped control tower and operations building, a double cantilever type hangar, three runways and a spacious airplane parking ramp, is three miles distant from the administration area. The continuous roar of jet engines is pleasingly absent at the paper-work side of the air station. The dispensary, administration, barracks, ground training and other buildings are here.



THIS COMPLEX of buildings in the administrative section at Meridian is located three miles away from the noisy flight operations area. All of these structures are of a permanent nature, modern in design. Formally commissioned in July 1961, base is a CNABATRA unit.



THE CAPEHART HOUSING section is situated two miles west of the administration area and five miles from the runways. The units are made of brick and have from two to four bedrooms. More than 230 of the units are assigned enlisted men; 88 are set aside for officers.



ONE-STOP shopping and recreation area includes commissary, theater, exchange, post office, bank, gym, country store, and other shops.



MODERN CHAPEL which was recently completed is located a short distance from administration area. First services were held this autumn.



THE ENLISTED MEN'S barracks provide comfortable living quarters for Meridian sailors. Spaces are designed for four people per room.



MARINE AND NAVY cadets live in these barracks. Recreation rooms, outdoor basketball court, pool and other facilities are available.



AERIAL VIEW of bangar and runways shows centralized ramp area which helps expedite taxi traffic. Aircraft can launch from one of the

north-south runways and land on the other while GCA practice approaches are made on shorter east-west strip. OLF Bravo is also used.



LT. JIM REID briefs his student, **Maj. L. J. Flanagan**, before pilot making jet transition.



DOUBLE-CANTILEVER type hangar provides excellent maintenance facilities for Buckeyes.



INSTRUCTOR Lt. J. Brother and **NavCad** G. I. Norman approach T-2A for training flight.

THE POPULATION AT NAAS MERIDIAN is still growing but this was anticipated. The mess hall which currently serves about 600 men daily has a 1000-man capacity. Six enlisted men's barracks can house more than 900 sailors in four-to-a-space rooms.

Both the cadet barracks and BOQ are the ultimate in modern living and provide quarters for approximately 100 cadets and 448 officers. The first church services were conducted at a newly completed chapel in October.

One cluster of buildings serves as a single-stop shopping and recreation center for the Navy community. Included here are: the commissary, the exchange, post office, bank, bowling alley, theater, country store, beauty and tailor shops, cafeteria and gymnasium. A golf course is under construction and swimming pools and other athletic facilities are available to personnel. Five miles from the hangar area stands the Capehart housing district.

This 40-million-dollar base is operated by the Navy to train the 500

Navy and Marine officers and cadets who come to Meridian each year following primary flight instruction at NAAS SAUFLEY FIELD, Pensacola. They are selected from the upper third of classes who complete 30 hours of prop flight time in the T-34 *Mentor*. Almost immediately they man the cockpit of a North American T-2A jet and commence the basic training syllabus—another stepping stone on the road to Navy wings.

Students are assigned to VT-9 or VT-7, two impressively efficient squadrons which have achieved remarkable results in their mission of producing the best possible student pilot. Cdr. B. W. Stout and Cdr. Robert M. Waters, respectively, head these two units.

In the first 14 weeks, the fledgling pilots split each day between ground and flight training. After that, the full working day is spent at the hangar in a flying status.

Each of the squadrons has a complement of about 300 enlisted men and 50 officers. Nearly all instructors have

recent Fleet experience and earn their pay by flying two, and sometimes three, hops a day. Extensive briefings combined with ground school education make Meridian graduates sound and well-balanced candidates for advanced training. As Cdr. Stout of VT-9 puts it: "The man who finishes basic training nowadays gets more training than I did after completing the whole course years ago."

In ground school, students study engineering, aerodynamics, radio instrument and dead reckoning navigation, meteorology and naval leadership. They also spend "cockpit" time in link trainers and in T-2A procedure training simulators.

They begin flight instruction with 12 transitional hops before soloing the J-34-powered *Buckeye*. Next, a combination of dual and solo flights take them through the precision and acrobatic stage which is followed by instrument and night flying. The final segment includes formation flying after which students report to VT-4 Sherman Field, Pensacola, where they are



HAPPY SIGN for VT-9 and VT-7 students is the arrow drawn by flight instructor signifying an "UP" flight after final check at Meridian.



WAIST-LEVEL door provides easy access to aircraft systems components, permitting plane captain and pilot expeditious pre-flight inspection.

taught gunnery and how to land on an aircraft carrier. At the completion of qualification landings aboard ship, also in the *Buckeye*, students head west to Texas for advanced training.

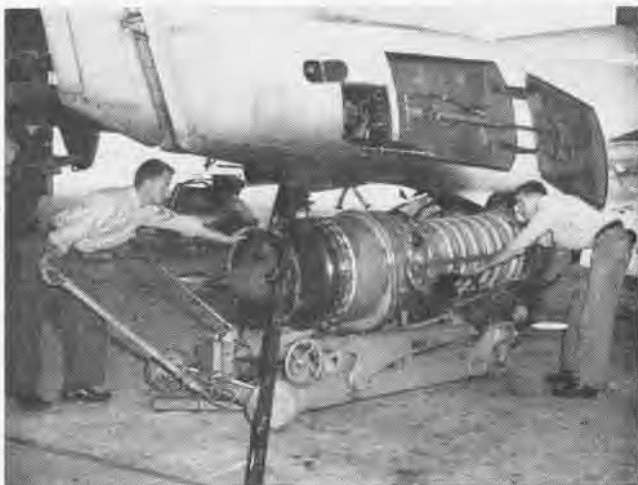
From dawn to dusk and on into the night the operations area is alive with the sounds and movements of T-2A's proceeding to and returning from the runways and roaring overhead in traffic patterns. The two north-south runways, 8000-foot long, are offset, one behind the other. The 6400-foot east-west runway lies on the eastern side of the field. While aircraft launch from one north-south strip and land on the other, GCA practice approaches can be made on runway 27. The outlying

proud of his base and particularly awed with the consistently safe flight operations. The results have been "nothing short of phenomenal," he states, "what with students having only 30 hours flight time in the T-34 before coming to us."

A significant contributing factor to this safety is the high degree of professional maintenance handled by the squadrons and the station. Waist-level work bays around the T-2A engine compartment provide easy access to internal equipment. The latest in maintenance gear, a well equipped hangar and expeditious coordination between the squadrons and the station maintenance department account for above-average

sible for class "C" maintenance which supports the two squadrons. Each month his unit processes some 1100 components which range from fuel connections, electrical motors and tip tanks to the engines themselves. It also tends NAAS aircraft which includes a pair of helicopters, two T-28's, two T-2A's, two *Beechcraft* and a single C-47. The *Buckeyes* are sent to Pensacola for the more extensive maintenance required by Periodic Aircraft Rework (PAR).

The first graduate of North American's T-2A assembly line, incidentally, is currently operated by VT-7. Buno. 144217 made its maiden flight in January of 1958 after which the builders



SQUADRON mechanics men install J-34 engine on a T-2A after station maintenance department has given it a periodic, 13-week inspection.



BUCKEYE Westinghouse J-34 engine undergoes thorough scrutiny by Meridian maintenance personnel. Planes are sent to Pensacola for PAR.

Field Bravo is a 6500-foot landing area 20 miles northwest of the base which is in continuous use by the jets.

Student loads at VT-9 and VT-7 usually range between 100 and 130 each. A flock of 110 *Buckeyes* are used by the two units and maintained in two large hangar bays.

Safety is a byword with the squadrons and statistics prove how well they have done in this regard. VT-9, for example, has won the CNO Aviation Safety Award for two consecutive years. On August 29, 1963, the squadron had totaled 50,000 jet hours, the equivalent of keeping a single jet airborne 24 hours a day for about six years.

VT-7 boasts 16 instructors who have flown 1000 accident-free hours each. Since January of this year, the unit has flown 22,000 hours without accident.

Capt. J. W. Williams, Jr., C.O. of NAAS MERIDIAN, is understandably

pride of his base and particularly awed with the consistently safe flight operations. The results have been "nothing short of phenomenal," he states, "what with students having only 30 hours flight time in the T-34 before coming to us."

Under the principle of scheduled maintenance, Meridian's T-2A's undergo thorough checks every 13 weeks. Continuous rotation of planes allows flight schedule personnel to meet their requirements with little adverse effect.

Once "in check," the plane's engine is removed and delivered to the station maintenance department. There it is disassembled, inspected, repaired, if necessary, and reassembled. Any engine service changes are incorporated at this level before the J-34 is returned to the squadron for installation. The squadron meanwhile checks the airframe, hydraulic controls and other components.

Cdr. C. L. Robertson heads the aircraft maintenance department respon-

used it for two years of tests before turning it over to the Navy. Still showing little sign of wear, this *Buckeye* has logged more than 900 hours with the military service.

NAAS MERIDIAN, with its 1600 Navy and 140 civilian personnel, is a community within itself. Nevertheless, relationships with the local residents have been very friendly. The people have welcomed military personnel into their homes, schools, churches, clubs and other organizations.

After about 20 weeks at Meridian and an additional 90 hours recorded in their log books, the future Marine and Navy pilots are anxious to move on. A number of crucial stepping stones still await them en route to the cockpits of today's sophisticated, high-performance Fleet jets. But they are well fortified to meet the challenge with the knowledge gained at Meridian.



NEPTUNE IS LAUNCHING PLATFORM FOR TWO Q2C FIREBEEES, ONE UNDER EACH WING



FIREBEE, ITS ENGINES AS YET UNFIRED, DROPS FROM THE WING OF A VU-8 NEPTUNE



DRONE IS DROPPED IN RECOVERY AREA BY PARACHUTE AND HELICOPTER RECOVERS IT

NAVY'S MISSILES TESTED

By Bill Missett, JO2

MISSILE-FIRING ships of the U.S. Atlantic Fleet and NATO would be virtually ineffective were it not for such missile systems testing centers as NS ROOSEVELT ROADS, Puerto Rico.

There, highly complex units test the efficiency of all newly launched guided missile ships in the Atlantic. These units also make periodic checks on missile-firing systems of all Fleet ships.

Atlantic Fleet Weapons Range, commanded by Capt. Henry C. Bridgers, Jr., Caribbean Test and Evaluation Detachment, Utility Squadron Eight, and a crew from Ryan Aeronautical Company of San Diego, Calif., pool their talents to carry out their important maintenance mission. The Range authorizes a "go" or "no go" status for each missile operation.

Utility Squadron Eight provides the drones. Two types are used: the Ryan Q2C *Firebee* and the converted QF-9 *Cougar* jet aircraft. Both types require tremendous coordination on the part of operating crewmen during missile exercises, for the drones are flown completely by remote control.

The *Cougar* is ground-launched by electronic control. Then an escort aircraft, the DT-28 (T-28) two-seat trainer prop plane, accompanies the drone during takeoff and landing.

A DF-1D *Fury* (FJ-3) takes control of the drone after takeoff and escorts it to one of two missile-firing areas off Roosevelt Roads. After a series of check-out maneuvers, the pilot controlling the drone brings it to the "hot leg" of the missile-firing area, a rectangular track several miles long. At this point, the ship conducting the

missile firing assumes control of the drone during the exercise. The escort aircraft executes a hold pattern at a safe distance.

Warheads are not used against recoverable targets because a target can provide much more information on missile weapon systems performance by telemetry than if a warhead is used and the target destroyed.

During actual firing operations, electronic telemetering equipment in the nose of the jet drone relays back data on each missile launch to the Caribbean Test and Evaluation Detachment for analysis of the ship's missile launching systems.

Once firing operations are over, the jet escort aircraft regains control of the drone for the flight back to Roosevelt Roads. The propeller-driven escort plane takes control of the drone a short distance from the station to assure a slower, safer air speed during landing.

Certain portions of the landing are coordinated with a four-man ground crew which also has remote control over the jet and maintains it after the escort relinquishes control.

Ryan Q2C *Firebees* are used in much the same manner as the full size jet drone, but give the evaluation centers a much more critical analysis of the ship's firing system, for the *Firebee* flies higher and faster than the *Cougar*.

The *Firebee* is air-launched from a VU-8 *Neptune*. The *Neptune* is accompanied to the firing area by an escort aircraft which enables the Ryan remote control operator at Roosevelt Roads to get an accurate fix on the firing ship's position before the *Neptune* enters the firing area to release the *Firebee*.

Whereas the *Cougar* drone is controlled by the ship during missile-firing exercises, the *Firebee* is remotely controlled by technicians in an out-of-sight control van at Roosevelt Roads.

After operations are completed, the drone is flown to a recovery area, an 80-foot parachute is released, and a waiting helicopter picks up the drone. It is then readied for another flight.

Electronic recording instruments and high speed cameras are recovered after return of both the *Firebee* and *Cougar* drones. These provide further data upon the characteristics of each ship's particular missile-firing problems.

Photos by James Mitchell, PHC



ESCORT JET MANEUVERS COUGAR DRONE INTO POSITION FOR MISSILE FIRING EXERCISE



GUIDED MISSILE DESTROYER, USS JOHN KING, FIRES MISSILE AT PILOTLESS DRONE



REMOTELY CONTROLLED COUGAR RETURNS TO ROOSEVELT ROADS AFTER TRAINING PERIOD

VU-5 UNIT TRAINED FOR NEW FIREBEE



UNDER SUPERVISION of Ryan TechRep, Tim Mooney, VU-5 men assemble tail section.



STEPHEN YOUHASZ, AM1, works beneath a drone as his student team fits wing assembly.



RICHARD McDONNELL learns to assemble the BQM-34A by best method—doing it. He works with others to put the wing assembly in place.

IT HAS SOMETIMES been said in the service that by the time a technique is learned well, the device is obsolete.

Ordinarily, of course, things don't happen that fast. The men of Utility Squadron Five, Detachment Bravo (VU-5 'B') at NAF NAHA, Okinawa, can testify to the thorough training they have received in the use and maintenance of the new BQM-34A (Q2C) target drone.

This summer the men temporarily abandoned their wrenches and tools for blackboards and books as six civilian technical representatives from Ryan Aeronautical of San Diego, Calif., conducted classes in the operation of the new drone. These began July 22. The courses involved four weeks of classroom instruction and four weeks of practical application.

Four officers took the course designed for target supervisors and remote controllers. Six enlisted men were enrolled in the control systems technician and direct controller class. They studied the four basic systems (autopilot, electrical, radio and recovery) with emphasis on the electrical system.

The 11 men in the airframe and engine mechanics course assumed the responsibility for decontaminating the drone's engine, after it was picked out of the water at the end of its run, and reassembling it. They were also trained to assemble new drones.

They had to learn how to perform weight and balance checks on the tar-

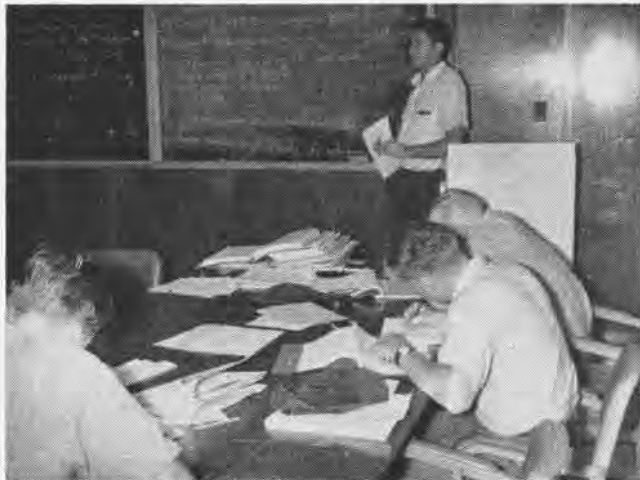
get, mount it on the ground rails and align JATO bottles on the drone. According to Mr. Joel Sucoy, the instructor, a misalignment of 60/1000th of an inch may cause a 15° roll on take-off.

A two-week course for instrumentation technicians taught the men the details of telemetry. The BQM-34A instruments allow the men to be constantly informed as to its air speed, pressure/altitude, the engine's rpm's and whether or not radio carrier has been lost. If radio carrier (radio commands governing the drone's flight) has been lost for a certain pre-set length of time, the drone will automatically parachute into the ocean for pick-up.

Another new, valuable asset of the BQM-34A is the traveling wave tube (TWT) amplifier which allows the drone to simulate on radar any size desired. The two men, who learned how to operate this device, emerged with the designation of active radar augmentation technicians.

In contrast to the AQM which must carry bulky pods on the wings in order to simulate different aircraft, the TWT allows the men to set the size to be registered by the BQM-34A electronically while still on the ground.

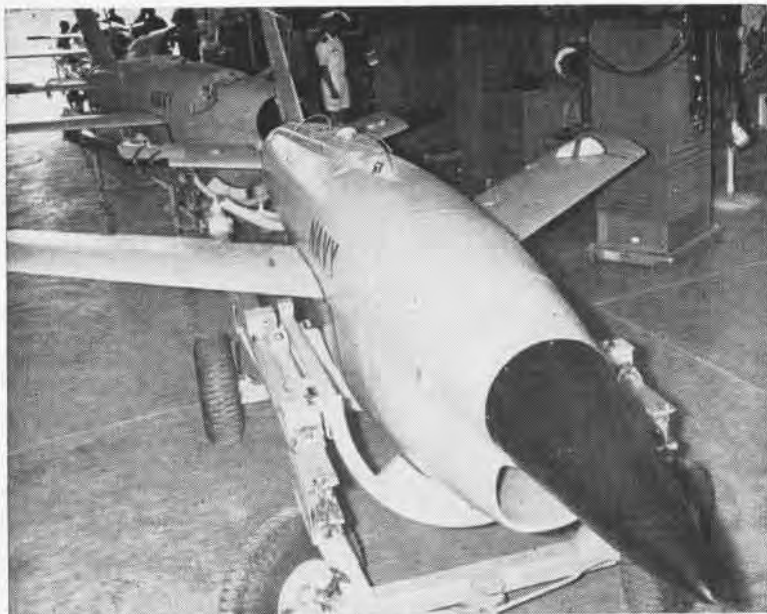
The last, and most detailed, course centered around the test equipment, the basic systems console. It is used to check out all the drone systems under simulated flight conditions.



CIVILIAN TECHNICAL representative Bill Trumble teaches a class in control systems and direct control operation to a group of enlisted men.



RYAN'S JAMES BARTEL points out one feature of complicated basic systems test console to two students.



STAR OF VU-5 'B' targets division is the BQM-34A ground-launched drone target. It has a wing span of almost 13 ft., weighs just over 2000 lbs., can fly 55,000 ft. high.



THE END RESULT of the intensive instruction given at NAF Naha, Okinawa, is the successful launching of the new Ryan Firebee. This photograph shows the drone target just as it leaves a ground launching pad, aided by the 11,000-pound thrust of a jet-assisted take-off bottle.



U.S. NAVY RUSHES AID TO HAITI



A HURRICANE STRIKES. Before it does, people gather up necessities and something to pass the time and head for a protecting building.

THIS WATERFRONT in Haiti lies in ruins in the wake of Hurricane Flora. Winds of better than 100 mph left thousands dead, destroyed 5 cities.

WHEN A HURRICANE unleashes its violence as Flora did on Haiti in October, there is an immediate need for all kinds of supplies. Food, medicine, clothing, blankets, etc., are among the things such a catastrophe makes imperative. Flora also hit the U.S. Naval Base at Guantanamo, Cuba. In one day, 17 inches of rain fell.

Navy's USS *Lake Champlain* with HS-11 aboard was sent to the Republic of Haiti. Aerial surveillance revealed

extensive flooding of coastal towns, severe crop damage and hundreds of victims homeless, thousands dead. Within hours, a long procession of aircraft began arriving from the north.

For eight straight days, *Lake Champlain* helicopters, manned by HS-11 pilots and crews, plus copters from NAS Guantanamo and MCAF New River, N. C., delivered supplies, landing upon mountainous terrain or at coastal villages. The *Champ* was re-

lieved by USS *Thetis Bay* October 20.

Included in the airlift were transports manned by crews from VR-911, NAS SOUTH WEYMOUTH, who were on annual training duty at NAS NEW ORLEANS, and by officers and men from NARTU JACKSONVILLE. Helicopters also were flown by HMM-162.

The supplies were donated by such private agencies as CARE, the American Red Cross, Catholic Relief, World Medical Relief, Church World Service.



ALTHOUGH ROOF was partially torn off, steeple of church withstood Flora's wild onslaught.



THIS HILLSIDE dwelling, photographed by a U.S. Navy plane on mission, was badly hit.



OPERATION HANDCLASP provided supplies which HS-11 copter brings to storm victims



USS LAKE CHAMPLAIN carried 44,000 pounds of Operation Handclasp supplies. Deliveries from all participating agencies were coordinated.



AN HS-11 5H-3A offloads supplies in the town of Petit Goave, just west of Port au Prince. HS-11 is commanded by Cdr. John Seargeant.



FOOD AND MEDICAL supplies are loaded on a helicopter for delivery to hard-to-reach areas.



FACES OF RECIPIENTS at town of Anse a Veau demonstrate how welcome the assistance is.



PEOPLE AT BODENE, Haiti, were also ready to pitch in and help as deliveries came.



FORK LIFT expedites bandling 280,000 pounds of supplies that were made available to towns and communities devastated by Flora's fury.

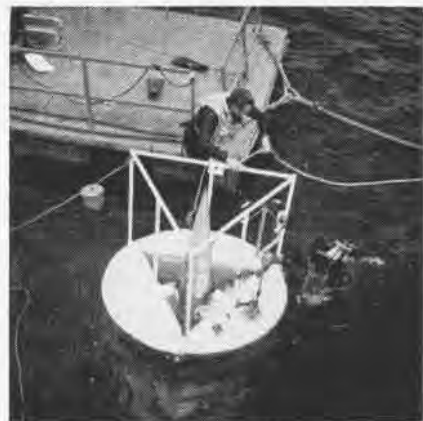


'THINK QUICK' this Haitian seems to be saying as he gives the heave-ho while unloading American supplies from transport flown by VR-911.



ENGINEERS J. E. Scheid and F. A. Sablone check telemetry package at NMC, Pt. Mugu.

MISSILE CENTER MARKS 17 YEARS



NAVY DIVERS check out Hydra-Iris rocket vehicle prior to launch from ocean surface.

THE NAVAL Missile Center at Point Mugu, Calif., celebrated its 17th anniversary on October 1st. Earlier known as the Naval Air Missile Test Center, the unit has made phenomenal developments in its short history.

Said Capt. K. C. Childers, Jr., NMC C.O.: "To those who remember 17 years ago, the launching of a single *Loon* or *Lark* was an important and rare achievement and actually rather remarkable, considering our limited knowledge and the state of the art at that particular time."

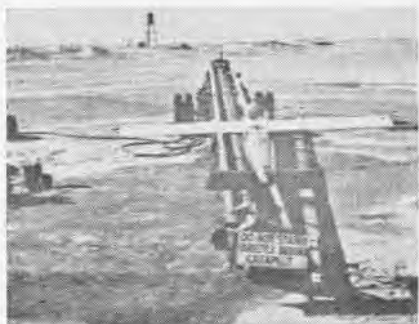
In 1946 the center conducted 50 launches, mostly *Loon* missiles. "During 1963," Capt. Childers said, "our schedules call for over 600 launchings and 3000 support operations."

In addition to the *Loon* and *Lark* projects, the center tested and evaluated *Sparrow I, II* and *III*, the ramjet test vehicle *Meteor*, *Regulus I* and *II*, *Corvus* and *Sidewinder*. In the past year it has supervised flights of Australia's *Jindivik* target, the French *CT-41* and Canada's *Black Brant* rocket.

In its initial year, the unit's staff

numbered 141 military and civilian personnel. The Naval Air Facility, which became NAS POINT MUGU in 1949, had 49. Today, 2169 people operate the missile center complex.

The Navy's oldest permanent missile testing unit has its eye on the future. Capt. Childers said "NMC will continue to . . . expand its capabilities to assist BUWEPS in providing our Fleets with the best possible weapons. Our role in this challenging and exciting endeavor will continue to be principally in the field of test and evaluation."



EARLIER LAUNCHES at Point Mugu included the AT-1 drone fired from catapult in 1950.



IN 1954, the submarine *USS Tunny* launched this *Regulus* missile off the southern tip of Anacapa Island in the Santa Barbara Channel. Today's improved *Regulus* is used as target drone.



JINDIVIK, an Australian target aircraft, was evaluated at Point Mugu in 1962. Tricycle trolley is used to accelerate it down runway.



AN F-6A SKYRAY undergoes minus 40 degrees temperature in NMC's environmental test lab which experiments with missile components also

GREEN JERSEYS LAUNCH AND RECOVER



TAKING DYNAMOMETER READINGS to insure proper tensioning forces *Independence* prepare to launch aircraft. Green jersey men shown here are being applied during a catapult shot, V-2 Division men in the *are filling some of the 17 positions* manned during each catapult shot.

THE BULLHORN cracks, "Launch the CAP," and flight deck crews spring into action. Power is applied, switches are thrown, and the gush of fuel transforms into smooth, surging power.

The taxi director begins his systematic procedure to align the catapult. "Break the chains. . . . Spread wings. . . . Come forward. . . . Stop. . . . Easy right. . . . Easy, easy. . . ."

Two men in green shirts roll under the tail of the F-4B Phantom II and attach the holdback fitting with the all-important tension bar that will restrain the bird against the 17-ton thrust and will break only as the cata-

By Lt. M. Z. Haggard

pult is triggered by the crew and fired.

And now—"Inflate strut. . . . Flaps down. . . . Easy forward." The holdback comes taut. The countdown lights click off. The jet blast deflector operator raises the deflector to protect others behind the jet engines.

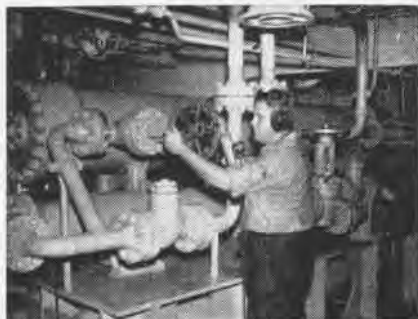
The "cat" officer passes to the deck edge operator, "Set 530 psi steam pressure." The pressure checker concurs and the word is passed to the console operator. The Van Zelm operator sets

the bridle-breaking pressure. Bridle runners and the Van Zelm spotter crouch in the catwalk forward. The PLAT camera zooms in on the hook-up crew as one countdown light remains.

The cat officer hesitates, then raises both thumbs to signify "tension up." The hook-up men raise the 190-lb. bridle and attach it to the tow hooks under the watchful eye of the bridle petty officer.

Below deck, the console operator has manipulated the controls to put the catapult in "First Ready" condition, and has brought up proper steam pressure, again cross-checked for accuracy.

Photos by J. McHorse, PH3



RETRACTION and tensioning engine is monitored below decks by S. M. Miller, ABE3.



UNDER THE SCRUTINY of N. E. Ross ABE6 (L), an A-4C Skyhawk is readied for firing



AT THE CONSOLE, W. L. Jemison, ABE2, cranks the cat into a "final ready position."



HOLD BACK MAN inspects tension bar that will break, releasing plane when cat is fired.



END SPEED is read by J. A. Burke, ABE3, from electrically punched recording tape.



WATER BRAKE system stops piston assembly in five feet, monitored by A. F. Ecklund, AA.

The recorder jots down pertinent information. The water brake operator monitors the braking device that will stop the two pistons and shuttle assembly in only five feet while traveling at 140 knots.

On signal from the director, the deck edge operator pushes the tension button and the aircraft squats slightly. The pilot begins moving the throttle forward, knowing that the cat officer will be showing two fingers. Green shirts scurry away from the aircraft. The last to leave will be the bridle petty officer, when he is certain all is in readiness.

The needle rises . . . 85% . . . 90 . . . 100%. The engine pulsates and throbs with power, restrained only by the vital tension bar. Now the cat officer shows five fingers—Burner. Thunder rolls and the air explodes with man-made fury. The crew crouches, adrenalin surges through every vein. Instruments are normal and everything feels right to the pilot. He salutes and braces his head against the rest. His observer in the rear seat does the same. The salute is returned as the cat officer scans the

aircraft, checking holdback, bridle, Van Zelm, trip, flaps, struts, maintenance checker, line-up and clear deck forward.

The last countdown light goes out and the green flasher is lighted. A final check and the cat officer's hand strikes the deck. Deck edge pushes the red "Fire" button and pilot and observer are pressed back in their seats, immobile, as 42,000,000 ft/lbs of energy hurl them forward. The track is a blur, the horizon dims and in two seconds they are airborne. The chronograph operator records end speed at 144 knots. They have accelerated from zero to 144 knots down a 253-foot track in two seconds. Gear up, flaps up, and the carrier rapidly drops behind.

It is precision work. It is routine. It is laborious, tiring, and vital. And aboard the attack carrier *Independence*, the crew of number one cat—there are four catapults installed—recently recorded their 20,000th launch.

Launching and recovery of aircraft are the responsibilities of the Air Department's V-2 Division. In the *Independence*, the V-2 Division is headed by

LCdr. John E. Hoch. It is comprised of five officers and 121 enlisted men. They also operate the SPN-12 radar system for carrier control approaches, the Fresnel optical landing system, an improvement over the old mirror landing system, and the newly installed pilot landing aid television system.

Identified by green jersey, the ABE (aviation boatswain's mate) enjoys few material pleasures. During flight operations, he works around the clock, averaging only two hours a night in his bunk, and grabs a nap on the deck or in a catwalk whenever he can. He works in compartments where the temperature sometimes reaches 130 degrees and the bulkheads become too hot to touch. He often misses chow. This schedule holds true only when "his" cat is operating. Three other cats and three other crews share the workload.

There are 17 positions on each catapult that must be manned to launch an aircraft and only 17 men are assigned. At least one catapult is in ready condition at all times. Each man has a task which requires above average headwork and a great amount of courage. The



AN A-5A VIGILANTE is hurled aloft from one of CV-62's waist catapults as another Vigilante readies to taxi into the slot for hook-up. The catapult provides 42 million foot-pounds of energy, pushing the plane down a 253-foot track. End speed is approximately 140 knots.

crew operates the machinery during flight quarters and then in the early morning hours, while others rest, inspects and repairs the catapult for the next day's operation.

Long hours and hard work notwithstanding, the aviation boatswain's mate does enjoy one facet of life that many seek but seldom find. He is given heavy responsibility, which is readily converted into a strong sense of accomplishment upon completion of his work.

Every man on the team is instrumental in the launching and recovery of aircraft. An expensive weapon is entrusted to each man on the catapult crew, and without the fulfillment of his particular function, the aircraft cannot fly. The crew is, indeed, a team whose very lives depend on each other. There is excitement. There is power. Every young airman apprentice who enters the division departs a man.

Returning to the ship in the *Phantom II*, the two-man crew is satisfied that the aircraft's capabilities have been aptly demonstrated to a would-be aggressor. Their intercept mission was a successful one. And they have confidence in the men of V-2 Division who will bring them aboard.

The arresting gear, under the supervision of LCDr. W. F. Weeks, is operated by men who work equally long hours. It is the huge Mark 7, Mod 2, 3 "shock absorbers" that will bring the *Phantom* to a smooth stop. The gear is capable of absorbing 39,000,000 ft/lbs



THE CATAPULT OFFICER aboard the *Independence* gives the signal and another A-4C Skyhawk heads down the track. The hold-back cable can be seen falling away as the tension bar breaks.

of energy. The F-4B will hit the deck weighing 34,000 lbs. and will be moving at 135 knots. The gear will stop it in 295 feet.

As the aircraft approaches the ship, preparations are made for its arrival. The SPN-12, manned by arresting gear personnel, will show the LSO airspeed during approach. The arresting gear officer is in the catwalk holding a red light switch until all is in readiness. The wires are raised and tension is checked. Hook runners are on station ready to assist.

The primary fly controller passes aircraft weight to the arresting gear

engine operators who set up for this type of aircraft. The Fresnel lens operator in primary fly sets up glide slope information. Gear and flaps are down and the pilot maintains a minimum safe flying speed—145 knots.

The arresting gear officer shows the green light and the bullhorn blares out. "Heads up, F-4B in the groove!"

Pilot aligns the blob of light, called the "meatball," and scans instruments and power. The ball goes slightly low and he raises on more power. Steady . . . steady . . . no time for rough corrections. The *Phantom* passes through the burble over the round-down and a split second later hits the deck. The shoulder harnesses bite and the bird comes to rest.

A hook runner darts from the safety line and smartly disengages the wire from the tailhook. Signals again. . . "Roll back. . . Hook up. . . Come forward. . . Fold wings. . . Is it up? Slow down. . ."

Then on into the sardine-style parking space on the flight deck. Pilot shuts down and, although little physical effort has been exerted, he and the observer feel drained of energy.

In the ready room, V-2 will complete their day by playing back the video tape recording of the launch, recovery and deck procedures.

And tomorrow? This is "tomorrow." It is time to begin the entire operation again. And again—for as many times as aircraft must be flown to maintain freedom of the seas.



DURING CARRIER QUALIFICATIONS aboard the *Independence* in April 1961, this A-3 Skywarrior from Heavy Photographic Squadron 62 drops the arresting gear, concluding the day's carquals.

SELECTED AIR RESERVE



THESE THREE vehicles help NARTU Alameda recruiters in maintaining one of the top slots in procuring future Naval Aviators. Chief Gene Delaney handles the truck/van, LCdr. Dick Hansen flies applicants in the T-34 while LCdr. Rab Butler utilizes the convertible.

South Weymouth to Kenitra

VR-913, from NAS SOUTH WEYMOUTH, arrived at Port Lyautey, Kenitra, Morocco, for two weeks training duty with the air station there. The reserve squadron, a tactical fleet support unit, brought along "goodwill gifts" which included 1500 pairs of shoes, medical supplies and elementary school text books. They were given to charities in Kenitra.

Cdr. L. Stretch is skipper of VR-913. LCdr. W. R. Sinnott is X.O.

Georgians Become Texans

Naval Reserve Air Transport Squadron 671, based at NAS ATLANTA, performed its annual 2-weeks active duty at NAS DALLAS. While there, Cdr. Eugene H. Wilson III, C.O., received a certificate of Honorary Texas Citizenship issued to members of his squadron by Governor John Connally.

The certificate read in part: "In the Name and by the Authority of the State of Texas—to all to whom these presents shall come, Greetings: Know ye, that Air Transport Squadron 671

of NAS ATLANTA is hereby commissioned Honorary Texas Citizens under the laws of the State of Texas with all rights, privileges, and emoluments appertaining to said office. . . ."

During the cruise, VR-671 assisted a "sick angel" when they transported a J-65 jet engine from Pensacola to Hobbs, New Mexico, where one of the Navy's *Blue Angels* was grounded with powerplant trouble. They also rescued 39 stranded midshipmen in Wyoming and flew them back to the Naval Academy.

VR-671 helped Patrol Squadron 674 during the deployment by transporting some of their personnel and equipment from Atlanta to the Naval Air Station, WHIDBEY ISLAND, Wash.

Lakehurst Chief Honored

Chief Yeoman Jesse L. Clifton was presented a letter of appreciation from RAdm. George P. Koch, Chief of Naval Air Reserve Training, at formal ceremonies held at NARTU LAKEHURST, N.J. Clifton, who retired in 1959 after 20 years of service, voluntarily devotes

one weekend each month to the Naval Air Reserve without pay or material benefits.

He serves as Chief Administrative Yeoman for Air Wing Staff 75, supervising "Weekend Warrior" clerical work.

New Orleans Units Cited

The officers and men of NAS NEW ORLEANS were presented the CNATRA trophy in official ceremonies led by VAdm. Fitzhugh Lee, Chief of Naval Air Training. They were cited for making the air station the most improved Naval Air Training Unit in the Reserves. Capt. W. B. Tracy, Jr., who relieved Capt. G. R. Egbert as C.O., accepted the award from VAdm. Lee.

New Orleans-based VF-822 was also honored. Formerly an attack squadron, the unit was presented the Noel Davis Trophy designating it the finest squadron of its type in the Naval Air Reserve Training Command.

Cdr. Harold M. Wheelahan, Jr., who manages radio station WDSU in civilian life, is VF-822's skipper. He received a plaque and several letters of

commendation from top Navy officials in ceremonies presided over by Capt. Tracy.

Competitive factors upon which the award is based include annual military inspection, drill attendance, active duty training proficiency, squadron reenlistments, training and operational inspection and flight safety.

Grosse Ile Sailor Cited

Billie J. Fielder, ADR1, was awarded the Navy Commendation Medal at NAS GROSSE ILE. He was cited for heroic action in removing an unconscious Navy pilot from a burning plane last March.

Fielder was a plane captain on a C-117 transport which crashed a mile outside of Memphis with 20 Naval Reservists aboard. The plane caught fire



FIELDER is congratulated by NAS Grosse Ile C.O., Capt. Schultz, for saving pilot's life.



CDR. JACK HANNIGAN, Command Liaison Officer at NARTU Alameda, buys peanuts from junior Blue Angels at the Lake Tahoe Air Show.

on impact but passengers and crew, except for the pilot, Cdr. William M. McCarson, escaped safely. Fielder freed the pilot and handed him out the cockpit window to crewmates on the ground.

Capt. Arthur J. Schultz, C.O. of NAS GROSSE ILE, presented the medal to Fielder. A citation from SecNav also was awarded.

Ex-Flyers Now Doctors

LCdr. Eugene Watkins and Lt. John Skelly, both of NAS NEW ORLEANS, have a lot in common. Both are senior medical officers who once were Naval Aviators.

Lt. Skelly, a flight surgeon, flew combat missions in F9F-2's with VF-71 during the Korean war. He returned to the University of Pittsburgh

Medical School in 1955. LCdr. Watkins flew SB2C's over Japan in early 1945 with Air Group 88.

This may not be a "first," but aviators at NAS NEW ORLEANS feel quite lucky in having two well-qualified department heads looking out for their physical welfare.

This medical team will break up soon, however, when LCdr. Watkins transfers to the USS *Thetis Bay* (LPH-6).

Two in a Row at Andrews

Air Anti-Submarine Squadron 662 became the first Washington area squadron to win the Chief of Naval Operations Safety award for two consecutive years. The unit was honored in ceremonies held at NAF ANDREWS. RAdm. Laurence H. Frost, Commandant Potomac River Naval Command,



SENIOR ENLISTED Marine at NAS Seattle ground reserve unit, Sgt. William O. Hill, briefs air reserve recruit, son, Michael R. Hill



DOCTORS Watkins and Skelly prepare to 'operate' on a Fury jet at NAS New Orleans.

presented the award to Cdr. William D. Wendell, Jr., C.O., of the squadron.

Capt. E. A. Parker, Commanding Officer of the Naval Air Reserve Training Unit at Andrews, also assisted in the ceremonies. NARTU is responsible for assisting in the training, maintenance and other support functions for various Weekend Warrior units.

Marine Reserves Get F-8

The first F-8 *Crusader* to be used by Marine Air Reserves arrived in Dallas in mid-August. Col. C. H. Moore, commanding officer of the MARTD at Dallas, had the distinction of making the first flight in the supersonic fighter.

The *Crusader* has been assigned to Marine and Naval Air Reserve Training Commands, marking a milestone in modernization for both organizations.

AT SEA WITH THE CARRIERS



THREE ATTACK AIRCRAFT CARRIERS filling the length of North Island Naval Air Station's quay wall is not too uncommon a sight, but this occasion marked the first time *Kitty Hawk* (CVA-63) and *Constellation* (CVA-64) were in port simultaneously. With them is *Ticonderoga*

PACIFIC FLEET

Kitty Hawk (CVA-63)

Fighter Squadron 114 came through with *Kitty Hawk's* 16,000th arrested landing. Lt. Felix Templeton piloted the F-4B *Phantom II*; his RIO was Lt. Ray Rigmaiden.

Almost before the icing was cold on this cake, Ltjg. John T. Colle, in an A-4C *Skyhawk*, caught one of *Kitty Hawk's* four arresting cables and recorded the carrier's 17,000th landing. This time, the cake went to Ltjg. Colle's home squadron, VA-112.

Shortly after *Chinese* Nationalist President and Madame Chiang Kai-shek visited *Constellation* (NANEWS, October 1963), President Kennedy wrote to the General:

"I am delighted to know that you and Madame Chiang were able to accept the invitation of the United States Navy to accompany Ambassador Wright on a visit to the USS *Constellation* and to witness the capabilities which a carrier task force possesses.

"It was my pleasure recently to visit a sister ship, the USS *Kitty Hawk*, during similar operations. Seeing the combination of advanced techniques, modern weapons, and well-trained sailors and airmen, gives real meaning to the phrase, 'Our first Line of Defense,' which has so often been used in referring to the Navy.

"I hope that you and Madame Chiang were impressed as I was, on my visit to *Kitty Hawk*, with the great force for peace or war, which these mighty carriers and their accompanying escorts provide, helping to preserve

the freedom of distant nations in all parts of the world.

"With every good wish, sincerely, John Kennedy."

Detachment Charlie of VAW-11 deployed in the *Kitty Hawk* for the current WestPac tour.

Constellation (CVA-64)

Men aboard *Constellation*, accustomed to ship's bells, did a double-take for the second time, recently, to the sound of wedding bells. The August edition of NANEWS reported the marital merging of Ltjg. Bert C. Dodson and the former Miss Sonya Prochorchik. The ceremonies have now spread to the enlisted ranks. Ronald W. Theisen, AOAN, and the former Miss Vicki Lee Cook of San Diego were married aboard. Cdr. Paul W. Reigner, ship's chaplain,



USS RANGER (CVA-61) is warped into drydock by workmen at the San Francisco Naval Shipyard, Hunter's Point, for a major overhaul.



USS TICONDEROGA (CVA-14), at sea, shows off some of her power. On deck are A-3 Skywarriors, A-1 Skyraiders, A-4 Skyhawks, F-3 Demons.

conducted the ceremonies on the fore-castle. Over 100 guests boarded the carrier to witness the wedding.

Bennington (CVS-20)

The Early Birds (those aviators who soloed prior to December 17, 1916) had their annual reunion this year at Long Beach, Calif., and were the guests of RAdm. J. A. Jaap, USN, ComCarDiv 19, aboard the *Bennington*. Highlight of the two-hour tour was the launching of an S-2 *Tracker* of VS-38 from the forward port catapult.

Later, RAdm. Jaap turned over command of ComCarDiv 19 to RAdm. Turner F. Caldwell who, still later, officiated at cake-cutting ceremonies marking the 75,000th S-2E *Tracker* landing aboard, as well as the 10,000th and 11,000th helo landings. VAdm. Sir Hastings Harrington, Chief of Staff, Royal Australian Navy, partici-

pated in the cake-cutting. He had boarded CVS-20 by helicopter as part of an extended visit to Southern California shore installations and operating units. Pilot of the *Tracker* making the 75,000th landing was Ltjg. J. L. Durbin and copilot was Cdr. T. W. Mullen.

In *Bennington*, Capt. John S. Hill relieved Capt. C. E. Healy as C.O.

Cdr. T. W. Mullen, commanding VS-38, recently awarded a letter of commendation to Robert E. Legg, AA. During night operations aboard CVS-20, an aircraft handler was struck by the turning prop of an S-2E he was tending. Seeing the injured crewman was attempting to rise into the still turning prop, Legg jumped on him and held him down until help arrived to pull them from under the spinning prop. Investigation of the accident revealed that Legg's heroic action had undoubtedly saved his shipmate's life.

Ticonderoga (CVA-14)

The 54,000th arrested landing was made aboard *Ticonderoga* by Lt. John W. Teerling of VA-52, in an A-1H.

The carrier reports the Navy's first pilot to become a Triple Centurion in an F-8 *Crusader*. Cdr. James Stockdale, C. O. of VF-51, who made the record landing, has been associated with *Crusaders* since their introduction to the Navy more than seven years ago. He was one of the first pilots to conduct test runs in the craft. He was also the first pilot to log 1000 hours flying time in the F-8. Cdr. Stockdale made his first two X00th *Crusader* landings on the *Midway*.

Midway (CVA-41)

Because they are helicoptered onto rolling decks of destroyers every Sun-



ABOARD THE BENNINGTON at Long Beach, Calif., this group of Early Birds and their wives assembled for a two-hour tour, climaxed by the

catapult launching of an S-2 *Tracker*. To qualify for this select group, the checker-capped aviators must have soloed before Dec. 17, 1916.

day, two chaplains aboard the *Midway* were presented a special set of wings by Capt. Leroy E. Harris, commanding the carrier. The chaplains are Cdr. J. D. Hester (Protestant) and Cdr. J. W. Conte (Catholic). The new "wings" incorporate both the wings of Naval Aviation and the cross of the Chaplain's Corps. The two were also presented similar collar devices.

Hornet (CVS-12)

Capt. John I. Hardy relieved Capt. E. J. Fisher in command of *Hornet* during ceremonies at Long Beach. A few days later, Capt. Hardy hosted 400 guests of the "Science of Flight" program for their annual graduation ceremonies. This program functions primarily for the benefit of students of the fifth, sixth and seventh grades, to help them become aware of science and its relation to the world. It deals with those concepts of astronomy, physics, and physiology related to air and space flight.

Detachment November of VAW-11 boarded *Hornet* for the carrier's current tour with the Seventh Fleet.

Oriskany (CVA-34)

The 71,000th landing aboard *Oriskany* was made by Lt. Henry McWhorter in an RF-8A *Crusader*.

Princeton (LPH-5)

Officers of HMM-163 presented Combat Aircrew insignia to 44 enlisted men of the squadron on the flight deck of the *Princeton* during ceremonies aboard. When word was received that the men were due to get the awards, the officers voted to purchase the insignia and personally pin them on. They marched in column formation before the men, and as the adjutant read the names of the recipients, an officer pinned on the insignia.

The Commandant of the Marine Corps authorized the insignia to those helicopter crewmen who had flown in the Republic of Vietnam.

A few weeks later, 68 men from the same squadron were awarded Air Medals by the Secretary of the Navy. These medals were also presented aboard the *Princeton* by MGen. Frank C. Tharin, Commander of MAW-1,

Valley Forge (LPH-8)

While still in dry dock at Long Beach undergoing FRAM II modernization, the *Happy Valley* had cause to rejoice. Her communications department was awarded the Green "C" for excellence in communications during competitive exercises in fiscal year 1963. The radiomen and signalmen aboard are led by Division Officer, LCdr. Tom Pole.

During traditional full dress ceremonies, Capt. John E. Parks relieved Capt. J. A. Fidel in command of the amphibious assault ship.

On the last day of October, LPH-8 left dry dock and moved to pier No. 1.

ATLANTIC FLEET

Forrestal (CVA-59)

Participating in the East Coast Regional Convention of the Navy League of the United States, *Forrestal* and her escort ships conducted flight demonstrations and training operations viewed by some 500 members of the League in addition to members of the press. The operational demonstrations included a highline transfer at sea, replenishment-at-sea techniques, task group screen maneuvers, as well as flight operations, touch-and-go landing demonstrations, rocket firing, and arrested aircraft landings.

Capt. Ronald J. Dinn, USAF, an exchange duty pilot with VA-81, adds

his name to the small list of Air Force Centurions, qualifying on CVA-59.

Independence (CVA-62)

Independence took part in the NATO exercise *South Trap* in the Aegean and Turkish Thrace. This exercise was the live phase of the annual NATO Southern Region Exercise, *Southex 63*, directed by Adm. James S. Russell, Commander in Chief, Allied Forces, Southern Europe. It culminated in an amphibious landing by U.S. Marines and units of the Turkish and Hellenic armies on the shores of Saros Bay in Turkish Thrace. The attack aircraft carrier striking force was built around *Independence* and *Saratoga*, both of which provided "aggressor" opposition and close air support to the landing forces.

When the exercise was over, *Independence* visited Beirut, Lebanon, for a nine-day stay.

Intrepid (CVS-11)

RAdm. James W. O'Grady relieved RAdm. Noel Gayler as ComCarDiv 20, in ceremonies aboard *Intrepid*. Earlier, RAdm. Gayler congratulated Lt. Robert C. Shiffner, pilot of an S-2 *Tracker* and his copilot, Ltjg. R. Stoakley, both of VS-24, upon their recording the carrier's 77,000th landing.

From salvage yard parts and generous quantities of ingenuity, an "invisible distance line" has been installed in the *Intrepid* to assist the conning officer. The antenna installation is located at



TWO F-4 PHANTOM II aircraft assigned to Fighter Squadron 74 pass over USS *Forrestal* (CVA-59) during at-sea operations. On flight deck of carrier, readying to catapult are A-4 Skyhawks.



THE TURKISH ARMY Janissary Band boarded the *Saratoga* on her last day at anchor at Istanbul. The band played and marched for the crew.



THIS SIKORSKY SH-3A Sea King assigned to HS-1 at Key West became the first jet-propelled helicopter to operate on the carrier *Lexington*.

frame 81, starboard side, on the outside skin of the ship, 6½ feet above the sponson deck. The APH-22 indicator is located on the starboard wing of the bridge.

Saratoga (CVA-60)

Air Force exchange pilot, Capt. James H. Metz—whose damp experience was recorded here last month—now has happier moments to remember. Assigned to VA-36 aboard the *Saratoga*, he piloted an A-4C *Skyhawk* to a successful landing on *Sara's* flight deck and qualified as a Centurion. Continuing to add to his laurels, he later made another record landing, logging in the carrier's 76,000th.

Before the carrier transited the Straits of Dardanelles, VA-34's Cdr. Walt Zebrowski did it again. The flying C.O. logged in his 100th landing of the recent cruise.

While in Istanbul, sailors of the *Saratoga* and other Sixth Fleet ships donated 223 pints of blood to the Turkish Red Cross.

Change of command ceremonies were conducted aboard when Capt. Frederick T. Moore, Jr., was relieved by Capt. John E. Lacouture, who became *Sara's* ninth commanding officer.

Lake Champlain (CVS-39)

Ens. Orville J. Donovan, Jr., of VAW-33, Detachment 39, cut the traditional cake celebrating the 56,000th landing aboard *Lake Champlain*. The mark was met in an EA-1E *Skyraider*.

Wasp (CVS-18)

The bird that made the final landing aboard the *Wasp* before she went into Boston Naval Shipyard for a six-month FRAM overhaul is now being exhibited in Boston's Franklin Park Zoo—thanks to the generosity of the carrier's crew.

The bird has a six-foot wing span. It is an osprey, a rare specie of North American fish hawk. The bird landed on *Wasp's* flight deck, some 200 miles east of New Jersey. It was captured by airmen Don Hewitt and Gerald Maroney and placed in a four-foot cage in the No. 2 Arresting Gear Engine Room.

Back in port, Catapult Officer LCDr. William Wilder presented the hawk to the Boston zoo, whose director, Mr. Walter Stone, noted: "This is one of the few ospreys in captivity. We are real happy to receive it."

Randolph (CVS-15)

VS-26, during its recent Operational Readiness Inspection, set what may be an all-time record in VS bombing. An eight-plane launch from the *Randolph* dropped a total of 64 bombs with 61 hits recorded. During the same flight, each aircraft was allowed a single rocket run in which to fire four rockets. The pilots scored 25 rocket hits out of a possible perfect score of 32.

The plane commanders were Cdr. B. H. Macon, commanding the squadron, Cdr. N. K. Green, Executive Officer,

LCdrs. K. L. McClain and J. A. Winnefeld, Lts. R. E. Weaver and A. C. Driver, and Ltjgs. R. T. Brancheau and D. R. Mack.

Capt. Richard J. Davis relieved Capt. Harry L. Harty, Jr., of command of the *Randolph*.

Lexington (CVS-16)

Members of Training Squadron 31, based at NAS CORPUS CHRISTI, made the 62,000th successful carrier landing aboard the *Lexington*. When the squadron changed from patrol type aircraft to the TS-2A *Tracker*, the training syllabus changed to teach aircraft carrier landings to students. Members of the pace-setting flight were Lt. R. L. Watkins, the instructor; a student ensign, piloting; and Lts. P. E. Ellison and W. G. Martin, the LSO's.

Boxer (LPH-4)

Boxer recently established a new high in total helicopters landed in one day, according to a release from the ship. This was done when 946 sets of wheels settled on the flight deck in a continuous shuttle which lasted nearly 14 hours.

Participating were HMM-162, HMM-263, HMM-264, HMR-461, and pilots from Marine Air Group 26, all flying out of the Marine Corps Air Facility, New River, N.C., in addition to the *Boxer* crew.

The landings were recorded during a four-day cruise off North Carolina.

F-104 Starfighter Tested May Prove SATS Use for Europe

An F-104 *Starfighter* on loan from the Federal German Republic was flown at MCAS El Toro by pilots from the Naval Air Test Center, Flight Test Division, Patuxent River, to measure the variables associated with flight operations from the station's Short Airfield for Tactical Support (SATS). Officials report that should SATS and the *Starfighter* prove compatible, there may well be a place for SATS in the European market.

Initial work on the SATS project began in August when a detachment from the 7th Engineer Battalion, 1st Marine Division, began building the metal runway on the over-run area of Runway 16R at El Toro. The project is scheduled to continue well into 1964.

Record Broken on Champ 'S' Stands for Safety in VS-22

An Air Anti-Submarine Squadron 22 *Tracker* bounced over the 20,000th accident-free hour mark during landing practice aboard *Lake Champlain*.

The cumulative total of hours is believed by VS-22 to be a record for accident-free hours aboard a straight-deck carrier.

Cdr. M. T. Pitz, squadron C.O., in ceremonies celebrating the event, praised the high degree of coordination between the squadron and the ship, stressing the high standards met on the part of the officers and men.

Another Move at Lyautey Fleet Weather Central to Rota

Fleet Weather Central operations have been phased out at Port Lyautey, Morocco, and have been moved to NS Rota, Spain. Its departure follows those of VR-24, MATS, Navy Overseas Air Cargo Terminal, Air Navigation and Armed Forces Courier units. The Fleet Intelligence Center, Europe, completed its move to Jacksonville in November.

Navy meteorologists have been assigned at Port Lyautey since the first American forces were there in November 1942. LCdr. Paul Seigen, who reported aboard in 1947, was one of the first men permanently assigned as aerological officer. Fleet Weather Central was formally established in 1952 under the command of Cdr. Kenneth J. Nordstrom. Its area of responsibility

ranged from the mid-Atlantic eastward through the Mediterranean.

In August of 1954, Lt. M. L. Lewis completed a normal tour of duty at the unit. He was to gain world-wide fame for research work and high altitude balloon ascents. Later, he was killed in a ballooning accident following a research ascent for the Navy.

Under Capt. Edwin T. Harding, the Rawinsonde Unit at Fleet Weather Central set a world record ascent in 1957 with a verified altitude of 154,659 feet. The record was broken again in 1958 when the unit made a 155,601-foot ascent. This is still a U.S., European and African record and

is the second highest in the world.

In 1961 the unit received the Naval Weather Service Outstanding Performance Award. Capt. Homer A. McCrerey assumed command in January 1962, the same year they won the Naval Weather Service Award for excellence in upper air observations. In March 1963, the unit marked its 1000th consecutive, successful Rawinsonde ascent.

Fleet Weather Central is now responsible for weather services to naval units ashore and afloat from the mid-Atlantic to the mid-Indian Ocean, an area encompassing one quarter of the surface of the globe.

ICING

Lt. N. F. O'Connor

1 ICING OCCURS WHEN LIQUID WATER IS PRESENT AT BELOW FREEZING TEMPS. IN THE ATMOSPHERE. LIQUID WATER IN THE



SUPERCOOLED STATE CAN EXIST FROM 0°C TO -18°C. SUPERCOOLED WATER DROPLETS HAVE BEEN OBSERVED AT -40°C.

2 ICE CONSISTS OF 2 TYPES: CLEAR AND RIME. CLEAR IS FORMED BY THE FREEZING OF LARGE SIZED WATER DROPLETS & USUALLY OCCURS IN THE TEMPERATURE RANGE 0° TO -4°C. THIS TYPE OF ICE ADDS APPRECIABLE WEIGHT TO AN AIRCRAFT.



3 RIME ICE FORMS MORE RAPIDLY THAN CLEAR AND USUALLY OCCURS IN HIGHLY SUPERCOOLED CLOUDS (-10°C OR COOLER).



RIME ICE IS FORMED BY RAPID FREEZING OF MINUTE WATER DROPLETS AND IS MUCH LIGHTER IN WEIGHT THAN CLEAR.

4 ALTHOUGH NOT ICE, WET SNOW CAN CREATE PROBLEMS AT LOW SPEEDS BECAUSE THE CLINGING SNOW TENDS TO DEFORM THE AIRFOIL CONTOURS.

THE MOST EFFECTIVE SOLUTION TO THIS PROBLEM IS TO CLIMB.

5 SINCE CUMULIFORM CLOUDS ARE RELATIVELY SMALL IN HORIZONTAL EXTENT, ICE ACCUMULATION IS LIMITED, HOWEVER MODERATE TO SEVERE CLEAR ICE MAY FORM WITHIN THEM, BECAUSE OF THEIR GREAT HORIZONTAL EXTENT, STRATIFORM CLOUDS PRESENT THE GREATEST ICING HAZARD.



6 BUT BE IT RIME OR BE IT CLEAR, LET OLD SANTA BID YOU CHEER

Merry Christmas
FROM THE STAFF OF NA NEWS AND YOUR DUTY METEOROLOGIST.





NAVAL AVIATION SAFETY CENTER



'Readiness Through Safety' is a fitting motto for the Naval Aviation Safety Center at Norfolk. Its insignia shows Navy Wings centered in symbolic lines representing smooth airflow over an aerodynamic surface. In the dark quadrants, the trident depicts naval superiority; the torch of knowledge—training and accident prevention measures; the modern wing—present and future flight; and man—the human factor in aviation. At the Center: 'Our product is Safety, Our Process is Education and Our Profit is Preservation of Lives and Equipment and Increased Readiness.' RAdm. Edward C. Outlaw commands the unit. The story of Naval Aviation safety appears in this month's Approach, the Center's primary publication.



ONE OF OUR STAFF OF 184,000

AS
YOU
TRAVEL
—
TELL
US



NAVAL AVIATION

NEWS

J. L. Hoyt is an ordnanceman in an anti-submarine aircraft crew. He is also a photographer who took important photographs of events in the Caribbean in 1963. He is one of 184,000 officers and men in U. S. Naval Aviation who qualify as writers and photographers for the Naval Aviation News staff. Another member of our staff is Photographer First Class B. L. Allen, who took this picture of Hoyt taking a picture. They are part of a team which each month brings you authentic on-scene reports and photographs of the U. S. Navy in action through the pages of Naval Aviation News. To renew or initiate a subscription to the News, send \$2.50 check or money order (foreign mailing \$1.00 more) to Superintendent of Documents, Government Printing Office, Washington, D. C., 20402.