NAVAL AVIATION NEWS

48th Year of Publication

JULY 1967

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USS JOHN F. KENNEDY CHRISTENED

'Because John Kennedy understood that strength is essential to sustain freedom. . . that we cannot afford to mark time or stand in place, he requested funds for this carrier. . . . In the year 2000. . . this majestic ship we christen may still be sailing the oceans of the world. We pray that her years will be years of peace. But if she must fight, both the flag she flies and the name she bears will carry a profound message to friend and foe alike.'—President Lyndon Johnson, Newport News, Va., May 27, 1967

■ COVERS

'Farewell to Seaplanes' is the title of JO1 F. W. Chapin's shot of a *Marlin* taking off from Sangley Point on the final patrol. . . . Above, a *Skywarrior* of VAH-4, Det. L, is ready for catapult from the *Bonnie Dick* (photo by AN Darryl Sellas).... Back cover highlights Dependents' Day aboard the *Oriskany* (CVA-34).

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FORTY-EIGHTH YEAR OF PUBLICATION JULY 1967

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NAVAL AVIATION NEWS

Last Flight of P-5 Marlin

Closes Navy Seaplane History

On May 17, at Sangley Point, R. P., the history of Navy seaplanes closed with the P-5 *Marlin's* last patrol. As the big plane roared down the sealane, the pilot, Commander Hugh E. Longino, VP-40's C.O., kicked in the JATO, and the last seaplane antisubmarine patrol flight over the South China Sea had begun (see front cover).

Seaplanes have been flown by the Navy since 1911 and have flown from Sangley for over 30 years.

"I flew seaplanes out of here 20 years ago," said Captain Ainsworth, Commander of Fleet Air Wing Eight and copilot on the last flight of the *Marlin*. "That was the old PBM seaplane when I was in VPB-21 in 1947."

The personnel of VP-40 will transition to the landbased P-3 late this year or early in 1968.

Crew members on the ten-hour patrol, in addition to Commander Longino and Captain Ainsworth, were Lt. W. R. Abel, Ltjg. J. J. Boling, Ltjg. B. J. Kennedy, RD1 H. D. Hoff, AT1 C. F. Howard and AO3 C. N. Johnson.

Also aboard were AX3 W. R. Hammatt, AE2 C. D. Ranta, AM3 W. M. Stenger, AD2 J. O. Ullrich, AT3 W. A. Wentz and AX2 W. L. Williams.

VR-3 Departs the MAC

Decommissioned at McGuire AFB

The U.S. Navy's only Atlantic Fleet transport squadron under Air Force command was decommissioned June 2 at McGuire AFB, New Jersey.

Air Transport Squadron Three, commissioned in July 1942 to meet logistics requirements imposed by WW II, spent its last 19 years as a member of the U.S. Air Force's Military Airlift Command (MAC).

As part of its decommissioning ceremony, VR-3 received the Air Force's Outstanding Unit Award and the MAC Flight Safety Award for accident-free operations. Air Force Commendation Medals were awarded 18 squadron personnel and two Air Medals were presented to airmen for service in Vietnam.

VR-3, commanded in its final months by Captain Stanley Montunnas, became a part of the MAC (then known as Military Air Transport Service) in June 1948 and one month later was flying cargo in the Berlin Airlift.

The unit flew Lockheed C-130 *Hercules* airlift. Custody of the aircraft went to the Air Force. Personnel and pilots, 331 in all, were assigned to Navy units around the world.

West Coast squadrons VR-7 and VR-22 were disbanded earlier this year and VR-8, the Pacific maintenance squadron, was decommissioned July 1.

New Outfit in Commission

VA-97 to Fly the A-7A Corsair

On June 1, VA-97 was commissioned at NAS LEMOORE. It is the second West Coast A-7A squadron; the first was VA-147, commissioned in February.

Commander Richard Vaillancourt, the first skipper of the new outfit, was previously X.O. of VA-174, which is the Navy's first Atlantic Fleet A-7A squadron.

AT STRATFORD, *Conn., in May, a Sikorsky CH-53A was flown at a gross weight of 46,000 lbs., highest ever recorded by a Free World production helicopter—previous record was 44,000 lbs., flown by a U.S. Army CH-54A—and 11,000 lbs. over the helo's gross weight. The standard CH-53A was powered by T-64-6 engines. Speed with the external load was 127 mph; with internal load, 150 mph. Test pilots were Richard Wright and John Peterson.*

Repairs Made at Chase Field

Training Jets Now at Corpus

The Naval Air Advanced Training Command began operating jet aircraft from NAS CORPUS CHRISTI this month while NAAS CHASE FIELD, Beeville, is partially closed for runway extension and repair. The work is expected to take ten months. Chase Field has been reduced to one-runway operation for most of the repair period.

Each of the Chase Field squadrons has sent a detachment of ten instructors, 25 students, 46 ground crewmen and ten aircraft to Corpus. While the repairs are being made, the training carrier USS *Lexington* will operate off Corpus Christi two periods instead of one each month.

The general buildup of CNATra facilities will take care of increased pilot training. New hangars, aircraft parking and handling facilities, barracks and BOQ's are planned for Chase Field.

LTJG. *D. E. Wendling, now in VP-44, on May 19 at Pensacola, received the Thurston H. James Memorial Award as the outstanding Naval Flight Officer Student of 1966. Adm. J. J. Clark, USN (Ret.), made the presentation. Lt. Wendling expressed appreciation of the award co-sponsored by the Naval Order of the United States and CNATra.*

Marine Outfits are Honored

Given Navy Unit Commendations

Marine Air Groups 12 and 36 have been awarded the Navy Unit Commendation for their meritorious service in Vietnam.

THE FIRST *public flight test of Bell's Tri-Service X-22A V/STOL aircraft took place May 9 at Niagara Falls International Airport before more than 300 military observers and news media representatives. Buffeted by winds up to 24 mph, the research aircraft was put through its paces in an 18-minute show. To display the X-22A's STOL capabilities, the pilots took off after using only 330 feet of runway and landed in about 600 feet of runway. Piloting the X-22A on the flight was Chief Test Pilot S. J. Kakol. The copilot for the flight was Paul Miller, Jr., manager of test operations for Bell Aerosystems Company.*

MAG-12 was cited for rendering "consistent, devastating, accurate air support through such operations as *Starlite, Harvest Moon, Double Eagle, Utah, Texas* and *Iowa.*" MAG-12 operated from Chu Lai May 7, 1965, to April 15, 1966.

Personnel attached to and serving with the following units of MAG-12 in the period covered are eligible to wear the ribbon: H&MS-12, MABS-12, Marine Attack Squadrons 211, 214, 223, 224, 225 and 311.

MAG-36 was awarded the Navy Unit Commendation for its service in operations against VC forces from September 4, 1965, to August 24, 1966. The citation stated in part: "The Group . . . earned a reputation for all-weather capability, providing effective close air support when weather conditions prohibited fixed wing support." The group flew more than 63,000 hours in 16 major operations.

Personnel who served during the period covered by the commendation are eligible to wear the NUC ribbon: H&MS-36, MABS-36; Marine Medium Helicopter Squadrons 261, 362, 363, 364, VMO-6.

Joint Exercise Has Ended

'Clove Hitch III' is a Success

The Unified Atlantic Command conducted a joint amphibious and airborne training exercise in the Caribbean late in April. Under the over-all command of Admiral Thomas H. Moorer, CinCLant, the exercise involved some 21,000 Army, Navy, Air Force and Marine personnel assigned to the Atlantic Fleet and units of the Puerto Rico National Guard.

Clove Hitch III included an airborne assault on "occupied" Vieques, an amphibious assault on eastern Puerto Rico and a shore bombardment by Atlantic Fleet destroyers and cruisers softened "enemy" positions on Culebra. Jet planes supported ground forces.

ON 17 MAY, *Rear Admiral Dick H. Guinn relieved Captain James H. Armstrong as Chief of Naval Air Basic Training Command. He reported to Pensacola from duty as ComCarDiv 4, with his flag aboard the aircraft carrier, USS America (CVA-66).*

GRAMPAW PETTIBONE

Nobody's Fuel

After briefing his three students on the track they would be required to navigate visually, the instructor preflighted the C-45J and all hands climbed aboard. The flight became airborne at 1327 with 4½ hours fuel on board. Weather en route was such that they had to climb to 9,000 feet and descend as low as 500 on the first three legs of the flight to maintain VFR.

After the flight had been seven minutes on the fourth leg, the weather indicated a course reversal. It was decided to fly the track counter-clockwise. Weather again plagued the flight and finally the instructor resigned himself to an instrument clearance. He tried to contact a flight service station without success. No side tone was audible on the radio, so he had a student check for blown fuses.

A climb to 9,000 feet was effected to remain VFR and the Center was finally contacted on a manually set frequency. An instrument clearance was obtained as requested at 1625 and the flight turned on course for home. Estimated time en route was 1 + 00 hours with 1:45 + hours fuel

remaining on board.

The flight passed over its first navigation fix in ten minutes and continued toward the next checkpoint in instrument conditions. About 45 miles from homeplate, the C-45 broke into VFR conditions. The instructor immediately cancelled his IFR clearance (time 1715), intending to land at the AFB close by if his destination was IFR. He descended rapidly in a clearing with the runway lights of the AFB in sight. Radio contact with home base was established and the weather was reported as 1,200 scattered, 2,000 broken, 4,000 broken, 10,000 broken, 5 miles in haze. Acting on this favorable report, 40 miles out and with 0.3 fuel remaining in the right main tank, he turned the *Beech* for home.

Weather encountered en route made it necessary for him to descend to 700 feet. Attempts to tune in home base's ADF were futile. Finally, the VOR of a satellite field was tuned in and a bearing from home plate was determined. There were no visible signs to firmly establish their position so the instructor attempted to contact home base on normal and guard frequencies to obtain assistance. This, too, met with failure.

With 0.2 fuel remaining on board, the night dark and himself not too well oriented, the *Beech* driver climbed to 3,500 feet, and ordered the occupants to bail out. He then aimed for an unlighted area, broadcast his intention to leave the aircraft and bailed out. All hands parachuted safely to earth and the wayward *Beech* crashed in an uninhabited area.

Grampaw Pettibone says:

Oh, my achin' back! Some folks would be better off in bed—all the time. This fella convinces me that some people schedule accidents in advance. A pilot with over 3,000 hours of multi-engine experience just couldn't do a thing like this—but he did.

OPNAV Instruction 3710.7C was promulgated to save all of us embarrassment from mishaps such as this, but it looks like there is no sure way to legislate against poor headwork. Pushin' the weather to complete that instructional flight just didn't pay off. What's more, it never will. The decision to execute a 180 has saved many a pilot and plane if it was made before reaching the point of no return.

ILLUSTRATED BY

Done In

After a preflight briefing for a scheduled practice buddy-bombing mission, the *Skyhawk* driver proceeded to the flight deck to man his A-4. The start and post-start check revealed no discrepancies and at the proper time he was directed to the port catapult. The hook-up and tensioning were accomplished without difficulty and appeared normal in every respect. With the engine at 100% and all instruments reading normal, he positioned himself for launch and saluted the catapult officer.

The catapult fired and the shot initially appeared normal. About one-half the way down the track, the A-4 started to decelerate. As it cleared the bow, the aircraft rotated to a normal attitude, but a sink rate was established immediately and continued. Just prior to impact with the water, the pilot ejected. (The A-4 at this time was in a slightly nose-high, right-wing-down attitude.) The canopy blew off to the right and the seat traveled almost straight up. The pilot and seat reached a trajectory of about 200 feet above the water. Seat separation was delayed and occurred just prior to impact with the water. The parachute did not deploy but was just beginning to stream at impact. The pilot struck the water on his back in a reclined sitting position.

Once in the water, the *Hawk* driver attempted to inflate his Mk 3-C but noted he could not use his left arm. Nevertheless, he located one toggle with his right hand and pulled it.

A helicopter (not the assigned plane guard) hovering close aboard the mishap conducted the pickup, bringing the injured pilot to the flight deck hanging below the helo with his left arm through the sling, his right hand grasping it, and the streamed parachute dangling.

Grampaw Pettibone says:

Great jumpin' Jehosaphat! I think this poor lad had just about enough for one day. The cause of the premature loss in steam pressure has been fixed, but a hairy retrieval like this could, but shouldn't, happen again.

When you go fishin' for a fella that's been through what he had, it seems to me it'd be a fine idea to send help down, get rid of his chute and get him inside th helo for the ride back to the ship.

Blindman's Bluff

Following a number of frustrating delays, the student pilot finally became airborne for his second flight in the AF-9J. He proceeded out to the familiarization area, completing his 2,500-foot checklist and checking in with the FDO. After leveling off at 18,000 feet, he practiced wing-overs until time to secure transfer and dump. After dumping, he completed two barrel rolls, one loop, and two-and-a-half cuban eights.

At 19,000 feet he entered a split "S." Upon recovering, just as he passed 18,000 feet, dense, white smoke came pouring out from the area under the instrument panel. With vision instantly obliterated and his eyes irritated by the smoke, the pilot's first reaction was to reach for the oxygen regulator to insure it was set at 100%. He next attempted, but failed, to switch to ram air and open the cabin air dump valve.

Three more courses of action occurred to the youngster: switching to emergency IFF, jettisoning the canopy, and transmitting a "May Day." All three were discarded in deference to his growing concern for the plane's altitude and attitude, his fear that the canopy might not jettison properly, and his belief that the IFF was sour. Fearful that the *Cougar* was on fire, he decided to eject without further ado.

He positioned himself in the seat and pulled the face curtain with both hands. Nothing happened. Holding the primary handle with his left hand, the anxious driver pushed aside the guard and pulled on the secondary handle with his right hand. Still nothing happened. Finally, by exerting a harder pull on both handles simultaneously, he was ejected from the aircraft.

Seat separation and chute deployment were normal. Upon nearing the ground, he attempted to maneuver his chute to avoid landing on a large cactus plant. Being preoccupied, he touched down before he expected and fractured a bone in his left foot. Local citizens arrived at the scene in short order and aided the distressed aviator.

Grampaw Pettibone says:

Sufferin' catfish! This young man must've been wired off when his instructor was passing out the smarts about inflight emergencies and things. There ain't no doubt that he had his thoughts organized but he failed to include a few basics like how to get to the ram air and cabin dump in zero visibility, like he did on the blindfold checkout.

Simple ignorance is not knowing; compound ignorance is not knowing that you don't know.

Naval Aviation News hails a quarter of a century of service with some

REFLECTIONS ON THE WAVES

By LCdr. Izetta Winter Robb USNR (Retired)

When World War II began, the Navy found that it could not, according to the War Manpower Commission, hope to get the number of men it needed for critical occupations. Woman power in uniform would have to meet Navy's requirements.

But as Miss Virginia Gildersleeve, at that time the noted dean of Barnard and an adviser to the Navy on the employment of women, pointed out, this was not, with some, a popular solution: "Now if the Navy could have used dogs or ducks or monkeys, certain of the *older* admirals would have preferred them to women." But this point of view was definitely pre-1942, for once the Waves were in, there was not only floating power but staying power for women in the naval service.

Actually, women in uniform in the Navy was not a new idea. However, the earlier chapters in the story of women in blue indicate that their use was restricted to certain occupations. The U. S. Navy Nurse Corps was established in 1908 and nine years later, in World War I, 11,275 Yeomen (F) served as translators, draftsmen, fingerprint experts, camouflage designers and recruiting agents.

In July 1942, the Women's Reserve came into being with not only fully commissioned officers but also an extensive addition to the areas in which women would be expected to serve. Six years later they would be permitted to change their status from reserve to regular.

This month as the Waves, active, inactive, reserve and retired, meet in San Diego, July 20-23, they will recall the days of WW II when they were strictly an emergency force, their worth was still to be proved and encomiums were still to be gathered. They learned new lingo, Navy ways and performed their tasks for the duration—and after—in such a manner as to establish themselves in the years to come as an integral part of the naval service.

Two decisions in the initial organization of the Waves were fortunate: the appointment of Miss Mildred H. McAfee, then President of Wellesley, as the director of the Women's Reserve and the assignment of the design of the uniform to the House of Mainbocher. Parents who might have had qualms regarding the enlistment of their daughters in the military service were reassured by Miss McAfee's appointment, and the young women themselves were delighted with the uniform and the John Paul Jones type hat, now worn by officers and enlisted women alike. Its classic style commends it to the current generation of Waves as it did to their WW II predecessors.

In 1944, when thousands of Waves in Naval Aviation in the Washington area were inspected by Vice Admiral Aubrey W. Fitch,

DCNO (Air), one observer, reporting for *Flying* magazine, described them as "the women's version of the U.S. Navy" and added: "Blue-suited, black-tied, white-capped and white-gloved, the WAVES, everyone of them polished and brushed, presented *en masse* what Vogue might conceive as a Navy heaven interpreted by Mainbocher."

The original legislation authorizing the enlistment and commissioning of women in the U.S. Naval Reserve was signed by President Franklin D. Roosevelt July 30, 1942, and on August 3 the oath was administered to the first WAVE officer, Lieutenant Commander Mildred McAfee who was named the director of the Women's Reserve. (On November 13, 1943, Miss McAfee was advanced to the rank of captain. Her successors to the office and rank were Captains Jean Palmer, Joy Bright Hancock, Louise K. Wilde, Winifred Quick, Viola Sanders, and today, Captain Rita Lenihan.)

The Women's Reserve was well underway with the opening of the first indoctrination school for officers at Smith College, Northampton, Mass., on August 28. By October 9 the first three training schools for enlisted women were open: Radioman, Madison, Wisc.; Yeoman, Stillwater, Okla.; and Storekeeper, Bloomington, Ind. Recruit training for Waves opened February 8, 1943, at Hunter College, N.Y. At one time in 1944, 5,000 WAVES were training there.

To Commander Elizabeth Reynard, the WAVES owe their distinguished acronym. In 1942, when the planning for the Women's Reserve was underway, the question of a name was posed. On a train on one of the frequent trips that took her from Washington to New York—she was still on loan from Barnard—Miss Reynard addressed herself to the problem. Explaining shortly thereafter to Dean Virginia Gildersleeve how she hit upon the name, she said, "I realized that there were two letters which had to be in it: *W* for women and *V* for volunteer, because the Navy wants to make it clear that this is a voluntary service and not a drafted service. So I played with those two letters and the idea of the sea and finally came up with 'Women Accepted for Volunteer Emergency Service'—W.A.V.E.S. I figure the word 'Emergency' will comfort the *older* admirals because it implies that we're only a temporary crisis and won't be around for keeps."

A WW II *Parachute Rigger is shown doing her stint in the drying loft at NAS Lakehurst.*

Little did Commander Reynard think at that moment that in 1948 the WAVES would be allowed regular status in the Navy. At the same time they shifted from the light Navy blue to the traditional dark Navy blue, and the blue stripes for officers became the regular gold.

IN THE WINTER of 1941-42 when a Women's Reserve was being considered, a letter of inquiry was sent to the various offices and bureaus of the Navy to determine how many women they planned to use. Most of the replies indicated a very limited use of women. But the replies from the Office of the Chief of Naval Operations and the Bureau of Aeronautics were enthusiastic. BUAER proposed to use 32,000 uniformed women throughout Naval Aviation, and CNO eagerly awaited thousands of WAVES, particularly in the field of communications.

Thus the 25,000 women which the Bureau of Naval Personnel had thought the top figure was raised to a proposed 87,000, to consist of 75,000 enlisted women and 12,000 officers. Appropriately enough, CNO and Naval Aviation were the chief employers of the WAVES in WW II. Of the 86,000 WAVES, the peak number at any one time, 30 percent served in Naval Aviation either in Washington or at air stations and facilities throughout the country. Counting all the WAVES who were in the service at some time in WW II, there were 105,000 women who had elected to join the Navy.

The WAVES in aviation did almost every kind of work except fly the planes. They were storekeep-

ON FEBRUARY *8, 1943, the recruit training camp for WAVES opened at Hunter College, N.Y. At one time in 1944, as many as 5,000 of them were taking boot training there.*

CAPTAIN *Hancock, first head of aviation WAVES, later directed the Women Reserves.*

YN3 *Sandra A. Huff, Norfolk, is a second-generation WAVE, daughter of YN1 Huff.*

CAPT. *Rita Lenihan, commissioned an ensign in 1943, is current director of WAVES.*

ers, metalsmiths, mechanics, plane captains, electronics technicians, air controlmen, photographers, weathermen, operations desk forces and instrument men. They photographed planes, predicted the weather, packed parachutes, taught navigation and were outstanding Link instructors. They were even pigeon men — the WAVES were called "Widgeons"—for the blimps still carried them and where there were pigeons, there had, of course, to be keepers.

WAVE officers in WW II were trained in these fields: photo interpretation, meteorology, aircraft recognition, gunnery, radio-radar, air navigation, air combat information, communication procedures, air fighter administration, air transport officers and Link celestial navigation. In any task requiring patience and skill, the WAVES proved to be outstanding. Many of them were excellent instructors.

To this day, the specialties open to women reflect heavily their aviation capabilities. When, recently, Vice Admiral B. J. Semmes, Jr., the Chief of the Bureau of Naval Personnel, increased the number of WAVES in service 20 percent, two of the special areas for which the increase was ordered affected Naval Aviation particularly.

Of the present allowance for 600 WAVE officers and 6,000 enlisted, 1,223, or about 20 percent, are assigned duties in Naval Aviation. This percentage was even greater in WW II, but it must be taken into account now that there is a need for heavy emphasis on WAVES to assist the Medical and Dental Corps of the Navy.

As WW II ended, August 14, 1945, there were approximately 86,000 WAVES in the Navy: 8,000 officers and 70,000 enlisted women on duty in 900 shore activities throughout the continental U.S. and in the Territory of Hawaii. About 8,000 were in training or awaiting call to duty. Approximately 26,000 of the total were assigned to Naval Aviation activities.

THROUGH *the years, WAVES have given outstanding service to Navy as aircontrolmen.*

WAVES composed 18 percent of the total naval personnel assigned to shore establishments in continental U.S. Some 20,000 were serving in the Navy Department and the Potomac River Naval Command, and they constituted 55 percent of the uniformed personnel in the Navy Department.

The Chief of Naval Operations had quite rightly foreseen the usefulness of WAVES. In 1945, they were handling 80 percent of the Navy mail service for the entire Fleet. They constituted 75 percent of the total personnel allowance of *Radio Washington*, the nerve center of Navy communications. They worked in laboratories and test facilities throughout the country. For example, at the Indian Head rocket powder plant which did 70 percent of all testing of rocket propellant, WAVES completely operated the laboratory, manned one of the two firing bays and did approximately half of the ballistic calculations.

The versatility of women to conquer the intricacy of many naval tasks was well proved. The enlisted WAVES today are no less able. They may strike for any one of 20 rates: Aerographer's Mates, Radiomen, Electronic Technicians, Aviation Electronics Technicians, Tradevmen, Machine Accountants, Data Systems Technicians, Disbursing

Clerks, Dental Technicians and Hospital Corpsmen, Journalists, Air Controlmen, Storekeepers, Aviation Storekeepers, Yeomen, Personnelmen, Illustrator-Draftsmen, Photographer's Mates, Communications Yeomen and Aviation Maintenance Administrationmen.

Officers find themselves using their professional background in many fields: meteorology, purchasing and procurement, instruction in one of the Navy's specialized schools, electronic data processing, information and education, administration and personnel.

Women in blue are scattered widely from San Diego to Chicago, New York and Boston, from Key West to New Orleans and Seattle — even to points abroad in Europe or the Far East. The regulations that earlier limited WAVES to the continental limits of the U.S. no longer prevail. Only last February, Ens. Elizabeth G. Wylie was assigned to the Staff, Commander Naval Forces, Saigon.

IN HER BIOGRAPHY, *Many a Great Crusade*, Dean Gildersleeve wrote: "After the San Francisco Conference in 1945 was over, we held a review on board the USS *Hunter* for the United Nations delegates. Before the ceremony we assembled in the United Nations Lounge where the flags of all the member nations were displayed, each held by a WAVE who could speak the language of that nation. When the foreign delegates were told this, they were quite excited and rather skeptical and they went and tested out the linguistic ability of their special WAVES. They reported back to me that there was no deception: It was quite true; the Navy standard bearers could speak all those languages! The demonstration was a vivid proof of the varied racial make-up of our troops."

AZC *Marian Morgan, Oceana, keeps track of supply and maintenance for power plant unit.*

Nor are diplomacy and linguistic skills limited to the long ago. Only a few years back at an international conference on upper air research on the island of Corfu, the Greek hosts surprised their guests on the Fourth of July with a special celebration. Representing the American guests, Commander Frances E. Biadasz, who speaks French fluently and is now commanding officer at the Wave Naval Training School, Bainbridge, Md., replied spontaneously in a tribute to the ancient Athenians who in their philosophy were concerned with the freedom of citizens in their relationship to the state. This expression of appreciation the Greeks found very moving.

The WAVES, all U.S. citizens, represent all the varied racial and national strains that make up the cosmopolitan character of the United States. The age requirements today are 18 to 25 years for enlisted, 18 to 27 for commissioned officers, as against the WW II limits of 20 to 36 for enlisted, 20 to 49 for officers. Naturally, to women veterans, the WAVES on active duty seem younger each year, but the educational requirements are as high as ever and the WAVES remain to this day an elite group ready to serve, eager to learn and steadfast in purpose.

The words of Admiral William H. P. Blandy, then Commander in Chief, Atlantic Fleet, in 1947 on the occasion of the WAVES' fifth anniversary, inspire their goal today: "The splendid services rendered by the WAVES in naval activities ashore, and their uncomplaining spirit of sacrifice and devotion to duty at all times, are examples of the sincerity and character of the Women's Reserve which a grateful Navy will not forget."

WAVE *V. M. Rookhuyzen as part of sea and land survival training learns how to make "a home away from home" in rugged environment.*

TO THIS DAY, *WAVES continue to prove their outstanding ability as instructors in teaching flight principles with flight simulators.*

WAVES SERVE AT INTELLIGENCE DATA CENTER

By Lt. D. B. Dunn, USN

TODAY A GROUP of WAVES under the leadership of a WAVE ensign is performing a variety of duties at the Naval Reconnaissance and Technical Support Center, Suitland, Md. In their group are seamen, airmen, photographer's mates, yeomen, personnelmen and machine accountants.

Those serving with Ens. Norma J. Kelling are PHC Vivian F. Sanford, PH1 Alice Berner, PH3 Theda Albee, PH3 Cleola McKinney, PH3 Mary Mahan, PH3 Susan Starliper, MA3 Karol Garlets, PN1 Estelle St. Clair, YN2 Rachel M. Tipping, YN3 Carol Anderson, YN3 Anne Lau, YNSN Patricia Fuqua, YNSA Judy L. Lakin, SN Marie Belkofer, SA Jeanne M. Hanneman and SN Amy Watkins.

The use of WAVES in this work goes back to the early days of WW II when the facility was called the Photographic Intelligence Center. At that time, the WAVES were serving primarily in the terrain model center where they quickly established a pattern of reliability and quality.

They were especially adept in the manufacture of three-dimensional terrain models which require patience and a fine eye for detail. Such models were used in many a D-day briefing.

At the end of WW II, the WAVES were phased out, but with the opening of the Korean conflict they again responded. This time, the areas of their responsibility were increased and, in addition to serving in administrative support billets as storekeepers, yeomen and personnelmen, WAVES in the aviation rates were ordered in as photographers.

These photographers performed direct support to the photographic interpreters who were providing "real time" mission and targeting documentation. In the rectification section of the photo lab, oblique photos were optically "stretched and squeezed" until they were, to all intents and purposes, verticals which the PT's would use for exacting mensuration and identification work.

The WAVES also took up photo processing, turning out literally miles of aerial reconnaissance film. With painstaking detail, they compiled in photo mosaic form "as you see it" maps and assembled composite views of overlapping photographs.

Today the variety of their rates indicates the enlarged scope of the work the WAVES do at the center. The machine accountants are an innovation and are part of the command's program to keep apace with the intelligence requirements of modern warfare. Using automated data processing and miniaturization, the end product of their work is data base materials in the form of photo-miniaturization, machine language coded cards and electronic computer magnetic tapes. This insures timely distribution of the materials to the designated users, such as aircraft carrier integrated operational intelligence centers (IOIC's), Fleet intelligence centers, the Office of Naval Intelligence and other shore and Fleet centers.

The increasing workload and the need for computer "uptime" requires around-the-clock operation and the WAVES take their turn in the "graveyard shift." Most departments have their WAVE yeomen competently filling a well-rounded selection of collateral duties. Yeomen also serve in the technical service intelligence library, updating, cross-indexing, filing, and operating documentation equipments.

Work in the photo lab has involved increased modernization. The up-to-date equipment includes among other things color Versamat processers, automatic slide mounters, Emby slide cameras, Markham and Delaware slide titlers, Kargyl cameras, a logetronics SP-1070 strip printer which will print up to 60 feet of film per minute and Niagara printers which will process 100 feet per minute. The laboratory is now as well equipped as almost any commercial film

PH3 ALBEE COMPILES MOSAIC MAP

GETTING GLIMPSE OF RA-5C GEAR

PH1 BERNER AND FILM RECTIFIER

processing laboratory in the world. In fiscal '66, it turned out 4,867,220 units of photography.

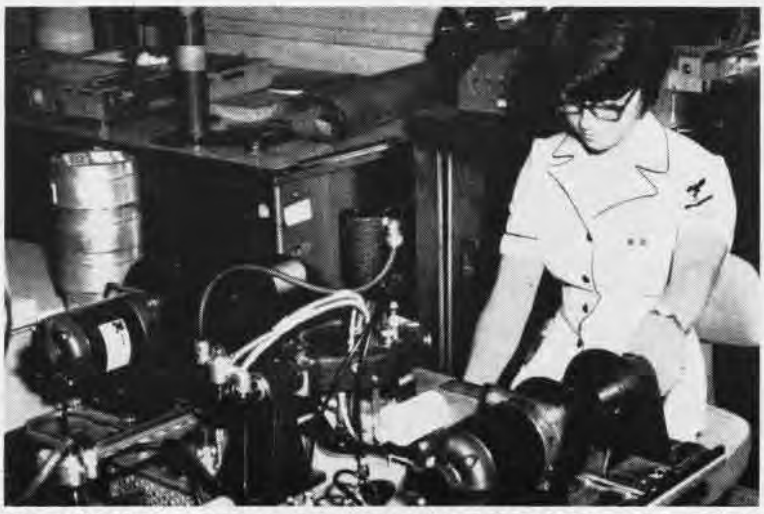
The WAVES are involved in all this. For example, so far this fiscal year, WAVE photographer's mates have assisted in titling 700,745 frames of photography in support of our aircraft carriers in Southeast Asia.

After developing and duplicating a film, it is sent to the center's compilation section. Reference points are marked on clear acetates which are placed over the film and over maps for the section of the world covered. At this point, it is sent for rectification. It is then reviewed by photo interpreters. Any substantive intelligence is typed in report or document and forwarded to the library for inclusion in the intelligence data bases or to the cognizant operating forces or the Office of the Chief of Naval Operations.

In all this, WAVES have been pulling their share of duty, military and technical. They fill security duties and watch responsibilities and at the center they do, each of them, a really "man-sized job."

Photographs by PH1 R. E. Wasmer

YN3 ANDERSON FILLS AN ORDER FOR TECHNICAL INFO



PH3 SUSAN STARLIPER OPERATES THE DELAWARE FILM TITLER

YNSA JUDY LAKIN RECORDS A PUBLICATION

A-7 PILOTS ON RECORD FLIGHT TO FRANCE

By JOC John D. Burlage, USN

WITHOUT even trying hard, two Navy A-7A *Corsair II* pilots set a record recently when they flew a pair of the new jet, light-attack aircraft on a non-stop, non-refueling flight from NATC PATUXENT RIVER, Md., to Evreux, France.

U.S. military officials in nearby Paris, where the two A-7A's were part of the 27th Paris International Aeronautical and Space Salon, said it was the first such flight ever made by single-engine, jet, light-attack aircraft.

The *Corsairs* were flown to the Evreux airfield, a former U.S. Air Force base about 55 miles from Paris that is now under French control, by Commander Charles W. Fritz and Marine Capt. Alec Gillespie. They were met by Captain M. J. Franger, USN, of the Paris International air show staff.

After they were launched from Patuxent River at 10:56 a.m. (Paris time) May 19, the two pilots covered the 3,327 nautical miles (3,900 statute miles) to Evreux in seven hours and one minute—averaging, they said later, about 450 knots an hour in true air speed.

"It was really a piece of cake," Capt. Gillespie told a newsman after he and Commander Fritz landed at Evreux. "This was in reality a 'proof flight' to demonstrate the A-7's capabilities. That we set a record was secondary.

"Actually, we had enough fuel left in the aircraft to fly on to Mildenhall if we had wanted to." Mildenhall is a Royal Air Force station in England, and it was there that the pilots flew their *Corsairs* the next day to await the start of the Paris air show.

The A-7's represented only one of more than 100 different types of U.S. military and civilian aircraft brought to Le Bourget Airport for participation in the internationally-known air show.

Besides forming part of the U.S. static display in the open exposition area at Le Bourget, the *Corsairs* were flown during two days of aerial demonstrations by aircraft of 16 nations at the end of the show. NANEWS will present a feature on the Salon in August.

After they took off from Patuxent River, Commander Fritz and Capt. Gillespie headed out over Long Island to make their long flight over the Atlantic. In doing so, they flew almost the same "great circle" route taken by Charles Lindbergh 40 years ago when he made the first trans-Atlantic flight to Paris in the "Spirit of St. Louis" in 33 hours and 30 minutes.

U.S. participation in this year's Paris air show was entitled, "In the Spirit of Lindbergh." One of the highlights of the show was the flight of a near-perfect duplication of Lindbergh's plane, brought to France in an Air Force C-141 *Starlifter* cargo jet and piloted by historical aircraft builder Frank Tallman of California.

In emphasizing that they had not set out on the flight specifically to break or establish any records, Commander Fritz pointed out that both A-7's were strictly "stock" models being flown regularly by pilots at NATC and elsewhere.

"As a matter of fact," he added, "Capt. Gillespie's *Corsair* came off the Ling-Temco-Vought assembly line in Dallas the day before we took off for France. It was his first flight in that particular airplane."

Both Naval Aviators, however, are experienced A-7 pilots. Commander Fritz serves as NATC's *Corsair* program manager for Navy evaluation of the aircraft, which recently completed carrier qualifications as part of its Board of Inspection and Survey trials (NANEWS, June 1967, p. 40) and which is scheduled to make its operational debut with the Fleet later this year.

Capt. Gillespie is the NATC's senior service suitability pilot for the aircraft, so he has logged many flight hours in the A-7.

"We landed at Evreux without a single discrepancy," Capt. Gillespie said, "and with enough fuel on board to fly 500 more miles and still have plenty to spare. Although we didn't establish the ultimate record for single-engine, jet aircraft flight, we did prove one thing: The A-7's we flew had the capability to surpass the plane's guaranteed 3,000-nautical-mile ferry range.

"We also proved something else, at least to my satisfaction. The *Corsair* has the most comfortable seat of any jet plane I've ever flown. After seven-plus hours in that plane, you can bet I speak from experience on the subject."

CDR. FRITZ, CAPT. FRANGER, CAPT. GILLESPIE AT EVREUX

A-7A ENDS TRANS-ATLANTIC 7-HOUR, 1-MINUTE FLIGHT

WITH THE MARINES IN VIETNAM

DEMONSTRATING *its lifting capability, a Marine Corps CH-53 Sea Stallion helicopter carries a 155mm howitzer from a field position to the logistic support area of Quang Nai.*

Strike 542

Residents of a small fishing village near the mouth of the Pra Khuc River had lived there peacefully for many years.

Then Viet Cong guerrillas came and forced the villagers to give them food, money and shelter. As time went on, more and more villagers left to find protection with allied forces because the VC were taking over their homes and the sampans they had used to earn a living.

The VC fortified the homes, dug foxholes and trenchlines around the village and used the sampans to ferry supplies across the river.

All loyal Vietnamese had left the village by March 28 when a friendly force began receiving mortar fire from it. March 29, there was small arms and automatic weapons fire.

The unit used its radio. Within minutes, a telephone rang in the small alert hut on the Marine Aircraft Group 13 flight line. Three Leatherneck pilots ran to their F-4B *Phantom* jets as the fourth stayed on the phone to get all the data pertaining to the mission.

This close air support mission was flown in support of the III Marine Amphibious Force. The target was the same village once filled with quiet fishermen, now infested with the Viet Cong.

Capt. Richard K. Bardo was the flight leader of the two VMF-542 *Phantoms* that hit the village with 250-lb. bombs and 20mm cannon.

After five runs, the flight had accounted for 17 confirmed kills; 18 structures had been destroyed and five others damaged.

"We were receiving fire as we made our runs," 1st Lt. John R. McCord, wingman for the mission, said, "but it didn't bother us."

MAJOR *General Louis B. Robertshaw (L), CG, MAW-1, welcomes Maj. Paul R. Jones to Chu Lai. Jones was first A-6A Intruder pilot of VMA(AW)-533 to complete the unit's trans-Pacific flight from Cherry Point.*

Distinguished Flying Cross

"It was the most self-satisfying and exciting mission I've flown since I received my commission and wings almost 12 years ago," said Maj. Dorsie D. Page, Jr., after receiving a Distinguished Flying Cross during ceremonies at MAG Twelve.

He was awarded his DFC for flying done in support of two MAG-16 helicopters downed by enemy fire near Da Nang last September. According to the citation, Page unhesitatingly exposed himself to enemy recoilless, small arms and automatic weapons fire.

The VMA-214 pilot said that when he arrived over the zone, two CH-46A *Sea Knight* helos and more than 30 passengers, all of whom were wounded, were trapped by a larger VC unit.

The enemy had surrounded the Marines and was, according to Page, "about to overrun them."

Page repeatedly attacked the enemy, sighting in on the VC's recoilless rifle flashes. He made bomb and strafing runs to draw enemy fire off the ground forces.

"I turned on all my lights and strafed the VC positions," he said. "I figured it was easier for the VC

unit to hit the men on the ground than me," he added.

Despite the concentrated enemy fire, which diminished after the first few minutes of action, Page flew over the area for more than an hour. All the trapped Marines were evacuated safely.

Major General Louis B. Robertshaw, CG, First Marine Aircraft Wing, presented the DFC and congratulated Page on his "extraordinary achievement in aerial flight."

Record Setters

Marine Medium Helicopter Squadron 361 flew a record-setting 2,051 hours during March, flying from MAG-16 helicopter pads.

They broke their old record of 1,900 hours which they set in November 1966 while flying with MAG-36 at Chu Lai.

"We are not out to break records," said Lieutenant Colonel Earl W. Traut, squadron leader. "We are just doing the best possible job we can for units we support."

Last November, when the squadron set its original record, the pilots continued on for the next five months to set another Marine Corps mark of 10,770 helicopter flight hours in six months.

Medical Evacuation

A bell rings on the flight line of HMM-361 at Da Nang Air Base. It sends five helicopter crewmen—a medical evacuation team—into action. The pilot, copilot, crew chief and gunner are Marines; the fifth is a Navy corpsman.

Usually the helicopter is airborne in three minutes. "Speed is the most important thing on a medevac," emphasizes HM1 Thomas Doyle. His record makes him an authority. On his second tour in Vietnam, he has never lost a wounded Marine.

He credits teamwork between crew chief and corpsman for much of the success of a medevac mission. "The crew chief can establish radio contact with the troops in the zone," he said. "He can tell the corpsman the number of patients and the nature of their wounds." With this advance knowledge, a corpsman can save precious seconds.

"If I know the wounded will be able to walk, I save time by not carrying a stretcher out," Doyle said. "On the other hand, if I know in advance a stretcher is needed, I'll have it ready."

Doyle carries extra rubberized bandages as well as a pneumatic tourniquet for stopping severe blood loss. He also keeps a medical supply chest on the flight line so that he will not have to return to sick bay between flights.

The preparations pay off. One day he was on 11 medevacs. The longest time involved in getting a patient to the hospital was just over 30 minutes.

Because of his experience, Doyle is an able instructor for corpsmen recently arrived in Vietnam.

"I like to accompany each new corpsman on his first four or five missions," Doyle said. "By then he's got his system refined and is able to go on his own.

"I emphasize to the new men what I practice, the need for speed. When we have night duty, I sleep in the plane. That way I can help hurry things along."

Radar Accuracy

At Chu Lai, radar is the tool which makes possible accurate bombing of targets at night and during bad weather.

Utilizing the Radar Course Directing Central System, Aircraft Support Squadron Three pinpoints both aircraft and target areas and brings the aircraft back to its home base.

Air transportable, the system is broken down into a power unit, control center and radar unit. Through use of the radar, the computer equipment even tells pilots the exact moment at which to drop their bombs.

Since last November, MASS-3 has controlled more than 3,000 night and all-weather bombing missions guiding more than 5,000 tons of ordnance onto the enemy.

LOAD UP: *Members of the 3rd Marine Division hustle aboard a UH-34D of Marine Aircraft Group 16. The helicopter flew the troops during an operation in the Hue-Phu-Bai area.*

LCPL. *Gregory D. Willis and Cpl. John H. Ditmore, MAG-16, read letters from home.*

FOR SAVING *six lives on medevac mission, 1st Lt. M. M. Calef II (L) and LCpl. T. P. Linski, HMM-361, receive commendation medals.*

MAJOR DONALD *E. Cathcart of VMF(AW)-235 is congratulated by Capt. R. L. Beavis, after completing squadron's 7,000th sortie.*

Six Saved in One Night

A Marine helicopter copilot and a crewman, credited with saving six lives last October, have received the Navy Commendation Medal.

First Lt. Marshall M. Calef II and LCpl. Theodore P. Linski received their awards from Lieutenant Colonel Earl W. Traut, C.O. of HMM-361, at ceremonies held at the Marble Mountain Air Facility.

Assigned duties as medical evacuation crewmen, their efforts were instrumental in saving the lives of a wounded Vietnamese soldier and civilian at Tan Ky. They went to the aid of two wounded Republic of Korea Marines south of Chu Lai. A wounded Popular Forces soldier was their third mission of the night. They finished by getting out a wounded U. S. Marine.

Their citations praised their determination in completing the series of medevacs despite extremely poor weather and enemy fire received on each of the missions.

Gas Station

At Dong Ha, there's a gas station that couldn't care less about advertising. It has no smartly dressed attendants, yet it does a flourishing business.

Known as the Tactical Fuel Dispensing System (TFDS), the unit is a very important part of MAG-16 forward operations. Without it, helicopter operations in the area would be virtually non-existent.

Open day and night, the TFDS has 11 self-service pumps, each capable of delivering 350 gallons per minute. Eight 10,000-gallon collapsible rubber tanks contain avgas and JP-4 jet fuel. When a tank nears the empty mark, it is immediately replenished with fuel piped in from a nearby fuel farm.

According to 1st Lt. Mark D. Parish, who directs the facility, the station pumps an average of 7,000 gallons of fuel each day. The 24-hour record is 15,000 gallons poured into thirsty helicopters.

MARINE HELICOPTERS, *day after day, prove again and again the advantages of vertical replenishment in the fighting zones. Here men and supplies are being delivered, after one of the major air and amphibious assaults in Vietnam, to a landing area protected by tractors.*

FIRST NAVAL AVIATION DETACHMENT, FLIGHT A, AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY, 1917

Naval Aviation in World War I

AVIATION GROUND SCHOOL AT MIT

Although there was logic and order apparent in initial actions, neither the aeronautical training plans, nor their implementation, could keep pace with requirements. In 1917, the greatest need was to find some way of assimilating the volunteers who, paradoxically, while making expansion possible, by their very numbers also made it difficult. With more men on board than could be accommodated within the existing structure and others coming in faster than facilities could be provided, it was all too clear that something had to be done—and quickly. And that is the way it was done.

By Adrian O. Van Wyen
Naval Aviation Historian

On July 23, 1917, 50 men, with beds and bedding, arrived in Cambridge on the campus of the Massachusetts Institute of Technology from the First Naval District headquarters in Boston. They were met by Ltjg. Edward H. McKitterick. These 50 men were the first increment of over 4,000 who would receive their introduction to the naval service at that school and go from there to carry out their duties in assignments at home and abroad. Many would go to flight training and become Naval Aviators, some would perform ground duties, but not one would forget his days at Tech and the men who set him on a proper course.

So far as the record is concerned, the idea of using the facilities of established civilian educational institutes for the initial stages of military training seems to have sprung full grown out of nowhere. Actually, the experience of the British, who had already been at war three years, established the precedent and appears to have planted the seed. An example of their program on this continent was the Royal Flying Corps School at Toronto.

The problem of training was discussed at a meeting of the National Advisory Committee for Aeronautics (NACA) in Washington on April 23, 1917. This discussion led directly, less than three weeks later, to the establishment of Army courses at six scientific schools across the country. Also involved was the Aircraft Production Board, the chairman of which informed the Secretary of the Navy of the possibilities. Whatever the influence—and reports from abroad seem to have been most influential—the Navy was fully aware of the possibility of using existing schools for training and, in fact, was contemplating such a program.

New plans for training student officers, formulated in the early months of the war, called for a program in three parts. The first was a ground school of roughly six weeks duration. This would be followed by preliminary flight training to bring the student through from five to ten hours of solo work. In the final stage, advanced flight training, the student would qualify as a Naval Aviator and receive his commission in the Naval Reserve Flying Corps.

Early in July, the Navy made the first move toward setting up the first part of this program at the Massachusetts Institute of Technology at Cambridge. This was a natural choice since the Navy had already established a working relationship with the school through the assignment of Commander Jerome C. Hunsaker to study, and later to teach, at its School of Aeronautical Engineering.

On July 3, 1917, the Secretary of the Navy wrote to MIT President R. C. MacLaurin regarding the possibility of setting up a course for the Navy along lines of that already in progress for the Army. The letter was delayed in delivery but the affirmative reply, which came by telegram, included an invitation to send a representative to discuss needs and make arrangements. On July 10, Lt. E. W. Spencer, commanding the air station at Squantum, was ordered to make the visit.

Spencer reported two days later the Institute could provide facilities

and an instructional staff for groups of 50 men assigned every two weeks. It would be ready for the first group near the end of the month. On July 14, Lt. E. F. Johnson of the Aviation Training Section arrived from Washington to discuss further details and make final arrangements. On the same day, SecNav directed the Bureau of Navigation to draw up a contract.

The general terms called for facilities for 200 students admitted by classes of 50 every two weeks, an instructional course of two months duration covering aircraft engines, theory of flight, general flying, gunnery, signalling and wireless, and naval studies. The cost per student would be ten dollars per week for the first four weeks, five dollars for succeeding weeks. As its part of the program, the Navy would provide one officer to supervise instruction and command the detachment and at least four men qualified to instruct in naval subjects. Quarters, exclusive of beds and bedding, were to be furnished by the school. This contract, with other standard contractual stipulations, was executed on July 23, 1917.

THE FIRST COMMANDER of the new detachment, Ltjg. McKitterick, was a graduate of the Naval Academy Class of 1912 and a qualified Naval Aviator, then on duty at NAS PENSACOLA. With only a quick stop in Washington to be briefed on plans and arrangements, he arrived at the school on July 23, just in time to meet the first group.

With no staff to assist him, Lt. McKitterick moved his group into spaces provided by the school in Technology Building No. 2 and made plans to begin classes the next day. On the first day, he indoctrinated the recruits and acquainted them with the program. Extemporization was the order of the day. Quarters and classroom space had been assigned but neither an instructional staff nor training materials had arrived. But the experience of the MIT staff in setting up the Army program helped smooth the way. Soon the new school fell into a proper routine.

The initial Ground School program called for a 40-hour week, the hours being allotted as follows: Navigation, 5; signals, 6; Navy regs, 5; seamanship, 6; calisthenics and boat drill, 5; drill, 5; study, 5, and examinations, 3. As the class progressed, new subjects were introduced. By eliminating some of those taken earlier and by reducing the hours of others, a 40-hour weekly schedule was maintained.

This program prevailed for the first six classes. In October 1917, as a result of a brief visit by the commanding officer to the Royal Flying Corps Ground School at the University of Toronto, the allotment of hours was readjusted, principally in gunnery. For this course, the time was more than doubled. There were lesser increases in signals and rigging. This expansion, and a greater emphasis on physical conditioning—the hours assigned to calisthenics and drill were doubled—combined to bring the total hours of instruction for eight weeks to 428, a load considerably over the earlier 40-hour week.

When Class 10 reported October 15, the strain of the extra hours was eased by extending the course from eight to ten weeks and adding 12 hours of liberty which had been cut to zero by the earlier expansion. The new 440-hour total over ten weeks still exceeded the 40-hour per week limit, but it was tolerable.

After the adjustment, hours assigned to certain subjects again began to creep upward but the increases were held within bounds. As the curriculum became stabilized, a reversion to the original plan was possible and on June 24, 1918, the length of the course was reduced to eight weeks.

In all, there were 12 different distributions of scheduled hours, the last five of which stipulated only minor variations. The changes followed the needs of the service. Special provisions for lighter-than-air men were made with Class 22 in May 1918 and required continual adjustment throughout the program. In October 1917, a special course was set up for Aerial Observers which continued until January 1918 when this training was transferred to NAS MIAMI.

THE ORGANIZATIONAL relationship of the new school with MIT followed the pattern already established for the Army school. Supervision and responsibility for the program rested wholly with the commanding officer. Control of the academic work was vested in an academic board, made up of all professors and instructors serving the Ground School, headed by a president appointed by the President of the Institute. The departments, each under a head appointed by the President of the Academic Board, were (a) Electricity, Signals and Photography, (b) Seamanship and Navigation, (c) Gunnery, (d) Aeronautic Motors, and (e) Aeronautics, consisting of Theory of Flight and Aircraft Instruments. An examining board, consisting of the president of the academic board and three department heads, passed upon the qualifications of all students making unsatisfactory progress. The commanding officer exercised final authority in judging the fitness of student officers to graduate.

The organization of the student body followed that of a military unit under cadet and petty officers. The detachment was originally organized as one battalion of four companies. At its maximum strength, the detachment was organized as a brigade of two regiments and three battalions. These units, commanded entirely by cadet officers, were supervised by the drill and discipline officer.

For administrative purposes, students were assigned to Flights A, B, C, etc., each group progressing every two weeks to the next flight. The A flight was the senior, or graduating, class. Each group entering was also assigned a class number; there were 34 in all.

The assignment of a new class every two weeks meant four classes on board during eight-week sessions and five classes during ten-week sessions. The total number in attendance at one time ranged from approximately 200 for the first part of the program to roughly 750 during ten-week sessions and some 800 in the final phase.

The first of 363 gunnery sergeants of the U.S. Marine Corps trained at the school was assigned in a group of 25 men on June 1, 1918. This Marine Detachment, which was within rather than separate from the Naval Detachment, was in charge of Capt. Robert J. Archibald, U.S. Marine Corps.

On September 21, 1918, 20 flight cadets of the Royal Canadian Naval Air Service reported for ground school instruction, their uniforms adding considerable color to the detachment. In all, 60 RCNAS cadets were assigned to the detachment.

As the detachment reached its greatest expansion, the Institute campus presented a most military appearance. All day long, groups of students could be seen going through calisthenics, exercises, gas mask and close order drill. All day long, the rattle of machine gun fire came from the gunnery shops while the roaring of aircraft engines running on test blocks echoed from the engine laboratories.

Three men successively commanded the detachment. The pioneer task of organizing the school and setting precedents fell on Lt. McKitterick. He served six months to December 21, 1917, then left to commission and take command of NAS CHATHAM, Mass. He was relieved on that date by LCdr. R. W. Cabaniss who served roughly seven months before going overseas.

With his arrival a series of orders was published in pamphlet form and furnished to each new arrival. This pamphlet as a guide to proper conduct could well be regarded as a model. The best part of it, however, was the fact that every rule and regulation laid down was enforced with the utmost rigor (as every man would agree).

Cabaniss was succeeded on July 9, 1918 by Lt. H. C. Van Valzah under whose command the development of esprit and appearance of the unit was continued. A band was organized and formal retreats were held at sundown, the entire detachment parading on the drill field between the Walker Memorial and Institute buildings. It was a performance enjoyed by hundreds of spectators from the community.

CHANGING requirements were met by the establishment of special schools which used the facilities of the Institute and the detachment organization, but were set up separately from the Ground School.

The Inspector's School—Establishment of this school was a direct result of wartime expansion. The need for more qualified inspectors of aviation material was met initially by assigning Naval Aviators. Although untrained in the techniques of inspection, they were well enough acquainted with aircraft structures, components and working parts to make a rapid adjustment to the job. But, with too few aviators to fill these and other billets where their skills were needed, the Navy was soon forced to assign less experienced officers. The inefficiency of this practice, in a period when time was a factor in every action and in an industry which in itself lacked the experience of producing aircraft and aeronautical material in volume, was evident.

PIONEER TASK *of organizing the school at MIT fell on Ltjg. Edward H. McKitterick.*

An intent to use the resources of the Ground School at MIT to develop qualified inspectors was first revealed to the detachment's commanding officer the morning of August 22, 1917, when a newly commissioned ensign reported to the school announcing he had come to take the inspector course. The commanding officer wrote a letter to Washington, expressing some surprise at the development but, at the same time, he agreed that such a course would be desirable and could be developed and handled "without much trouble." He proposed that Professor Alexander Klemin and his assistants be asked to work up a course of about six weeks duration. A week later he reported progress with the remark, "You will have to hand it to the Institute for being on the job on this. They have gone to considerable trouble and I think no little expense in working out their share of the course."

The outline provided for two courses, one for Airplane and the other for Motor Inspectors, each of six weeks duration. The emphasis in both was on the practical matters involved in their specialized work. Both courses began on October 22, 1917, with seven students each. Prospective airplane and motor inspectors took several subjects together and were separated only for their specialties.

The first three classes omitted the regular Ground School subjects. All succeeding classes took the first four weeks of Ground School and devoted the remaining weeks to the specific requirements of their prospective assignments.

The first group of nine men completed the course in December; on January 26, 1918, 35 airplane inspectors were ready for assignment. Between the opening of this school and its closing one year later, on October 22, 1918, 200 students reported for training. Of these, 167 completed the course successfully, 58 as motor inspectors and 114 as airplane inspectors.

Aerography School—Early in the history of Naval Aviation, aviators had expressed the need for special instruments to measure certain weather phenomena, but it took the experience of war to prove the need for officers specially trained in weather forecasting.

As a first step toward training in this field, the commanding officer of the detachment at MIT was asked to investigate the possibility of arranging for a training program at the Blue Hill Observatory of Harvard University. He made his preliminary report late in November and only a week later reported that one student was on board.

The Aerography School opened December 22 as a formal part of the detachment program at the Institute. It ran until the detachment was disestablished in January 1919. Considerable instruction was given at the Blue Hill Observatory but classes were also held in the Aerographic Laboratory at MIT. The six-week course stressed the use of aerographic instruments, the structure of the atmosphere and the

methods of forecasting. Because information regarding the upper atmosphere was meager, the students did a considerable amount of research in order to improve the methods of making weather balloon observations.

The course differed radically from the regular Ground School but, with few exceptions, all student aerographers first completed the Ground School course. Since the classes were small, they required little formal organization and hours devoted to different aspects of aerology were flexible. Eight graduates of this school made up the first detachment of trained aerologists sent in April 1918 to organize and operate aerographic departments at naval air stations overseas. Of the 55 men assigned to the school, 54 graduated. One of them later headed the U.S. Weather Bureau.

The Receiving Ship—Establishment of the Receiving Ship in March 1918 solved a problem that had plagued the program from the beginning. As early as September 1917, the commanding officer reported that half of a new Flight arrived two days before the orders reassigning the graduates of Flight A were received. Since this put 225 men on board for the 200 bunks available, the only thing the C.O. could do was to send the men of Flight A on leave—a solution not entirely displeasing to them. Difficulty in transferring men after completing the course persisted because transportation was not available on Saturdays, the normal arrival day for a new Flight.

Although these difficulties were overcome by the ingenuity, and even persistence, of the commanding officer, they were aggravated by steady growth of the student body. In February 1918, the commanding officer recommended that students be sent to the school two weeks in advance of their scheduled assignment to Ground School and be quartered in a separate building. During these two weeks, he proposed that the students be vaccinated, outfitted with uniforms and receive instruction in Navy regulations, customs and drill. This system, he suggested, would isolate new students and thus diminish the chance of spreading contagious disease. It would also put the students in better physical condition and give them a proper indoctrination into school procedure. The plan was duly approved.

The new school, with accommodations for 300 men, went into operation on March 18, 1918, under the command of Ltjg. S. W. Sargent. As it developed, the men were on board from two to six weeks.

Men of the Receiving Ship were organized into companies, Company One being senior and containing those men farthest along in their training. Every two weeks the senior company was graduated, assigned a class number and transferred to the Ground School. The school remained in existence until November 19, 1918, when the last men on board were transferred.

LT. E. F. JOHNSON, *head of Naval Aviation Training, Washington, visited detachment.*

While the work of the prospective Naval Aviators was intensive, it was not without its lighter moments. There was after-hours activity in spite of rigid rule enforcement and there were attempts to add glamour to a drab uniform by wearing Sam Browne belts while on liberty, but these are not recorded in official files. The detachment included a number of well known collegiate and professional athletes and contests between classes and with outside organizations were generally meets of high order. There were also competitions of a more naval character, including races of naval cutters, wall-scaling contests and tugs of war which provided onlookers with good entertainment. The detachment also included men of some wealth and as a result took a prominent part in various Liberty Loan drives, notably the third and fourth, in which the men subscribed 529 and 687 thousand dollars respectively. These not only exceeded the assigned quotas several times but represented a pro rata subscription of better than 400 dollars.

Men on board at the Armistice were given a choice of completing their training or going on inactive duty at once. About 550 men chose to go home. Graduates of the last two classes were placed on inactive duty upon completion of the course and were not assigned to flight training. Class 34, the last to be assigned, was graduated on January 18, 1919. In all, 4,911 students were assigned to the detachment; of these, 3,622 were graduated.

Success is measured best by results. The school was the first of its kind established by the Navy and was the principal source from which a constant stream of trained men flowed out to give body and spirit to the force which carried Naval Aviation through its first test of strength. The strong support of the Massachusetts Institute of Technology and the willing cooperation of its staff contributed in no small measure to the growth and effectiveness of Naval Aviation in the first World War.

LCDR. *R. W. Cabaniss was the second officer in charge, serving for some seven months.*

CREW GATHERS AROUND LCDR. GRIMES (C) FOR BRIEFING BEFORE A FLIGHT

GRIMES GRASPS THROTTLE AS LT. YA

RECALLING THE

As Navy Tracker pilot, LCdr. Laur
combat cruise, he looked back on
ron 29 aboard the USS Kearsarge (C
Yancey, co-pilot, AX3 Monroe Walb
represents a little known but dedica
scene: flight operations over the Sea
day stretch in Vietnam waters. He a
involved 24-hour watches of the traf
the other, search and rescue in supp

OFTEN ARMED, COMMIE JUNKS ONLY 'LOOK' PEACEFUL

TRACKERS FROM THE USS KEARSARGE (CVS-33) JOIN IN FO

CEY IS POISED TO TAKE OVER IF NEEDED

AX3 WALBRIDGE OPERATES S-2'S RADAR: WALKER OFTEN RELIEVES HIM

COMBAT CRUISE

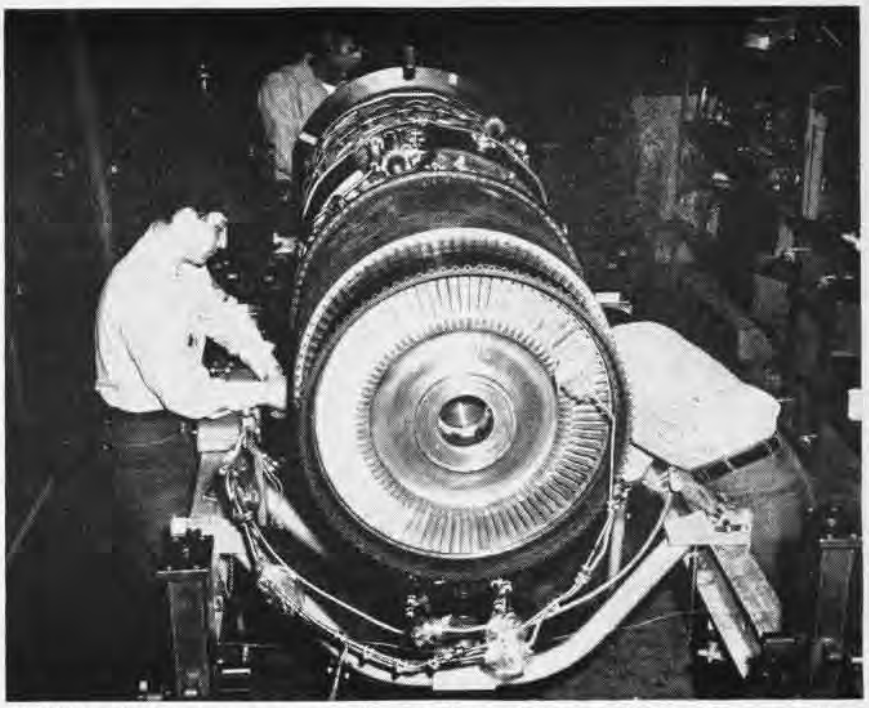
e Grimes, returned from his first Vietnam
x months with Air Antisubmarine Squad-
-33). He thought of his crew: Lt. Paul
ge and AX3 Donald Walker. The team
l group. LCdr. Grimes recalls scene after
Japan, a visit to Hong Kong, and a 45-
his crew flew two types of missions: one
in the Tonkin Gulf, particularly PT boats;
of pilots flying against military targets.

ATION DURING ONE OF THE MANY PATROLS MADE OFF VIETNAM

LCDR. GRIMES REFLECTS ON HIS FIRST COMBAT TOUR

REPAIRING NAVY'S BIG JET ENGINES

By JO2 Thomas A. Duncan



IN THE POWER *plants division at Oceana, three aviation machinist mates re-assemble a J-52 engine. It was completely overhauled in controlled atmosphere of the jet engine shop.*

ON A TYPICAL day at NAS OCEANA in building 301, 97 men stand at quarters and receive the word passed out at similar meetings all across the base. Then they wheel out the portable tool chests, select the proper gear and begin work on a shopful of jet engines brought in from the more than 25 squadrons stationed at this master jet base.

Working in a controlled atmosphere, they find and repair malfunctions which could cost the taxpayer millions of dollars in aircraft loss were they permitted to go unchecked. In the shop, the temperature is always constant, the humidity rigidly controlled. And the dust content is kept at a minimum to protect the exposed jet entrails.

The power plants division, a part of Oceana's Aircraft Maintenance Department, represents 15.5 percent of the department personnel. The crews in the division bear no names. Instead, they bear the numbers of the jet engines they repair—J-79 for the *Phantom* fixers, J-52 for the *Intruder* repairmen, J-57 for the *Crusader* and J-48 for the *Cougar* men, respectively.

When a crew begins work on a jet engine, its members plan a major project and carry it out systematically according to well-proven procedures. A *Crusader* crew expects to spend over 300 man-hours to return one engine to flying status, while the J-79'ers who work on *Phantom II* jets usually log about 600 man-hours per power plant.

Accordingly, most of the time in the shop is spent on the 17-foot long *Phantom II* engines; 52 percent of the time is dedicated to the *Phantom*, while 28 percent goes to the *Intruder* engines. This leaves 20 percent for the upkeep of other power plants, but this is understandable since they've been in service long enough for maintenance to be negligible.

SMALL *piece of material, sucked through a jet engine, damaged titanium blade (left).*

Overseeing the entire operation of the division is Lt. V. C. Sledge, a mustang officer who learned about jet engines from the time they were introduced into the Navy. He became a chief aviation machinist mate aboard the USS *Bunker Hill* (CV-17) in 1945, when the F6F *Hellcat* and SB2C *Helldiver* were still the workhorses of Naval Aviation.

"I didn't rate a hash mark when I made chief," smiled Lt. Sledge, reminiscing about the fast advancement opportunities of WW II.

Lt. Sledge spent 14 years as a CPO and warrant officer before he became an ensign. During that time, he continued working with jet engines, gaining proficiency in the principles he uses today as the power plants officer.

Throughout his years as a maintenance officer, Lt. Sledge has kept a collection of "bugs" from aircraft engines in a wide-mouth glass jar on his desk. The jar is marked FOD (foreign object damage).

"Of the non-scheduled removals of jet engines here at Oceana,' estimates Lt. Sledge, "better than 40 percent are due to foreign object damage."

The lieutenant says he keeps the jar for the benefit of squadron personnel. "They look at it when they're in the office," he explains, "and ask me what it is. I tell them it's junk I've picked up out on their aircraft line." Then, Lt. Sledge drives home his pleas for a more effective program of policing the ramp areas to protect jet engines.

"Our purpose is to return jet engines to service as quickly as possible," says Lt. Sledge. And return engines they do. Every year since it opened the power plants division has increased its efficiency in repairing engines and returning them to the squadrons.

March of this year was a typical month for the jet repairmen: 31 jet engines were repaired and returned to service; quick engine change assembly kits were installed on 42 engines for Oceana squadrons, and 55 were tested in the engine test cell, while 70 engines were preserved and processed.

According to Lt. V. R. Sirmans, the overseer of Oceana's 3-M system, the work done by power plants division is consistently above the required quality and quantity. With a 15.5 percent of department personnel, the division should be producing 15.5 percent of the department's work. During 1966, however, power plants personnel produced 21.3 percent of the department's total work, making it the division with the highest production rate.

THE ELITE CORPS among power plant's men are the jet engine test cell crews—the men who test the engines following their complete overhaul.

"Quality assurance has to be of the optimum here," explains Lt. Sledge. "I call these test cell people my insurance policy."

The training program for test cell operators has been set up accordingly. A man must be at least a petty officer second class with two years of algebra training before he is eligible to operate the massive control panel which puts the engines through their paces. Men working for the test cell operator may be senior to him militarily, but professionally he is in charge in the elaborate testing cell.

The building in which these technicians work is designed for the job to be done. The thick-walled structure has air ducts running through the roof to supply air for the jet engines to operate in. Without these passages, the engines would turn the building into a vacuum chamber.

Opposite the ducts is an exhaust system where water is sprayed into the superheated air to cool it before discharging it into the atmosphere. This protects the steel reinforcements in the concrete structure and prevents excessive air pollution by the exhaust gases.

Once an engine is successfully run through the test cell, it can be installed in an aircraft with the full assurance that it is working properly. Not only does the test cell check the normal functions, which are registered on the cockpit instruments, but it also goes into other areas where problems could develop. Sensors placed at four points on the jet engine check for vibrations in the power plant while both human and electronic "eyes" search for any possible malfunction. Tested most often are the engines of the F-4 and the A-6.

Jet engines come to Oceana from local squadrons, squadrons in the Atlantic aboard the carriers and those deployed to the Mediterranean. Since Oceana also provides squadrons for Vietnam, Oceana's power plants division is called upon to give the squadrons perfect power plants before they leave for combat. On return, the used engines are brought back and aviation machinists mates (jet) go to work again to put them into top flying shape.

Commander R. S. McElwain, the aircraft maintenance officer at Oceana, sums up the work of power plants division: "Through our repair capability, we have definitely aided the Fleet squadrons in their training syllabus."

TWO MEMBERS *of the jet engine test cell crew check the controls to uncover defects as the engine is put through its paces after it has undergone a thorough overhaul at Oceana.*

AMSC *Raymond R. Davis points out production rates on the various aircraft engines.*

McMULLEN COUNTY TARGET SITE

EACH PILOT *is given permission by radio control tower to make his bombing run.*

By CT2 John Hotard

WHEN PADRE ISLAND, a 110-mile strip of beach running from Corpus Christi, Texas, to the southernmost tip of the state, was made a national seashore, the Navy had to close its two practice bombing sites there.

On September 15, 1966, with the closing of the Padre Island facility, the McMullen County Target Site was opened. Jet aircraft from Chase Field, Beeville, 72 miles away, and Kingsville, 86 miles away, both of which are under the command of the Naval Air Advanced Training Command, Corpus Christi, use it.

The new facility, administered by Chase Field, consists of two targets: Yankee target, five miles northeast of the site's base station, and Dixie target, eight miles southwest. Student pilots are trained in air-to-ground weapons delivery and machine gun strafing.

In charge is Ens. J. E. England, target officer. Target CPO is AOC A. L. Mackins. GM2 Martin Flores is maintenance CPO. The rest of the crew is made up of two petty officers, 11 non-rated men and "Dawg," station mascot. The men, all volunteers from Chase Field, are rotated every three or four months. They are housed in an air-conditioned building which also serves as target headquarters.

Each target at the site is set up like the face of a clock with the bull's-eye in the center. The radio control tower is located at three o'clock; the two towers, called "spotter huts," are located at the eight and four o'clock positions.

MEN *in the two spotter huts are 37 feet high and 3,500 feet from target bull's-eye.*

The plane comes in, traveling from six o'clock to 12 o'clock. When it gets over the bull's-eye, it drops a small "bomb" which releases a puff of smoke upon impact. From this smoke, the men in the spotter huts can get a "fix," and the radio tower can tell at what angle he made his dive.

The spotters relay their information to the radio tower where it is plotted. In seconds, the radio tower can tell the pilot his dive angle and exactly where his bomb landed, such as, "Eighty feet from center at ten o'clock."

The targets are operated from sunrise to sunset. According to one sailor, the first few times a plane comes over the target, it's really exciting, but after that the whole operation becomes routine.

THE BULL'S-EYE *encompasses a 300-foot and 150-foot diameter circle of lime-marked auto tires. Impact area is 1½ miles in size.*

IN RADIO TOWER, *the man on the plotting board receives a coordinate from each spotter hut and figures point where "bomb" hit.*

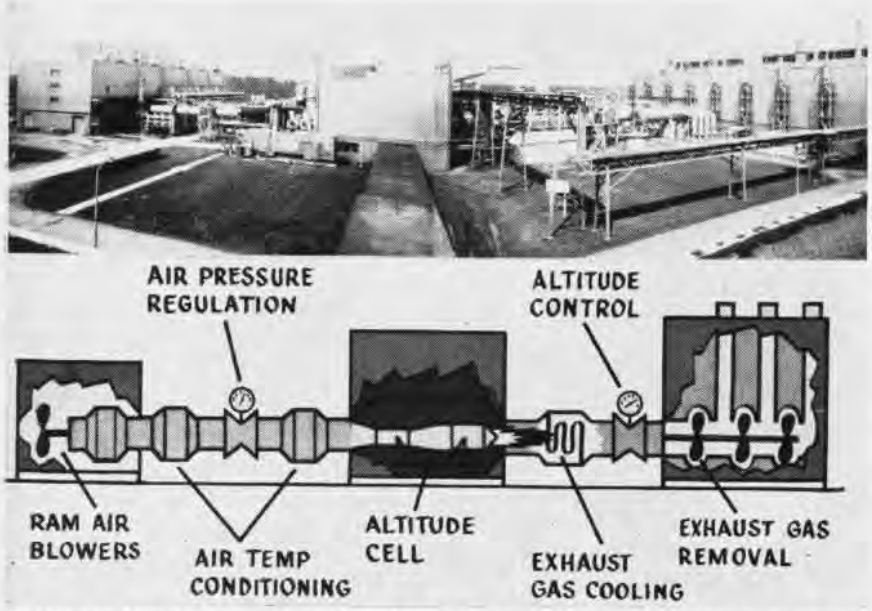


DIAGRAM SHOWS *arrangement of major test facility at Trenton. The exhaust wing houses 14 vacuum pumps capable of creating altitude cell pressures corresponding to 80,000 feet.*

ALLISON *T56-A-7 engine is being prepared for dynamometer stand at AEL Philadelphia.*

POWER PLANT FACILITIES ARE MERGED

JULY 1 marks the merger of the Aeronautical Engine Laboratory at Philadelphia with the Naval Air Turbine Test Center at Trenton.

By combining the two facilities in one, as the Naval Air Propulsion Test Center (NAPTC), headquarters at Trenton, the Navy seeks to consolidate its aeronautical propulsion test and evaluation program. Under the administrative direction of the commanding officer of the center, Captain J. S. Marrow, efforts will be directed toward emphasizing component, accessory and support technology. The executive officer is Commander R. E. Dimmitt.

The new center is a field activity under the administrative control of Rear Admiral R. L. Townsend, Commander of the Naval Air Systems Command. Its mission is to test and evaluate aircraft propulsion systems, their components, accessories, fuels and lubricants, and to seek ways of correcting design deficiencies and solving service problems.

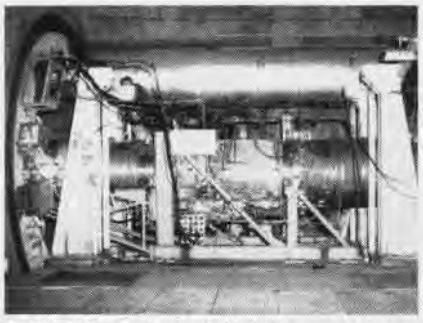
Of the 12 officers and 778 civilians at the center, 586 are assigned to two major departments: the Aeronautical Engine Department (AED) and the Aeronautical Turbine Department (ATD).

AED, commanded by Cdr. J. R. Hawvermale, is remaining intact at its present location on the U. S. Naval Base in Philadelphia. AED is a recognized authority in the fields of turboprop and small turboshaft engines, aircraft engine accessories, fuels and lubricants. The facility is currently testing the T53, T58, T56 and YT76.

AED supplies environmental air to test cells at temperatures from −85° to +160° F. and pressures equal to altitudes up to 45,000 feet.

The Trenton facility, directed by Commander A. A. Lemeshewsky, is concentrated on ten acres of land in three major groups of buildings. The ram air blower wing, test wing, and an exhauster wing comprise the three groups. The department is working currently on the effects of missile exhaust gas ingestion and evaluating transpiration-cooled turbines and variable-area turbines. It is currently evaluating the J79, J52, J69 and also the entire TF30 series used in the A-7A and the F-111 aircraft.

Both departments are conducting state-of-the-art programs. AED is studying fuels, gearboxes and transmissions, propellers, auxiliary power units and starters. ATD is studying compressors, turbines, infrared suppression, thrust augmentation systems and engine monitoring instrumentation.



TF30-P-1 *engine installed for water ingestion tests in altitude test cell at Trenton.*

CDRS. *Hawvermale and Lemeshewsky with Capt. Marrow study papers setting up center.*

ROTA PLANT HAS REGULARLY BEEN CITED FOR ITS OUTSTANDING LAYOUT, APPEARANCE, MAINTENANCE LEVEL

OXYGEN-NITROGEN FACILITY AT ROTA

An important facility at Naval Station, Rota, Spain, manufactures oxygen and nitrogen, liquid and gaseous, for local Navy customers and units of the Sixth Fleet. It is also ready and eager to serve other U.S. services in the area.

The LOX operation was started at Rota October 5, 1959, with the commissioning of the plant. Its service proved so effective that increasing demands upon the facility have required its expansion.

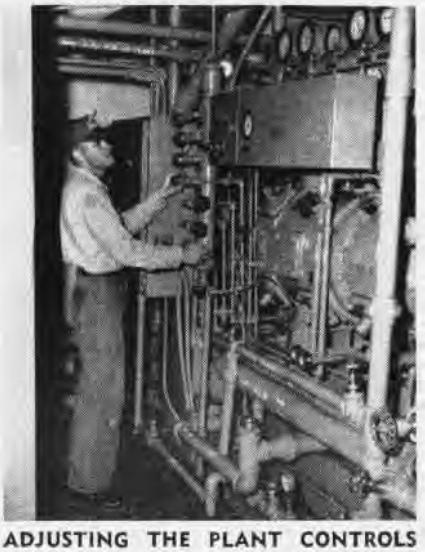
Located inside a four-acre compound in an isolated area, the unit is manned by eight machinist's mates supervised by an MM1. In the compound are three generating units: one fixed plant and two portable plants.

Each plant is capable of producing approximately eight gallons of liquid oxygen or five gallons of liquid nitrogen per hour. With all three units operating at once, the facility can produce either 600 gallons of liquid oxygen, 350 gallons of liquid nitrogen, 69,000 cubic feet of gaseous oxygen or 32,550 cubic feet of gaseous nitrogen in one 24-hour period.

The production schedule is based on demand. A low-level inventory of 900 gallons of liquid oxygen has been established, but the storage capacity is 3,500 gallons. Liquid nitrogen storage consists of one 500-gallon, skid-mounted tank.

Production requirements vary locally from season to season. During the winter, hospital requirements for breathing oxygen are as high as 46,000 cubic feet in a two-month period. Fleet support requirements are variable, subject to change on short notice. Ordinarily this support is based on the sudden unavailability of generating capabilities aboard a ship.

The installation plan for the portable plants was developed by personnel. Generators (at right of photo above) are parked with control panels facing each other and a weather booth connects them so that one operator is able to handle both of them at the very same time.



ADJUSTING THE PLANT CONTROLS

The overhang built beside the fixed plant (see photo) provides a sun shield for the LOX storage tanks with a minimum length of hose required for the skid-mounted tanks. A concrete apron around the building supplies easy moving and storage space for oxygen cylinders.

Rota's location at the transportation crossroads to the Med simplifies support. Five-hundred-gallon oxygen tanks are flown on request to a customer by the Rota-based VR-24 detachment.

Since the Area Fuels Laboratory at San Pablo Air Base near Rota has an excellent testing facility, Commander, Fleet Air Mediterranean, has designated Rota as the coordinator for LOX testing in the area. LOX samples, received in Rota by air, are delivered to San Pablo for testing.

But in a few months, the installation of a Perkins-Elmer spectrophotometer will give the Rota facility full capability for testing oxygen samples for ships and stations in the Mediterranean.

A new plant will be added for the production of liquid oxygen and one of the plants will be removed from the trailer and installed in the building. The building itself will be enlarged to accommodate both plants. Completion of the expansion is scheduled for the early part of 1968.

60,000 Safe Flight Hours

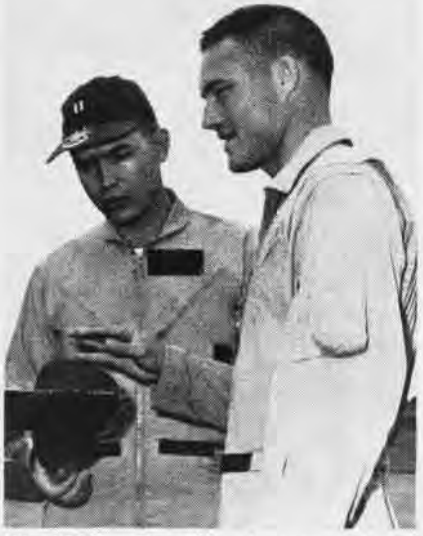
'Fighting Seahawks' Set Record

The VF-126 *Fighting Seahawks*, NAS MIRAMAR, recently logged their 60,000th accident-free flight hour in sweptwing jet aircraft, utilizing the TF-9J *Cougar* and the recently acquired TA-4F *Skyhawk*.

Flight instructor LCdr. D. Martin, on an over-ocean flight, reported via radio to the squadron, "November Juliet 631 (plane number) on top at 60,000 hours."

Previous highs of the 50,000th and 55,000th accident-free flight hour were set by VF-126 in 1966.

Led by Cdr. R. E. McJunkin, VF-126 provides jet instrument training for Fleet replacement pilots in the F-4, F-8, A-3 and A-6 aircraft.



IN APRIL, *the fifth of seven pairs of Apollo astronauts arrived at Ellyson Field for a two-week helo familiarization course. LCdr. John S. Bull, USN, and Capt. Jack R. Lousma, USMC, were the latest arrivals. Above, LCdr. Bull (right) talks with his flight instructor, Lt. Bennett E. Todd.*

New Course at Memphis

First Session Convened in May

NATTC MEMPHIS has announced the establishment of a new 40-week avionics officers' course. Instruction includes avionics management practices and administration (3-M), electrical and electronics fundamentals, computer theory and application, and avionics systems.

The course is offered as a whole or in four ten-week blocks.

ENGINEERS CHECK PARACHUTE CAN AND TAIL CONE ON FIREBEE II

FIREBEE II PROTOTYPE IS TESTED

THE XA-1, first flight prototype of the new supersonic *Firebee* jet target drone, has been completed and is undergoing ground tests at Ryan Aeronautical Company in San Diego. The *Firebee II* is being developed and produced by Ryan under a Naval Air Systems Command contract. Fourteen prototypes and one static test *Firebee II* are on order.

Designated XBQM-34E, the drone is a remote-controlled, versatile successor to the subsonic BQM-34A. The growth-version target is capable of supersonic flight (Mach 1.5) at altitudes ranging from 50 feet to 60,000 feet. It is highly maneuverable and will be recovered by parachute for repeated utilization over military aerial target ranges. It uses many *Firebee I* electronic components.

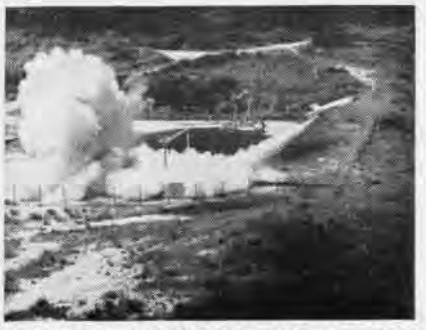
Flight testing is scheduled for early this fall at the Naval Missile Center, Point Mugu. Testing of the static test version, to measure structural stress, consists of a series of test load applications which will establish the airframe integrity of the new drone.

Qualification test drops of the sequential parachute recovery system for *Firebee II* have been made at the Navy's Parachute Test Facility, El Centro.

Work is progressing on the XA-2, XA-3 and XA-4 models of the *Firebee*.

Delivery to the Navy of the first flight test version is scheduled for August of this year.

WING-TIP ANTENNA BEING FITTED



FIREBEE I STARTS ON ITS MISSION

FLEET AIR WINGS ON PATROL

Joint Fly-Over at Sangley

Four aircraft representing three of the SEATO countries depicted the united ASW effort by staging a formation fly-over during Exercise *Siyasat*. All the aircraft operated from NS SANGLEY POINT. The combined exercises included forces of the United States, the Republic of the Philippines, Australia and the United Kingdom.

The P-5 *Marlin*, the last of the ASW seaplanes, is being phased out of the Navy, thus ending a memorable era. Seaplanes have operated in the Western Pacific for many years, most recently by VP-40. They are being replaced by landbased patrol planes.

The *Shackleton* aircraft, operated by the United Kingdom, is unique in that it has counter-rotating propellers on each of its four engines. The RAF 205 Squadron from Singapore represented the U.K. in the exercise.

The Royal Australian Air Force's 11 Squadron from Richmond, Australia, flew the P-2's. The U. S. Navy was also represented in the fly-over by a VP-16 P-3 *Orion*.

AT SANGLEY POINT, *a recent fly-over in Exercise Siyasat represented SEATO's joint effort: (from top) P-5 Marlin, RAF Shackleton, Australian P-2 and the U.S. Orion.*

NAF Cam Ranh Bay

VP-42 became the first *Market Time* patrol squadron to operate out of Cam Ranh Bay Naval Air Facility, establishing a detachment of six aircraft by the end of May. Squadron crews had been flying from the NAF since April 1, rotating with others based at the Tan Son Nhut Air Base, Saigon. Aircrews operated from trailer vans initially while frame buildings were under construction. Commander H. L. Beesley, the squadron C.O., flew the first aircraft into the new facility.

Trawler Search Ended

Iceland-based VP-10 logged 75 hours in April in search of a trawler which had been reported in trouble near the Faeroe Islands in the North Atlantic. The trawler *Nolsoyar Pali*, of Germany, had reported heavy seas during a storm. Four men had had to leave the ship in a small dinghy. Joined by a British *Shackleton* and an Air Force C-130 from Germany, the VP-10 SAR effort covered 100,000 square miles of ocean but there were no sightings. VP-10, led by Commander Karl Bernstein, has been deployed to the Naval Station, Keflavik, since January.

VP-24 at Patuxent

On July 5, the *Batmen* of VP-24 will be established in a new home and flying a new aircraft. The squadron, based at Norfolk since 1959, will be moved to NAS PATUXENT RIVER to complete a transition from SP-2H *Neptunes* to P-3 *Orions*. It is the second time VP-24 has been based at the Maryland station, having been there from 1948 to 1954. Commanded by Commander A. S. Hibbs, VP-24 commenced training for its new ASW aircraft in April.

Honors for VP-44

A beneficial suggestion paid handsomely for AT1 Robert McCutchen, VP-44, at Patuxent River. McCutchen designed a new device for cleaning sonobuoy receivers without removing them from the aircraft. His device reportedly will save an estimated $40,000 per year and contribute to better equipment performance. His squadron C.O., Commander R. D. Snyder, presented McCutchen with a check for $855 for the improvement under the Beneficial Suggestion program.

While inspectors were giving their critique of VP-44's annual AdMat inspection at a station theater, confident squadron members were installing their own estimate of their performance on the theater marquee outside (see photo). The inspectors did report, in fact, that the squadron had raised its excellent score of a year ago.

VP-44's proficiency was attested when 25 men were presented 29 awards by Rear Admiral D. F. Smith, Commander Fleet Air Patuxent.

Highlighting the ceremonies was the presentation of the Navy Commendation Medal to LCdr. Richard J. W. Smith, patrol plane commander of Crew 12, for the successful completion of "an operational mission of vital importance

to the security of the United States."

Members of Crew 12 received Letters of Commendation from Commander ASW Forces, Atlantic Fleet: Ltjg. T. P. Tyson, Ltjg. William H. McGannon, Ltjg. Bradley S. Strong, AMS1 I. D. Belden, ADJ2 Donald H. Morey, RM3 Salvatore T. Aliotti, AE3 John R. Kristich, ATN3 M. S. Kitchen, AN David L. Schmidt and AXAN Michael G. Formon.

Eleven men were also designated Aircrewman during the ceremonies.

PPC Given Medal

LCdr. Bobby Stokes, VP-45's safety officer, received the Navy Commendation Medal from Commander Fleet Air Wing 11, Captain J. H. Burton. As PPC of a P-3A *Orion* out of Bermuda, LCdr. Stokes flew an operational mission which provided "highly significant data" and aided in proving the validity of current ASW tactics.

Aircrewmen Mark Maintained

Despite post-development leaves and the demands of operational commitments, VP-6 held more than 100 aircrewmen on board through three consecutive months, establishing what is believed to be a record. For each of the months of February, March and April, the squadron counted more than 100 designated crew members. The high count was maintained through the establishment of an intensive training program immediately after the squadron returned last December from Adak, Alaska.

The entrance to the NAS BARBER'S POINT office of VP-6's commanding officer, Commander John C. Wold, has been decorated with an unusual piece of art. It is a painting of a blue shark done by Mrs. Gerald Simonson, wife of a squadron officer. The blue shark is the squadron symbol and name.

VP-49's Safety Contest

Lt. Charles R. Paty, VP-49 safety officer, has initiated a safety contest in the P-3A squadron, currently deployed at Kindley AF Base, Bermuda. All squadron personnel are eligible to submit articles on safety to a board composed of the C.O., Commander R. T. Lemon, the operations officer and Lt. Paty.

Not only will cash prizes be given the three winners, but also the articles will be submitted to *Approach* for possible publication.

VP-49 members should be well qualified to speak on the subject of aviation safety. As of May 1, 1967, the squadron had run up a total of 44,000 accident-free hours.

Welcome Back

After a three-week deployment to Agana, Guam, Crews 7, 9 and 11 of VP-9 returned to Moffett Field.

At Guam, the crews conducted antisubmarine patrols, shipping and island surveillance flights and maintained a ready alert/SAR aircraft while logging nearly 300 flight hours in their P-3B *Orions*.

In a message to the VP-9 detachment, Rear Admiral H. V. Bird, Commander Naval Forces Marianas, commented on the professionalism of the crews.

Cdr. R. B. Machon is VP-9 C.O.

VP-7 Deploys to Sicily

The reins of VP-7 changed hands early in May when Commander J. R. Swadeber became the new C.O. He relieved Commander A. N. Fowler.

About the same time, the squadron began departing NAS JACKSONVILLE for Sigonella, Sicily, for operations with the Sixth Fleet.

Winners Again

On May 1, 1967, Lieutenant Colonel M. F. Bennett, USAF, commanding officer of Detachment 14, Twentieth Weather Squadron, presented the PIREPS (pilot's written report on visual weather) Award for the month of April to Commander Allan H. Balch, VP-46 C.O. In the three months out of four since the squadron has been stationed at Naha, VP-46 has won the monthly award by submitting the greatest number of PIREPS (NANEWS, May 1967, page 28).

Since PIREPS constitute approximately 70% of the weather information received by weather stations across the western Pacific, they are needed to complete an accurate weather picture.

DURING INSPECTION, *Patrol Squadron 44 decorated the station theater to state their own evaluation of their performance.*

CDR. WOLD *with Mrs. Gerald Simonson, an artist and wife of a VP-6 officer, who painted the blue sharks to honor the squadron.*

SELECTED AIR RESERVE

ARGENTINIAN *guests at Alameda are briefed on where to go and what to see during three-day visit to San Francisco and Bay Area.*

AS PART *of the tour of NARTU Jacksonville, Captain Simonsen explains the features of a Grumman Tracker to Major General Maroun.*

Argentinians' Visit

Four officers and six enlisted men of the Argentine naval aviation forces were recent guests of NARTU ALAMEDA. The ten "south of the border" guests were given a tour of the Bay Area.

The group came to Alameda from NAS LOS ALAMITOS where they had participated in eight weeks of ASW training.

In the photo above, Captain J. M. Hestilow, NARTU C.O., looks on as Commander Bain S. Allen, X.O., traces points of interest in the Bay Area on the map. Argentinians (left to right) are Chief Victorino Melgarelo; radioman first class Alberto Fratti; Senior Chief Ruben Arro, plane captain; radarman first class Juan C. Sanchez; and ordnanceman first class Hector Ataya.

All Navy veterans, the ten visitors reside in Bahia Province, Buenos Aires, Argentina.

Assistant SecDef at Jax

Major General Autrey J. Maroun, U.S. Army, Deputy Assistant Secretary of Defense for Reserve Affairs, recently toured NARTU JACKSONVILLE. He was accompanied by Rear Admiral Russell Kefauver, Assistant Chief of Naval Operations for Naval Reserve.

The visit was part of a tour of all the aviation and surface reserve activities in the 6th Naval District.

General Maroun and his party were given a command briefing by NARTU skipper, Captain Carl D. Simonsen. The tour covered all phases of training.

ESCORT SHIPS *Whitehurst and Brannon steam in antisubmarine exercise as a Seahorse and Tracker search for "enemy" submarine Sabalo. Olympic mountains loom in background.*

ASW Exercise

In one of the largest antisubmarine warfare exercises held in the Northwest in recent years, surface, air and submarine units of the Naval Reserve met in the Strait of Juan de Fuca off the coast of Washington in mid-April.

Over 1,000 men, most of them 13ND Reservists, manned the ships and aircraft which sought out and "sank" the "enemy" submarine USS *Sabalo* (SS-302).

Air units taking part in the exercise included VP-892, VS-891, and HS-892, Detachment Alpha. VR-893 provided services for Puget Sound news media representatives covering the exercise. All squadrons are based at NAS SEATTLE.

Other ships participating in the exercise were: USS *Brannon* (DE-446), USS *Whitehurst* (DE-634), USS *McGinty* (DE-365) and USS *Marshall* (DD-676).

Captain R. G. Williams, Jr., USNR, Commander, 13ND Reserve Division, headed the ASW exercise.

Reservist of the Year

AT1 David W. Altdorfer of VS-864 has been named Naval Air Reservist of the Year for 1966 at NARTU NORFOLK. The award was presented by Norman C. Willcox, president of the Hampton Roads Council of the Navy League at the NARTU's Annual Military Personnel Inspection.

The criteria for the award are efficiency, reliability, effectiveness, military behavior, leadership and supervisory ability, military appearance and community relations.

Although Altdorfer received high praise in all categories, his efficiency as an aircrewman aboard the S-2D *Tracker* was truly outstanding. Instead of qualifying as an aircrewman in the 18 months allowed, he did it in one year. In addition, he changed his rate from heavy equipment operator to aviation electronics technician at the same time.

Vietnam Airlift

Recently, VR-724 boarded three C-118's at NAS GLENVIEW for the flight to Barber's Point and two weeks of active duty for training. En route, two of the C-118's stopped at Pt. Mugu to pick up priority cargo for delivery to Vietnam.

At Barber's Point the crews for the flights farther west were chosen. One aircraft remained in Hawaii. The other two aircraft made cargo delivery shuttle flights from Cubi Point to Da Nang. From Da Nang they flew to NAS ATSUGI, Japan, and a 30-hour rest.

Reserve and active duty crews from Glenview and other stations in the Naval Air Reserve Training Command have been making these trips for almost two years. Thousands of pounds of priority cargo have been delivered to Vietnam by these volunteer crews.

TWINS *George and Milan Alexander time each other for typing speed at the Naval Air Reserve's Personnelman School, NAS Olathe. Both enlisted at NAS Grosse Ile in December 1966 in the Six to Ten-Month Program.*

Annual Training

This year, VF-931, home-based at NAS WILLOW GROVE, Pa., went to MCAS YUMA for its 14 days of annual training duty.

Approximately 150 officers and enlisted personnel took part in the exercise. During the training period, squadron pilots in F-8 *Crusaders* flew gunnery exercises, navigational hops, night-flying and bombing and strafing runs.

Enlisted support personnel of Naval Air Reserve Division 931 from the Buffalo, N.Y., training center integrated with the jet squadron for the training exercise. LCdr. Robert Hogan is commanding officer of VF-931.

Transition Training

Officers and enlisted men of HS-832, NAS NEW YORK, recently completed their two weeks of active duty training at three separate locations.

Contingents of men were airlifted to Key West and Willow Grove while some stayed at New York.

At NAS WILLOW GROVE, the men attended sonar school. At Key West, other squadron personnel received special instruction on the operating components of the SH-3A. At New York, each day after classes, the men flew their helo's out over the Atlantic for on-the-job training.

The squadron, led by Commander John J. Powell, is transitioning to SH-3A *Sea Kings*.

Dengler Honored

The Aviation Commandery of the Naval Order of the United States recently presented Ltjg. Dieter Dengler, USNR, with the organization's Naval Air Reserve Award for his "outstanding contribution to Naval Aviation."

In presenting the award, Vice Admiral William A. Read, USN (Ret.), praised Ltjg. Dengler's heroic escape from a prisoner-of-war camp in Southeast Asia. He cited the exemplary determination and courage of the young officer during the harrowing experience.

Some 250 active, reserve and retired Naval Aviators constitute the membership of the New York City Aviation Commandery.

AE3 DARIO PEREZ *helps load tires bound for Da Nang air base. Tires were part of priority cargo airlifted by VR-724's Liftmasters.*

VADM. READ *presents Ltjg. Dengler with the Naval Air Reserve Award. Blue tie with gold wings is gift of the Aviation Commandery.*

AT SEA WITH THE CARRIERS

PHOTOGRAPHY *obtained by Heavy Attack Reconnaissance Squadron Seven shows MIG's burning on Kep after the field was struck by A-4 Skyhawks from the USS Bon Homme Richard. The RA-5C photo Vigilante flew over the target after the attack had been carried out.*

PACIFIC FLEET

KITTY HAWK (CVA-63)

Kep, an operational communist MIG airfield in North Vietnam, was hit twice April 24 by jet aircraft of the Seventh Fleet attack carrier striking force. This support base for MIG-15 and MIG-17 jets was built by the Japanese in WW II.

All-weather A-6 *Intruders* and A-4 *Skyhawks* from the attack carrier USS *Kitty Hawk* teamed up and struck the MIG base, 37 miles northeast of Hanoi and about the same distance from Haiphong.

Forming the strike force were A-4 *Skyhawks* of VA-144, A-6 *Intruders* of VA-85, and F-4 *Phantoms* of VF-213 and 214. Attack Squadron 112 flew the flak suppression missions.

The Navy pilots hit and reported moderate damage to the 7,000-foot runway, control tower, maintenance and other support buildings. They also reported destroying a number of flak, surface-to-air missile sites and aircraft revetment areas.

Two MIG-17's were downed by F-4 *Phantom* pilots from VF-114 who were providing fighter cover for the attacking A-6's and A-4's.

Pilots returning from the strike reported that the flak, MIG and SAM activity was the worst they had ever encountered.

BON HOMME RICHARD (CVA-31)

Kep was struck again by carrier-based pilots from the *Bon Homme Richard* whose mission was to cripple the airfield's operational capabilities. Seven MIG's spotted on the field were primary targets.

Three MIG's on the ground were confirmed destroyed. Photo recon pilots also reported that all bombs landed in the target area which covered the airfield's complex.

The strike leader, LCdr. Paul Hollandsworth, flying a *Skyhawk* from VA-76, dropped his 500-pound bombs on a group of MIG aircraft on the ground, getting two of the planes with a single hit.

As the other attacking *Skyhawks* swept in on the airfield, they were met by four MIG's in a dogfight that caused the communists an additional two MIG's downed and one confirmed damaged.

All strike aircraft, which included Attack Squadrons 76 and 211 and Fighter Squadrons 24 and 211, returned safely to the *Bonnie Dick*.

Senior Chief Gunner's Mate George L. Maginnis, Chief Master at Arms aboard the *Bonnie Dick*, retired May 1, 1967, after 26 years of continuous duty. He was one of the few remaining "old hands" of the China Station and a veteran of four wars. In 1935 he served on the Yangtze River Patrol. Asked to be a consultant for the movie version of "The Sand Pebbles," he was unable to serve because he was at sea.

BENNINGTON (CVS-20)

As the antisubmarine carrier under the command of Captain Richard Graffy was one day out of Sydney, Australia, on her way to participate in the 25th Commemoration of the Battle of the Coral Sea, her 98,000th landing was made by Ltjg. H. N. Elliott in an S-2. His copilot was LCdr. K. W. Johnson.

CORAL SEA (CVA-43)

Ninety-four combat awards and other citations earned while embarked in USS *Coral Sea* were presented by Captain Frank W. Ault, CVA-43 C.O., to members of CVW-2 at NAS MIRAMAR early in May. Four officers, two enlisted men of CVW-2, 31 officers and 23 enlisted men of VF-154, and 22 officers and 12 enlisted men of VF-21 were the recipients.

Reports of the February advancement exams indicate that *Coral Sea's* enlisted men have set an excellent record. Of the 767 men who took the exam, 477 advanced in rate—62 percent of the total.

CONSTELLATION (CVA-64)

Operation *Blue Coral*, in which CVA-64 participated, honed to the fighting edge the *Blue Diamonds* of VA-146 who came aboard for a training period before deploying for their seventh WestPac tour. The pre-deployment readiness exercise simulated the combat pace of operations in which CVW-14 will be involved. One of the high points of the exercise took place when Lt. "Bonny" Baker, a *Blue Diamond* combat veteran, scored a direct hit on a target ship, sinking it immediately. After the exercise, the *Blue Diamonds* returned briefly to NAS LEMOORE.

ORISKANY (CVA-34)

On March 28, Commander Burton H. Shepherd, CVW-16, flying an A-4E *Skyhawk* aboard the *Big O* off the coast of California, made the first landing aboard since *Oriskany's* tragic fire off the coast of Vietnam October 26, 1966.

On May 9, LCdr. Al Stafford of VA-163 made the 120,000th arrested landing on the *Oriskany*.

The *Oriskany*, again in operation, is being readied for her third combat cruise to Vietnam. The ship has been undergoing extensive repair at Naval Shipyard, Hunter's Point, San Francisco.

RANGER (CVA-61)

Ranger's recent multimillion dollar overhaul at Bremerton, Wash., included installation of the naval tactical data system (NTDS), a maintenance material management (3-M) system, updated communications gear and new refueling transfer equipment.

The crew's lounge has been redecorated and the ship's entertainment and television system modernized and expanded. Berthing for the crew has been improved substantially by the construction of three new berthing compartments which will accommodate over 700 men.

PROPELLER *blades of an A-1 Skyraider frame an A-4 Skyhawk aboard Bonnie Dick.*

ENTERPRISE (CVAN-65)

The evening of April 23, fast-acting fire fighters from the *Big E* used their equipment and knowledge to help extinguish a blaze aboard the attack cargo ship, USS *Seminole* (AKA-104). Serious damage to the ship was averted and there were no casualties. The *Enterprise* sent 44 men and two officers headed by Warrant Officer H. T. Yarznbowicz, to assist the *Seminole*. Dense smoke from burning tires, cots, crates and electrical wiring insulation hampered the fire fighters. Yarznbowicz and a fire fighter from the *Seminole* donned oxygen breathing equipment and fought their way through the smoke to locate the fire. Once found, it was quickly extinguished.

Rear Admiral Roger Mehle, ComCarDiv One, notified the *Enterprise*, "The fine and rapid response in rendering assistance to *Seminole* has been noted with pride. Well done."

HANCOCK (CVA-19)

The *Fighting Hannah*, the oldest attack carrier in that status on active duty, undertook steady attack missions launched from the Gulf of Tonkin shortly after she celebrated her 23rd anniversary.

With CVW-5 embarked, the carrier returned to Yankee Station the end of April after a short respite and immediately embarked on a series of attacks on enemy targets in North Vietnam.

On April 30, Lt. Robert G. Lyon, Jr., landed his F-8 *Crusader* after an early morning recovery of aircraft that had been launched the night before. As he was getting out of his plane, the captain's voice came over the loudspeaker, "Congratulations, pilot 207. You have just made the 100,000th landing."

Later the same day, there was a party held on the flight deck which, of course, included a cake: a long, multi-layer model of the *Hancock*.

Commander W. A. Gureck, VF-53 C.O., upon returning from his 150th mission over Vietnam, chalked up his 600th carrier landing.

ENSIGN *Kenneth P. Comina (left foreground) is carefully following the path of an incoming aircraft on his scope aboard USS Hancock.*

FIREMAN *Apprentice T. G. Spigelmire (L) shows his father, SK1 E. L. Spigelmire, the place he calls "home" aboard USS Princeton.*

PRINCETON (LPH-5)

To launch Operation *Beacon Star,* a squadron of CH-46 *Sea Knights* for the first time in history landed Marines from an off-shore LPH in a combat situation.

"This opens a new era for the assault carrier," said Captain Tazewell Shepard, Jr., commanding officer of the *Princeton,* "for the speed and capacity of the CH-46 provide a major advance."

Marine Helicopter Squadron (HMM) 164 drew the flying honors, and the Second Battalion Landing Team, Third Marines, shared the "first" with the *Princeton.*

Operation *Beacon Star,* which began on April 22, opened approximately 20 miles south of the DMZ.

Fireman Apprentice Thomas G. Spigelmire, serving in *Princeton,* had a surprise when he walked into the ship's engineering log room not long ago to discover his father waiting for him.

His father, SK1 Edgar L. Spigelmire, had traveled over 300 miles up the coast of Vietnam to surprise his son.

As a supply adviser to the junk force repair facility at Na Trang, the senior Spigelmire heard that the *Princeton* was operating farther north in support of Operation *Beacon Hill One.* Determined to see his son, he took five days leave, went aboard a transport flight to Da Nang.

From there he rode a *Swift* boat and came aboard the *Princeton.* A few minutes later, he was seeing his son. The four-day visit gave the two a chance to catch up on their year apart.

ATLANTIC FLEET

AMERICA (CVA-66)

ComNavAirLant, Vice Admiral C. T. Booth, visited the *America* to present the ship the Battle Efficiency E Award.

Admiral Booth singled out five

VADM. *John Hyland, Com7thFlt, with Capt. H. P. Streeper, ship C.O., aboard Hancock.*

TWO FIGURES *work industriously outside the bridge of the USS Enterprise as they paint an "E" on the superstructure to signify the carrier's winning the Battle Efficiency E.*

ABOARD ATTACK *aircraft carrier, USS Shangri La, Commander William J. Brandell, Jr., VF-13's executive officer, looks on as his F-8 Crusader is bridled for the 46,000th launching from the starboard catapult. AB2 Gale Abresch announces milestone on card he holds.*

departments for their outstanding performance in helping with the "E" for *America*. In flight deck ceremonies aboard the carrier, currently deployed with the Sixth Fleet in the Mediterranean, Captain D. D. Engen, *America's* C.O., accepted the plaque.

On the same occasion, Admiral Booth presented Commander Forrest C. Ozburn, Jr., C.O. of VF-102, a unit of CVW-6, the Battle E Award for fighter squadrons.

Commander Richard C. Boyd has relieved Commander Robert E. Oechslin as commander of CVW-6.

FORRESTAL (CVA-59)

When Commander Frank Cramblet, X.O. of VA-65, touched his A-6 *Intruder* on the deck, he became part of *Forrestal* history. This was the 122,000th landing. Riding with him was Ens. Peter Larsen.

SARATOGA (CVA-60)

According to figures released by the U. S. Naval Weather Service, the USS *Saratoga* Weather Office topped the Fleet with 6,136 surface observations last year, with only 4/10 of one percent discrepancy. This was good enough record for second best in the Atlantic Fleet and a tie for fourth throughout the Navy.

LCdr. James H. Flatley III climaxed his two-year tour of duty with CVW-3 aboard the USS *Saratoga* by making his 800th carrier arrested landing April 17. LCdr. Flatley, LSO on *Sara*, made the landing in a Douglas A-1H *Skyraider* assigned to VA-176.

During her current Gitmo training and readiness cruise, Lt. Walter W. Niebuhr and copilot Ens. Herman F. Luscher, of VAW-121, made the 116,000th landing on *Sara's* flight deck in an E-1B.

The 117,000th arrested landing was made by LCdr. D. L. Glunt, VA-216, in an A-4B; the 118,000th landing was made by Ltjg. C. M. Hertzlef, VF-31, in an F-4B.

F. D. ROOSEVELT (CVA-42)

Ninety-nine awards for action in Vietnam aboard the USS *F. D. Roosevelt* were presented to aviators of Oceana-based VF-14 and VF-32 in ceremonies held at the Virginia Beach air station. Commander J. H. Koach, VF-14 C.O., received a DFC, and 65 air medals were awarded for specific missions.

SHANGRI LA (CVA-38)

Another milestone was passed in the attack carrier's history when an A-4E *Skyhawk*, flown by Ltjg. Don Burns of VA-83, made the 84,000th landing.

On April 20, an F-8 became the 46,000th aircraft to be launched from the starboard catapult of CVA-38. It was piloted by Commander William J. Brandell, Jr., VF-13's executive officer.

RANDOLPH (CVS-15)

Despite high winds and heavy seas, which made hovering difficult, Lt. Lyle Lewis of HS-3 took a USS *Garcia* (DE-1040) crewman who had suffered a serious head injury back to the carrier for medical assistance. The patient was delirious during the trip to the carrier and crewmen took turns to keep him calm. The patient made a good recovery within a week.

INDEPENDENCE (CVA-62)

The men of the Navigation Department, eligible for advancement to quartermaster third class, took the Advancement in Rating Test and made a clean sweep. So *Independence* now has ten new QM3's.

WASP (CVS-28)

Ltjg. Robert T. Isler was designated Carrier Antisubmarine Plane Commander (CAPC) and became a centurion at the same time. Upon completion of his check flight for CAPC, he landed aboard *Wasp* to log his 100th landing.

FORRESTAL NOW IN FIGHTING TRIM

By JO3 John J. Mahan, Jr.

FORRESTAL MAKES WAY UP ELIZABETH RIVER TO NORFOLK NAVAL SHIPYARD

THE USS *Forrestal*, commanded by Captain John K. Beling, returned to sea for refresher training in Guantanamo in March after a nine-month overhaul, the longest in her 11-year history. Immediately thereafter she entered the Norfolk Naval Shipyard again for a tune-up to eliminate certain "bugs" uncovered in the Guantanamo operation.

After the tune-up, *Forrestal* steamed to the Atlantic Fleet Weapons Range to play a major role in Operation *Clove Hitch III*, a joint Army, Navy, Marine Corps, Air Force exercise off the island of Vieques, Puerto Rico.

The overhaul, which required 460,000 man-days of labor, extended from the main machinery spaces deep in the ship to the antiquated after-mast which was removed. Every single item aboard was checked, cleaned, disassembled, repaired, reassembled or replaced as needed.

Nor was interior decoration neglected. Color schemes for offices and compartments were carefully worked out. The new tones of beige, powder blue and other pastels are a far cry from standard gray and green.

Under the four-acre flight deck, catapult operators, who for years bore up under the terrific heat of their steam-powered machinery, now enjoy air-conditioning.

Foremost among the innovations installed during *Forrestal's* yard period was the naval tactical data system (NTDS). Only a few years ago, when a radarman detected a pip on his long-range, air-search scope, he waited another few sweeps to confirm his suspicion. After four or five minutes, which were needed to calculate the bogey's course and speed, the information was passed to the men at the plotting board. The force commander evaluated the situation and ordered a fighter intercept. That was in 1960.

Today, upon detecting a similar pip, the radarman pushes a button which informs a computer that there is a target. Two sweeps later, a second button initiates a swift chain of events. In less than a second, a digital computer calculates the bogey's course and speed. Within a minute, a jet interceptor, vectored by the controller, streaks off in hot pursuit of the target.

MANNING NTDS RADAR REPEATER

Forrestal's combat information center (CIC) has at its core four modern UNIVAC digital computers similar to many of those used by large industries and corporations. Special consoles, digital read-outs and other auxiliary devices transmit tactical information between personnel and electronic sensors to the high-speed computers. Large amounts of tactical data involved in naval force maneuvers are stored, manipulated and made available in fractions of a second to those in command. Thus, Rear Admiral Harvey P. Lanham, ComCarDiv Two, at his vantage point in CIC, can direct his force with confidence, for all the information of a tactical nature is effectively organized and presented to him instantaneously.

Forrestal's integrated operational intelligence center (IOIC) is the new tactical "brain" for the collection, interpretation and dissemination of intelligence for the ship itself, the flag staff and the embarked air wing. IOIC is filled with film processors, film viewers and automatic data processing equipment. Assisting in the work are the new data systems technicians.

Much of the intelligence task is accomplished in the mission-planning area where air intelligence officers, supported by enlisted ship's company and air wing crew members, brief and debrief air crews on their various missions.

A-7A Unit is Operational

VA-86 Home-Based at Cecil Field

On June 1, VA-86, the first East Coast squadron to fly the new A-7A *Corsair II*, became an operational unit of the Atlantic Fleet. The squadron is based at NAS CECIL FIELD.

Under command of Commander Charles R. Long, the squadron had completed a seven-month deployment to the Sixth Fleet in February, flying A-4 *Skyhawks*, before commencing the *Corsair II* program.

With a complement of 26 officers and 275 enlisted men, VA-86 is now preparing its 14 new aircraft for an at-sea period in USS *Independence*.

Another WAVE 'First' Cited

Completes Course at Pensacola

Airman Virginia M. Rookhuysen (photo on p. 9) recently became the first woman to complete both the land and sea survival phases of the Survival School at NAS PENSACOLA.

Virginia took the training to meet the requirements of her assignment as a flight orderly aboard Navy C-54's and C-117's. While not the first woman to undergo survival training, she can, however, claim the distinction of being the first one to complete the present curriculum, which includes sea survival.

The survival school, designed to train Naval flight personnel to cope with any emergency situation on land or sea, includes both classroom and field training.

1,000 Hours in the F-4J

Logged by VF-101's Oceana Det.

The *Grim Reapers* of VF-101's Oceana detachment have logged over 1,000 flight hours in McDonnell's newest aircraft, the F-4J.

In addition to using the new plane in the roles of conventional weapons delivery and aerial refueling training, the detachment conducted the original fleet carrier operations for the new *Phantom II*. The detachment, the first Oceana-based activity to fly the F-4J, flew its first acceptance check flight on the aircraft Dec. 23, 1966.

VF-41, also based at Oceana, is the first operational squadron flying the new model *Phantom II*.

IN MAY, *a unit of the Royal New Zealand Navy's aviation force visited NAS North Island. It was a Westland Wasp helicopter, one of two which make up the fledgling air arm of the Royal New Zealand Navy. The helicopter is a five-place, jet-powered ASW type. The pilot, Lt. Robert H. Carnie, RNZN, is the first pilot to serve in the New Zealand Navy. The crewman, Sgt. C. E. Glazebrook, and all other aircraft maintenance personnel are members of the RNZ Air Force. The new helicopter is attached to the Leander-class frigate* Waikato *which stopped off in San Diego en route from a shipyard in England.*

AT NAS ATSUGI, *Japan, in May, a newly installed E-28 rotary hydraulic arresting gear was tested and certified for use. The E-28 has a greater capacity for engaging aircraft and a faster retraction than the two E-14 units located at either end of the runway. A twin-engine prop plane, the C-1A, was used to test the new recovery system, located at the midpoint of the runway. The aircraft "hit the gear" at a speed of 115 miles per hour.*

Pt. Mugu Telemetry Unique

Equipment to Save Time for User

Of all the national ranges operated by the Department of Defense, Pacific Missile Range, Point Mugu is the only one with extensive airborne telemetry (TM) capability. Five EC-121K *Super Constellations* are equipped with eight TM receivers each.

Telemetry crews from PMR have visited Australia, Peru, Guam, American Samoa, Kwajalein and Hawaii in the course of their work. Wherever the bulbous *Super Connies* land, people line up to be shown through the special aircraft and crewmen became ambassadors.

The *Super Connies* save time by transmitting to the mainland telemetry data recorded by range ships. They fly over the ships which transmit their collected TM data on an operation, then fly the tapes back to Mugu, saving days for the technicians who reduce the data for the user.

CAO Inaugurates Change

Fiscal Procedures Streamlined

On July 1, 1964, at the McDonnell Aircraft Co. in St. Louis, Mo., the Naval Air Systems Command (then BuWeps) established its first Disbursing and Accounting Branch (DAB). The pilot project has served as a prototype at five other aircraft companies and will be implemented at five more.

The DAB, a part of the contract branch of the Naval Plant Representative at the plant site, is under the administrative control of the Contract Administration Officer (CAO) of NavAirSysCom. DAB's main purpose is to maintain the current status of all funds, item by item, thus permitting CAO complete financial administration of a contract and allowing for placement of orders immediately upon receipt. DAB also makes payments to the contractor without delay.

In 1962, when the Defense Supply Agency became operational, Defense Contract Administrative Services designated which service—Army, Navy or Air Force—should administer certain manufacturer's plants. Navy was given 11 aircraft companies: McDonnell; North American, Columbus; Lockheed, Burbank; Ling-Temco-Vought, Dallas; Sikorsky, Stratford, Conn.; Vertol, Morton, Pa.; Pratt & Whitney, East Hartford; Sperry, Great Neck; Goodyear, Akron; Douglas, Long Beach; and Grumman, Long Island.

In January 1964, Rear Admiral Robert L. Townsend, then Assistant for Financial Management, BuWeps, now Commander, Naval Air Systems Command, directed the preparation of the Townsend Report. The report pointed out that there were too many duplicate records in the bureau and elsewhere in the Navy on contract status.

The Townsend Report criticized also the lag in the obligation of funds from the time the contract or addendum was placed.

As recommended by the Townsend Report, personnel in the office of the Assistant for Financial Management, in cooperation with the Navy Comptroller, devised the DAB system and set up the pilot project at McDonnell.

As an example, ASO spares requirements were previously sent to the contractor who submitted a cost proposal. CAO was not able to establish its obligations until the proposal had been negotiated. Sometimes there was a two-year lag between the request and receipt of the needed spares.

Now ASO goes directly to the NavPlantRep, who in turn issues an order to the contractor for the spares. The order is treated as an obligation and charged against committed funds. The Navy, through DAB, knows from day to day the funds obligated and any changes in the contract. There is no time lag.

In addition, the contractor no longer needs to submit his invoices to a distant Navy Regional Finance Office to receive payment for work completed. Now the contractor goes directly to the DAB office. There he and a Navy man compare invoices and resolve any discrepancies before payment is made.

In April 1965, a DAB office was set up at Grumman. North American, Lockheed, Ling-Temco-Vought and Sikorsky followed in that order. The next DAB office is planned for Vertol in August.

PERSONAL GLIMPSES

Editor's Corner

ERROR RECTIFIED. Former Naval Aviator Joseph Rubin, now a New York attorney, received a Navy Cross recently for WW II action. Although the decoration normally must be given within five years of the action, special exceptions are made. In Mr. Rubin's case, his citation of 22 years earlier had never reached the Board of Decorations and Medals. He was a torpedo pilot in the Battle of the Philippine Sea. Admiral George Luker, Commandant of the Third Naval District, made the presentation.

Man of the Year. AT1 Edward J. Kelly was selected as the first Serviceman of the Year in Memphis, Tenn. Kelly, who was Instructor of the Year at Memphis in 1966, was born December 7, 1941, Pearl Harbor Day.

WEATHER OR NOT. The former weather officer of the USS *Wasp* left the ship "under a cloud," according to the ship's PAO. Lt. Dale Brown, ordered to duty with HS-5, had predicted rain for April 25, his departure day. It snowed, instead, and he was given an escort from the ship under an umbrella.

Surfers to the Rescue. When four parachutists participating in a sky-diving exhibition at NAS BARBER'S POINT landed 100 yards offshore, surfers quickly went out and brought the wet chutists to safety. Surf boards were the quickest and most effective means for reaching the sky-divers. Sky-divers and surfers were both attending a 25th anniversary picnic at the station.

BIRTHDAY AT SEA. After he had enjoyed the "birthday special" (steak and cake) for lunch aboard the USS *Hancock* off Vietnam on May 8, Aviation Maintenanceman Jimmie McBee responded to a call from his squadron ready room. The squadron had arranged a surprise party for him and a cake had been baked for him at the request of his three daughters. The girls had written to the "cook of the ship" and asked for the favor for their dad. The girls wrote: "We will pay what the price is; also we would like it to be a surprise. It it's too much trouble or against the rules, then don't bother with it." The "cook" who opened the letter was Commander Larry Gudbranson, supply officer, who took care of the arrangements. McBee has spent two Vietnam cruises with VA-115.

Four Stripes on Strikes. Commander James L. Shipman, CAW-9 aboard the USS *Enterprise*, reported to the bridge one day in April, in response to a call on the bullhorn, immediately after returning from a strike mission over Vietnam. Captain James L. Holloway III, C.O. of the *Enterprise*, met Shipman with a handshake and an announcement that Shipman had just been promoted to Captain, USN. It placed Captain Shipman in a unique role as the only four-striper in the Seventh Fleet flying combat missions over Vietnam on a regular basis.

INTERNATIONAL HELP. On a recent sea rescue performed near Key West, Fla., the pilot of the pick-up SH-3A helicopter was British (LCdr. Victor Sirett, Royal Navy), the copilot was Canadian (LCdr. Guy McArthur, Royal Canadian Navy), and the crew members were Americans (AT2 David Pettit and AX3 Gary Bankston, U.S. Navy).

Tico Sailors Care. Upon finishing up its recent tour off Vietnam, the USS *Ticonderoga* made a scheduled stop in Japan before heading for home on the West Coast. In Yokosuka, the carrier's crew queued up and donated 730 pints of blood destined for use in the Southeast Asia area. The *Tico* donation represented about half of the monthly total given in Yokosuka.

NAME CHANGE. On April 1, the Federal Aviation Agency became the Federal Aviation *Administration*, reflecting its change of status as part of the new Department of Transportation in Washington. FAA was one of 23 agencies consolidated into the new executive department.

SURFERS IN HAWAII BRING CHUTISTS SAFELY TO SHORE

CAPT. HOLLOWAY, 'BIG E' C.O., GREETS NEW CAPTAIN

LETTERS

Green Tickets?

SIRS: On June 15, 1944, I was qualified as a Special Instrument Pilot in accordance with Aviation Circular Letter #19-44 and have maintained a "Green Ticket" without break since that date.

Is this a record or is there another "Old Timer" who has kept proficient for a longer period? I do not know the date of ACL 19-44, but I have reason to believe I was among the first to qualify.

T. H. ABBOTT, COMMANDER, USN
Operations Officer
NAS Key West, Fla., 33040

Impressed

SIRS: This is in response to the "singularly unimpressed" C.O. of VA-832 whose note you published in the April 1967 issue. He seems not to have noticed that the record claim was for a fully operational Marine F-4B squadron. VMFA-513's maximum strength during the deployment was 12 aircraft. Those who can tell the difference between an A and an F will concede that logging 820.3 hours in three weeks with 12 difficult-to-maintain F-4B's is singularly impressive.

R. E. CAREY
Commanding Officer, VMFA-513

Connie Data Needed

SIRS: To help illustrate a story I'm writing about *Connies* in military service, I need photos of WV-2's, WV-3's and R7V-1's taken during the mid-1950's to early-1960's. All material loaned will be copied and returned. In addition to photos, I'm interested in any clippings about *Connies* that your readers might have in their scrapbooks — articles from Navy newspapers, commercial publications, etc. Any assistance will be appreciated.

JOHN T. WIBLE, SSGT., USAF
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A Bit of History

SIRS: I was somewhat surprised to read on page 22 of the April issue that USS *Lexington* "has never recovered planes returning from strikes over Vietnam."

If my memory (and my log book) serve me right, I remember *Lady Lex* (CV-16) in company with *Hornet* (CV-12), *Hancock* (CV-19) and the rest of Task Force 38 doing just that very thing more than 22 years ago.

As a pilot in the real VF-11 (now 111) on board *Hornet* at the time, I can remember vividly how the great U.S. Third Fleet penetrated into the South China Sea, hitherto a Japanese lake, for strikes against Formosa, China and French Indo-China (Vietnam). As a matter of fact, one VF-11 pilot was downed by antiaircraft fire in the vicinity of Saigon and several other Air Group 11 pilots were splashed while attacking enemy shipping along the coast of what is now Vietnam.

Except for the minor lapse cited above, Journalist Williamson has done an excellent job in calling attention to an outstanding ship with an enviable history.

J. H. ROECKE, COMMANDER, USN
NAF China Lake, Calif.

Request for Historical Data

SIRS: I am doing background research for a Master's thesis in American diplomatic history. My area of concentration concerns the activities of the U.S. Navy in Turkish waters from 1914 to 1924.

I would like to establish contact with anyone who has had first-hand knowledge of the activities of U.S. Naval units during this period.

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Outstanding Record Noted

1,000 Days of VRC-50 Service

On May 2, Fleet Tactical Support Squadron (VRC) 50 marked 1,000 days of carrier on board delivery (COD) to the Seventh Fleet.

The Atsugi squadron has chalked up an impressive record of support service to carriers throughout Southeast Asia, flying 9,089 COD flights since August 5, 1964.

During the three-year period, VRC-50 delivered 2,785,780 pounds of mail, 2,346,420 pounds of cargo and 24,135 passengers, and logged 36,748 accident-free hours with 4,725 accident-free day and night carrier landings.

ENS. PETER *D. Kuc (L) is congratulated by Lt. S. H. Wade, instructor, upon his completing the 50,000th accident-free hour of flight training over a period of 955 days for VT-1's Flight 13 at NAAS Saufley Field.*

USS Roark is Launched

Ship Named for Naval Aviator

The destroyer escort USS *Roark* (DE-1053) was launched April 24 at Seattle, Wash. The ship was named for Lt. William M. Roark, USN, who was downed while on an armed reconnaissance mission over North Vietnam on April 7, 1965. Lt. Roark was awarded the Distinguished Flying Cross posthumously for his heroism.

USS *Roark* measures 415 feet in length, with a beam of 44 feet and a full-load displacement of 3,500 tons.

New Phantoms at Miramar

First to be Used in Training

The first of the Navy's newest F-4J *Phantoms* to arrive on the West Coast have been delivered to NAS MIRAMAR, piloted by the commanders of the training units which will operate them.

Captain R. E. Gallatin, C.O. of CRAW-12, and Cdr. L. S. Lamoreaux, C.O. of VF-121, flew the two new *Phantoms* from McDonnell Aircraft, St. Louis. They have improved engines, stronger landing gear, greater range, and two improved weapon delivery systems.

The F-4J will eventually replace the F-4B *Phantom*'s deployed in the Pacific Fleet. For the present, they are being used in VF-121 to train flight and maintenance personnel.

Wave Wins National Office

Post in Aerospace Medical Assn.

Captain Mary F. Keener, a WAVE officer in the Navy Medical Service, has been elected vice president of the Aerospace Medical Association. The association deals with the medical aspects of astronautics and aerospace medicine.

She is not only the first Navy woman to hold the association office, but also the first woman officer with the rank of captain in the Medical Service Corps.

Captain Keener, who has trained thousands of aviation personnel in the use of oxygen equipment, ejection seats, low pressure chambers and related areas, is an aviation physiologist. She heads the Aerospace Physiology Section at the Bureau of Medicine and Surgery.

Helicopter Combat Support Squadron Two, NAS Lakehurst, maintains detachments throughout the world, primarily aboard attack carriers of the Atlantic Fleet. Led by Commander O. E. Gercken, the squadron flies UH-2A's in performing its mission of saving lives. HC-2 made its first combat rescues in Vietnam in 1965.


Naval Aviation
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