NAVAL AVIATION NEWS

49th Year of Publication

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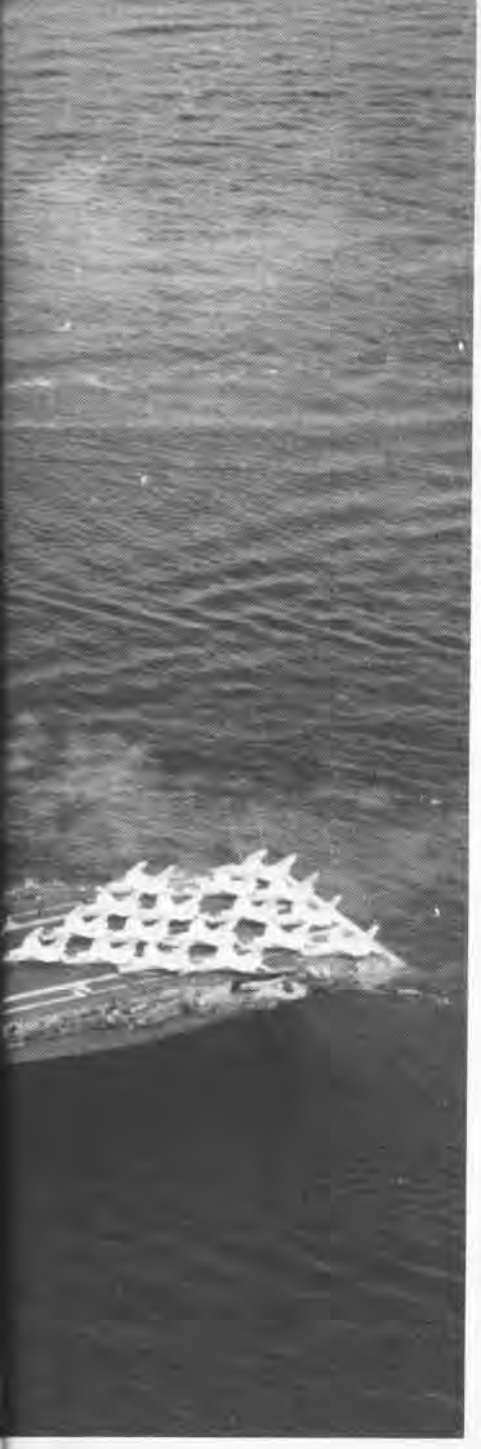
SIXTH FLEET ON GUARD

'The Soviets see the Mediterranean as strategically important—politically, economically and militarily. Their aim for the foreseeable future will be, as much as possible, to deny the area politically to the West, and, in particular, to the United States. But the Sixth Fleet is in the Mediterranean to stay! It has the capability and support to do so. Its purpose is to contribute to peace and stability in the area.'—The Honorable Paul R. Ignatius, Secretary of the Navy, May 10, 1968.



NAVAL AVIATION NEWS

FEATURES

THE STAFF

■ COVERS

On front cover, two Intruders return to USS Ranger. Above, a spell-out celebrates the Sixth Fleet's mission in the Mediterranean. Back cover shot of USS America's flight deck was taken by wing pod camera on an A-7 Corsair II coming aboard the big carrier on Yankee Station.

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NAVAL AVIATION NEWS

HS-8 Develops Fast Delivery

Torpedoes Airlifted to Destroyers

A helicopter squadron aboard USS *Bennington* (CVS-20), Helicopter Antisubmarine Squadron Eight, has devised a new, fast method of delivering torpedoes. The squadron commander, Commander E. Massa, is credited with the idea of using the helicopter for transferring torpedoes from *Bennington* to destroyers within a 150-mile radius for use in training or against submarines.

Prior to the introduction of this procedure, transfer of torpedoes could be effected only by means of conventional side-by-side underway replenishment which significantly increased the vulnerability of ships involved to submarine attack.

The new method saves time by eliminating the need for ships to rendezvous from great distances and provides a centralized torpedo repair facility.

Flatley Awards are Announced

USS Saratoga Declared CVA Winner

The Chief of Naval Operations has announced *Saratoga*, *Bennington*, and *Iwo Jima* as winners of the CVA, CVS, and LPH (respectively) FY 1968 Admiral Flatley Memorial Awards for superior performance in aviation safety. Runners-up were *Constellation* (CVA), *Wasp* (CVA), and *Boxer* (LPH).

In the official announcement, the Chief of Naval Operations noted that in spite of continuous and heavy commitments in a combat environment, there was a 33% reduction in the carrier landing accident rate for FY 1968 over the previous year.

Improved Hawkeye on Horizon

New Weapon System Boosts Capacity

The Naval Air Systems Command by a letter contract with the Grumman Aircraft Engineering Corporation has initiated development of a successor to the E-2A *Hawkeye*.

Designated as the E-2A/APS-111, the new weapon system will utilize the E-2A aircraft and feature more reliable avionic systems. It will have increased capacity for surveillance, command, and control in such diverse missions as aircraft early warning, air traffic control, data relay, search and rescue, surface shipping surveillance, strike control, and corridor control.

The new version of the *Hawkeye* will continue to carry its detection antenna in a large rotodome atop the fuselage. It will retain the basic E-2A airframe and turboprop power plants.

ON JULY 12, *after being flown from San Diego by a crew headed by Captain H. J. Tate, commanding officer of Aircraft Ferry Squadron 32, and LCdr. D. R. McGarrigle, the last SP-5B Marlin was stricken from the naval service and transferred to the Smithsonian Institution in formal ceremonies at NAS Patuxent River, Md. Vice Admiral T. F. Connolly, Deputy Chief of Naval Operations for Air, was the principal speaker. Among the dignitaries attending the farewell to the seaplane were John Nicholas Brown, Smithsonian regent and a former Assistant Secretary of the Navy for Air, and J. D. Rauth, the President of the Aerospace Group of Martin-Marietta, builder of the P-5.*

P-3 Communicates via Satellite

LES-5 Provides Static-free Channels

The *Orion* is the first Navy airplane to communicate with other units of the armed services through an ultra-high frequency (UHF) communication relay satellite, according to the Naval Air Test Center, Patuxent River, Md. The P-3A and its crew from VX-1, Key West, Fla., have been testing the value of the satellite for radio communications.

Designated as LES-5 and developed by the MIT Laboratories, Bedford, Mass., the satellite was launched from Cape Kennedy on July 1, 1967. It is non-synchronous and slowly orbits the earth at the equator at an altitude of 20,000 miles.

The UHF satellite not only provides a static-free communication system unaffected by fading and other problems common to long-range systems but also makes extremely reliable long-range communications a reality. Communications accomplished via short-wave high-frequency (HF) radio are susceptible to both static interference and fading.

The airborne terminal installed in the *Orion* and the surface terminal equipment located at NATC's Satellite Communications Test Facility at Point Lookout, Md., were developed by Electronics Communications, Inc., St. Petersburg, Fla.

Other Navy activities jointly participating with NATC in the satellite program were the U.S. Underwater Sound Laboratory, New London, Conn., and the Naval Electronics Laboratory Center, San Diego, Calif.

Marines Dedicate New Facilities

Test Units Opened at Cherry Point

Two unique testing facilities—one for balancing helicopter main rotor blades and one for testing the T-76 turboprop engine—were officially opened at MCAS Cherry Point July 15. The double dedication was presided over by Major General Marion E. Carl, CG of the station, and Rear Admiral D. K. Weitzenfeld, Naval Air Systems Command Representative, Atlantic. Both facilities are under the command of the Naval Air Rework Facility.

The Helicopter Blade Test Facility, one of four similar facilities in the world, consists of a test tower, a control building and a blade repair and storage building. In the helo test tower, repaired blades are whirled by a 3,000-hp drive motor as they are dynamically balanced.

The T-76 Engine Test Cell is the end product of numerous administrative and engineering consultations dating from February 1967 when the Cherry Point facility was designated as the sole depot overhaul point for the T-76 engine.

The tri-service North American OV-10A *Bronco* light reconnaissance aircraft is powered by two T-76 engines, manufactured by the Air-Research Manufacturing Division of the Garrett Corporation. The test system consists primarily of a propeller test cell, a dynamometer test cell, a common control room and a staging area. The system is unique in that it is the only such configured turboprop engine test cell owned by the Navy.

CNAVanTra Names Squadrons

VT-22 and VT-27 Win for FY 1968

VT-22, NAAS Chase Field, and VT-27, NAS Corpus Christi, have been selected as the top jet and propeller squadrons, respectively, for FY 68 in the Naval Air Advanced Training Command.

Winners were selected on the basis of their consistent dedication and high professional performance in all phases of Naval Aviation training. The awards are large plaques with command insignia and scroll. They are held by the winners for one year.

Commander Harry N. Key was the commanding officer of VT-22 for the period for which the award was won: Commander James H. Bergstrom was VT-27's commanding officer.

THE ROYAL *Norwegian Air Force has placed an order for P-3 Orions (artist's concept above) to be delivered early next year. Norway is the first European nation to purchase the U.S. Navy's ASW patrol aircraft*

Tailhook Reunion

The largest gathering of carrier pilots to assemble since World War II will meet at the Flamingo Hotel, Las Vegas, Nev., September 20-22, to attend the Twelfth Annual Tailhook Reunion. The Tailhook Association was formed some 12 years ago at the Naval Air Station, North Island, and for the past six years has been meeting in Las Vegas.

The program will consist of an air show, leading off with Frank Tallman and his F4B-1, a Bob Hoover P-51 demonstration, the Flying Professor, Captain Dick Schram, Bill Fornof and his F8F *Bearcat*, a firepower demonstration, the *Golden Knights* parachute team, and a flight demonstration by the Navy's *Blue Angels* – all to take place from 1030-1215 on Saturday morning, September 21.

That evening the Annual Awards Banquet will begin at 2000. Following the dinner, the Secretary of the Navy will present "200 Missions-over-the-North" plaques to appropriate pilots who attend. Admiral John J. Hyland, Commander in Chief of the Pacific Fleet, will present special Tailhook Awards to the pilots (by rank) in attendance with the most carrier landings. Admiral Thomas H. Moorer, Chief of Naval Operations, will deliver the principal banquet address. Twenty-five flag and Marine general officers are expected to be present along with about 1,200 other Tailhookers.

Because of the limited room and banquet reservations available to the Tailhook Association this year, an early submission of reservation requests ($39) is highly recommended. Reservation forms are now available. Checks should be made out to the Tailhook Association and forwarded to Commander D. S. Laird, USN, Tailhook Treasurer, VRF-32, NAS North Island, Calif. 92135.

Captain George Watkins is the chairman of this year's reunion and can be reached for additional information in the Pentagon at OX 5-0632.

GRAMPAW PETTIBONE

Cold Swim

On a dark, windy night at sea aboard an aircraft carrier, what should have been a routine plane guard flight became a nightmare.

As an A-7A *Corsair II* went too low at the ramp, frantic calls from the LSO alerted the rescue UH-2C crew to an impending crash. The *Corsair* hit the ramp forward of the main mounts and burst into flames. The pilot ejected near the #2 elevator as the cockpit section of the aircraft went over the side. The Escapac seat deposited him in the sea at about 2215.

In less than a minute, the rescue helicopter was hovering over the pilot. A high sea state (eight-foot waves at five-second intervals) and strong gusty winds made holding altitude rough and erratic. A crewman aboard the helo descended on the three-pronged rescue seat to assist the pilot. The PR3 had removed his Mk 2 life vest to doff his leather flight jacket and had not put on the Mae West again. Nor was he wearing any other flotation gear except his wet suit. His only signalling device was a strobe light that didn't work.

The crewman cut the pilot loose from his parachute, and they climbed into the rescue seat. As they were hoisted up through a high wave, the PR3 lost his balance but managed to

hold on until they reached the door of the helo.

The helo pilot, looking over his shoulder, saw two men in the doorway. Because he was having difficulty with his engines at low altitude, he started to ease out of the hover in order to gain some altitude and airspeed.

As the second crewman tried to turn the men around in the doorway to bring them into the chopper, the PR3 lost his grip and fell into the water. The helo pilot immediately tried to back down, but there was no sign of the lost PR3.

With the rescued pilot in the aircraft, the helo circled back on a random search. Word was passed to the ship, and the helo made the search until relieved by a second UH-2 from the carrier.

With both lights on, the second helo continued the search in a 60-foot, 40-knot pattern. The heavy sea state and wind made sighting difficult, but at 0110 a crewman sighted the PR3. A smoke light was dropped and, after two more passes, the helo made positive contact. The PR3 had his hands out of the water, but, in his weakened condition, he was unable to mount the rescue seat.

A crewman from the second rescue helo immediately went into the water and found the PR3 stiff and almost unconscious. It was hard to keep him in the seat because the rescue crewman couldn't find the strap to hold him in. Halfway up the hoist, the PR3 again fell into the water. The crewman followed him in and managed to get him into the seat. This time they made it to the door and, with both crewmen helping, the PR3 was placed inside. He had been in the 57-degree water for a total of two hours and three minutes.

Grampaw Pettibone says:

That's what I call gettin' a close shave without a razor. This young lad was so eager to help rescue a downed pilot that he showed almost no interest in his own safety. Such behavior ain't likely to lead to a long life. You won't find ole Gramps plungin' into the depths without grabbing every danged piece of survival gear he can make use of. This fella owes his life to the never-say-die spirit of his rescuers and the sharp eyes of a crewman.

Living Right

A young replacement pilot (RP) was nearing the end of a night radar mapping flight in an F-8E. Although he was a bit late getting off, the hop went routinely, and he completed the mapping. As he was returning to base, the pilot requested a VFR-practice ground control approach to final. When radar control was established about 30 miles out, he changed to a manual frequency. Because the lights were out on the GCA runway, he was advised that, at three miles, he was to break off the approach, switch to tower frequency and land on the parallel runway.

During the approach, things became a bit sticky. The pilot had difficulty maintaining proper position, particularly with heading control. Approaching three miles, he was holding below glide path. The controller cleared him to land on the left runway and told him to break off the approach and contact the tower. As the aircraft continued in its descent, the RP started to change radio channels. He then realized he was low, pulled back

ILLUSTRATED BY Gibbon

on the stick, and broke out of automatic throttle. Too late! The F-8 struck the earth 8,000 feet short of the runway where it disintegrated.

The *Crusader* driver was ejected through the canopy by the initial impact. Fifty minutes later, he was found some 450 feet toward the runway on his back with his parachute spread around him. Though badly banged up and hospitalized for several months, he has recovered.

Grampaw Pettibone says:

Whew! Some folks can get away with anything – and without gloves and with improperly secured leg restraints to boot. This lad may have had hypoxia, but more than likely he lacked alertness as to what was happening to his aircraft. There is certainly no place for holidays in a pilot's thinkin' when he has one of these ornery beasts strapped to his back.

Sucker Hole

One Sunday afternoon, six T-28's, in two flights of three planes each, were scheduled to depart a southeastern Air Force base for a *day* VFR navigation mission on the return to home base. Each group was made up of one instructor and two student pilots.

Bad local weather all afternoon made them decide by 1600 not to leave that day. As the pilots walked to their planes to get their gear, blue patches of sky appeared and the field went VFR. Since the earlier forecast for their destination was VFR, a quick GO decision was made, and the flight members scurried to get off.

Airborne at 1629, they completed their rendezvous and proceeded on course at 2,500 feet. Twenty minutes later, encountering some cumulus clouds up to 3,000 feet, the fliers climbed to 4,500 feet. When they were about an hour out and it started to get dark, power settings were increased to 33 inches manifold pressure (mp) and 2,200 rpm (about 185 knots). As it became darker, power was again increased to 36 inches mp and 2,400 rpm to pick-up speed. The two instructors discussed the possibility of landing for an RON, but decided to continue. A short cut was taken to bring them home faster.

The lead trio arrived in the vicinity of home base to find the weather had gone IFR with scud and haze. As the flight tried to descend below the clouds and come in VFR, the #2 man

became separated and climbed back on top (about 2,000 feet). The #1 student, though told by the instructor to climb also, saw the runway and proceeded to land. The instructor climbed back on top, joined the #2 man and brought him in on his wing with a VOR approach. The wingman broke off when the runway was sighted while the instructor S-turned and landed behind him.

The second flight, some ten minutes behind, had descended to 1,500 feet and, upon encountering scud, started a gentle descent to get clear of the clouds. Encountering more scud, they descended further. The instructor pilot, flying the #3 position, ordered a right 360-degree turn to pick up the original heading.

As the flight descended toward the field, still in parade formation, it became darker. At 300 feet and in the clouds, the #2 man found himself in a 20-degree right bank, still descending. He leveled his wings and started a climb. At this point, the leader was visible only by his lights and the instructor was nowhere to be seen.

Breaking out on top at 2,000 feet, the #2 made made contact with #1 who had also climbed on top. Course was reversed to take them back along their previous flight path. A fuel check revealed #1 had only 200 pounds of fuel remaining and #2 had only 45 to 50 pounds.

Attempts to make radio contact with their instructor were fruitless for his aircraft had struck the ground in a descending turn within three miles of home base.

The #1 man flew back along his previous route and could soon see the ground. Remembering an airfield he had seen earlier, he continued north until the lights of the field came into view where he landed at the municipal airport.

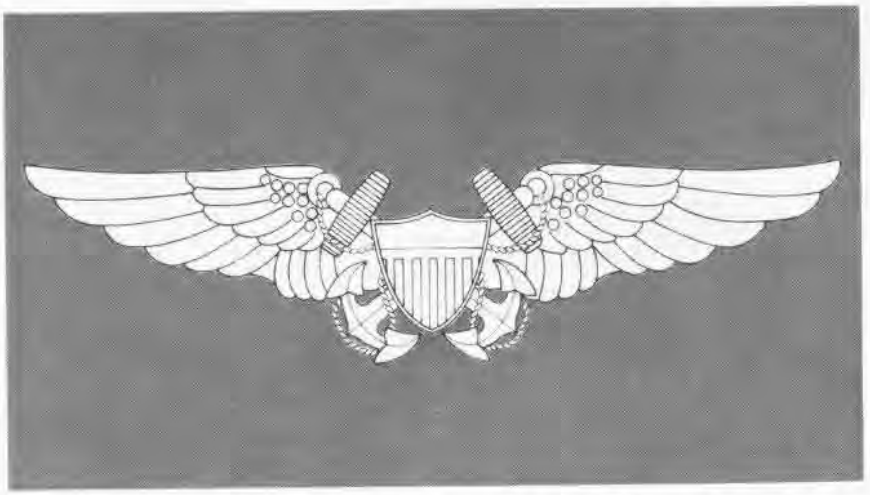
The #2 man, who was really short of fuel, climbed to 6,500 feet as he continued north looking for a place to land. He reduced power to 19 inches mp and 1,900 rpm. As he broke out from over the clouds, he saw a small town. With only 25 to 30 pounds of fuel remaining, a bailout appeared to be in order.

He then spotted a very large field in the dim light, decided to land there, switched to guard frequency, and broadcast a *Mayday*. Setting himself up at the high key, he could easily see ground references, but as he flew lower, he could hardly see the field in the dark.

On final, with the gear up, the battery, mags, and gas were turned off, the canopy was blown open, and the radio cords were disconnected. He flew over some trees that suddenly appeared ahead, then floated on across the field. On touchdown, the plane skidded, started burning and came to a stop about 150 feet from a farmer's house. The relieved student got out fast and ran to the house. The farmer's wife came out and proceeded to put out the fire with her garden hose.

Grampaw Pettibone says:

Sufferin' succotash! These guys should'a stayed in bed! There were so many errors in judgment on this flight, I didn't take time to count 'em, but they all add up to the same thing, TROUBLE. You really can't blame these poor students. After following their leaders almost over the cliff, they did a good job of salvagin' the situation.



NEW WINGS *for Naval Flight Officers are in prospect. The Chief of Naval Operations has approved the new qualification insignia for Navy and Marine Corps personnel designated as Naval Flight Officers. The new wings with two crossed fouled anchors surcharged with a shield are to replace the Naval Aviation Observer wings now worn by NFO's. The target date for the change-over is December of this year. NAO insignia becomes obsolete January 1, 1969.*

Development Contract for Allison

Will Uprate the TF-41 Turbofan Engine

An $8 million development contract has been awarded the Allison Division of General Motors, Indianapolis, to uprate its TF-41 turbofan engine for the Navy's A-7E *Corsair II*.

The 13-month development contract is made to qualify the TF-41 at an increased takeoff rating of 15,000 pounds thrust to meet other Navy carrier operational requirements. The engine, currently rated at 14,250 pounds of thrust, was developed jointly with Rolls-Royce, Ltd., the principal subcontractor.

Allison began building the TF-41-A-1 in June as the power plant for the Air Force version of the *Corsair II*, the A-7D.

Powered by the Allison TF-41-A-2, the Navy's LTV A-7E will give naval task forces a versatile attack aircraft for interdiction and close air support ashore and for strafing, bombing, and rocket missions at sea.

VAdm. Strean Heads Training

Succeeds VAdm. A. S. Heyward, Jr.

Vice Admiral Bernard M. Strean became the Chief of Naval Air Training, Pensacola, on July 31, succeeding Vice Admiral Alexander S. Heyward, Jr., who is retired.

As a Naval Aviator in WW II, VAdm. Strean commanded VF-1, attached to the *Yorktown*, and later headed Air Group 75. For his combat actions in the Pacific, he was awarded the Navy Cross, DFC with two Gold Stars, and an Air Medal with seven Gold Stars for subsequent awards.

He holds the distinction of being the first and thus far the only U.S. naval officer to have commanded a nuclear-powered surface force in an around-the-world cruise. While serving as Commander of Carrier Division Two on board the USS *Enterprise* in 1964, he was given additional duty as Commander, Task Force One. In this capacity he commanded Operation *Sea Orbit*, an around-the-world cruise of the *Enterprise*, the cruiser USS *Long Beach*, and the frigate USS *Bainbridge*, all nuclear-powered.

He has been serving in the Washington area as the Deputy Chief of Naval Personnel since July 1965. Rear Admiral Maurice F. Weisner, Assistant Chief of Naval Personnel, will become the new Deputy Chief of Naval Personnel.

A-7's Make First TransPac Flight

Three-Day Trip to NAS Cubi Point

In July, LCdrs. S. H. Wade and P. W. Gard, VA-215, made the first trans-Pacific flight in A-7 *Corsair II's*. Previously, the A-7's had been shipped by carrier to Barber's Point, then flown to Cubi Point.

The NAS North Island pilots flew the 8,600 miles in three days, logging 17 flight hours. After the first leg to Barber's Point, they island-hopped to Wake, Guam, and the Philippines.

The *Corsair II's* fan-jet engine with its high thrust and low fuel consumption makes this type of flight possible with a minimum of mid-air refueling.

'Fast Fix' Cement is Used Abroad

Speedily Repairs Holes in Runways

"Fast Fix" cement, which hardens in 30 minutes or less, is being used in Southeast Asia to fill mortar and rocket-damaged runways.

Developed for the Air Force Systems Command's Aero Propulsion Laboratory, Wright-Patterson AFB, Ohio, by the Western Company, Richardson, Texas, the cement is being tested at Air Force bases under operational conditions. The U.S. Navy has a similar program for the use of "Fast Fix" repair techniques and equipment at its facilities.

William Nabors, project engineer for the Propulsion Laboratory, says that tests at Eglin AFB, Fla., and the Navy's Port Hueneme, Calif., facility, showed that the cement sets quickly and provides a strength equivalent to concrete that has dried for 28 days.

A simulated aircraft with a load of approximately 58,000 pounds was successfully supported 30 minutes after the cement hardened.

Weather Gear Loaned to Japan

Duties and Functions are Transferred

The United States government has agreed to the loan of several thousands of dollars worth of Navy-owned meteorological equipment to Japan until the early part of 1969.

Since the Navy's Weather Service Environmental Detachment at Chi Chi Jima in the Bonin Islands was disestablished June 26, 1968, the Japanese Meteorological Agency (JMA) has assumed control of the facility and is continuing to provide surface and upper atmosphere observations for use by the World Meteorological Organization.

The Navy has agreed to the short-term loan in order to effect an orderly transfer of responsibilities at Chi Chi Jima. In addition to providing spare parts for the on-loan equipment, the Navy has agreed to furnish technical engineering assistance to the JMA should such assistance be required. This help would come from the Fleet Weather Facility, Yokosuka, Japan.

First in a Series
of NANews Special Reports

Some Call Him The 'Father' of Training Devices

The highly complex -- and little-understood -- business of simulation training is today a vast, multimillion-dollar operation. This article introduces a study of Naval training devices.

By JOC John D. Burlage

His name was Luis de Florez.

He was an inventor, an engineer, a mechanic, and a pilot. His talents and a few of his habits qualified him as a real-life, eccentric genius of sorts. In a lifetime of hyperactivity, he often brought his talents to bear on the problems of the U.S. Navy. Naval Aviation especially still owes him a debt of gratitude.

He was born March 4, 1889, in New York City, the son of a Spanish father and a French mother. As a child, his interest in electricity led him to string live wires throughout his parents' home, a habit that often shocked visitors – quite literally. He also became notorious for rigging such interesting devices as mechanical arms that punched people in the nose when they opened doors, chairs that were wired as "hot seats" and bells that rang at all hours of the day and night. Some of his relatives considered him a bit precocious.

At age 13 he entered an advanced institute of learning, but he spent so much time loitering in an electrician's shop around the corner that his mother yanked him out and sent him to another special school. It proved to be too expensive, so a year later he was transferred to the Foster School in Cornwall, Connecticut.

Before his educational efforts were over, he would attend many schools, one of them in Paris, acquiring along the way a Bachelor of Science degree in mechanical engineering. In the years that were to follow, he would also earn three doctorates.

While he was still at Foster, his interest in electricity broadened – to include its application to dynamite. Owners of nearby estates who prized their trees and shrubbery learned to dread visits by the young man who assaulted their fine, white birches with a loop of wire around his neck, a couple of sticks of dynamite in one hand, a battery in the other. Many thought it a wonder that his fetish for blowing up trees didn't kill him – and there were probably those who wished it would.

RADM. LUIS DE FLOREZ, USNR

By today's standards, the training devices of WW II were extremely rudimentary—but they were credited with providing massive assistance in training Navy men. RAdm. Luis de Florez' "610 synthesists" combined their talents with those of industry to create such simulation equipment as the "gunairstructor" at top left, the cockpit mockup at top center and the gunnery instructor at top right, in which trainees "shot" at targets projected on a movie screen. The trainer at right is for celestial navigation, while at far right trainees "take a trip" in a pressure chamber. On opposite page is another "gunairstructor."

He earned his baccalaureate at the Massachusetts Institute of Technology in 1912, and it was at MIT that he presented what is generally thought to be the first thesis ever given at that institution on an aeronautical subject. Then he went to work for W. Starling Burgess, a boat designer who was trying to build seaplanes. The salary was only $10 a week, but it was while he worked for Burgess that de Florez learned to fly—in a Wright B seaplane – and further pointed his future toward aviation.

That future was sidetracked for a time when he moved to another job, one not nearly so challenging but which paid a bit more. It involved damping the fires in the locomotives of the Long Island Railroad. The work was so grimy that de Florez was forced to invent an instrument for rubbing in and removing cold cream to eliminate the ash acid that bit into his skin. He called the device by the logical name "Cleanopore" and tried to peddle it to cosmetics firms, with a remarkable lack of success. Even so, the patent he obtained on the instrument was the first of many that were to follow—and those were to be on devices and methods he would be able to market.

De Florez' inventive genius made him a success when he went to work, at $25 a week, for a small organization that had for many futile years attempted to create a process which would make gasoline out of kerosene. He soon developed and patented a solution: a method called high-temperature "cracking" that revolutionized the field of gasoline manufacture and resulted in its creator being sent to England to establish the first of many cracking plants he was to build and operate.

He was still in England when WW I erupted. German aircraft appeared over the plant he managed, and de Florez became irritated when the grenades their pilots dropped began to disrupt the day's work. When the disturbances increased in intensity, de Florez – who was even then known as a man of immense and inflexible efficiency – found his irritation changing to outrage. He decided to take a look at the antiaircraft guns protecting the factory.

Surprised to discover that the guns had no sights (gunners merely pointed them in the general direction of the enemy planes and blasted away), de Florez invented the first successful antiaircraft gunsight before sundown the same day. It wasn't too long before a medium-sized *Zeppelin* fell victim to accurate fire from the factory roof.

The inventor de Florez had created his first military-oriented device. In view of what the future held for him, it seems strange the invention was one that helped shoot down aircraft.

Another invention quickly followed. "He went into a reverie one day," says one biographical sketch in what may be a masterpiece of understatement, "and came out with the flamethrower." What de Florez created in his "reverie" is credited with being the forerunner of the modern weapon with the same name and the same deadly purpose. This invention delighted the British, as did the Toluol de Florez produced. Toluol is the commercial-grade toluene, a compound similar to benzene. The hard-pressed British used it in the manufacture of the explosive, TNT.

The U.S. entered WW I and a 28-year-old de Florez returned home to work for the Navy as a civilian. Assigned to the Bureau of Construction and Repair's aviation division (this was before the Bureau of Aeronautics was created) as inspector of naval construction (aviation), he apparently lost little time deciding airplanes could stand some improvements. Before he was through, he would be credited with inventing more than 40 devices for planes and pilots, among them many still in use today. He turned 39 of them over to the Navy in a spate of generosity he later said he never regretted.

He also continued to fly, mastering no fewer than six fixed-wing aircraft plus blimps and kite balloons.

His association with Naval Aviation, while apparently most beneficial for the service, was frustrating for de Florez. Too young to be given a commission commensurate with his responsibilities, so the story goes, he decided he wanted to be a Navy officer anyway. He joined the Naval Reserve after the Armistice.

He also began to buy and fly his own planes, earning his pilot's license in 1931 and his commercial pilot's ticket the following year. His interest in aviation increased over a ten-year period; he flew dozens of different planes, participated in races, and became an aerobat. But that wasn't enough; in 1939 he decided he wanted to be a Naval Aviator. He was 50 years old at the time.

For de Florez, the fulfillment of his desire was a very simple matter. He suggested to the Bureau of Aeronautics that he be called to active duty and be given his wings. Gently told that he was perhaps considering a new career a bit late in life, he felt obliged to request the assistance of his former roommate at MIT, Charles Edison, who commanded a certain amount of respect as Secretary of the Navy.

The net result was that de Florez was called to active duty in April 1940 as a lieutenant commander. Next stop for the potential Naval Aviator was Pensacola, where the story is told that he made a successful approach and landing (at the controls of his plush, personal plane) in weather so bad that everything else was grounded and announced to everybody in sight that he was ready to start flight training. A biographical sketch says he completed the rugged, 11-month flight training course in seven weeks (another story about him says six weeks), but it's possible the training he received comprised an abbreviated syllabus BuAer was trying to create about the same time. At any rate, de Florez won his wings June 29, 1940.

After a month's indoctrination aboard an aircraft carrier, he was ordered to Washington, D.C. He was now a commander, but he was still earning something less than the $100,000 a year he had commanded in civilian life as a consulting engineer for several oil companies. He became special assistant to Rear Admiral John H. Towers, then chief of BuAer.

It was about this same time that the Navy was beginning to take a long, hard look at the British method for training the crews of aircraft without actually having the aircraft available: synthetic training devices. (The British had in turn borrowed the concept from the Germans, who used mockups of guns and tanks to train the awe-

some *Wehrmacht* military machine before the munitions industry was able to turn out actual weapons.)

The British Air Training Command, desperate for some method to teach pilots, gunners, and other flight personnel how to handle aircraft that weren't even built, had turned to scientifically planned training devices that would synthesize operational and combat conditions without leaving the ground. Inside the devices, English flight crews were put through their paces under simulated conditions fairly close to the real thing—at least, as far as what went on in the cockpit was concerned. Simulation of the combat environment taught them something of the complicated skills they would need later.

Nobody thought synthetic training would replace reality, of course, and there was considerable opposition to the whole idea. But proponents were able to convince the British high military command of the value of training devices by pointing out that their use would do more than give student flight crewman an idea of how to handle airplanes: Trainers would also permit the release of sorely-needed aircraft for the war.

It is generally conceded that simulation training was of considerable help to the English in the Battle of Britain. Well versed flight crews were able to leave the training environment, climb into operational airplanes, and enjoy a favorable kill ratio over the highly touted *Luftwaffe*.

There is strong evidence that the Navy became acquainted with synthetic trainers long before the early 1940's. Photos are on file today that show a very basic cockpit device being used during WW I in Pensacola, and another story in this series will include a description of an early Link trainer sold to the Navy and delivered to Pensacola in 1931. Literature on the subject, however, is almost universal in crediting the interest in British simulation training as the forerunner of an evolution that was to mean massive changes in Navy training methods—as well as another major transition in the career of Commander Luis de Florez.

The first step in the U.S. toward developing and adapting special training methods and simulation devices was made by BuAer April 30, 1941, when RAdm. Towers created a special devices desk in the bureau's engineering division and told de Florez to sit behind it.

Nothing much was done the first few months de Florez was on his new job, primarily because nobody gave him any money to work with. But on June 3, 1941, de Florez, desk and all, was moved to the Training Division and $50,000 was granted for "preliminary development work" on training devices. History has it that de Florez funnelled every cent into maintenance training films, making them the first "devices" created under his control. It was not exactly an auspicious beginning, but what was to follow would—in typical de Florez fashion—more than make up for it.

In October 1941, the man who would make the term "training device" a routine part of the U.S. Navy vocabulary was sent to England to study British synthetic training methods and to learn what he could of the state of the art. He returned an apostle of simulation training, if the "Report on British Synthetic Training" he quickly issued is any criterion. In it, he contended that:

- Synthetic training increased the quality and quantity of training by the usual teaching procedures because it provided familiarization with operational equipment to the point of instinctive response.
- The use of training devices enabled instructors to handle large groups of students effectively and to "freeze" the action whenever they felt like it so they could immediately point out student errors.
- After thorough ground training in theory and techniques was completed and instinctive reactions were developed through constant practice in training devices, crews could be sent aloft to put their knowledge and skills to use in actual conditions—with far less danger to themselves.
- Special devices meant that valuable equipment would not be tied up as training aids.

The Navy bought it lock, stock, and barrel. Simulation training had arrived, as they say. And so had Luis de Florez, for that matter.

The decision was made to expand what was now being called the Special Devices Division, and the Navy went at it in a big way: An appropriation of $1 million was obtained in January 1942; it was quickly followed by a much more generous $10 million supplement in March. By the end of the year, funds for synthetic training ran to $36,200,000. More money meant a big staff to assist de Florez, and he quickly became known as a man who hired only those with the skills and talents necessary to complete whatever work he wanted done. By the end of 1942, 125 persons worked for him.

As the production of synthetic devices began to proliferate, bigger quarters for the division became necessary. The Navy leased and remodeled a vacated automobile dealer's building at 610 H St. N. E., near downtown Washington, and moved de Florez and his synthesists into it.

The kind of training devices being created by de Florez and company during the war years covered the whole spectrum, from those needed for aviation training to those required on board ship. They ranged in cost from a few cents to three-quarters of a million dollars. Some especially interesting aviation types were:

- The first electronic flight simulator. An exact copy of the twin-engine PBM seaplane's essential control spaces, it duplicated mission and emergency conditions so well that an awkward and sometimes fatal condition that arose if an engine went out became merely a nuisance instead of cause for disaster.
- Gunnery trainers. One, Device 3A2, simulated aerial combat conditions so accurately that some veteran gunners climbed out of it thoroughly shaken.
- A mockup of the B-24 bombardier compartment. It was so exact in detail that differences from the real thing were virtually impossible to detect. (A *Naval Aviation News* article in the April 1961 issue said the "610 synthesists" even oiled certain parts of the device to make it *smell* like the real thing.)

There were synthetic instrument panels, bombing trainers, and recognition trainers. There were three-dimensional weather charts for aerographer training and a device for navigation instruction. By the end of 1943, the "Washington Emporium of Ersatz" (one wag's nickname for 610 H St.) was involved in more than 500 different projects. They included the fields of invention, research, engineering, and construction in such diverse areas as aviation, navigation, ballistics, optics, mechanics, radio electronics, photography, hydraulics and, at times, even medicine and psychology.

In that same year, more than 200 different devices and aids were being mass-produced by 250 manufacturers under contracts amounting to some $45 million. More than 230 officers were devoting all their time to the Navy synthetic training program. Altogether, about 400 persons were working at 610 H St.

In all, by the end of WW II, 610 H St. turned out more than 450 different types of training aids and had a budget in excess of $57 million. By 1944, more than 2,860,000 different pieces of training hardware were manufactured and delivered to such locations as ships, naval air stations, training centers, and advance bases.

In the midst of it all stood de Florez. "Stood" is not really the proper word, since those who knew him say he seldom stood still. The closest he came to being at rest, they say, was when he would pace back and forth. And he never walked anywhere: he ran. He is described as an extremely short, rotund man, but he was a human dynamo. He took to sporting an elegantly waxed moustache which he combed in a rather extraordinary manner: straight out on both sides, from the center. Those who worked with him believe his attention to the moustache replaced the care he might normally have given to his rapidly thinning hair. He spoke Spanish, French, Italian, and German. He contended that anybody with the knack and the training could be an inventor if he were faced with the need.

At 610 H St., he drove himself and those who worked for him. He earned either lasting admiration or instant acrimony. He involved himself in almost every phase of training aid development, from initial creation (he invented many devices himself, according to one story) to contract negotiation.

He was, in the words of one admirer, the "brilliant, benevolent dictator" of the Emporium of Ersatz.

The contributions he is credited with making to the field of training devices paid off, both for the Navy and himself. Navy men were being trained better and more cheaply than they would have been by conventional methods. A grateful service began to reward the man regarded as the one most responsible for the success of simulation in training. De Florez was promoted, first to captain and then to rear admiral. He was given the Legion of Merit, the Distinguished Service Medal, and the Distinguished Flying Cross. In 1944, he received the highly rated Robert J. Collier Trophy, given for the greatest achievement in aviation in the U.S., for his "contribution to the safe and rapid training of combat pilots and crews."

It wasn't long before he moved into a higher post: On May 31, 1945, he was named assistant chief of the new Office of Research and Inventions.

But the promotion did not eliminate him from the simulation scene. One of his last official acts before he returned to inactive duty was to supervise a move of the Special Devices Division from 610 H St. to the former Guggenheim Estate at Sands Point, Long Island, N.Y. That was in May 1946, two months after de Florez had reported that the division in 4-1/2 years of operation had processed close to 1,500 separate projects and approved about 40 percent of them for production. The efficiency of the division, he contended, was proved by the fact that only five percent of the vast sums of money made available for training devices during the war had been poorly spent.

De Florez left active duty with the accolades of the Navy, the Congress, and the public still flowing in. The tributes to simulation training were typified by a comment made by Congressman Melvin J. Maas: "After having made a complete survey of the entire Navy and Marine Corps aviation training program, I am convinced our Navy and Marine pilots now being turned out are the finest-trained in the world. I attribute much credit for this to our operational, or combat, training and to the use of training devices."

One congressional subcommittee for naval affairs said the time Navy officers and enlisted men spent in training devices represented the equivalent of hundreds of additional hours of conventional training. "The invention, development, and production of synthetics," the subcommittee reported, "has been little short of miraculous."

For the dynamic de Florez, the return to civilian endeavor (primarily as a well-paid consulting engineer) by no means meant the end of his association with Naval Aviation. The Navy had too great a need for him.

Maintaining his status as a Reserve Naval Aviator, he qualified in jet aircraft in 1950 and in helicopters in 1951. He became carrier-qualified in 1955 aboard the USS *Monterey*. During periods of active duty, he prepared and submitted official reports on jet and helicopter training. While he was about it, he also designed a helicopter trainer. Even after he finally retired from the Navy in 1956, he was recalled to duty and put in a tour at the Office of Naval Research.

It was just about six years after he retired that de Florez climbed into the cockpit of his own two-engine aircraft for a routine flight. Before he took off, he suffered a stroke. He was found unconscious in the plane which was still standing on the runway.

He died a few days later, on December 5, 1962, at the Lawrence Memorial Hospital in New London, Conn. He was seventy-three years old.

This 1944 photo is of a "recognition office" at NAS Kaneohe Bay, Hawaii, with emphasis on training devices that helped instructor explain "cone of fire" pattern.

'Biggest Feet in the 7th Fleet'

His claim to fame is a problem to 6'7" FN John E. Rietzke (R) as he compares shoe sizes with a shipmate aboard Iwo Jima. 15W shoes are hard to get. Marines produced 14W jungle boots which tore in 2 weeks. USS Ranger provided 14W black dress shoes. Tight, but they covered his feet. Rietzke's C.O. is asking Oakland Supply to obtain a size 15W.

SecNav Congratulations

Secretary of the Navy, the Honorable P. R. Ignatius, offers congratulations to Adm. Jose Moreira Maia, Chief, Navy General Staff, Brazil, upon his receiving the Legion of Merit Medal (Degree of Commander) at Pentagon ceremony.

Supporting Fire

A U.S. Navy armed gunship helicopter fires a rocket in support of two PBR's (river patrol boats) attacking enemy positions in the Mekong Delta. The PBR's & helos work together in Operation "Game Warden."

High Tail

At NAAS Fallon, Nev., an A-7A Corsair II, belonging to Attack Squadron 97, is the object of A. L. Schoeni's gift for the photographic angle of attack. The LTV photographer caught a crewman and A-7A on the flight line.

NAVAL AVIATION NEWS

. . . and views

'Moose' Downs MiG

Cdr. Lowell "Moose" Myers is greeted by Capt. T.P. Dankworth, Bon Homme Richard skipper, after downing a MiG-21 over North Vietnam. Cdr. Myers is an F-8 Crusader pilot with VF-51.

'Reflections' Down Under

First prize winner in 2nd annual photo contest of the Atlantic Fleet Combat Camera Group is entitled "Reflections." The shot, made at McMurdo in Antarctica, was taken by PH2 P. J. Romer. Forty-six Navy photographers competed.

Rumpled Skyhawk

Suddenly in trouble, the A-4E failed to clear the trees as it approached MCAS Beaufort, S.C. Despite its badly torn wings caused by the A-4's cutting off some 59 trees 30 to 40 feet above the ground, the Marine pilot managed to touch down safely.

THE ROYAL NAVY'S F-4K VERSION OF THE U.S. NAVY'S PHANTOM II NEARS THE END OF ITS DEVELOPMENT PROGRAM

British Anticipate Phantom Flying

As the British versions of the *Phantom II*, the F-4K and the F-4M, near completion of the development program, there is anticipation on the part of pilots in the Royal Navy and Royal Air Force who will be flying the famed fighter.

Not long ago, the *Black Aces* of VF-41 aboard USS *Independence* showed two RAF pilots, Flight Lieutenant John May of Number 56 Squadron and Flying Officer Don Thomas of Number 32 Squadron, the special qualities of the F-4. Both pilots are based on Cyprus where the RAF maintains several squadrons of interceptor and attack aircraft.

SINCE *January 1966, LCdr. Davies (left), a graduate of the Empire Test Pilot School, has worked with the F-4K program. Above, Lt. May, RAF, sits in rear cockpit of one of VF-41's F-4J's aboard the USS Independence.*

Lt. May, who flies the British single-seat, supersonic *Lightning* interceptor, impressed by the two-man crew concept, says, "It permits the use of a much more sophisticated radar set and allows a team to make intercepts in much more difficult situations than I can do by myself in the *Lightning*."

At about the same time VF-41 was demonstrating the F-4J, the F-4K was going through carrier suitability tests at the Naval Air Test Center, Patuxent River, Md.; radar and missile testing is scheduled at Point Mugu. Supervising the F-4K test program at Patuxent the past two and a half years has been LCdr. Brian Davies, RN. At Edwards AFB, LCdr. Davies and various NATC test pilots have been putting the F-4K through its paces with the Rolls-Royce *Blue Standard Spey* engines powering the aircraft.

The first operational F-4K's and F-4M's have recently been delivered to the United Kingdom.

Backup for the Phantom

By Frank Evans

She weighs 15 tons. When you watch her take off, you see her arched nose and down-swept stabilator separated by a bulky midriff that looks as awkward as a goose with drooping tail feathers and middle-aged spread. But this McDonnell Douglas F-4 *Phantom II* fighter-bomber can climb from a dead stop on a runway to 40,000 feet faster than a spacecraft launched from its pad. She zooms to altitudes above 100,000 feet, flies at more than twice the speed of sound, yet slows down to 135 knots to land on aircraft carrier decks.

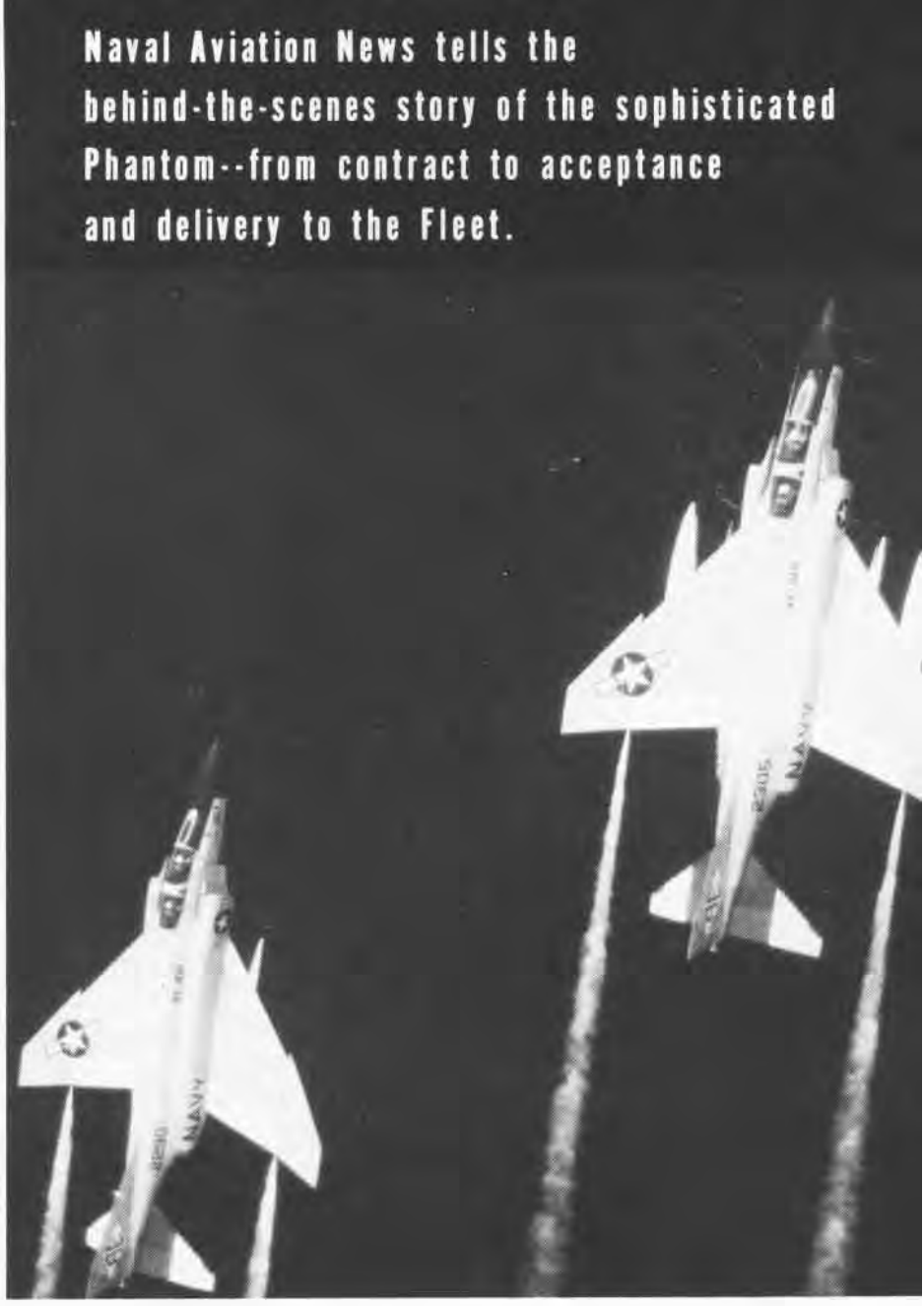
Monitoring this $2,000,000 fighter as closely as they did the earlier *Phantom I, Banshee, Demon,* much *Voodoo* is the task of the Naval Plant Representative (NavPlantRep) office personnel at the McDonnell Douglas Corporation at St. Louis. The office, second largest of 13 in the Naval Air Systems Command, was headed by Captain John C. Kane, Jr., until he was relieved by Captain A. J. Van Tuyl on July 30.

The NavPlantRep takes an almost paternal interest in each *Phantom* for his is the responsibility of the acceptance approval for each aircraft—whether it is a Navy, Marine, or Air Force version.

When the Navy first reported aboard Lambert Field in October 1940, America's involvement in WW II was still 14 months away, and the major aircraft manufacturer in St. Louis was the Curtiss-Wright Corporation which was producing aircraft for the Army Air Corps.

At the same time, a new organization, the McDonnell Aircraft Corpora-

Naval Aviation News tells the behind-the-scenes story of the sophisticated Phantom--from contract to acceptance and delivery to the Fleet.



Somewhere in the South China Sea, an F-4 is launched on a strike mission from the flight deck of the USS America (CVA-66). At right, Phantoms of Attack Squadron 102 were caught flying above the Mediterranean.

tion, consisting of James S. McDonnell and his secretary, was renting a second-floor room, down the road from Curtiss-Wright, for $100 a month.

On New Year's Eve of 1943, an admiral in the Bureau of Aeronautics called Mr. McDonnell to discuss the Navy's interest in turbojet propulsion. Eight months later, the Navy gave McDonnell Aircraft a contract to design and develop the first U.S. carrier-based jet aircraft. The design proving successful, the company received, two years later, a production contract for a single-seat, twin-jet fighter, the FH-1 *Phantom*, which became the first Navy airplane to attain a speed of 500 miles per hour. It was the first of a series McDonnell was to build for the Navy.

The *Phantom* flew its first successful takeoffs and landings on board the USS *Franklin D. Roosevelt* on July 21, 1946, just 3½ years after that call.

In 1940, the NavPlantRep office consisted of three inspectors, two officers, and four clerical assistants. Since then, it has grown to approximately 30 officers and 235 civilians, a growth closely related to the *Phantom II* and its predecessors. Take for an example the increase in production from five a month in 1961 to about three a day in the summer of 1967.

Originally, the NavPlantRep was called the Inspector of Naval Aircraft. In succession the names became Resident Inspector of Naval Aircraft (1943), Bureau of Aeronautics Resident Representative (1944), Bureau of Aeronautics Representative (1945), Bureau of Naval Weapons Representative (1959), and his present title in 1966. Through the years, regardless of

The flight deck of USS Independence (CVA-62) is packed with F-4B's of Fighter Squadrons 14 and 84 (above) which have been recovered. In the photo above, right, Lt. David A. McRae, USN, preparing to flight-test an F-4J, gets a helping hand from Flight Lt. John R. Morgan, Royal Air Force. At right, Mr. T. G. Hughes, director of the quality assurance division of the McDonnell Douglas NavPlantRep office, briefs Capt. Kane on the activities of the 80 Navy inspectors who oversee production of the F-4 at the St. Louis plant.

title, his mission has been to serve as technical representative and contracting officer for the Navy.

Before he turned his command over to Capt. Van Tuyl, Capt. Kane praised his officers for their excellence and loyalty. They include Naval Aviators who flew in WW II and Korea and carrier pilots who have served recently in Vietnam. Collectively, they can boast of one Silver Star, eight DFC's, 150 Air Medals, and over 1,900 missions over North Vietnam.

Of his civilian employees, Capt. Kane added, "I am proud to be associated with such devoted, dedicated people. Through their efforts, we have been able to make a remarkable showing with the 2,800 *Phantoms* accepted for delivery.

"The men and women on the F-4 assembly lines, the McDonnell Douglas people who literally 'build' the airplane, rate a sincere pat on the back," Capt. Kane continued. "When one remembers that there are only 80 inspectors in the office who check on the thousands of subcontractors' parts that make up the *Phantom*, one takes pride in the workmanship that the McDonnell team must have to produce the F-4."

Together, NavPlantRep and McDonnell Douglas insure the finest possible product leaves St. Louis ready for the line.

The NavPlantRep office consists of eight divisions. Four of these fulfill a support function and four serve in a technical or contract supervisory capacity. The office also has on-site responsibilities for DOD procurement.

Contract management begins in the Contracts Division and continues until a contract is completed. This group is responsible for negotiation, cost proposal review, subcontract procurement surveillance, and monitoring the government contracts in the amount of $1.2 billion held by the McDonnell Douglas St. Louis plant. If the contractor wishes to make a change or has incurred additional expense, he must negotiate his request for a modification of the contract through this division. If the government decides to make some modifications or to terminate a contract prior to completion, the contracts division handles the negotiations.

Another contract-management function is the review of contractor-submitted proposals for such items as engineering changes, spare parts, space support equipment, retrofits, termination claims, and technical publications. The contracts administered vary from the simple straight fixed-price to the complex cost and multiple incentive type.

The watchdog of the government is Quality Assurance. While the contracts

division sees that the contractor adheres to the philosophy of the contract, quality assurance holds him to the specifics. Quality assurance watches over the assembly and integration of the thousands of components required for the *Phantom II*, making sure that procedures are as free from human error as the parts are of flaws.

Because there are, inevitably, discrepancies in design or weak points in parts, the Engineering Division analyzes these shortcomings and provides the contractor with aid and data for a correction. This division maintains the contact between the user and the designer, working with the contracts and quality assurance divisions to make sure that appropriate changes are made.

The Industrial Division monitors the production effort, insuring that the number and type of aircraft come off the production line on time. This sounds simple, but consider the fact that there are more than 5,000 subcontractors that feed sophisticated components to the production line. The complexity of the job is obvious.

This division is also responsible for the government-owned property and facilities used by the contractor. Disposal of government property in excess of needs is another important function. Nearly 22,000 items valued at more than $7 million were sold or reassigned in 1966.

The largest of the supporting divisions is Administration which supervises the volumes of paper work (some 5,000 pieces of mail are received each week) that permit the efficient functioning of the NavPlantRep office.

The nerve center of the organization is the Communications Division. In addition to the flow of communications via punch-card transceiver and facsimile equipment, more than 3,000 messages are transmitted and received monthly by teletype.

The constant flow of official visitors and classified material to and from the office keeps the Security Division busy checking visitors' clearances and classified material.

In the last division, Flight Test, naval personnel put the aircraft through its final checks. An average of three flights per aircraft are made before acceptance, including a zoom climb to 60,000 feet. The officers who comprise the flight check crews are Naval Aviators who have more than five years experience in flying high-performance aircraft. To maintain proficiency, they fly regularly and are qualified regularly under Federal Aviation Administration procedures.

★ PHANTOM FACTS ★

- In 48 seconds, the *Phantom II* can climb four miles at a blinding speed to intercept enemy aircraft.
- With the throttles two-blocked, the F-4 consumes enough fuel in 60 seconds to drive an average American car over 3,000 miles, and it carries enough fuel to drive that car about 35,000 miles.
- Over 643,000 fasteners are used to hold the Phantom together.
- Flight time from St. Louis to Chicago is 12 minutes.
- Its generators can push enough power through its 14 miles of electrical wiring to supply a subdivision of 30-40 homes with enough power to operate lights, washing machines, TV's, toasters, can openers, vacuum cleaners, etc.
- And speaking of vacuum cleaners, its engines at full bore draw in enough air to collapse a typical six-room house in two seconds.
- Painting one F-4 takes two days, 36 people, and 28-1/2 gallons of paint, enough to cover seven six-room houses. The catalyzed epoxy paint withstands temperatures up to 450° F. and is resistant to engine and hydraulic oil.
- It can slow to a mere 125 knots or streak through the sky at more than 1,300 mph. For routine travel, it eases along at 570 mph for over 1,500 miles without refueling.
- On takeoff it can hold an external load of more than eight tons.
- Unrefueled range from carriers or existing suitable friendly bases allows the *Phantom* to carry its payload of ground strike weapons over 92% of the earth's surface.

* * * *

Working closely with the NavPlantRep office are liaison personnel from the United Kingdom's Ministry of Technology and Phantom Support Group. Two RAF navigators, one RAF pilot, and one RN aviator are currently assigned to flight test to assist the U.S. crews in testing *Phantoms* being built for the UK, the F-4K for the Navy and the F-4M for the Royal Air Force.

The USAF, which has bought one reconnaissance and three fighter versions of the *Phantom*, is also represented by a Resident Provisioning Team and a liaison office.

As the *Phantoms* streak across the Ozark skies, about 150 miles from St. Louis, tests are made at more than twice the speed of sound at altitudes and in areas where sonic boom damage is kept to a minimum. When complaints are received, an officer must handle them.

When the pilot finally signs the Flight Acceptance Form DD 250, the *Phantom* is ready for cross-country delivery to operational squadrons. Service pilots come to McDonnell from either coast and fly the F-4 to naval air stations. Occasionally, they fly the aircraft directly to Europe or Southeast Asia.

A follow-up on each aircraft is made. From reports sent back to St. Louis by the respective services, recommendations are made to improve the *Phantom* on a continuing basis.

It is rare when the blast of a *Phantom II* ready for takeoff doesn't bring the NavPlantRep to the window to watch the all-service fighter soaring skyward. To him each takeoff and landing means more than just another acceptance flight. Although he is interested in delivering the best product to the services, he is equally concerned with the safety of the crews that fly the aircraft.

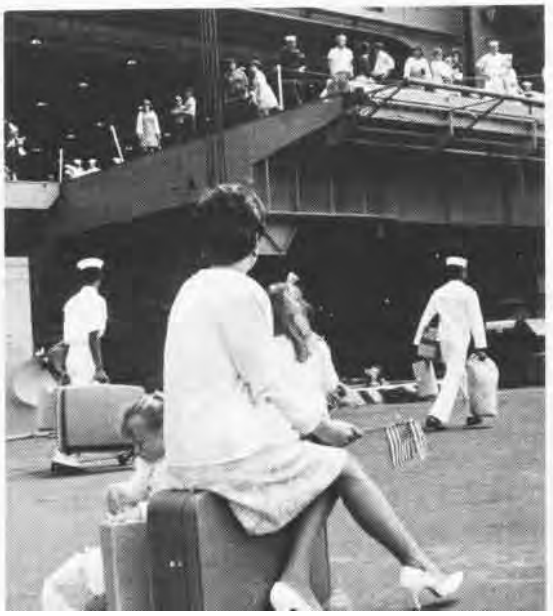
And practice safety they do. The NavPlantRep recently accepted, on behalf of his office, a Flight Safety Award from the Federal Safety Council of St. Louis. The citation covered the period from December 1, 1964, to April 30, 1968. During this time, the organization compiled 12,000 injury-free hours and tested more than 2,000 F-4 *Phantoms*.

A GREAT WELCOME FOR KITTY HAWK

San Diego staged a real wingding of a welcome when CVA-63 with Air Wing 11 returned to home port from a seven-month combat deployment in WestPac. Small boats with signs reading "Thank You" greeted the carrier while two fire boats sprayed water high in the air to symbolize the feeling of the city.

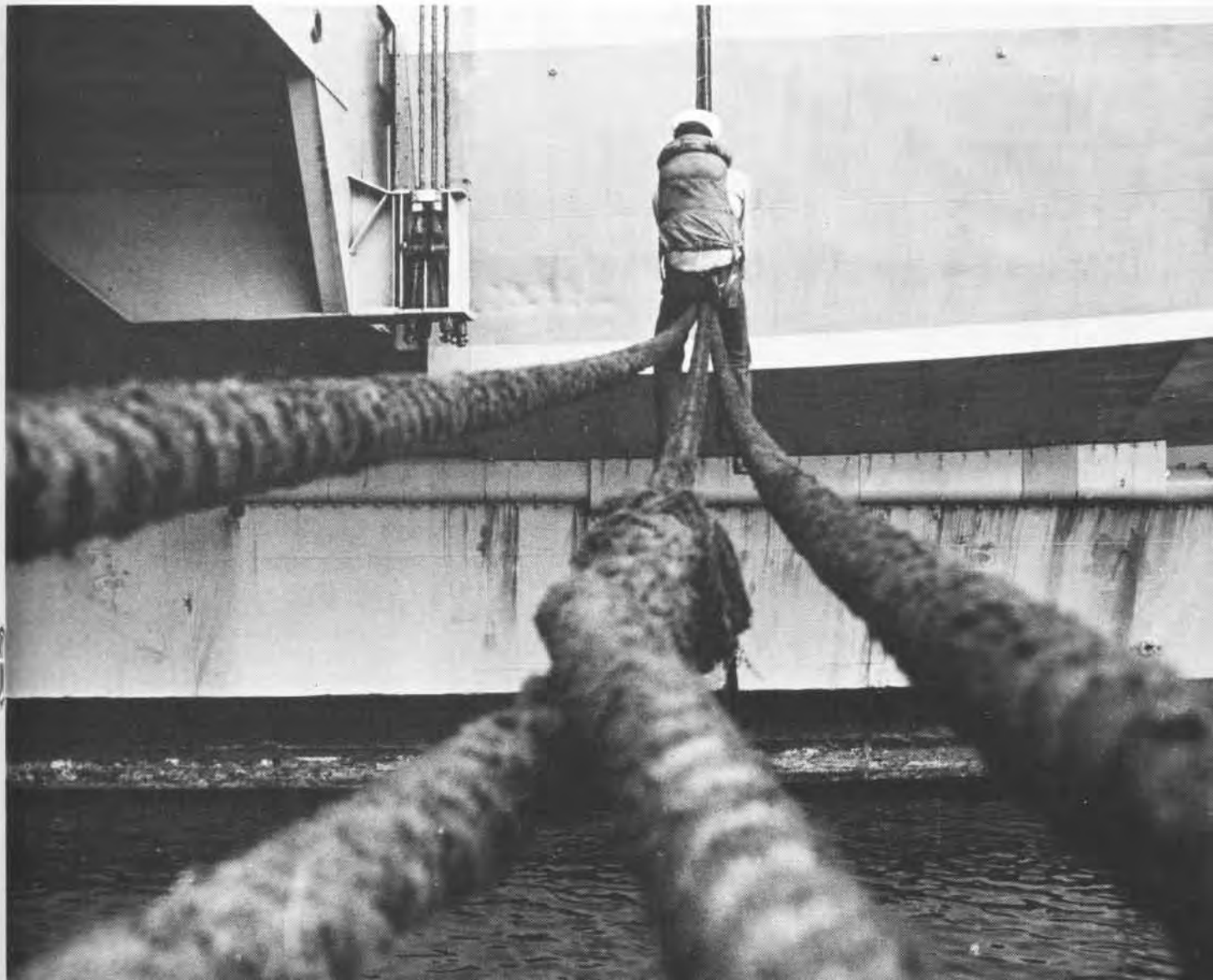
The celebration was spearheaded by the Chamber of Commerce and the downtown Lions Club with the assistance of more than 150 civic leaders and organizations. G. B. Taitt was chairman.

Also welcoming *Kitty Hawk* and her C.O., Capt. Donald C. Davis, were RAdm. Constantine Karaberis, ComFAir San Diego, RAdm. F. H. Michaelis, ComCarDiv Nine, and the Honorable Frank Curran, Mayor of San Diego, all glad the *Hawk* was home.



HER ARM *flung high in greeting, a young lady hopes her husband will spot her on the wharf. Directly above, a welcome kiss comes before the returning sailor drops his gifts. At right, families, armed with cameras, binoculars, flags, and hand-painted signs, await USS Kfrty Hawk. A mother and her daughters are already packed and eager to move out immediately.*

STILL MORE *signs say "Hello" as thousands upon thousands of families and friends join the welcome. But work must go on, and, below, an unidentified sailor works on the mooring lines of the big ship.*



THE NAVY'S FIRST ACE

By Izetta Winter Robb

The Allied aviators who fought the battle in the skies during World War I were "the younger set" of their day. As that war neared its end, a French infantry colonel on meeting Georges Guynemer, the French ace, asked, "How old are you?"

"Twenty," was the reply.

"And the gunner?"

"Twenty-two."

"The deuce! There are only children left to do the fighting."

Even younger than these two was Lt. David Sinton Ingalls, USNRF, for at 19 he made the record that secures his name in the annals of history as the only U.S. Navy ace in WW I. And where it took Guynemer six months to become an ace, Ingalls required a day less than six weeks. As Naval Aviator #85, he chalked up his record while flying with the RAF in a British plane, the Sopwith *Camel*. From August 13 through September 24, 1918, he succeeded, alone and in cooperation with others, in downing at least four enemy aircraft and causing one balloon or more to burst into flames.

Exploits such as Lt. Ingalls carried out in those early days of aviation recall the words of Euripides, "Danger gleams like sunshine to a brave man's eyes." The accounts he wrote reveal a taste for daring and a skill to match.

Lt. Ingalls went overseas in September 1917 where he was assigned to various aviation training units in Britain. During two weeks in July 1918, he flew with RAF Squadron 213 "for experience," going on bombing flights to Ostend, Zeebrugge, and Bruges, but he had no encounters with the enemy.

Just as he was beginning to feel a part of the RAF, he was ordered to France to tussle with flying field construction for the U.S. Navy's Northern Bombing Group. Unhappy at this turn of events, he succeeded August 9 in wangling permission to rejoin Squadron 213 which was stationed in Flanders and making regular raids on German installations. Two days later, Ingalls opened up on the enemy in a way that was to bring him renown.

On August 11, Ingalls and an RAF officer in Sopwith *Camels* at an altitude of 14,000 feet, not far from Dixmude, sighted an enemy Albatros, a two-seater aircraft, as it came in at 10,000 feet toward the Allied lines. The Albatros apparently sighted the *Camels* at the same time, for he turned and dived toward Ostend. The *Camels* attacked, and the leader, firing about 150 rounds in short bursts at 150 yards range, followed the enemy down to 5,000 feet. Just as the *Camels* broke off combat, the Albatros plane went into a slow spin, and the two pilots saw it head for the ground, out of control.

Venturesome and eager for battle, Lt. Ingalls lost no time in scoring another, though different, success, for two days later, on the night of August 13, he flew over the German airdrome at Varsenaere. This was a low-level attack with a vengeance, for he flew so low his *Camel* nearly touched the ground. From this vantage point, he sprayed 450 rounds of machine gun fire into the facility while the surprised Teutons made desperate efforts to get him with their "Archies" (anti-aircraft guns). But undeterred, Ingalls swung in a wide circle and again headed for the hangars, letting loose four bombs and "putting out searchlights, scattering Germans, and mussing things up generally."

LT. DAVID S. INGALLS, USNRF

Such a maneuver deserved an encore. Thus it was on September 15 that Ingalls repeated at the German airdrome at Uytkerke the same tactic he had used at Varsenaere. He made a low-level attack out of the clouds upon the German hangars and fired 400 rounds from his Lewis machine gun into the canvas structures. Then, as he swung up, he cut free four bombs upon the Fokkers parked on the field below.

On the return flight, Ingalls sighted an enemy two-seater Rumpler west of Ostend at 6,000 feet. With Lt. H. C. Smith, RAF, also flying a *Camel*, Ingalls went after the two-seater. The enemy turned and dived toward Ostend, but that did not save him, for Ingalls and Smith followed him down, firing 400 rounds at close range which sent the enemy crashing in flames just off the beach.

Getting back to his base was always exciting and usually hazardous. On one occasion, Lt. Ingalls described for his parents the flight back: "I turned and dove down to the ground . . . for when way over the lines and not high enough to be safe from Archie, the stunt is to race along just over the ground at about 200 to 300 feet. . . . The only danger in this low flying is from the machine guns. The Huns had these scattered all over their country to get aeroplanes in similar predicaments. I knew fairly well where they were thickest and went along for at least five minutes without a shot. Then suddenly I heard a rat-tat, my motor [faltered], gas poured out of the tank below the seat, and clouds of white vapor rose from it. . . .

"Evidently I had run into a bad place, for I was shot at till I crossed the lines. Usually one turns, zooms, etc., when in this predicament, but I expected the . . . controls to go any second and even with what I had, I could not do any trick flying, so I sat still and by using the rudder kept going as fast as possible in little turns toward home. It was a big relief to get out of [range] across the lines. Then I had to land. . . . I came in slowly over the trees on the side and, using the

motor, managed to land.

"The machine was well shot up. One burst of several bullets had perforated the tank under my seat, and all but one strand of wires that cause one to go up were severed, as well as a number of strands in those to go down. One aileron had been hit at the hinge and, of course, there were a few holes in the wings. Hobson [his fellow pilot on this mission] had returned. He said that he had been back of and above me and had fired a lot from there and had seen the Hun burst into flames and crash, so we felt fine, and I got a new machine next day."

On September 18, Lt. Ingalls and two RAF officers, all three flying *Camels*, sighted a kite balloon at 3,500 feet in the La Barriere area. Crossing the coast, the *Camels* attacked, each of them firing about 90 Buckingham tracers. They followed the kite balloon down to about 900 feet and saw two observers jump with white parachutes just before the balloon burst into flames.

Describing this, Lt. Ingalls wrote, "Looking back, I saw a blaze flare up in the bag and then it crumpled in a great mass of flames and dropped directly on the three balloon sheds which promptly caught fire. It was a lovely sight."

In this sortie, all the *Camels* were struck by antiaircraft and machine gun fire but returned home safely.

Ingalls did not have to wait long for his next big attack. On September 20, while on escort for a bombing squadron heading for Bruges, the formation sighted four enemy planes heading toward the de Havilland bombers at about 15,500 feet. The *Camels* immediately attacked. Lt. Ingalls' particular quarry was one of the Fokkers which was pursuing a DH 9. Ingalls fired 100 rounds at 100-yard range. That did it. The Fokker, diving vertically and leaving a white smoke trail, was last seen out of control, very low, near Bruges, still descending.

Ingalls then attacked another Fokker, this one at a 25-yard range, and the latter turned on its back, spinning as it dived. Whether it was knocked out is uncertain; it is believed to have flattened out very low down. The remaining enemy planes spun away.

On September 22, Ingalls and four other *Camel* pilots flew all over Flanders, seeking out German hangars and ammunition trains as their preferred targets. On this round, Ingalls dropped four bombs on a German ammunition dump at Handezeame and blew up a number of wagons loaded with shells.

Later he landed four bombs on a large hut filled with explosives at Wercken. His next target was the railway station at Thourot where the Germans had an enormous supply dump. Ingalls scored two direct hits. On the way back after the fourth sortie for the day, he dropped four more bombs on a horse transport and, with his fellow pilots, got in enough bursts of machine gun fire to account for some 25 Germans and 45 horses.

But there was more to come. On a test flight September 24, Lt. Ingalls sighted an enemy Rumpler over Nieuport. Both Ingalls and the officer he was flying with attacked, each firing 200 rounds at 100 yards. They followed the enemy down to 600 feet and the Rumpler fell in flames.

The British Air Ministry honored Lt. Ingalls' gallantry with the Distinguished Flying Cross and ended his citation with these words:

"His keenness, courage and utter disregard of danger are exceptional and are an example to all. He is one of the finest men [No. 213] Squadron ever had."

FIRST NAVY ACE BECAME ASSISTANT SECRETARY OF NAVY (AIR)

And from his own service, the United States Navy, he received the Distinguished Service Medal:

"For exceptionally meritorious service in a duty of great responsibility as a chase pilot operating with RAF Squadron 213, while attached to the Northern Bombing Group, Northern France, where, as a result of his brilliant and courageous work he was made an Acting Flight Commander by the British authorities over their own pilots."

Lt. Ingalls' career in Naval Aviation did not end with World War I. During President Herbert Hoover's administration, he served as Assistant Secretary of Navy for Air, and under his leadership, great strides were made in research and development. He returned to active duty in WW II, serving first as a commander, then as a captain. Of the medals in that conflict, he holds the Legion of Merit and Bronze Star. He was in the thick of Navy's war in the Pacific, retiring as a rear admiral in the United States Naval Reserve.

A SOPWITH 'CAMEL' OF THE TYPE LT. INGALLS FLEW IN WORLD WAR I

BRONCO

By JOCS Lee Blair

Naval Air Systems Command

Aviation writers through the years have employed a wide range of adjectives to describe the physical appearance of airplanes. The aero-enthusiast has become more or less accustomed to such niceties as *sleek, graceful, sweeping*, ad infinitum. But when this writer was confronted with the task of selecting such a word to describe the newest member of the Marine Corps' air-ground team, he was, frankly, completely stumped.

No matter how you slice it, the North American Rockwell Corporation's OV-10A *Bronco* is not the most glamorous military aircraft ever to grace an airfield. The stubby, 40-foot rectangular wing appears to have fallen under the axe of some intemperate soul and the empennage assembly looks as if it were designed by a committee which couldn't agree on anything and left it unfinished. When a photo of the *Bronco* first came under the cantankerous scrutiny of Grampaw Pettibone, that venerable gentleman said: "Lad, I don't give a hoot what your fancy pedigreed engineers say, *I* say that thing ain't gonna fly."

But even Gramps can be wrong, which is why they put erasers on pencils, and wrong he was.

All military aircraft are designed to satisfy a particular need, and while we may have given up on trying to find a positive adjective to describe *Bronco's* looks, an all-encompassing word to rate her performance comes readily to mind: V-e-r-s-a-t-i-l-e.

To summarize, what the OV-10A may lack in appearance, she more than compensates for in functional, utilitarian performance which, in the final analysis, is the only yardstick by which one can measure the success or failure of any airplane. As one knowledgeable and experienced Leatherneck pilot put it: "The *Bronco* is one helluva fine airplane for its mission."

Developed and manufactured by North American Rockwell's Columbus Division under specifications provided by the Naval Air Systems Command, the two-place OV-10A is a light, armed, reconnaissance aircraft which can serve quite capably in a variety of collateral capacities. *Bronco* was engineered from main mounts to fin tips to meet the demands and peculiarities of counter-insurgency (CI) warfare. She is a bridge, if you will, to span the gap between the high performance jets and the helicopters, both of which are extensively employed in Southeast Asia today. In the main, the high performance reconnaissance jets are far too fast for most phases of CI warfare. Conversely, the choppers are a bit slow and certainly more susceptible to enemy ground fire.

Able to fulfill a great many of the tasks previously assigned to jets and helos, *Bronco* provides mission capability for forward air control (FAC), light armed reconnaissance, helicopter escort and visual reconnaissance. Operating at sea level on a standard day, *Bronco* will lift off in less than 1,600 feet under her combat takeoff weight of 12,500 pounds. Empty, the OV-10A weighs in at 6,969 pounds, measures just a bit under 42 feet in length and stands about 15 feet high.

Developed and built for joint service use, the OV-10A is currently operational with the Air Force as well as the Marine Corps. Under a Naval Air Systems Command contract, 271 *Broncos* are being manufactured, with 157 going to the Air Force and the remaining 114 programmed for the

THE OV-10A *is ready for flight from home base, North American Rockwell Corporation; at right, the Marine and Air Force versions in flight.*

Marines. The initial deliveries were made to both services during special ceremonies at Columbus on February 23, 1968. There are only minor differences in the two versions, most of which are in avionics.

With a unit price of slightly less than half a million dollars, *Bronco* is powered by two Garrett-AiResearch T-76-G-10/12 fixed shaft, turboprop engines, with a rating of 715 shaft horsepower, fitted with three-bladed, full-feathering, reversible propellers. At a maximum engine speed of 41,730 rpm, the fans turn at a corresponding 2,000 rpm through a reduction gearbox.

One of the truly remarkable features of the OV-10A is her wide range of operational speeds. She can dawdle along in a two-G turn with flaps up at 120 knots or hit peaks of 350 knots in a tactical dive. Normal cruise is about 180 knots.

Under normal conditions, *Bronco* can fly a 50-nautical-mile-radius mission with sufficient fuel to remain on station (loiter time) for two-and-a-half hours before returning to base. For ferry purposes, a 150-gallon drop tank can be fitted to the aircraft to provide ranges up to 1,150 nautical miles. At maximum gross takeoff weight, the aircraft will climb at a rate of 1,100 feet per minute and can maintain 14,000 feet of altitude on one engine without stores. Her service ceiling is rated at 26,000 feet.

Tandem seating, with the observer in the rear, provides both crewmen with near optimum visibility from the panoramic greenhouse cockpit. The observer's compartment is fitted with dual flight and engine controls, basic instrumentation, landing gear lowering lever and a smattering of communications equipment. Both cockpits are fitted with the LW-3B ejection seat from which safe exit can be made at any altitude at speeds from zero to 460 knots.

Bronco's basic armament consists of four 7.62mm M60C machine guns mounted in easy-access sponsons beneath the fuselage with 500 rounds carried internally for each gun. She is also fitted with five external store stations, each with a 600-pound capacity with the exception of the centerline station which can accommodate 1,200 pounds. Wing-mounted missile stations, designed to fire the AIM-9D *Sidewinder*, can also be fitted when required. The plane is geared to handle a wide range of conventional ordnance, including bombs, rocket pods, miniguns, napalm, and flares.

The fuselage is equipped with a swing-away rear door for speedy access as well as loading and unloading of the cargo bay. Five fully equipped paratroopers or six combat infantrymen can be airlifted. The cargo bay will accommodate two litter patients, plus corpsman, with the rear seat removed. The bay which has a usable capacity of 75 cubic feet, is increased to 111 cubic feet when the observer's seat is removed. This operation can be performed quickly without the use of special tools.

August 1, 1968, found the services with 85 OV-10A's, the Marines getting 45 of that number. Better than a dozen had been active in the combat zone with Marine Observation Squadron Two, Marine Air Group 16.

During a representative period in July, operational *Broncos* averaged two combat sorties per plane each day—a commendable record for a combat debut.

What *Bronco's* maximum capabilities are can only be expressed in terms of educated engineering guesses, for they have yet to be demonstrated. Time and experience, coupled with the necessity for improvisation, will do that.

But for the moment, what really matters is that we have a versatile, highly maneuverable, light, armed reconnaissance airplane that we didn't have before, and it's a good one. Some of us will miss the ol' "Birddog," but this is progress and progress is good.

Well, we never did solve the problem of how to describe North American Rockwell's new offspring in physical terms, and far be it from us to introduce words like *grotesque* or *weird*.

But what we will do, however, is buy the Leatherneck's totally accurate description of the OV-10A: "The *Bronco* is one helluva fine airplane for its mission."

Sorry 'bout that, Gramps.

NOT A GRACEFUL *aircraft, the Bronco is, however, easy to identify by its large canopy, rectangular wing, and twin vertical stabilizers.*

Telecommunications at Point Mugu

"Spotcheck Flight, two bogies. Right three o'clock parallel. Arm."
"Spotcheck Flight, in place. Low to zero three zero.
"Spotcheck Two, tally ho.
"Spotcheck Leader. Going eyeball.
"Clear to fire . . . MiG's . . . MiG's."

Vietnam? No. This dialogue is between two pilots flying their *Phantom* jets in the skies over NAS Point Mugu, 40 miles north of Los Angeles. Their make-believe is a serious business—a copy of daily support and tactical missions flown by U.S. Navy jets from carriers in the Gulf of Tonkin. There is a purpose to their aerial acrobatics as the two jets swoop low over the foamy Pacific and then shoot skyward at full throttle.

Pilots flying these simulated sorties are mostly Vietnam veterans putting to use many of the hard-earned lessons of aerial combat and survival learned in Southeast Asia. As members of Air Development Squadron Four (VX-4), 30 aviators and 200 enlisted men conduct a wide range of tests, many directly related to saving lives of American airmen and aircraft in Vietnam. Flying F-4 *Phantoms* and F-8 *Crusaders*, these pilots make tactical air-to-air tests which provide the Navy with tactics that are intended to reduce the number of aircraft downed by Russian-built MiG-17's, MiG-21's, or SAM missiles over North Vietnam.

VX-4 is not primarily a research group; it develops the best ways to use an aircraft and its weapons in the Fleet operational environment. When new planes and associated weapon systems are "bought" by the Navy, it is VX-4's job to develop the techniques, tactics, and procedures for making the best use of that aircraft and its equipment. Whatever the pilots learn is quickly piped down to the Fleet squadrons aboard carriers wherever they may be.

Point Mugu is the ideal location for these lifesaving tests. It's home for the Pacific Missile Range (PMR) and the Naval Missile Center (NMC). PMR's primary job is providing testing environments which simulate, as much as possible, the actual combat conditions our fliers encounter in Vietnam.

Aerial combat simulations and evasive maneuvers are only a fraction of the many lifesaving tests conducted at Point Mugu. Recently a series of trials culminated in a new and revolutionary method of rescuing downed fliers at sea or in the jungle. Airmen were snatched from the Pacific off the naval air station by airplanes still in flight. Equipment which wards off shark attacks on ditched fliers also has been tested.

Helping to make these tests possible is a new telecommunications switching center installed at PMR by Western Electric Company, manufacturing and supply unit of the Bell System. The switching center enables the men and women who run the range to talk to one another and direct the men and machines in the tests. PMR people run launchings, track satellites, collect data, recover nose cones, and provide scores of other services which, added together, constitute "range support."

Just what do they support? Leading the roster are the Navy's Missile Center and the Astronautics Group. The center is entrusted with testing and evaluating naval weapons and space systems, guided missiles and spacecraft. The Astronautics Group is primarily responsible for the satellite navigational system used by ships throughout the world. The range also supports projects for the Army, Marine Corps, NASA, Atomic Energy Commission, and other agencies. It also provides tracking assistance for satellites now in orbit.

After World War II, the Navy embarked on a technological cruise which has since modified the types of ships and armaments for the Fleet. In addition to nuclear propulsion, rocketry and space probes resulted in several families of missiles which can be launched from destroyers at sea, ballistic missile subs, or carrier-based jets. To test these missiles, the Navy needed a very special kind of "rifle" range. Point Mugu was chosen because of its proximity to San Nicolas Island (60 miles out in the Pacific) and several large naval installations in southern California.

San Nicolas Island makes an ideal target for launch vehicles and data collection. Between Point Mugu and the island, small tactical airborne missiles—like *Sidewinders*, *Sparrows*, and *Bullpups*—undergo daily workouts. Some are fired from the air to ground or floating targets. Others are aimed at zigzagging remote-controlled target drones.

No matter how simple the operation at Point Mugu, each requires the support and coordination of many military men, civilians, machines and instruments. Without communications at Point Mugu, there wouldn't be an operation. It's not just a matter of one man talking to another; machines have to talk with each other and machines with people and vice versa.

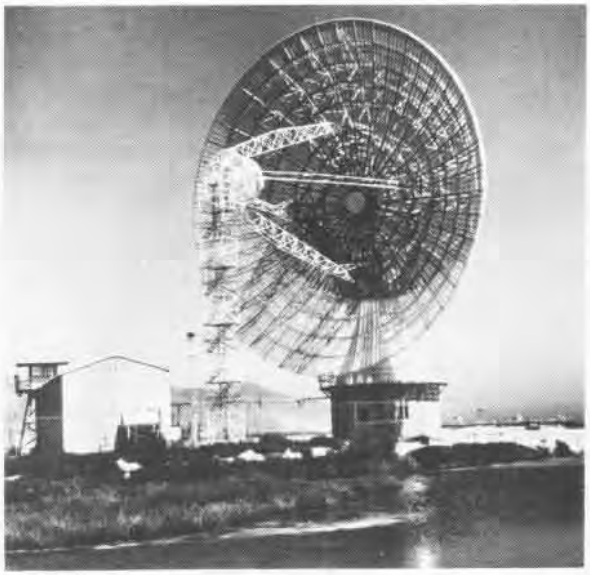
Since operations at Mugu are simulated, the VX-4 pilot flying low over the windswept shoreline to avoid getting hit by flak must know whether or not he was destroyed. Computers, tracing his path and those of the anti-aircraft salvos, will tell him whether or not he made a clean pass.

The automated, high-speed communications system handles the complex communications that support these operations. The information traffic can get heavy. It comes into the operational control centers from aircraft, ships, telemetry tracking, radar tracking, transmitter and receiver sites, launch pads, down-range facilities, and other national ranges supporting the missions.

Sewing together this complex network of far-flung end stations are over 30,000 miles of wire in the switching facility alone. By using equipment similar to that in any central telephone office, it has been possible to assemble a switching center which has virtually eliminated most of the communications difficulties faced by the range when it had to depend on manually operated equipment.

The 7,000 men and women at Point Mugu look ahead to tasks still to be done which will lead to improved launch vehicles and a greater and more diversified use of satellites.

A GIANT *85-foot radar (below) locates and tracks missiles being tested at Point Mugu, Calif. LCdr. H. C. Sample (right, above) joins a conference network conducting an air-to-air missile launch at the Pacific Missile Range. At right, Air Development Squadron Four pilots go over a coming evasive maneuver simulating tactics used under combat conditions.*



THE PHOENIX *missile, which was designed to provide air combat superiority over distant targets, is being launched from an A-3D Skywarrior (above). At right, a company technician makes his final check in the communications switching center at Point Mugu. The center, which was designed and installed by Western Electric Co., enables the Pacific Missile Range to support a large number of U.S. Navy missile operations daily.*

SELECTED

Olathe Highlights

Two Weekend Warriors at NAS Olathe, Kansas, have completed 20 years of perfect drill attendance and cruise performance. Captain Joseph H. Myers and Commander Robert D. Dick joined Olathe's VS-882 in 1948. Today, assigned to NARS 88(S), Capt. Myers is director of staff component and Cdr. Dick is procurement and retention administrator.

Staff members and students of the YN/PN Class A School at Olathe recently received an award of merit for outstanding service to the Johnson County Unit of the American Cancer Society. Dr. W. Stewart Hiatt, president of the county unit, presented the award to Commander Al Shiner, technical training officer.

Two students, YNSN's George T. Collar, Jr., and Robert Shipman, were honored individually for their contributions of time and energy. For the past two years, personnel of the school have assisted the society in its house-to-house educational crusade.

ASW Training

When members of VP-661 left NARTU Washington, D.C., for their annual two-week active duty cruise, they stopped first at NAS Willow Grove for a week of classroom training in the latest search systems at the Reserve ASW Tactical School.

Then the 25 officers and 130 enlisted men took their P-2 *Neptunes* to Nantucket, R.I., where they participated in Reserve ASW Exercise 6-68.

While on liberty from the training exercise at Willow Grove, A02 Bobby Smith, an instructor with the aircrew training division of NARTU Washington, rescued a three-year-old boy from drowning. Smith was trying out one of the local fishing spots in the Delaware River when he heard the screams of six-year-old Bruce Hogan who was watching helplessly as his younger brother, Scott, slid from a rocky incline into ten feet of water. Smith, then in waist-high water, swam to the boy's rescue despite his water-filled waders. Scottie was shaken but uninjured.

CHIEF NOVAK *poses with 26 correspondence courses he completed in the past year.*

Another Alpha Crew

Eleven crew members of a VP-793 P-2 *Neptune* recently were awarded Alpha status. The designation was earned by the NARTU Memphis squadron during a two-day Reserve ASW exercise at NAS Los Alamitos.

Commander M. B. Burton, squadron skipper, commands the crew.

Explorers Visit Alameda

Fifty Boy Scouts, members of four Explorer Posts of the Santa Clara County (Calif.) Council of the Boy Scouts of America, spent a summer weekend as guests of NARTU Alameda. The visit, arranged by the unit's PAO, included a general tour of the station with visits to the Fleet Weather Central and maintenance, ordnance, safety, and survival shops. They also had an opportunity to examine all NARTU aircraft closely while JO Manuel Perez-Castillo and AD3 James A. Stormes explained each one.

Highlight of the weekend was a two-hour orientation flight over parts of northern California and Yellowstone National Park in a C-118 *Liftmaster* piloted by Commander Lloyd McBeth. For many of the boys, this was a first flight.

The group was housed in the enlisted men's barracks. "They lived like sailors and enjoyed every moment," commented Mr. Jay G. Duffus, director of special projects for the Santa Clara Council.

Answer Man

NARTU Jacksonville has its own answer man. He is AMC Adolph A. Novak, VS-741, who in FY 68 answered 12,575 questions to complete 26 Navy correspondence courses.

Chief Novak checked out two courses at a time, leaving one at home and taking one to work. He averaged four hours per assignment for a total of 3,436 hours, the equivalent of about 143 days.

As an aviation technical training chief for his squadron, he says of the correspondence courses, "The main reason a person joins the Reserve is to keep up with Navy's ever-changing technology. I have tried to do this by completing these courses. I am expected to know certain things, not only about my rate, but all aviation rates. I should be able to answer most questions asked by the men under me."

'Pete' Ross Trophy

VMF-215, NAS Olathe, won the Pete Ross Safety Award for the second straight year as it compiled the best over-all aviation safety record among 4th MAW/MARTC squadrons during 1967.

The trophy is a tribute to 1st Lt. Joseph F. "Pete" Ross, Jr., who was killed in 1950 while flying with VMF-121 at NAS Glenview. His parents donated the trophy, valued at over $5,000, to encourage "safety

AIR RESERVE

perfection" throughout the Marine Air Reserve Training Command. Mrs. J. F. Ross, Sr., presented the trophy to LCol. John W. Hatcher, C.O.

Honored for Vietnam Daring

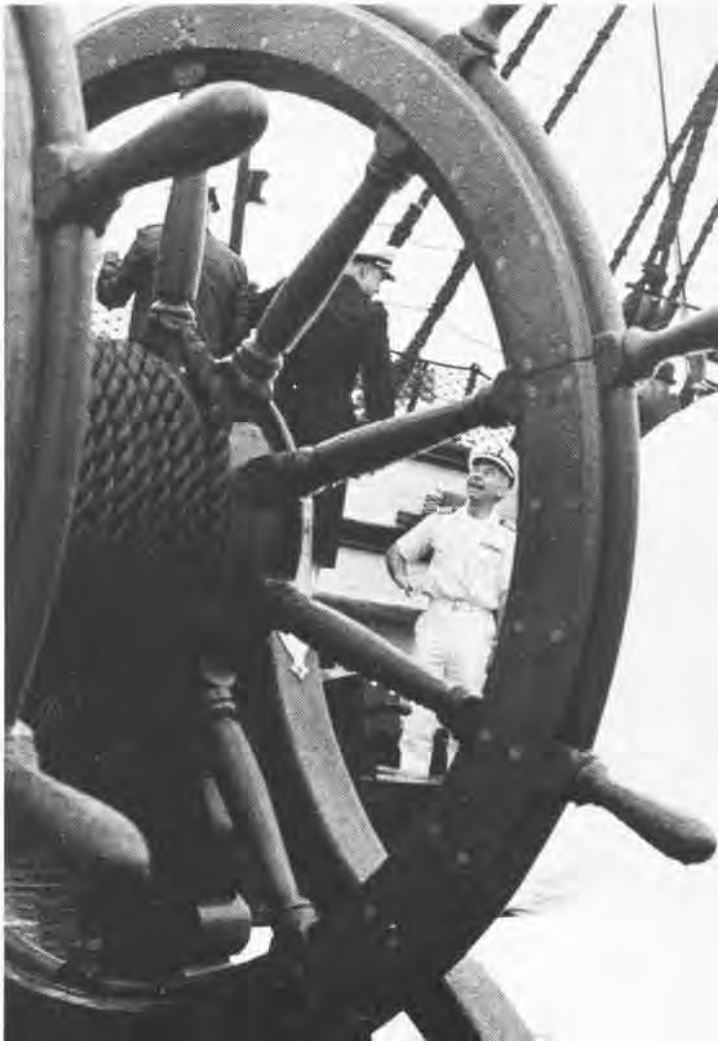
Lieutenant Colonel Richard E. Romine, executive officer of the Marine Air Reserve Training Detachment, NAS South Weymouth, has been presented the Navy Cross for extraordinary heroism on June 3 and 4, 1967, while serving as a helicopter pilot with HMM-165 in Vietnam. His citation reads:

"While extracting a besieged combat team from an enemy-surrounded bomb crater, his transport helicopter was hit, and he maneuvered his crippled aircraft away from the enemy prior to crash landing into the mountains. He then directed his crew to bring all the battle equipment that they could carry and follow him through the almost impassable and enemy-populated forest to the besieged force's position.

"With darkness closing, LCol. Romine requested illumination flares and adjusted them to pinpoint accuracy. He exposed the advancing enemy, brought them under fire, and prevented any surprise attacks.

"Although awake throughout the cold, rainy night, LCol. Romine resumed calling in air strikes at dawn. Without thought of personal risk, he exposed himself along a barren crater rim to direct the strikes within ten meters of his position. For 24 hours, he gallantly controlled air operations and directed his nearly decimated ground forces against overwhelming enemy attacks until their guns were silenced, the enemy was beaten, and the trapped men were helicopter-lifted to safety.

"His dynamic leadership, indomitable fighting spirit and relentless exposure to the enemy to control ground forces and air operations and save the lives of his men reflected great credit upon himself and the Marine Corps."



THE LANCE-LIKE *needle nose of the new Lockheed C-5A Galaxy, world's largest aircraft, looks menacing as it taxies past the F-8 Crusader line at NAS Atlanta on its first taxi test run. NAS Atlanta shares runway space with Lockheed. At right, Capt. John Doherty, C.O. of NAS South Weymouth, who is responsible for training Naval Air Reservists in the New England area, looks up at Rear Admiral T. R. McClellan, ComCarDiv 14 embarked aboard USS Wasp (CVS-18). They were guests of Rear Admiral Roy S. Benson, Commandant of the 1stND, aboard his flagship USS Constitution during her annual turn-around cruise in Boston harbor.*

ON PATROL

with the Fleet Air Wings

Awards to Whidbey Squadrons

VP-1 and VP-17, NAS Whidbey Island, have been commended for their outstanding performance while deployed to SE Asia.

Presenting the Meritorious Unit Commendation to VP-1 for its 1967 WestPac deployment, Rear Admiral Donald Gay, Jr., ComFAirWingsPac, said in part: "It would be difficult at best to over-estimate your true value to our country although frequently it does not appear that way. We in the VP Navy are not generally looked upon as glamour types. We do not, as a rule, receive a lot of publicity. Our jobs can, and often do, appear to be mundane, repetitious, and perhaps endless tasks. But . . . your seemingly endless days of training, the hours of watchful, often uneventful, surveillance patrols have paid great dividends."

The squadron was credited with transforming an austere advanced base into a fully operational center that supported over 600 missions in the combat zone. It amassed over 5,800 surveillance flight hours along the coast of Vietnam as part of the aerial arm of Operation *Market Time*.

On one such flight, a VP-1 aircraft, commanded by LCdr. M. G. Branscomb, intercepted a Communist trawler off the coast of South Vietnam. Other *Market Time* forces were alerted and they, together with VP-1 aircraft, covertly tracked the trawler. It was captured as it was trying to land its cargo of 12 tons of war supplies on the beach near Chu Lai.

Commander Lawrence C. Day, the squadron's C.O. during this period, was awarded the Navy Commendation Medal and the Republic of Vietnam's Navy Distinguished Service Order.

Captain E. J. Winter, ComFAirWhidbey Chief of Staff, presented the awards to VP-17 personnel. During their deployment to Cam Ranh Bay, crews of VP-17 detected and tracked four North Vietnamese arms-carrying trawlers trying to run in from the South China Sea. Two of them were destroyed by U.S. and Vietnamese surface ships, and two were forced to retreat. Lt. Norman E. Cook received the Distinguished Flying Cross for heroism and extraordinary achievement as PPC of Crew Seven which detected two of the trawlers.

The detection and tracking of the arms infiltrator in early February 1968 by VP-17's Crew Nine secured for their Plane Commander, LCdr. Fred J. Heimbuecher, the Navy Commendation Medal with Combat "V". Lt. Myron G. Hamm, Ltjg. Billy R. Loveless, AT1 David G. Lowas, ADR2 Jay E. Holland, AX3 John T. Whitney and ADJAN Edward J. Cox received the Navy Achievement Medal with Combat "V" for the same action.

P-3C Orion to Replace P-3B

Lockheed California has delivered the last P-3B version of the *Orion* to the Atlantic Fleet. Commander John V. Josephson, C.O. of VP-30, accepted it at Patuxent River.

Now VP-30 is laying the groundwork for introducing the P-3C to the Fleet. The P-3C has a new electronics configuration which gives crew members faster access to sensor data. Such access, by relieving the crew of routine tasks of interpretation and coordination, will enable them to concentrate on problems requiring human perception and judgment.

From 3rd to Chief at VP-22

Most Navy men reporting to a duty station hope for one, or possibly, two, promotions during their tour, but one Barber's Point aircrewman climbed from third class to CPO during his stay with VP-22.

During his eight years with the squadron, Louis Tafoya was promoted

LIEUTENANT *Dave Marquis, pilot of last P-3B delivered to an Atlantic Fleet unit, hands logs for the Orion (R) to Cdr. Josephson, VP-30 C.O.*

three times, deployed with the outfit five times, and received five medals.

Chief Tafoya is now assigned to the Naval Weapons Evaluation Facility at Albuquerque, N.M.

Wave Promoted at VP-30

Ltjg. Caroline Baker of VP-30's Det Jax showed her interest in physical fitness by passing out plums in lieu of cigars when she was promoted. She is not only the first Wave officer at Jax to pass the survival aircrewman test, she is also the first Wave officer assigned to a patrol squadron for permanent duty (*Naval Aviation News*, May 1967, p. 29).

VP-8 Returns to Patuxent River

VP-8 has returned to its home base at NAS Patuxent River, Md., after a six-month deployment to Kindley AFB, Bermuda. At the same time, the squadron maintained a detachment at NS Argentia, Newfoundland. Their combined total of flight hours during deployment was over 5,800 hours.

Led by Commander Troy Todd, C.O., the *Tigers* took part in the search for the USS *Scorpion* (SSN-589). In a more successful action, a VP-8 crew was first on the scene of a sinking merchantman, directing nearby vessels to her aid.

Prompt Help Saves Child

Ever since VP-9 arrived at Adak, Alaska, four-year-old Ingrid Minamyer wanted to ride in a P-3B *Orion*. On Armed Forces Day, safety rules prevented her having even a taxi ride.

Six days later, Ingrid got the ride, but now it was a matter of life or death. She fell nearly 100 feet from the top of a hill to the rocks below. Her father, CPO G. J. Minamyer, rushed her to the naval station hospital, but it was soon obvious that only complicated brain surgery could save her.

The nearest neurosurgeon was in Seattle, nearly 2,000 miles away. When notified of the crisis, VP-9 went into action. In a very short time, Lt. Joe Francis and his copilot, Lt. Dennis Reilly, flew Ingrid, her father, and Lt. Frank Connery, a Navy doctor, to Madigan General Hospital at Fort Lewis, Wash.

Ten days after her fall, Ingrid said her first word when her dad brought her a toy dog and she exclaimed, "Suzie!" – the name of the family dog back in Adak.

CPO Minamyer says the speedy medical attention made possible by VP-9 and Lt. Francis saved his daughter's life.

VP-9'S SWEETHEART, *Ingrid Minamyer, gets an encouraging smile from Lt. Joe Francis, the Navy pilot who flew her from Alaska to the state of Washington for critical brain surgery. He (and other crew members of the mercy flight) visited Ingrid in the hospital.*

VP-26 Returns from Sangley

On completing a 9,000-mile flight from SE Asia (where they had been deployed six months at Sangley Point), Commander Alex Wasilewski, Jr., C.O., led the last three *Orions* of VP-26 in a fly-over before landing at NAS Brunswick. Military and local dignitaries and families of the crews were on hand to greet the veterans.

Since the squadron left Brunswick last November, its crews had flown over 8,000 hours in support of attack aircraft carrier operations in the Gulf of Tonkin and in *Market Time* surveillance along the coast of South Vietnam. They were awarded the Vietnam Service Medal and the Campaign Medal of the Republic of Vietnam.

The *Tridents* were also commended for their people-to-people program. In their off-duty time, volunteers repaired and painted an orphanage (near Sangley) for physically and mentally handicapped children, improved its recreational facilities, and assisted in obtaining a physical therapist.

Relieving VP-26 was VP-49, homeported at Pax River, Md., which began its first Pacific deployment.

Midshipmen Guests of VP-16

Thirty midshipmen from NROTC units throughout the U.S. recently spent two weeks of active duty training in Naval Aviation as guests of VP-16, NAS Jacksonville.

Assigned as assistants to VP-16's junior officers, the midshipmen became familiar not only with their duties and responsibilities but also with the organization and operation of an ASW squadron.

They also participated in *Sneaky Pete*, a two-week antisubmarine and mine warfare Fleet exercise held off the Georgia-Florida coast.

VP-16, led by Commander T. H. Ross, conducted round-the-clock flight operations during the exercise. Nine P-3's logged more than 250 flight hours during one six-day period. Twenty-eight aircraft, 14 surface vessels, and two submarines took part in the exercise under the direction of Captain W. W. Honour, ComFAirWing 11.

On leaving VP-16, the midshipmen continued their training in Fleet operations aboard surface vessels.

at Sea with the Carriers

PACIFIC FLEET

Constellation (CVA-64)

Captain William R. Flanagan completed another span in the bridge *Connie* is building between San Diego and her sister city, Yokohama, Japan, when he presented Mayor Ichio Asukata a duplicate of the sundial that was presented to San Diego earlier this year (NANews, July 1968, p. 32).

After the stop in Yokohama, CVA-64 with CVW-14 embarked paused at Cubi Point before proceeding to the Tonkin Gulf to begin her fourth war patrol. It was aircraft from *Connie* that flew the first retaliatory strikes against North Vietnam in August 1964.

Enterprise (CVAN-65)

Two Naval Aviators and *Enterprise* had a close one when the pilots ejected from their F-4B *Phantom* seconds after it was launched from the carrier in the Gulf of Tonkin. According to the pilot, Lt. Roderick J. Edens, Jr., "The controls froze just as I started my turn away from the ship. I told my RIO, Ltjg. William R. McClendon III, to eject. Then I tried once more to loosen the controls before bailing out, seconds after him."

They both splashed down almost directly ahead of the carrier which was underway at high speed. The ship swerved sharply to avoid the two downed fliers and passed only 50 feet from Lt. McClendon. Both men were picked up within minutes by a rescue helicopter from HC-1 Det 65. Pilots of the helo were Ltjg. Edward G. Ray and Ens. Jack Berry.

The pilotless *Phantom* continued in its turn and crashed about a half mile from the *Enterprise*.

With her third tour in the Gulf of Tonkin under her belt, *Enterprise*

A BOMB-LADEN *A-7A of VA-27 and an F-4B of VF-143 spell double-trouble as they move into position for launch from Constellation during air strike operations off the coast of Vietnam. At right, it was one carrier to another as Bennington crew members watched Yorktown pull into Sasebo, Japan, on her way home. Bennington relieved Yorktown in the Tonkin Gulf.*

headed for San Diego and a yard overhaul.

Hornet (CVS-12)

Rear Admiral Eugene G. Fairfax relieved Rear Admiral Burton H. Shupper as Commander, Antisubmarine Warfare Group Five, in ceremonies on the hangar deck of the flagship *Hornet* while the carrier was moored at NS Long Beach. RAdm. Fairfax is no stranger to his flagship: he served aboard the *Hornet* as C.O. of Fighting Squadron 11 during the Philippines campaign in WW II.

Iwo Jima (LPH-2)

LPH-2 sailed into Kaohsiung, Taiwan, after an eight-month combat deployment with Amphibious Ready Group Alpha in the coastal waters off Vietnam. During the brief rest and recuperation visit, the crew learned something of the customs and traditions of the people of the Republic of China, and, at the same time, showed the Chinese a little of the American way. At an "open ship," over 1,100 Republic of China military officers, midshipmen, cadets, civilian dignitaries, and their ladies came aboard to see the ship.

Captain John T. Shepherd, C.O., greeted the visitors who were given a concise briefing about the ship and her operations by LCdr. Elmer H. Haupt. After the briefing, the guests, in small groups, were taken on guided tours throughout *Iwo*. Then the visitors gathered on the flight deck to witness a demonstration of helo maneuverability and cargo handling. A simulated rescue of a downed pilot completed the schedule.

Princeton (LPH-5)

On her way to relieve the USS *Iwo Jima* as flagship of Amphibious Ready Group Alpha in the Tonkin Gulf, LPH-5 stopped in Subic Bay, Philippines, and delivered close to 200 books to a school in Kawit, about 15 miles south of Manila. One of the ship's crew who had attended the school in his youth, WO1 Leo Abang, saw a good use for extra books in the ship's library. He got in touch with one of the teachers and arranged to have the books delivered. According to WO Abang, the school library is public and everyone in the community can check out books.

Two record landings were made in one day recently by members of HMM-362. Both "firsts" were made by helo copilots. First Lieutenant Steven Martin brought a CH-34 down to record the 70,000th helicopter landing made on *Princeton's* deck since she was commissioned. With him was Capt. Gregory Armstrong, pilot. Two landings later, 1st Lt. Gary Houck touched down for the 60,000th helo landing since *Sweet Pea's* commissioning as an LPH. The pilot on that flight was Capt. Thomas McKnight.

With the 70,000th landing, *Princeton* lays claim to the most helo landings of any ship. Any challenges?

Several days later, there was another unusual landing aboard the LPH when an Army OH-6A came aboard. Observers reported that it looked like an "egg" with rotors and

sounded like an over-sized bumblebee. The *Cayuse*, which has been tested in combat, is designed as a light observation helicopter.

And *Princeton* had other visitors: four Naval Academy midshipmen came aboard for seven weeks to observe firsthand Navy and Marine teamwork in amphibious support operations in Vietnam.

Sweet Pea's skipper is Captain Frank H. O'Brien.

Bennington (CVS-20)

Bennington has relieved *Yorktown* on station in the Gulf of Tonkin.

Yorktown (CVS-10)

The *Fighting Lady* has returned to Long Beach from a six-month deployment to WestPac. Since *Yorktown* with CVSG-55 embarked left Long Beach in December, she has steamed 59,128 nautical miles. She participated in an operational readiness exercise off Hawaii, supported the Navy's activity in the Sea of Japan during the *Pueblo* incident, and spent three periods on the line in the Gulf of Tonkin.

Before she left the Gulf of Tonkin, the big USS *Yorktown* rescued an HS-4 SH-3D. The *Sea King* piloted by Lt. Thomas Doyle, was forced to ditch when a tail rotor failed. Overcoming impossible odds, Lt. Doyle landed the helo and crew in the South China Sea. Flotation devices kept the helo afloat as the *Yorktown's* skipper, Captain William L. Bennett, maneuvered the 43,000-ton carrier to a position upwind. Crash crews, frogmen, and the ship's crane eased the helo out of the water onto a deck-edge elevator. All equipment was recovered without serious damage. When he commended the men involved, Commander Howard Ewy, C.O. of HS-4, said, "The odds against a safe night landing after tail rotor failure and subsequent recovery without damage are about a thousand-to-one."

Arrestment number 124,000 was logged by Ltjg. Barry Fry of VS-25, and Lt. Eric Laub, VS-23, chalked up number 125,000.

Since her return stateside, *Yorktown* claims what may well be another "first." While Capt. Bennett was conducting machinery tests 30 miles off the California coast, three bushels of fish were drawn into the main sea injection system that feeds the condensers of the main engine. They had been scooped into the 40-inch diameter open intake on the bottom of the ship. It seems that small amounts of sea weed and kelp and an occasional fish are not unusual. But three bushels of them?

Hancock (CVA-19)

LCdr. John D. Stich, OinC of Det 19, VAW-111, landed his E-1B *Tracer* and scored arrested landing #108,000 on CVA-19 during refresher carrier air operations off southern California.

Ticonderoga (CVA-14)

Members of *Tico's* embarked CVW-19 are claiming a record in monthly combat flight time for light jet attack aircraft. Pilots from Attack Squadrons 23, 192, and 195 logged 3,345 flight hours, 1,711 sorties, and 1,847 arrested carrier landings during a 23-day period of combat operations.

Members of these same three squadrons celebrated the Fourth of July with their own type of fireworks when they hit a truck park loaded with petroleum and ammunition supplies, four miles north, northeast of Vinh.

THE NAVY'S *only commissioned battleship, USS New Jersey, seems to be acting as plane guard for USS Okinawa. PH3 John Garner photographed them as Okinawa was on a dependent's day cruise off California, and New Jersey was conducting exercises in the general area.*

ABOARD *America, ABE3 J.L. Edstrom signals catapult crew that shuttle is ready to be tensioned (left). Top, RAdm. M.W. Cagle, ComCarDivOne, and Gen. W.C. Westmoreland confer aboard Enterprise during General's farewell visit to 7th Fleet. Above, Ltjg. McClendon's parachute collapses (L) as Lt. Edens splashes down.*

Other CVW-19 pilots hit a radar site just outside Vinh and silenced two 37mm antiaircraft sites for their part in the celebration.

Kitty Hawk (CVA-63)

When *Kitty Hawk* completed her third combat cruise in Vietnam waters in June, she returned to North Island and a scheduled two-month upkeep and renovation period.

Prior to the bombing restriction, pilots of embarked CVW-11 ranged the length of North Vietnam, striking many major targets and delivering 16,022 tons of ordnance. During the first 61 days she was on station, *Kitty Hawk* aviators flew an average of 48 combat missions each.

Before CVA-63 left the Tonkin Gulf, LCdr. Ralph E. Knapp and his RIO, Ltjg. Hugh N. Dyer, VF-213, made landing number 82,000 in an F-4B. This landing completed 196 combat missions for Ltjg. Dyer.

Vice Admiral W. F. Bringle, ComSeventhFlt, presented Silver Stars to two members of VA-75 for their successful high-speed, low-level night strike on the Yen Vien railroad, four miles east of Hanoi. On March 26, LCdr. Jerome Fink, pilot of the A-6A *Intruder*, and Lt. Fred Hewitt, his bombardier/navigator, forced to maneuver throughout their bombing run, were cited for evading four SAM's and intense antiaircraft fire while delivering their ordnance directly on target.

ATLANTIC FLEET

Boxer (LPH-4)

Norfolk-based *Boxer* has returned home from a three-and-a-half-month deployment as part of Caribbean Ready Group 1-68. LPH-4 participated in four major exercises. In March, the group was integrated with major elements of the Atlantic Fleet for Operation *Rugby Match* which combined carrier strike forces and amphibious operations involving more than 50 ships, 950 aircraft, and 30,000 Navy men and Marines. Then in April, LPH-4 and the amphibious group joined Brazilian Naval forces for an exercise designed to test and refine procedures for combined U.S./Brazilian amphibious operations. The third exercise was programmed to test and train forces in fast reaction to a simulated contingency in the Caribbean.

The last exercise, *Racer Run*, was the second major Atlantic Fleet exercise of 1968. More than 80 Navy and Marine units participated.

Port visits for *Boxer* included Guantanamo Naval Base; St. Thomas and St. Croix in the Virgin Islands; San Juan and Roosevelt Roads, P.R.; Cristobal, Panama; Port of Spain, Trinidad; Curacao and Aruba, Netherlands West Indies; and Cartagena, Colombia.

F.D. Roosevelt (CVA-42)

When *Roosevelt* docked at Pier 5, Norfolk Naval Shipyard, Portsmouth, Va., her flight deck was covered with 200 cars belonging to crew members. It was a change of station from Mayport, Fla., for the duration of a one-year overhaul of CVA-42.

CVA-42's overhaul will be done within the guidelines of an advanced management overhaul program which was initially used during the overhaul of USS *Saratoga* (NANews, March 1967, p.8). The successes, the experience and knowledge gained, and the procedures developed and successfully implemented in the planning stages of the *Saratoga* overhaul have been incorporated by the Naval Ship Systems Command in an improved management program for the *Roosevelt* overhaul.

Major improvements planned for the *FDR* include relocation of an aircraft elevator from the center of the ship to deck edge, installation of new avionics shops and equipment, and a new system of fire control. Newer, larger bunks, a modernized laundry, a modified galley, larger fresh water distillation plants, and increased air-conditioning will also be installed.

Essex (CVS-9)

Led by USS *Essex*, units of ASW Group Four have returned to NAS Quonset Point after completing a four-month deployment. The task group, commanded by Rear Admiral Thomas D. Davies, ComCarDiv 20, on board his flagship, CVS-9, conducted training operations in and good will visits to the Med and northern Europe. The assigned units steamed 25,000 miles, visiting 22 ports in 15 countries. Local residents were invited aboard *Essex* to meet American Navy men and learn about the mission of the ASW ship. More than 60,000 visitors, including dignitaries and military officials, toured *Essex* during the deployment.

RAdm. Davies brought a gift of friendship to five U.S. cities from Portsmouth, England. The gifts, copies of the charter of Portsmouth, were sent to the cities which bear the same name in Rhode Island, Virginia, New Hampshire, Ohio, and Iowa. Two other copies were forwarded to Portsmouth, Ontario, Canada, and Portsmouth, West Indies.

When Councillor Major D. D. Connors, J. P., the Lord Mayor of Portsmouth, presented the charters, he told the admiral, "We have many links with the United States. These will, I hope, serve as a permanent reminder of the links between the founders of Portsmouths in the U.S. and this ancient city."

Randolph (CVS-15)

Randolph is on the line again after a restricted availability yard period at the Norfolk Naval Shipyard during which her boilers were relined, new decking was laid in the fore and aft galleys, and catwalks were replaced in the forward flight deck. Her hull was repainted, new planking was installed in the flight deck, and portions of the ship's radar system were repaired.

Upon leaving the yard, CVS-15, with a contingent of more than 200 midshipmen, sailed to Pensacola to relieve *Lexington* temporarily as the training carrier for the Naval Air Training Command. This is *Randolph's* third recent tour in this capacity.

Shangri La (CVA-38)

Shang has been designated flagship for Rear Admiral Pierre N. Charbonnet, Jr., Commander of Carrier Division Six. The change was made as the former flagship, USS *Roosevelt*, entered the Norfolk Naval Shipyard for an extensive overhaul.

Forrestal (CVA-59)

Forrestal tied up at Pier 3 at the Norfolk Naval Shipyard for repairs to a low pressure steam turbine.

Soon after the repairs were completed, *Forrestal* with embarked CVW-17 deployed to the Med. Commanded by Capt. Robert B. Baldwin, CVA-59 will be operating with ships of the Sixth Fleet.

Lexington (CVS-16)

Aboard *Lex*, a new Damage Control Trainer provides actual experience in fire fighting, damage control, and flooding. It trains men in the use of submersible pumps, OBA's, and Mk 5 protective masks. In a typical exercise, conditions exist that simulate damage caused by fire, collision, or natural disasters.

The trainer is believed to be the first and only one of its kind to be found in a U.S. Navy ship.

THIS 'CARRIER' *pigeon, held by ADR2 Everett Tatum, HS-9, was en route to Germany when it paused aboard Essex off Denmark (above). Intrepid and Belknap (DLG-26) refuel from Severn (AO-61) off Puerto Rico.*

★ STATION OF THE STARS ★

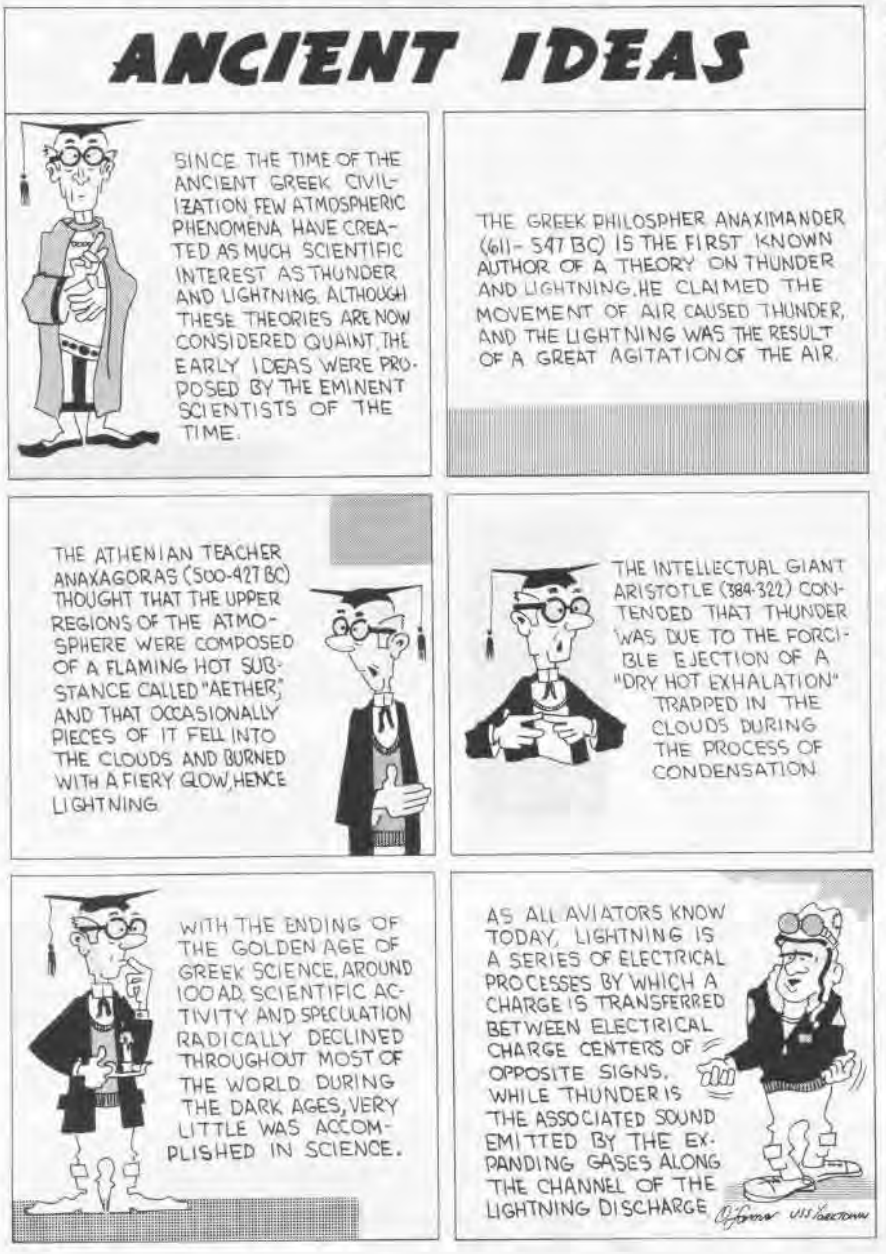
TV and radio station KCON on board USS *Constellation* (CVA-64) recently underwent a major renovation. Included in the new system are two video tape recorders, two cameras, a multicaster, an audio tape deck, and a transmitter system. All were purchased with welfare and recreation funds.

Photos by PH2 R. L. Stewart

Connie's entertainment system, like those aboard all carriers, provides entertainment, news, and other information while the ship is at sea.

KCON staff members have spent many hours in studying production, programming, and maintenance of the new system. On the staff are Ltjg. M.C. Stanford, Ens. F.S. Taylor, Jr., JOC W.J. Thomas, JO3's Mike Ball and Bob Allen, SN Pete Spear, AN Phil Jones.

BEFORE *the daily broadcasting schedule begins, JO3 Mike Ball adjusts the monitors in Connie's KCON/TV studio, top. Above, Tom Benavides delivers local news from aboard ship as Ball adjusts camera view and, at right, Ball makes necessary adjustments on one of the station's new cameras.*



Space Course Text is Now Ready

Based on Lectures at Point Mugu

A new officers' training course prepared by the space and astronautics orientation group at the Naval Missile Center, Point Mugu, Calif., has been published by the Bureau of Naval Personnel. NavPers 10488 is designed for use in the officer correspondence course program and as a reference text for officer candidates.

The manual, which was written in 1967 by the group headed by Commander R. G. Herron, covers the environment technologies and applications of space. The BuPers text was based on lectures developed at Point Mugu over a seven-year period.

Over 12,000 persons attended the lectures and even greater numbers are expected to take the new course.

New Hangar Built at NAS Oceana

Designed for Five Phantom Squadrons

A new hangar, with approximately 133,000 square feet of floor space, has been constructed at NAS Oceana under the supervision of the Naval Facilities Engineering Command. Commander R. P. Nystedt, construction officer at Oceana, supervised the work.

The hangar houses five F-4 *Phantom* squadrons, with each one assigned an area of 12,800 square feet plus 25 air-conditioned offices.

An automatic deluge (open head) sprinkler system, capable of releasing 4,500 gallons of water per minute, ensures protection against fire in the main hangar bay. An automatic wet pipe (sealed head) sprinkler system protects other sections of the hangar.

Safe Ejections are Celebrated

Marine Captain Given a Gold Watch

When two VT-23 pilots ejected from an F-9 *Cougar* last December 15, they became the 999th and 1,000th American pilots to eject safely via the Martin-Baker ejection seat. Both men were uninjured.

Recently, a Martin-Baker representative presented Capt. Fred A. McCaughan, USMC, with a gold watch in ceremonies at the Officers Club at NAAS Kingsville. Capt McCaughan, who was in command of the aircraft at the time of its flame-out, was credited with the 999th escape in a Martin-Baker ejection seat.

The student pilot accompanying him on the flight was Ens. William L. Taylor. His was the 1,000th ejection.

Oddly enough, the aircraft did not crash, but managed to come to rest in a marshy area on the Sante Fe Ranch, 40 miles south of NAAS Kingsville. An Army CH-54 airlifted it back to VT-23. Since it was salvageable, it was sent to Pensacola for repair.

Final F-8 PAR at North Island

Norfolk and Cherry Point Take Over

The final Progressive Aircraft Rework (PAR) of a Ling-Temco-Vought F-8 *Crusader* at Naval Air Rework Facility, North Island, Calif., was completed in July. This was the 1,388th F-8 PAR at San Diego since the program was established over nine years ago.

Future PAR's of F-8's will be done at NAS Norfolk and MCAS Cherry Point. However, North Island will continue to provide crash/combat damage and emergency repair service to F-8's operating in the western area. Transfer of the F-8 PAR program will provide greater capacity at North Island for F-4 fighters and other work programs.

PERSONAL GLIMPSES

Editor's Corner

VAGABOND KING. Our August column touched upon the attempt of NANews to report interesting records and milestones of Naval Aviation. This isn't always easy when we're dealing with the more esoteric statistics.

A while back we received word of a pilot who had made landings aboard an impressive number of carriers. Immediate research (which generally consists of thoughtful head-scratching) prompted us to write to the squadron and tell them we were aware of a duplicate tally.

Armed with this added incentive, LCdr. Bill Rizy, executive officer of VRC-40, sought new prey upon which to pounce (or bounce). He found it in the form of the HMCS *Bonaventure*. And so, on Bill's birthday, June 10, while driving his C-1 *Trader* in Exercise *Racer Run*, he landed on the Canadian carrier, thereby raising his score to 35 different ships!

There are still three carriers Bill hasn't notched on the yoke, but—who knows? – those COD pilots get around.

Curtain Time. When J03 Dan Holmes wrote about liberty in Da Nang, he thought back on the patiently awaited opening of the Camp Tien Sha theater and how, for that auspicious occasion, a matinee was held.

"But who ever heard of wrap-around windows in a movie house?" Holmes asks. "Maybe the designer wanted to make sure there was light enough for everyone to see."

I WANT TO BE ALONE. The Federal Aviation Administration's information newsletter reports that, if you hate crowds, the best time to fly is 0300. A recent FAA study shows that only 176 airline flights are airborne at that hour, as compared with 1,152 at 1800.

Fly Now, Pay Later. The same FAA newsletter also contained this gem:

"Help. I'm in a stolen airplane. I'm lost. And I've never landed an airplane before." This is the gist of a distress call received recently at the FAA's Air Route Traffic Control Center in Miami, Fla. One hour and two minutes after the call was received, the pilot of the stolen aircraft landed safely at Key West International Airport, thanks to the assistance given him by the Miami center, the U.S. Navy-operated radar control approach facility at Key West, and the pilot of a twin-engine Piper *Apache*.

By relaying radar vectors provided by the Navy facility, the Miami center was able to keep the stolen aircraft in the vicinity of Key West until the *Apache* pilot picked it up and led it to the airport. On the way, the pilot of the stolen aircraft received a short course in the fine art of landing an airplane from his counterpart in the *Apache*. He proved to be a quick learner and, on his second try, made a creditable landing at the Key West Airport—to the applause of local law enforcement officers, who were waiting to meet him.

ROMEO RETURNS. When the Rogue River annual "Rooster Crow" is held in Oregon, challenging prize roosters from all over the country assemble for competitive crowing. Reminiscent of the famous Calaveras County Frog Jump, the latest session was witnessed by 6,000 northwestern spectators who had come to spur on the efforts of 116 birds, among whom was the distinguished entry from the U.S. Navy, VA-22's "Romeo" (see page 39, NANews, April 1968). The *Fighting Redcocks'* mascot had just returned from his second combat cruise with the squadron aboard the USS *Ranger*.

Traditionally a symbol of military courage, the rooster, especially the red gamecock variety, has become the valorous trademark of the squadron, emphasizing stature and tenacity.

Escorted to Rogue River by Ltjg. B. E. Remer, Romeo found the competition severe; the previous year's winner had produced 49 crows in a half-hour and he was back to try again.

Romeo was clearly at a disadvantage in the jam session, having been repeatedly discouraged from excessive crowing during the cruise. The pilots had felt that combat duty was laborious enough without having to endure a full-throated rooster's haphazard guesses about sunrise while in a ready room below decks.

So, Romeo placed only sixth. But he was awarded a special prize for travelling the greatest distance to the contest. He'd been entered from the Tonkin Gulf off the coast of North Vietnam.

THE TEN-DOLLAR PRIZE VA-22'S 'ROMEO' RECEIVED WENT TO NAVY RELIEF

LETTERS

Squadron Insignia

Sirs: The June edition of *Naval Aviation News* ran an article on Fleet Composite Squadron Three (VC-3). The pictures and captions were excellent, but the wrong squadron insignia was used. I am forwarding to you this VC-3 squadron insignia for future reference.

D. R. Porter, Ens., USNR
VC-3 PAO
NAS North Island

¶ Below is the proper insignia. The one we published in June belonged to a VC-3 squadron no longer in existence.

Former F6F Pilot Sought

Sirs: I am a former Japanese Army Air Corps fighter pilot. I would like to correspond with the former F6F fighter pilot who shot down my Ki-61 fighter (Tony) over central Taiwan (Formosa) on October 12, 1944, between 11:00 and 11:30 a.m. I fought my two Ki-61 fighter formation against 36 F6F fighters.

Takeo Tagata
No. 372-3, Kajinomachi
Koganeishi, Tokyo

Record Exceeded

Sirs: In the June issue of *Naval Aviation News* (p. 3), Training Squadron 21 at Kingsville, Texas, was credited with an all-time high number of hours flown by a jet squadron in any one month. The record claimed was 3,651 hours for March.

Training Squadron 9 at NAAS Meridian, Miss., has topped this record. During the month of May, VT-9 logged 6,510.3 hours in T-2A's.

Commanding Officer, VT-9

How Many Catapults?

Sirs: In a story in your June 1968 issue, "Mammoth Symphony of Sound and Motion," you indicated that the USS *Bon Homme Richard* (CVA-31) has four catapults. *Bonnie Dick*, like the other *Essex*-class CVA's, has only two "cats," both on the bow.

Steven Ginsberg
1259 Loring Ave.
Brooklyn, N.Y. 11208

¶ Chalk this one up to an over-eager NAN News rewrite editor, who—having served aboard a carrier which *does* have four catapults—added something to our version of the original story, namely two non-existent "cats" aboard *Bonnie Dick*. We have punished him for his error by holding a launch with a "cat" of our own: a big shoe at the end of a good, swift kick.

Enlisted Reserve Reunion

Sirs: The annual conference of the Naval Enlisted Reserve Association will be held at the Sheraton-Park Hotel, Washington, D.C., on October 18 and 19, 1968. Reservations may be made through the address given below.

Duncan Forsyth
National President
Box 7111—Ben Franklin Station
Washington, D.C. 20044

Eagle Eye

Sirs: While looking through your June 1968 issue of *Naval Aviation News*, I noticed the pictures concerning VC-3. In the picture of a crew preflighting an aircraft, the plane is not a DP-2E but a C-54 or C-118.

I enjoy your magazine very much and understand how these little errors can slip by.

Elliott E. Fowler, ADR2
NAS Glenview, Ill. 60026

¶ Well, we checked with the experts, and they concur: it is probably a C-54. They aren't certain. Our source led us astray.

New Anti-Exposure Suits Ordered

Suits are to be Evaluated in the Fleet

The purchase of a limited quantity of a new type of anti-exposure suit, designed by the Naval Air Engineering Center, Johnsville, Pa., to increase cold water survivability, has been announced by the Naval Air Systems Command.

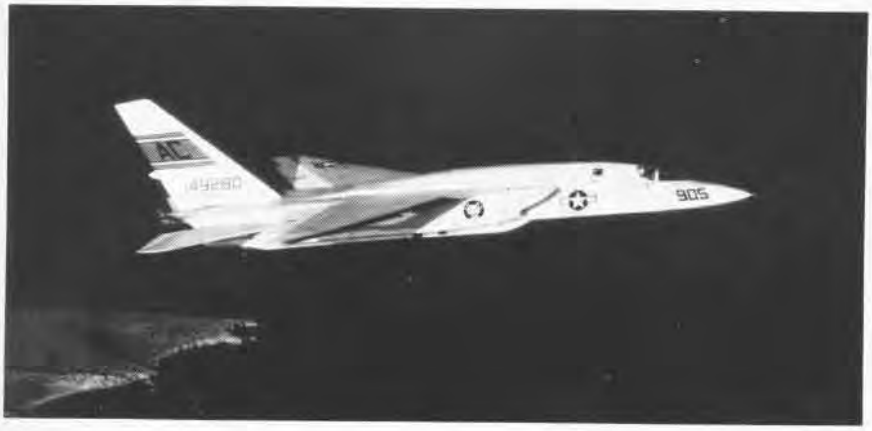
Twenty-five hundred air-ventilated wet suits (VWS) are to be delivered in the near future for evaluation by both the Atlantic and Pacific Fleets. The VWS is to be considered as a possible successor to the Mk 5A dry-type anti-exposure suit now in the Fleet.

Based on the skin diver's "wet suit" principle, VWS has been specifically designed for pilot-cockpit compatibility, using an integrated air ventilation system as part of the suit. The VWS is made from 3/16-inch unicellular neoprene foam and is lined with a knitted nylon stretch fabric to increase the service life of the garment and to facilitate easy donning and doffing.

The one-piece coverall is designed with a front reversible entrance zipper, plus zippers for the arms and legs. It protects the wearer against cold water, wind, and spray. Less bulk, greater comfort, increased durability, and a higher degree of reliability during aircraft exit and immersion are its chief advantages.

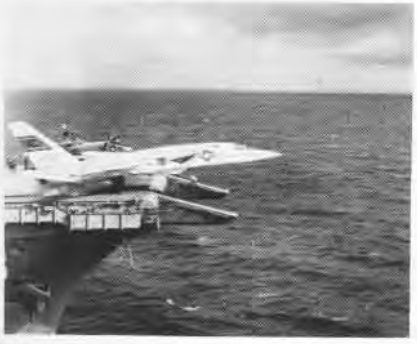
It is worn over a special non-absorbent type of long, two-piece underwear and under the Navy's NOMEX fire-resistant summer flight coverall. The protective exposure tolerance afforded by the VWS, even to temperatures as low as 32 degrees F., falls well within the present average pickup time for downed airmen.

NEW VWS MODELED AT JOHNSVILLE



SQUADRON INSIGNIA

The ''Hoot Owls' of Reconnaissance Attack Squadron Nine, home-ported at NAS Albany, Ga., are led by Commander C. E. Thompson. The Atlantic Fleet squadron performs its mission in RA-5C Vigilantes. The scene at lower right was painted by NA-News editor, Cdr. Ted Wilbur.



COME ABOARD. . .

And put a thrill in your future. Naval Aviators fly some of the greatest aircraft in the world—Intruders, Crusaders, Phantom II's, and Corsair II's. If you want to get into the flying game, make sure you do it the Navy way. Read all about it in the October issue of Naval Aviation News which will give you a complete run-down on the thorough training which is provided for every man who wisely decides to 'Fly Navy.'