

NAVAL AVIATION NEWS

FIFTY-SECOND YEAR OF PUBLICATION

Vice Admiral Thomas F. Connolly
Deputy Chief of Naval Operations (Air)

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Assistant Deputy Chief of Naval Operations (Air)

FEATURES

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A lot of time and technology separate the A-1 Triad and the F-14 Tomcat. As Naval Aviation marks its 60th year, we present a chronicle of the events and developments that have brought it to this anniversary.

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He's been around almost as long as the first Naval Aviator — and he's changed as much. Commander Joe Pursch, Flight Surgeon, takes a look at — Navy Flight Surgeons.

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They rest, bundled and protected, awaiting a call to service that may never come.

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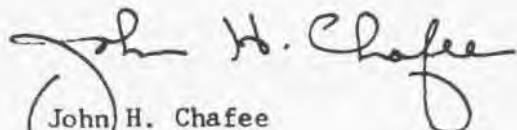
THE SECRETARY OF THE NAVY
WASHINGTON

The 60th Anniversary of Naval Aviation

It has been sixty years this month since the Navy ordered its first airplane, the \$5,500, 45-mph A-1 Triad, and Naval Aviation was born.

In those sixty years, within the memory of a single man, naval aviators have served our country in four wars and a score of crises around the globe. Their hardware and their weaponry have improved almost beyond belief. But at fifty knots or Mach 3, at fifty feet or fifty thousand, at Vera Cruz or Viet Nam, from Lake Keuka to Fra Mauro, the breed of man has been the same. Courageous, professional, he has mastered every mission the cause of freedom has assigned.

On his ability to continue to do so depends in large degree the security of our nation in the years ahead.


John H. Chafee

EDITOR'S CORNER

Across our desks come many stories about the off duty pastimes of the men of the aviation community. Some relate stories of busmen's holidays — flying and parachuting clubs (which we report occasionally). Many reaffirm the ingenuity of the average aviation rating with a work-related problem: the fellow who says "there's got to be an easier way" and proceeds to find it — in his off duty hours. Some tell of community service: give our Navy men an orphanage, hospital, church or other local endeavor — at home or abroad — that needs assistance, and he is there, rebuilding, painting, collecting books, clothing, food, etc.

But these hobbies are the rule and we tend to take them for granted.

Then, every once in a while, we find one that really piques our imagination. This is the case with the billboard that Attack Squadron 305, NAS Los Alamitos, is sponsoring in its efforts to educate the public to the plight of American prisoners of war in North Vietnam. The sign, donated through the efforts of the Los Al Wives Club and VA-305, speaks for itself.



Another release that caught our eye was dated Da Nang, RVN. It began, "Occasionally the eerie, melodious sound of music almost forgotten can be heard from the 1st MAW medical department."

The music comes from the bagpipes of the Wing's surgeon, Captain Donald W. Robinson, MC. The captain, of half Scottish descent, was exposed to the bagpipes at an early age. About two years ago a friend persuaded him to buy a practice chanter and give it a

try. Then last December, he bought a complete set of pipes in Australia.

Capt. Robinson says learning to play the pipes wasn't all that difficult. But he warns others that "breath control, coordination and the physically exhausting process of keeping the air bag full do take some practice."

"There are systems for dialing a prayer, dialing the weather and dialing the time," brought us up short. The release continued, "Now an NATTC Memphis sailor has come up with a training aid he calls "dial-a-bug."

AMH1 James T. Chambers, hydraulic systems instructor at the Aviation Structural Mechanic Class B School, built his invention in six months — in his spare time.

The system consists of a two-foot-long box crammed with wires and coils attached directly under the cockpit of an F-4. Switches on the front of the box are labeled with a series of numbers. A component part is a 3 x 2-foot box which is also covered with switches and lights labeled with a code corresponding to an electrical or hydraulic system on the aircraft. Chambers calls this the Student Monitor Console.

Chambers dubbed his less-than-six-pound invention dial-a-bug because, with a flip of a few switches, he can instantly put 46 different defects into the aircraft, singly or in combination. It is then up to the students to locate and identify the malfunction.

Before he introduced dial-a-bug into the one-week trouble-shooting phase of the course, Chambers had to actually build in, and later remove, each defect.

In the photograph, Chambers is explaining his training aid to Rear Admiral V. G. Lambert, CNATechTra.





1911

1971

DE'S Are Named for Two Naval Aviators

WESTWEGO, La. — Two of the newest additions to the Navy's destroyer escort fleet, built at the Avondale Shipyards, have been named in honor of Naval Aviators. In January, Vice Admiral Thomas F. Connolly, DCNO (Air), was the principal speaker at the launching of DE-1083.

The new destroyer escort was christened USS *Cook* in honor of LCdr. Wilmer P. Cook, a Naval Aviator. Adm. Connolly praised him as "the kind of individual who draws the best from his shipmates."

A veteran of numerous air strikes over North Vietnam, Cook was eligible for shore duty but elected to return to the war zone, where he earned three Distinguished Flying Crosses, four Navy Commendation Medals and

seven Air Medals. He was killed December 22, 1967, while leading a strike from CVA-43 over North Vietnam.

Then, on April 9, the keel was laid for USS *Jesse L. Brown* (DE-1089). Ens. Brown was the first black American naval officer to lose his life in combat in the Korean conflict. With VF-32 on board USS *Leyte*, Ens. Brown flew close support missions for the Marines near Chosin Reservoir. He was killed in action on December 5, 1950, and was posthumously awarded the Distinguished Flying Cross, Air Medal and Purple Heart.

Armed Condor Tested

WASHINGTON, D.C. — The Naval Air Systems Command announced that a *Condor* TV-guided missile scored a direct hit on a ship target near San Clemente Island off the California coast in February. The live warhead missile was launched from an A-6A

Intruder and demonstrated the *Condor's* ability to strike surface ships from beyond the range of their defensive anti-aircraft fire.

The missile was fired from a stand-off position far beyond the line of sight to the target. After launch the *Condor* flew to the target area while transmitting a TV picture back to the launch aircraft. The missile operator in the launch aircraft, which had cleared the launch area, located the target on his TV display, identified it as the desired target and locked the missile's guidance onto its most vulnerable part. A direct hit amidships on the former destroyer escort USS *Vammen* was achieved. This firing was the third consecutive successful flight of the *Condor* system and was the first live warhead test.

Condor, now in final stages of development, provides a major advance in airborne tactical weapons by minimizing exposure of U.S. attack aircraft and crews to heavy enemy anti-aircraft defenses associated with key military targets such as ships, SAM sites, bridges and port facilities.

Bombing Derby Held

OAK HARBOR, Wash. — NAS Whidbey Island-based VA-196 ran away from the competition recently to win the CVW-14 Bombing Derby.

The visual dive bombing competition, held at NAAS Fallon, Nev., required a crew from each squadron to drop three bombs, with the first bomb counting as 50 percent of the overall score. Flying a squadron A-6A *Intruder*, the VA-196 crew of LCdr. Kip Banta and LCdr. Robert Proshchek put their first bomb only 45 feet from the bull's-eye. Second place, by an A-7E *Corsair II*, was marked at 90 feet.



In February, the Marine Corps accepted delivery of the last production model of the Boeing-built CH-46A Sea Knight. The delivery marked the end of a 15-year era in the development and production of the CH-46A Sea Knight medium lift helo for the Marine Corps and Navy.

New Control System Tested

WASHINGTON, D.C. — The National Aeronautics and Space Administration has announced it will soon begin flight research to demonstrate that aircraft of the future can be flown by an electronic control system like that used in the *Apollo* spacecraft.

This new system would make life easier for passengers by softening many of the bumps, sways and lurches often felt in rough air. It would ease the workload of the pilot and let him devote added time to the critical tasks of planning the flight and manually flying the landing path.

And it may be possible to reduce the size of the large structural components such as tail surfaces and to relocate others which could reduce the basic weight and drag of the aircraft and offer improved flight performance and increased payload.

Today's aircraft use a complicated and heavy mechanical system of metal rods and hinges or cables and pulleys to carry the pilot's signals from the control stick in the cockpit to the aerodynamic controls on the wings and tail.

The accepted theory has been that these mechanical systems give the utmost in reliability, but this theory has been challenged recently because of battle damage in the case of military aircraft and structural bending in the

case of commercial aircraft.

An electronic system gets around these problems by substituting lightweight wires for push-rods and then adding several redundant wire-paths at different locations in the aircraft to make the overall system less vulnerable to damage. This type of control is usually referred to as "fly-by-wire."

NASA engineers and scientists at the Flight Research Center, Edwards, Calif., and at the Manned Spacecraft Center, Houston, have teamed up to adapt the *Apollo* moon flight hardware to a reliable fly-by-wire control system for the aircraft of tomorrow.

The control system proposed by NASA is a digital system which uses electronic signals to express all messages sent to and from the *Apollo* computer. These signals come to the computer from sensors which detect the aircraft's many movements and from the pilot's control stick motion. Then processed commands are sent from the computer via electronic impulses to the appropriate control surfaces.

The first phase of the NASA research program calls for installation of the modified *Apollo* equipment in an F-8C at the Flight Research Center. Installation is planned for this fall with a goal of operational flight by 1972.



New Fire Truck Has Light Water Capability

NAS BARBERS POINT, Hawaii — The Barbers Point fire-rescue division hosted an operation and maintenance indoctrination course here recently for 27 representatives of activities scheduled to obtain the new MB-1 fire-fighting and rescue truck.

The new truck weighs 31,860 pounds and can carry 50 gallons of fuel, 1,000 gallons of water and 130 gallons of "light water" concentrate foam. The MB-5 presently in use carries 400 gallons of water and 30 gallons of light water.

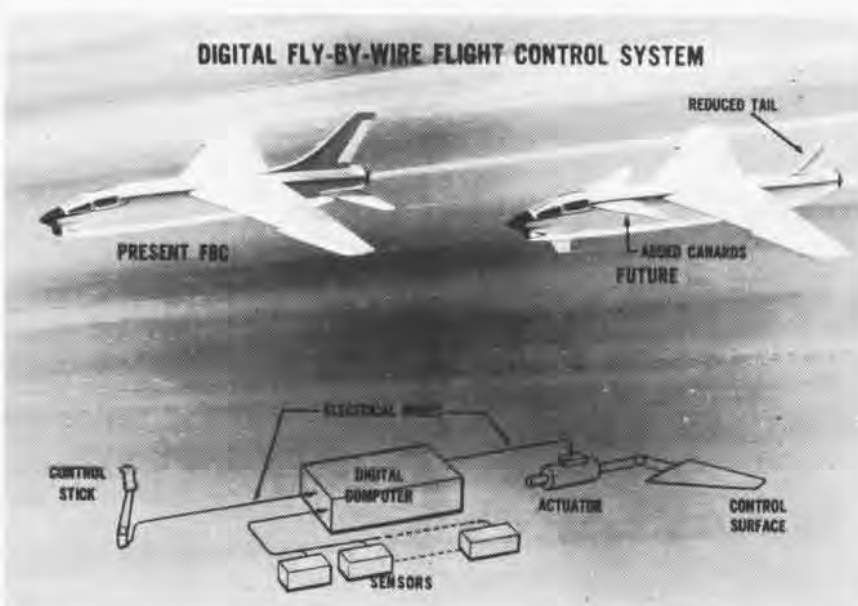
The MB-1, powered by a six-cylinder 335-horsepower engine, dispenses light water concentrate up to 150 feet with 360° rotation.

Presently, three naval air stations each have one truck in operation — Barbers Point, Alameda and Norfolk. More are on order.

Helo Crews Cited

IN THE MED — Secretary of the Navy John H. Chafee recently presented medals to 16 members of HS-3 for their heroic rescue of 20 persons from a distressed merchant ship off the Sicilian coast. The ceremony was held aboard USS *Forrestal* which was operating with the Sixth Fleet.

Flying in four helos, the pilots and crews battled gale force winds in rapidly approaching darkness to hover over the forecastle of the ore ship, SS *Flamingo*, to lift the threatened ship's 18 crewmen and two women passengers to safety. *Flamingo*, lying dead in the



water and being tossed about by 15-foot waves, ran into trouble with heavy seas two days out of Greece and later lost the use of its engines.

Wind conditions forced the helicopter pilots to hover their craft with the ship out of their sight. They had to depend on voice communications from crewmen at the rescue hoists in order to remain over the pitching forecandle and dodge the ship's wildly swinging mast which came dangerously close to the helos' rotors.

An attempt was made to lower AWC Abraham P. Cahill to the ship so he could show the people there how to use the rescue harness. But he never reached the ship; he was retrieved because the chance of his being seriously injured was too great.

Once the helicopters began the actual rescues, things went as smoothly as could be hoped. The last man aboard, the captain, was hoisted from the ship one hour after the first.

"With the ship pitching up and down and rolling up to 45 degrees to either side, plus the wind conditions, it was about as tough a pickup as you could hope to make," said Commander Warren H. Winchester, the squadron's executive officer. "The only thing that could have made it more difficult would have been darkness."

As it was, the last rescue was accomplished ten minutes after sunset.

Pilots in the operation were Cdr. Winchester, Lt. James W. Sturges, Lt. George W. Montgomery, and Captain George B. Laforme, a Canadian exchange officer. Each received the Meritorious Service Medal, as did Chief Cahill.

Copilots in the rescue and recipients of the Navy Commendation Medal were Lts. James D. Ellington and William C. Hunter, Jr., and Ltjgs. Charles R. Kellum and David A. Scribner.

Crewmen awarded the Navy Achievement Medal included AW3's Stephen A. Bulger and Frank A. Vogl, AW1 Alvin R. Partin, AW2's Harley R. Martin and James A. Stuthers, Jr., and AWAN's Donald L. Dager and Larry D. Jordan.

The survivors from the stricken *Flamingo*, mostly Greek nationals were taken to *Forrestal* where they spent the night. They were flown to the NAF Sigonella, Sicily, the next day.

NRL Uses Surplus Rockets

WASHINGTON, D. C. — The Naval Research Laboratory recently announced that it is saving thousands of dollars by using surplus rockets and associated equipment to carry instrumented payloads into the upper atmosphere for x-ray and ultraviolet astronomical experiments.

In one of the programs, NRL is using the 40-foot *Super Chief*, a combination of a *Sergeant* second stage and a *Talos* first stage. This combination lifts heavy payloads 130 miles to obtain x-ray measurements of galaxies.

NRL obtained the *Sergeant* from the Army and the *Talos* from the Navy. The *Talos* is used as a booster motor and the *Sergeant* motor as the sustainer. With the exception of the *Nike-Zeus* anti-missile-missile launched there in 1963, the *Super Chief*, in its maiden high-altitude diagnostic flight, was the largest Navy rocket ever fired from the Pacific Missile Range.

The first successful launch of the two-stage rocket, carrying a 1,225-lb. payload, was conducted from San Nicholas Island.

The *Super Chief* evolved from various preliminary vehicle concepts and was accepted after others proved to be either of marginal performance or less cost effective.

In another effort to use surplus

rockets for research, NRL scientists obtained from the Air Force the *Blue Scout, Jr.*, three-stage rocket system with transportation vehicles, launchers and support equipment for the system.

One of the three-stage rockets was recently launched at night by NASA from Wallops Island, Va. It carried a payload developed by Dr. George Carruthers of NRL to measure radiation from certain stars. The experiment was successful in obtaining data by telemetry from the vehicle which achieved a peak altitude of some 880 miles in its flight from Wallops Island eastward over the Atlantic.

Other experiments with *Blue Scout, Jr.*, are planned, using a modified two-stage rocket instead of three.

TPS Class Graduated

NATC PATUXENT RIVER, Md. — Rear Admiral Pierre Charbonnet, Jr., Director, Fleet Operations Division, CNO, was guest speaker at graduation exercises for the U.S. Naval Test Pilot School Class 57 in February. The graduation ended eight months of rigorous work in both the academic and flight phases for the 22 graduates — 16 engineering test pilots, 2 Naval Flight Officers and 4 test project engineering students. Maj. Glen L. McFarlane, USAF, was named the outstanding student of Class 57, and Capt. John H. Bernard, RCAF, received the Navy Preliminary Evaluation Award.

New NASC Head Named

WASHINGTON, D.C. — Rear Admiral Thomas R. McClellan, Naval Aviator and World War II veteran of destroyer and carrier operations in the South Pacific, has been named Commander, Naval Air Systems Command. He relieved Rear Admiral Thomas J. Walker, who took command of all naval air forces in the Pacific Fleet.

In his new assignment, Admiral McClellan commands an organization of 55,000 people throughout the world which develops all aircraft and airborne weapons systems for the Navy and Marine Corps. The F-14 and the S-3 are currently under development.



Payloaded *Super Chief* is ready for launch.



GRAMPAW PETTIBONE

FOD

A senior lieutenant commander climbed aboard an A-4F *Skyhawk* at 1130 for a routine flight from home field to another Pacific Coast naval air station for weapons training. Since the tempo of his recent flying hours had been rather slow, he made a particularly thorough preflight of the aircraft (all of three minutes). As part of this routine, he carefully checked the intakes for foreign objects.

Turn-up, taxi and takeoff were normal, and climbout was begun at 250 knots airspeed. Due east of the field at 8,000 feet, there was a severe thud in the engine, followed immediately by a flameout. The pilot retarded the throttle and advised the tower. There was no fire warning light and no other indication of fire. He switched to manual fuel and made a relight attempt. The engine started normally and ran smoothly but with an abnormally high exhaust gas temperature.

At this time, the *Skyhawk* was at a high 180-degree position for the duty runway, and the pilot decided to intercept a low precautionary approach profile and land the aircraft. He was slightly high at the 45° position, so he extended his speed brakes. After several minor compressor stalls, the engine flamed out again. There was still no fire warning light and no advice from the tower of a fire; however, the pilot could now see flames coming from the aft section of the fuselage.

Although he had sufficient altitude for a safe ejection, the lieutenant commander noticed that he was headed directly for the fuel farm and hangars, so he elected to stay with the aircraft long enough to clear the structures. He lowered the nose to maintain 180 knots and continued the approach. The *Skyhawk* picked up a high rate of descent, and the pilot now felt that he might be outside the safe ejection envelope. It looked as if he could still reach the runway or overrun area. He elected to stick it out.

Touchdown was slightly hard. The



burning machine rolled for a ways; then the main landing gear collapsed. By using the rudder, the pilot was able to keep the A-4 on the runway; it engaged the mid-field arresting gear and slid to a stop. The pilot quickly climbed over the side as the flames completely engulfed the aircraft.



Grampaw Pettibone says:

A gol darn cool cookie in a red hot oven. He had us sweatin' him out for a while there. Too bad there was

so little left of that *Skyhawk* after he risked his neck to bring it back. The squadron launched a very thorough investigation, including a formal Judge Advocate General's inquiry to determine the cause and to take appropriate action. The plane captain was designated a "party" in order to protect his rights.

A partially destroyed pair of diagonal pliers was found in the engine by the maintenance officer who duly presented it to the investigating officer as "Exhibit A."

The plane had flown the previous afternoon with no damage; so, it was concluded that the pliers had been introduced by person or persons unknown between 1630 on the day before and 1120 on the day of the accident. All persons who worked on the aircraft were duly sworn and testified; however, nothing could be proved. The plane captain *did* conduct a thorough preflight inspection of the airplane. The pilot *did* look for FOD in the intake. The only recommendation of the investigating officer was that an improved method of tool accountability and control be instituted to prevent a recurrence.

What's missing? Why weren't the maintenance chief petty officer and the maintenance officer designated parties? Or even the C.O.? Procedures within the squadron were so lax that the plane captain was not even designated as prescribed in appropriate directives. Existing instructions on



ILLUSTRATED BY *Osborn*

tool accountability and FOD prevention were not being complied with in the remotest sense. The fleet air commander and others pointed this out only too carefully in their endorsements to the investigative report, but no one even suggested that any form of disciplinary action be instituted against those responsible for allowing these conditions to exist. C'est la vie.

Cross-Country

From: Lt. P. D. Que, 1310/USN

To: Commanding Officer, Observation Squadron One

Subj: Leave, Request for

1. It is respectfully requested that I be granted 10 days' leave.

2. If granted, my address will be:

200 Elm Street

Podunk, Pennsylvania

3. It is further requested that I be detailed aircraft NO-1 #4820 which is assigned to this squadron. It will be used for the purpose of practicing cross-country flying from here to Podunk and return.

Very respectfully,

/s/ P. D. Que

Because it was a normal request, it was approved and leave was granted. P.D. drew a cross-country pack from operations and proceeded with his mission. In due course, he returned from leave refreshed and with a beautiful tan.

Sometime later, the skipper called Lt. Que into his office for some explanations. The aircraft log book and a pile of fuel chits were on his desk. [The log was up to date and the chits were all properly completed.] The C.O. looked up at him and said, "Seriously, Lieutenant, there are some things here that I would like explained. What is this Charlie's gas pump at Podunk, Pa.?"

"Well, Sir, you see," the lieutenant explained, "Podunk doesn't have a landing field, so I landed in a cow pasture on the edge of town. It belongs to a friend, and he said I could use it. He agreed that when I flew over his house, he'd go out and chase all the cows into one corner of the field while I landed. [Good forethought and planning.] Charlie's gas pump is just down the road a piece and, since the sheriff is my uncle, it was easily arranged to taxi down and fill up."

"I see," the skipper said, "but why



all these practice flights every day?"

The lieutenant had the answer to that one too. "You see, Sir, Podunk is way inland, and they don't know much about the Navy or that we even have airplanes in the Navy; so I not only kept up my flying skills while on leave, but also flew over town to let them read the U.S. Navy on the side of the airplane. It was all good public relations for the Navy." [Two birds with one stone.]

With this the C.O. reached under his desk and pulled out a crumpled cardboard sign. "What about this sign that was found in the baggage compartment of your plane?" Crudely hand lettered thereon were the words:

SEE PODUNK FROM THE AIR
\$5.00 A HOP
ZOOM YOUR HOUSE
\$2.00 EXTRA

The barn door was closed the next day with the posting of the following order:

From: Commanding Officer, Observation Squadron One

To: All Pilots

Subj: Flying regulations, Publication of

1. Hereafter, pilots taking Navy planes on leave will not, repeat, not take up passengers for hire.

W. T. DOOR



Grampaw Pettibone says:

Well, singe my ol' gray whiskers! Don't think this didn't really happen, cuz it really did, albeit a few years back.

Things like that don't happen anymore, you say. Oh, but they do. Well,

not exactly, but how about the Marine warrant officer who took his aged family relatives for a short air taxi in his H-53? Wiped out the *Sea Stallion* when he backed into another helicopter. Luckily, his family suffered only minor injuries.

Or, how 'bout the Marine Captain who just recently buzzed his uncle's farm in the Middle West in his OV-10 *Bronco*? He bought that farm when his wing tip hit a tree.

What about the Navy lieutenant who practiced his own one-man air show to the amusement of the many? He flew wing on airliners, made low passes under power lines, performed aerobatics in the traffic pattern, etc., violating practically every good rule in the book — with no one making any effort whatsoever to bring such escapades to a halt until one day he failed to complete a dirty roll immediately after takeoff in his A-4.

"I only hear about the ones that end tragically. Gol darn immature little kids, that's what they are. There are two approaches to bringing such things under control. The reasonable one of appealing to each pilot's sense of responsibility, his pride of professionalism, his patriotism in not needlessly jeopardizing the taxpayers' dollars, his personal concern for his family in not recklessly risking his own life to cause them suffering. This approach has been, and is being used, with only partial success today. The other approach is the "big brother" one, the "two-man rule" — constant, continuous, personal command supervision over all flight activities from takeoff to landing. It is coming, and it may be the answer. Our country cannot afford the carnage of one life, \$1,000,000, and one aircraft destroyed every day of the year in the Navy and Marine Corps. Highly preventable accidents account for one third of this total.

1911

SIXTY



On the 8th of May, 60 years ago, Captain Washington Irving Chambers, newly installed in the recently created billet of "officer in charge of aviation," issued requisitions for two Curtiss biplanes. One of these, the A-1 *Triad*, became the Navy's first aircraft. From that time to this, Naval Aviation has experienced tremendous change and Naval Aviators have frequently led the way along the path of progress — whether by flying the Atlantic in NC-4 or orbiting the earth in *Friendship 7*. This review highlights only a few of the advancements which have marked six decades of progress. During that period, Naval Aviation's unique capabilities have been repeatedly called upon to implement the defense policies of the United States or to render assistance to those in need. Naval Aviation today has progressed considerably from its feeble beginnings. The aircraft carrier has become the capital ship of the Navy and the carrier-based aircraft has replaced the big gun as the striking power of the fleet. Nuclear power now propels an aircraft carrier for years without refueling, and aircraft capable of traveling more than twice the speed of sound fly from its deck. All this has become possible only through the efforts and dedication of millions of men and women during the past 60 years.



YEARS

1971

United States Navy interest in aircraft was evident as early as 1898 when naval officers, as part of a joint Army-Navy board, looked into the military possibilities of Professor Langley's flying machine. Although those experiments produced no encouraging results, naval observers continued to attend aviation demonstrations at home and abroad. In 1910, Captain W. I. Chambers was designated as the first officer to supervise all aviation matters and in that capacity arranged for a series of tests in which Glenn Curtiss and Eugene Ely demonstrated the airplane's capabilities in operations from naval vessels. These tests were held at widely scattered locations: Hampton Roads, San Francisco Bay and San Diego Bay.

Lt. T. G. Ellyson, who reported to Glenn Curtiss' aviation camp at North Island, San Diego, Calif., in early 1911 as the first naval officer to undergo flight training, assisted Ely and Curtiss in preparing for these tests. In March of that year, \$25,000 was appropriated by Congress for "experimental work in the development of aviation for naval purposes" and, in May, Captain Chambers prepared requisitions for two Curtiss planes marking the official beginning of aviation in the United States Navy. One of these aircraft, the Triad, designated A-1, was to be designed for a speed of 45 mph with provisions for a pilot and one passenger.

Captain Chambers, recognizing the underdeveloped "state of the art," pushed forward in collecting writings and scientific papers from leaders in the aviation field. He advocated the need for a national aerodynamics laboratory and put naval constructors to work in aerodynamic problems. One of these, H. C. Richardson, expressed an early interest in the use of steel and aluminum in aircraft construction — well in advance of the adoption of this practice generally. A Navy wind tunnel was built at Washington, D.C., aircraft were test launched from catapult devices, airborne wireless studies were made, and various materials were tested for use in aircraft construction. Other activities in 1912 included testing of the Davis recoilless aircraft gun, sub-

By LCdr. Paul Mullane



Ely, piloting a Curtiss biplane, made the first takeoff from a Navy ship, the USS Birmingham, at Hampton Roads, Virginia, in November 1910.



Early experimentation also included catapult launches. Below, attentive crew watches Ely land aboard Pennsylvania in January 1911.





Wright B-1, pictured at Baltimore in 1913, was the Navy's third aircraft. Below, pioneer Naval Aviators gathered in Pensacola, Fla., in March 1914.



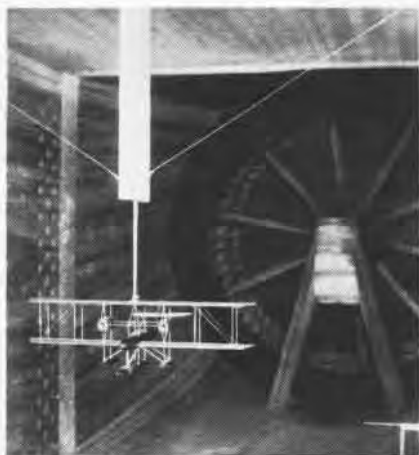
Lt. Bellinger and Machinist Adams prepare to have AH-3 hoisted aboard ship after a flight in support of the Vera Cruz operation in 1914.



marine spotting trials and establishment of the first aviation physical requirements. Because of the many advances made in the brief period since the Navy had actively begun aviation research, Secretary of the Navy Josephus Daniels was able to say in January 1914 that "the science of aerial navigation has reached that point where aircraft must form a large part of our naval force for offensive and defensive operations." Three months later, Naval Aviation had its first opportunity to prove its usefulness in a combat situation. An aviation detachment from the newly established flight training base at Pensacola embarked in Birmingham to join Atlantic Fleet ships off Mexico. A second group aboard Mississippi sailed to assist the military operations of Vera Cruz.

With the opening of the hostilities in Europe in July 1914, which rapidly became World War I, Naval Aviators were sent to Europe as observers. They reported on aviation developments from posts in London, Paris and Berlin. The importance of aviation in the Navy became evident with the establishment in November of a Director of Naval Aeronautics. Throughout 1915 and 1916, technical advancements, experimentation and administrative developments pointed to an increased role for aviation in the Navy's mission. During this period, the first contract was let for a lighter-than-air craft, an Aeronautical Engine Laboratory was set up at the Washington Navy Yard, aircraft catapults were installed on several cruisers and a Naval Appropriations Act provided a Naval Flying Corps of 150 officers and 350 enlisted men, backed by a Naval Reserve Flying Corps.

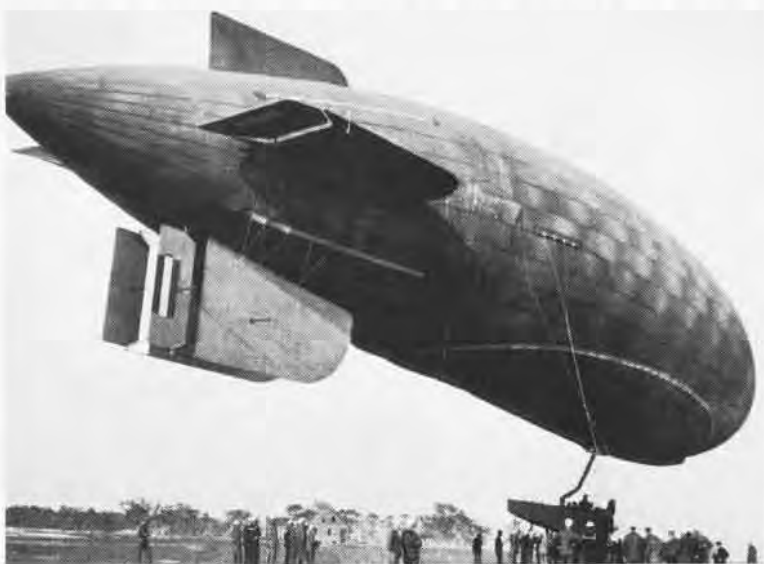
When the United States entered WW I on the side of the Allies in April 1917, Naval Aviation had neither the size, equipment nor personnel to fight a war. The naval air establishment consisted of one air station, 54 aircraft, most of which were training planes, a total of 48 student and qualified pilots and 239 enlisted men. During the 19 months of our participation in the conflict, 39 naval air stations were established, 27 of them overseas — in France, England, Ireland, Italy, and the Azores. Thousands of young men enrolled in the Naval Reserve Flying Corps to become pilots, ground officers, mechanics and technical specialists. New types of aircraft were produced and tested, and entered the inventory. Great advances were made in the development of aircraft engines. Emphasis in aircraft procurement was placed on patrol-type seaplanes to fulfill ASW needs but, by the time of the armistice, land-based Navy and Marine Corps squadrons had



Model of proposed Navy plane is tested at Washington Navy Yard wind tunnel in 1915.



Curtiss N-9's line the beach as student pilots prepare for training flights in 1917. Thousands were trained as Naval Aviators during the rapid WW I buildup of U.S. Naval forces.



The B-type blimp was Navy's first successful airship and patrolled the U.S. coast during WW I. The H-16, right, was an American contribution to the ASW effort. Below left, is a Curtiss-Sperry flying bomb mounted on a car undergoing tests in 1918. Below right, AB-3 prepares to catapult from the North Carolina.



been formed into the Northern Bombing Group to attack German submarine bases in Belgium. With the end of the war in November 1918, Naval Aviation had grown considerably to a strength of 2,107 aircraft and 15 lighter-than-air craft with 6,716 officers and 30,693 enlisted men.



Marine DH-4B's at Yorktown, Va., in 1921 are similar to those assigned to Northern Bombing Group during the war.



Too late for wartime service, the NC-4 became the first aircraft to cross the Atlantic. Here it taxis on Lisbon's Tagus River after arrival in May, 1919.



Sea sled was WW I try to take aviation to sea. Below, turret launch platform on Texas proved more practical. Right, arresting gear tests of Hampton Roads using Aeromarine led to successful flight deck recovery method. Lower right, Ostfriedland takes near miss from Navy F5L's participating in 1921 joint Army-Navy bombing tests.





Saratoga, upon joining the fleet in 1927, provided a striking contrast to Langley, left, the Navy's first aircraft carrier, and its deck could accommodate considerably more aircraft. Autogiro shown on Langley is XOP-1.

The end of fighting did not put an end to the technical advances of Naval Aviation. Many of the programs under development for war use were pursued and improved the Navy's air warfare capabilities. The NC flying boats, designed as long-range antisubmarine patrol planes, demonstrated the phenomenal advancement of aircraft construction with the trans-Atlantic flight of the NC-4 in 1919 — a brief 16 years after the Wright brothers' first flight at Kitty Hawk. Recognition of Naval Aviation's importance as part of the fleet forces came that same year with the establishment of Fleet Air Detachment, Atlantic Fleet, with Shawmut as flagship and tender for a squadron of H-16's. Texas, also a part of this new organization, was assigned three land planes with which to conduct launching experiments from a turret platform. Other means of taking aviation to sea were tested, including experiments with aircraft launched from towed sea sleds, but the growing weight of opinion urged a line of development which the Royal Navy had been experimenting with as early as 1917 — the aircraft carrier. The Naval Appropriations Act for FY 1920, passed in the summer of 1919, provided for the conversion of the collier Jupiter into the Navy's first aircraft carrier.

During the decade of the 1920's, Naval Aviation experienced tremendous growth and development. From a small air detachment with each fleet, the Navy's air arm grew to three aircraft carriers with assigned fighter, torpedo and bombing squadrons; patrol squadrons operating with the fleet from seaplane tenders; and scouting aircraft regularly assigned to battleships and cruisers. Naval Aviation went to sea. Increasing technical progress marked this period — in spite of tight funding. Better instruments, radios and bombsights were developed. Efficient and reliable air-cooled radial engines were designed — types which would be the hallmark of U.S. Navy planes until replaced by the jet engine.



Shawmut served as flagship for first Naval Aviation fleet establishment. Below, Hawks, Corsairs and torpedo planes crowd the deck of Lex.





LCdr. Arthur Radford pilots one of three Løning seaplanes engaged in 1926 Alaskan aerial survey, the first photo-mapping of Alaska.



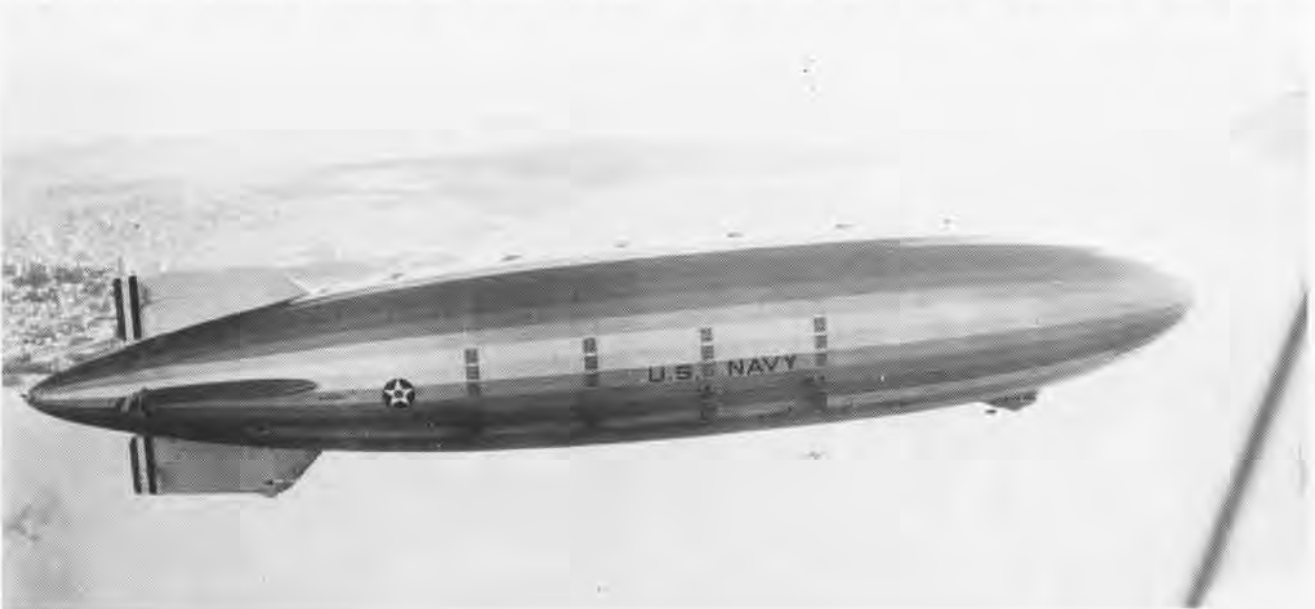
Martin SC-1 was one of several early torpedo plane designs. Below, USS Akron over San Francisco Bay recovers aircraft on trapeze device.

Tactics were developed to match the improved abilities of the machines placed in the hands of Naval Aviators. Dive-bombing, close air support, torpedo attack and spotting services for the big-gun ships of the line were worked out and doctrines established. Air operations were incorporated into fleet maneuvers. Navy aircrews practiced operations from advanced bases and their skills were utilized for such diverse assignments as polar exploration and photographic surveys in addition to their services with the fleet.

One significant development in the years following WW I was the emergence and expanded operation of another type of aircraft — the rigid airship — called by some the “cruiser of the air.” Huge, capable of long-range scouting missions, some carrying their own fighter protection, these impressive airships captured the imagination of the public. While various difficulties led to the abandonment of the rigid airship during the 1930’s, the non-rigid blimp, which was also being improved, provided useful service in convoy escort during World War II.



Tiny MS-1, tested as a submarine-borne scout plane, had eighteen-foot wing span and was stowed in sealed chamber on the deck.





P2Y's of VP-10 conduct long-range exercise in Hawaiian Islands and right, scouting planes operate with Saratoga, demonstrating increasing the capabilities and activities of naval air between the wars.



TBD's, SBD's and F4F's crowd deck of carrier just before WW II. Below, Saratoga, Lexington and Ranger join to display strength in 1930's.



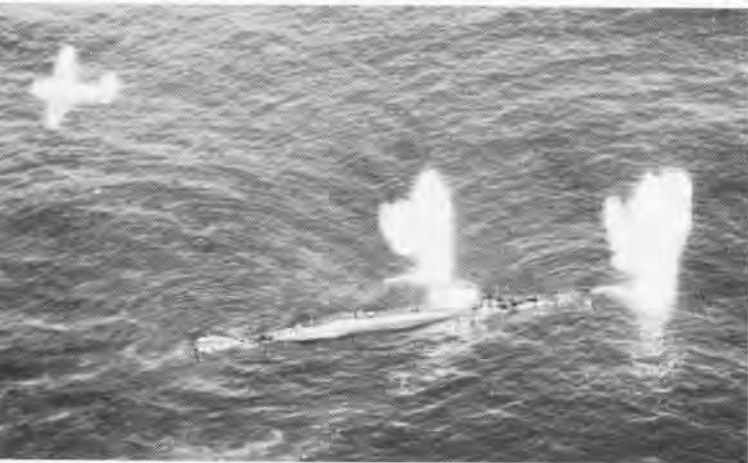
In the Thirties, in an environment of reduced naval armament and economic depression, the expansion and technical advancement of Naval Aviation slowed and operations were sharply curtailed. But improved equipment and innovations continued to be introduced and, as the decade drew to a close, more money became available for new ships, more and better aircraft and modernized air stations. Improved radios, supercharged engines, controllable-pitch propellers, retractable landing gear, folding wings and dependable monoplane designs were but a few of the advancements made in these years. Hydraulic arresting gear and catapults contributed to improvement of the carriers from which improved naval aircraft operated. Three new aircraft carriers joined the fleet and, as the signs of another world war appeared in Europe and East Asia, further naval growth was authorized. Pilot training and aircraft procurement were increased. New carrier designs were drawn up and keels were laid. Aircraft soon to become famous were being designed and tested, and Naval Aviation became an important and thoroughly integrated arm of U.S. naval power.



Warfare in Europe and Asia led to a rapidly expanding Naval Aviation force, with increased aircraft construction and pilot training.



Naval Aviation in WW II figured prominently from the beginning as victim at Pearl Harbor, as avenger against the U-boat in the Atlantic and in the first bombing raid on Tokyo by planes from USS Hornet.



Naval air units were soon called on to protect American interests in connection with the spreading conflict. German U-boats and surface raiders brought the threat of naval warfare into the waters of the western Atlantic. President Roosevelt ordered the Navy to establish a Neutrality Patrol to keep an eye on the activities of the belligerents in the approaches to the U.S. coast. As the "Battle of the Atlantic" increased in magnitude and our commitment to the Allies likewise increased, Naval Aviation found itself employed in such places as Bermuda, Newfoundland and Iceland.

With the attack on Pearl Harbor, the Navy became engaged in a global war — a war in which air power figured to a greater extent than it ever had and in which Naval Aviation played a principal role. Only 30 years after acquiring its first aircraft and less than 20 years since gaining its first aircraft carrier, the Navy's air arm became the backbone of fleet striking power — the force that would lead the nation's military might across the Pacific and protect those crossing the Atlantic. The fast carrier task force supplanted the long gray line of battleships as the Navy's cutting edge. Naval Aviation began the fight with eight carriers, five patrol wings and two Marine Corps aircraft wings, numbering 5,233 aircraft of all types including training planes, manned by 5,900 pilots and 21,678 men. Naval Aviation grew, by war's end, to a force of over 100 aircraft carriers and 40,900 aircraft with 60,095 pilots and 370,760 aviation support personnel.

Tactics and doctrine worked out during the Twenties and Thirties were applied with effectiveness in the early Forties, and new tactics and combat techniques were added.





In the course of the war, Naval Aviation proved its prowess by sinking 161 Japanese warships, 447 merchant ships and 63 German submarines. In addition, Navy and Marine pilots destroyed over 15,000 enemy aircraft.

Contributing vastly to the success of Naval Aviation in the war years was a technological revolution which allowed improved tactical applications. Radar, MAD and other electronic advances let airmen see in the dark and beneath the seas. New carriers of the Essex class gave the fleet improved striking power. Large numbers of smaller escort carriers spread the effectiveness of tactical air power as needed into contested areas in the Atlantic and Pacific, providing close air support on jungle islands or coordinated ASW attacks on U-boats. On occasion, Navy carriers gave assistance to the Army Air Corps by transporting their aircraft into position to strike at enemy targets or to fly to forward area bases. By the end of the war, Naval Aviation had emerged as the Navy's most devastating and flexible weapon, only to enter a period of demobilization and organizational readjustment. Demobilization was rapid: aircraft carriers went into the mothball fleet, aircraft went to outdoor storage in the arid Southwest. The number of personnel on active duty dropped to one-fourth of the wartime peak by mid-1946. In this period of greatly reduced forces, technological changes and scientific advances occurred at an accelerated rate that led to constant readjustments of plans, organizational changes and revisions in tactical doctrine. Naval Aviation plunged forward into new fields. Jet operations began from carrier decks; long-range, carrier-based nuclear bomb-carrying planes were designed; uses of helicopters were explored; and guided missile programs were conducted. The Naval Air Reserve Program, soon to prove its worth, was re-established.

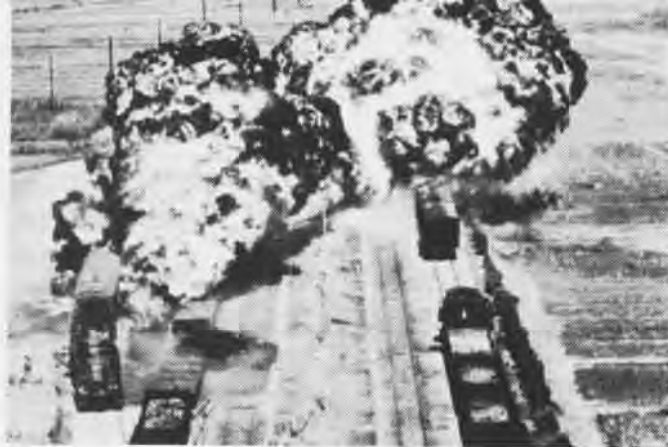


Tactics developed during the Twenties and Thirties were put into practice by a vast force of carriers and advanced naval aircraft.



New tactics and weapons were developed during wartime. CVE's carried ASW to mid-Atlantic and aided new attack carriers in sweeping the Pacific, while improved aircraft increased their striking power.





Jet aircraft and helicopters were introduced to combat during the Korean War, adding to Naval Aviation's capabilities and versatility. Increased support for ground forces resulted from these advances.



In an environment of decreasing budgets, with the various services competing for a share of the available funds, disputes arose. Old arguments were raised anew. Aircraft carriers were called expensive, vulnerable and obsolete, but these arguments ended in June 1950 when North Korean troops poured across the 38th Parallel in an attempt to overrun their southern neighbor. The Navy, caught in an era of reduced size and in the midst of technological and tactical transformation, responded immediately by moving ships and aircraft to Korean waters. Jet planes went into combat for the first time from a U.S. carrier deck and helicopters found a variety of active roles. Reserve squadrons were recalled to active duty, proving the value of maintaining the proficiency of veteran aviation personnel jocularly called Weekend Warriors by some. Navy and Marine aircraft, though they often tangled with North Korean MiG's, concentrated on supporting the GI on the ground with close air support and interdiction. Railroads, bridges, supply depots, armored columns and troop concentrations all became the targets of the Navy/Marine team, as once again the need for rapidly deployable carrier-based air power was undeniably demonstrated.



The helicopter gained roles from plane guard to vertical assault. Sicily, in 1952, above, conducts first helicopter assault exercise in Far East.



While combat activities occupied a sizable portion of Naval Aviation in the Western Pacific, other squadrons patrolled the Mediterranean to ensure the preservation of peace in that section of the globe. Sixth Fleet ships and aircraft, as well as others outside the combat area, continued their training operations. Research and development, although accelerated during this period, did not shift appreciably to the war effort but continued toward longer range goals directed at the progressive modernization of Naval Aviation. Research into missiles and high-speed flight proceeded through successive stages of development, providing new data which led to advances in aircraft and weapons design. Modernization of the aircraft carrier to handle jet aircraft was continued and new features were introduced, including steam catapult and angled flight deck.



P2V assisted by JATO leaves Midway's deck in heavy attack tests. FJ with Bullpup missiles marked technological advance in Fifties.



Antietam introduced first angled flight deck in 1953. The CVS-type carrier and the formation of balanced ASW task groups improved the Navy's antisubmarine warfare capabilities in a time of growing need.

The Korean War ended in a truce in 1953. The contending forces in the world remained wary of one another and the scene of international tensions shifted from the Far East to the Middle East. Once again the Navy was called to represent the Nation in a critical area; once again Naval Aviation provided a considerable part of the muscle being flexed in view of the hostile powers. As world political temperatures cooled, rose and cooled again, naval forces went about their peacetime role of patrolling troubled waters, evacuating refugees and providing visual support to threatened friends, continuing to present a physical symbol of U.S. commitment to self-determination for free nations. All the while, the advance of science and its military applications brought new weapons and new tactics into Naval Aviation. Air-to-air and air-to-surface missiles not only became standard fleet aerial weapons but were also introduced into the flight training phases. A whole new family of high performance jet aircraft joined the fleet for operation aboard the modernized WW II carriers and the new class of carriers being built.

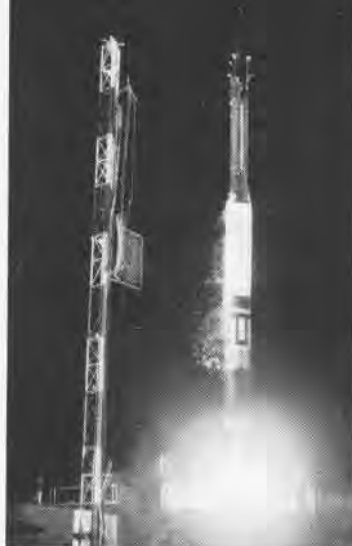
Special attention to the problems of anti-submarine warfare brought about organization of task groups designed particularly to combat any possible enemy submarine threat. Using carrier-based and land-based fixed wing aircraft, together with helicopters and surface units, progressive improvement was made in ASW tactics. Amphibious assault, an old naval task, saw a major new development with the introduction of the concept of vertical assault employing helicopters to speed men and materials from shipboard to points ashore. At first, using a modified Essex-class carrier, and later, specially designed helicopter assault carriers, this aspect of Naval Aviation has grown into a considerable force.



In the period after the end of Korean hostilities, the Navy continued its efforts in the field of technical and scientific advancement. The Vanguard earth satellite was successfully launched, the mirror landing system and the ground level ejection seat were introduced, and the world's first nuclear-powered aircraft carrier, Enterprise, joined the fleet. Air-breathing, long-range cruise missiles capable of delivering atomic warheads on distant targets were test flown from naval shore stations and from naval vessels. The first four Naval Aviators were assigned to NASA as prospective astronauts in the planned exploration of space. Among these were Lieutenant Colonel John Glenn, USMC, the first American to orbit earth, and LCdr. Alan Shepard, the first American to leave the earth's atmosphere and one of the latest to step on the moon. Naval Aviation has, of course, made many other contributions to America's space effort (Space and the United States Navy) including the carrier and aircraft that are a major component of the recovery forces in each space endeavor.

In the Sixties, new international crises required the presence of U.S. naval forces. Aerial reconnaissance revealed the introduction of Soviet ballistic missiles into Cuba and, in the ensuing blockade and surveillance of their removal, naval aircraft again played an important role. Other crises arose in Africa, in the Eastern Mediterranean and in Southeast Asia. In Southeast Asia, in response to yet another attempt by the Communist countries to overthrow the government of a free nation and install their own regime, the United States went to the assistance of South Vietnam. U.S. naval aircraft were quickly brought to bear on the aggressor through the swift movement of the carrier-borne forces of the Seventh Fleet. These aircraft attacked the Communist supply depots and logistic support facilities, disrupting the flow of war materials to forces attempting the takeover of South Vietnam. Marine Aviation arriving ashore to assist in resisting the Communist attack was able to utilize its portable expeditionary airfield systems under combat conditions.

Advances in technology have continued to mark Naval Aviation in the Seventies as new aircraft, new aerial weapons and improved airborne equipment are developed, tested and introduced into fleet use, and new aircraft carriers are designed and laid down to meet the continuing requirement to represent the power of the United States in any part of the globe.



Navy rockets placed a variety of satellites in orbit for space and weather surveillance. Supersonics were test flown from sea driving Enterprise. Dipping



Aircraft joined ships to check the withdrawal of Soviet missiles from Cuba and maintained a radar barrier to detect enemy bombers.





ites into orbit to aid in communications, navigation
ruise missiles were tested and atomic power went to
r made possible a truly effective ASW helicopter.



Vertrep and the mirror landing system
provide improved operations at sea.



Vietnam air support led to improved ordnance
delivery methods and new roles for helicopters.



Marine Aviation in Vietnam gained valuable
experience in helicopter assault and use of
its expeditionary airfield (SATS) under com-
bat conditions. Left, a common chore in
post-Korea ready room — NATOPS.



In the '40's, the Human Engineer was in about the position of the old-time Flight Surgeon. The latter, in the early days of flying, was thought more of a stereotype, a doctor who "grounded" you. He did not tend to be considered (in modern preventive medicine terms) as one who kept you flying.

— Capt. R. L. Christy, Jr., MC, Past President, Aerospace Medical Association

By Commander Joseph A. Pursch, MC

Illustrated by Commander Neil F. O'Connor

Naval Aviation was just getting off the ground when Eugene Ely made his momentous flight. No such glorious happening marks the beginnings of the "flying doc."

My search for the origin of Naval Aviation Medicine was a frustrating task. For a moment I daydreamed of a courageous flight surgeon riding in the back seat of Ely's contraption as he headed for history's first sand-bagged trap. I could see the flight surgeon in the back seat anxiously going over his own landing checkoff list: "Did I miss anything important when I did Ely's last flight physical?"

Ah, such is the stuff that dreams are made of, but history reveals nothing so lofty as a flying caduceus. Instead, a most thorough search of the *Almanac of Sea Stories* and an *Anthology of Happy Hour Tales* leads to the conclusion that the birth of Naval Aviation Medicine can most appropriately be fixed at the year 1912. That was the fateful moment when the Navy's Bureau of Medicine and Surgery issued the first set of physical requirements for aviation candidates.

The training of Naval Flight Surgeons began soon thereafter and was conducted at Mitchell Field, Long Island, N.Y., the Naval Medical School at Bethesda, Md., and at Randolph Field, Texas. It was not until 1939 that flight surgeon training, like a heretofore-passed-around stepchild, was finally brought home to Pensacola. It was indeed a modest beginning. The 60-day course included instruction in cardiovascular disease, neuropsychiatry, EENT and dental examination.

With the advent of WW II, the bigger problem and number one requirement was selection: Who, of all the eager young men, should be accepted for flight training? Those were the days when depth perception was tested by having the candidate pull two strings to align targets on parallel tracks. This

was actually a test of cleverness and visual acuity because any near-sighted candidate could line up the targets pretty well by paying attention to the marks left on the strings by the sweaty fingers of previous nervous candidates. Electrocardiograms were sometimes done with the unsuspecting candidate relaxed on the examining table while a



"DID I MISS ANYTHING IMPORTANT?"

.45-caliber pistol was fired off, under the table. The cardiogram would invariably register a "startle reaction." Hearing acuity was estimated by the "whispered-voice test" (gravel-voiced doctors were the favorites then, I am sure) or by clinking two coins together behind the candidate's ear. And the applicant's emotional aptitude for flight was analyzed by primitive methods which gave rise to the story that a head-shrinker would ask each candidate if he liked girls.

Let us lower the curtain of mercy over the remainder of these archaic beginnings of the annual "fright" physical examination. Which one of these rigorous confrontations with the men of science was the most reliable test for pilot suitability will forever remain an open question. At any rate, these methods "selected in" any red-blooded boy who liked girls, was not completely deaf, had enough smarts to interpret clues and look terrified when there was

The Navy Flight Surgeon -

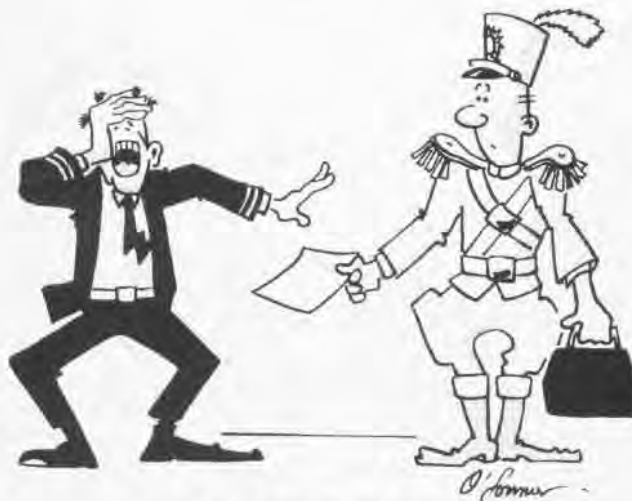
Then and Now

an explosion under his bunk. (In retrospect, maybe these are the essential elements which subsequent research has elaborated on.)

Now, these ancient flight surgeons were most sincere in their work — but, clearly, they needed help. In order to introduce some science into this borderline quackery, a stately group of research men from the Harvard Fatigue Laboratory steamed into Pensacola in 1940. This was the birth of the now famous Pensacola Thousand Aviators Study and other research programs which have, over the years, yielded useful information.

Buildings mushroomed, selection procedures were refined and flight surgeon training was stepped up. By 1945, over 1,500 Naval Flight Surgeons had been designated. (During WW II, 27 flight surgeons were killed in enemy action or aircraft accidents. The death rate of flight surgeons as opposed to regular naval medical officers was about three to one.)

Since then, the business of Naval Aviation Medicine, like Naval Aviation, has become a complex and highly specialized occupation. In a 500-hour, six-month course, the Naval Aerospace Medical Institute at Pensacola now trains flight surgeons in many fields — fields that their forefathers did not even have names for. In addition to academic medicine, the courses include flight training through solo, riding along on jet hops, carrier land-



HE ALSO LEARNS TO SALUTE.

ings, gunnery and aerobatic flights and helicopter training. Unlike his forefathers, the modern day student flight surgeon also gets actual survival training and a period of military indoctrination so that by the time he reports to his air wing he knows how to salute and is able to pin on his own collar devices without the help of the squadron duty officer. This also gives him a common bond with Naval Aviators — a flight surgeon, not just an aviation examiner.

To date this program has designated over 3,000 flight surgeons including some for the United States Public Health Service, Coast Guard, U.S. Army and 12 foreign nations. A few become designated Naval Aviators and fly with reassignment air groups, or are assigned to the Test Pilot School, the Aviation Safety Center and other activities. One aviator flight surgeon, Commander Joe Kerwin, MC, is an astronaut in training for medical research flights in the *Apollo* program. Every year a certain number of experienced flight surgeons return to Pensacola for a three-year training program which qualifies them as specialists in Aerospace Medicine. They later become senior medical officers of aircraft carriers, naval air stations, naval hospitals or go into aerospace research.

During his training at Pensacola, the student flight surgeon becomes familiar with many studies which are ongoing projects. From these he acquires practical prevention-oriented knowledge which he later incorporates into his daily practice in an effort to improve the care and well-being of his patients. For example, certain EKG

patterns originally considered disqualifying have, through years of follow-up studies, turned out to be unduly rigid and of less ominous import than previously thought. When these requirements were modified, many a good pilot who would have been grounded previously remained in a flying status. Visual standards for the experienced aviator have been relaxed and the Schneider Index has been scrapped.

Every Friday, while at Pensacola, the student flight surgeon participates as a non-voting member in the deliberations of the Special Board of Flight Surgeons. This is a body of experienced flight surgeons in various clinical specialties who study the clinical problems of Naval Aviators all over the world. The student's participation in these proceedings helps him make sound decisions later on when he is in the fleet and aids him in determining which special cases to refer to the board.

His aviation medicine training, clinical experience in the fleet and discoveries in aerospace research often lead to new insights which culminate in a number of scientific papers on a variety of aerospace subjects. These papers are presented at the meetings of various medical societies, most frequently at the annual meetings of the Aerospace Medical Association, a worldwide organization in the field of Aerospace Medicine. At this year's April meeting in Houston there were over 20 papers which came out of Pensacola and other Navy establishments. Also, a number of Navy Flight Surgeons serve as program chairmen, moderators and panelists. Eight Naval



THE APPLICANT'S EMOTIONAL APTITUDE WAS ANALYZED BY PRIMITIVE METHODS.

Flight Surgeons have been president of the association.

Although the retention rate of flight surgeons is higher than that of any other group of naval medical officers, it is nevertheless far from ideal. In order to bolster the retention rate and at the same time provide even better overall patient care, the Bureau of Medicine and Surgery has recently instituted the Put-a-Flight-Surgeon-In-a-Hospital Program. This will provide a larger pool of flight surgeons in clinical specialties which are related to aviation such as ENT, ophthalmology, neuropsychiatry, internal medicine, etc.

Under the program, certain large naval hospitals which are near naval aviation activities will have experienced Naval Flight Surgeons in clinical specialties on their staffs. Also, carefully selected flight surgeons will be retained in a flying status while they are going through specialty training in naval hospitals so that they can return to working with aviators upon completion of their specialization. And, finally, experienced flight surgeons from the fleet will, from time to time, be stationed in a naval hospital to augment their knowledge in clinical practice and hospital procedures. This program will be a great help to the well-trained, hard-working staff doctor who is untrained in aviation; it will also comfort the hospitalized aviator when he is suddenly confronted by the aviation gap. He will find somebody who understands his problem and speaks his language.

One aviator friend of mine summarized the problem like this: "The naval hospital is like a bad marriage; it's easy to get in — but try to get out of one! It's almost as tough as finding a flight surgeon aboard — in port." Another aviator tells of a two-year reservist doctor who thought that a cat shot was a new type of vaccination against cat scratch fever. And, now, the civilian-trained headshrinker, after listening to the patient's flamboyant description of a night carrier landing, can first talk to the hospital flight surgeon about carrier aviation before giving in to the academic temptation of putting the poor fellow on the couch to make him aware of a sub-latent suicidal wish. For, as the uninitiated head doctor sees it, why else would anyone voluntarily do something so dangerous?

Wherever there are aviators, you will find flight surgeons. They have been pilots, parachuted from stratospheric research balloons, died in combat, served in the Antarctic, spun on centrifuges, ejected at the last moment, shared lukewarm coffee and stale sandwiches on windy flight decks, suffered vertigo at happy hours and braved the hazards of many a liberty port. In the span of half a century, Eugene Ely has evolved into the astronaut, and the pistol-shooting, coin-clinking aviation examiner has become the astronaut-physician. Undoubtedly, one of the catalysts for this simultaneous growth is the fact that in the heart of every flight surgeon there lurks an embryonic aviator with an urge to go to sea on flying ships. Together, they have overcome many obstacles on their way to the stars.

One of the problems which constantly beset both the pilot and doctor is the fight for the buck. To end this "Then and Now" resumé on a humorous note, let me share with you a letter which I uncovered in my search.

Washington, D.C.
August 16, 1887

My dear Doctor:

Your letter of April 13th, in regard to your requisition for one work horse, has been received. The requisition will not be approved.

It is considered that all necessary hospital work, ambulance service and the work about the grounds can be performed by the team of ambulance horses. Your statement that ambulance calls are so frequent that it is impossible to use this team for other work seems to the Bureau necessary of

some explanation. You are therefore directed to prepare and forward to the Bureau a statement of the amount and character of ambulance calls during the past month and, also, a statement of any other work that may have been required of this team.

It is to be distinctly understood that horses at naval hospitals shall be used for strictly hospital purposes only, and the Bureau will not look with favor on their use for any other purpose. Many of the naval hospitals, of greater capacity than the Annapolis Hospital, have but one horse, and our largest establishments, such as the New York Hospital, have but two horses to take care of the grounds, do ambulance duty and all other work connected with the institution.

Very truly yours,

Surgeon General, U.S. Navy

Surgeon
George Pickrell, U.S. Navy
In Command, U.S. Naval Hospital,
Annapolis, Maryland

Dr. Pursch, flight surgeon and psychiatrist, is a frequent contributor to NANews. At present, he is Chief, Neuropsychiatry Department, Naples Naval Hospital, and Aviation Psychiatry Consultant in the Mediterranean. Cdr. O'Connor's cartoons are familiar to most readers — for several years he livened our pages with the "Weathergram." He is Assistant for Joint Plans and Programs at the Naval Weather Service in Washington, D.C.



MORE SPECIALISTS IN CLINICAL POOLS

It does 0 to 150 in 2.1 seconds. So we don't hand over the keys to just any kid that comes along.

And if you really hit the floorboard it will do 1600 miles an hour. Almost twice as fast as your voice can reach someone sitting in the same room. It takes more than a nice sense of balance and a healthy ego to fly one. It takes a good education, a desire, and common sense on your part and the skills that Navy men can teach you. So, unless you've got something really great lined up, it might be worth your time to hang around a Naval Air Station some weekend and watch the action. It's a simple proposition: regardless of your race, creed or national origin, we give you a great education and you make the Navy scene. If you're going to be something, why not be something special?

THE NAVY

For additional information write to:
NAVAL AVIATION
Building 157-4
Washington Navy Yard
Washington, D.C. 20380

NAME _____

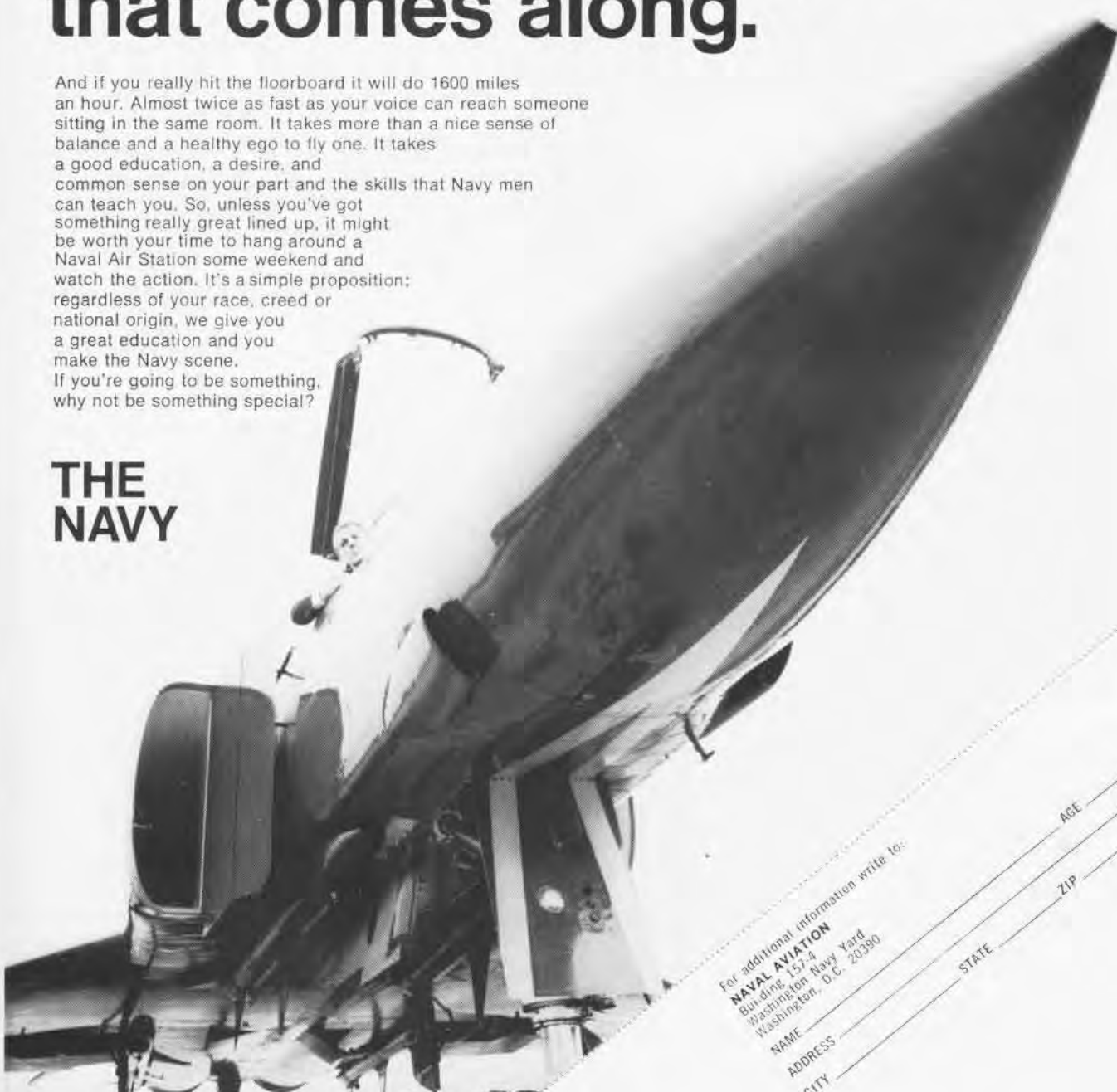
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By PH1 William B. Fair

WAITING





LADIES

They are silent.
They are seen, but seldom thought about.
They lie dormant, patiently waiting for the call that will bring them to life.

They are the Navy's "ghost" ships — fighting vessels no longer needed to play an active role in the nation's defense, but which might someday be called upon to augment a relatively small peacetime Navy.

Some have had illustrious careers as American warships. Others have yet to see a single day of commissioned service.

They are the Mothball Fleet.

Their resting place is a Naval Inactive Ship Maintenance Facility at Bremerton, Wash.; Orange, Texas; Pearl Harbor, Hawaii; Philadelphia, Pa.; Portsmouth, Va.; Vallejo or San Diego, Calif.

Forty-seven different types are nestled in the facility at the southern end of San Diego Bay. Eleven are, or were, aircraft carriers: *Philippine Sea* (CV-47), now AVT-11; *Commencement Bay* (CVE-105), now AKV-37; *Cape Gloucester* (CVE-109), now AKV-9; *Vella Gulf* (CVE-111); *Rendova* (CVE-114), now AKV-14; *Saidor* (CVE-117), now AKV-17; *Rabaul* (CVE-121), now AKV-21; *Tinian* (CVE-123), now AKV-23; *San Jacinto* (CVL-30), now AVT-5; *Saipan* (CVL-48), now *Arlington* (AGMR-2); and *Kearsarge* (CVS-33).

When a lady of the seas is destined to begin her somber existence in the Reserve Fleet, her crew exchanges her fashionable wardrobe for more matronly attire. Her war paint is stripped

off, antennas are taken down, and all equipment and machinery are inactivated, preserved and inventoried. The exact condition and location of each item are recorded in case she needs them again.

After the crew has done its part, a civilian or Navy shipyard takes over.

The noble lady is dry-docked so the openings under her waterline can be sealed and her hull preserved. Her gun mounts are covered and, except for a few doors and hatches, she is sealed with adhesive or caulking compound.

She is then dehumidified.

One or more machines are installed to force dry air throughout her entire structure. The air is continuously circulated back through the machines which keeps the relative humidity at 28-30 percent. This keeps rust and decomposition under the strictest possible control.

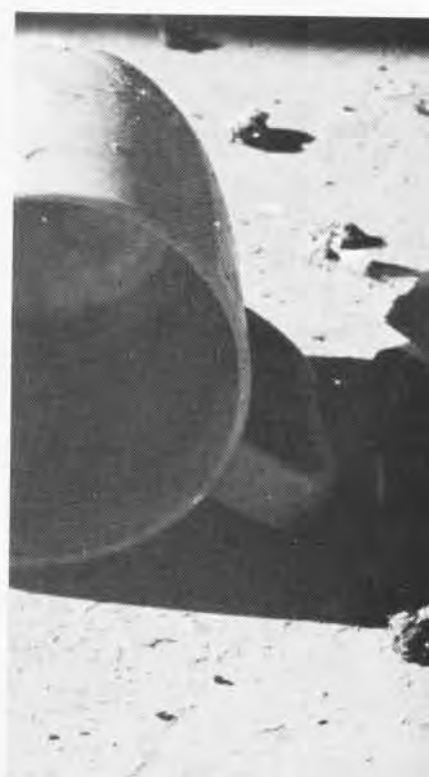
When the now sedate, noble woman is berthed at her resting place, cathodes are submerged about her and an electrical current is induced around her hull to prevent deterioration. This protection is re-evaluated every five years.

She also receives flood and fire alarms which warn her caretakers of trouble.

Finally her Activation Package is prepared. This package contains all her vital statistics. Any deficiencies she might have are placed on a job order. They will be corrected when she is re-activated.

Now she sits in patient silence — waiting. Waiting for the call that will bring her and her sisters back to life.

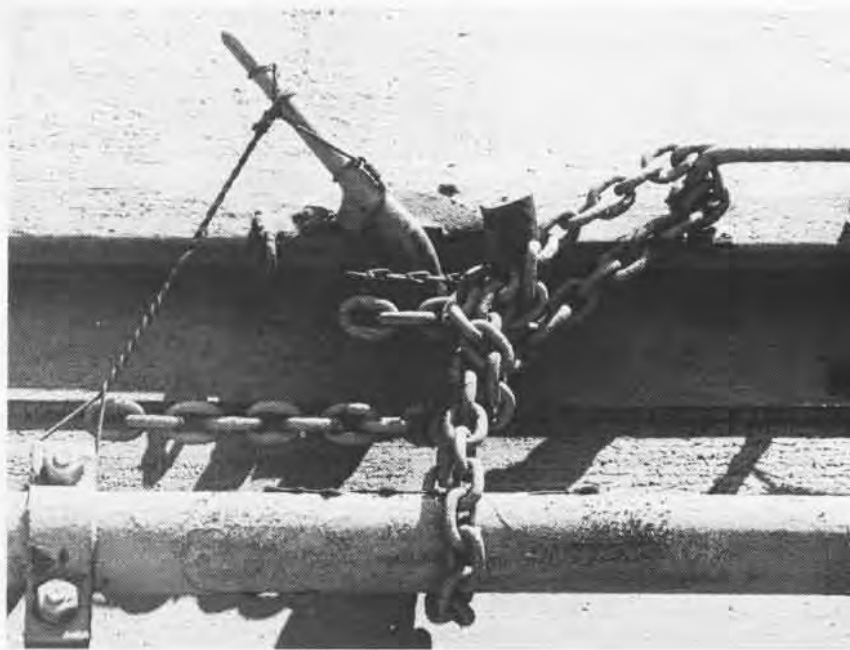
...captains' chairs stand empty...

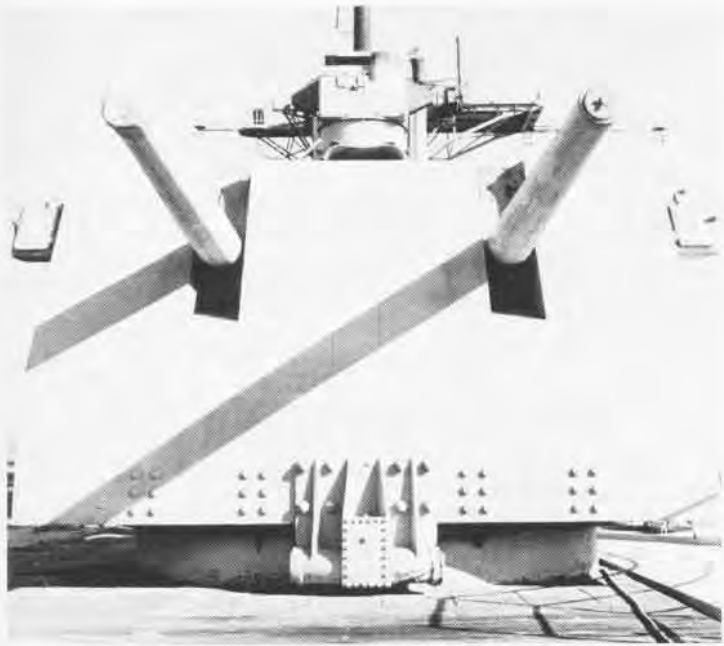


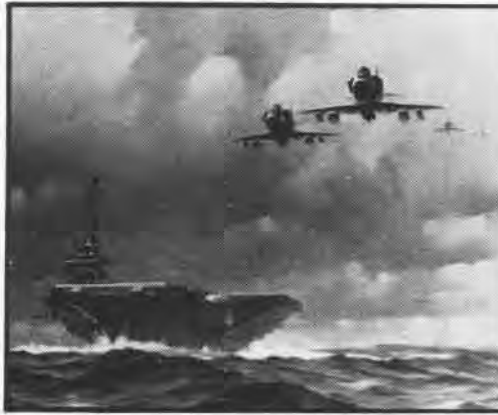
they sit in patient silence...



*...waiting
for the call.*







at Sea with the Carriers

ATLANTIC FLEET

Forrestal (CVA-59)

The junior enlisted men of *Forrestal* are enthusiastic about an experiment to let non-rated men keep civilian clothes on board and wear them on liberty and leave. This pilot program was announced while Secretary of Navy John H. Chafee was visiting the Sixth Fleet. In a panel discussion Secretary Chafee said that he was in favor of the program. Shortly thereafter, *Forrestal's* commanding officer, Captain L. A. Snead, announced that Vice Admiral Isaac C. Kidd, Jr., Commander, Sixth Fleet, had approved testing the program aboard CVA-59. If the privilege is not abused and the change is well received in fleet ports, non-rated men throughout the fleet will probably be granted the right to wear civilian clothes.

Lexington (CVT-16)

Lexington celebrated her 28th birthday in February at the Fore River Shipyard in Quincy, Mass.

The day before her birthday, CVT-16, under the command of Captain C. F. Fitton, recorded her 272,000th arrested landing — made by Ens. R. L. Reynolds of VT-4.

Kennedy (CVA-67)

Kennedy returned to Norfolk and an enthusiastic greeting from the families and friends who had seen her off six months ago, expecting her to return in three weeks from a Caribbean training cruise. Instead, after a few days at

sea, *Kennedy* was on her way to Bravo Station in the Middle East. During the crisis, the decision was made to keep her in the Med for a six-month cruise.

Before returning from her 35,127-mile, six-month deployment, *Kennedy* and her wing — together with British, Dutch and German units — participated in NATO Exercise *Magic Eye*. The exercise included steaming with three Dutch destroyers and 50 aircraft sorties a day over simulated targets, with U.S. planes directed, at times, by air controllers in Europe.

"Tell them Willie is here" was the last thing young *Kennedy* sailor AMH3 Gerhard P. WillemsendeBock (Willie) said just before he was highlined to the nearby Dutch destroyer *Drenthe* after

completion of the exercise. Willie was on his way to visit his cousin, H. E. Wollrabe, stationed aboard *Drenthe*.

While CVA-67 was in the Med, Commander Robert Miles, skipper of VA-34, made his 100th arrested landing with a *Kennedy* visitor as his bombardier/navigator — Secretary of the Navy John H. Chafee. The Secretary's visit was part of his inspection of the Sixth Fleet. After the landing, Secretary Chafee said, "It was great. We did everything from weightless state to slow rolls."

Kennedy's Med deployment statistics include 7,047 aircraft landings, 12,662 flight hours, 1,092,000 meals served, 976,860 loaves of bread baked and 432,000 pounds of meat eaten.



Wasp (CVS-18)

The aircraft carrier *Wasp*, under the command of Captain Kenneth H. Lyons, returned to her homeport of Quonset Point early in March.

Following antisubmarine warfare exercises in the Mediterranean, CVS-18 visited Barcelona, Spain, where her crew had an opportunity to do some sightseeing and shopping.

PACIFIC FLEET

Hancock (CVA-19)

QMCS James C. Campbell has a new responsibility aboard *Hancock*. During an underway replenishment with a supply ship, Chief Campbell assumed conn of the carrier, a function usually performed only by commissioned officers. As the conning officer, he is responsible for making the course and speed corrections necessary for the delicate maneuver in which the two ships come within 120 feet of each other for transfer of supplies.

Midway (CVA-41)

In recent air operations, *Midway* served as the Pacific Fleet carrier qualification deck, qualifying pilots from 18 different squadrons as well as conduct-



On the bridge, QMCS James C. Campbell conns *Hancock* as Capt. T. J. Johnson observes.

ing test operations with the EA-6B prototype.

During the two weeks of carquals, CVA-41 completed 2,314 carrier arrested landings and registered nearly 300 refresher landings. During this same period, Ltjg. Mike E. Etcheverry of VA-125, flying an A-7, snared the 145,000th arrested landing aboard.

With refresher training and carquals astern, *Midway* and CVW-5 have been conducting operational training exercises at sea in preparation for deployment.

Oriskany (CVA-34)

A Legion of Merit, two Bronze Stars, 44 Navy Commendation Medals and 88 Achievement Medals were pre-

sent to officers and men of *Oriskany* by Rear Admiral James D. Ramage, Commander, Carrier Division Seven. *Oriskany* served as flagship for Car Div 7 during its last two deployments.

LCdr. William E. Asbell received the *Oriskany* Eagle Award for exceptional performance as senior landing signal officer of CVW-19. The award is presented annually to the one member of the ship's 3,500-man crew whose professional performance is characterized by outstanding dedication to duty.

Oriskany, under the command of Captain Frank S. Haak, is preparing for its twelfth Far Eastern cruise.

Kitty Hawk (CVA-63)

Rear Admiral Damon W. Cooper relieved Vice Admiral Frederic A. Bardshar as Commander, Attack Carrier Striking Force, Seventh Fleet, in March. Change-of-command ceremonies took place aboard *Kitty Hawk*, flagship for the task force commander, VAdm. Bardshar, on completion of his fifth tour in the Western Pacific, became Director of Tactical Electromagnetic Programs in the Office of the Chief of Naval Operations.

RAdm. Cooper reported from duty as Commander, Carrier Division Nine, and as a task group commander with Task Force 77.



Kennedy steams with Dutch destroyers *Gelderland*, *Drenthe* and *Evertsen* in North Atlantic, left, Pilot of A-6, Lt. Kent W. Van Lue, briefs his navigator, Secretary of the Navy John H. Chafee.

67 Years

A USAF C-5 Galaxy meets reproduction of Wrights' plane at Ohio Aerospace Show in Cincinnati. In man's first powered flight in 1903, the aircraft rose to 120 feet; the C-5 has wingspan of 200 feet.

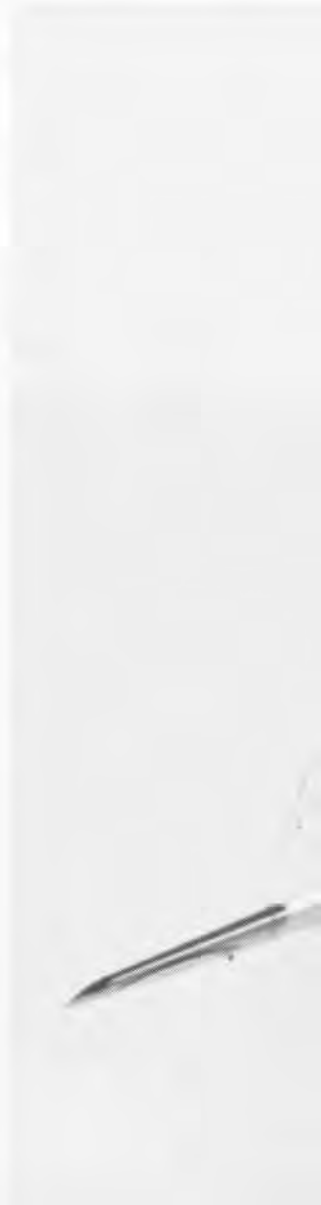


MSGt. Leon E. Witconis, USMC



Hot Zone

Marine fire fighters from Force Logistic Command and MAG-11 battle a blazing fuel storage area at Da Nang Air Base following an enemy rocket attack. The 4 a.m. fire was extinguished in an hour.





Gold Wings

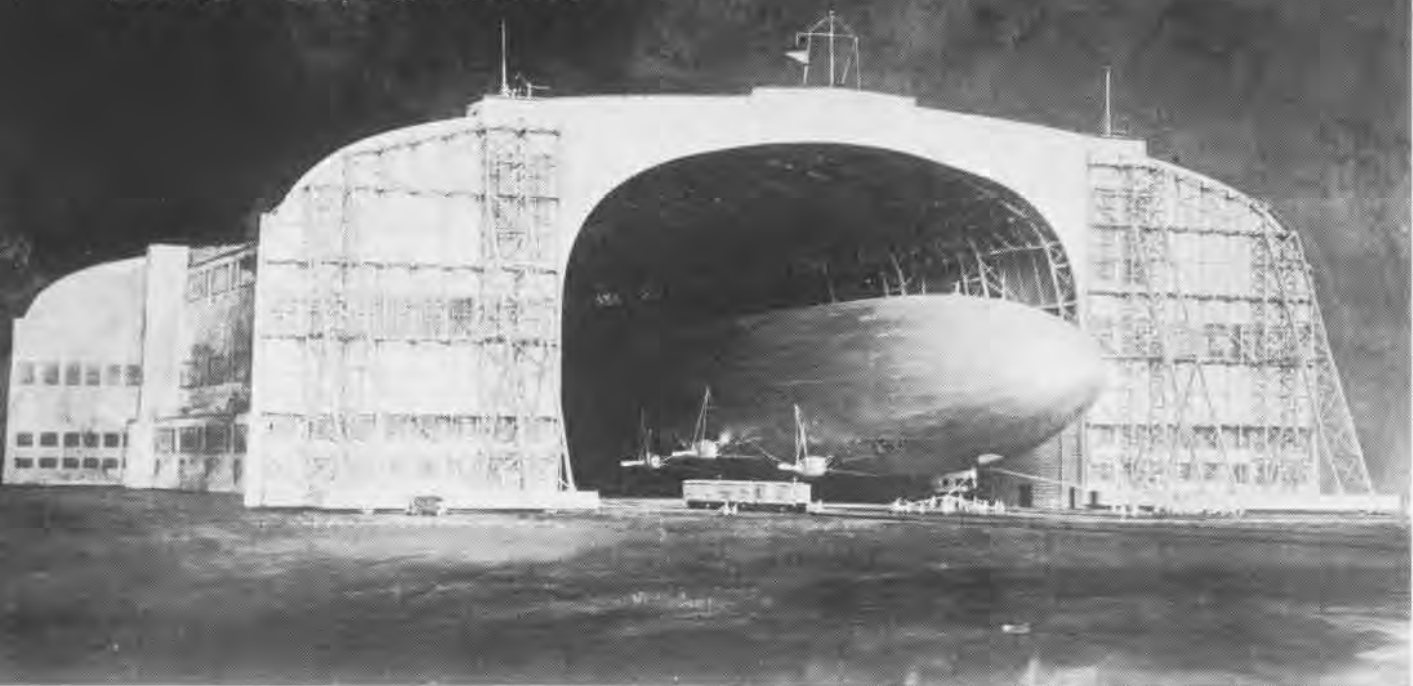
Frogman Gene Gagliardi gets his "1,000 Jump" parachutist wings at most opportune time and place — falling earthward at 120 mph during his 1,000th free fall. He has 10 hours of free-fall time.



Tailhook Racer

One of several now flying in the U.S., a powerful, ex-Royal Navy Sea Fury II takes fourth place in the "California 1,000" at Mohave. Unlimited race was won by another, more modified Sea Fury over competition which included 11 Mustangs, two Corsairs, two Bearcats, a P-38, a B-26 . . . and a DC-7B.

NAS Lakehurst



HALF CENTURY

Naval Air Station, Lakehurst, N.J., log entry, 28 June 1921:

"At 11:30 a.m. station officially commissioned. Captain Franck Taylor Evans, USN, assuming command in accordance with Bureau of Navigation order 2486-197 of 4 June 1921, signed Chief Gunner R. T. Bundy."

Although there is some doubt today as to who actually put NAS Lakehurst into commission — LCdr. Joseph P. Norfleet was assigned as the station's first executive officer and arrived on June 6, 1921, three weeks prior to Capt. Evans' assumption of command — the fact remains that 50 years later an historic and important naval air station sprawls over 7,600 acres of flat, coastal land in Ocean County, N.J.

The area which the air station now occupies was once used as an ammunition proving ground for the Imperial Russian Government prior to 1916. It was later leased by the Eddystone Chemical Company as an experimental firing range for chemical shells.

The range was subsequently bought

By Michael G. McDonell

by the Army during WW I and a camp established. But the Army's sojourn was brief. After the war, the Navy acquired the property and, in 1921, Hangar 1, measuring 807 feet long by 200 feet high and 262 feet wide, was completed in time to house the construction of the first U.S.-built rigid airship, USS *Shenandoah*.

For years, NAS Lakehurst was known as the hub of naval lighter-than-air activity. It was homeport, at one time, for many of the Navy's rigid airships: *Shenandoah*, *Los Angeles*, *Akron* and *Macon*. The station was also used as the United States terminal for the trans-oceanic operations of the commercial German airships *Graf Zeppelin* and *Hindenburg*. The *Hindenburg* was destroyed by a fire of undetermined cause while landing at Lakehurst on May 6, 1937.

With the outbreak of World War II, Lakehurst's responsibilities were greatly expanded: the fleet of airships nec-

essary for ASW operations was increased to 125 non-rigids and the station became the headquarters for Commander Fleet Airships, Atlantic, and the Chief of Naval Airship Training and Experimentation. At Lakehurst, all of the Atlantic, South American and European airship squadrons were commissioned and fitted out; all airships destined for those areas were accepted and delivered through the station; and pilot, crewman and maintenance training was conducted on a large scale.

At war's end, the shadows cast upon the land by the giant airships began to diminish. In April 1955, Lakehurst lost its lighter-than-air designation and became an unrestricted naval air station. Lakehurst was ready for the heavier-than-air types.

Considerable physical improvements had been made aboard the station during the war, including the creation of landing strips that were cut through dense pine forests to accommodate conventional aircraft.

In 1961, the order was given to de-



OF PROGRESS

plate and stow the blimps; Navy lighter-than-air activity was at an end. But NAS Lakehurst continued to prosper.

Today, the airship hangars are local landmarks (Hangar 1 was dedicated as a National Historic Landmark in 1968) but they still serve the Navy, housing a variety of aircraft belonging to the station's tenant activities.

Aboard Lakehurst since 1957, the Naval Air Test Facility (NATF) is engaged in the conduct and evaluation of launch, recovery and visual landing aid systems and related equipment. The facilities used include 11 test sites and 12,000 feet of runway; five high speed jet tracks for testing recovery gear; two steam catapults; a short airfield tactical support (SATS) airfield and two catapults; a test runway for evaluation of shipboard arresting gear; and an arresting gear site.

NATF's workload is generally divided into three areas: shipboard launch and recovery, shore-based emergency recovery and SATS. Tests are performed under conditions that simu-

late as closely as possible those conditions that may be encountered during at-sea and advanced base operations.

NATF maintains a wide cross section of naval aircraft for the tests. When there is a requirement for aircraft not assigned to the command to assist in simulating various launch and recovery problems, the fleet and other stations provide them.

To test all prototype launch and recovery devices prior to their use with the Navy, the facility uses a variety of evaluation methods.

Deadloads, closely simulating the weight and speeds of various aircraft, are fired down the test tracks to test launch and recovery equipment. Actual airframes are used in the barricade tests, and track site arrestments are identical to the actual thing, except that they are test controlled and less expensive. With its own photometric laboratory and automatic data handling systems, NATF continues to assure the careful evaluation of catapult and arresting systems, and the safety of

aviation personnel and aircraft.

Each year many men — from airman apprentice to captain — attend various training classes aboard the air station. The Naval Air Technical Training Center (NATTC), largest of the tenant activities, prepares personnel for the fleet in the skills peculiar to three ratings: Aerographer's Mate (AG); Aircrew Survival Equipmentman (PR); and Aviation Boatswain's Mate (AB).

The AG schools are responsible for providing the fleet with trained enlisted personnel schooled in the myriad mysteries of the weather.

The Class A School trains seamen to meet the requirements for advancement to aerographer's mate third class. The 16-week course is divided into seven phases of instruction: aviation fundamentals, basic meteorology, surface observation, upper air, codes, meteorological lab and oceanography.

The Class B School deals with more technical aspects of aerography, providing AG2's and above with the comprehensive and theoretical infor-

mation necessary to perform their duties in weather service offices. During the 26-week B school, the student learns the theory of atmospheric circulation, forecasting principles and techniques, satellite meteorology and numerical weather prediction.

The Class C School is divided into specialized areas: upper air sounding, oceanographic environment as it relates to ASW, and meteorological and oceanographic equipment maintenance.

The Aircrew Survival Equipmentman Schools are also subdivided into three classes. Class A provides the individual with the knowledge and skills necessary for future assignments and advancement to PR3. The 15-week curriculum is divided into six phases of instruction: aviation fundamentals, basic parachutes, parachute jumping, oxygen survival, advanced parachutes and sewing.

Class B School provides a more advanced, 12-week curriculum and includes: administration, sewing, oxygen and oxygen regulations, pressure suit and advanced parachute.

Class C School offers further training for qualified individuals and features instruction in the various parachutes used in logistic jumps. Part of the school is devoted to the training of instructors and selected PR's as naval parachutists. The course of instruction includes free-fall techniques, canopy control and observation of student parachutists.

Aviation Boatswain's Mate School consists of Classes A and C training. Because the basic AB rating is divided into three specialties, the Class A School offers instruction in launching and recovery, fuels and aircraft handling. Class C School consists of four specialized courses of instruction: CVA and CVS catapults, arresting gear, visual landing aids and aviation fuels.

The AB School offers an air department officers' indoctrination course which prepares officers who are slated to assume duties as department heads within the air department on board a carrier. The course presents a general view of the organization of air departments from a supervisor/manager viewpoint. The school also instructs Marine and Seabee personnel in SATS, teaching the operation and maintenance of land-based catapults, arresting gear and optical landing systems.

NAS Lakehurst's Maxfield Field is named for Commander Lewis Henry Maxfield, a Navy lighter-than-air pioneer.

Born in 1883, Maxfield graduated from the Naval Academy in 1906. He served for eight years aboard a variety of ships until 1914 when he received orders for flight training at the Naval Aeronautic Station, Pensacola.

Designated Naval Aviator #17 on July 13, 1915, he was subsequently assigned to the Goodyear Rubber Company and, six months later, reported for duty with the Curtiss Airplane Company.

In July 1916, he joined USS *North Carolina* and served aboard until April 1917 when he was assigned to CNO in Washington, D.C. Ordered to Europe in October 1917, he was assigned to the Naval Air Detachment, Paris, France. While there, he was awarded the Navy Cross for "extraordinary heroism on the occasion of the fall of a French dirigible in which he was acting as direction pilot . . . two enlisted men in the nose of the dirigible went overboard when it struck the water. Being encumbered by their fur-lined suits and boots, both men called for help and Cdr. Maxfield jumped overboard and went to their assistance. The dirigible drifted away and he had much difficulty in keeping them up but succeeded in doing so until help arrived."

Maxfield saw temporary duty in Rome and London and, in January 1919, he was assigned to the Bureau of Navigation, Washington, D.C. He returned to London in March 1920 for a month's duty with dirigible R-38. He then assumed command of the U.S. Naval Airship Detachment, Royal Air Force Airship Base, Bowden, England.

He was killed when R-38 crashed during trials on August 24, 1921.

The NAS Lakehurst parachute team was designated the official U.S. Navy parachute team in 1969 and named the *Chuting Stars* in 1970. Most of the team members are instructors at the Aircrew Survival Equipmentman School where they teach the art of packing and maintaining parachutes and the operation of flotation systems (such as those used in the *Apollo* splashdowns). They are also responsible for instructing UDT and SEAL personnel.

The *Chuting Stars'* schedule runs from the first week in April to the last week in November, team members performing their intricate jump routines in the skies over many of the

states as they provide some of the toughest competition in the Mid-Eastern Parachute Association.

Located aboard the station since June 1947, the Naval Air Reserve Training Unit (NARTU) is comprised of a small active duty staff which trains and supports Reserve aviation personnel from the New Jersey, New York, Pennsylvania and Connecticut areas. NARTU was recently joined by a Marine Air Reserve training detachment.

In addition to training the Reservists, the NARTU is headquarters for aviation officer and enlisted recruiting in New Jersey.

Home-based at Lakehurst since 1948, HC-2 provides shipboard helicopter detachments for aircraft carriers throughout the world. The squadron has been flying the HH-2D for some time now but recently received the first of an expected 20-plus SH-3G *Sea Kings* which will replace the squadron's *Seasprites*. The advent of the new helicopters during the year will mark the beginning of two new missions for HC-2 and an approximate 40 percent increase in squadron personnel.

The first mission will be ASW: Operating with Atlantic Fleet carriers, the squadron's new aircraft will be employed to detect, track, identify and destroy enemy submarines.

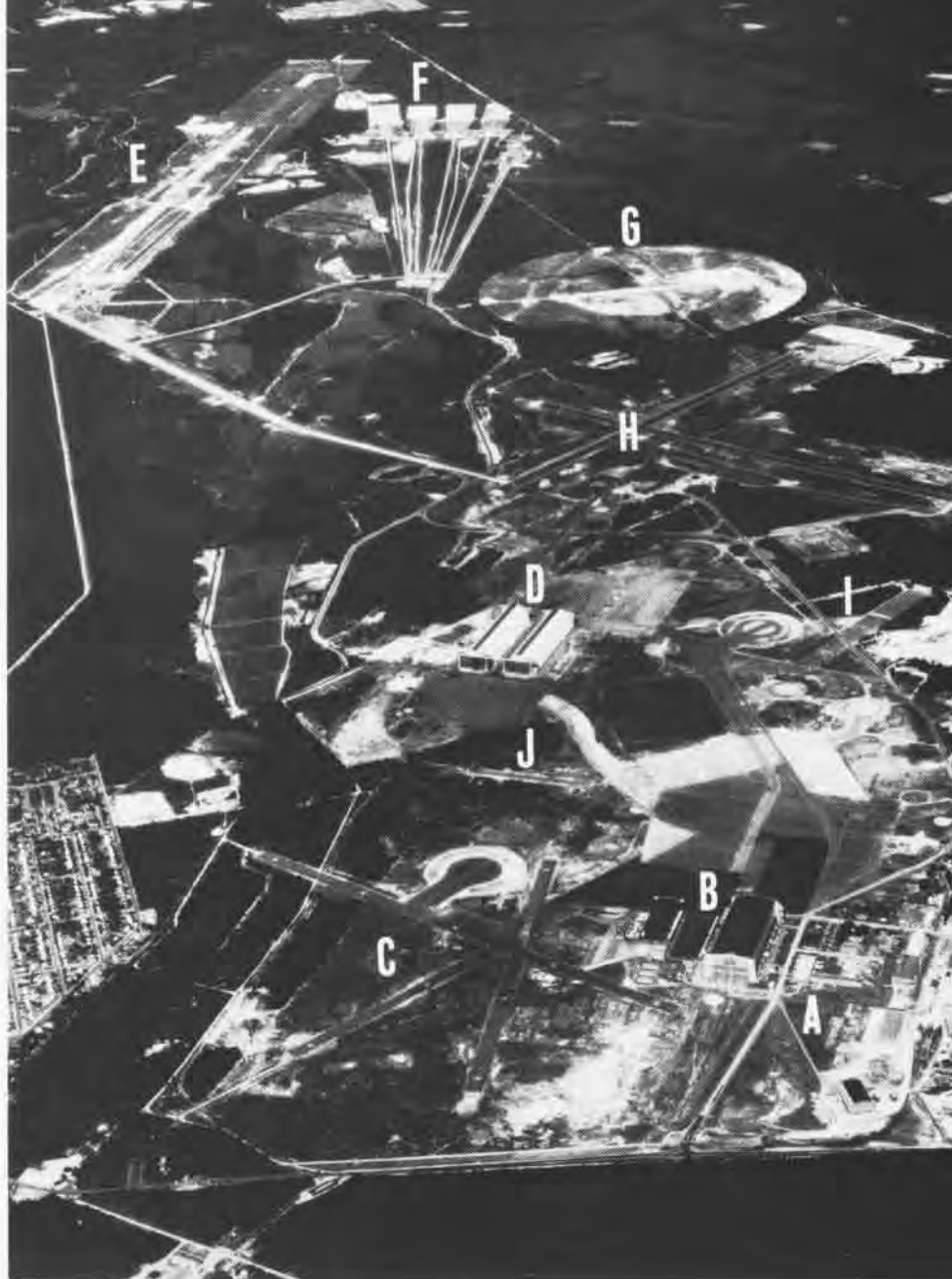
The second mission will consist of combat search and rescue: At least six of the *Sea Kings* will be equipped with minigun pods to enable them to perform the mission under combat conditions.

HC-4 has been home-based at Lakehurst since its commissioning in 1960. For the past six years, the squadron has been tasked with supporting non-aviation ships in nearly every operating area in the world. HC-4 detachments normally operate apart from the parent unit for approximately six months. An average detachment consists of two pilots, eight enlisted personnel and one *Seasprite*. Enlisted members fly as rescue crewmen and maintain and handle the helo on the flight deck. One pilot acts as OinC while the detachment is deployed. Typically, he is a lieutenant or lieutenant junior grade and thus has position, responsibility and authority unique for a junior officer.

While deployed, an HC-4 detachment performs a variety of missions:

NAS Lakehurst Today

- A Station administrative complex
- B Hangar One
- C Heliport
- D Hangar Five, NARTU and Army Aviation Det.; and Six, MARTD
- E NATF 13,000-foot runway
- F NATF five test tracks
- G NATTC parachute jump circle
- H Runways 3315 and 2406
- I Marine rifle range
- J SATS site



cargo, mail and personnel transfers; medevacs; reconnaissance; gunfire spotting; rescues; plane guard; and general utility.

For the past six months, the squadron has been preparing for a new mission — ASW. This new mission is expected to increase the unit's manpower 50 percent by July.

Several unique detachments are located aboard the station. The Naval Weather Service maintains one of its 53 Naval Weather Service Environmental Detachments at Lakehurst. Operating 24 hours a day, seven days a week, the detachment receives, proc-

esses and analyzes weather data, providing meteorological services to Lakehurst, the tenants' activities and the other commands in the area.

Naval Air Maintenance Training Group (Det. 1010) teaches Navy, Marine and Coast Guard personnel maintenance and repair of the H-2 *Seasprite*.

Army aviation has maintained a detachment at Lakehurst since 1963 and was joined in 1965 by the USA Direct/General Support Maintenance Activity (Aviation) which performs maintenance on both rotary and fixed wing aircraft. The Army also maintains a test facility for the Satellite Communi-

cations Agency at Lakehurst. The installation's primary mission is to operate, maintain and test satellite communications' ground terminals and to provide cadre-on-the-job training to user activities, including the Navy and Marine Corps.

Marking its 50th anniversary in June, NAS Lakehurst plans a memorable celebration complete with the *Blue Angels*, *Chuting Stars*, a 30-foot radio-controlled model of USS *Shenandoah*, the Goodyear blimp, the Navy Show Band and much more.

Today, Lakehurst, a monument to the past, looks to the future.

Letters

Harrier

The article "Mastering V/STOL" in the February issue of *Naval Aviation News*, I found most interesting and an excellent description of what the Marine Corps and Naval Air Systems Command *Harrier* job functions were in the United Kingdom. However, my statements, "The ideal *Harrier* pilot . . . does not have extensive helicopter time," and "We don't want helicopter pilots because the *Harrier* is a high performance aircraft . . ." lack the total context intended and have unfortunately been interpreted as uncomplimentary to a community of helicopter pilots for whom I have profound respect.

In fact, putting my words into a fuller context, Royal Air Force experience with *Harrier* to date tells us that the elemental qualification for a pilot transitioning to the airplane is recent high performance experience. While extensive helicopter experience is not *required*, this does not go to say that we may not find it to be a significant bonus. Frankly, this is a question for which we have no answer as yet, but it is one which we have fully intended to explore during the first *Harrier* squadron pilot training program. To accomplish this, we have specifically looked for helicopter experience in the background of some of the pilots for *Harrier* introduction. In reality, the *Harrier* is an unknown to us in the area of *optimum* pilot background except it is, without question, a quite high performance, agile machine, and the pilot must be immediately capable of coping with this characteristic. To undertake conversion of pilots lacking high performance currency to *Harrier* during the introductory phase of operations, while faced with these unknowns, is just not feasible. Therefore my comments, which were in answer to a specific question concerning initial pilot assignments, referred explicitly to pilots who are not current in high performance aircraft, and further addressed only initial *Harrier* introduction. Experience alone will provide us with the answers we need concerning best pilot backgrounds, but I believe it not improbable that the cross-trained helicopter/high performance pilot will prove to be the most adaptable to the whole *Harrier* environment.

Certainly, in my view, one of the most important things which *Harrier* will provide us is the opportunity to bring high performance aviation into a basic contact and rapport with Marine ground and helicopter forces which have been diminished during the

years of conventional jets. The helicopter community has already set the standards for the close-working air of a unique air-ground team, and we in the *Harrier* business have looked forward to becoming members of this team. It is probable that as much of our operational time will be spent with helicopter supporting organizations as with the fixed wing air groups. In short, the helicopter is essential to *Harrier* concepts in ways ranging from initial pilot transitional training to logistic support in dispersed based operations. The *Harrier* will depend for real effectiveness upon helicopters and the people who fly them. Recognizing this fact probably better than most, I believe it vital to correct the impression of my quotes.

Lt. Col. C. M. Baker, USMC
VMA-513, MAG-32
MCAS, Beaufort, S.C. 29902

Eagle Eye

It's been some time since we were 3rd deck/8th wing neighbors at Munitions Building.

In your excellent March pictorial, "Lox, Chocks and Pods," I would have bet money that the sharp, collective eye of the *Naval Aviation News* staff would have noted that airplane modex PP-935 in the upper photo, p. 31, and that its significance would have been called to your readers' attention. RF-8G 144608 (formerly RF-8A and F9U-1P) is, of course, John Glenn's Project *Bullet Bird*, which on July 16, 1957, made a record-busting, cross-country flight between the West Coast and NAS New York at supersonic speed. A year or so ago, the aircraft was pulled out of mothballs at Davis-Monthan, refurbished at LTV and delivered to VFP-63 which operates out of Miramar. As I recall, it was the only *Bullet* plane to complete the chore, an F8U-1 "gun version" having damaged its IFR probe over Albuquerque, forcing LCdr. Demmler to set down prematurely. Colonel Ed LeFaivre (ICAF Resident School Director), and I were tooling around the countryside in his AD-5, listening to radio accounts of the flight's progress that July day, and touched down at Floyd Bennett in time to see Colonel Glenn buzz the tower and land. A memorable experience.

James J. Mulquin
Industrial College of the Armed Forces
Washington, D.C. 20315

Is It?

We believe our squadron may have a first in Naval Aviation. Lt. Robert Campbell received his initial carrier qualification in an E-2B on board USS *Enterprise*, south of the Equator.

We would appreciate your help in determining the authenticity of this claim.

Ltjg. D. E. Butler, USNR
VAW-113

VP-91 Insignia

Last November the first Selected Air Reserve patrol squadron flying the P-3 *Orion* was commissioned at NAS Moffett Field, Calif.

This unit, VP-91, revived a designation that was first assigned to a squadron, December 1, 1941, at NAS Norfolk, Va. That squadron flew PBY's in the Pacific Theatre and was decommissioned at NAS North Island on April 2, 1946 — as VPB-91.

The written history of the earlier VP-91 survives, but the squadron insignia does not. To ensure that the heritage of the squadron is maintained, the newly commissioned unit wishes to find and copy the earlier squadron insignia.

Anyone who served with the wartime squadron, or has a cruise book, plaque, coffee cup, patch or any other replica of the insignia is asked to get in touch with:

Public Affairs Office
NAS Moffett Field, Calif. 94035

«Naval Aviation News would also like to hear from its readers on this matter. The information is needed by the DCNO(Air) History Office.

Kudos

That March issue is superb from front cover to back cover (two rare photographs).

And inside it had a real *go* to it — and I learned from every page. Forward!

Bob Osborn
Salisbury, Conn.

Reunion

Plans are being made for a reunion of former members of Reserve Squadron VC or VS 873, NAS Oakland, Alameda, Calif. For time and place, contact:

D. L. Pittman
157 Homewood Ave.
Napa, Calif. 94558

Buckeye

I was pleased to review LCdr. Mullane's excellent article on the T-2 *Buckeye* in the January 1971 issue of *Naval Aviation News*. We always enjoy reading your magazine, and find it very useful in keeping abreast of Naval Aviation activities.

I would, however, like to call your attention to an erroneous statement in the T-2 article. Just to put the record straight, the T-2 does not use a Martin-Baker ejection system, but is equipped with a North American Rockwell I.S.-1 ejection system.

Dean Phillips, Director
Public Relations
North American Aviation
Columbus Division
4300 E. Fifth Ave., Columbus, Ohio 43216



NAS LAKEHURST



her tenant
activities
and
squadrons

