NAVAL AVIATION NEWS

42nd Year of Publication

OCTOBER 1961

NavWeps No. 00-75R-3

SHARE THIS COPY

SKYHAWKS IN SYMBOLIC SALUTE

Over the birthplace of powered flight, a bit of namesake-nodding took place as Skyhawks from USS Kitty Hawk made a speedy, sentimental pass over the Wright Brothers Memorial, Kitty Hawk, N. C. Salute was staged as Navy's first carrier to be armed completely with missiles prepared to join U. S. Pacific Fleet. Scheduled for shakedown exercises at Gitmo, CVA-63, commanded by Capt. W. F. Bringle, will pay courtesy calls at Rio de Janeiro, Valparaiso, and Callao, Peru, en route to home port, San Diego, California.

NAVAL AVIATION NEWS

FORTY-SECOND YEAR OF PUBLICATION, OCTOBER 1961

■ IN THIS ISSUE

Low, Fast Ejection 7 — *BuWeps' Marie Pfeiffer rounds up the record on the use of low-altitude, rocket pilot-escape systems. Significant improvement has already been made and still further advances are predicted.*

The Callan Collection 14 — *Early days of Naval Aviation are recalled by pictures taken from the papers of the late RAdm. J. Lansing Callan.*

Reserve Call-up 19 — *The Reserve units being called up and their destinations are briefly summarized.*

Hands of the Forrestal 20 — *A pictorial report on the big carrier shows that men are not obsolete on a modern ship-of-the-line at sea.*

Flight Trainers 25 — *Hal Andrews of BuWeps continues his survey of aircraft from the beginnings of Naval Aviation to the present day.*

Navy's Hercules 35 — *How an Air Force cargo plane came into the Navy inventory, with particular reference to crew training.*

■ THE STAFF

Cdr. George F. Rodgers — Head, Aviation Periodicals Office

Cdr. Paul Jayson — Editor

Izetta Winter Robb — Managing Editor

LCdr. R. J. Massey, Scot MacDonald, JOC — Associate Editors

Cdr. Oliver Ortman, Harold Andrews — Contributing Editors

Dorothy L. Bennefeld — Assistant Editor

James M. Springer — Art Director

■ COVER

'Peel Off' is the title the Ling-Temco-Vought photographer gave to this picture he took of four F8U-2N Crusaders flying over NAS Dallas in June of this year. Pilots flying the jet aircraft were members of Fighter Squadron 32.

Issuance of the publication was approved by the Secretary of the Navy on 3 April 1961

Published monthly by Chief of Naval Operations and Bureau of Naval Weapons to disseminate data on aircraft training and operations, space technology, missile, rocket and other aviation ordnance development, aeronautical safety, aircraft design, power plants, aircraft recognition, and technical maintenance and overhaul procedures. Send mail to Naval Aviation News, Op 05A5, Navy Department, Washington 25, D.C. Office located at 2306 Munitions Bldg.; telephone: Oxford 62252 or 62259. Annual Subscription rate is $2.50 check or money order ($1.00 additional for foreign mailing) made payable to Superintendent of Documents, Government Printing Office, Washington 25, D.C. Single copy costs $.25.

NAVAL AVIATION NEWS

Battle E Squadrons Cited

Nine in Atlantic; Six in Pacific

Winners of the 1961 Battle Efficiency Pennant have been announced by their respective commands.

Naval Aviation squadrons in the Atlantic Fleet and their commanding officers are: Attack Squadron 83, Cdr. J.W. Nance; Fighter Squadron 103, Cdr. Edward Iglesias; Patrol Squadron 56, Cdr. R.L. Morris; Patrol Squadron Eight, Cdr. J.R. Grieve; Anti-submarine Squadron 34, Cdr. S.A. Sparks; Heavy Attack Squadron One, Cdr. C.A. Dunn; Attack Squadron 15, Cdr. T.L. Farrell; Fighter Squadron 14, Cdr. W.F. Chaires, and Anti-Submarine Helicopter Squadron Five, Cdr. R.G. Wallace.

In the Pacific Fleet, squadron winners and their commanding officers are as follows: Fighter Squadron 91, Cdr. C.E. Rich; Fighter Squadron 141, Cdr. R.E. Foltz; Patrol Squadron Four, Cdr. L.S. Edmonds; Patrol Squadron 42, Cdr. B.W. Brender; Anti-submarine Squadron 38, Cdr. D.C. Curran; and Anti-submarine Helicopter Squadron Four, Cdr. A.E. Monahan.

Phantom Claims New Mark

Three-Kilometer Course Record Set

With Lt. Huntington Hardisty as pilot and Lt. Earl H. De Esch as radar intercept officer, a McDonnell F4H *Phantom II* claimed a record at Holloman Air Force Base, Alamogordo, N.M., on 28 August 1961. Speed of the *Phantom* was 902.769 miles per hour. Record attempt was sanctioned by the National Aeronautic Association whose officials were present for documentation of the record try.

The previous world record of 752.-943 mph for the three-kilometer course was set by LCdr. James Verdin on

THE TEAM: HARDISTY (R) AND DE ESCH

3 October 1953 in an XF4D-1 *Skyray*.

Three world class records currently held by the F4H are the 100-kilometer mark of 1390.21 mph set by Cdr. John F. Davis on 25 September 1960 at Edwards AFB, which also is a world record for the fastest flight ever made in a closed course; and the 500-kilometer mark of 1216.78 mph established by LCol. Thomas H. Miller, USMC, also set at Edwards AFB on 5 September 1960.

FLIGHT PROVES SPEED AT LOW ALTITUDE

The attempt to set a three-kilometer course world's record for heavier-than-air craft is considered hazardous and very exacting owing to restriction of altitude to 328 feet above the course.

Adm. George W. Anderson, CNO, in announcing the record claim, said, "The three-kilometer record graphically demonstrates several outstanding capabilities of the *Phantom II*, including maneuverability, flight control characteristics at high speed, pilot confidence in the aircraft and an unmatched low altitude speed. This latest record is one more bit of proof that the *Phantom II* is one of the best fighter aircraft in the world."

Lt. Hardisty was given the Distinguished Flying Cross and Lt. De Esch the Air Medal for their feat. Both officers were commended for "outstanding airmanship, initiative, foresight and planning ability beyond expectations of normal duty."

Lts. Hardisty and De Esch are from VF-101, Det. Alfa, NAS OCEANA.

Burke Trophy Established

Based on Battle Efficiency Gain

The Arleigh Burke Fleet Trophy has been established in honor of Adm. Burke. It will be given to that ship or aircraft squadron of each fleet which is selected by its commander in chief for having achieved the greatest improvement in battle efficiency in the competitive year based upon the Battle Efficiency Competition.

The trophy will be in the form of plaques which will be awarded annually in the Atlantic and Pacific Fleets, beginning with 1962. These will be

permanently retained by the ships and squadrons winning them.

OpNav Instruction 3590.11 which established the award states: "The name Arleigh Burke has come to symbolize the very elements of sea power. He has made vital contributions toward strengthening our Navy . . . It is fitting that the supreme dedication of this outstanding officer to the Navy he has served so well be recognized by the establishment of a fleet award bearing his name, and that it pertain to battle efficiency."

Okinawa (LPH-3) Launched

LPH-2 is Placed in Commission

Amphibious assault ship *Okinawa* (LPH-3), the second ship of an entirely new class, was launched 19 August at Philadelphia Naval Shipyard.

Kenneth E. BeLieu, Assistant Secretary of the Navy (Installations and Logistics) spoke at the ceremony. Mrs. John L. McClellan, wife of the Senator from Arkansas, is the ship's sponsor.

The new class is designed to carry 2000 assault troops in addition to its crew of 900. The LPH-3 will carry 20 large amphibious transport helicopters, HR2S's, or 30 light HUS copters.

The first ship in the class, the USS *Iwo Jima* (LPH-2), was commissioned 26 August at the Puget Sound Naval Shipyard, Bremerton, Wash. Adm. John H. Sides, Commander in Chief Pacific Fleet, spoke at the ceremony, as well as LGen. Alan Shapley, Commanding General, FMF Pacific.

USS *Iwo Jima* was launched 17 September 1960. The ship's sponsor is Mrs. Harry Schmidt, wife of Gen. Harry Schmidt, USMC (Ret.), who commanded the Fifth Amphibious Corps at Iwo Jima.

The Navy currently has four amphibious assault ships in commission. All are converted carriers: USS *Boxer* (LPH-4), USS *Princeton* (LPH-5), USS *Thetis Bay* (LPH-6), and USS *Valley Forge* (LPH-8).

Two more ships of the *Iwo Jima* class are on the way. LPH-7, as yet unnamed, is being built at the Philadelphia Naval Shipyard. LPH-9 has been approved in the 1962 Shipbuilding Program. No contract has been let.

THIS FIRST DAY COVER *of the Naval Aviation 50th Anniversary stamp, addressed to Naval Aviation News and stamped at 9:00 A. M. on 20 August 1961 by the San Diego Post Office, is just one of thousands sent out of many varied designs. Issuance of the stamps is another event in this Golden Year of the Golden Wings. NANews' observers report that the San Diego celebration was a fitting observance of great events. Picture coverage is found on pages 12 and 13.*

THIS UNUSUAL VIEW *of F8U Crusader with speed brakes popped was made possible by pilots of Fighter Squadron 51. The lead aircraft is flown by Lt. D. L. Upton, and his wingman is Lt. T. R. McCool. As we go to press, VF-51 is deployed in the Western Pacific aboard the Ticonderoga.*

HS-4 Claims New Record

Sorties from Yorktown Day & Night

In a time when new records are constantly being made and broken, it is difficult to establish one that will not soon be broken. HS-4, however, believes they have done just that.

On 28 June, squadron helos flew 46 sorties from USS *Yorktown* (CVS-10) for a total of 82.6 hours of flight time. This included "around-the-clock" ASW operations and amounts to an average of 3.44 aircraft on station at all times.

HS-4 has been instrumental in the pioneering of an around-the-clock helo ASW capability, and has performed night and instrument operational flights routinely for the past fiscal year. Night operations are inherently more demanding than normal day helicopter operations.

Cdr. Alfred E. Monahan, commanding, expressed the feeling of the squadron when he said, "In view of the many obstacles and difficulties encountered, we are proud of our record and feel we are, at least for the present, in a class by ourselves. We owe our safety record primarily to our maintenance personnel and pilots in their adherence to procedures and squadron doctrine.

"Weekly plane inspections by the pilots and the fullest cooperation between maintenance, survival, and aviation safety, were also instrumental in the attainment of this record."

GRAMPAW PETTIBONE

Show Off

Two pilots were engaged in ferrying two T-34B's from an O&R to a naval air station some 600 miles distant. Neither one was current in the little yellow jobs, so each flew a two-hour FAM hop and shot eight landings apiece before departure.

They took off at 1430 and headed west, having decided to get on their way and RON en route to the delivery point. Both were jet pilots basically and watched their howgozits carefully. They made an unscheduled fuel stop en route and arrived at their RON spot around 1900. It was a popular beachside resort area, and the city was thronged with visitors, all in a holiday mood.

Next morning, after at least eight hours sleep, both pilots had a swim and got airborne around 1530 for the last 160-mile leg of their journey.

It was a holiday, the weather was CAVU and the beaches were crowded. They turned eastward and flew low up the beach, keeping just off shore. Reversing course, they headed back westward, still flying low over the water. They deviated inland slightly to make a low pass over the local airport, then headed back to the shoreline flying at a couple of hundred feet over the surf line.

About a mile short of the end of the beach area, the wingman banked off to the left and commenced a climb to 1500 feet. The flight leader hadn't given up yet, however, and after waving at some fishermen, pulled up and began a roll to the left.

He scooped out badly from the inverted position and lost his heading about 30 degrees to the right. He completed the roll, leveled his wings and, pulling through pretty hard, almost made it.

The T-34 hit the beach hard, left wing low and bounced about 100 feet, slewed sideways, hit again in a shower of sand and debris and finally stopped, a total wreck. The critically injured pilot was conscious, but could not be moved before the ambulance arrived some 20 minutes later. He was badly battered and will spend many months in the mending process.

Grampaw Pettibone says:

Sufferin' catfish! Everybody has a little ham in him and likes to hear the oh's and ah's of the crowd as they applaud some magnificent performance, but if we want to stay in the military flyin' business—the answer is NO! CONTROL YOURSELF!

This unfortunate gent was an unusually well-qualified pilot. In the previous 60 days, he had flown the A4D, F4D, F9F, FJ, TV-2, F3D, AD, T-28, S2F and P2V aircraft. He clobbered himself showin' off in a light plane with a cruise speed lower than the stall speed of most of the types he was current in. He nearly killed himself with an age-old pilot trap—a free show for those earth-bound mortals below. That's the easiest way to earn an immortal set of wings yourself.

Wet Bird

A CVS was conducting night carquals for her helo pilots one very dark but clear night. One helo instructor pilot had already qualified two pilots in his HSS-1 and, after landing them aboard, had taken off again with a third pilot for more quals. A real bear for work, this man.

He lifted it off and on instructions from PriFly joined other helos in the starboard delta pattern. All went normally until they started a turn at the 180 position at about 150 feet of altitude. There suddenly was a slight vibration in the controls and the airspeed began to drop off rapidly. The tachometer showed only 2200 RPM although they'd had 2500 RPM only an instant before. The HSS-1 gently settled.

Spray was dashing all over the wind-

They are building them with halos & wings!

ILLUSTRATED BY Osborn

shield, and the pilots were obviously wheels-deep in the water, but holding it there. Both were pulling up on the collective, and neither knew what the manifold pressure was. The throttle was on as far at it would go. The pilot got off a quick Mayday and concentrated on trying to keep it flying.

With a lurch, the helo surged upward, breaking free of the grasping sea. They could see the lights of the carrier ahead and just slightly to their right as they started moving forward slowly.

Not for long, however, for the HSS-1 settled in the water again, this time a little deeper and tilted dangerously to the right.

The pilot took a little of the load off his blades, and, after what seemed hours, the RPM increased and he was able to pull out of the water a second time. The helo broke free in an extremely nose high altitude, the pilot had no control of forward cyclic and the stick was banging against the instrument panel! As the helo crept forward at an agonizing five knots or so, the pilot now told the ship he was going to try to bring it aboard!

With smoke pouring out of the thoroughly wet electronic gear and only partial control, they came up over the flight deck, made a wild flare to starboard, then a flare to port. As the pilot cut down his RPM the helo settled gently to the deck, safe and sound!

Grampaw Pettibone says:

Great horned toadies! Bet this is the first helo man to log TWO water landings and a carrier landing on one hop. There's a few with ONE water landing chalked up, but they've ended up drippin' wet every time.

All you fixed-wing carrier pilots better tip your hat to this man. He's a real pro. You can't pull one out of a deeper hole than this whirlybird was tryin' to dig for itself.

Memo from Gramps:

Judgin' from the number of planes sufferin' overhaul damage due to hitting concrete runway light foundations recently, the pot hole fillers and runway shoulder graders have been doin' a little backslidin'. Get with it!

Strike Out

A pair of TV-2 instructor pilots with over 600 hours of TV-2 time between them taxied out to the approach end of the duty runway in their trusty TV-2. They were scheduled for a local instrument training flight and owing to a heavy stratus cloud layer had filed a DD-175. Conditions required an IFR climb-out, and there were several aircraft, also awaiting clearance, in line ahead of them.

While waiting, the pre-take-off check lists were run through, including the usual fuel transfer checks. Although the engine had been running for 20 minutes because of the delayed clearance, the fuselage tank did not register a burn down. The rear seat man commented that perhaps the tips, wing, or leading edge tank switches were not closed all the way even though they were in the OFF position. Both pilots agreed to disregard the discrepancy and proceed.

Finally, cleared for take-off and given climbout instruction, they took the runway. After the man up front performed a final cockpit check, done strictly from memory, the rear seat pilot took over for a hooded take-off. The take-off roll and lift-off were normal, and the front seat pilot retracted the landing gear as they climbed out. Shortly thereafter, at about 600 feet, one mile out over the bay and at 150 knots a loud BANG was heard by both pilots. Engine power dropped to 90%, cutting in and out. The pilot under the hood shoved the throttle full forward, yelled to the front seat man, "You've got it," and came out from under the hood.

The man up front decided to try to make it back to the field. He made a tight, rapidly descending left turn over the bay. The engine was surging constantly and their airspeed dropped to 135 knots. The entire airframe seemed to be shuddering in an approach to a stall as they completed the turn and headed right at the seawall! He pulled the stick back and they cleared the wall and touched down gear up in a 30-degree nose high attitude, dragging the tail cone 25 feet before the nose fell through.

The impact was terrific! With two badly dazed pilots aboard, the TV-2 slid about 100 feet on its belly, then the engine surged to full power (throttle was still full forward) and it became airborne again for a short distance, hitting again, tail first, and slamming down once more. Fuel from the ruptured tip tanks ignited, but the fire never caught up with them, as they skidded wildly.

They were headed directly for a concrete and steel blast fence and both pilots applied full left rudder. The TV-2 turned sharply to the left and finally stopped, 4000 feet from point of first impact. After blowing the canopy, both pilots climbed out of the wreck, injured but alive.

Grampaw Pettibone says:

Bust my britches! These two EXPERTS broke some of the most elementary rules in the books and are only alive thanks to an alert but probably disgusted guardian angel. The AAR board lads didn't take long to figure out the solution HERE. The fuselage tank, plus 15 gallons transferred while attempting to check transfer pumps, etc., ran out just when it should have. TWO MINUTES from the start of take-off roll! The fuel transfer switches WERE NOT ON!

Boot Hill is full of pilots who clutched and tried to make a 180 back into the field with a sick bird, flew with a downing gripe, or failed to use a check-off list. With three strikes on them, no wonder they STRUCK OUT!

CNO SAFETY AWARDS ANNOUNCED

THE CHIEF of Naval Operations in announcing the FY 61 Aviation Safety Awards, congratulated the winning units for their excellent performance and said that it contributed to the "increased reliability and effectiveness of Navy-Marine Corps Aviation."

Because of the wide variety of aircraft and types of operations in Naval Aviation, no single over-all award is made to one "most safe" activity. Instead, the Navy's safety competition is divided into equitable competition groups for both Navy and Marine Corps units. In addition, there is a provision for special awards for exceptional performance by non-competitive units.

One of the major divisions of the annual awards involves competition between the naval air units of the Atlantic and Pacific Fleets, each Fleet Naval Air Force Commander submitting a nomination for each of the categories that go to make up the various awards. This year the Atlantic Fleet bested the Pacific in the number of awards garnered. The score for the fiscal period ending in June was ten for AirLant and seven for AirPac.

Marine Aviation competes between the Fleets, as well. This year their contest ended in a dead heat, with each Fleet Marine Force getting three of the six awards available.

In the two other larger areas of the competition, the Air Training Command and the Reserve Air Training Command, there is no contention between Fleets or areas. The squadrons of the various types simply vie among themselves for the title of the safest of the year within the command.

Naval Air Force Atlantic

All Weather Fighters	VF-14
Fighters	VF-103
Attack Aircraft (Jet)	VA-83
Attack Aircraft (Prop)	VA-65
Carrier Air Group	CVG-6
Anti-Submarine Helicopters	HS-5
Patrol Aircraft (Sea)	VP-45
Airborne Early Warning Aircraft	VW-11

Naval Air Force Pacific

Heavy Attack Aircraft	VAH-2
Carrier Replacement Training	VA-126
Carrier Anti-Submarine Aircraft	VS-29
Patrol Aircraft (Land)	VP-4
Fleet Logistic Aircraft	VR-21

In the Fleet Marine Force section of the Safety competition, the two FMF's broke even with three awards apiece:

FMF Pacific

Marine Fighters	VMF-451
Marine Attack Aircraft (Jet)	VMA-214
Headquarters Squadron	HAMS-13

FMF Atlantic

Transport Aircraft	VMR-252
Transport Helicopters	HMS-263
Special Award	HRS-461

FOR CAMERA BUGS ONLY! *Having trouble shooting supersonic birds on the wing? Photographer who shot this one gives the following details of his aim to capture new insigne on nose of F8U-2NE. Used 15" telephoto, 1/1000th shutter at f.11. Film was ASA 50 developed in a fine grain soup. One other detail: You have to arrange for a pilot such as Ling-Temco-Vought's Stu Madison to make a pass at 550 knots at 8000 feet. Load those cameras up, lads, and good luck.*

Special Mission Awards

Special Mission Flight Safety Awards went to Helicopter Utility Squadron Two in the Atlantic Fleet; to All-Weather Fighter Squadron Three and Helicopter Utility Squadron One, both in the Pacific Fleet.

A special award was also given to USS *Antietam*, an Atlantic Fleet carrier assigned to the Naval Air Training Command for carrier landing indoctrination of student Naval Aviators. This is the third consecutive year this ship has won a safety award.

Naval Air Training Command

Awards are given to both the top propeller and jet squadrons of the Basic and Advanced Training Commands; one award is given to the top unit of the Technical Training Command. Award winners were:

Advanced Training (Jet)	VT-22
Advanced Training (Prop)	VT-31
Basic Training (Jet)	VT-4
Basic Training (Prop)	VT-3
Technical Training	CIC, Glynco

The Naval Air Reserve and Marine Air Reserve each compete among themselves by categories. Competition is keen because of the large number of squadrons involved. The Naval Air Reserve Training Command, in fact, had the lowest Command accident rate for the second year, with 224 squadrons being completely accident-free.

Naval Air Reserve

Jet Aircraft	VF-725, Glenview, Ill.
Attack (Prop)	VA-672, Atlanta, Ga.
Carrier VS	VS-741, Jacksonville, Fla.
Transport	VR-742, Jacksonville, Fla.
Helicopters	HU-812, Minneapolis, Minn.
Patrol (Land)	VP-741, Jacksonville, Fla.

Marine Air Reserve

Fighters	VMF-233
Attack Aircraft	VMA-231
Transport Helicopters	HMR-772

VF-14, VF-103, VA-83 and VP-4 have won Battle Efficiency E's as well.

JET PILOTS' ESCAPE MARGIN BOOSTED

ROCKET PILOT ESCAPE SYSTEM PROPELS DUMMY CLEAR OF NORTH AMERICAN A3J. SIMILAR EQUIPMENT IS USED IN THE T2J BUCKEYE

A NEW CHAPTER in Navy's aviation safety program is being written by the Bureau of Naval Weapons in its program to provide maximum extension of the speed/altitude range under which safe ejection from aircraft can be made.

Results of the BuWeps intensive program to achieve an ultimate ground level capability were reflected in fiscal 1960 safety statistics. Many were saved by new or modified ejection seats developed for the Navy, with a recovery capability decidedly superior to the "conventional" escape system.

The significant improvement in escape capabilities, provided in current Naval aircraft and reflected in the FY 60 safety statistics, were substantially surpassed in Fiscal 1961 as the Navy's program for new installations and retrofitting of aircraft with ground level escape mechanism progressed. A further betterment of safe ejections at low altitude will occur as these installations approach the 100% mark.

These gratifying results can be attributed to no single escape system, but rather to a successful coordination of several research and development programs to improve existing systems and to develop new ones incorporating technological advances. The Navy intends to pursue further flight safety development programs for increasing pilot escape capabilities.

By Marie Pfeiffer, BuWeps

Evolution of Escape Systems

Analytical studies of aircraft escape systems were first made in the United States as early as 1940. In 1945 the Navy began serious work on ejection seat escape. The Martin-Baker Company of England had demonstrated the capability of a British ejection seat system by ejecting a dummy while in flight and successfully recovering it. The Navy's development program initially followed this concept. Test towers were established and Martin-Baker seats were purchased for experiments.

FIRST LIVE EJECTION FROM GROUND LEVEL IN U.S. TOOK PLACE AT PAX RIVER, 1957

On 30 October 1946 the first Naval live subject inflight test ejection was successfully completed at NAS LAKEHURST. Ltjg. A.J. Furtek, volunteer from the Experimental Parachute Unit at Lakehurst, was ejected with a Martin-Baker seat from a JD-1 airplane at 250 mph and 5000 feet altitude. Simultaneously, tower tests were conducted at the Naval Air Experimental Station, Philadelphia, using Bureau of Ordnance cartridges. First operational use in this country of an ejection seat for emergency escape was made in 1949 by Lt. J.L. Fruin of VF-171 using a McDonnell seat, from an F2H-1, at a speed in excess of 500 knots near Walterboro, South Carolina.

In the ensuing years, during which capability and complexity of aircraft materially increased, government and industry strove to improve the operational performance of ejection escape systems.

The pace of development to provide an improved crew survival capability was stepped up in 1956. The fact that some 62% of Navy pilot accidents in FY 1956 involved take-offs and landings had demonstrated beyond question the extreme importance of providing ejection seats with adequate ground level capability at the earliest practicable date.

Beginning in January 1956, as part of an overall program to enhance predictable recovery probability at lower altitudes, a concentrated effort was made by the Navy to provide automatic lap belts and automatic parachute openers to improve altitude ejection seat performance. By mid-1956, the results of this program were being reflected by the incorporation into service use of escape systems capable of safe recovery at altitudes as low as 700 feet.

In 1956, in order to provide the round level escape capability, the Grumman Aircraft Engineering Company received a contract for installation of 100 fully automatic Martin-Baker ejection seats (gun-type propulsion) in 50 F9F-8T *Cougars*. All components of this system were of British design, and the catapult gun which fired the seat utilized three powder charges fired in sequence.

THE NAVY selected the F9F-8T fighter-trainer for a test vehicle in this early program because of its twin seats and production aspects. Extensive tests under this program included dummy ejection at low (on the deck) and high altitudes at various speeds and culminated in a successful demonstration at the Naval Air Test Center, Patuxent River, Md., on 28 August 1957 of a "live" ground level ejection from an F9F-8T. The aircraft was travelling at 125 knots with wheels still on the runway during take-off. This was a most significant demonstration of the importance and value of low level ejection equipment in the reduction of loss of life of pilots.

On 30 August 1957 the Chief of Naval Operations requested BUAER to place highest priority on its ground level and low level ejection seat program. The aim was to provide ground level ejection seats in all future production combat and training jet aircraft, and to retrofit such equipment (within aircraft and seat compatability and seat availability limitations) to the following jets: F8U series, F3H-2, F4H-1, F4D-1, F11F-1, FJ-4B, F9F-8B, -8T, and T2V-1.

As an interim measure, a suitable mechanism to reduce the time delay on the automatic parachute opener for use at low altitude on take-offs and landings was to be provided on all "non-ground level" ejection seats, pending installation of ground level ejection systems. At this time, the Navy-adopted Martin-Baker seat was the only completely tested automatic escape system that could be specified with assurance of performance.

Safety equipment progress was highlighted in 1960 by increasing incorporation of the Martin-Baker low level escape system in Naval aircraft. To date, over 500 aircraft have the Martin-Baker seat installed. The F4H-1, F8U-2, -2N, and the A2F-1 are now receiving this system in production. Retrofit has begun in the F8U-1, -1P, F4D-1, F3H-2, F9F-8B, F11F-1, FJ-4B and T2V-1. As of 1 March 1961, 44

emergency ejections, mostly at the low levels where the majority of fatalities occur, resulted in only six fatalities.

Concurrent Programs

Concurrently with the Martin-Baker seat development, rapid progress was being made in the design of low level ejection seats by aircraft manufacturers on this side of the Atlantic, such as Chance Vought, Douglas Aircraft, and North American Aviation Companies. Action to apply low level escape systems to all appropriate Naval ejection seat aircraft involved in turn each United States airframe contractor who, by modifying existing equipment or by new design, attempted to provide the required seat performance.

Among the temptingly promising escape system developments pursued by the Navy were rocket catapults, by reason of their higher trajectories and lower peak acceleration. The first rocket catapults used were built by the Talco Engineering Corporation, now a division of Rocket Power/Talco, Mesa, Ariz. Later BuOrd investigated rockets as boosters for ejection seats, and their engineers came up with the RAPEC (rocket assisted personnel ejection catapult).

RAPEC-I is a self-powered, mechanically initiated, two-phase solid-propellant booster and rocket, designed to safely eject the man-seat mass from a Douglas A4D attack plane. It provides the thrust required to clear the tail surface of the aircraft at high speed and to achieve the altitude required for parachute deployment and safe recovery of the pilot from ground level.

The catapult consists of a cartridge-type booster mounted with a solid-propellant rocket motor having a canted nozzle. The cant of the nozzle is such that the rocket motor's line of thrust passes through the center of gravity of the pilot and seat, thus providing stability of flight to the ejected man-seat combination. This integral booster cartridge-rocket motor assembly is mounted on the back of the ejection seat, slips into and is locked within a launching tube that is closed at the lower end and anchored to the floor of the aircraft.

In the A4D, the maximum operational man-seat mass, weighing 365 pounds, achieves an altitude of 250 feet at the 90-knot touch-down speed. This is three times the altitude performance of the conventional catapult.

The RAPEC-I development program was initiated by BuOrd in 1958 at the Naval Ordnance Test Station, China Lake, Calif., in cooperation with the Douglas Aircraft Company. It has now reached the point where Navy and Marine pilots can safely resort to very low altitude ejections considered totally unsafe in earlier years. In tests at NOTS, RAPEC's ground level escape capability was demonstrated from low speeds to 400 knots. Tests also proved that the RAPEC-powered system can eject pilots from aircraft 30 feet under water. Further tests to discover the full useful range of RAPEC were conducted prior to its being placed in production in February 1959.

During the early part of the RAPEC development program, the U.S. Air Force indicated interest in this catapult. RAPEC-I propellant and design criteria were supplied to Frankford Arsenal for modification of RAPEC into similar units for the USAF F-104 series aircraft. In August 1958 the Air Force determined that the modified RAPEC-I propellant produced by the Naval Propellant Plant, Indian Head, Md., could be used as a replacement for certain contractor-developed catapults as warranted. A successful pilot ejection with the modified RAPEC-propelled escape system from an F-104 at 1500 feet was recently reported. At the time of ejection, the aircraft was travelling at a speed well over 400 mph. The pilot credited the saving of his life to the XM10 RAPEC.

The first of the Navy RAPEC Series RAPEC-I (Mk 1 Mod O) was released for production in December 1959. Navy scientists and engineers who had a hand in developing RAPEC garnered their first reward in September 1960 when the RAPEC-powered seat saved the life of a U.S. Marine pilot. On a flight out of MCAS Cherry Point, N.C., Lt. Robert H. Melville, USMCR, was unfortunate enough to have the stick lock on his A4D-2N *Skyhawk*. Although the plane went into a tight spiral at a speed of 500 knots at 17,000 feet, the ejection system and all survival gear worked perfectly.

The RAPEC series presently consists of three basic versions under development, being released, or in production:

The RAPEC-I rocket catapult (Mk 1 Mod O) is now supplanting the NAMC-Type II cartridge type catapult in the Douglas A4D series initially flown in 1958. All new A4D *Skyhawks*, which are designed for ground support interception and area defense, will come equipped with this system. The new rocket catapult greatly im-

CHINA LAKE 'SAFE' EJECTION STARTS DUMMY TO 225 FEET HEIGHT

USED IN 500 NAVAL PLANES, MARTIN-BAKER SEAT IS PUT IN F4D

proves the A4D's low altitude escape capability in operations from aircraft carriers or short landing fields.

RAPEC-II is in the early stages of development. A more powerful version of RAPEC-I, it is to be used in the North American T2J and A3J aircraft. The T2J and A3J aircraft, as noted above, are currently using the Talco rocket catapult for low level or ground level escape.

RAPEC-II is intended for incorporation in the Grumman A2F, McDonnell F4H and Chance Vought F8U series aircraft using the Martin-Baker heavy-seat system. It will replace the three-stage Martin-Baker catapult and will give this system a very low speed, ground level escape capability, and improved high speed performance.

Results obtained in programmed testing of the RAPEC-II in the F11F-1 Martin-Baker escape system afforded a basis for decision of action to be taken in the other aircraft programs involving the Martin-Baker seat, to provide the optimum in reduced acceleration, increased clearance, improved stability, and increase in the over-all performance of the escape system.

Dual Sequence Ejection

The first dual sequence ejection system, utilizing Talco rocket catapults, was approved by the Navy in early 1959. The new light-weight, ground level ejection seat, incorporating a unique command selector firing system (single initiating action ejects pilot and student in sequence) became operational on all T2J jet trainers.

The dual ejection design project, under Navy contract, was started in 1955 at the Columbus Division of North American Aviation, Inc., and encompassed such scientific areas as rocket propulsion, ballistics, human psychology, and physiology, aero-thermodynamics and structural analysis.

The dual sequence rocket-catapulted ejection system had to meet the stringent requirements demanded by the extreme speed and altitude capabilities of Navy's high performance jets. Maintaining "G" forces within human limits while obtaining sufficient trajectory heights for low altitude ejection posed the primary problem. A multitude of other problems, such as controlled stability, location and timing of aerodynamic devices, clean man-seat separation and clearance from rocket blast also had to be solved.

CHANCE VOUGHT CAPSULE WAS DESIGNED TO GIVE OPTIMUM SAFETY IN EMERGENCY

The North American T2J ejection seat offers many advantages:

- Successful low level ejection (from 75 knots at ground level) as well as stabilized ejection at altitude.
- Reliability based on parallel gas initiated firing systems.
- A gas firing system requiring no maintenance except periodic inspections.
- Both automatic and manual separations from the seat after ejection do not require manual operation of the parachute in this system.
- And, its most unique feature: the command selector system which allows the Naval instructor to eject his student (or passenger) and himself in less than one second with a single initiating action. If the instructor is disabled, the student (or rear pilot) can control the system by the master control lever from the rear. The front pilot is automatically ejected four tenths of a second later than the rear pilot.

Early in 1959, a Patuxent River test pilot was the first Navy pilot to eject in the Talco rocket-propelled new seat designed by North American. While on a roll performance flight, the pilot's T2J-1 trainer aircraft went into an uncontrollable left roll. He ejected inverted at 1500 feet altitude and at a speed of over 450 knots. The pilot was saved although he did sustain serious injuries.

A second live ejection, this time in tandem sequence, took place in September 1959, when two pilots at NAS PENSACOLA, ejected from their T2J at 800 feet. When the compressor section fire warning light came on, their altitude was 800 feet, speed 115 knots. Before the occupant of the rear cockpit could reach his trigger, he found himself being ejected by the pilot in command. Both men were recovered from the water uninjured.

One of the most spectacular "rescues" with dual sequence ejection occurred on 23 September 1960, when two NATC pilots ejected from a stricken T2J jet trainer which had just clipped a power line near Haynesville, Va. They had attempted an unsuccessful dead stick landing following engine failure. The dual ejections occurred moments before the plane crashed and burst into flames. Both men escaped serious injury.

Lt. Edward E. Stolle ejected first from the aft cockpit at 50 feet altitude. His descent was uneventful. Cdr. Payton O. Harwell then ejected from the forward cockpit at an altitude of 75 feet. His parachute canopy was burned as he partially descended into the explosion fireball, causing him to descend at an excessive

rate. The fire completely destroyed the airplane.

A total of seven ejections in the T2J, using this seat system, have been made.

The A3J *Vigilante* seat is similar in principle to the design of the T2J seat, but designed for very high speed ejection. Sled tests have been conducted at speeds producing a dynamic air pressure of 1905 pounds per square foot (Q). The seat provides special body positioning features.

Capsular Cockpit

The concept of emergency escape by means of a cockpit capsule was appreciated years ago, and the Douglas Aircraft Company went through the design, development and test phases of a capsule for BuAer. The parachute-borne emergency escape vehicle for pilots of high altitude, supersonic planes was a pod-shaped unit, known as an "ejection cockpit capsule." Completely enclosed, it was pressurized and insulated.

A major breakthrough in the design of capsules was reached with the development of a linear-shaped charge explosive to sever the capsule cockpit from the aircraft. Under a Chance Vought capsular cockpit design study termed Project *Oscar* (Optimum Survival Containment and Recovery), an installation weighing seven pounds successfully cut the F8U fuselage.

Design of the mock-up of the Chance Vought integrated flight capsule was approved and accepted by BuWeps on 6 September 1960. The capsule, a detachable aircraft cockpit section, provides improved operational environment and increased escape and survival capabilities at both subsonic and supersonic speeds for pilots of the future. It is constructed around the actual cockpit section of an F8U-1 *Crusader*, and illustrates the concept's adaptability to Naval aircraft.

Advanced features of the capsular cockpit are designed to eliminate the requirement of the pilot to wear the following cumbersome equipment: oxygen mask, communications, protective helmet, anti-exposure suit, insulation and ventilation garments, personal parachute and harness system, life vest, seat pan survival kit, personal survival kits, radio beacon-transceiver assembly, flashlight, dye marker, shark chaser, signal flares, knife, gun, whistle, as well as nuclear and thermal flash protection.

The system will enable successful escape for Naval Aviators at any altitude, ground level, and 25 feet underwater. In addition, it is intended to provide protection against wind blast and temperature extremes, controlled deceleration and stability, total body support and restraint, moderate rate of sink, an energy absorption system and a flotation system.

In the event of an emergency, the pilot will separate the cockpit section from the rest of the aircraft by use of a linear shaped charge developed by the Naval Weapons Laboratory, Dahlgren, Va. This charge provides a safe, reliable low weight system for separating the flight capsule from the after body of the airplane. Two solid rocket motors designed by NOTS Inyokern are proposed for boosting the capsular cockpit. Descent to earth will be by parachutes attached to the capsule. The parachute recovery system was designed and developed under a coordinated effort by the Naval Parachute Facility, El Centro, Calif., Space Recovery Systems, Inc., and Chance Vought engineers.

While the capsule mock-up was under construction, the Navy tested the system of severing the cockpit section from the rest of the plane fuselage by the "belt" of shaped charges. The Naval Weapons Laboratory at Dahlgren made repeated tests of separating aircraft fuselages on land with such charges. It also successfully cut the capsule section from the F8U *Crusader* while the airplane was submerged in ten feet of water. The provision for underwater escape will be another milestone in Naval Aviation safety.

Survival at sea is extremely precarious with the best of present equipment owing not only to the dangers of drowning, exposure, and sharks but also to the difficulty of being located by search parties. Standard escape equipment is obviously limited to performance, and early detection and rescue are highly improbable under heavy sea states, night operations, or low visibility weather. Survival after a water landing in the proposed encapsulated cockpit is greatly enhanced by keeping the Naval Aviator dry and warm, and providing two-way radio communication in addition to various automatic signaling devices with long range capabilities. The pilot could remain in the capsule (on land or sea) sending out rescue messages.

Emergency rations and ground water survival equipment will be stowed aboard the capsular cockpit. The capsular cockpit design will provide better total life support and protection for normal flights as well as emergency conditions than that afforded by current protective gear.

This system in a single place aircraft may actually save some weight over an aircraft with ejection seat, but a definite weight saving will be achieved in a multiple-place aircraft.

The capabilities of present flight safety equipment are due to the ingenuity of its designers and developers.

However, the search for improvement continues, and it is anticipated that the coming year will see still greater progress in the relatively new and complex field of low level ejection.

MOCK-UP OF 'OSCAR' (OPTIMUM SURVIVAL CONTAINMENT AND RECOVERY) CAPSULE

THE FIFTIETH ANNIVERSARY AT SAN DIEGO

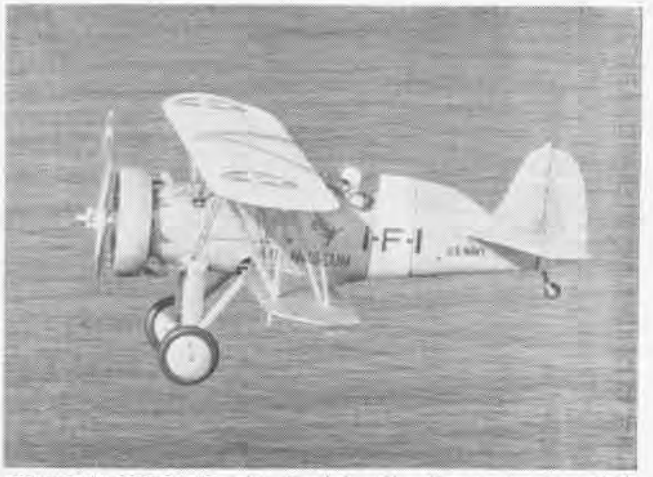
HALSEY FIELD *dedication was attended by V.Adm. C. E. Ekstrom, RAdm. M.E. Arnold, members of Halsey family and Capt. W.M. Collins.*

THREE F8U CRUSADERS *prepare to take off on a flight over North Island to demonstrate to the public capabilities of one of newest jets.*

THE A-1 APPEARS *to be in the USS Lexington's flight pattern as it flies past the huge aircraft carrier during Anniversary Air Show.*

CDR. DON GERMERAAD *flies A-1 and turns back the clock 50 years. On 1 July 1911 at Hammondsport, N.Y., Lt. T. J. Ellyson flew first A-1.*

TO MANY AN AVIATOR *of the Thirties and World War II days, this N3N airplane on display at San Diego brought back memories of past.*



GRAMPAW PETTIBONE, *white-bearded, still willing to put on a flight suit, didn't fly what he called a "new-fangled jet," but a sturdy F4B.*

RESPONDING *gaily to the cheers of thousands, crusty Pettibone showed his genuine pleasure.*

A CRUSADER *catapulted from the Lexington was just one of many featured attractions.*

POST OFFICE *official gives widow of Lt. T.G. Ellyson album of A-1 commemorative stamps.*

THE A-1 *prepares to land in San Diego after completing short commemorative flight of a great event at North Island's Air Show.*

MAJOR ATTRACTIONS *are the Blue Angels. Necks are strained, eyes shaded as the crowds watch the spectacular flight staged above them.*

GLENN H. CURTISS' FIRST ATTEMPT, UNDERTAKEN IN 1908, TO ADAPT AN AEROPLANE TO A HYDROAEROPLANE WAS CALLED 'THE LOON'

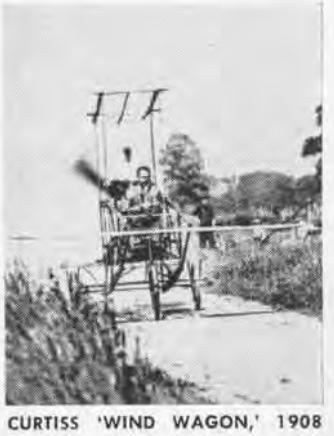
The Callan Collection

The bravery of the early fliers, who trusted themselves to airplanes of bamboo, spruce, wire and fabric, is stressed in photographs taken from the papers of the late RAdm. J. Lansing Callan. These records are of special interest to the Naval Historical Foundation which has a program of collecting and preserving personal papers relating to naval flying. Many of the photographs were captioned by Adm. Callan; and in this day when first-hand survivors of early aviation are scarce, these pictures serve as the record of the fun and vicissitudes of pioneer flight, military and civilian, and offer insight into the growth of Naval Aviation.

THE FIRST 'TRIAD' WAS DESIGNED TO TRAVEL ON LAND, WATER AND IN THE AIR

'THE WHITE WING' (1908) WAS SECOND PLANE DESIGNED BY CURTISS

EXPERIMENTAL GLIDER (1908) AT HAMMONDSPORT, N.Y., SUGGESTS PRIMITIVE BEGINNINGS



CURTISS 'WIND WAGON,' 1908

CALLAN HEADED CURTISS FLYING SCHOOL

Because the beginning of Naval Aviation was so closely tied to Glenn Curtiss, it is appropriate to spotlight his early endeavors. His designs awakened the interest of the Navy and in some projects, the Navy participated. The ingenuity and determination which led to the development of landplanes, hydroplanes, amphibians and flying boats, can be discerned in these pictures. Cooperation with Army and foreign pilots indicates aviation even then was true fraternity.

TOWERS, CURTISS, FLYING BOAT IN 1912

FIRST SUCCESSFUL CURTISS FLYING BOAT, ELLYSON 'AT WHEEL'

CALLAN (R): 'WEATHER FRIGHTFULLY COLD AS OUR FACES SHOW'

CALLAN INSPECTS CURTISS FLYING BOAT AT SAN DIEGO IN 1912, A TWO-PROPELLER TRACTOR TYPE WHICH FAILED

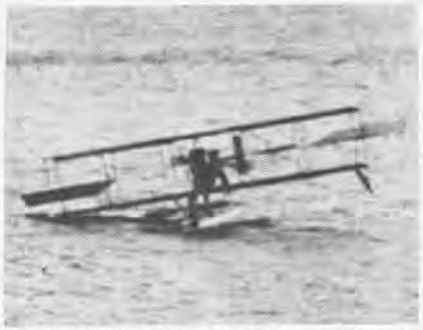
IN 1911-1912, JAPANESE NAVAL OFFICERS WERE BEING TRAINED. HERE TOWERS (C) WATCHES TWO OF THEM TAKING FLIGHT TEST

INSTRUCTION IN THE EARLY DAYS WAS RELATIVELY SIMPLE: 'TO GO UP, PULL BACK,' AND 'TO GO DOWN, PUSH FORWARD'

ACTUALLY TIED TO THEIR TASKS, AIRMEN WERE CONNECTED TO AILERONS BY CORDS: LEANED LEFT OR RIGHT TO BANK CRAFT

THESE PHOTOS SERVED AS EARLY TRAINING AIDS. NOTE MIDWING AILERON AS PILOTS DEMONSTRATE POSTURE FOR PORT TURN

FLAT-HATTING STARTED EARLY, PILOTS WERE WARNED THIS WAS 'TOO LOW OVER WIRES'



WING PONTOONS PREVENTED CAPSIZING

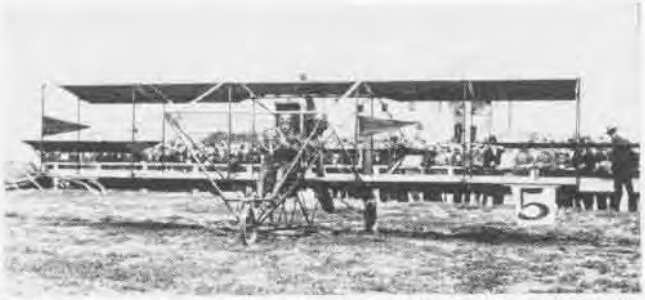
HAMMONDSPORT, N.Y., WAS HOME OF CURTISS FLYING SCHOOL

CURTISS ALSO HAD A SCHOOL LOCATED AT SAN DIEGO, CALIF.

J. Lansing Callan learned to fly in 1911, and for three years, he was an instructor at the Curtiss Flying School. Joining the Naval Reserve Flying Corps in 1917, as Naval Aviator 1442, he commanded Naval Air Stations in France in their early operations. Later, he had charge of U.S. Naval Aviation activities in Italy. He continued on active duty until the mid-Twenties, was recalled in 1940, and was Assistant Naval Attache for Air in Rome in December 1941, and later Naval Attache to governments in exile. In 1946, he was officer in charge of foreign observers at the Bikini tests.

CURTISS (4TH FROM LEFT), EARLY STUDENTS WERE EAGER TO LEARN

EARLY WRECK OF NAVY PLANE ILLUSTRATES LIGHT CONSTRUCTION



CROWD AT CORONADO, EASTER 1912, CAME TO SEE CALLAN FLY

Adm. Flatley Awards Given

Intrepid and Randolph Are Cited

The Admiral Flatley Memorial Award for Aviation Safety went this year to the USS *Intrepid* and the ASW support ship *Randolph*. The award was initiated in 1959 by the Columbus Division of North American Aviation for both attack and anti-submarine carriers.

Presentation was made by VAdm. R. B. Pirie, Deputy CNO (Air), at Norfolk, Va. Attending the ceremony was Mr. W. H. Yahn, president of the Columbus Division.

Runners-up for the trophies were the Pacific Fleet carriers *Oriskany* and *Yorktown*. The *Randolph* also copped the award in 1960. The *Intrepid* is the oldest attack carrier in the fleet.

Despite a substantial increase in aircraft operations during the past fiscal year, the Navy reports a decrease of 10 per cent in mishaps for carrier-based aircraft.

Recruiting—Texas Fashion

Kingsville Corrals Navy Aviators

It is axiomatic on Madison Avenue that a bright package attracts new customers—and will keep them, if the product is good.

Recently, CNO issued an additional plan for the recruitment of eligible young men in Naval Aviation. The package he presented for this plan is called Operation *Namesake*. *Namesake* gets its code name from a slogan: "Naval Aviators Must Effectively Sell Naval Aviation to Keep Effective Strength."

Naval Aviators at NAAS KINGSVILLE are vitally interested in this program, according to a front-page story in the station's paper, *The Flying K*. "They welcome an opportunity of 'selling' a product on which they themselves are sold," the article states.

Implementing the program, officers are contacting educational, church, civic and youth groups in the Kingsville and South Texas area. Within the limitations of security regulations, the commanding officer of the station and the station-based squadron C.O.'s have invited interested civilians aboard to get a close look at Naval Aviation.

Guided tours have been arranged as well as open house functions to promote the program. Future aviators, they hope, will bear the brand of a Texas *Namesake*, Kingsville corraled.

SECNAV J.B. CONNALLY *is greeted in Nice by VAdm. D. L. McDonald, Commander 6th Fleet, at beginning of a tour of American and allied defense installations in Europe. The two were Essex shipmates in World War II.*

First A4D-5 Being Tested

Skyhawk Evaluated at Edwards

Navy's newest modification of the A4D Douglas *Skyhawk* attack bomber —the A4D-5—has been undergoing flight tests at Edwards AF Base, Calif.

The *Skyhawk* is capable of carrying nuclear bombs, rockets, guided missiles, machine guns and other weapons.

Externally, the A4D-5 is similar in appearance to previous models. However, it incorporates additional weapon stations and the lighter, more powerful Pratt & Whitney J-52-P6 engines which give it added performance and attack flexibility.

Structural changes permit increased payloads. Take-off distances and wind required for deck launching are reduced. Its radius for close support of ground troops is extended.

RADM. PAUL D. STROOP, *Chief of BuWeps, presents Capt. C. G. Halvorson, new head of Missile Guidance and Airframe Branch, Navy Commendation Medal for his outstanding services in the Fleet Ballistic Missile Program.*

Over 1000 Hours Flown

HS-11 Logs Record Time in July

During July this year, HS-11 reached a monthly flight-time total of 1010 hours while conducting ASW exercises with Sixth Fleet units in the Med.

Of this total, 154.7 hours were flown at night during which 340 successful automatic transitions were accomplished. The last 400 hours of the month were flown during a four-day U.S.-Italian ASW exercise that called for around-the-clock operations.

Utilizing 13 helicopters, HS-11 met every scheduled flight and received a "Well done to all hands" from RAdm. Francis E. Nuessle, ComCarDiv 14, and from Capt. W. F. Brewer, commanding the carrier USS *Wasp*.

Lt. William Martin flew 70 hours during the month, accumulating the highest pilot flight time. He was closely followed by the highest crewman's flight time of 67 hours logged by Francis Cassidy, SOA3.

HS-11 is commanded by Cdr. Warren Taylor and was with Carrier Anti-Submarine Air Group 52 and ComCarDiv 14 on the *Wasp* when it logged the record hours.

CVA Safety Flag Flies High

Carrier Seeks Low Accident Rate

Even the smallest accident is everyone's job aboard the USS *Bon Homme Richard*.

Capt. M.U. Beebe, C.O. of the *Bonnie Dick*, has installed the safety "S" system. High on the towering mast of the 42,000-ton vessel flies a red and blue flag with a large S in the center. This flag flies high unless there is an accident aboard. In the case of an accident, the flag is flown at half-mast for three days.

A safety scoreboard, as a reminder of past accidents, is mounted outside the bridge for all hands to see from the flight deck. Aircraft deck handling accidents are recorded separately from flying accidents or incidents. Either type can put the safety flag at half-mast.

Capt. Beebe says, "We cannot have efficient operation without safe operation. *Bonnie Dick's* goal is to keep the S flag flying high all the time."

• The U. S. Navy has 23 aircraft carriers on the alert around the globe as part of America's efforts to uphold the peace of the world.

BERLIN 'ADD ON' TO INCREASE NAVAL AIR POWER

A VS-915 S2F FLIES OVER SOUTH WEYMOUTH, HOME STATION AND ACTIVATING POINT

NAVAL AVIATION got its share of added strength resulting from Congressional action on President Kennedy's recent request for more power to meet the Berlin threat.

Carriers, aircraft, missiles, money and men make up the boost that the Navy's air arm receive from what the budgeteers called the "Berlin add on."

Some of the new power derives strictly from increases in the regular Naval Establishment, while other portions are the result of calling up the Selected Reserves—the Navy's famous Weekend Warriors and surface units.

The biggest increment of new strength within the Regular Navy forces is the authorization of one additional attack carrier and its associated carrier air group. The USS *Lexington*, originally scheduled to be converted to a CVS, will remain a CVA. Also, a major element of the increase is an additional anti-submarine carrier and its air group. The USS *Antietam*, employed at Pensacola for the training of student aviators, will be augmented to full CVS status.

The call-up of Weekend Warriors was felt in the anti-submarine potential, too, where they contributed 13 carrier type ASW squadrons and five patrol ASW squadrons. Then to bring these squadrons up to fleet strength, the Navy Department announced on 13 September the involuntary recall of additional personnel, 213 officers and 1744 enlisted men.

Units called to report on 1 October and their duty stations are:

VP-832, NAS New York	New York
VP-933, NAS Willow Grove	Willow Grove
VP-741, NARTU Jacksonville	Jacksonville
VP-661, NARTU Anacostia	Anacostia
VP-872, NARTU Alameda	Alameda
VS-837, NAS New York	New York
VS-751, NARTU Lakehurst	Lakehurst
VS-935, NAS Willow Grove	Willow Grove
VS-915, NAS South Weymouth	South Weymouth
VS-733, NAS Grosse Ile	South Weymouth
VS-821, NAS New Orleans	New Orleans
VS-861, NARTU Norfolk	Norfolk
VS-771, NAS Los Alamitos	Los Alamitos
VS-772, NAS Los Alamitos	Los Alamitos
VS-873, NARTU Alameda	Alameda
VS-872, NARTU Alameda	Alameda
VS-891, NAS Seattle	Seattle
VS-721, NAS Glenview	Seattle

Secretary of Defense, the Hon. Robert S. McNamara, in a press conference announcing the call-up, declared that the return to active duty was made under a Joint Congressional Resolution "which provides for calling for only 12 months."

Pointing out that the term of service could not be established definitely, he said, "I am certain that each individual would like to know in order to better adjust his private affairs, but there is no way for us to predict the length of the crisis."

Under queries from the press, Secretary McNamara said that part of the call-up may become "permanent."

The increased military budget will increase the Navy's hardware inventory by more than 500 aircraft, principally operational types. Increased production will mean an increase in the on-board aircraft count by mid-year of 1962. Some aircraft will be earmarked for Naval Air Reserve Training to replace aircraft sent to the Fleet with recalled squadrons.

The increase in funds for procurement of aircraft will provide additional A4D-2N attack aircraft, F8U-2N and F4H-1 fighters, and additional ASW and transport aircraft and helicopters. These aircraft will be in addition to the 644 originally scheduled in the procurement program for FY 1962.

Additional procurement has also been authorized for *Bullpup*, *Sidewinder* and *Sparrow* air-launched missiles and surface-to-air *Tartar*, *Terrier* and *Talos* missiles, torpedoes and other ASW ordnance, sonobuoys, communication equipment and other firepower.

Engine Contracts Awarded

J-52 Ordered from Pratt & Witney

The Navy has awarded two contracts totalling $69.9 million to the Pratt & Whitney Division of United Aircraft Corporation, East Hartford, Conn.

One contract, amounting to $64.9 million is for additional production of the J-52 engine used in the Grumman A2F-1 *Intruder*. The second, a five-million dollar contract, is for development testing of the J-52 engine.

HANDS OF THE FORRESTAL

LAUNCHING AIRCRAFT *is an important part of the vital mission of today's carrier. Preparing for launch, taxi man (left) hand signals "Hold those brakes" while catapult crew fastens plane on catapult. Man on right signals for the attention of the next plane up.*

FILL HER UP! *This hand performs an important part in keeping aircraft in "ready" status.*

THESE EXPERT HANDS, *very aware of the dangers involved, carefully load liquid oxygen.*

GENTLY, *these well trained hands load external armament on the wing of this F4D Skyray.*

MANNING *aircraft prior to launch, plane captain assists pilot into the cockpit.*

'READY' *the pilot! Plane captain gives pilot of F4D a hand with his straps.*

STRONG, CAPABLE, *quick, these hands make the bridle connection between A4D and shuttle cock of cat.*

PLANE DIRECTOR *uses expressive hands to signal pilot of plane on catapult, "Pull up! We'll tighten the bridle. Then you can go."*

GETTING ANOTHER *one ready, catapult crew member straightens nose wheel on catapult. Unbalanced plane may make fish tail take-off.*

In an unprecedented achievement, USS Forrestal, with CVG-8 on board, won the AirLant Battle E and all CVA Departmental E's (engineering, communications, gunnery, operations and air) for FY 61. CVG-8 set a new record for flight time on a Med cruise—27,000 hours, 26,000 from the deck of Forrestal. VA-83 and VF-103 won FY 61 CNO Safety Awards and Battle E's and VF-103 won the AirLant Safety Award. Forrestal and CVG-8 demonstrate the ultimate in head work, hard work and team work, making all on board 'E-men' of the Fleet. As a tribute to the manual labor of all, Naval Aviation News presents pictures of the hands that helped win the awards.

JET BLAST *deflector screen up, A4D on catapult is hooked up, turned up and ready to go. Flight deck crew goes about assigned tasks.*

CAUGHT AT *the moment of launch, this responsible hand pushes the lever that launches plane after plane off the deck of USS Forrestal.*

THESE RELAXED *looking members of the flight deck crew are actually as "tense as a cat ready to spring" as they watch another plane take to the air. Many tense moments were theirs as they helped launch the aircraft that accumulated the record 26,000 flight hours.*

WITH 10,974 *arrested landings during Forrestal's deployment, it is probable that these maintenance men changed a few wheels.*

'HANDS' PREPARE *the catapult for another launch. This operation was repeated many, many times in the record-breaking six months.*

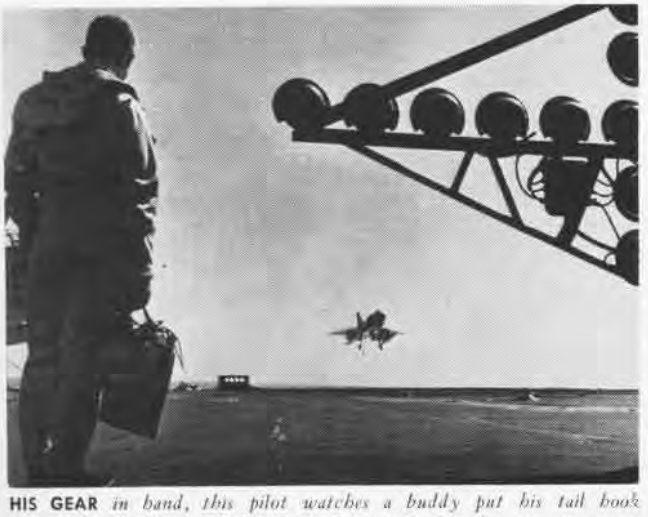
PREPARING FOR *recovery, two important operations are accomplished by these hands: greasing the cable and checking for loose strands.*

FLIGHT DECK *officer uses his hands to signal "bring your tail hook up" as the chock crew waits and the fire fighters stand by.*

SUITED UP *and ready to go, fire fighters stand by. Unemployment is their greatest joy.*

LEANING AGAINST *the tow vehicle with all heads turned aft to watch recovery operations, these relaxed looking members of the deck crew are really very alert and ready to assist when needed.*

FLIGHT DECK *crew member looks like a one-man welcoming committee as he runs out to lend a hand to returning A4D. Landings and assists like this were routine for the pilots of Carrier Air Group Eight: 61 centurions on the recent six-month Mediterranean cruise.*



HIS GEAR *in hand, this pilot watches a buddy put his tail hook down, line up the meat ball and reach expertly for that arresting wire.*

CLIMAXING *the record breaking cruise, this hand paints the Battle Efficiency E hashmark on the island structure of USS Forrestal.*

PATHFINDERS LEAP TO CLEAR WAY

PATHFINDER BEGINS TO MAKE WAY DOWN

ALBATROSS CONTROL, this is Tarbush Six Zero, over."

"Tarbush Six-Zero, this is Albatross Control, over."

"Albatross Control, this is Tarbush Six-Zero, I have six birds over 'I-P,' over."

"Tarbush Six-Zero, this is Albatross Control, vector Three-Six-Zero; enemy situation negative; wind calm; landing zone azimuth Three-Zero-Zero. Land four on blue, two on yellow, cleared to land."

Peculiar language and conversation, this! But you would have heard it had you tuned in to the wave length used by *Pathfinders* of the First Marine Division and Marine Helicopter Squadron 261, practicing at MCAAS YUMA.

In order to make an assault known as "vertical envelopment," that is, land an assault unit on a beach while at the same time landing another element behind the "enemy," an area in the rear must be cleared for the arrival of helicopter-borne troops.

Enter the *Pathfinders*. Ideally, a team of ten *Pathfinders* is dropped from helicopters in a pre-determined area two days in advance. They set up an Identification Point (I-P) about two miles from the Landing Zone.

The newest technique finds the Marines dropping from hovering helicopters using a technique called "rappelling," borrowed from mountain climbing. Adoption of the system is credited to a former instructor of the Marine Corps' Mountain Leadership School, SSgt. Walker.

During the first of several practice runs, one group of six *Pathfinders* was able to debark from the airborne helicopter in 56 seconds by merely sliding down a rope. Hovering at 100 feet, the helicopter raises little or no dust to mark its position. The rapid descent of the *Pathfinders* leaves the enemy guessing as to whether or not troops have been landed.

The Landing Zone normally includes three landing sites, but there may be more or less, depending upon the area available and the size of the force to be landed.

'RAPPELLING' MAKES FOR SPEEDY DESCENT

After setting up the Landing Zone control, the site NCO's and Field Masters must clear an area approximately 400 by 50 feet to accommodate 12 helicopters.

The area must be cleared of vegetation and brush that is more than six inches above the ground since that is the depth to which the undercarriage of the helicopter might settle on impact or landing.

For easier sighting from the air, each of the three Landing Sites within the zone has four points designated by colored cloth panels or tents during the day.

At night, wind direction is indicated by a series of lights in a line toward the direction from which the wind is blowing. When the pilot gains a position downwind, he detects the glide path indicator and approaches the landing site safely by flying into the light. If he is high he will see an amber light, a red light if low and a green light when on the beam.

As soon as the flight of helicopters lands, the assault troops jump to the ground and take the objective. After six waves have been landed the *Pathfinders'* mission is completed. They pass control of the area to the assault support troops.

Exit the *Pathfinders* who go to the rear and await another assignment.

PROBLEM OVER, A CRITIQUE IS HELD AND PATHFINDERS GATHER TO 'KICK BALL AROUND'

50 Years of Naval Aircraft

FLIGHT TRAINERS

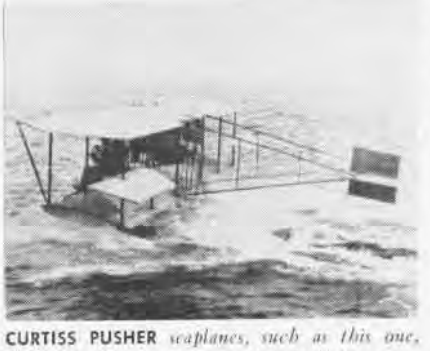
THE LOCKHEED *SeaStar* and North American *Buckeyes* with Pensacola and the USS *Antietam* below them are symbolic of much that has characterized Naval Aviation training over the past 50 years. Pensacola has been the heart of the Navy's pilot training, and fleet carrier flight operations have been the goal of most aviators. The flight shown above marked the final change-over from the T2V-1 to the T2J-1 in basic flight training. As in all Naval Aviation, new aircraft and concepts have continually been introduced over the years to provide the Fleet with the pilots and other aviation personnel necessary to discharge Naval Aviation's mission.

The first Navy airplanes, the Curtiss and Wright Brothers pushers, were used largely as training vehicles to provide the necessary Naval Aviators for the embryonic air arm. Operated almost entirely as seaplanes, these early biplanes were only slightly more satisfactory as trainers than they were for other roles in which they were tried.

Before this country entered World War I, the pushers had been replaced by tractor type seaplanes, most of which operated at Pensacola. A large variety of the seaplane models offered by the infant aircraft industry were purchased in small numbers and operated in the 1916-1917 period. The Curtiss N-9, which was derived from the famed Army Curtiss "Jenny," became the standard training model. This type, modified and built by other companies, was to be the Navy's principal primary trainer until the mid-Twenties.

In addition to the tractor seaplanes, the small Curtiss F flying boat, another early service type, was also used for the later phases of flight training.

After our entry into WW I in 1917, more specialized training needs brought other types into training operations. For the Marines, as well as others who were to fly land-based aircraft, Army Jennies were put into service. For advanced training, different types joined the F-boats which were continued in production. Thomas-Morse single place scouts, both as landplanes and seaplanes, were used along with other scout types. Curtiss R seaplanes were used in the training role as well as for other operations. Other models were built in varying quantity, including some by Boeing and Aeromarine. All were needed to train the vast new quantity of Naval Aviators.



CURTISS PUSHER *seaplanes, such as this one, the AH-12, served as early flight trainers.*

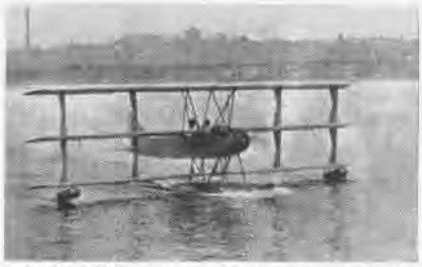
After the war, all this changed. Small numbers of N-9's and modernized F's (MF's), along with JN's and one new trainer, Vought's VE-7, were adequate for limited training needs.

Beginning in 1922, programs to provide new trainers were initiated, first with liquid-cooled engines in the 200-hp class, then with the Wright/Lawrence air-cooled radial of similar power. The Naval Aircraft Factory, Huff-Daland, Martin and Boeing built new types which were evaluated during the following years. All were seaplanes or convertible types. Versions to serve as gunnery trainers also were tested.

Boeing's design, the NB, was selected for production, some with air-cooled radials, others with the liquid-cooled Wright-Hisso engines. Further tests showed a flat spin characteristic which led to much modification and a number of spins into the ground—some more humorous than serious in terms of the effect on the pilots.

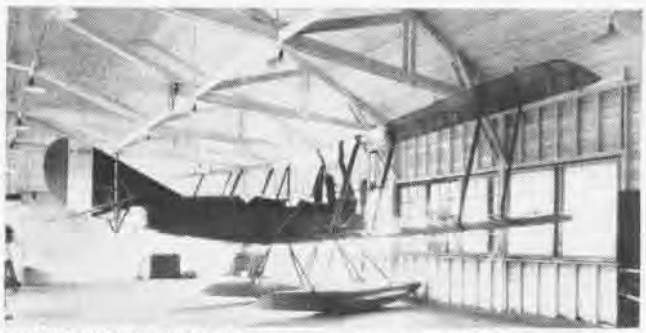
In 1926, a new type, the Consolidated NY-1, very similar to the Army PT-3, was purchased. These convertible, Wright J-powered primary trainers were purchased regularly over the next few years and became the standard primary trainer. For advanced training, obsolete service types were employed, a pattern which continues in force to the present day.

EARLY TRACTOR *seaplanes used in small numbers as trainers included the Thomas SH-4's.*



SIDE-BY-SIDE *seating was feature of Curtiss L-2 triplanes tested as seaplane trainers.*

WW I SINGLE-SEAT *"scout" type trainers included Thomas-Morse S-5 with rotary engine.*



NAVY'S WORLD WAR I *training program required large numbers of trainers. Among the models produced for this use was Boeing Model C.*

STANDARD SEAPLANE *trainer, WW I, and for many years after, was Curtiss N-9, built with different engines and by different companies.*

To provide somewhat larger and heavier trainers than the NY series, several models were purchased in succeeding years, some of them based on commercial designs. Curtiss, Keystone, Consolidated and New Standard—all built experimental and/or limited production models. Many of them served with the expanding reserve aviation units.

During the early Thirties, no trainers were procured. In 1934 with the NY's outdated, Stearman NS-1's were purchased, based on a prototype that was tested by the Navy and Army. These were built only as landplanes. The following year, the NAF built the prototype XN3N-1, which was followed by production to replace the NY seaplanes as "Yellow Perils" at Pensacola. N3N's were destined to be the last biplanes to operate in the Navy, serving as seaplanes at Annapolis until 1959.

In 1935, the first Navy low-wing monoplane trainer was ordered from North American Aviation. The NJ was based on the Army's BT-9 and was a landplane advanced trainer. This was followed in 1938 by the retractable gear SNJ-1, first of the series that was to become the famed *Texan* of WW II.

As part of our pre-World War II

TYPICAL *side-by-side seating for student and instructor was feature of the Aeromarine 40.*

BRIGGS-ALEXANDRIA *was one of a number of trainer type flying boats in World War I.*

CURTISS F *boats, and later MF's as shown, were used in large numbers for training.*

VE-7 ADVANCED *trainer was first Chance Vought design to be produced in quantity.*

FAMOUS CURTISS *"Jenny" JN types, including JN-4H above, were used by both services.*

BETTER KNOWN *for its part in early carrier operations was the Aeromarine 39B.*

military build-up, it was necessary to train large numbers of new aviators. For this purpose, new trainers were needed for all categories of training—pilots, navigators, bombardiers and other crewmen. For primary training, the N3N was put back into production, as the N3N-3, and land-based Stearman N2S's were added to the primary trainer fleet.

These were followed by a number of other landplane types, almost all adapted from commercial designs. Included were the Ryan NR-1 and Timm N2T-1 monoplanes and the Spartan NP-1 biplane. As the war progressed, production shifted to the N2S as a joint AAF/Navy type and to the N2T. All of these types were powered with air-cooled radial engines of various makes.

For service as basic trainers and as instrument trainers, Vultee SNV's were put into service. These were produced interchangeably with their AAF counterparts. Production of SNJ's and their AAF AT-6 equivalents was greatly accelerated. The Curtiss SNC-1's, also retractable-gear, low-wing monoplanes were purchased to supplement the SNJ's. Howard NH-1 cabin monoplanes served as instrument trainers.

Twin-engined advanced trainers, the Beech SNB's, were also produced jointly for the Army and Navy. The SNB-1/AT-11 was initially a bombardier gunnery trainer; the latter mission was subsequently deleted. The SNB-2/AT-7 was intended as a navigator trainer; it was used for multi-engine pilot training as well. Modernized, the old SNB's are serving to this very day.

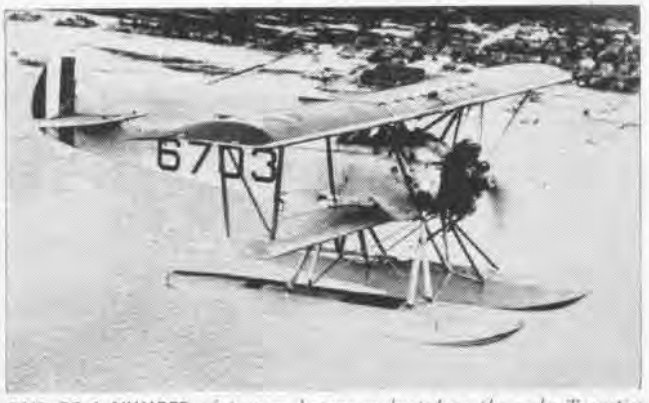
For training glider pilots, Piper *Cub* light planes were procured, as NE-1's.

Late in the WW II period, the design of two new trainers was initiated. These were conceived as types that would incorporate advances made in aircraft design during the war and be more representative of the service types that Naval Aviators would fly. The primary trainer was Fairchild's XNQ-1; the advanced, NAA's XSN2J-1. Both were low-wing all-metal monoplane designs with bubble type canopies and retractable landing gear.

After the war was over, the training picture was re-evaluated. It was determined that the SNJ's could be used for all phases of pilot training, so that the N2S's could be retired, and neither of the new trainers would be needed. Since float plane trainers, other than the primary N3N's at Annapolis, were not available, the Edo XOSE-2 was modified into the XTE-1 for training seaplane pilots. The XTE program was dropped along with the XOSE's when the use of cruiser and battleship-based, fixed-wing aircraft was terminated.

The next trainer procurement was an unusual one. With jet fighters coming into service, but no obsolescent jets for advanced training, Air Force Lockheed P-80's were purchased as TO-1's. Some were assigned to fighter squadrons while awaiting their carrier-suitable, Navy VF successors.

With the Korean War, even the modernized SNJ's were no longer considered adequate for the training role. New primary and advanced types were needed. Following evaluation of Temco, Ryan and Beech prototypes, the Beech T-34B, very similar to the AF T-34A,

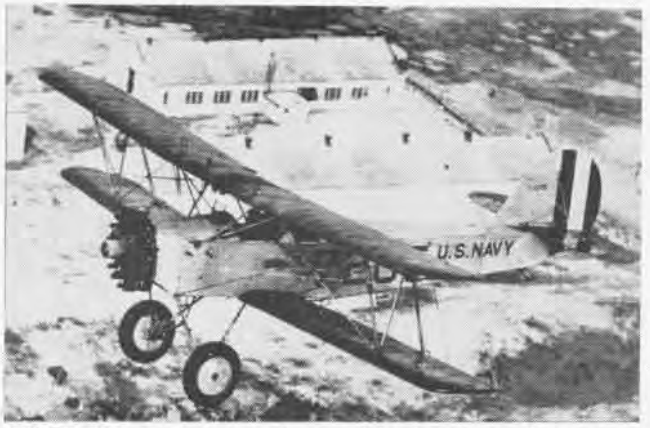


ONE OF A NUMBER *of trainer designs evaluated in the early Twenties was the Huff-Daland. The HN-2 had a 200-hp Wright air-cooled engine.*

SELECTED FOR *production, Boeing NB-1 could serve as a seaplane primary trainer or as gunnery trainer (shown). NB-2 had Wright-Hisso.*

NAVAL AIRCRAFT FACTORY *prototypes were the TG series of the early Twenties. They used different in-line engines in the models built.*

NAVY EVALUATED *the Martin N2M-1 in the early Twenties with a view to possibly using it as a landplane or a seaplane flight trainer.*



WIDELY USED *trainers were the Consolidated NY's. Similar to Army PT-3, the NY-1 and its successors served until the middle of the 1930's.*

LIKE ALMOST *all of the Navy trainer types of the late Nineteen-Twenties, the Curtiss N2C-1 was powered by a Wright Whirlwind engine.*

UNUSUAL ENGINE, *the Caminez four-cylinder radial, was powerplant in XN2B-1 prototype.*

KEYSTONE NK-1 *convertible trainers were heavier and powered by Wright Whirlwind.*

SEVERAL CONSOLIDATED *designs, including XN4Y-1 were evaluated; a few were used.*

was ordered. Similarly, the Air Force T-28A was adapted to Navy needs as the T-28B. In this case, a larger engine, the Wright R-1820 *Cyclone*, was substituted for the smaller engine in the AF airplanes. Both the T-28B and T-34B had tricycle gear. For jet pilot training, including instruments, the Air Force T-33A, a two-place version of the P-80, was ordered as the TO-2, soon redesignated as the familiar TV-2.

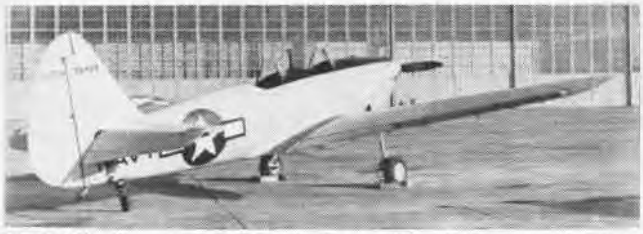
Since neither the T-28B nor the TV-2 was carrier suitable, versions capable of carrier operation were desired. The T-28C and the considerably modified T2V-1 resulted. With the continuing requirement to match advanced trainer characteristics with operational types, the two-place *Cougar*, the F9F-8T,

FIRST LOW-WING *Navy trainers were 1933 North American NJ-1's. These were similar to the Army BT-9B basic trainer with fixed landing gear. Design was basis for later NAA airplanes.*

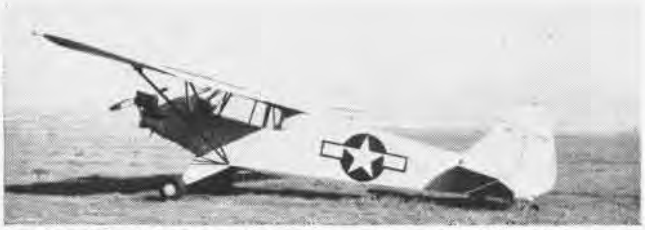
CURTISS SNC's *were used for advanced training along with SNJ's in early WW II period.*

CIVILIAN SPORT *plane was basis for Ryan military trainers; NR-1 was Navy version.*

FIRST BEECH *SNB-1's were Army's AT-11 bomber crew trainers; turret later eliminated.*

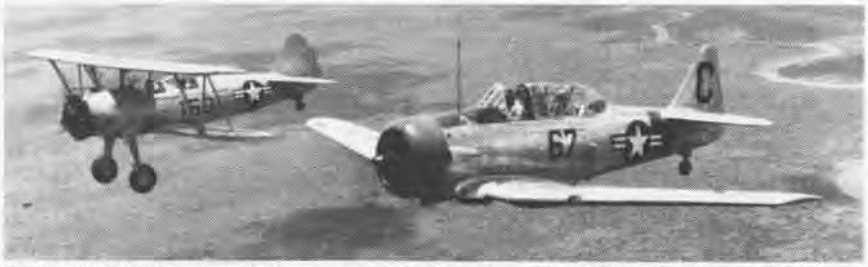


TIMM N2T-1's *used in training had uncowled radial engines. Prototype XN2T-2 with six-cylinder opposed, air-cooled Lycoming was tested.*



NAVY PROCURED *Piper NE-1 Cubs as trainers for glider pilots during World War II, and the U. S. Army used them chiefly as liaison planes.*

LAST BIPLANES *in Navy service were NAF N3N-3's used as seaplanes at Annapolis.*



FLIGHT MARKING *end of biplane primary training shows World War II Stearman N2S-5 and North American's SNJ-6 when SNJ's took over primary in the late Forties following the war.*

came into being. "T" versions of other types, reconfigured internally, were also provided for special roles, including the S2F-1T and the A3D-2T.

Some "T" versions are used for pilot training, others, for training pilots and aircrewmen to operate electronic equipment—radar, fire control, etc.

To introduce jet training earlier in the pilot training program, a competition for a basic jet trainer was held in 1956, resulting in the T2J-1 program. To evaluate the usefulness of a jet primary trainer, Beech and Temco prototypes were tested, and a small number of Temco TT-1's purchased.

Currently a new trainer is being procured to fill a vital training need, the NAA T3J-1. Nearly identical in mission and configuration to the AF T-39B, it will train RIO's who will ride the second seat in the F4H now coming into service. As new types are needed, new trainers will enter the picture, ready to do their part in training the Naval Aviators and other flight personnel needed for fleet operations.

Through the 50 years of Naval Aviation, trainer aircraft have advanced with their combat contemporaries. Thus the student pilot is trained in an environment that is as closely related as possible to that he will experience as a pilot with the Fleet.

FAIRCHILD XNQ-1 *was early post-war primary trainer prototype with wartime improvements.*

UNUSUAL TRAINER *prototypes were Edo XTE-1 seaplane of late '40's. Powered by a Ranger engine, TE was to train capital ship scout pilots.*

NORTH AMERICAN *XSN2J-1 was tested as potential replacement for SNJ's in post-war period. It served as basis for the T-28 design.*

PRIMARY JET *training was evaluated in program using Temco TT-1 Pintos, a small number of which were purchased by Navy for this purpose.*

EQUIPPED FOR *carrier operation, the North American T-28C was modified from the land-based T-28B. Both have 1425-hp Wright Cyclones.*

Weekend Warrior NEWS

CAPT. SCHWARTZ *and Gainesville church officers in front of the steeple-less tower.*

CNAResTra's Safest Year

More than 200 squadrons in the Naval Air Reserve Training Command, based aboard 18 air stations around the USA, flew the entire 1961 fiscal year without accident. For the second straight year, the Reserve Command had the lowest accident rate among major commands in Naval Aviation. The 1961 rate was published at 0.82 accidents per 10,000 hours of flight time, lowest in the command's history and an 18 per cent reduction in one year. Several stations recorded an accident-free year among all squadrons. (Reserve Safety Award winners are listed on page 6 of this issue.)

Copters Aboard Princeton

Helicopter Anti-submarine Squadron 771, NAS Los Alamitos, became the first Naval Air Reserve unit to carrier-qualify and conduct ASW operations from a carrier deck during a training cruise. The unit trained aboard the USS *Princeton* (LPH-5). Heretofore, all HS reserve units have conducted training from shore bases.

People-to-People Pork

NAS Atlanta Weekend Warriors have added pigs to the list of objects that can be carried in the bomb bays of a P2V *Neptune*.

In a people-to-people gesture, the men of Patrol Squadron 673 airlifted six purebred Landrace pigs (of the appropriate sexes) to Puerto Rico from Atlanta. Upon arrival, the pigs were given to two Puerto Rican Four-H Club members by NAS C.O., Capt. I.J. Schwartz, and VP-673 C.O., LCdr. Kenneth Kirkwood. The animals reportedly made the eight-hour flight in easy style in crates slung in the bomb bays.

Capt. Schwartz made another presentation—a check for $3500—on the home front. During WW II, the Navy asked the Gainesville Mill Methodist Church congregation to remove the church steeple, which was in line with runway approaches at a Navy training field. The steeple was removed, but was not replaced after the war. Capt. Schwartz, through the Navy Department's official channels, received the check and turned it over to church officials to buy a new steeple.

PLANK-OWNERS SALUTE *flag for last time as NAS Oakland closes, depart for Alameda.*

NARTU Alameda 'at Home'

Mere days after moving officially from their old home at NAS Oakland, Patrol Squadron 875 settled in at NARTU Alameda for a two-week cruise "at home." Accompanied and assisted by Naval Air Reserve Maintenance Unit 875, the VP squadron

AIRCRAFT MODIFICATION UNIT *at Willow Grove gathers for a final group photograph before decommissioning. Unit's labors were taken over by PAR (Progressive Aircraft Rework) program, and personnel were distributed to other Naval Air Reserve Training Command Stations.*

ALAMEDA RESERVISTS *used cruise rest period to visit George Burns and see Las Vegas.*

spent three days on fleet exercises and sharpened up on ASW tactics in the San Francisco Bay area.

500 Barrier Sweeps

Naval Air Reservists at Los Alamitos quietly celebrated the 500th barrier flight conducted by reserve flight crews off California. The barrier flights, inaugurated 40 months ago, give Reserve crews "on the job" training on weekends while giving active duty crews a respite. Barriers are flown under control of the Pacific Fleet's Fleet Air Wing 14, San Diego.

Rocking into Retirement

A bemedalled Naval Reserve Aviator, retiring after 20 years of service, was presented a gimmicked "rocking chair to end all rocking chairs" as a retirement memento of his flying mates.

Recipient of the chair is Capt. Richard J. Griffin, USNR, who retired in June as C.O. of Air Wing Staff 93L, NAS WILLOW GROVE. All hands joined in making the gift.

The basic rocking chair, an antique purchased in historic Bucks County, Pa., has been embellished with a Plexiglas canopy, a throttle quadrant assembly, rudder pedals, a control stick and equipment vital to a pilot who is miles away from the comforts of modern plumbing.

Capt. Griffin, holder of three Distinguished Flying Crosses, nine Air Medals, a Presidential Unit Citation and a Navy Unit Citation, is vice president of a Philadelphia concern as a civilian. Retirement from reserve participation will give him at least one week-end each month to "fly" his chair and reflect happily about his flying experiences.

PUREBRED PIGS *are delivered to Puerto Rico as good will gesture by Atlanta Reservists.*

Seattle Marks 100% 'On Board'

For the first time since the Naval Air Reserve took up residency at NAS SAND POINT, Seattle, in 1946, the station reached 100 per cent of its allowance of reserve personnel. Last man to sign up to bring the station up to the coveted figure was Harold Saddeler, Oak Harbor, Wash., son of Chief Walter Saddeler, 22-year Navy man stationed at Whidbey Island.

First for WEPTU, New York

With the combination of BARTU's and Ordnance Companies under the Naval Air Reserve Training Command, the first WEPTU's (BUWEPS' Training Units) began operation under new titles on 1 July.

First new members welcomed into WEPTU 832, NAS NEW YORK, were two engineers with varied backgrounds. One is LCdr. T.B. Cleveland, Westfield, N.J., a Westinghouse consulting and applications engineer, and Lt. J.H. Leverett, Hackensack, N.J., a mechanical engineer with the AEC.

At-Home Recruiting

Chief Arthur Contois, head recruiter for NAS SOUTH WEYMOUTH found a recruit for the Weekend Warrior program in his own home. Chief Contois signed up his daughter, Carol Ruth, as a WAVE for Weymouth. This brought the number of Contois' in the Navy back to par, since Carol Ruth's uncle, Louis Contois, retired recently after completing 20 years of service.

ALL COMFORTS *of the cockpit are built into rocking chair given retiring Capt. Griffin.*

MOD Unit Closes Down

After servicing more than 600 aircraft since 1957, the Willow Grove Modification Unit closed down its shops on 30 June. Work done by the unit will be accomplished by the Progressive Aircraft Rework (PAR) units. Personnel attached to the unit were distributed to other stations and units of the Naval Air Reserve Training Command.

SAR Drill Pays Off

On an active duty cruise, two Grosse Ile copter pilots practiced SAR "for real." LCdr. John Pritchett and LCdr. William Barnett rescued a man and woman from Lake Erie who had been in the water 25 hours. Pilots took them to Toledo Coast Guard Station.

RESERVES MAKE *carrier landings on Princeton during Los Alamitos helicopter cruise.*

NAVAL AVIATOR *of 1971? Balsa wood glider model is assembled by Willow Grove visitor.*

RUNNING MODEL CHAMPIONSHIPS BIG BUSINESS FOR NAVY, AMA

MISS AMERICA, *Nancy Anne Fleming, snips the ribbons for opening of 1961 National Meet.*

FOR EACH of the past 14 years, the Naval Air Reserve Command has assisted the National Academy of Model Aeronautics in conducting the annual National Model Championships.

Rotated among four CNAResTra stations, the championships thus reach model enthusiasts on the East and West Coasts, the Midwest and the Southwest at least once each four years.

NAS WILLOW GROVE, Pa., this year's host station, turned the week-long championships into a giant community project in celebration of the 50th Anniversary of Naval Aviation.

Performances by the Navy Flight Demonstration Team, the *Blue Angels,* and by the *Chuting Stars* parachute team were highlights of the anniversary celebration.

The scope of the annual meet is indicated by the following basic facts:

The sponsoring NAS usually stops all flight operations for one week to permit model events to be conducted on runways.

An average year brings more than 1500 contestants with one or more model aircraft to the site. (All must be registered; many must be housed and fed, also.)

Work benches for model aircraft maintenance and repair must be provided for all contestants. This means turning over an entire Navy hangar to the contestants.

Automobile parking and crowd comfort facilities for up to 100,000 persons must be provided for the final two days of the contests. Willow Grove registered 125,000 on the final day this year.

Several hundred judges must be assigned to judge the contest events, briefed on rules, and armed with stop watches. Navy men serve as judges of many events.

Enlarged security forces of Navy men must be on duty to handle traffic and crowds of visitors.

The entire stationkeeper complement of the NAS is assigned "task force" orders to ensure smooth operation of the show.

The immediate community is "alerted" to "lost model" aircraft and "home town" news releases are sent out on all contestants. Local media are also serviced.

SINCE FOUR stations share sponsorship on a rotation basis, many of the pitfalls of planning for the big event have been eliminated through experience. However, planning for the event goes on throughout the year on

GLISTENING MODEL *of P2V Neptune contrasts with "the real thing" in the background.*

AN F6F MODEL *ready for flight circuit, is powered by a .59-hp engine, hits 80 mph.*

AMA DIRECTOR, *Russ Nichols, left, presents artwork to Admiral McKechnie, CNAResTra.*

PANORAMIC PHOTO *catches story of 1961 championships. The Blue Angels commence maneuver, trailing smoke in background. Lower third of picture shows the trophy presentation stand, model carrier deck, and Navy Steel Band. The crowd is concentrated around display aircraft.*

both civilian and Navy command levels. Next year, NAS GLENVIEW will be host, passing the sponsorship for 1963 to NAS LOS ALAMITOS. The 1964 meet is scheduled for NAS DALLAS.

Scheduled for the month of July each year, the model meet attracts entire families who often plan their vacations to coincide with the championship dates. It is not unusual for father, mother, daughters and sons to have model entries in various events.

Contestants from as far away as Peru, Mexico, Hawaii and Alaska were among the 1961 entries.

Russ Nichols, executive director of the AMA, called the Willow Grove meet "the biggest and best" in the 30-year history of the Nationals.

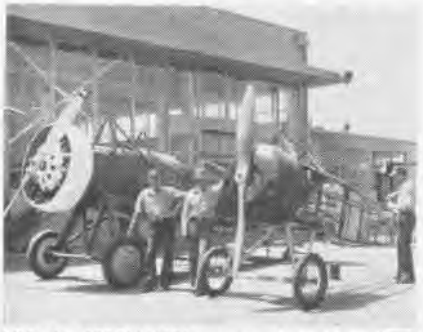
More than $3000 in trophies and awards were presented through the Hobby Industries Association and sponsoring aircraft industries.

Spectators on the final days heard the 10th Naval District Steel Band, saw industrial and Navy exhibits, demonstrations, displays, and watched finals in the combat, speed, stunt, radio controlled and carrier model events.

SEVEN CONTESTANTS *from Mexico display their models, part of international types entered in the National Model Championship.*

JUNIOR WINNER *of the Navy Carrier landing event, Bob Phillips, of New Jersey, is presented a trophy by VAdm. R. B. Pirie, DCNO(Air).*

LOS AL'S SALUTE TO HISTORY



LOS AL SPECIALISTS *contemplate the job of restoring Boeing F4B (l) and French Hanriot.*

STRUCTURAL MECHS *Wanless and Schneider give full attention to restoring French biplane.*

IN THEIR RENEWED GLORY, *the two vintage biplanes, the Boeing F4B and the French Hanriot, await their first appearance at San Diego observance of the 50th Anniversary of Naval Aviation.*

At NAS Los Alamitos, one of the largest of the 18 facilities of the Naval Air Reserve, personnel have created a visual tribute to the first 50 years of Naval Aviation.

In their off-duty time in a station shop, they refurbished a stubby Boeing biplane Navy fighter and a Hanriot French biplane of World War I.

When Cdr. Max Moore, Los Al's aircraft maintenance officer, and LCdr. Ross Quinlan, shops officer, first saw the old planes, they looked like broken models in a toy box. Vickers machine guns were still mounted in the 1915 Hanriot. In its time, this was a terrifying piece of fighting equipment.

The F4B was the fastest, most maneuverable single-seater, aircooled fighting aircraft in the world in 1932.

Station C.O., Capt. Robert B. "Buck" Buchan, took one look at the F4B and fell into a mood of nostalgia: "I cut my air teeth on that one."

Finding men on the station who were familiar with the old type planes to do the rework was not hard. Some 25 men from the ranks of the Naval and Marine Air Reserve and some civilian employees volunteered. Chief LeRoy Schindler supervised the work.

Shop was set up in Hangar 2 and both planes were completely stripped down and rebuilt from nose to tail. In the days that followed, older men, working on their own time, recalled the early days, while some of the younger volunteers voiced doubts that either plane had ever been airborne. Young sailors were introduced to the almost lost aviation art of applying fabric.

What came out of the hangar were two brilliant pieces of aviation history. Both were ready for the Fiftieth Anniversary celebration in mid-August. The F4B, completely airworthy, was flown to San Diego, but the Hanriot, looking pretty, but retired from flying, made the trip by truck.

Both planes were on loan from the Air Museum at Claremont, Calif., whose curator is Mr. Edward Maloney. They will be returned after a tour.

The workmanship and ingenuity devoted to the two planes was an appropriate salute to the jet age U.S. Navy.

Advanced Training Safety
Ends Safest Year in Two Decades

Operating on the premise that accidents are caused and therefore can be prevented, the Naval Air Advanced Training Command launched an intensive program last year which paid off dividends. It completed the safest year in its 20-year history.

The key to the entire safety program, as expressed by RAdm. Louis J. Kirn, CNAVanTra, was ". . . spreading the word FAST." It was aimed at developing a safety philosophy. This frame of mind, or "climate of safety," inspired a strong desire on the part of each individual to prevent accidents, a personal faith and firm belief in effectiveness of the program, and the inclusion of safety as a primary goal in meeting the command training objectives.

At fiscal year's end, the command had flown a total of 243,475 hours in 11 different types of operational aircraft with only 30 accidents, for a rate of 1.23 accidents per 10,000 hours of flight time. This was a 28% reduction—or 12 fewer accidents—from the preceding year which ended with an accident rate of 1.71%.

Randolph in Battle Trim
FRAM II Overhaul is Completed

USS *Randolph* (CVS-15) has completed a Fleet Rehabilitation and Modernization (FRAM), Mark II, overhaul at Norfolk Naval Shipyard. Material improvements will extend the life of the ship at least five years.

Major modernization for enhancing the carrier's ASW capabilities include the installation of a unique sonar (AN/SQS-23), a modern CIC arrangement with a novel display system, closed circuit TV, and greatly improved communication facilities.

Randolph has also been provided specially outfitted aircraft equipped with the most advanced electronics devices for the detection, classification, and destruction of enemy submarines under heavy weather conditions.

The FRAM II ship improvements, coupled with the use of S2F-2, WF-2 and HSS aircraft, represent real progress in the Navy's vital ASW program.

INDUCTION: A CASE HISTORY

AT LOCKHEED MARIETTA *plant, students from VX-6 take a break between classes. Most discuss subject taught, but some inspect plane.*

THE TRICYCLE SKI-WHEEL *installation of the C-130BL Hercules is inspected by students at the factory. Plane lands on either skis or wheels.*

MANY DEVELOPMENTS in the Navy are predicated on chance and need, but induction of the C-130BL *Hercules* into the Navy is the result of "chance" occurrences that, one contingent upon the other, led to the introduction of a new dimension in polar exploration.

Three years ago, Ens. Irving J. Morrison had just completed two months of schooling at the Limited Duty Officer's School in Newport, R.I., successfully bridging the ranks between officer status and enlisted. It had been about a year since he'd been home, and he very much wanted to go there before leaving the U.S. on assignment.

The young ensign also had a touch of the adventurer in him and, upon receiving his commission, he requested and got orders to VX-6, a squadron given the mission of supporting U.S. activities in the Antarctic during the International Geophysical Year. As a unit of U.S. Naval Support Force, Antarctica, commanded by RAdm. David M. Tyree, it now supports the U.S. Antarctic Research Program.

Ens. Morrison got his leave and went to visit his sister in Marietta, Ga. The links in the chain of circumstances began to weld together as he headed in that direction.

During the leave period, Morrison's brother-in-law took him to the Lockheed plant nearby where he was employed as a Field Service Analyst Engineer. The Marietta Division of Lockheed was then making a new type cargo plane called *Hercules*, modified by the Air Force for snow landings.

Coffee-cup conferences followed, and movies were shown on the A-model aircraft in operation. When he left, Ens. Morrison was "loaded down with literature" on the aircraft.

Leave ended, he reported to VX-6 at NAS QUONSET POINT with the leaflets, brochures and pamphlets neatly tucked away in his briefcase. Time passed quickly in the orientation and training program that followed.

One day, in a relaxed moment over a second cup of coffee he brought up the C-130 and what he had seen in Georgia. Listening were Cdr. Jerry M. Barlow, then executive officer, and a visiting commander from Task Force 43. His audience was interested. When the staff officer returned to Washington, he took with him all the literature the young ensign had collected. As far as Morrison was concerned, the matter was forgotten.

Deployment hour arrived and ahead of him was the adventure of an antarctic winter night at McMurdo Sound as a member of VX-6 Det. Alpha. But he was on the ice less than a month when things happened with stunning swiftness.

"Seems you've got something generated in the C-130 plane, Jim," Cdr. Barlow said after Thanksgiving Day dinner. "You've already got your foot in the door at Lockheed, and if you want to take over the project, I'll have your wintering-over orders canceled."

Surprised, Morrison accepted the assignment and returned to Quonset by the first available air. New orders sent him to Marietta to attend a series of conferences and to become an active member of a Support Guidance Committee which would ease the induction of the new aircraft into the Navy's aviation supply system.

The Navy's version of the *Hercules* was configured according to Navy specifications and designed for Antarctic operations. It was obtained "off the shelf" from the U.S. Air Force, and was the first *Hercules* model built primarily for polar flying.

The "off the shelf" acquisition offered the most expeditious means of delivering the planes (four were ordered) in time for *Deep Freeze 61*.

Since this was a completely new type plane, the aviation supply system had no spare parts in its bins and this presented a new problem. The Bureau of Weapons (then BUAER) solved it by using a new system called Special Aeronautics Requirement (SAR) 398. VX-6's induction of the plane was a test case of the system.

Basically, SAR 398 called for the contractor to provide support until normal Navy logistics support could be effected. This again sped up delivery of the planes. The test was the first application to an operational squadron and also the first application of complete contractor support while a squadron was on deployment—in this case, to the bottom of the world.

To properly steer the direction of

SAR 398, the Support Guidance Committee met monthly. During these meetings, problems were raised, solutions proposed, responsibilities given and deadline dates assigned for completed action. SAR 398 remained in effect until September '61 when the Navy's supply system caught up. Now the planes are under the more familiar SAR 400, the normal Navy support and logistics system.

In the meantime, Cdr. Barlow and LCdr. Joseph E. Moore, then VX-6 assistant maintenance officer, flew to Greenland to observe the Air Force C-130A model in operation. They returned impressed and jubilant at the prospect of the plane's potential in the Antarctic. More discussions were held in Washington, at Sewart AF Base, Smyrna, Tenn., at Wright-Patterson in Dayton, Ohio, and at Quonset.

Of particular import was the matter of training. With the acquisition of a new type aircraft, so radically different from anything else the Navy had, a concentration on this aspect of the program was obvious.

The Field Service School of the Georgia Division of Lockheed received many of the VX-6 men at Marietta. Many students attended more than one course during the training period, depending on the requirements of the individual. At Marietta, the following courses were given men deploying on *Deep Freeze 61*:

AIRCRAFT MECHANICS, five weeks: "It's a comprehensive, accelerated course," said former student John Budoff, ADC. "It's designed to make you familiar with all the functional systems and components, structural and mechanical. A very good course, well presented."

POWER PLANTS SPECIALIST, four weeks: "We took on the T-56-A-7 turboprop engine," said GySgt. Andrew N. Holzemer, USMC. "There were eight men in the class I attended. It was my first experience with turboprops, but I didn't find it difficult. I had a little jet-schooling about four years ago. That helped."

HYDRAULIC TECHNICIAN, seven to eight weeks: "Nine or ten men took the course each time it convened," James D. Leake, AMF2, said. "We lived in the barracks at NAS ATLANTA and commuted. I had never worked with hydraulics before, but I got along fairly well. It's mostly paper work at the school, supplemented with instructor-guided factory tours. Our classes were 7½ hours a day."

LTJG. IRVING J. MORRISON *pauses in front of a C-130BL, at McMurdo Sound, Antarctica.*

AIRCRAFT STRUCTURE AND FUEL TANK SEALING, two weeks: John W. Hendry, AM1: "Basically, it dealt with how to prepare sealing mixtures and how to use a sealing gun. It was a fairly generalized course, but worthwhile."

SKI INDOCTRINATION, one week: "A good show," Fred A. Long, Jr., ADC, described it succinctly. He passed it with a mark of 100%.

ELECTRONIC FUEL CONTROL SPECIALIST, one week: "It covered," said Edward J. Cavanaugh, AEC, "temperature datum valves and temperature valve amplifiers—in theory, repair, maintenance, and associated circuitry."

ELECTRICAL REPAIR SPECIALIST, five weeks: "Mostly all classwork," said Jack B. Mitts, AE2, "and no homework assigned. You undertook what you didn't know or were weak on. It covered electrical equipment and systems for turbo-props, skis, power distribution, E-4 autopilot, N-1 compass, MA1 flight director, and fuel datum control."

AT SOUTH POLE *station, Deep Freeze men haul heavy cargo from a Hercules in -57°F. temp.*

FLIGHT DIRECTOR SPECIALIST, one week: "It's a very complicated piece of equipment, the Collins integrated flight system," said Joseph Mihalcik AECM. "It takes six indicators and integrates them to two. They'll give you the glide slope, localizer, compass heading, altitude, and radio heading."

APN-59 RADAR REPAIR SPECIALIST, three weeks: "It differs from other systems, but not greatly," said Ralph W. Saukko, AT2. "I thought my time was well spent."

RADIO AND RADAR TECHNICIAN, two weeks: Paul W. Gregor, AT1: "It's a familiarization course with UHF, VHF, and radar gear, which differs from that in other planes I've worked on."

Nor did the schooling end at Marietta. It continued at Sewart AF Base with the following instructions:

AIRCRAFT MAINTENANCE TECHNICIAN six-week course was taken by 12 men from VX-6, many of whom had attended courses in Georgia and would take more in Tennessee. Among them was Malcom MacLeod, AD1.

After the ten-week JET ENGINE TECHNICIAN course, he said: "It's fast, but interesting. Some of it was basic and we knew it before, but most of it was new. I think if you go to Marietta or here, the other related course would be pretty easy."

PROPELLER TECHNICIAN, two weeks, was one of the courses taken by Francis McNally, AD2, a member of the *Deep Freeze 61* wintering party at McMurdo. "It's a complicated thing to begin with," he said. "There are five pumps to pump the oil, three pressure and two scavenge, with a lot of electrical components. There's also a synchrophaser, one of the first in military aircraft.

"Our instructor slept in the same barracks. After lights out, we'd still have questions. We'd tippie-toe down the hall to his room and he'd stay awake for hours, helping us."

The FLIGHT SIMULATOR course was taken by seven VX-6 enlisted men, all but one veterans of the Antarctic.

HYDRAULICS TECHNICIAN, two weeks: "It dealt with the four systems in the C-130," Joseph J. Arno, AMS2,

said, "as opposed to two in other aircraft. Each system operates independently and often at the same time.

"I couldn't conduct maintenance of the systems unless I'd had the special training at this school. It dealt with specialized systems; no basics, except as applied to the C-130."

INSTRUMENT REPAIR TECHNICIAN, a two-week course, brought this comment from James C. Causey, Jr., AEM3: "It differed from the electrical repair specialist's training in that it was primarily field work and almost no theory."

RADIO MAINTENANCE, TECHNICIAN, five weeks. David R. Snyder, AT1, summed it up briefly in a cryptography of his own trade. "It taught maintenance and operation of all AT gear in the C-130, including ARC-34 (UHF transceiver) and VHF-101 (ARC-73)."

AIRCRAFT ELECTRICAL REPAIR course had eight VX-6 men attending.

George Kovach, AE1, passed with a 100% grade the two-day AUTOMATIC PILOTS COMPONENTS SYSTEM TECHNICIAN course. "This unit gives us auto approaches clear to the end of the runway through an Instrument Landing System. This is not possible in other planes in our squadron."

APN-59 RADAR SPECIALIST course lasted three weeks. Said Robert C. Straube, AT2: "The C-130 is the only Navy aircraft with this gear. APA-52 Doppler drift system is tied in with it. There were two classes, for maintenance capabilities."

At Indianapolis, Ind., Aage A. Nielsen, ADCS, attended the T-56-A-7 ENGINE MAINTENANCE course at Allison Division of General Motors.

"It was four weeks," he said. "I never had previous experience with jets. It was a good course, I got a lot out of it."

John F. Conroy, AEC, attended the three-week AIR DROP CAPABILITIES course at Pope AF Base, N.C., for a week of field work after two weeks of classroom sessions at Sewart. To qualify as loadmaster, he made two heavy drops, parachuting supplies to a marked-off spot below.

THE NAVY'S FIRST *C-130BL Hercules, one of four assigned to VX-6, arrives at NAS Quonset Point to participate in Deep Freeze. Proven in last year's operation, four more are contemplated.*

Anthony Pautenis, ADC, was one of ten who attended a special three-week course at Windsor Locks, Conn., to study the 54H60-63 model Hamilton-Standard propeller. Local labor difficulties nearly canceled the training program, but an agreement was reached and the men completed the course in time for deployment.

Officers were included in the training program. Capt. William H. Munson, then commanding the squadron, was among the VX-6 pilots to receive AIRCRAFT FAMILIARIZATION, FLIGHT SIMULATOR, and FLYING TRAINING at Sewart.

LCdr. Edgar A. Potter, one of the students, described the three-week AIRCRAFT FAMILIARIZATION course as basic, but not as detailed as those given mechanics and other specialists.

"We'd take off, fly and land in simulated conditions, hitting emergency condition after emergency," LCdr. Potter said of FLIGHT SIMULATOR.

FIFTY HOURS were developed to FLYING TRAINING. In three weeks, pilots received practical experience in actual flight, studying the systems operations, familiarizing themselves with the instruments and repeatedly running through emergency procedures.

On 4 August 1960, the first two of four C-130BL *Hercules* landed at NAS QUONSET. A crowd had gathered to watch their arrival. Ceremonies were conducted by RAdm. Benjamin E. Moore, ComFAir Quonset, RAdm. Tyree and Capt. Munson.

"Use of these splendid Lockheed aircraft in the Antarctic is an innovation of tremendous importance," RAdm. David M. Tyree commander of *Deep Freeze*, said.

"Since the early days of the 20th century, man's mode of travel has progressed through several stages; from the primitive to the most modern.

"Scott's tragic march is a monument to courage and perseverance. Since that time (1911-12), travel on the ice and snow has seen the use of dogs, ponies, wheeled and tracked vehicles and a variety of aircraft. Today we are privileged to receive C-130BL *Hercules* inaugurating the latest of Antarctic travel."

Capt. Munson added: "These planes will enable VX-6 to increase and improve its support of the Antarctic bases and the U.S. Antarctic research program. These planes will fly higher, faster, and will carry many times the payload of our current aircraft."

His words were prophetic. At the end of *Deep Freeze 61*, three of the four C-130's racked up a staggering tonnage of airlifted materials on the continent. The fourth plane was used solely for testing.

Operating later in the season than any aircraft in the past, returning to the U.S. at the end of summer support season, they carried over 1700 tons to Pole and Byrd stations. Two of these planes also made a 2800-mile round-trip flight from McMurdo to Eights Coast, across the continent. This proved the longest logistics flight in the history of air operations within the icy Antarctic continent.

VARIETY IN AIRCRAFT *is proof of the versatility of Headquarters and Maintenance Squadron 13 which uses seven types to accomplish its mission. Based at MCAS Kaneohe, H&MS-13 is a component of Marine Aircraft Group 13. The Group completed fiscal year 1961 with an accident-free record, logging over 25,000 hours in jets, props and helicopters. Commanded by Col. R. G. Owens, MAG-13 also includes, MABS-13, MACS-2, HMR-161, VMA-212, VMA-214, VMF-232.*

VX-6 Gets Mobile Homes

To be Used in Antarctic as Shops

In VX-6, a house is not always a home, it is sometimes a shop. Witness this instance:

Necessity, the mother of invention, had another blessed event at the squadron's spaces at NAS QUONSET POINT —she gave birth to ten metal house trailers. All ten rested glumly, briefly, and quite beat up but otherwise usable, at the end of the VX-6 ramp near Land Plane Hangar Four. Why? The squadron is hard up for housing.

During last season's operations on the ice landing strip at McMurdo Sound, Antarctica, the squadron's maintenance department was pressed for sufficient shop space—especially since the main camp at McMurdo is located some four to five miles away, with "to and from" transportation at a continuing premium.

Ltjg. Harold F. Buchberger, assistant maintenance officer, came up with a solution to the problem. He suggested the procurement of ten manufactured cargo sleds. The idea was turned down because of costs involved.

Last July, someone spotted a Navy surplus catalogue which listed 60 house trailers up for bids at Melville (R.I.) Trailer Park. Ltjg. Buchberger jumped on the idea of acquiring the required ten units and before long, they were delivered.

Squadron personnel started to cannibalize the units, tearing off such unnecessary accountrements as screen doors and furniture, returning these items to the surplus stockpile. Usable stoves and sinks were retained. Steel frames were welded onto the bottoms of the trailers by a group of welders from MCB-1 at Davisville. Running the lengths of each unit these frames work as elongated skis.

The trailers were then hauled to Davisville where they were loaded on cargo ships for transportation to the ice. Offloaded at McMurdo, they will be used for maintenance shop spaces at the strip, for storage, for use as personnel quarters, and to provide emergency sleeping quarters for the large number of men participating in the latest (and seventh) *Deep Freeze.*

Buddy Bombing is Better

Squadrons Train in Tactic at Yuma

In a style reminiscent of the "*Baka* bombing" tactics employed by the Japanese in WW II, VA-23 and VAH-8 planes are teaming up for buddy bombing tactics.

The system used by the Japanese saw a "mother" aircraft carrying a piloted glide-bomb to a target and releasing it for a suicide attack.

At MCAAS YUMA, the two Navy squadrons have trained as a team, perfecting the system without kamikaze intentions.

In buddy bombing, an A3D *Skywarrior* guides an A4D *Skyhawk* to a target. The *Skyhawk* breaks away, makes its own attack, and then returns to the ship. The A3D continues its own assigned mission. With this system, both aircraft can take advantage of the instrumentation and radar gear normally carried only by the A3D. This gives the A4D *Skyhawk* extra capability without being burdened with extra gear.

FOR THE SECOND YEAR *in a row, VP-18's Crew 5, competing against all patrol squadrons on the East Coast, scored 100% in all nine phases of the Navy-wide Competitive Exercises. Cdr. L. L. Miller is crew skipper.*

TENTING TONIGHT? *The old four-corner tents were not staked to the flight deck of either USS Bennington or USS Lexington during a regional conference of a 1400 delegation of Explorer Scouts. Bed rolls were used.*

TWICE AS SAFE *as '59 record earned VT-30 Naval Air Advanced Training Annual Aviation Safety Trophy. RAdm. L. J. Kirn presents it to VT-30 C.O., E. E. Kerr, as Safety Officers Maj. Smith and LCdr. Riddick look on.*

LAWRENCE E. IDE, *first white-hat Air Control Intercept Supervisor, plots aircraft movements on radar scope during practice intercept at the AIC(S) School, Fleet Anti-Air Warfare Training Center, located at Dam Neck, Virginia.*

VADM. FRANK O'BEIRNE, *ComNavAirLant, receives three water colors painted by Tom Healy, ATC, Illustration Artist for the Naval Aviation Safety Center, Norfolk, in recognition of the 50th Anniversary of Naval Aviation.*

PAUL WOLF *of Cub Pack 506 receives his honorary membership card from VA-93's X.O., LCdr. R.F. Schoultz. Almost 200 Cubs have been "checked out" in a tour at Alameda of VA-93, commanded by Cdr. J. W. Porter, Jr.*

VT-1 Scores in Safety

Receives CNaBaTra's Safety Flag

Initiative, hard work and constant safety practice yielded a just reward for training Squadron One, CNaBaTra's Quarterly Safety Pennant.

This pennant is awarded every fourth month to the squadron in the Basic Training Command which flies the highest number of hours with the lowest number of accidents.

To win this coveted award VT-1 flew in excess of 24,000 accident-free hours during the fourth quarter of fiscal year 1961. An improvement from four accidents in the 4th quarter of fiscal year 1960 to none in the same period in FY 1961 is VT-1's achievement.

For fiscal year 1961, while flying over 90,000 hours, only four accidents were recorded. The official accident rate of .44 per 10,000 hours is a reduction of almost 50 per cent from fiscal 1960. At the last accounting, Flight 13 had flown over 23,000 accident-free hours while Flight 12 flew 22,000, Flight 14 flew 13,000 hours and Flight 18 flew 10,000 hours safely.

'Mad Foxes' Fly in June

VP-5 Amasses 1362 Flight Hours

The "Mad Foxes" of VP-5 wound up the fiscal year by logging in a total of 1362 operational flight hours during the month of June. At the same time, exemplifying the squadron's policy of accomplishing its mission in the safest, most efficient manner, officers and men in the unit achieved a record of over 54,000 accident-free hours of flight operation since October 1955.

VP-5 is commanded by Cdr. Thomas H. Casey and is based at NAS Jax.

Tinted Glass Cuts Glare

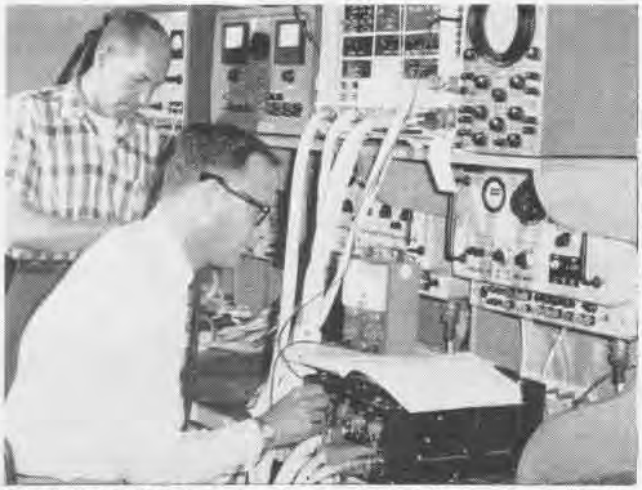
Cherry Point Tower is Renovated

Air conditioning, tinted "thermopane" to cut out the glare and relocation of electronics equipment wired so that one man can operate any control position are newly completed features of the operations tower at MCAS Cherry Point.

While the outer pane of the thermopane cuts glare, the inner pane is clear. A half-inch wide vacuum space between the two panes prevents fogging and improves visibility during cold weather.

Work on the tower began last January. While it was underway, personnel moved to a portable tower adjacent to the permanent installation.

The renovated operations tower officially opened the end of July after seven months of extensive redesigning.



O&R TECHNICIANS *from San Diego and Norfolk recently completed a new type training program at Chance Vought's Dallas plant. New feature found students doing actual maintenance work on a production F8U-2N and its components 60% of the time. In the program's six months 70 students completed courses ranging from two to five weeks. The pattern will be followed in factory maintenance training for the F4H, A3J, HSS-2 and other new models. Left, students bench check autopilot amplifier, right, work on electrical system of the F8U-2N.*

LETTERS

SIRS:

As a Naval Aviation enthusiast of long standing, I am interested in obtaining information on where I can obtain various commemorative items which bear the 50th Anniversary Seal. I understand that an embroidered shoulder patch is available as well, as a medal and other items.

Can you give me information as to where these can be obtained?

A. W. RUSSELL

San Francisco, Calif.

We have received a number of similar requests. The 50th Anniversary Project Staff tells us that several manufacturers have made available various items to individuals, Navy Exchanges, and sponsors of commemorative events. Among them:

50th Anniversary medal (Bronze or silver, 2½ in.): Coin and Currency Institute, Inc., 134 W. 32nd Street, New York 1, N. Y.

50th Anniversary shoulder patch (embroidered,, 3½ in.): The Lewis Company, 1926 L. Street N.W., Washington 6, D.C.

50th Anniversary ash trays, plates, jewelry, etc.: The See-Line Company, Inc., 212 West 10th Ave., Amarillo, Texas.

50th Anniversary decals and bumper strips: Menick-Sadel Associates, Inc.; 137 Kennedy St. N.W., Washington 11, D.C

SIRS:

I am in the process of preparing an article on the Ryan FR-1 *Fireball* and XFR2-1 *Fireshark*. I would like to contact any pilots who flew these ships or anyone connected in any way with them in order to obtain their views on these aircraft.

I would also appreciate any information, the loan of any negatives, or would be willing to purchase any photos of these aircraft in the actual service insignia, colors, etc.

Any information or other items that would be of assistance in preparing the article would be very carefully copied and returned to the owner in perfect condition. Any information to indicate color schemes, markings, etc. would also be of value.

As a member of the International Aviation Historical Society, I would appreciate any assistance possible.

E. R. McDOWELL

1922 W. Berenice
Chicago 13, Ill.

A U. S. STAMP *in honor of the 50th Anniversary of Naval Aviation is available at post offices throughout the country. Since air mail stamps are regularly red, a four-cent stamp in traditional Navy blue was chosen.*

NEPTUNE OVER USS INTERPRETER (AGR-14)

Neptunes Act as Mailmen

Letter Drops Made to Picket Ships

With engines roaring and jets screaming, a VP-19 *Neptune* races down the runway at Alameda, takes off and disappears into the dark gray morning clouds. It is off on an important mission for the officers and men of Radar Picket Squadron One, many miles out at sea.

One of two anti-submarine warfare squadrons at NAS ALAMEDA, VP-19 schedules a flight every week referred to as the "mail drop." This assignment came about after LCdr. E. J. Burke, C.O. of the radar picket ship USS *Finch* (DER), and Cdr. P. C. Cooper, VP-19 skipper, discussed the possibility of delivering the mail to the picket ships on station 300 to 500 miles out to sea.

Each ship remains on station for a period of 25 to 35 days before returning to home port for minor repairs and replenishment. In-port period is usually two weeks long.

The mail drop gives VP-19 flight crews excellent training. Mail sacks are delivered in waterproof material and placed in a canvas bag that floats. Many times spare parts are also included with the mail to maintain supplies aboard ship. Each container has a card that reads, "Compliments of VP-19."

The bright colored mail container is dropped as close to the ship as safety permits. Bobbing like a cork in waves that reach 15 to 20 feet, the sack is picked up with grappling hooks.

The delivery, usually on Wednesdays, makes that day a red letter one for the picket ship that is on duty.

• When operating at sea, a striking fleet is normally spread out over an area that is as large as the entire state of New York.

Marine Squadrons Cited

MAW-2 Safety Awards Announced

Fleet Marine Force Atlantic Annual Aviation Safety Award Certificates have been presented to representatives of ten squadrons of the 2nd Marine Aircraft Wing by Assistant Wing Commander, Col. James L. Neefus.

The awards recognize a total of 51,068 hours of accident-free operation by wing squadrons during FY 61.

Topping the list was VMR-252 with 11,633 accident-free hours. The remaining squadrons in order of their hours of safe operation are: HMR(L)-263, 9106; VMR-353, 7957; VMCJ-2, 5973; HMR(M)-461, 5057; VMA-242, 3892; H&MS-32, 2614; H&MS-24, 1905; H&MS-14, 1844 and H&MS-26, 1087.

A letter from the Commanding General, FMFLant, to the Commanding General, 2d MAW, read in part: "The contributions to combat readiness and aviation safety made by the units . . . are the result of sound doctrine, careful planning and professional execution by officers and enlisted men."

Preliminary Course Set Up

Prep Course for Air Controllers

Three Cherry Point units, MACS-6, MATCU-61 and the station training devices section have established a student air defense controller training program.

MACS-6 was confronted with the problem of preparing E-6 and E-7 aviation electronics operators and newly appointed warrant officers for the air control course offered by the Navy CIC at NAS GLYNCO, Brunswick, Ga.

To resolve the problem, the unit's training section established a six-week program that includes a week of ground control intercept procedure and the Marine air control system.

The remaining five weeks are devoted to intercept training. A synthetic training device, the SPS-T2A radar trainer is used for this training.

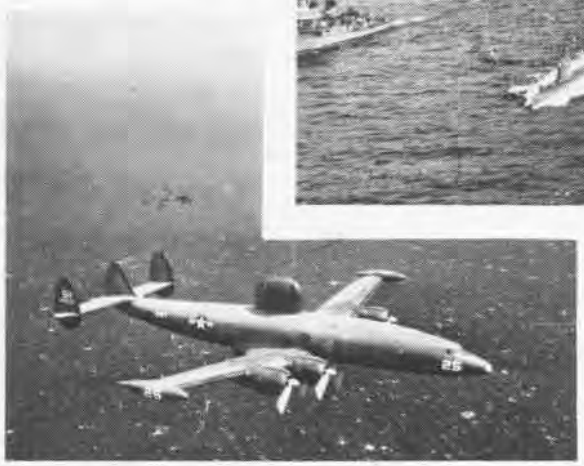
■ PICTURE CREDITS

Naval Aviation News is indebted to Mr. Peter M. Bowers for the pictures of the NJ-1 and NE-1 and to Mr. V. J. Berinati for the photo of the N2C-1. These pictures help to illustrate Hal Andrews' current account of flight trainers on pp. 25-29.

VF 103

SQUADRON INSIGNIA

The 'Sluggers' of Fighting Squadron One Hundred Three have winged the spring and summer around the Mediterranean flying from the ample deck of USS Forrestal (CVA-59). The squadron, commanded by Cdr. Edward Iglesias, racked up some impressive flight hour records and good liberties. High point of the cruise was participation in the Paris Air Salon in June. VF-103 won the FY 1961 Battle Efficiency E and the CNO Safety Award.



CHARTER AND CHALLENGE

Twenty years ago, in the Atlantic Charter, the President of the United States, Franklin Delano Roosevelt, and the Prime Minister of His Majesty's Government in the United Kingdom, Winston Churchill, presented to the world a challenge of great proportions: a better future for mankind. Not only did the Charter envisage the defeat of the Nazi tyranny, but it expressed the will to improve the condition of men everywhere. It spoke directly and clearly of 'a peace that should enable all men to traverse the high seas and oceans without hindrance.' The challenge the Atlantic Charter offered in 1941 still exists. Tyranny continues to threaten the peace and security of the free world. To these high goals, U.S. Naval Aviation in its 50th year rededicates its forces. It calls attention to the need for renewed effort to secure a peace which 'will afford assurance that all the men in all the lands may live out their lives in freedom from fear and want.'

NAVAL 50th ANNIVERSARY 1911 AVIATION

NAVAL AVIATION NEWS