NAVAL AVIATION NEWS

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41st Year of Publication

OCTOBER 1960

NavWeps No. 00-75R-3

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STACKED DECKS OFF MAYPORT

The effects on carrier design of ever-increasing speed and weight being built into modern jet aircraft are readily seen in this striking study of USS Essex (CVS-9) and USS Saratoga (CVA-60) underway off Mayport, Florida. Huge in comparison to the 18-year old Essex, USS Saratoga carries twice as much jet fuel, four times the number of bombs, and can deliver them four times as fast as the older Essex, now a mainstay of our vital Anti-Submarine Force.

■ COVERS

Up front and through our center windows (pp. 18-19) North American's A3J-1 Vigilante is seen in action aboard USS Saratoga during its first carrier compatibility trials last July. The cover shot was made by North American's Stu Stallsmith.

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FORTY-FIRST YEAR OF PUBLICATION, OCTOBER 1960

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'First' for Navy Frogman
Recovers 'Discoverer 13' Capsule

First man to handle a capsule ejected from an artificial moon orbiting the earth is Navy frogman Robert W. Carroll, Boatswain's Mate Third Class.

Assigned to the Kaneohe, Hawaii, facility of the Pacific Missile Range, Carroll is the man who jumped from a Navy helicopter to recover the Air Force Discoverer 13 capsule 11 August.

The helicopter, piloted by Lt. Albert C. Pospicil, USN, was aboard the Military Sea Transportation Service satellite recovery ship, USNS *Haiti Victory*, when the capsule was ejected by the satellite.

The ship steamed for an hour and ten minutes before getting into helicopter range, and then she launched her two helicopters. The pilots were aided by Air Force planes over the capsule, as well as by radio signals emitted by the floating capsule.

When the helicopter was over the capsule, Carroll, clad in a rubber exposure suit and face mask, leaped 10 feet into the sea. Working in four to five-foot swells, he hooked a cable from the helicopter to a lifting ring on the capsule. Then he stuffed the capsule's parachute into a canvas bag which he had brought from the helicopter and everything was ready for hoisting the *Discoverer* capsule from the water.

Confining the parachute in the sack was necessary to prevent it from acting as a sea anchor, which would have made it difficult or impossible to hoist the capsule aboard. Stuffed in the sack, the wet parachute weighed about 300 pounds, almost four times as much as the instrumented payload.

Carroll was in the water eight minutes. The capsule was ready for hoisting in five minutes. After it was aboard, the helicopter lowered the cable again for the frogman. The stand-by helicopter and its frogman were not needed.

Only three hours elapsed from the ejection of the capsule from the satellite until it was hoisted once again aboard the helicopter.

Douglas to Build Missileer
Will be Eagle Missile Platform

Douglas Aircraft Corporation has been named contractor for the development of the *Missileer*, launching aircraft for *Eagle* long-range air-to-air missiles. The design award by BuWeps will be followed soon by a development contract.

The *Missileer* aircraft will be powered by two TF30-P-2 turbo-fan engines under development for the Navy by Pratt & Whitney.

The *Eagle-Missileer* weapon system employs the concept of building long range and high performance into the missile, rather than into the launching aircraft.

RAdm. P. D. Stroop, Chief of BuWeps, said this concept produces a significant increase in weapon system range and effectiveness and permits design of a more efficient launching aircraft with the advantages of increased fire power, endurance and versatility.

Development of the *Eagle* missile and its associated fire control system by Bendix Corp. already is under way.

MILT CANIFF, *famed cartoonist, arriving in SND on a USS Randolph airplane, gave Navy wives an original sketch to be used on the dance program cover for the Navy Relief Ball to be held at Little Creek, Virginia.*

3rd Carrier to 6th Fleet
Two Oilers Pulled from Mothballs

A third attack carrier will be assigned to the Sixth Fleet, upon recommendation of the Joint Chiefs of Staff. Thus carrier strength in the Sixth and Seventh fleets will be maintained for the next year at a minimum of three attack carriers each deployed to the Mediterranean and the Western Pacific.

To carry out this assignment the Department of Defense has authorized the Navy to delay scheduled modification of the *Essex*-class carriers USS *Intrepid* and USS *Hancock*.

These ships were to be converted for ASW operations during 1961 to replace older carriers engaged in ASW work. The nine ASW carriers now active are not affected by this move and will continue their present work.

Additionally, two fleet oilers will be taken from the mothball fleet to support an increase of operations in both the Atlantic and Pacific Oceans.

These changes are part of a continuing program to improve the military capabilities and posture of the U.S.

Top Air Units Announced
Results of Fiscal 1960 Competition

The Commanders of the Atlantic and Pacific Fleet Naval Air Forces have announced the winners of Battle Efficiency Pennants (Battle "E") for fiscal 1960 competition.

Top attack carriers were *Forrestal* for the Atlantic and *Ticonderoga* for Pacific. *Randolph* (Atlantic) and *Hornet* (Pacific) were judged best ASW carriers, while *Greenwich Bay* and *Pine Island* copped the "E" for seaplane tenders.

Departmental "E" winners for the Atlantic were: Operations: *Essex*, *Randolph*, and *Valcour*; Air: *Intrepid*, *Randolph*, *Valcour* and *Albemarle*; Engineering: *Forrestal*, *Randolph*, and *Greenwich Bay*; Communications: *Independence*, *Randolph*, and *Greenwich Bay*; Gunnery: *Forrestal*, *Randolph*, and *Greenwich Bay*.

ELEVEN FLIGHT CREWS *of VP-17, commanded by Cdr. C. B. McKinney, qualified for E's in exercises held at NAS Whidbey in preparation for the squadron's deployment to Kodiak, Alaska. The high scores were made in such tactics as air-to-ground rocketry and low altitude bombings. VP-17 which flies the Neptune has chalked up 30,585 accident-free hours in the last four-year period. During FY 1960, the squadron flew 24% of its flight time under actual instrument conditions.*

Pacific Fleet departmental "E" winners were: Operations: *Ticonderoga, Kearsarge,* and *Salisbury Sound;* Air: *Bon Homme Richard, Hornet,* and *Pine Island;* Engineering: *Ranger, Hornet,* and *Pine Island;* Communications: *Ranger, Bon Homme Richard, Yorktown, Kearsarge,* and *Pine Island.*

Also announced were the winners for the fiscal year 1960 Admiral Flatley Award for outstanding achievement in accident prevention during carrier operations. The award winners, *Roosevelt,* and *Randolph* competed with ships in their class in both fleets. *Oriskany* and *Yorktown* were runners up.

Nine squadrons from each fleet were awarded Battle Readiness Excellency Pennants for FY 1960. Atlantic Fleet winners were: VF-14, VF-84, VA-65, VA-106, VAH-5, VP-49, VP-18, VS-32, and HS-9. Pacific Fleet winners were VF-142, VF-193, VA-56, VA-145, VAH-4 VP-28, VP-48, VS-37, and HS-2.

New Air Group is Formed

CVG-16 Bolsters LantFlt's Punch

Carrier Air Group Sixteen, whose staff and five squadrons number more than 100 Naval aviators and 700 enlisted men, was commissioned Sept. 1.

This brought Atlantic Fleet attack carrier air groups to seven. Additionally, there are five ASW carrier groups and replacement carrier air groups for both attack and ASW training.

CVG-16 will include VF-161 with 14 F3H *Demons,* VF-162 with 14 F4D *Skyrays,* VA-163 and VA-164 with 12 A4D *Skyhawks* each, and VA-165 with 12 AD *Skyraiders.* All five are new squadrons.

With the exception of VA-165, which will be based at NAS JACKSONVILLE, the CVG-16 staff and all squadrons will be based at Cecil Field.

Marine Helos in FAA Test

Fly Instruments in Congested Area

Two pilots and two crew chiefs from HMR-462 joined FAA, Sikorsky Aircraft, U.S. Army, New York Airways, and British technical representatives in contributing to the establishment of instrument procedures which will allow helicopters to fly under all weather conditions and in congested commercial air traffic terminal areas.

Capt. Wayne L. Roles, 1st. Lt. John L. Pipa, 1stSgt. Kenneth J. Youkum and SSgt. Joseph Supleta, Jr., worked with the All-Weather High Density Traffic Project sponsored by FAA.

The Marines flew from Research and Development National Aviation Facilities Experimental Center in Atlantic City. They spent more than three months experimenting with specially designed navigational equipment installed in an HR2S helicopter to test the feasibility of helicopter operations in high density areas under instrument conditions.

The system will permit helicopters to use the same air terminals as today's fastest commercial fixed-wing air carriers by using different airways and approach and departure routes.

Capt. Roles and Lt. Pipa report that the program is also evaluating the British Decca Navigational System, new to air navigation in this country, but used for years in Europe. The Decca is similar to the Loran system.

FORTY-FIVE YEARS *of military aviation were spanned at MCAS El Toro when a Marine Corps F8U-2 Crusader and a 1916 Lincoln J-1 were inspected by 1st Lt. Kenneth E. Taylor of VMF-451. The old aircraft with all its original fittings and a 45-year-old engine mounted on wood, was flown from Orange County Airport. Statistics highlight the differences between the J-1, made of wood, and the F8U, of aluminum alloy. The old Standard has a top speed of 65 miles per hour as against the more than 1000 mph. of the Crusader. The weight of the J-1, 1600 lbs., a fraction of the 17,802 lbs. of the F8U. The J-1 was used in the movies, "The Spirit of St. Louis" and "Wings of Eagles."*

GRAMPAW PETTIBONE

Know Nothin'

Bright and early one fine morning, a ferry pilot took off in an F2H-3 *Banshee* from a regular RON stop deep in the heart of Texas. While climbing out, at 4000' above the terrain, suddenly he observed fluctuation of the fuel flow indicator, loss of engine RPM and then some smoke in the cockpit!

Turning back to the field, he secured all electrical switches plus the battery-generator switch and started his let-down, reducing power to 70%. No attempt was made to pull the circuit breakers or isolate the trouble. The smoke was a source of irritation and he switched to 100% oxygen, but failed to clear the cockpit of smoke by using the emergency ventilation handle or by opening the canopy.

He tried unsuccessfully to make radio contact with the tower, but he got a green light after he rocked his wings. Wheels were lowered at 1000 feet above the terrain using "battery only" power. Speed brakes and flaps could not be lowered. After a good approach to the field the *Banshee* touched down at 160 knots, 1000 feet down the 9000-foot runway.

The pilot braked as hard as he could, but the brakes seemed ineffective. He completely forgot the emergency braking system T handle and subsequently ran off the end of the runway! Some 1180 feet beyond the runway, the *Banshee* struck an embankment with enough force to shear the landing gear, then slid and bounced another 200 feet to a stop on some railroad tracks at the airfield perimeter.

The canopy would not open electrically and obviously the pilot didn't know about the internal emergency canopy handle which would allow him to open it manually. Seeing his struggles, rescuers grabbed a piece of sheared nose wheel strut and broke away the canopy, freeing him. As he clambered from the wreckage, the pilot's total flight time in model stood at 3.0 hours.

Grampaw Pettibone says:

If this fiasco wouldn't wilt the lily, nothin' would! Maybe there were a few more mistakes this young feller could have made, but I doubt it. The F2H-3 has a good manual system for lowering the gear so there's definitely no need to drain the battery dead. There are also two AC and two DC generators in this flyin' machine and TWO engines! Landing heavy, no flaps, and at 160 knots, that "Banjo" was going down the runway like a runaway locomotive. His chances of stopping were pretty thin.

There's just no substitute for knowledge of your aircraft. If you don't know it as well as you know that face in the mirror as you shave each morning, don't fly it!

Perfect Set-UP

While a big CVA was in port, the entire air group conducted extensive flight operations from a WestPac naval air station. All squadrons were launching a heavy training program of both day and night flights.

Two young A4D pilots were scheduled for a combination night navigation, instruments, and MLP hop. After a good briefing, they took off on schedule, completed all phases of the planned nav hop plus a couple of Tacan approaches at another field and then returned to home base for MLP.

There were AD's and F3H's and a TV-2 orbiting in the traffic pattern at 1500 feet while he and his wingman were going around in the 500-foot mirror pattern below. The lead A4D took a wave-off twice to avoid AD's and F3H's making normal final landings.

ILLUSTRATED BY Osborn

The two landing patterns were not compatible, since the mirror approach placed the A4D's deeper in the groove than the aircraft making normal approaches to landings. All pilots in the mirror pattern were somewhat apprehensive about the aircraft orbiting overhead and were continuously scanning the area for lights.

In accordance with a previous briefing, all attack aircraft were using channel #1 for communications with the control tower and fighters were on channel #2. The tower answered all aircraft with a simultaneous transmission on both radio channels. All aircraft thus heard all clearances and wave-off instructions without having heard the initial call-up.

The volume of traffic became so tremendous that the tower at this point became confused as to the actual positions and call signs of the aircraft in the traffic pattern.

The lead A4D now turned up the groove again, riding a good meatball, but suddenly spotted an F3H turning final right into him with a pretty fair angle of bank, if the lights could be believed! He took a fast wave-off, jogged to the right immediately to get out of the way, raised the landing gear and took it around.

At the 180 position he checked his wheel indicators, saw no barber poles, reported gear down and fuel state and that this would be a final landing. All through this mirror pass, he was scanning continuously for other traffic, but had a good meatball all the way down. As he touched down there was an incredible grinding noise. The wheels were UP! The A4D slid out to a stop on its drop tanks, finally coming to rest just right of the centerline.

Other aircraft now began calling "Low Fuel State," and several F3H's were forced to land on the same runway with the crashed A4D. One F3H flamed out during the landing rollout, and a TV-2 diverted to another field 40 miles distant, also flamed out on touchdown after making a precautionary flameout approach.

Grampaw Pettibone says:

Great jumpin' Jehosophat! If this Air Group had stuck to their shipboard organization on the beach, this could never have happened! Just a little coordination on the various squadron flight schedules was needed, for you can give pilots a "Launch" and "Charlie" time ashore too! For the tower's benefit, if your pattern gets too crowded, you can always order a carrier pilot to "dog it and conserve." Get a few of 'em up in the "Dog" pattern and the pressure eases considerably.

Or better yet, the Operations Officer better set up a procedure, so that when base loading is high, all aircraft check in at an assigned altitude at a predetermined marshal point before being cleared into the pattern.

There's no excuse for a wheels-up landing and any pilot will curse only himself for making this horrible boo-boo, but let's not set the stage for him. This wreck was pretty near an "All Hands" job, a set-UP.

By a Hair

During preflight of his F4D for a scheduled four-plane launch from a big attack carrier, the FORD pilot noted that there was no zero delay lanyard in his plane. He ordered the plane captain to get one for him and sent him off to look for it. After some delay, the plane captain was successful in his search and returned with the lanyard. Now securely fastened in, the pilot fired up, completed all checks and taxied forward for the catapult shot.

The cat shot felt completely normal. All engine instruments checked out O. K. and no warning lights were on in the cockpit. As he cleared the bow and pulled the gear handle up, almost immediately he felt a terrific explosion and saw through the rear view mirror that he was on fire!

At the same time he had a definite loss of thrust and almost all cockpit warning lights came flashing on, including the fire warning light. Some one yelled on the air "Fire, fire, you're on fire!" He figured he was only at 100 feet now and was slow, so back pressure on the stick was "real easy." He had to get the bird in a nose high ascending position before ejection.

By now he was followed by a huge orange fire ball and, at best, had only seconds left. The F4D was definitely climbing, so he reached up and pulled the curtain. The ejection was normal. He remembered tumbling in the air and seeing the flaming plane moving away from him. Knowing the altitude at ejection couldn't have been much over 200 feet, he had an agonizing moment, waiting anxiously for the 'chute to fully open. Suddenly he felt the opening snap, his feet came together abruptly just as he hit the water, feet first at a sharp angle.

Somewhat dazed and realizing he was under water, he immediately pulled the CO_2 bottles on his Mae West. Popping to the surface he pulled off his oxygen mask, which he had retained, found himself coughing up blood and having a hard time breathing, but afloat and alive.

Right then, when thing were tough, the rescue helo showed up overhead, Johnny-on-the-spot, dropped its crewman into the water, and after some real sharp work on the part of both the crewman and the helo pilot, he was

safely hoisted and returned to the big CVA he had left a few LONG minutes ago. The zero delay lanyard he had demanded on preflight had definitely save his life.

Grampaw Pettibone says:

Singe my old gray whiskers, but this lad had a real close one! 'Course the ONLY reason he's a livin, breathin', kickin', complainin', aviator today is because he KNEW his survival equipment, what its capabilities were. When the chips were down, he went through the whole routine just as though he was in an old rockin' chair instead of riding an about-to-blow bomb. Cool!

It takes a real PRO to send your plane captain off for the missing piece of gear you WANT and MAY NEED when the flight deck crew is hollerin' at you to "get with it."

Every piece of survival equipment was born after great travail and much bloodshed. Use it! Remember the life you save will be YOUR OWN!

RICHARDSON, PIONEER NAVAL AVIATOR, DIES

DEATH ROBBED the U.S. Navy of one of its "truly greats" on 2 September. Capt. Holden C. Richardson, USN (Ret.), died in his 82nd year at the Naval Medical Center, Bethesda, Md.

The Navy's first engineering test pilot, famed constructor of seaplanes, gifted aeronautical engineer, he left his mark on U. S. Naval Aviation. Yet many outside the inner circle may not have realized the measure of his contribution. Others would agree with VAdm. P. N. L. Bellinger who wrote to the Assistant Secretary of Navy (Air) in 1958, "This officer did more for Naval Aviation and got less credit for it than any one I know."

In one sense Capt. Richardson may be said never to have retired, for even in the last few years, he was a familiar figure in the halls of Main Navy, headed for a desk that had been made available to him. His thick white hair made him a stand-out in any assemblage of "Bald Eagles," and the keen, engineering mind that continued to enrich the Navy was always on call in its service.

A native son of Shamokin, Pa.—the local airfield is named Richardson Field in his honor—he was graduated from the U.S. Naval Academy in 1901. After service on the USS *Illinois* and USS *Massachusetts*, he attended the Massachusetts Institute of Technology and received his M.S. degree in 1907. He was designated assistant Naval Constructor, Lieutenant, in 1908. He received his wings in Pensacola in 1915 and became Naval Aviator No. 13.

Catapult design owes its beginning to Capt. Richardson, for he modified the first one to operate successfully in the U. S. Navy. A highly successful design, it put Lt. T. G. Ellyson off the deck in seconds, making 35 miles per hour. Glenn Curtiss declared on seeing the trial that the catapult was the most important advance since wheels were put on landplanes.

By 1913, a recognized authority in the field of aviation, he was appointed to the Advisory Committee of the Langley Aeronautical Laboratory, and when the National Advisory Committee for Aeronautics was established in 1915, he was one of its original members. Until 1916, he was the only officer with an aeronautical engineering background assigned to the Navy Department.

CONSTRUCTOR RICHARDSON, *pioneer in aeronautical engineering, sits on the middle pontoon of his twin tractor seaplane, the first airplane designed and built by the United States Navy.*

An authority on seaplanes, Constructor Richardson was assigned as Navy Superintending Constructor at the Curtiss Aeroplane Company at Buffalo in April 1918. There he helped in the design and supervised the construction of the large flying boats, the historic NC's. Upon their completion he was test pilot. With Cdr. John Towers, he piloted the NC-3 on the first trans-Atlantic flight in 1919. The NC-3 was forced down in the vicinity of the Azores. Despite heavy seas, the seaplane made its way successfully to Ponta Delgada 205 miles away. Capt. Richardson's contribution to and participation in the NC flights won him the Navy Cross.

Later in 1919, he was assigned as Chief Engineer to the Naval Aircraft Factory at Philadelphia. In the next six years, he continued to work in design, especially devoting himself to seaplane hulls, slots for landing, perfection of the catapult, and related aeronautical problems.

With the establishment of the Bureau of Aeronautics in 1921, he was put in charge of the Design Section until 1926 when he was named Head of the Material Division. He headed the Design Division in 1928 and retired in 1929.

Called back on active duty in 1934, he served as advisor on patents, Bureau of Aeronautics, and later he became Engineer in Charge of wind tunnel construction and experiments. He remained on duty throughout World War II and for the two years preceding his second retirement was Chief Engineering Consultant at the Naval Air Material Center, Philadelphia. He retired a second time in January 1946, having served the Navy 39 years.

It is not easy to sum up the career of a man who again and again by skill and ingenuity solved complicated engineering problems in Naval Aviation. One officer said of him, "In the early days of Naval Aviation, Capt. Richardson probably contributed more than any other individual." Regarded as the foremost authority in the world on the design of floats and hulls, he will forever be associated with the great in Naval Aviation both in knowledge and performance. I.W.R.

HUL HELICOPTER OF HU-1 LIFTS OFF FROM ICEBREAKER BURTON ISLAND TO EXPLORE LEADS IN ICE PACK DURING DEEP FREEZE

HELICOPTERS IN ANTARCTICA

By Scot MacDonald, JOC

SUMMER HADN'T really come to Antarctica the day LCdr. Edgar A. Potter stood at a window of a Jamesway hut at McMurdo Sound. He eyed the wind-whipped snow that restricted visibility and grounded his helicopter.

Suddenly, he spotted a petrel swooping through the air, slicing a wavering arc toward Observation Hill.

"Hey," he said to those in the hut, "look at the big white bird!"

"But how," asked a mystified and disbelieving voice in the background, "can you see a white bird against white snow?"

From that day on, despite an already hard-earned reputation for being a crack chopper pilot and a series of daring flights that caught the attention of the Secretary of the Navy, LCdr. Potter is remembered by many as "an expert on the subject of white birds in Antarctica."

He is one of eight helicopter pilots assigned to the Navy's Air Development Squadron Six. They, along with pilots from Helicopter Utility Squadrons 1 and 2, deploy each year to the Antarctic on Operation *Deep Freeze*.

"There is seldom a day on the ice that these versatile aircraft are not flown," said Capt. William H. Munson, commanding VX-6. "Without them, many of our operational commitments could not be met—and more importantly, there are a number of men breathing today who owe their lives directly to the skill and courage of our pilots.

"Last season, we flew 373 helicopter hours in support of civilian scientists within a four-month period. We would have flown more had weather permitted. These figures, of course, don't include the HUTRon flights launched from icebreakers."

RAdm. Richard E. Byrd recognized the importance of helicopters in Antarctic operations. In his 1933 expedition, a Kellett autogyro was used by his party for short-range reconnaissance and high altitude aerological flights. The autogyro—predecessor to the modern helo—was given the improbable tag, *Pep Boy's Snowman*.

The *Snowman* proved very successful. In one month's operation on the

TELEVISION CAMERA IS ADJUSTED BEFORE HELICOPTER FLIGHT

ICEBREAKER SKIPPER DAVISON (L) MAKES HELO RECON FLIGHT

ice, it made nine major flights in the Little America III area, flying at an average altitude of 8646 feet. An aero-meteorograph, mounted on the fuselage, recorded the temperature, pressure and humidity of the various strata through which it was flown. The flights were brought to an abrupt halt on 28 September 1934 when the autogyro crashed shortly after take-off.

To Lt. James Cornish, USCG, goes the honor of piloting the first helicopter in Antarctica in December 1946. He was stationed aboard the icebreaker, USCG *Northwind*, in Operation *Highjump*.

South of Scott Island, he boarded a nearly obsolete HNS-1 on a reconnaissance flight. By the time the *Northwind* reached the Bay of Whales off Little America, the helo had helped to escort the convoy through 700 miles of pack ice.

Early in the operation, RAdm. Byrd decided to fly an R4D from the *Philippine Sea* to Little America. He dispatched the *Northwind* to an SAR station between Scott Island and the Ross Ice Shelf. Enroute, the icebreaker entered a field of extremely heavy pack ice, and Lt. David Gershowitz was sent aloft to scout the safest path through the ice.

About five miles from the ship, he sent out a distress signal. His rotor blades were icing, and he was losing altitude fast. The *Northwind* altered course and proceeded toward him. The HNS was equipped with standard pontoons, but he feared they would freeze to the ice if he landed on it. Luck was with him. He sighted a water pool and set the helo down. Shortly, he became airborne again and reached the ship safely.

Highjump proved the value of helicopters to Antarctic operations. Back in the U.S., many of the aerial photographs taken during the operation were declared "worthless" because they lacked specific ground control points from which the pictures could be tied in. Cartographers suggested the ground control points could still be obtained—by helicopters airlifting surveyors based aboard an icebreaker.

It was then that Operation *Windmill*—an allusion to helicopters—was conceived. In the following season, 1947-48, Navy icebreakers *Burton Island* and *Edisto* deployed to the Antarctic.

By Christmas, both ships were pushing from Scott Island to the Shackleton Ice Shelf on the coast of Wilkes Land where the first ground control points were to be established. Helos frequently took to the air, searching out leads through the stubborn ice. The ships then worked their way easterly, toward Little America IV Station, established in *Highjump*. The ships were then to proceed to Palmer Peninsula and head for home.

On the first aerial reconnaissance from the *Burton Island*, Cdr. Paul W. Frazier charted the ice fields as Lt. Richard Long, senior pilot aboard, maneuvered the plane.

When the ships reached Drygalski Island, they separated, *Burton Island* heading for Haswell Island and *Edisto* about 40 miles to the west. They hove to. A 55-knot wind kept up through the day, grounding the aircraft. By

HELO AND R7V SUPER CONSTELLATION OF VX-6 ON SEA ICE LANDING STRIP AT MCMURDO

midnight, winds abated and shore parties from both ships were landed.

Solar disturbances blacked out communications for the next three days, and when radio contact was reestablished, *Edisto* sent disturbing news. Her shore party had not been heard from for the past two days. Helos were launched immediately and the men were found a few miles from the ship.

This incident prompted another decision: the ground control points would be established exclusively by helicopter-carried parties when the points were out of sight of the ships. It was a safer and faster means of getting the job done.

The idea was good, but the first attempt was discouraging. One helo made a crash landing, damaging its pontoons. A second helicopter evacuated the shore party and at the same time carried in a tool-armed crew to effect the repairs.

By early January 1948 the two ships proceeded to "Bunger Oasis," an island lake large enough to support the landing of a seaplane—or so it was reported during *Highjump*. Both ships were eager for the assignment. Such an oasis, as described by the press, was a violent yet plush contrast to the stark terrain and ice fields encountered by the ships.

Edisto reached the area first and launched aircraft to investigate. *Burton Island* put her helos on the job of assisting the landing of men and equipment. When the studies were completed, the disappointed Navymen changed the name of the area to Bunger Hills.

The ships proceeded to Little America and then to Palmer Peninsula where Cdr. Finn Ronne headed a private expedition. Cdr. Ronne's ship, the *Port of Beaumont* was icebound, so the icebreakers towed the thinner-plated ship free of the ice. The Navy ships headed for home 23 February 1948.

The whirr of whirleybirds was absent from Antarctica until the austral summer of 1954. When next they appeared, they carried the insignia of two countries, Argentina and the U.S.

The expedition of 1954-55 sent the icebreaker *General San Martin* to the eastern part of the Weddell Sea. Helicopters were launched and the frontal ice cliffs photographed. In January, a base was established near the head of Filchner Ice Shelf.

That same year, the U.S. Navy dispatched the icebreaker *Atka* to the ice to find a site for the main base to be established by the U.S. for the coming International Geophysical Year. Helicopters were used extensively.

When *Atka* arrived in the area of Little America, the scene, as witnessed from the air, was incredible. Large sections of the Ross Ice Shelf near the Little America Stations had broken off and floated north. Though Little America I, II and III were still there, half of IV—established during *Highjump*—was gone.

Chief Aviation Pilot Albert P. Metrolis made the initial reconnaissance flight, buzzing LA III, and striking north until antennae masts of IV camp became visible. The half section of camp which had broken off carried with it the nine planes left on the ice during *Highjump*.

Before continuing her search for an adequate base site, *Atka* remained in the area to conduct a series of scientific tests. Experts were flown to the ice shelf where the tests were completed. During one of these flights Ltjg. John P. Moore lost his life.

The flier had just airlifted Father Daniel Linehan, S.J., world-famed seismologist, to the ice and was returning to the ship when he lost horizon and crashed.

A second chopper, piloted by Metrolis, approached the area from the ship. Metrolis didn't see the crash, only the wreckage. He set down the plane and lifted Lt. Moore from the twisted machine. The injured man was flown immediately to the *Atka*, but he died three hours later.

Information brought back by Cdr. Glen Jacobsen, commanding the *Atka*, informed the *Deep Freeze* planners that the Bay of Whales was not fit for a new Little America Station. Kainan Bay was recommended.

On 17 January 1955, VX-6 was commissioned, under command of Cdr. Edward M. Ward. The first plane to check in at the squadron's home station, Pax River, was a helo flown by LCdr. Robert G. Graham and Lt. Harold S. Todd.

For the first *Deep Freeze* operation, the icebreaker USS *Glacier* had De-

USS GLACIER CHURNS UP WHITE WAKE AS SEARCH HELO RETURNS

HELICOPTERS, LIKE SHIPS, MUST AVOID ICEBERGS LIKE THIS ONE

tachment 60 from HU-2 aboard. The unit was comprised of two HO4S-3 helos manned and maintained by four pilots, one ADC, and eight sailors.

Glacier's air operations were limited enroute to McMurdo, for the helos shared flight deck space with a dewinged UC-1 *Otter* of VX-6. But by the time *Deep Freeze I* summer support activities ended, pilots operating from the new icebreaker had logged 383 flights, most of them under far from ideal conditions.

At the bay extension of the Ross Ice Shelf, *Glacier* launched a helo to scout a possible ice landing strip for the VX-6 long-range planes which were ready in New Zealand for the flight south. About 35 miles up McMurdo Sound, *Glacier's* helos found an ice landing strip near Hut Point. The *Otter* was offloaded and assembled, giving the ship's choppers more maneuvering room. Two days later, the strip was marked off and word was sent to RAdm. George J. Dufek, Commander of Task Force 43, that it was ready.

A search and rescue flight was the next major launching of *Glacier's* helicopters. Two men had been stranded for 36 hours in a weasel which had partially fallen through the ice. The helicopter found and rescued them, and the ship proceeded to Little America.

On 28 December, she arrived at the Bay of Whales, and a helo flew RAdm. Richard E. Byrd to what was left of Little America IV.

The helicopters then went on reconnaissance missions, scouting a suitable offloading site for the establishment of Little America V Station. This was to be the headquarters of scientific endeavors effected by the U.S. during the IGY. A spot was found in Kainan Bay and the ships began offloading.

Glacier, her own offloading completed, transferred one chopper with pilots, crew and spares to the cargo ship USS *Arneb* and went on an exploratory and scientific survey of Sulzberger Bay area near Little America.

The *Edisto* arrived at McMurdo just as the *Glacier* was leaving for Little America. As the VX-6 planes arrived that night, the pilots and crews were helicoptered aboard for hot food and rest before beginning exploratory flights over the continent.

Edisto got underway the next day to rendezvous with other Task Force ships near Scott Island. Next day she learned of a downed VX-6 *Otter*, and turned around to provide assistance.

On Christmas Eve, *Edisto* arrived at McMurdo, but a blistering gale kept the ship's helos firmly tied down to the flight deck. Survivors of the *Otter* crash had been reached by over-snow tractor and hauled back to Hut Point. Near midnight of the 26th, weather eased and the patients were brought aboard. The *Edisto* then returned north to escort incoming ships. When she got back, one of the patients, Cdr. George R. Oliver, was air-evacuated to the ice landing strip from which he was flown to New Zealand where he could be treated.

In early January 1956, *Eastwind* transferred one of the helos and a crew to the air facility at Hut Point.

By the middle of the month, the icebreaker reached a point between Cape Adare and New Zealand to provide SAR potential for the VX-6 planes returning from the ice.

One of the big stories of the operation concerned the incredible chain of events following receipt of the word an *Otter* was missing on the ice-cap in Marie Byrd Land with seven men aboard; pilot, co-pilot, crewman, and four members of a seven-man trail party.

At McMurdo, three attempts to fly an *Otter* to Little America—then without any aircraft—were frustrated by weather. The *Skymasters* in New Zealand were ordered to stand by.

An *Otter* and helo were loaded in the *Eastwind* which set sail immediately for Kainan Bay. An over-snow party left Little America, following the trail blazed by LCdr. Bursey.

Three members of the trail party, who were scheduled for a second *Otter* flight to Little America, were ordered to backtrack and search for the missing *Otter*. At Pax River, a Marine parachutist boarded a P2V *Neptune* piloted by LCdr. John H. Torbert and headed for ice country in event the *Otter* was down in an inaccessible point. The *Neptune* crashed in a Venezuelan jungle.

Glacier arrived at Little America 8 February and offloaded her *Otter* to supplement *Eastwind's*. The *Otter* slipped from a faulty sling during offloading and was rendered inoperative.

INJURED SURVIVOR OF OTTER CRASH IS RETURNED TO MCMURDO

BETWEEN FLYING SEASONS, CARD GAMES ARE CAMP PASTIMES

WORKHORSE OF DEEP FREEZE HELICOPTERS, AN HO4S-3 OF HU-2 TOUCHES DOWN ON SEA ICE AFTER SCOUTING FOR BASE SITE

The operation was tied up for seven critical days. Lt. Don M. Sullivan, flying an *Otter*, brought the search to an end when he spotted the downed aircraft in the Alexandra Mountains. The terrain was such that he could not land, so a helicopter flown by LCdr. C. S. Larsen was sent to the scene with a doctor to attend the survivors.

They found the *Otter* abandoned. A trail led toward the Rockefeller Mountains and the helicopter crew followed it for ten miles before losing it. Skirting the area, they picked up the trail again and eventually found the survivors, then flew them back to Little America.

In *Deep Freeze II* (1956-57) VX-6 again operated three Sikorsky HO4S helos, spreading them out. One was kept at McMurdo, a second was sent to Little America V Station to support a traverse party striking out to establish Byrd Station, and the third was lifted aboard the cargo ship USS *Wyandot* which went over to the Weddell Sea area to establish Ellsworth Station on the Filchner Ice Shelf.

Glacier got to the ice early in *Deep Freeze II*, arriving at McMurdo on Oct. 28, 1956. She discharged cargo and passengers and then charged over to Little America.

The bay ice in Kainan Bay was split by a six-foot crack, necessitating that offloading operations be accomplished by the HU-2 detachment aboard. The helo airlifted JATO bottles for VX-6 planes and 4000 pounds of high explosives used by trail parties to blast crevasses. Turn-around flights were flown every twelve minutes.

When the VX-6 helo (an HO4S) arrived at Little America, 1st Lt. Leroy Kenny, USMC, made 97 flights to guide a trail party through a 7½-mile area of deep, plentiful, and frequently snow-bridged crevasses. When one was spotted from the air, the caper was to strap an "ice expert" to the hoist of the hovering helo and lower him to mark the crevasse with a flag. After the surface crew planted explosives in the belly of the crevasse, the group withdrew from the area and the charge was set off to open the crater. Snow was scraped into the gaping hole and packed, and other crevasses were detected.

Into the Weddell Sea to establish Ellsworth Station, the icebreaker USS *Staten Island* escorted the cargo ship *Wyandot* loaded with sections of 18 buildings. By late December ship-based helicopters took to the air. A helicopter reconnaissance proved Bowman and Cape Adams areas unsuitable for the station site.

On one of the reconnaissance flights, a Bell HTL-5 crashed into *Staten Island's* flight deck. There were no injuries, but the aircraft was a strike. Parts were salvaged, the skeleton pushed over the side, and this spot thereafter was referred to as Helicopter Hill.

The last real activity of helicopter operations during the summer support months of Deep Freeze II occurred when a site for Ellsworth Station was found in late January.

In the Ross Sea area, Marble Point emerged as a focal point of interest. In March, a two-year study program to determine the feasibility of carving a permanent land runway was begun. A VX-6 helicopter flew a party of six to Cape Bernacchi, four miles south of the point, and the survey project started in earnest.

"Throughout the entire operation," said RAdm. George Dufek in a report to the Chief of Naval Operations, "the UC-1's (*Otters*) and helicopters fulfilled the valuable mission of liaison, reconnaissance, and short-range transport in both the Ross and Weddell Seas. Helicopters proved indispensible in ice reconnaissance and the ferrying of priority cargo."

Summer support of *Deep Freeze II* ended successfully, but in July 1957 —after the winter night set in— there was little cause for rejoicing.

It was dark at McMurdo. In the morning of the 12th, the HO4S returned to camp on a routine flight only to crash about a half-mile from the station and burst into flames. Later, it was determined that the pilot's windshield had frosted. That, coupled with the presence of ice crystals in the air, impeded vision and made distances difficult to judge.

All but one managed to crawl from the wreckage. Ltjg. Bernard Fridovich, Lt. Richard E. Anderson and Leslie L. Scarbrough, AD2, were critically injured. Scarbrough healed rather quickly, but the two officers were slated for early air evacuation when the planes returned in October.

Nelson R. Cole, AD2, was trapped in the plane. He became the 5th fatality in VX-6 on the ice, and the 9th Navyman to die in Operation *Deep Freeze*. (To be continued.)

ACCIDENT RATE LOWERED

NAVAL AVIATORS set a new safety record of 1.94 accidents per 10,000 hours of flight in fiscal 1960, reducing the previous year's rate by 43 per cent in carrier operations and 25 per cent in total operations.

VAdm. Robert B. Pirie, DCNO (Air), said: "This reduction was due in large measure to improved training in carrier landing techniques throughout the Fleet."

While the total flight time in the Navy has decreased steadily over the past five years, the Navy's carrier operational hours—where the accident potential is highest—have gone up.

For the first time in Naval Aviation, there were fewer accidents in the landing phase than in the in-flight phase, even though modern aircraft are more difficult to land.

Fewer airplanes were destroyed, and fewer accidents involved fatalities in FY '60. Fatal accident and fatality rates per 10,000 hours have tended to remain approximately the same over the years because of the increased severity of accidents in high performance aircraft now in operational use.

The aircraft were destroyed in more than half the accidents last year. A total of 357 aircraft were lost.

The dollar loss in accidents was approximately 266 million. This was the second consecutive year that the dollar loss has shown a decrease. This decrease was not in the same proportion as the 25 per cent improvement in the overall accident rate, primarily because of the increased cost of aircraft.

In the year, 117 pilots ejected from their aircraft. While ejections were not quite as successful as in FY '59, Navy and Marine pilots resorted to some very low altitude ejections, using new type ejection seats, zero delay lanyards, etc., which were not used in prior years.

Before FY '60, pilots took their chances riding the aircraft in. These crash landings and ditchings practically always were fatal. However, about half the low ejections in FY '60 were successful. While this might give the impression that a step backward was made, several pilots were saved who would have been killed, had they used the older equipment.

FLYING UBANGIS *of VA-12 scored an even 100 Navy E's in fiscal year 1960 for what the squadron thinks is a NavAirLant record. Twenty-four pilots flew A4D's in the year, first from NAS Cecil, then in USS Shangri-La with Air Group 10. Top pilot was Ltjg. David Nicholas, who scored seven E's in eight exercises. Lt. Joe Malec, Herman Trophy winner at Yuma, won six, as did Ltjg. Tom Scott and John Sloan. Five pilots earned five E's. Commanded by Cdr. Richard J. Deprez, VA-12 holds LantFlt A4D records for accuracy in low, medium and high angle loft bombing, high altitude dive bombing, night dive bombing, and mission profile flights.*

Pilot factor accidents also were reduced. In the year, pilot factors were involved in 52 per cent of the accidents, while a year earlier they were involved in 57 per cent. This improvement in general has been in the area of pilot technique errors.

"Other personnel" factors which include maintenance men, air controllers, carrier personnel, supervisory personnel and others were involved in 31 per cent of the accidents. These percentages total more than 100 because many accidents have more than one cause factor.

Some 44 per cent of the accidents last year involved material failure or malfunction. Approximately one out of every six accidents involved engine failure, while landing gear troubles accounted for eight per cent of the total accidents. Some part of the fuel system was involved in 10 per cent of all first-line carrier jet aircraft accidents. Material problems naturally increase with aircraft becoming more and more complex.

Facilities, weather and design factors are involved in about 12 to 16 per cent of the accidents, and this figure usually remains fairly constant from year to year. There was the usual 15 per cent of accidents in which the cause was not determined.

These units won safety awards:

VF-24, VF-121, VA-52, VAH-8, CVG-9, VP-4, VP-47, VS-37, HU-1, VFAW-3, USS *Princeton* and USS *Thetis Bay* in NavAirPac. In NavAirLant, winners were VF-14, HS-9, VAP-62, VA-81, VW-13, VAW-33, and USS *Antietam*. In AirFMFPac, VMA-121, VMR-352, HMR(L)-361, HAMS-13. In AirFMFLant, VMF-333, VMCJ-2. In Naval Air Training, VT-31, VT-23, VT-7, VT-3, HT-8, and NATTU OLATHE. In Naval Air Reserve, VF-727, VA-672, VP-881, VS-742, VR-742, HS-741. In Marine Air Reserve, VMA-233, VMA-213 and HMR-267.

More Vigilantes Ordered

North American Given Contract

The Navy has awarded a $168.5 million contract to North American Aviation Incorporated, Columbus, Ohio, for additional production of carrier-based A3J-1 *Vigilante* aircraft.

An all-weather attack aircraft, the *Vigilante* is capable of delivering a variety of ordnance, including nuclear weapons, to sea and land targets.

A4D SKYHAWK OF VMA-311 PACKS 4500 POUNDS OF HIGH EXPLOSIVE IN 18 RACKS OF 250 POUNDS EACH IN FLIGHT FROM EL TORO

BANTAM BOMBER BECOMES BLOCKBUSTER

NEW MULTIPLE BOMB RACK adapters produced by Douglas Aircraft Company under Navy contract will put the A4D *Skyhawk* in the heavyweight class of bombers.

Marine Attack Squadron 311 used an A4D-2 equipped with the new adapters to conduct a successful firepower demonstration this summer at Camp Pendleton. Eighteen 250-pound high explosive bombs (Mk. 81) were carried. The explosive payload of 4500 pounds equalled roughly a third of the "bantam bomber's" gross weight at take-off.

Multiple-carriage capability for the A4D was developed by VX-5 at China Lake last year. Prototype racks were conceived and designed by Cdr. Dale Cox, Marine Maj. K. P. Rice and Marine Capt. H. W. Fitch. Squadron metalsmiths fabricated the racks, and Capt. Fitch made the first test flight. In October 1959, the Hon. James H. Wakelin watched an A4D perform with 15 inert Mk. 81 bombs attached. Two months later, at the weapons meet, an A4D demonstrated loft and skip bombing delivery techniques with 16 Mk. 81's aboard.

VX-5 sent the prototype racks to NATC PATUXENT RIVER for evaluation early this year. The Test Center reported favorably and Douglas was authorized to build three multiple racks similar to the VX-5 prototypes.

With the VX-5 racks, a maximum load of five 250-pound bombs could be carried on the centerline station.

Using Douglas racks, six 250-pound bombs can be carried on each wing station and six 500-lb bombs can be carried from the centerline.

Before take-off the pilot can select whether he will release bombs from a rack singly or in salvo.

With the 300-gallon external tanks and with aerial refueling capability, time on target will be "extensive."

CLOSE-UP SHOWS HOW RACKS ARE MOUNTED UNDER WINGS AND ON CENTERLINE STATION

ECHO ECHO ECHO ECHO ECHO ECHO ECHO ECHO ECHO

ANTENNAS ON THE EAST *and West Coast enable scientists to send and receive signals to and from an aluminum-coated satellite in orbit nearly 1000 miles from earth. NRL's transmitter/receiver (left) is located at Stump Neck, Md. NASA operates station at Goldstone, Cal.*

THE NAVAL Research Laboratory, recognized by many as the citadel of progress in Naval communications, has scored another success—this time in bouncing radio messages off NASA's *Echo* satellite.

Except for one new antenna, NRL used the same equipment to bounce messages off the satellite which it had used for some time in transmitting radio traffic between Washington and Hawaii via the moon.

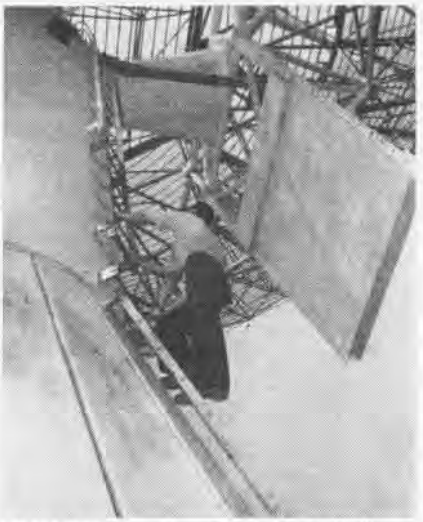
The self-inflated 100-foot-diameter *Echo* sphere was thrust into a near perfect orbit a thousand miles above the earth by a *Delta* rocket from Cape Canaveral August 12.

Within three days, NRL scientists and technicians had bounced voice, recorded, and CW messages from its aluminized plastic sphere which measures half the thickness of cellophane wrapping on a package of cigarettes.

J. Plumer Leiphart, head of NRL's satellite communications division, said the *Echo* satellite proved a better reflector than the moon.

NRL began moon-bounce research in 1954. Communications were excellent while the moon was in radio "view" of two terminals, but, because of its changing position relative to the earth, it could not always be used. The *Echo* experiment with NASA permitted NRL to attempt communications by satellite relay.

One of three stations in a continental network, NRL's transmitter/receiver is located at Stump Neck, Maryland, some 30 miles southeast of the Lab. A second station is operated by the Jet Propulsion Laboratory at Goldstone, California, under NASA's control. The third station is at Holmdel, N.J. It was designed and is operated by Bell Telephone Laboratories under a NASA contract.



SEAMAN *Garry Ruis, USN, climbs ladder to man optical tracker on side of antenna dish.*

To use *Echo* for communications, NRL first had to establish optical contact and train its antenna on the sphere. Accuracy to one half degree was required.

Cloud cover over Washington prevented contact on the satellite's first three passes, but once a fix was made, success followed success.

Voice tests ran the gamut from the sound of music to an intelligibility word list. Leiphart held a microphone in one hand and a conventional telephone in his other hand while he broadcast to New Jersey. Previous telephone contact had been made. On the telephone he could hear his voice coming in loud and clear over Bell's receiver.

On another test, voice messages were beamed to New Jersey where they were immediately re-broadcast back to the satellite and received instantaneously by JPL in California.

Leiphart gave a brief explanation of passive satellite communications. A radio wave concentrated in a beam is

directed straight and true from an earth station to the satellite. On striking the satellite's round surface, the signal splashes back to earth in all directions. The sending station can receive its own message if it has both sending and receiving equipment. Other earth stations that can beam a receiving antenna on the satellite also can receive the signal since some of the reflected radio energy is scattered toward them.

The satellite's altitude above the earth and the inclination of its orbit determine its speed relative to the earth. As in the case of the moon, these factors control the time of day and the length of time that two stations can communicate with each other.

Scientists calculated soon after *Echo I* went into orbit that its altitude above the earth ranged from 950 to 1050 statute miles. Its orbit was slightly eliptical. Its "period" of time required to circle the earth was 118 minutes.

From this information it could be determined that two stations within 100 miles of each other on earth could maintain communications for periods as long as 30 minutes on one pass of the satellite. But this half-hour period would not be available on every pass, nor at the same times on consecutive days. As an example, only six of twelve passes per day would be useful in the Washington area.

The greater the distance between stations on earth, the less time they would have for communications with each other. Washington could communicate with New Jersey for a half-hour per pass, but with California for only 14 minutes per pass.

Leiphart was asked how many words could be transmitted on one pass of *Echo I*. He said an unlimited number of transmitters could bounce signals off the satellite without interference if they had sufficient frequency separation. A single transmitter sending 100 words per minute on each of 32 channels could move 48,000 words, or a fairly long novel, in 15 minutes.

But this represents a bare scratching of the surface, he said. "In the next ten years, it is quite possible that equipment will be improved to the point that it would be difficult even to guess what volume of traffic might be sent at one pass."

The greatest single advantage of satellite communications over conventional methods was given in one word —reliability. Leiphart said the frequencies used in satellite communications were not affected by ionospheric disturbances which put other equipment out of business. Storms which occur on earth and near the sun have essentially no effect on satellite communications.

"In my opinion," he said, "even a nuclear explosion in the ionosphere would not disrupt communications on the frequencies we are using." In an afterthought, he qualified, "Unless the blast destroyed the balloon itself."

One of the scientists' major concerns regarding *Echo* was the question of what would happen to the thin-skinned sphere when it encountered meteorites in space. Up to the end of August, the balloon had survived whatever meteorites it encountered in its travels.

Another important question was what would happen to the balloon when it became eclipsed by the earth and was no longer heated by the sun. Would the balloon hold its shape in darkness as well as in daylight? If it collapsed, would it regain its shape to a sufficient degree when it was next exposed to sunlight? A collapsed, pancake-shaped object would not be likely to reflect radio signals properly to receiving points.

By the end of August, *Echo I's* orbit was such that it was spending 28 minutes of every two hours in complete darkness and still it was performing well. Signals bouncing off its fragile hide were just as strong as those received when it went into orbit.

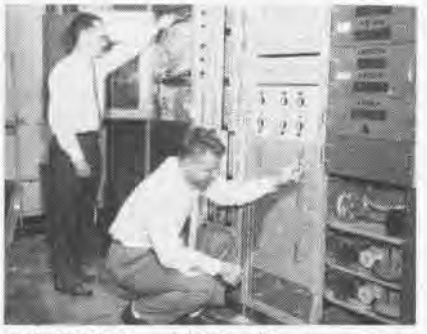
Long before *Echo I* was first eclipsed by the earth, however, it was hailed as a success "beyond our highest expectations."

Scientists in government and industry had given serious thought to the design of a future communications satellite which would not lose its shape under any temperature conditions.

One school of thought leaned toward strengthening the envelope with self-inflating ribs or struts in the inside. Others approached a solution from the viewpoint of a chemical fix.

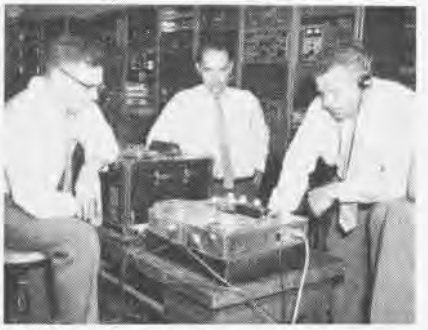
Future communications satellites might be more sophisticated than *Echo I*, said one scientist but none can dim its success in proving that earth communication by means of a fast-moving object in outer space is now possible.

J. P. LEIPHART *(L) finds that message via Echo I is clearer than line-to-line telephone*



RAY CUSHING *and Martin Musselman set up computer gear for satellite communication.*

EXPERTS *make certain that the NRL antenna is pointing directly at the moving satellite.*



LEIPHART, *Cushing, Musselman listen to playback of successful communication via Echo.*

Herpel Wins Hart Award

Beats All Students in Instruments

Winner of this year's Silas C. Hart, Jr. Memorial Award is Ens. Robert J. Herpel, flight instructor in VT-28. The award, a gold chronograph watch and plaque, goes annually to the flight training student who has demonstrated the highest degree of proficiency in instrument flying while in basic and advanced flight training.

Ens. Herpel completed flight training last September at NAS CORPUS CHRISTI with a total numerical grade of 3.55 in instrument training. He attained a 3.31 in basic instruments and a 3.57 in advanced instruments to score higher than any student in the training command in calendar 1959.

The award is named for Ltjg. Silas G. Hart, Jr., who was killed in an aircraft accident in 1953 while on an instrument flight. His parents have made the award each successive year to the top instrument student.

ENSIGN ROBERT HERPEL WITH RADM. KIRN

Ens. Herpel was accompanied by his parents when he received the award in ceremonies at Corpus Christi. RAdm. L. J. Kirn, CNAVanTra, presided.

VW-15 Wins Barrier Award

Operational Record Scores High

On 10 August 1960, Airborne Early Warning Squadron 15 received an award for outstanding performance for operations on the Atlantic AEW/ASW Barrier for the period of 1 January through 30 June 1960.

RAdm. J. J. Hyland, Commander Barrier Forces Atlantic, presented the award to Capt. J. H. Arnold, VW-15 skipper. The squadron has been the recipient of the award twice since the award was established 1 January 1959.

The trophy is a *Super Constellation* model mounted on a globe of the world atop a column. This is mounted in gold and supported on a rectangular base fronted by an engraved gold plate.

The award is based on flight crews' operational readiness and proficiency, and the condition, maintenance, and efficient use of equipment and aircraft.

Vertiplane to be Rebuilt

NASA to Continue Tests at Moffett

Rebuilding of the Ryan *Vertiplane* has been authorized by the National Aeronautics and Space Administration and is under way in San Diego.

The V/STOL (vertical and short take-off and landing) research plane had completed a successful program of test flights and had been turned over to NASA for its own testing when it was destroyed on a flight out of NAS *Moffett Field* last February. The NASA pilot bailed out and escaped serious injury.

Previous success of the testing program led to NASA's decision to rebuild the *Vertiplane* for continuation of its own tests. Twenty-one flights had been made in the Ryan testing phase at Moffett Field. Among outstanding accomplishments were hovering flight at zero air speed, near-vertical take-offs after a ground roll of only 30 feet, and conversions from hovering to forward flight.

Ryan is rebuilding all major subassemblies and final assembly will be performed by NASA personnel at Ames Laboratory Division, Moffett Field.

Navy Medic is Decorated

Leads 5-man Team in Polio Battle

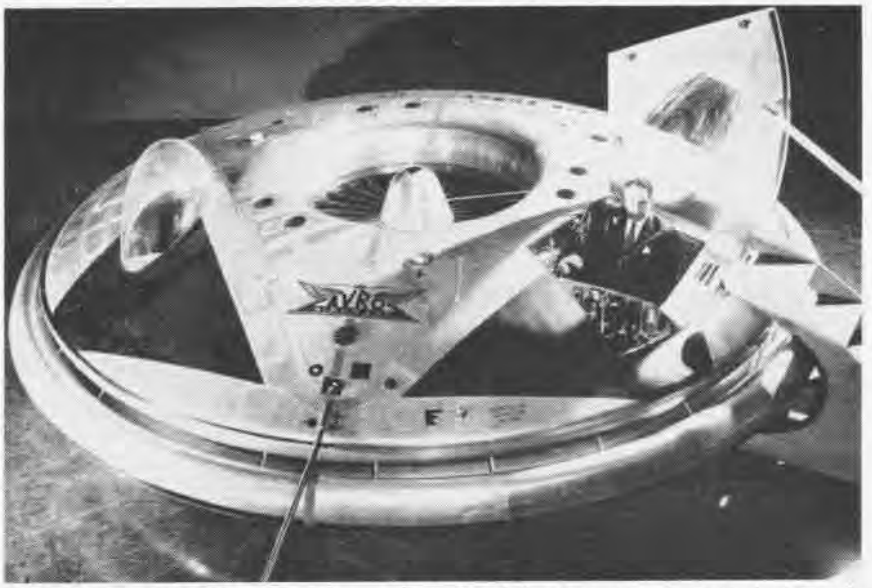
Capt. Edward A. Anderson, Senior Medical Officer at NAS QUONSET POINT, has been presented the highest decoration that can be awarded by the U.S. Volunteer Life Saving Corps. He received their Gold Medal of Honor.

Rhode Island was hit hard by a polio epidemic which afflicted nearly 80 persons and took four lives. Dr. Anderson led a team of Navy medical personnel who voluntarily inoculated several thousand Rhode Islanders with Salk anti-polio vaccine. They used pistol-shaped, rapid-fire vaccine injection guns which deliver 1200 painless inoculations an hour.

The vaccine was provided by the state department of Public Health and repacked in the NAS hospital for use in the "hypo-spray" guns. Capt. Anderson and his team worked on a seven-days-a-week basis answering requests from Rhode Island communities.

Other members of the Navy team were Ltjg. Roy W. Tandy, Richard Cusick, HM1, Adrian Lee, HM1, Donald McGuire, HM1, and Ronald Rasmussen, HN.

A month before receiving the Rhode Island decoration, Capt. Anderson was awarded the SecNav Commendation Ribbon for work he did combatting a yellow fever epidemic in Sudan, Africa.



DISC-SHAPED AVROCAR, *a research aircraft developed by Avro Aircraft Limited of Canada under sponsorship of the U.S. Army and Air Force, was designed to explore the potential of a new scientific and technical approach to vertical take-off and landing. The vehicle will operate within the ground cushion (see GEM story, September NANews), riding on air. After obtaining velocity it will function as an aircraft, wholly supported by its own aerodynamic forces.*

GRUMMAN WF-2 TRACER *is snared by nylon fiber barricade during tests at NAMC's Naval Air Engineering Facility. The problem was to learn whether personnel or radar equipment would be hurt in such a landing aboard ship. Only damage observed was slight dents in metal cowling.*

Air Supply Is Commended

SecNav Praises AOCP Reduction

Aviation Supply Office, Philadelphia, has been commended by Secretary of the Navy William B. Franke for directing and coordinating improvements in aviation supply support throughout the Navy.

Secretary Franke, in a letter to the Chiefs of BuWeps and BuSandA, noted that the number of aircraft out of commission for lack of parts (AOCP) was reduced by 59 percent from November 1958 to June 1960.

Many units are currently reporting records of several weeks and months without AOCP's, according to the Secretary.

The Aviation Supply Office, commanded by RAdm. J. M. Lyle, is the Navy's largest inventory control point and manages 590,000 aviation items.

Oglalas Get a New Chief

So Does Navy, Aboard Oriskany

Things were quiet among the Oglala tribesmen of the Sioux Nation in South Dakota. Nobody was aware that a new chief had been made.

CHIEF CRAZYTHUNDER WITH RADM. CLIFTON

Nor was the situation hard to understand, for the new chief was nowhere in sight. He was aboard a mighty warship, far across the seas.

Recipient of the honor was Chief (radioman) David Francis Crazythunder, U. S. Navy, serving in the flag allowance of Commander Carrier Division Seven aboard USS *Oriskany* in WestPac.

For many years Chief Crazythunder has forsaken smoke signals and has found the speed key more effective.

But speaking of smoke signals, he recalls the *Crossroads* atom-bomb test at Bikini, which he observed from USS *Saidor*. "That's the most impressive smoke signal I ever saw," he said.

Cooperation at NAS Olathe

Three Services Support Helicopter

The Fifth Missile Battalion Headquarters, one of the tenant activities at NAS Olathe, Kansas, has a Hiller two-passenger helicopter. The whirlybird is used for transportation to other missile sites under the Battalion in the Kansas City area.

The helicopter is a combined effort. Two Navy men from the transient line in the Aircraft Maintenance Department were sent to helicopter school at the Fort Leavenworth Army Base. Richard Hoehne, ADJ2, and Robert Brown, AD3, are assigned to keep the copter in flying condition.

Before the Army assigned a pilot to the Battalion an Air Force pilot flew the helicopter for the Army.

This helicopter represents a cooperative service. It is kept and maintained by the Navy, was flown by the USAF, and it belongs to the Army.

VP-10 Honors Polio Victim

Was Forrestal Intercom Designer

In August, the officers and men of VP-10 at NAS Brunswick honored Herbert S. Merrill, an ex-electronics technician in the U.S. Navy and now a resident of Falmouth, Maine. He was a civilian electronics engineer when his career was cut short eight years ago by polio.

In a ceremony before the officers and men of the squadron, Cdr. Robert A. Kimener, VP-10 skipper, presented Mr. Merrill with a pair of Naval Ob-

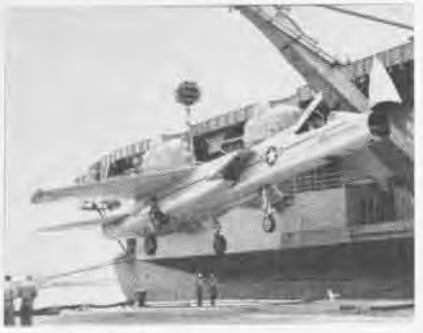
AVIATION 'OBSERVER' GETS HIS PLAQUE

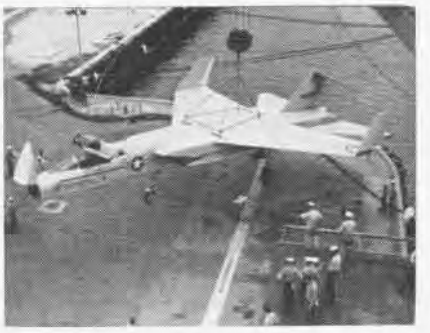
server wings and a framed citation designating him as an honorary Naval Aviation Observer (radar). He was also given a squadron patch and a cigarette lighter with a squadron insignia on it, and enrolled as an honorary member of VP-10's Combat Air Crew One.

During his Navy service, Mr. Merrill served on the USS *Hornet* and the USS *Intrepid* as an electronics technician third class. While working for Stromberg-Carlson as a civilian, Mr. Merrill helped design the battle intercommunications and alarm systems for the USS *Forrestal*.

Mr. Merrill is paralyzed from his neck down with the exception of his left foot. He uses this foot to operate and control his electronics equipment. He is completely dependent on the use of a chest lung for breathing. In spite of these restrictions, he still manages to carry on professional duties as an electronics consultant, is an avid ham radio operator and is organization director of the Cumberland County Amateur Radio Emergency Communications network.

Lt. William A. Kimball of VP-10 became acquainted with Merrill through a mutual interest in amateur radio operations and arranged the visit.





A3J-1

NATC Pilots Cruse, Decker, and Wright take Vigilante on Sara for carrier trials

THE OCCASION for initial carrier trials of a new airplane has been likened to the nerve-wracking vigil of a new father. In the case of the A3J-1, the operation was a success, and cigars were in order as the supersonic, versatile, twin-jet, attack bomber was put through its first carrier compatibility paces during the week of 25 July aboard USS *Saratoga*.

Piloted by NATC's Cdr. Carl Cruse, LCdr. Ed Decker and Lt. Dick Wright, the *Vigilante* made 14 successful launches and arrested landings under nearly ideal conditions. No major problems were discovered.

First shipboard operations are planned as early as possible in an airplane's development cycle to uncover defects in catapult hardware, spotting and deck handling, hoisting, and arrested landings. Future tests at sea will evaluate the airplane at higher gross weights and with continually reduced winds over the deck until the minimum catapult end speeds are fully established.

TWO PIPER AZTECS, PROUDLY BEARING NAVY MARKINGS, ARE AIRBORNE IN EARLY TEST FLIGHTS TO PROVE CAPABILITIES

PIPE PIPER BACK ABOARD!

DURING the past month another new airplane in Navy markings has joined flight lines at a number of Naval Air Stations. Like other newcomers it is attracting much attention and favorable comment. But the comments don't involve its performance capabilities in Mach number, nor the thinness of its wing, nor the number of missiles or store stations.

The swept-back vertical tail of the Piper UO-1 *Aztec* looks similar to those of its more military brothers; and the all-metal construction, with external flush riveting is common. Furthermore, structural demonstration by Piper at the Naval Air Test Center has shown the *Aztec* to embody the ruggedness long considered typical of Navy combat aircraft.

But the UO-1 is otherwise more typical of the many civilian "light twins" operated in this country and throughout the world than it is to its Navy contemporaries. In fact it is identical, except for the electronics equipment, to some 500 *Aztecs* already delivered to civilian owners.

While never a major supplier of Navy aircraft, the Piper Aircraft Corporation is well known to Naval Aviation personnel. This association has generally come from off-duty contact for most newcomers, and from early training days for many Naval Aviators of unmentioned age whose flight training began under the Civilian Pilot Training Program prior to World War II, or under its wartime Navy successor. It is doubtful if many Navy or Marine aviators of today had their primary association with Piper aircraft through planes Piper built for the Navy during WW II: the NE series, the AE-1 (originally HE-1) ambulance airplanes, the XLNP-1 training glider, and XLBP-1 "glide bomb" (*Glomb*).

TAYLOR CHUMMY WAS CUB'S FORERUNNER

The first two were only slightly modified from their civil counterparts, the NE-1 and NE-2 being Piper *Cubs* while the AE/HE was modified from the Piper *Super Cruiser*. While the Army Air Force equivalent of the NE's, the L-4 *Grasshopper* liaison series, was widely used, the two Navy types saw only limited service.

The two Navy glider models never passed out of the experimental category. As with the NE, the AAF version of the XLNP-1, the TG-8 training glider was widely used; however only three were used by the Navy. The XLBP-1 was developed by Piper as one of two design competition winners for a glider embodying a 4000-pound bomb. A contract for 100 was cancelled and development dropped with the project in the flight test development stage when the end of the war was in sight.

In contrast to some Navy aircraft contractors, Piper has developed as a civil aircraft manufacturer, ready, willing and able to deliver to the military when necessary, but basing its

NAVY AND MARINES USED NE-1 CUB FOR VARIETY OF PURPOSES

PIPER CRUISER WAS EQUIPPED TO BECOME AMBULANCE AIRPLANE

policies and growth on the highly competitive civilian market. After a hesitant start, a policy of building the type or types of airplanes most in demand in terms of numbers, and of actively promoting the demand for them has produced a record.

Originally the Taylor Brothers Aircraft Corporation, it was organized in the late twenties with a plant in Bradford, Pa., to build the *Chummy*, a rather conventional design for the period. Only six had been built when the post-Lindbergh aviation boom succumbed to the depression. The company then switched to a light tandem monoplane powered by one of the then-new light air-cooled engines. Christened the *Cub*, it offered considerable cost reduction for civilian flight training operations.

By 1936 with a more streamlined version of the *Cub*, the idea had caught on and Taylor's business boomed. Reorganized as the Piper Aircraft Corporation in 1937, the company moved to Lock Haven, Pa., its present location, following a fire which destroyed the Bradford plant. At Lock Haven, modern production methods were introduced and production and sales of the *Cub* continued to grow.

As larger versions of the four-cylinder air-cooled engines were developed, new designs emerged to make use of them: the two-place, side-by-side *Coupe* and the three-place *Cruiser*. But the *Cub* remained the big item, especially with the advent of the Civilian Pilot Training Program in 1939.

The following year the Army Air Corps accepted the concept of the light plane for an observation/liaison airplane to work with the ground forces, and the stage was set for Piper's principal WW II effort—producing the *Cub* as the Army Air Force L-4 series.

A much smaller number of *Cubs* was used by the Navy and Marines as NE-1's. These were used for various purposes, including the flight training elimination program and assignment to LTA activities and Marine Corps air stations for administrative flying.

Modifications of the *Cub* and the *Cruiser* provided two other designs which proved of interest to the services. With a hinged turtle back to receive the stretcher, the *Cruiser* was adapted to the Navy HE-1 ambulance airplane (later redesignated AE-1 when "H" was assigned to helicopters). A small number of these was assigned to many WW II air stations.

More interesting was the AAF TG-8 training glider, of which three were used experimentally by the Navy as the XLNP-1. The engine of the *Cub* was removed and the cabin extended forward, so that the weight of a third pilot in the forward seat replaced the engine weight.

The Piper XLBP-1 *Glomb* design was part of an ambitious program to develop drone-controlled gliders capable of being towed by another aircraft and then diving into a target at fairly high speeds. The Piper design was to have carried a 4000-pound bomb, but development was dropped before completion of flight testing.

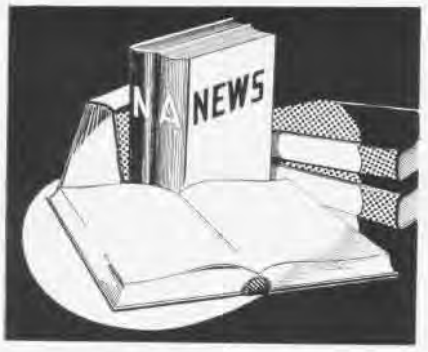
Looking to the postwar period, Piper developed a number of new designs, some of them foreshadowing what was eventually to come since they embodied all-metal construction in place of the more usual fabric covering. However, the more conventional designs were the big sale items during the short-lived boom—and these continued to find a market during the civil aviation sales slump of the late forties.

With the increased use of the smaller twin-engined aircraft in the business field, Piper developed the forerunner of the *Aztec*, the Piper *Twin Stinson* in 1951-52. Using a twin tail and fabric-covered fuselage, the design underwent considerable development before emerging as the production, all-metal, single-tailed *Apache*. This became one of the most successful of the small "twins"—and the limitations it did have were overcome in the *Aztec* by replacing the 150 hp. engines with newly developed 250 hp. engines, adding a larger cabin and a redesigned tail assembly to realize fully the airplane's potential.

The *Aztec* is now the "big brother" of all the Piper line. Interestingly enough the four-place *Pacer* and the *Cub Special* are still rolling off the line, and they are not too far removed in their basic design from the old *Cub*.

THIS PROTOTYPE APACHE WAS FIRST PIPER TWIN ENGINE MODEL

PIPER TG-8 GLIDER WAS USED AS TRAINER FOR ARMY AF PILOTS



Aviation Manuals Issued

Three new manuals of special interest to Naval Aviators have recently been released.

Aerodynamics for Naval Aviators, NavWeps 00-80T-80, issued by the Office of the Chief of Naval Operations, Aviation Training Division, fills a long-felt need. Generally, available textbooks covering the range of subjects of interest to the Naval Aviator are written for engineers; and any search for information is apt to be rewarded by long sections of complicated equations, treating the subject in exacting detail. The equations to be found in NavWeps 00-80T-80 are simple ones, showing relationships between quantities which can be shown more directly by formula than by lengthy text. Similarly, curves show the trend of relationships without the complexity of the usual engineering text.

Extending beyond aerodynamics as such, the text covers related subjects dealing with flight operation of aircraft such as operating strength limitations and braking performance. Text and diagrams present a good general picture of everything from basic aerodynamics through design features to operational aspects of current naval airplanes and helicopters.

While the book is no substitute for specific flight handbook information on individual types of aircraft, nor for an engineering text where exact numerical information is required, this new text promises to be most useful for the pilot or other aviation personnel who want to increase their understanding of the aircraft now in use or to be used by the Navy for a number of years to come.

Aircraft Recognition Manual, NavWeps 00-80T-75, is an Army, Navy, Air Force publication covering U.S. and foreign aircraft. Unclassified, it is well presented in loose leaf form.

The three volume *Air Navigation Manual*, NavAer 00-80V-49, also a joint publication, is in loose leaf form. Volume I is devoted to theory of dead reckoning navigation, mapping and charting, the use of instruments and use of electronic navigation aids.

Celestial Navigation occupies ten of the fourteen chapters of Volume II. Other chapters cover polar navigation, advanced instruments and automatic systems.

Volume III is an inflight manual which covers first aid, such equipment as compasses and driftmeters, operational DR techniques, and conversion formulas.

New Use for Air Springs

Now Installed on Jet Test Stand

A device originally designed to absorb highway bumps is being used by the Navy to improve accuracy in jet engine testing.

Air springs, normally used in autos, trucks, busses and missile ground-handling equipment, are being used to form the base of a jet engine test stand jointly developed by the Goodyear Tire & Rubber Company and Goodyear Aircraft Corporation for the Bureau of Ships.

Testing in the past has been affected by excessive ship vibrations, 90 per cent of which are absorbed by the use of air springs. The springs, controlled automatically by valves which increase or decrease air pressure, will permit a more exact evaluation of jet engine performance, it was explained.

The first test stand has been shipped to the Brooklyn Naval Shipyard for installation aboard the new 60-000-ton attack carrier, *Constellation*.

ABOARD USS INDEPENDENCE, *Vice Admiral H. T. Deutermann (C), Commander U. S. Second Fleet, studies flight plans for A3D "strike" during a major naval exercise 250 miles off the East Coast of the United States.*

XOOOth LANDINGS

Here is a rundown on Thousandth Landings made aboard carriers at sea since our last edition. Naval Aviation News plans to make this subject a regular feature, so be sure to keep us informed of landings on your ship.

LTJG RALPH RICHTER, JR. of VA-175 made the 14,000th arrested landing aboard USS *Independence* in the Atlantic. He flew an AD *Skyraider*. The same "Sunday Punch" pilot made the first night landing aboard the *Independence*.

LTJG J. L. SAENZ of HS-7 landed an HSS-1 aboard USS *Randolph* to record the ship's 5000th helicopter landing since she was converted from a CVA to a CVS. His co-pilot was LT V. C. WHITMIRE. W. A. LEWIS, SOA2, was crewman. HS-7, commanded by CDR J. W. BEAUDOIN, is a unit of CVSG-58, presently operating with Task Group Alfa.

LT W. H. McCALL of VA-122, flying an AD-6 *Skyraider*, caught the wire aboard USS *Lexington* to log the 16,000th carrier landing made by naval aviators undergoing replacement pilot training in Air Group 12. His squadron mate, LT T. A. FELLING, was acting as LSO and waved him in. Student attack pilots in NavAirPac must make at least three touch-and-go landings and 10 arrested landings, 10 build-up arrested landings, and six refresher arrested landings every six months. In attaining 16,000 landings, *Lexington* has qualified 715 Naval Aviators in initial carqual landings, 353 in build-up carrier landings, and 161 in refresher carrier landings.

LTJG TOM SCOTT of VA-12 scored double honors when he landed an A4D *Skyhawk* aboard USS *Shangri-La*. It was number 26,000 for the ship. Earlier, he had logged No. 11,-000 aboard USS *Independence*. A Centurian (100 landings) aboard USS *Forrestal*, the prolific jaygee is angling for that distinction aboard *Shangri-La*.

Angels Rescue AD Crewmen

Helo Hatch Jams Open in Process

Two HUP helicopters of the HU-2 detachment aboard USS *Forrestal* saved the three-man crew of an AD-5Q which crashed in the open sea.

The first helicopter reached the scene almost as soon as the AD ditched. The helicopter pilot attempted to pick up the AD pilot but was signalled to pick up the crewmen first.

While the first helicopter was picking up one crewman, the second HUP arrived. It, too, was motioned toward the other crewman. With both of the AD's crewmen rescued, the first helicopter returned to the AD pilot.

He was hoisted up satisfactorily, but the helicopter's hatch would not close. Aircrewman W. Johnson saved the day by helping both rescuees climb far enough into the helicopter that it was not necessary to close the hatch. The helicopter then flew back to the carrier.

CVSG-50 Furnishes Fleet

First Trained Replacements Report

The first operationally trained pilots, aircrewmen and maintenance personnel were graduated from the new ASW replacement air group (RAG), Carrier Anti-Submarine Air Group 50, in September. CVSG-50's mission is to provide the ASW carrier squadrons "with a continuous pipeline flow of operationally trained personnel."

CVSG-50 was formed by joining two veteran ASW squadrons, VS-30 and HS-1, under a group staff. VS-30 was originally a reserve squadron based at Miami. In 1953 the squadron was called to active duty and assigned to NAS NORFOLK.

HS-1 was commissioned 3 October, 1951. It was the first helicopter squadron with an ASW mission.

Med Cruise Without AOCP

VAH-5 Flies More than 3250 Hours

Heavy Attack Squadron Five completed a highly successful Mediterranean cruise aboard USS *Forrestal*. It had flown over 3250 hours with its ten airplanes.

During the entire seven-month cruise, not a single AOCP occurred, allowing VAH-5 to complete 1038 of its 1063 scheduled missions. In fact, VAH-5, for a full year aboard *Forrestal* has been free of AOCP. This is believed by the squadron, to be another first in aviation supply history.

LATIN LIBERTY EN ROUTE

SHANGRI-LA STEAMS EAST

USS SHANGRI-LA, while steaming from San Francisco to the East Coast to become part of the Atlantic Fleet, formed Bluejackets in ranks to spell out "Viva Peru, Viva Chile, Viva Brasil" in a gesture of friendship to ports of call on the journey.

The attack carrier was required to round Cape Horn because she could not squeeze through the Panama Canal.

Ports visited in the southward swing included Callao, Peru; Valparaiso, Chile; and Rio de Janeiro, Brazil.

The Seventh Fleet veteran will add new muscle to the Sixth Fleet when she deploys to the Mediterranean. She bears the name of a famous World War II mission, the first Tokyo raid.

THE DAY WAS FAIR, THE SEA SMOOTH, THE OCCASION MEMORABLE

ALL GUESTS FOUND A WARM WELCOME AWAITED THEM ON THE FDR

CHIEFS-TO-CHILDREN PROGRAM

By Sam McCrum, JO2

TOUGH Chief Petty Officers have proved they are human! CPOs aboard the USS *Franklin D. Roosevelt* (CVA-42) in the Mediterranean decided to play host—at their own expense—to a group of 60 orphan boys and girls by giving them a party in the CPO mess during the *Roosevelt's* visit to Naples, Italy.

For some of the children, the ones who had been born there, it was their first trip outside the orphanage. For all of them, the visit to the big flattop anchored in the harbor was a new, exciting experience.

The orphans were taken to USS *Roosevelt* in one of the ship's big utility boats, escorted by three CPOs.

Below decks in the Chief Petty Officers' messing area, the other CPOs were scurrying around in immaculate white uniforms, preparing the dining area for the arrival of the children, laying smooth table cloths, setting the table, and supervising the preparation of hamburgers sizzling on the grill and the French fries floating around in hot, bubbling grease.

Most of the chiefs were married and had children of their own whom they hadn't seen in several months. To them especially, it was an occasion that called for the utmost in detailed perfection to insure the pleasure of their young guests. There were to be no scowls or foghorn voices.

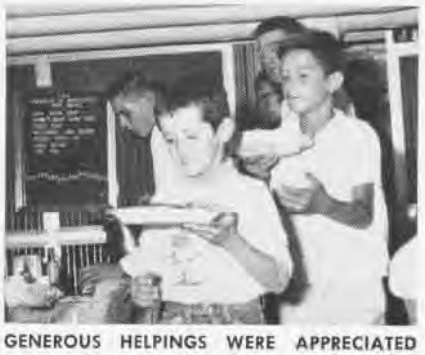
The tour of the ship over, the children were taken below. Awaiting them in the CPO mess were long dining tables decorated with flowers and lined with gleaming plates and silverware. The children's eyes sparkled at the sight of it all.

After they were seated, the children waited until everyone was ready. Upon being given permission by their teacher, they proved they had good appetites for American food.

When the plates were cleaned of hot dogs, hamburgers, and French fries, out came the ice cream. To some of the orphans, ice cream was a strange experience, but as soon as they had a taste, they became ardent supporters of the cold, sweet stuff.

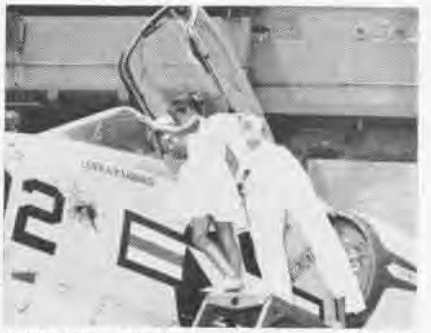
Before disembarking, the orphans were given small bags containing candy, soap, crayons, and coloring books.

It was really a day to remember for the orphans—and for the Chiefs, too.



GENEROUS HELPINGS WERE APPRECIATED

AMERICAN FOOD PLEASED ITALIAN KIDS



AIRCRAFT COCKPIT PROVES ABSORBING

Up and Down with Pintos

Ten Stops on 1500 Mile Flight

Nine pilots from Training Squadron One had their ups and downs on a flight from NAAS Saufley Field, Pensacola, Fla., to Litchfield Park, near Phoenix, Ariz. But the 1500-mile flight was completed as planned without incident.

During the "up" legs of the journey, each pilot was at the helm of a TT-1 *Pinto* primary jet trainer which has a maximum endurance of 1.4 hours. The thirsty *Pintos*' limited endurance created the "down" legs.

The ten stops for refueling were made at NAS New Orleans, La., England AFB, Alexandria, La., Barksdale AFB, Shreveport, La., NAS Dallas, Tex., Dyess AFB, Abilene, Tex., Webb AFB, Big Springs, Tex., Walker AFB, Roswell, N. M., International Airport, El Paso, Tex., Bisbee Douglas Airport, Douglas, Arizona, and Litchfield Park.

The longest leg of 1.3 hours covered 190 miles. It was VFR all the way, and no trouble was encountered.

The TT-1's were divided into two formations of five and four planes each. Overnight stops were made at Dallas and El Paso.

VT-1 Primary jet training instructors, Capt. James H. McGee, USMC, and Lt. Lloyd M. Westphal led the formations.

Others making the flight were Primary jet instructors, Lt. Michael Durant, Ltjg. L. A. Collier, Ltjg. Tom R. Hollcroft, Lt. R. W. Kennedy, VT-1 safety officer, Lt. Chas. S. Woods of VT-1 Maintenance, Lt. Ronald L. Helms of VT-1's Academic Training Dept. and Lt. W. D. Hushaw of Saufley Maintenance.

FOUR OF NINE PINTOS ARE ON THEIR WAY

Wasp Ready to Give Aid

Extra AvGas Delivered to Ghana

When the crisis in the Congo occurred in July, the USS *Wasp* (CVS-18) was dispatched from Cuba, where she was undergoing training at Guantanamo, to Africa. With tension mounting, it appeared *Wasp* would be needed to take out all the American citizens.

By the time *Wasp* reached Africa, the American Ambassador to the Congo reported her services were no longer needed. However, an emergency at the port of Accra, the capital of Ghana, required *Wasp* assistance.

In Accra, refueling United Nations planes was overtaxing the aviation gasoline supply with continuous flights into the troubled Congo. Some 225,000 gallons of high octane fuel were needed by the Accra airport.

USS *Wasp* turned to and served as a tanker in the Bay of Accra and completed the refueling task in one day.

Intrepid Tops Own Record

Cat Fires at 48.1-Sec. Intervals

USS *Intrepid*, the Navy's oldest attack carrier in commission, has broken its own record for aircraft launching speed. The ship launched 48 jet planes into the air from a single catapult with an average interval of 48.1 seconds between launchings.

Aircraft types included F4D *Skyrays*, F11F *Tigers*, F8U *Crusaders* and A4D *Skyhawks*, all attached to CVG-6.

The catapult crew had a three-group series of launchings over three hours in the afternoon. The average times between plane launchings were: first launch, 52.2 seconds; second launch, 49.3 seconds; and third launch, 42.8 seconds.

The launchings were made as the ship's aircraft were flown off to their home stations, Oceana and Cecil.

THE 1951 'HOMECOMING QUEEN' *of the USS Princeton was again the guest of the officers and men of the Pacific Fleet's largest helicopter assault ship. Aboard ship, Miss Janie Taylor was presented a check for $1000 by Capt. C. M. Brower on behalf of the Princeton for the United Cerebral Palsy Foundation of San Diego (right). Nine years ago the Princeton set up a trust fund for the girl who had been paralyzed from the waist all of her life. Despite changes in ship personnel and designation, the Princeton has continued to give to the Foundation in Janie's name. The donations now total over $32,000. In honor of the ship's continued benefactions, the Foundation has named its day care facility the Princeton Center. At left, Miss Taylor, still a 'Queen,' is shown with her Navy escorts for the day.*

AIR RESERVES IN THE 50TH

ONE OF VP-893 *ground crews loads water and sand bombs prior to a practice flight.*

WHEN NAVAL AIR *Reservists of VP-893, who hail from the Pacific Northwest, took training at NAS Barber's Point, they flew past famous landmarks, Diamond Head and Waikiki Beach.*

SQUADRON MEN *look over a one-man Japanese submarine recovered from the Pearl Harbor channel and now displayed at the submarine base.*

A LIBERTY WEEKEND *at Waikiki Beach was something the officers and men will long remember as a highlight of their two weeks tour.*

D. E. ARMOUR, *AD3, and B. E. Timblin, ADC, check oil level on P2V Neptune plane.*

A. L. JENSEN, *ADR2, and A. J. Van Deusen, YNT2, inspect some Hawaiian sugar cane.*

Lt. W. P. HURLBURT *III and Lt. R. L. Chalker walk away from their P2V at Barber's Point.*

...AND THE OTHER 49 STATES

PEACH OF A WAY *to launch annual cruise is graphically demonstrated by Atlanta Reservists at Oceana and Glenview. At left, VA-672 reps present basket of Georgia's famed fruit to Oceana C.O., Capt. G. R. Luker; (R) VR-673 makes similar presentation to CNARESTA.*

TRAVELING to the Fiftieth State, Hawaii, VP-893 from NAS SEATTLE made NAS BARBER'S POINT their operational base for this year's annual cruise. The Air Reservists alternated with regulars in VP-22 on ASW patrols, and special search and tracking exercises. Practice prey was a U.S. Navy Snorkel-type submarine. VP-893 pilots averaged 62 hours flight each.

Ground crew members of VP-893 were airlifted between Seattle and Barber's Point by another reserve squadron, VR-894, which was scheduled for annual training duty during the same period. From NAS SEATTLE as their operational station, VR-894's RSD aircraft totaled almost a million passenger miles during their cruise to meet the needs of the Navy.

NAS Los Alamitos

It was an honest mistake. NAS LOS ALAMITOS recruiters 'fessed up recently to the charge that they had attempted to enroll a beautiful girl in the new (and very masculine) Six-Months Program.

After all the girl's first name was Michael. In pinpointing the responsibility, Chief Bob Beamer acknowledged that he had sent the fateful letter—with a batch of some 20,000 other letters to high school seniors throughout the area.

To make amends, the recruiters invited Michael and her mother for a visit to the station and made her an honorary Aircrewman.

"Well, I'm sorry it happened," said Chief Beamer as he saw Michael and her mother to their car at the end of the day.

"I'm not," Mike said. "If I'd been a boy, I would have joined up."

NAS Memphis

Navy Memphis, for many years established as the "Airdale" training center, set a new precedent when it graduated the first company of "boots" at the Naval Air Reserve Training Unit's Recruit Training Department.

These sailors, only four weeks out of civilian life, representing every occupation from student to junior executive, are "extra special." They are the first Naval Air Reservists to be enlisted and ordered to active duty in the Navy's new six-month active duty program.

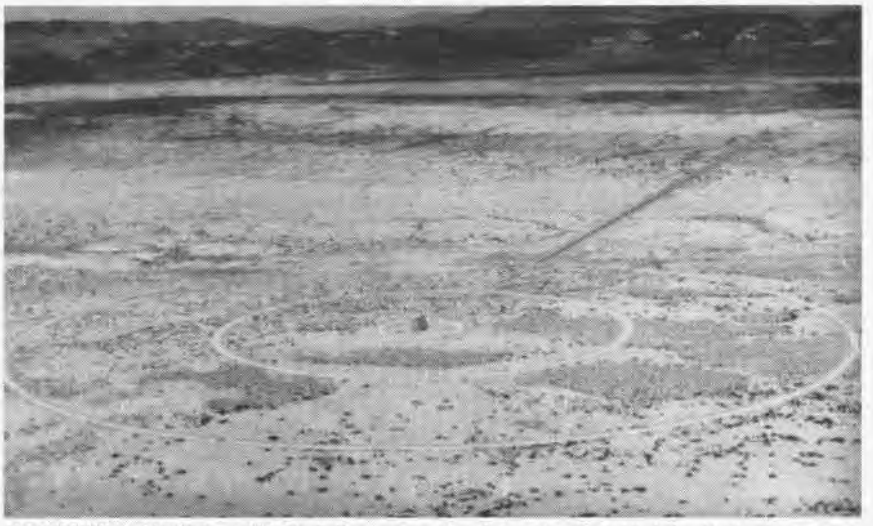
The Naval Air Reserve Recruit Training Department at NARTU Memphis conducts the four-week accelerated "boot" school for all trainees. A new boot class will be convened every other week. Approximately 1500 personnel are scheduled to report during this present fiscal year.

CHIEF BEAMER, *NAS Los Alamitos, presents Michael strictly honorary aircrew wings.*

HUP-TWO-THREE-FOUR *sounds off for trainees in Navy's 6-mo. program, NARTU Memphis.*

BOMB RELEASES *during an over-the-shoulder practice by a VA-125 Fleet Replacement Pilot.*

FALLON REPORTS:
MODERN TARGETS IN OPERATION



MODERNIZED TARGET *at NAAS Fallon was restored to operation 10 July 1960 after a year rebuilding program. The range was christened by a detachment from VA-125, Moffett A4D RAG.*

By D. E. Jones, JOSN

ALTHOUGH THE SHOOT-EM-UP COWboys have disappeared from the American West, with the exception of TV, you can find a new brand of sharpshooter training his sights on targets in the Nevada desert. He is the Navy pilot.

Approximately 70 miles eastward into the desert from Reno is the U.S. Naval Auxiliary Air Station at Fallon, commanded by Capt. Gordon B. Bjornson. Fallon recently put into operation two of the most up-to-date target ranges in the Navy. A third target is undergoing modernization.

Modernization of target facilities began in June 1959. Included in the replacements are air-conditioned, concrete-block buildings with tinted optical glass windows in the spotting rooms; the latest equipment for spotting and plotting bomb and rocket hits; and dive angle, speed and tracking devices. Also included is an entirely new communications system for base-to-range radio and intercom and aircraft control.

Electronic tracking and spotting equipment was designed by China Lake and manufactured by O&R, NAS NORTH ISLAND. The communications equipment was designed and installed by RCA.

The 55-man target crew is able to make the targets available on a 24-hour basis. Individual crews require 12 men including a leader, plotter, controller, spotters, trackers, plus speed and data recorders.

Attack Squadron 23, commanded by Cdr. S. G. Gorsline and flying A4D-2s, dropped the first bomb on one new target range on Friday, 10 June. The other new facility was christened by a detachment from VA-125, the Moffett-based A4D RAG squadron, 9 July 1960. The group included Cdr. T. H. Durand, VA-125 C.O., Cdr. G. M. Hart, prospective C.O. of VA-93, and Cdr. "Benny" Sevilla, prospective Air Group Commander of CVG-9.

FLIGHT PATH PROFILE *of actual practice weapons delivery run is made by trackers and plotters using the latest type range equipment.*

AIRMAN J. D. WILCOX *records aircraft speed while E. W. Sharp, AO3, plots point of impact in the new air-conditioned range building.*

Bar Pilot Lifted to CVA

Boards Coral Sea Making 20 Knots

USS *Coral Sea* established a precedent by taking aboard a San Francisco bar pilot by helicopter.

The idea had been under discussion for some time in San Francisco shipping circles but had never been tried until Capt. Edward E. Johnson came aboard the carrier to guide her through the approaches to San Francisco and under the Golden Gate Bridge during low visibility.

Bringing the pilot aboard by helicopter saves a lot of time, reports the *Coral Sea*. Usually bar pilots are brought to ships by a small boat and ships are required to come to a complete stop. *Coral Sea* picked up her pilot while steaming at twenty knots.

CAPT. GRAY GIVES CAPT. JOHNSON PHOTO

The carrier was returning to Alameda after a week at sea off California.

USS Coral Sea Deploys

Relieves Ticonderoga in 7th Fleet

Modernization and shakedown completed, USS *Coral Sea* sailed from Alameda September 16 to relieve USS *Ticonderoga* in the Seventh Fleet.

Aboard was Carrier Air Group 13, whose home base is Moffett Field.

The two other attack carriers on duty in the Pacific Fleet will be USS *Oriskany* and USS *Hancock*. *Hancock* relieved *Ranger* in August.

Since recommissioning last January, USS *Coral Sea* has undergone post-conversion trials in the Puget Sound area and underway training exercises off the North California coast. During her 33-months shipyard period, *Coral Sea* received a number of improvements and now is capable of handling the Navy's largest and speediest aircraft. With her air group embarked, ship's crew numbers in the neighborhood of 4000 officers and men.

HONG KONG REFUGEES AIDED

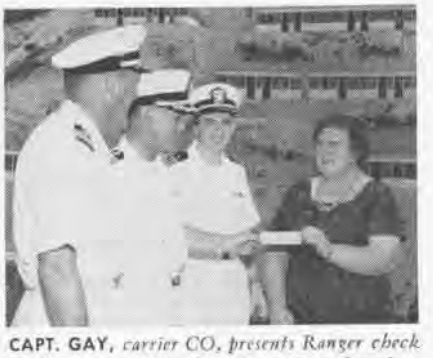
NOODLES *for refugees from surplus U.S. flour to be made on machine, gift of Ranger.*

CONTINUING their support of President Eisenhower's "People to People" program, officers and men of USS *Ranger* (CVA-61), through their commanding officer, Capt. Donald Gay, Jr., donated $3300 to assist Chineese refugees in Hong Kong. *Ranger* visited Hong Kong late in July for the second time during its 1960 West-Pac deployment after her first visit in June was interrupted by typhoon "Olive."

The money was in two checks. One, a substantial check will be used to purchase six one-family stone cottages for refugees. Money for this donation came from the Protestant Chaplain's Fund which is made up of contributions from Protestant officers and men of *Ranger*. The cottages are located in the new territories of Kowloon.

The second large donation will be used to purchase a noodle machine for a Noodle Factory being built by St. Peter in Chains Catholic Church of Hong Kong. The money came from the Catholic Chaplain's Fund contributed by *Ranger* Catholics.

When completed, the factory will produce about 1500 pounds of noodles daily and will employ nearly 100 Chinese refugees. Surplus U.S. white flour will be used in the noodles which will be distributed by refugee organizations. Noodles are important to the refugees since they are unable to bake bread on their small charcoal stoves.



CAPT. GAY, *carrier CO, presents Ranger check to buy six cottages for Hong Kong homeless.*

Ranger also presented more than five tons of clothing and foodstuffs to the British Red Cross and Catholic Charities of Hong Kong for distribution to Chinese refugees. Prior to the *Ranger's* sailing from California in February, the supplies were collected under Operation *Handclasp*, of the People-to-People program.

COL. BASELER, (R), CDR. MARN, ON DECK

Takes a Busman's Holiday

Colonel Lands Aboard USS Hancock

Air Force Col. Robert Baseler of Hamilton AFB, California, can speak first-hand about the problems involved in tailhook-type Naval aviation.

He flew aboard USS *Hancock* in the right-hand seat of an A3D *Skywarrior* piloted by Cdr. Al Marn.

The Colonel is director of maintenance at headquarters of the 28th Air Division. He was enjoying a "busman's holiday" aboard the USS *Hancock* by spending annual leave time observing Naval air operations.

Recalling the time when he flew a P-40 off the deck of the old *Ranger* after the invasion of North Africa in January 1943, he commented that the carrier today doesn't look any bigger now than it did then. "It takes the acme of pilot skill to bring that big airplane back aboard this 'postage stamp,'" he said.

Earlier, Col. Baseler was catapulted off USS *Hancock* in the A3D and rode as an observer while Cdr. Marn and his crew flew a simulated attack against an Hawaiian Island target.

SOUTH VIET NAM TO GET SKYRAIDERS

ENGLISH SPEAKING *South Vietnamese pilots, training at North Island with Attack Squadron 122, are briefed for day's training mission.*

LT. BILL SHEWCHUK, *an instructor in North Island-based VA-122, shows Vietnamese pilots principal features of the AD Skyraider.*

FOURTEEN MEMBERS of the South Viet Nam Air Force have completed courses in flying and maintaining the AD *Skyraider*. The group of six officers and eight enlisted men arrived at NAS SAN DIEGO after six weeks of training at Corpus Christi.

At North Island they were assigned to work with Attack Squadron 122 and took part in training exercises off the southern coast of California as well as on the Yuma, Arizona, desert.

Viet Nam is scheduled to receive *Skyraiders* from the United States under the Mutual Defense Assistance Pact. The detachment of fliers and mechanics who have finished training in America are the first in a series of classes to be taught here. On their return to Viet Nam, they will help to phase the AD into service.

The *Skyraider's* durability, range, versatility, and economy at low altitude make it an "almost perfect plane" for South Viet Nam's mission of defending itself from guerilla raids.

South Viet Nam is a country of forest hills and high plateaus. For three months of the year it receives virtually no rain, but during another five-months period, it is drenched by torrential downpours. As an underdeveloped country, it receives U. S. aid.

FOREIGN STUDENT PILOT *gets ready to taxi out of the flight line to take off on training mission involving bombing runs. He is one of six officers and eight men to get U.S. schooling.*

PLEASED PILOTS *pose for photo with their instructor before returning home from States.*

IN FOREIGN SKIES

NATO Research Center Visited

In August, USS *Valley Forge* (CVS-45), commanded by Capt. Hawley Russell, became the first antisubmarine carrier to anchor in La Spezia harbor. The *Happy Valley* was accompanied by other ships of the U.S. Navy's Task Force *Bravo* which is a specialized ASW Hunter-Killer force, commanded by RAdm. Allen M. Shinn.

La Spezia, an important Italian naval base, is also the site of a unique venture in international cooperation in the field of antisubmarine warfare. "The Supreme Allied Command Atlantic, Anti-Submarine Warfare Research Center," as it is called, provides a pool of scientific talent and technical data contributed by nine NATO nations—Canada, Denmark, France, Germany, Italy, the Netherlands, Norway, the United Kingdom and the United States. The Center conducts operational research in the ASW field for SACLant and other NATO commanders.

A group of officers from the Task Force toured the Center and listened to briefings. Dr. E. T. Booth, Scientific Director of the Center, and Capt. C. C. Cole, USN, SACLant Deputy of the Center, outlined the mission and organization of the Center and its role in the NATO defense plan.

The ASW Research Center council is composed of eminent scientists from the nine participating countries and a small international staff of six officers (headed by the SACLant Deputy). The council provides operational experience and SACLant guidance to the Center.

Chinese Nationals Visit Naha

One day this past summer, Patrol Squadron Four at Naha, Okinawa, welcomed 20 officers and 162 senior students from the Chinese Nationalist Naval Academy. LCdr. T. E. Gibbs, Executive Officer, with the assistance of six VP-4 officers conducted a tour of the squadron area and aircraft.

The Chinese midshipmen undergo training at Tso Ying on southern Formosa, very similar to that given at the United States Naval Academy.

Japan Honors Parunak for Service

Capt. A. Y. Parunak, Commanding Officer of NAS ATSUGI, Japan, has received Japan's Third Order of the Sacred Treasure. The award, which was made by VAdm. M. Ihara, Chief of the Japanese Maritime Staff, was conferred on Capt. Parunak in recognition of his efforts in enhancing good will between American servicemen and Japanese nationals. He was also recognized for his service to the Maritime Self Defense Force.

Witnessing the event were several Japanese flag officers as well as American officers, including RAdm. F. S. Withington, ComNavForJapan.

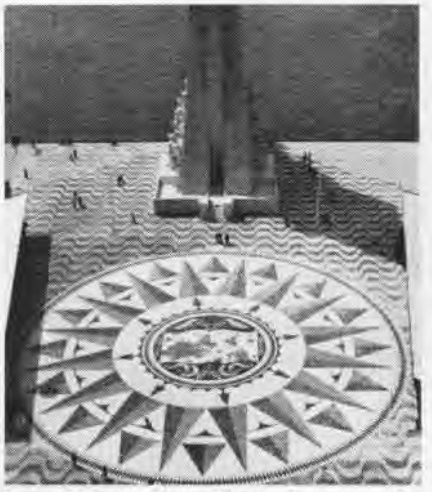
ASW Training in South America

The U.S. Navy is conducting antisubmarine warfare training exercises with South American ASW forces at the present time. The cruise is a good example of the constant cooperation with South American allies.

Another objective is to demonstrate U.S. Navy antisubmarine warfare procedures and equipments to the eight participating countries: Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Uruguay and Venezuela.

RAdm. A. L. Reed, Commander of the South Atlantic Force, U.S. Atlantic Fleet is commanding the U.S. Naval units: the destroyer USS *John Paul Jones;* the destroyer escorts USS *Dealey,* USS *Hammerberg,* and USS *Courtney;* the submarine USS *Odax* and a detachment from Patrol Squadron 24. *John Paul Jones* is flying Adm. Reed's flag.

Participating U.S. Naval Ships will arrive in home ports 14 December.



TWO THOUSAND *U. S. Navy men on board three Sixth Fleet ships—USS Des Moines, USS Haynsworth and USS J. W. Weeks—joined at Lisbon in August in a 14-nation salute to Portugal's Prince Henry the Navigator, 15th century scientist and explorer. The five-day commemoration of the 500th anniversary of Prince Henry's death was climaxed by a Fleet parade. The United States was represented by VAdm. George W. Anderson, Jr. In the aerial parade were three Neptunes from the U.S. Naval Air Base, Rota, Spain. The "Monument of the Discoveries" on the bank of the Tagus River was dedicated as a memorial to the studies and voyages that eventually led to the passage of the southern tip of Africa, opening of the sea route to India, discovery of the New World, and circumnavigation of the globe.*

VADM. PIRIE WAS THE PRINCIPAL SPEAKER

Currituck is Reactivated

Seaplane Tender Rejoins Fleet

Freshly painted and brass shining, the recently modernized seaplane tender USS *Currituck* (AV-7) has rejoined the active fleet at the Philadelphia Naval Base.

VAdm. Robert B. Pirie, DCNO (Air), was principal speaker at the ceremonies.

Capt. Cecil A. Bolam, USN, of Brewster, N.Y., and Ocean City, New Jersey, assumed command of the 14,000-ton, 540-foot vessel. His crew of 30 officers and 525 enlisted men will be headed by Executive Officer, Cdr. George L. Bliss.

Built by the Philadelphia Naval Shipyard, *Currituck* was launched on 11 September 1943 and was first commissioned there on 26 June 1944.

Currituck participated in several engagements in the Pacific war area (Philippine Islands), receiving two battle stars and other battle area ribbons. She was decommissioned and placed in reserve at Philadelphia on 7 August 1947.

Inactive until 1 August 1951, she then began a seven-year period of service. During this time she participated in training exercises and fleet operations in Pacific, Atlantic, Caribbean, and European waters.

On 12 February 1958, she was again decommissioned to permit overhaul.

The modernized *Currituck* will provide armament, fuel and supplies in servicing Martin P5M *Marlin* seaplanes. She will be capable of effecting complete engine changes, repairing electronics and flight instruments, and providing quarters for relief crews.

Space Flights Simulated

400 Lunar Missions Flown to Date

Man has flown to the moon at 25,000 mph, made re-entry to the earth, and has made "space taxi" deliveries to space stations—without ever leaving the ground.

The "flights" have been made on an intricate electronic device designed by scientists in the Astronautics Division of Chance Vought Aircraft at Dallas.

The space flight simulator gives the astronaut an accurate picture of how his space vehicle would respond to his skill during an actual re-entry into the earth's atmosphere or a rendezvous with an orbiting space ship in outer space.

The simulator resembles the cockpit

SIMULATOR HAS A 'SPACE SHIP' COCKPIT

section of a one-man space ship with an array of instruments designed for missions in space. The thrust of its rockets, management of rocket and control fuel, altitude of the vehicle, high temperatures of re-entry, gravity forces, and the ship's response to the pilot's control are all calculated by a roomful of computers and reflected in readings on the cockpit instruments.

More than 400 "flights" have been made from the earth-locked simulator.

VMR-252 High in Safety

Year Completed without one AOCP

When MAG-35 and VMR-153 were deactivated in 1959, VMR-252 assumed the mission of air logistical support for Fleet Marine Force Atlantic Operations. Even though the number of available aircraft was cut one third by the deactivation of VMR-153, the number of commitments remained the same. To date, the mission has flown 12,638 hours or some 3,336,137 ton/miles of cargo and 23,661,114 passenger/miles without an accident or incident.

On 21 July VMR-252, with the support of Organic Supply Branch of MWSG-27, completed one full year of world-wide operation without an AOCP.

Commitments this year took squadron personnel from coast to coast and border to border in the United States, as well as to the Caribbean, South America, the Mediterranean, North Africa, Europe and the Near East.

Tender Hoists 31-Ton P5M

Pine Island Patches Patrol Plane

The USS *Pine Island* (AV-12) recently demonstrated its ability to service the largest operational seaplanes by performing emergency repairs to the hull of a VP-50 P5M *Marlin*.

The patrol plane ripped several large gashes in its hull when it struck a reef in Buckner Bay, Okinawa. With emergency pumps keeping the aircraft afloat, the ship's boats towed it to a position astern of the *Pine Island* where it was hoisted aboard.

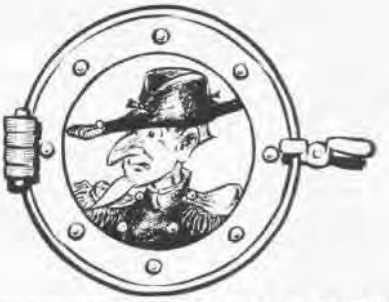
Pine Island metalsmiths installed a temporary patch to make the craft water-tight for off-loading. The plane was then carried as deck cargo to Kobe, Japan, where it was repaired by a Japanese aircraft factory.

The *Pine Island*, commanded by Capt. Harvey P. Lanham, is the flagship for RAdm. John W. Gannon, Commander U.S. Taiwan Patrol Force.

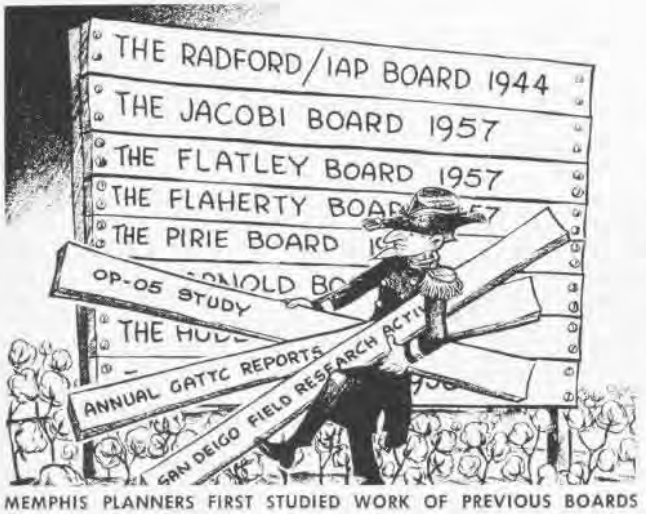
PINE ISLAND HOISTS MARLIN ABOARD

Rx FOR BETTER MAINTENANCE

By Capt. A. B. Sweet, USN



COTTON PICKIN' COMMODORE OF MEMPHIS



MEMPHIS PLANNERS FIRST STUDIED WORK OF PREVIOUS BOARDS

PROPER LINKING of the right man and the right job has always been a concern of the U.S. Navy, a service early characterized by specialization. But with the increasing complexity of the modern Navy, it has not been easy to insure that trained men are assigned to the particular jobs for which they are qualified. In dealing with hundreds of thousands of men and a wide variety of jobs, aviation maintenance now has a new plan, the Memphis Plan. In action, it should yield untold benefits.

The Memphis Plan was born about two years ago when the Chief of Naval Air Technical Training, Rear Admiral (now Vice Admiral) Fitzhugh Lee, became concerned with the utilization of his technical school graduates. The more he looked into that problem, the more he realized that it was only one factor among many in the total aircraft maintenance "picture." It could not be dealt with effectively in isolation from the other factors. Adm. Lee, concluding that a coordinated program dealing with the overall aircraft maintenance situation was in order, put some of his own people to work to develop a plan of attack.

Since others too, in CNO, BuWeps, BuPers, and the Fleets, were working to improve the aircraft maintenance program, Adm. Lee undertook to coordinate some of these efforts with his own. The Memphis Plan was the result of these efforts.

The Memphis Planners started their work by studying the reports of previous boards such as the Pirie and Flatley Boards, staff studies and recommendations. They took what they considered the best of the still-to-be-implemented recommendations of previous groups, and worked most of them into a comprehensive, integrated program to improve aviation maintenance. The few areas not covered by previous recommendations were filled in with new recommendations.

When the plan was completed, Adm. Lee "put a show on the road" to sell it. The illustrations for this article are from the original presentation. Adm. Lee's "hard sell" was so successful that the program, first announced in January 1959, was ordered into effect by the Chief of Naval Operations in March of the same year.

A key provision of the plan was the appointment of a program monitor to serve for at least one year. His job was to ride herd on the program, publicize progress, spot voids, and suggest means of filling them.

Memphis Plan tasks cover four major fields: standardization of aviation maintenance organization, a maintenance officer program, improvement in the utilization of enlisted personnel, and improvement in enlisted training materials.

Maintenance Organization

Memphis Planners pointed out that maintenance organizations differed from station to station, ship to ship, and squadron to squadron. The internal organization of maintenance and procedures employed varied so much that it was difficult to train people to fit into the organization to which they were assigned without a long on-the-job learning period. Qualified people going from one organization to another had to learn "who did what and how" all over again.

Furthermore, lines of responsibility for the performance of maintenance varied greatly. A given job might be performed by a squadron in one place, by the FASRon in another, and by O&R Customer Service in another. Without a firm and stable assignment of maintenance responsibility, it was difficult to assign equipment and qualified men where they were most needed and to standardize the scope and quality of the work done.

The Memphis Planners concluded that if maintenance was to be improved, we had to standardize maintenance responsibilities, organizations and procedures across the board. The planners emphatically endorsed BuAer Instruction 5440.2, "Organization and Procedures Manual for Aircraft Maintenance Activities," which had been issued in September of 1958, as a sound basis for the needed standardization. The planners recommended that this "bible" for BuAer-managed activities be made effective Navy-wide, with the understanding that the users would feed back information and ideas to BuAer (now BuWeps) for its improvement.

Progress has been made in standardizing organization and

procedures. Orders have been issued assigning maintenance function by levels. While progress has been made, so much is yet to be accomplished in this area that it will be the subject of a forthcoming NANEWS feature.

A Program for Maintenance Officers

In 1957, the Pirie Board, headed by VAdm. R. B. Pirie, now DCNO(Air), disclosed that about 3000 of our maintenance officers were missing. These officers who had been trained for and served in maintenance billets, had, on reassignment, "disappeared" in various non-maintenance, and sometimes non-aviation, billets. They were thus no longer available as maintenance officers. Their training and experience were lost to aviation at a time when we were hard pressed as we are now, for talented, experienced maintenance officers.

The Memphis Planners pointed out other shortcomings which placed in bold relief the need for a coordinated program for procuring, training, utilizing, and retaining maintenance officers. They recommended a five-step plan to achieve these ends. The plan would clearly identify officers trained and experienced in maintenance. It would likewise identify billets where their skills and experience were required. It would develop career programs leading to top management and command assignments, and it would provide incentives and control to insure that the talents of these officers were used. Hand in glove with these objectives went a program to train new maintenance officers and a follow-up program to keep qualified maintenance officers up to date.

A good start has been made toward these objectives, but their attainment will take years of effort, including Navy-wide recognition of the need for developing talents and retaining skills which keep our planes flying.

Identification has been improved, and career programs have been modified or developed to provide for increased specialization or sub-specialization of maintenance qualified officers. These officers fall into four categories: code 131X, unrestricted line pilots; code 135X, unrestricted line aviation officers who are not pilots; code 6XXX, aviation limited duty officers; and code 7XXX aviation warrant officers. The latter category is being absorbed in the new LDO program. Opportunities for advanced technical training, post-graduate education, and, for the unrestricted line officers, duty assignments leading to command and flag rank have been provided.

The program for code 1350, unrestricted line officers, is brand new and has been covered in previous issues of *Naval Aviation News* ("Training the NAO," September, 1960) and *All Hands*. About one third of the new officers coming into this program will be trained initially as maintenance officers. Their training starts with Pre-Flight and Basic training at Pensacola, the Navy's University of the Air, and those code officers selected for maintenance officer training will receive further training at CNATechTra's schools. There they will learn about power plants, aircraft

structures, avionics, and maintenance administration. Some may specialize in avionics and ordnance maintenance. All new aviation LDOs, except Photographers and Aerographers, are receiving the same training, the goal of which is to produce an officer well grounded in all phases of maintenance.

There will be about 400 of these *new* maintenance officers trained in FY 1961, including both unrestricted line aviation officers and LDOs. This is a sizable program which is just getting started.

Improved Enlisted Programs

The Memphis Planners believed we had adequate means of putting qualified men in jobs where they were needed, but we just weren't doing it. According to them we didn't know enough about some of our tools for assigning personnel, such as our enlisted classification codes. They urged a vigorous educational effort to educate the whole Navy on the enlisted rating structure concept and the Navy Enlisted Classification (NEC) system, and other factors involved in the effective assignment of personnel.

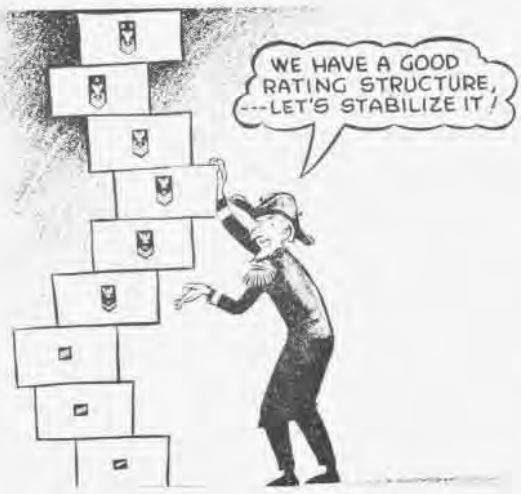
The job of insuring that skilled men and billets are properly identified has to be done at the squadron level—actually at the shop level. Commanding officers, training and administrative personnel and shop chiefs are the ones who must make the system work. Only if men and billets are properly coded will detailers and assignment officers be able to place men where their skills are needed.

Our enlisted rating structure had been undergoing virtually continuous change since the end of World War II. As a result the Quals Manual, *Manual of Qualifications for advancement in Rating* (NavPers 18068), was frequently out of date, training materials were out-of-date or non-existent, and personnel distribution and assignment were too often inefficient. The Memphis Planners recommended that the Navy completely stabilize the rating structure in accordance with the program we now have, which was then just getting started, and then *let it alone*. They also recommended that more effective use be made of NECs to supplement the rating structure.

In the last year and a half, all group IX general aviation ratings have been overhauled to realign individual ratings and bring rating requirements up-to-date. NECs have been coordinated with rating qualifications to insure that special skills and experience associated with each rating are well identified.

All recommendations for changes have now been approved. The number of aviation ratings has been reduced from 43 to 26, largely by eliminating splinter ratings, such as ADP, in the old Emergency Service Rating category. The number of NECs was cut about one third by eliminating obsolete ones. Remaining NECs have more meaning and are therefore more useful.

Requirements for all ratings have been revised. The last four revisions, now on their way to the printer, should be



in the hands of the users by November. In February 1961, all rating examinations will be in line with the new rating structure, except for the AC and AT ratings. Changes in these two ratings have been approved, and the first exams reflecting the changes will be given in August. This date insures that study and examinations materials will be adequately coordinated and that the men involved will have time to prepare for examination.

Another significant development in the enlisted personnel picture is a new series of weapon's system NEC codes which will tie enlisted men to specialized high performance weapons systems. These codes have been established for our current high performance aircraft systems, such as the F8U as well as for those coming soon, such as F4H, A3J and HSS-2. The codes apply both to the qualified men and to the billets which require their skills and experience.

Improvement in Training Materials

Basically, the contents of training publications are keyed to the *Manual of Qualifications for Advancement in Rating*. The Memphis Planners found that changes in this manual had sometimes followed approved rating structure changes by as much as two years. Beyond this, it sometimes was two years later when these changes were reflected in training publications. By this time the rating structure had changed again. The contents of many publications were out of date, and publications did not even exist for some ratings.

The Memphis Planners recommended streamlining the procedure for reflecting new Fleet and technically generated requirements in the Quals Manual and an acceleration of the production of training courses.

Changes to the Quals Manual have been speeded up and other improvements have been made. Technical information concerning new equipment can be included in training publications within a year of procurement of the equipment and sometimes before the equipment is in general use. This has required close coordination between course writers and technical bureaus. Courses for all aviation ratings now exist. An active course revision schedule is established and is being met. All publications affecting a given rating including correspondence courses, practical factor records and examinations are better coordinated than in the past and this coordination is being refined.

The Memphis Plan provides an integrated blueprint for an all-out, all-fronts effort for improved maintenance. It brings together long-standing concepts and programs which are sound. These concepts and programs are the high quality steel, bricks and mortar from which the Memphis planners propose we build a hangar. Gratifying progress has been made in each of the four major areas.

But it is no time to stop for a victory celebration, for there is work to be done. The plan points the way to improved maintenance, but that goal can be achieved only through the efforts of everyone in U.S. Naval Aviation.

LETTERS

SIRS:

We, who think we're smart also, figure the cake (p. 33, June 1960) weighs 29# per square foot—which undoubtedly explains why nobody is eating the cake.

THE NIT-PICKER

SIRS:

On page 40 of the July issue you show a picture of five service women watching the presentation of a portrait of the Blue Angels. One of the girls is identified as Seaman Joanne Rishel, USCG, from Lancaster, Pa.

I would like to know what station is at Lancaster. I have looked it up and cannot find anything there.

The reason I ask, I was stationed at Bainbridge, about 23 miles from Lancaster, and I never knew there was anything there but a U.S.O.

THOMAS F. CRIEGO, RMSN

Naval Communications
NAS Sanford, Florida

¶ Coast Guard Headquarters tells us Miss Rishel is a Reservist; that her hometown is Lancaster, Pa.

Memphis Earns 'Well Done'

Goes Six Weeks Without an AOCP

Navy Memphis earned the Aviation Supply Office "Well Done" by maintaining a Zero AOCP record for six consecutive weeks.

In addition to its own aircraft, NAS MEMPHIS supports a Naval Air Reserve Training Unit, a Marine Air Reserve training detachment, and an average of 760 transient aircraft per month.

Capt. Lester J. Stone, C.O. of NAS MEMPHIS, sent copies of the letter to Capt. C. H. McCarthy, station supply officer, and Cdr. J. N. Harbilas, NAS Memphis aircraft maintenance officer.

Hard-back Your Pix

It happens every week and sometimes oftener. A good photograph comes in without hard-back protection. Result: One bent, mutilated picture that we would have liked to use and can't.

Photographs mailed loosely in envelopes simply do not come through smooth. If you want your picture to come to us unscathed, put in a piece of cardboard for its protection.

Please send us also the name of the photographer. We like to give due credit to our sources whenever possible.

VF-91 Returns on Ranger

Amasses High Total of Flight Time

Fighter Squadron 91 has just completed a highly successful Western Pacific deployment aboard USS *Ranger*. The Alameda-based F8U-2 *Crusader* squadron, commanded by Cdr. Gene Goudie, returned to the San Francisco Bay area with *Ranger* and CVG-9 on 30 August, terminating a seven-month cruise covering more than 55 thousand miles. Ports of call included Yokosuka, Iwakuni, and Kobe, Japan in addition to Guam, Okinawa, Hong Kong, Philippine Islands and Hawaii.

The "Red Lightning" squadron amassed a total of 2,355 flight hours with 1,174 carrier landings while flying over 500 hours per month for two consecutive months of the cruise.

Ranger's 1960 record of 17,164 total flight hours and 7,559 carrier landings eclipsed the old record set by USS *Midway* in 1959.

VF-91 is the first F8U squadron to night-qualify completely in the F8U *Crusader* fighter aboard a carrier.

A Triple Play on Intrepid

One Landing Marks Three Events

Early one morning in August, an F11F *Tigerjet* roared down from the sky and made what appeared to be a routine landing on the flight deck of the USS *Intrepid*. Technically speaking, the landing was routine, but to the people whose business it is to compile statistical data, this landing marked three separate events:

1. Lt. Robert L. Rasmussen of VF-33, pilot of the *Tiger*, had just completed his 1000th hour of flight time.

2. Lt. Rasmussen completed his 100th carrier landing.

3. The landing Lt. Rasmussen made was the 42,000th successful recovery aboard USS *Intrepid* since she was recommissioned in 1954.

The triple event was appropriately celebrated by a real "ball." Commanding Officer, Capt. E. C. Outlaw, spoke briefly in honor of the triple occasion.

Endurance Record Reported

VP-18 Crew Fly P2V-7 20½ Hours

Crew 7 of Patrol Squadron 18 flew a long-range endurance flight in a P2V-7 *Neptune* in connection with an operational training mission.

The flight, which established a new squadron record, took place in the Atlantic and Caribbean areas and lasted 20 hours, 33 minutes.

Cdr. W. W. Honour, the patrol plane commander and VP-18 Executive Officer, maintained logs and records while Lt. J. C. Flack, Fleet Air Wing 11 flight surgeon, compiled medical statistics on crew fatigue and morale. All safety requirements were rigidly adhered to, and when the flight was completed the necessary fuel reserve was available.

The old record of 17 hours, 45 minutes, was held by LCdr. W. L. Strong and crew on a flight from Iceland to Jacksonville on 1 March 1960. Unofficial word is that this was an endurance record for a P2V-7 aircraft.

The crew making the latest record consisted, in addition to Cdr. Honour, of Ltjg. R. G. Duffey, Co-pilot; Ltjg. W. K. Stuckey, Third Pilot; Ens. J. O. Barnes, Navigator, and J. L. Belton, 1st Plane Captain; and Crewmen P. Arrington, W. B. Taylor, W. W. Parks, Katsikas, N. R. Flagg, and J. L. Sullivan.

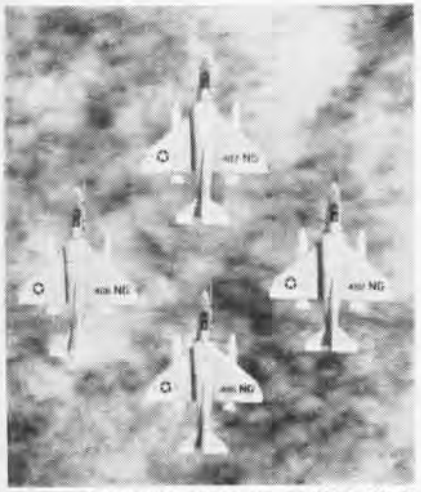
Cdr. R. A. Sampson comands VP-18.

MIDSHIPMEN *on summer cruise with the Sixth Fleet were given an opportunity to participate as flight crew members or flight observers and to serve as junior squadron officers with Heavy Attack Squadron Five. They flew night and day from the Forrestal in A3D Skywarriors.*

VA-94

SQUADRON INSIGNIA

Competence through hard training is the creed of Attack Squadron 94. During its 1960 WestPac deployment aboard USS Ranger (CVA-61), it flew 520 hours the first month and continued the pace until Commanding Officer, Cdr. D. G. Patterson, and all but two pilots were Ranger A4D Centurians with six weeks cruise still to go.



VA-94 SKYHAWKS DRESS UP PACIFIC SKIES

FORMERLY A FIGHTER SQUADRON, VA-94 NOW BUILDS A SOUND REPUTATION IN ATTACK

THE SPIRIT OF 1560.1B

OpNav Instruction 1560.1B spells out the reason and procedures for the submission of articles to Naval Aviation News. Under paragraph 4, the instruction encourages C.O.'s of Naval Aviation activities to report newsworthy events regularly.

Such reporting is to be done by establishing "a schedule within their commands for regular submission of news and feature items." With this point in view, we tip our logo* herewith to the Naval Air Station, Oakland, its C.O., Capt. L. E. Burke, and a young lady, Phoebe Allen, from the California base, who furnished us with 16 stories last month. ASW training, a reunion of Hawaiian NavCads, the enlistment of a pretty steno under Special Rating Program are samples of Oakland's production.

Understandably we say, "That's the spirit of 1560.1B!" and commend the Oakland interpretation to all in the wonderful world of Naval Aviation.

* NAVAL AVIATION NEWS