44th Year of Publication

SEPTEMBER 1963

NavWeps No. 00-75R-3

DEEP FREEZE SEASON OPENS

'Deep Freeze '64 is now getting underway and heading south to the Antarctic. Once again we will support the scientists as they probe the secrets of the vast continent. Last year our Hercules aircraft air-lifted an entire city from McMurdo Station to the base of the Palmer Peninsula nearly 1400 miles away (pp. 6-9). This portable city, Eights Station, has once again proved the capability of aircraft in logistic support and exploration. The Air Age has truly come to the ice.'

—RAdm. James R. Reedy, USN, Commander, Task Force Forty Three.

NAVAL AVIATION NEWS

FORTY-FOURTH YEAR OF PULICATION SEPTEMBER 1963

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

Published monthly by Chief of Naval Operations and Bureau of Naval Weapons to disseminate data on aircraft training and operations, space technology, missile, rocket and other aviation ordnance developments, aeronautical safety, aircraft design, power plants, aircraft recognition, technical maintenance and overhaul procedures. Send mail to Naval Aviation News, OP 05A5, Navy Department, Washington 25, D.C. Office located at 3704 Main Navy Bldg.; telephone Oxford 62252 or 61755. Annual subscription rate is $2.50 check or money order ($1.00 additional for foreign mailing) made payable and sent to Superintendent of Documents, Government Printing Office, Washington 25, D.C. Single copy costs $.25.

■ CREDITS

The front cover featuring three A-4E Skyhawks is published by courtesy of the Douglas Company. McMurdo Station (above) was taken by Frank Kazukaitis, PHC, of Task Force 43. Picture of the A-3 from Whidbey Island on p. 13 was sent in by Gordon S. Williams, Seattle.

NAVAL AVIATION NEWS

CNO Safety Awards Listed

Announcement Made August 1st

Winners of Chief of Naval Operations Aviation Safety Awards were announced in August honoring both active and reserve units.

Assistant Chief of Naval Operations (Air) RAdm. William E. Ellis said, "It is a distinct pleasure to congratulate the winners and commend the many other outstanding units for their contributions to the Navy's aviation safety and accident prevention program. The desired level of combat readiness can only be maintained through effective supervision and individual professionalism so evident throughout Naval Aviation. WELL DONE."

Winners by command and category are as follows:

Naval Air Force Atlantic

VF (Day)	VF-33
VA (Jet)	VA-12
VAH	VAH-7
CVG	CVG-6
CVSG	CVSG-58
VS	VS-39
HS	HS-3

Special Fleet Units: VAW-33

Special Award: USS *Lexington*

Fleet Marines Atlantic

HMR	HMM-263
H&MS	H&MS-32

Special Fleet Unit: VMCJ-2

Naval Air Force Pacific

VF (AW)	VF-141
VA (Prop)	VA-52
RCVG	VF-121 (VF/VA/VAH)
RCVG	VS-41 (VS/VP/HS)
VP	VP-4
VR/VMR	VR-21
VW	AEWBarRonPac

Fleet Marines Pacific

VMF/VMF (AW)	VMF-232
VMA (Jet)	VMA-214

Naval Air Training

ATU (Jet)	VT-23
ATU (Prop)	VT-29
BTU (Jet)	VT-9
BTU (Prop)	VT-6

Naval Air Reserve

VF	VF-931
VA	VA-876
VP	VP-776
VS	VS-662
VR	VR-743
HS	HS-772

Marine Air Reserve

VMF	VMF-511
VMA (Jet)	VMA-141
VMR	VMR-234
HMR	HMM-768

Amphibious Force Pacific

Special Award: USS *Princeton*

CVSG-56 Wins ASW Trophy

Navy League Prize Spurs Excellence

The Norfolk-based Carrier Anti-submarine Air Group 56 has been awarded the Air Anti-submarine Warfare Group Trophy.

This award, given annually to the outstanding ASW Air Group in the Atlantic Fleet, is presented by the Rhode Island Council of the Navy League of the United States.

Originated two years ago, the trophy is designed to develop group spirit, competition and incentive among the Atlantic Fleet ASW air groups.

CVSG-56, consisting of VS-24, VS-27 and HS-3, is commanded by Cdr. Max R. Rush. When deployed, the group is aboard the carrier USS *Intrepid* (CVS-11).

A-4E Skyhawks Fly Further

Nonstop Trans-U.S. Hop Flown

Two Navy pilots demonstrated the transcontinental strike capability of the new A-4E version of the *Skyhawk* last June by flying nonstop from California to the Atlantic Coast for the first time without refueling. VA-81 pilots, LCdr. Dave Leue and Lt. Jerry Tappan, took off from NAS LEMOORE at 0927, June 19, and landed at NAS OCEANA, Va., four hours and 19 minutes later. The distance covered was 2100 nautical miles. Previously, *Skyhawks* required mid-air refueling to complete the cross-country journey.

VA-81 is the first Atlantic Fleet operational unit to receive the A-4E which is powered by a single Pratt & Whitney aircraft J-52 turbojet. The engine enables the *Skyhawk* to deliver the same payload as earlier versions with a 27 per cent increase in range.

AFTER 1,000,000 *miles and 18 years of service, Corpus Christi's VT-29 retired TC-47K, "Drexel 81." CNAVanTra, RAdm. F. A. Brandley, and C.O., Cdr. R. W. Grill, gave plane a "medal" of "distinguished service."*

MOST JUNIOR *pilot in VA-164 at NAS Lemoore, Ltjg. Dan Clarke, receives squadron's Top Gun Award from Cdr. C. A. Banks. Clarke out-scored seniors in three-week weapons delivery competition in A-4 Skyhawk.*

Pax Tests New Aircraft

Sabreliner Slated for Training

A J-60-powered *Sabreliner* utility transport plane is undergoing trials at NATC PATUXENT RIVER. Designated the T-39D, the aircraft is the first off the North American Aviation line for Navy use. It is equipped with radar and fire control systems for use in training radar intercept officers (RIO's) and pilots to make intercepts.

Two other T-39D's will join the first shortly. After completion of structural demonstration flights, they will be assigned to NAS GLYNCO, Ga. One will return to North American.

The Air Force already has more than 100 *Sabreliners* based in the U.S. and abroad. The Navy has ordered 46 of the twin-jet T-39D training aircraft.

Battle E's are Announced

Enterprise, Randolph, Valcour Win

Anti-submarine aircraft carrier *Randolph* (CVS-15), based at Norfolk, won the white Battle Efficiency E award for ASW carriers and three departmental E's in the Atlantic Fleet Naval Air Force competition for 1963.

The nuclear-powered *Enterprise* (CVAN-65) and the seaplane tender USS *Valcour* (AVP-55) each received the Battle E in their class. Both ships are Norfolk-based.

Departmental E awards are as follows: The yellow pennant for air efficiency went to *Enterprise*, *Intrepid* (CVS-11), and *Valcour*. The red engineering pennant was awarded to *Forrestal* (CVA-59), *Randolph* and *Valcour*. The black G for best weapons department was won by *Forrestal* and *Randolph*. The *Saratoga* (CVA-60), *Intrepid* and *Greenwich Bay* (AVP-41) received the green E for operations, and the *Saratoga, Randolph* and *Greenwich Bay* were named to receive the coveted green C for communications.

Intrepid received the white A for her ASW proficiency.

The *Enterprise* was awarded special departmental E's for her excellence in weapons and engineering.

Battle E awards are made annually to one ship in each class, both in the Atlantic and Pacific Fleets, for outstanding readiness during the year.

Battle E for '63 Awarded

LantFlt Offers Tough Competition

Ten Atlantic Fleet air squadrons, six of them based in the Norfolk area, have been named for the 1963 Battle Readiness Excellence Award. The awards were conferred by VAdm. Frank O'Beirne, Commander Naval Air Force, U. S. Atlantic Fleet.

The Tidewater area winners and their commanding officers are: VS-27, Cdr. James B. Shaeffer; HS-3, Cdr. J. D. Wilkins; VP-56, Cdr. Charles G. Berkstresser, all of NAS NORFOLK; VF-74, Cdr. George W. Ellis; VF-103, Cdr. George R. Monthan; VA-86, Cdr. F. B. Koch, based at NAS OCEANA. VF-103 received the Battle E for the third consecutive year.

Other squadrons receiving the award were: VP-5, Cdr. Robert P. Smyth, NAS JACKSONVILLE, Fla.; VP-23, Cdr. Fred C. Watson, NAS BRUNSWICK, Me.; VA-176, Cdr. Hoyt P. Maulden, NAS JACKSONVILLE; and VAH-7, Cdr. Leroy A. Heath, NAS SANFORD, Fla.

This competition tests the readiness of each unit to meet the challenge of combat in the fields of Naval Aviation.

Guadalcanal Commissioned

Scheduled Homeport to be Norfolk

Norfolk is to be the homeport of USS *Guadalcanal* (LPH-7) which was commissioned July 20. She will arrive in Norfolk on October 1 to join units of Amphibious Squadron 12.

Guadalcanal is the second Navy ship to bear the name of the historic WW II battle site and the third of its class of amphibious assault ships. Capt. Dale K. Peterson assumed command of the ship at her commissioning.

The ship can embark, transport and land troops, equipment and supplies by assault transport helicopters. She can carry up to 24 large helicopters and has accommodations for 2600 men.

PATROL SQUADRON ONE'S *SP-2H Neptune, No. 6, smiles at a scowling No. 7, emphasizing the fact that Crew Six won top place in ComFAirWhidbey's ASW Competition. Crew Seven came in second. Both crews made outstanding scores in rockets, bombs and ASW work on target submarines and in ASW trainers. At an inspection ceremony at Kodiak, Cdr. F. C. Forsberg presented outstanding performance commendations to members of both crews. ComFAir Alaska, RAdm. F. E. Bakutis, was on hand to congratulate both crews for their professional approach to ASW missions. The faces and decorations on the aircraft were put on with masking paper.*

GRAMPAW PETTIBONE

Head Down and Locked

Two F-4B *Phantoms* had completed the intercept portion of a training hop in the local operating area and were returning to their Southeastern air field.

The lead plane had been having intermittent UHF radio troubles. Fourteen miles from the field, the pilot attempted to contact the tower for landing instructions but his radio was dead. Even side tone was lost. He told his Radar Observer on ICS to keep trying with the radio and through hand signals passed the lead to his wingman and let him know the radio was *kaput*.

They flew into the break over the runway at 700 feet and 270 knots and broke with a six-second interval. The silent wingman laid his *Phantom* over in a 45-degree bank, eased the power off slightly and extended speed brakes. At 230 knots and still decelerating he dropped the wheels.

As the wheels locked down, the pilot suddenly heard a high pitched noise, so loud it was painful, screeching in his supposedly dead hard hat earphones.

He turned down the volume controls on UHF, AUX receiver, TACAN, and switched from hot mike to cold mike but couldn't change the pitch or lower the intensity of the screech in his ears one iota. He yelled to the Radar Observer to try to shut it off but received no response.

This had taken only a short time, and he had continued to fly the landing pattern. He swung into the downwind leg, retracted speed brakes, lowered the flaps, and resumed his attempt to stop the infernal racket in his ears. He leaned far down to the left, trying to unplug his earphones but had no success since only his left hand could be used. His right hand was needed on the stick.

The RO was watching the pilot's movements as best he could. He was highly concerned because control pressures on the aircraft felt a little rough

and the pilot was obviously in some sort of distress. In fact, he appeared to be clawing at his helmet and oxygen mask. He tried calling him on emergency ICS but could get no response—the circuit was dead. He noted with alarm that they were losing altitude, saw the altimeter unwind through 200 feet altitude, saw the pilot bent over the left console (and obviously preoccupied) and decided they were about to "buy the farm." He positioned himself rapidly and ejected!

Almost simultaneously and perhaps because he was startled by the RO's ejection blast, the pilot added 100% power and pulled the nose up!

The *Phantom* climbed back to pattern altitude, orbitted the field once and landed without further incident. During the extra turn around the field, the pilot trimmed up the aircraft and, using both hands, managed to unplug the earphone cord, finally stopping the infernal din in his ears.

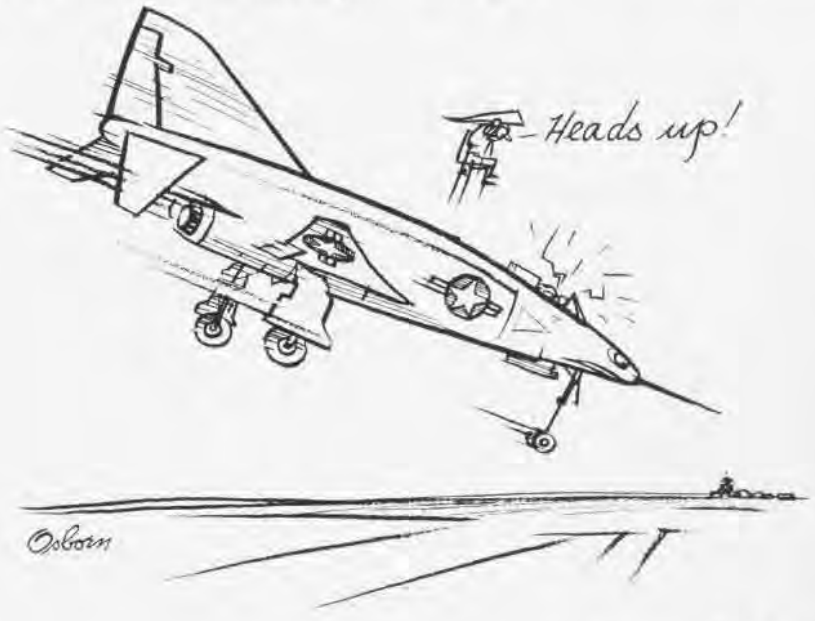
The Radar Observer landed safely via the nylon method in shallow water and was swiftly recovered by a helo.

Total damage—one lost rear canopy. The potential—enormous!

Grampaw Pettibone says:

Great land o' Goshen! This is just about the easiest one to second-guess I ever ran across! Stickin' the head in the cockpit at a time when it oughta be 'up and unlocked' has caused midairs, overrun type collisions on the runways, noseups off runways and taxiways, collisions with line vehicles, people, buildings, just about everything imaginable.

The only time it's safe to have a one-track mind in an aircraft is when it's parked, chocked, tied down and shut down. Even then it's best to look around a bit. Some other one-tracker with his head down might have you bore-sighted.



ILLUSTRATED BY Osborn

A Friend Indeed

An F-8 Crusader departed a West Coast naval air station on a local hop. It was an overcast day, pretty solid from about 1000 feet on up to altitude and the climbout was completely on the gauges.

During the climb his radio went dead and as he popped out on top of the overcast, he found himself cut off from ground contact. Owing to the heavy traffic volume in that area, he couldn't safely return to base without prior clearance, so he proceeded to the established TACAN holding fix, intending to pick up a wing position on any returning aircraft.

After some time and with fuel in the fighter running low, he sighted a passing Marine C-130 and joined up on him trying to pass word of his predicament with hand signals The C-130 pilot was a sharpie, extended his refueling drogue—these Marines are always prepared, carry the gear on every hop—gave our thirsty *Crusader* a good long drink, signaled that he got the message and entered the TACAN holding pattern with the *Crusader* nestled under his wing.

The C-130 pilot now radioed for an approach clearance, informed them of the problem and then executed an approach through the overcast with the mute *Crusader* on his wing. The fighter landed safely and the Marine aircraft climbed back up to altitude to continue with his original mission. He'd been a friend indeed—a PRO.

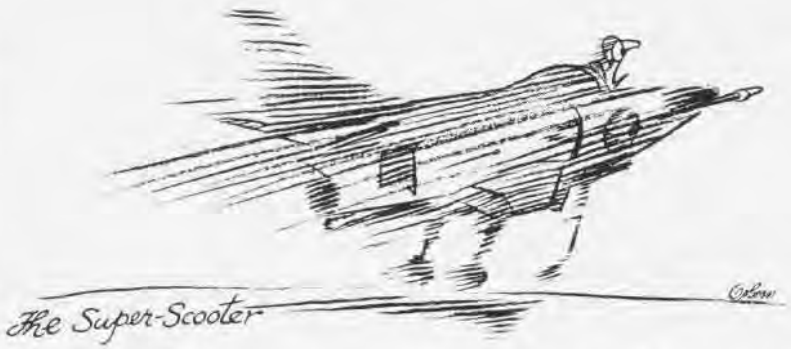
Grampaw Pettibone says:

Bust my buttons! It turns the whole day kinda shiny to read a report of good headwork and teamwork like this. These MEN in the GV's are rapidly establishing a reputation as mighty good to have around. They've just about paid for their new aircraft in SAVES alone. This *Crusader* outfit says they'd be pleased to fly high cover for the Marine C-130 men ANY TIME!

By An Eyelash

Two Marine A-4B pilots, scheduled for a type instrument hop as a section, filed for a tactical instrument departure and made individual takeoffs from their home base, intending to do a climbing rendezvous.

The flight leader was climbing through 5000 feet, still at 100% rpm, all temperatures and fuel flow normal,



when he felt or heard a "grinding noise." Glancing down at the panel, he saw the oil pressure gauge fluctuating rapidly between 28 and 35 psi!

He reduced power to 91%, leveled off at 7000, radioed the base of his oil pressure problem, and had his wingman join up as he turned back toward the field. The oil pressure steadied up.

Soon after they arrived overhead and after the leader had told his wingman they would orbit to burn down to landing weight, the oil pressure started to fluctuate again. This evidently made him sure of impending engine seizure, for he radioed a change of plans. He would jettison his external tank and would take the MOREST at 16,000 pounds gross landing weight!

Pulling the nose up and climbing to 6500 feet from his 5000-foot orbit, he dropped the wheels at 225 knots and then nosed over again, pickling off his external tank as he swung over a nearby bay.

He continued in a fairly high precautionary approach to the runway, reaching the 180 position about a mile and a half abeam at 2000 feet and 200 knots with gear down, flaps up, brakes out, and still holding 91% power.

Coming around to the runway, he received three wind checks from the tower, all of a port-quartering tailwind of 18 knots.

He passed by the runway duty officer at 300 to 400 feet on his altimeter and still at 200 knots! Realizing he was high and fast, he pulled the throttle first to idle and then to OFF and committed himself to a landing.

The A-4B touched down at 180-200 knots just a few feet short of the MOREST and the tail hook engaged the wire! After a few feet of run-out, the MOREST pendant snapped and the A-4B bounded back into the air in a steep nose up and slightly port wing down attitude, still doing an estimated 140-160 knots!

With this terrible attitude, only 15-20 feet off the ground, engine completely shut down and a sure-fire mash staring him in the face, the pilot pulled the ejection curtain!

As the curtain reached a point about eye level, the rocket seat fired. He saw the instrument panel go by in a flash, followed by the windscreen. Then he could see the runway and the bay beyond as the seat carried him up and up.

Almost as though it were in slow motion, he felt the seat bladders inflate and start seat separation. He reached for the ripcord, pulling it out about 20 inches. The automatic release had beaten him to it, however, for the chute was already streaming out horizontally behind him and he watched the risers straighten out and that beautiful canopy blossom out.

There was no noticeable opening shock. He slowly swung down, suspended on the risers, like a pendulum and touched down almost immediately, as gently as a feather. His injuries? A scraped elbow as he sat down and rolled over in the gravel.

The pilotless A-4B righted itself, returned to the runway and rolled out for a distance of 3300 feet into the ocean beyond, a strike.

Grampaw Pettibone says:

Sufferin' catfish! This man had almost 1000 hours in the little "Scooter" but drew a complete blank when a simple precautionary approach would have done the job! They'd have needed some kind of giant butterfly net to catch the hairy fly-by he made and considered a proper approach! 'Taint as though the engine was all froze up. She was still purring along good. Chalk up another save for the RAPEC seat, but this kind of test is *really* stretchin' the guarantee!

EIGHTS STATION *on a plain at the foot of the Palmer Peninsula is reached by a traverse party after an 888-mile trek from Byrd Station. A D-8 tractor was hauled to prepare snow surface for modules. All other equipment, personnel, stores were airlifted or airdropped.*

AIRLIFTS BUILD A PORTABLE CITY

By Scot MacDonald

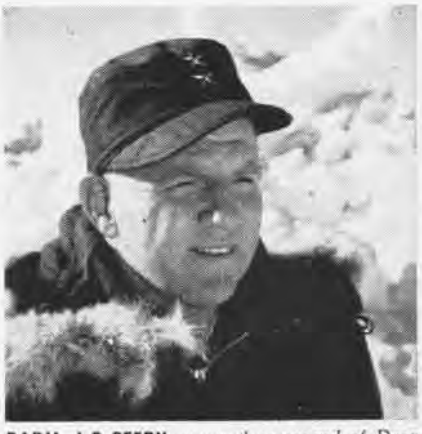
THE RUNWAY at McMurdo Station, Antarctica, last January was still a little bumpy, despite the bone-wearying efforts of the Seabees of Antarctic Support Activities whose job it is to keep the snow strips well "manicured." The strip was acceptable; it would deteriorate more as the short flying season grew shorter.

LCDR. RON CARLSON *is shown at C-130 controls during '60 long-distance flight to Eights.*

At the end of the taxiway, LCdr. Ronald F. Carlson chomped his square-edged teeth into the stubbed end of an unlit cigar. In years past, he knuckled the thick red beard that masked the bottom half of his weather-worn face and squinted through the mirror-finish special glasses that cut down the blinding glare from the snowstrip and surrounding field. But now the beard was gone and only a thick moustache remained. He muttered into the button-mike and, after listening to reports from his crew, signalled the tower he was ready to launch.

Props churning, the cumbersome LC-130F *Hercules* lumbered down the runway. Suddenly, with an explosive roar, the heavy plane lifted into the air. Aboard were nearly six tons of cargo, destined for an isolated spot in the Antarctic interior, 1384 nautical miles away. The site was marked off on the white sastrugied surface by lines of black-painted fuel drums. It was a flight that demanded utmost accuracy by the navigator and radioman.

For Carlson, this was the first of seven such flights he was to make this



RADM. J. R. REEDY *assumed command of Deep Freeze, supervised establishment of station.*

season, though not the first C-130 flight to the site. It was Operation *Deep Freeze 63*, his fifth consecutive season in the Antartic since joining Air Development Squadron Six. This squadron provides airlift capability in support of scientific studies conducted on the continent by experts of the U.S. Antarctic Research Program under grants from the National Science Foundation.

Seven other VX-6 pilots were to participate in the 40 airlifts scheduled for the remote site. Their purpose was to establish a new city on the continent, the ninth built by the U.S. since the beginning of *Deep Freeze* in 1955.

The first of these cities—McMurdo and Little America V—were established in 1955 and were to become the centers, logistic and scientific respectively, during the recent International Geophysical Year. Five other stations were established the following year: South Pole, Ellsworth, Byrd, Wilkes, and the joint U.S.-New Zealand base, Hallett Station. Two years ago, accumulated ice and snow showed signs of crushing Byrd Station and a new station was built nearby.

The latest U.S.-built camp—named Eights Station for American geologist James Eights who, in 1830, became the earliest American scientist in the Antarctic—was to be located on the almost featureless ice plains at the foot of the Palmer Peninsula between the Lowell Thomas Mountains and the Sentinel Range of the Ellsworth Mountains.

Scientific programs to be conducted there were to be devoted almost exclusively to research in upper atmosphere physics. Selection of this specific site was particularly desirable from the scientific point of view, because of its conjugate relationship to another scientific station in the Parc des Laurentides, about 100 miles north of Quebec City, Canada. As conjugate point stations, Eights and its Canadian counterpart occupy sites near the opposite points at which a single line of geomagnetic force intersects the earth in the southern and northern hemisphere. Scientists wanted to observe the phenomena at both points simultaneously.

Could the station be built? That was the question posed by USARP. RAdm. David M. Tyree, then commanding the Navy's support forces in the Antarctic, set about answering it. An over-snow traverse, hauling all the buildings and equipment, as well as the fuel, stores and manpower, was virtually out of the question. Time, or the lack of it, forbade. If the project was to be tackled at all, it had to be done by a combination airlift-airdrop, similar to the establishment of the Amundsen-Scott South Pole Station in *Deep Freeze II* (1956-57).

Was such a long-distance flight feasible? Could a Navy plane, loaded heavily with cargo, make a 2800-mile round trip over an uncharted area without benefit of refueling?

What of the scientists' proposal to airlift completely assembled buildings, portable ones that could be moved at the end of a season and be relocated to another site on the icy continent? Could the buildings be small enough to fit in a plane and yet be large enough to meet the requirements demanded by habitability and scientific needs?

The long-distance flight was possible. Cdr. Loyd Newcomer, former X.O. of VX-6, proved this in *Deep Freeze 61*. In the following austral summer, *Deep Freeze 62*, a temporary camp of wood and canvas Jamesway huts was flown to 75°14′S., 77°10′W., for a project called *Sky-Hi*. This was designed to be a summer station, using VLF, geomagnetic and ionospheric recording equipment, studying the conjugate point phenomena. The establishment of Eights Station was a logical evolution of this.

The Newcomer flight, a trail which blazed the record logistics flights, is worthy of some attention. USARP scientists requested air transportation from McMurdo to a proposed geological camp in the Jones Mountains on the Eights Coast, a 1315-nautical mile flight, airlifting 10,000 pounds of cargo and a nine-man party from the University of Minnesota. At the time, it looked like an impossible request. Newcomer studied the problem.

"Ordinarily," he said, "we could have met this commitment by ski-equipped *Skytrains* out of Byrd Station. It would have required six turn-around flights. As the operation progressed, however, commitments increased, the available supply of avgas diminished, and the squadron suffered a reduction in *Skytrain* capability."

"It was then we considered using the *Hercules*," said Capt. William H.

IN THE PATUXENT *mountains, part of the Pensacola Range, a VX-6 Hercules airlifts a U. S. Geological Survey party to the isolated area. The scientists are conducting topographical as well as geological studies here. This was one of many VX-6 commitments during DF 63.*

Munson, then commanding. "We had few alternatives. First, there was the possibility of abandoning the project for the season, but experts of the U.S. Antarctic Research Program considered it of major importance and we were determined to make every effort to meet their request.

"Because of the distance between Byrd and the mountains, the R4D's would approach their range limit each time, and carry a maximum amount of avgas with a subsequent reduction in payload."

Details of a plan to utilize C-130's were worked out by Newcomer at McMurdo, with the late Cdr. Manson Krebs, *DF 61* Ops Officer for VX-6, Dr. Campbell Craddock, leader of the nine-man party of scientists, and Capt. Munson. The plans were given to RAdm. Tyree for a decision. Weighing other operational commitments against available fuel supply, Adm. Tyree decided to expend three logistics flights to Byrd and Pole stations in order to get the Eights Coast flights accomplished. The supply of JP-4 fuel was almost as low as the avgas.

The green light given, an R4D, piloted by Lt. George Janulis and Ltjg. Kenneth O. Honderich, flew from Byrd to the mountains, with Dr. Craddock and four members of his party aboard.

They reached Eights Coast, landed, selected and marked a 3000-foot strip for the C-130's, five miles from the campsite selected by Craddock. The only flaw in the entire operation occurred when Janulis attempted to radio Byrd the location of the strip, and to supply wind and weather information. He lost contact. Byrd, not hearing the scheduled broadcast, launched a P-2 *Neptune*, piloted by Lt. James W. Cornwell and Lt. Little D. Player. About 200 miles out, the *Neptune* reestablished radio contact with Janulis. The information obtained was relayed to Byrd by the P-2, and to the C-130's en route.

Munson and Newcomer launched the first C-130 from McMurdo. Carlson and Lt. Thomas S. Hale, took the second. The planes flew at an average altitude of 28,000 feet to the selected campsite and at 34,000 on the return leg. Carlson described the surface at the site as "hard, good, and wind-eroded."

The second plane landed as the first was taking off. "This was also preplanned," Newcomer said. "We wanted only one plane on deck at a time so that the offloading crews would not be divided. The scientists and crew of the *Skytrain* joined our men in getting the planes offloaded as quickly as possible. The longer we stayed on deck, the more fuel we consumed and on this flight that was of primary importance." Counting on-deck time, each of the McMurdo-based planes completed the mission in 11 hours.

RAdm. Tyree was impressed with the performance. He radioed Capt. Munson: "VX-6 has again achieved an historical first by successfully using C-130's, teamed with an R4D and a P2V, in placing Craddock's expedition at site near Eights Coast. Intrepidity, combined with careful planning of details, characteristic of all VX-6 operations, has marked this project from start to finish. Well done to all and, in particular, the gallant crews, Cdr. Newcomer, and yourself, who convinced me this plan was feasible."

In establishing the *Sky-Hi* camp, the scientists used four Jamesway huts. In planning the Eights Station complex, however, the scientists wanted a new type unit, one that could be mounted on skids, hauled by tractor to dislodge it from the mantle of accumulated winter's snow, and relocated by airlift to some other site every three to five years, as the scientific needs developed. This restricted the size of the individual units, or modules. As finally designed, the buildings measured 8x8x27 feet. They were built by Northland Camps, Inc., of Seattle, a subsidiary of the Alberta Trailer Co., of Calgary, Alberta, Canada. The design and construction was funded by the National Science Foundation.

A unit was ready for inspection before Adm. Tyree deployed south in August last year, for *Deep Freeze 63*. A Quonset Point-based squadron *Hercules* flew to the West Coast to test-lift the module. The test was successful and full production of the 11 units got underway. The buildings were then shipped to McMurdo Station aboard USS *Arneb* (AKA-56).

VX-6 started the flights to the selected site early in November. All

INTERIOR VIEW *of one of the squadron's LC-130F Hercules shows minimum clearance between the designed module and the cargo aircraft.*

PASSAGEWAY *of connected modules at Eights Station shows the roominess of the small units. It is viewed here while being constructed*

flights to the station grossed out at maximum weight; they flew in at 135,000 pounds and left at 100,000.

"Bill Everett and I decided to backtrack on a decision made earlier," Adm. Tyree said, "not to cache fuel at Byrd. But avgas shortage opened the possibility of doing all airlift on the continent by C-130." Cdr. Everett commanded VX-6 that season. At the beginning of the airlift, the C-130's stopped off at Byrd to top off.

"We had a terrific ice pack this year," said Adm. Tyree. "It slowed the arrival of the tankers and we had to dig into our drum supply. This also slowed our air drops. During the construction of the station, the Air Force flew 25 C-124 airdrop missions to deliver JP-4, avgas and diesel fuel. Because of the closer proximity of Byrd to Eights, it was necessary to make 14 trips to Byrd to deliver enough JP-4 to support the Eights Station flights."

In November, after three and one-half years commanding Operation *Deep Freeze*, RAdm. Tyree turned over command of U.S. Naval Support Force, Antarctica, to RAdm. James R. Reedy, whose most recent assignment was as Commander Carrier Division 20, and before that, as C.O. of USS *Lexington*.

With the arrival of the tankers at McMurdo, VX-6 by-passed the Byrd stop and flew direct to the Eights site. When the flights were at their peak in January, most planes were making two round-trip flights to Eights Coast within a 24-hour period. All four of the squadron's *Hercules* were employed, but only two were flown on these runs at the same time. Carlson's first flight to Eights this season was CAVU all the way, but on the second he found the weather "muddy."

"Weather forecasting was like playing a slot machine," Adm. Tyree said. "We had to have a good forecast simultaneously at Byrd, McMurdo and Eights. This was particularly difficult because of the limited number of reporting stations. When good weather hit, you had to go all out and hit hard."

When the Seabees of Mobile Construction Battalion Eight arrived in January to construct the base, U.S. Antarctic Projects Office reported, they found the fuel for the station and other preliminary supplies in place. Within 20 days, the base was set up and occupied. When the Seabees left a week later, the station still awaited the arrival of a D-8 tractor to be used to move the buildings. The vehicle was on its way, however, having left Byrd Station on December 20 as part of a logistics traverse under CWO George W. Fowler, USA. After experiencing some difficulties with the weather and a temporary breakdown of his tractor, Fowler pulled in to Eights on the last day of January. En route, he was supported by VX-6 aircraft out of Byrd.

On February 15, the last aircraft flight to Eights Station was flown and the five civilian scientists and six Navy volunteers were on their own.

In addition to LCdr. Carlson, C-130 pilots who airlifted Eights Station included LCdrs. Charles E. Feiock, Jr., Richard C. Dickerson, and William B. Kurlak, Lts. Arthur Jacobs, Robert V. Mayer and Archibald McKinlay, Jr., and Capt. Howard Chapin, USMC.

In an address delivered in May this year, before the Antarctican Society in Washington, D.C., Mr. Robert Mason commented on the establishment of the station. He was USARP Representative at McMurdo during the summer season. He said:

"This event, easily the most significant operation of the year in Antarctica because it established the second major upper atmosphere observatory for conjugate point experiments during the International Quiet Sun Year, should be one of the proud accomplishments of the Support Force. The job was neatly done, with as little time to spare as there was clearance remaining in the C-130's after inserting the units.

"Today, almost all of the recording programs at Eights are in full and satisfactory operation.

"This achievement, for want of a better term, truly represents a 'breakthrough' in Antarctic scientific operation and logistical support, because it has demonstrated the relative ease with which special experiments of temporary duration can be mounted and moved virtually anywhere over the continent. Although the Eights Station problem may never be exactly duplicated, our understanding of mobility has been sufficiently broadened that more complex experiments will be supported with even better finesse."

A SQUADRON SKYTRAIN *airlifts replacement parts to a tractor party traversing an 888-mile snow trail between Byrd and Eights Stations.*

THIS NATIONAL SCIENCE *Foundation photograph shows the assembled complex just before the last Hercules returned to McMurdo Station.*

Flatley Awards Received

Randolph and Oriskany Are Cited

The Atlantic Fleet's USS *Randolph* (CVS-15) and the Pacific Fleet's USS *Oriskany* (CVA-34) have been selected for the annual Admiral Flatley Memorial Award for outstanding achievement in accident prevention during carrier operations. The *Randolph*, which has won the award four consecutive times, completed 8093 carrier landings and flew 17,836 hours without ground accident or injury to ship or air group personnel.

The highly coveted award is given to one attack and one anti-submarine carrier each year by CNO in recognition of efforts furthering the Navy's aviation safety program. It was named for VAdm. James H. Flatley who commanded NAS Norfolk from 1953 to 1955.

Adm. George W. Anderson stated, in announcing the winners, that through the efforts of all hands, the Navy aircraft accident rate had an over-all decrease from the 1962 fiscal year period.

Orions Based at Bermuda

Dependents not to Accompany Units

Two seaplane squadrons at Bermuda, VP-49 and VP-45, which have been flying the SP-5B *Mariners*, are being replaced by a P-3A *Orion* detachment at Kindley AF Base. The two seaplane squadrons displaced will be transitioned into *Orions*.

P-3A operations at Kindley commenced on July 1 with the assignment of six of the new long-range patrol planes from VP-8 at Patuxent River, Maryland.

VP-49 is moving to NAS PATUXENT RIVER this month, and VP-45 will move to Jacksonville in the month of October.

While the transition to new aircraft will not greatly affect the number of military personnel in Bermuda, the number of dependents will decrease because the P-3A detachments are unaccompanied.

New Marine Designations

Reflect Increase of Air Support

Marine All-Weather Fighter Squadrons assigned the F-4B *Phantom* aircraft were redesignated as Marine Fighter/Attack Squadrons (VMFA) August 1. The redesignated units' mission includes the interception of enemy aircraft and missiles, and the destruction of ground targets.

The change in designation reflects the added offensive air support capability of the squadrons brought about by the introduction of the *Phantom* into Marine Aviation.

Two of the three squadrons affected by the change, VMF(AW)-314 and VMF(AW)-513, are located at El Toro, Calif., with the Third Marine Aircraft Wing. The other, VMF(AW)-531, is attached to the Second Marine Aircraft Wing, Cherry Point, N. C. They are now VMFA-314, 513 and 531, respectively.

In addition, the Third Marine Aircraft Wing's Marine Fighter Squadron-312 (VMF-312) was redesignated as a Marine All-Weather Fighter Squadron, VMF(AW)-312, on the same date.

LONGEST RUNWAY *in New Jersey is Lakehurst's recently extended, 12,000-ft. strip used by the Naval Air Test Facility (Ship Installations). Completed last May, the runway will better serve heavier and faster jet aircraft in test activities. At right is diversion strip which has carrier landing deck dimensions and permits rapid turn-around time for planes evaluating new equipment. Newest steam catapult and an angled-deck strip are also located in test area.*

Engine Contract is Issued

GM Will Develop New Turboprop

The Navy has selected General Motors Corp., Allison Division, to develop a regenerative turboprop engine for use in future aircraft. The new engine would use jet-type fuel rather than avgas, thus alleviating the fuel logistics problems on aircraft carriers. Use of a common fuel for jet and propeller planes would reduce stowage and handling procedures.

Although no firm aircraft applications exist for the engine at present, its excellent fuel consumption characteristics would make it suitable for anti-submarine, propeller-driven aircraft.

Navy Unit Leaves MATS

NTTU Deactivated at Tinker AFB

The Naval Transport Training Unit, part of MATS' 1707th Air Transport Wing since 1959, has been deactivated. The 36-man group, headed by LCdr. Harold R. Miller, trained more than 400 pilots and flight mechanics during its four-year history.

In ceremonies held at Tinker AFB, Okla., in June, NTTU was commended for "outstanding professionalism and achievement." During 1959, 1960 and 1961, the 1707th Wing won the MATS Outstanding Unit Award for exceptionally meritorious service. Each Navy man who served with NTTU at the time is eligible to wear the distinctive red-white-and-blue Air Force ribbon.

NTTU's arrival at Tinker in 1959 marked the first time that the Navy had participated in the 1707th's training program. Its mission was to speed up training of air crews flying the Douglas C-118 *Liftmaster*.

With the deactivation of the organization, the total number of naval personnel serving with MATS has been slightly reduced. At the present time, about 3100 Navy airmen are divided evenly in five U.S. MATS squadrons.

FUTURE ASW PILOTS TRAIN AT VT-27

By Lt. R. L. Bass

STUDENTS AT VT-27, *the Navy's only VS pipeline squadron, make at least 70 trips to the line at NAAS New Iberia before completing advanced training requirements in the TS-2A Tracker.*

NINETY-FIVE air miles west of New Orleans, in the heart of the "Cajun" Country, lies NAAS NEW IBERIA, the home of VT-27. Cdr. J. E. Tout heads the unit which is the only squadron in the advanced training command's anti-submarine pipeline. Formerly VT-402 at NAAS KINGSVILLE, Texas, the squadron moved to its new location in July of 1960.

Since that date, over 600 student Naval Aviators and 105 allied aviation students have completed the squadron's flight training syllabus. Candidates from Argentina, Brazil, Canada, Indonesia, Italy and Mexico have mastered ASW tactics in the TS-2A *Tracker* at the New Iberia base.

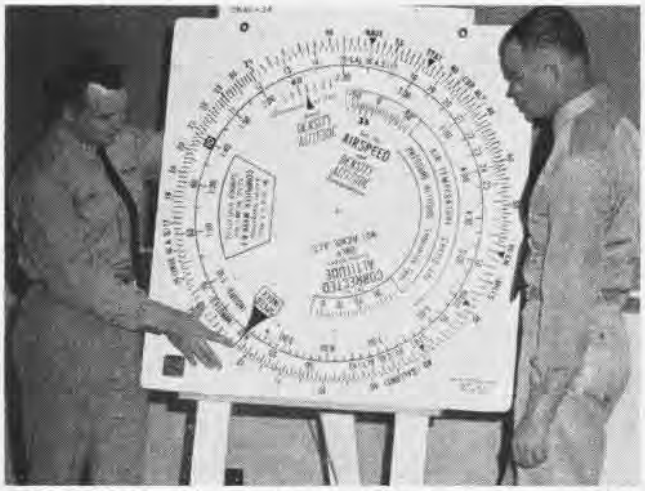
VT-27 is a self-contained unit. Unlike others of the advanced training command, where station personnel are responsible for ground training, most academic instructors not only teach ground school but average 30 flight proficiency hours per month.

To accomplish its training mission, VT-27 is assigned 58 *Trackers,* 70 flight instructors and 350 ground personnel. In classrooms, students study flight rules and regulations, engines, aerodynamics, survival, meteorology, ASW tactics, instrument and operational navigation, operational radar navigation and junior officer leadership. They also "fly" 27 hours in Links, learning procedures and instrument techniques.

The flight phase consists of 70 syllabus hops ranging from familiarization to aircraft carquals. Students get sound backgrounds in instrument, formation and anti-submarine flying before graduating as all-weather ASW pilots. After New Iberia, students are assigned to CRAG squadrons and subsequently to Fleet operating units.

In its comparatively short history, VT-27 has acquired an impressive safety record. To date, pilots have flown 54,000 accident-free hours. In one month, October 1962, they flew a record 3901 hours. The squadron was awarded the CNAVanTra Annual Aviation Safety Trophy for flying 36,000 accident-free hours in 1962. It has also received six CNAVanTra "Aces" and four CNAVanTra "Accident-Free" awards since commissioning in 1960.

An average of 108 students are aboard VT-27 at all times preparing to answer the Navy's growing need for strong, efficient anti-submarine forces.



ONE OF VT-27'S *students and future ASW pilots learns use of Mark 8-A navigation computer from a squadron instructor, Lt. J. C. Flynn.*

CDR. TOUT, *C.O., congratulates NavCad C. L. Stein, who logged 50,000th accident-free hour. Safety Officer, Maj. L. Oltmer, holds sign.*

CLEAN, CLEANER, CLEANEST AT NAS ALAMEDA

By Barbara Baack
O&R Alameda

SUPPOSE YOU are an employee on your way to work in the ultra-clean room of the Avionics Division Instrument Shop at NAS ALAMEDA, Calif. This clean room facility at O&R was built to conform to the most precise scientific standards of cleanliness. It is so clean, in fact, that dust particles larger than 12 millionths of an inch can't get in because the high level of environment (weather) control and cleanliness meet the exacting tolerance of high precision instrument processing.

READY FOR *work in coveralls, hood, booties. A fresh outfit is put on every other day.*

Before entering the main "semi-clean" shop area through an air lock which seals out outside air, you don a dacron jacket and hat over your regular clothing. Next, you must go to the shoe cleaner machine which removes dirt and dust.

Then, preparatory to entering the ultra-clean working space you must remove the jacket and hat and put on special lint-free dacron coveralls, hood and booties. You pass through another air lock and are treated to a high velocity air blast for dusting clothing. These procedures only take about 15 minutes.

Moving through the air lock, you arrive at an ultra-clean white area where you are ready to go to work under lights of 200-foot candle power.

SHOE CLEANING *machine is used to remove dust particles before entering dressing room.*

This room is called "home" for two shifts of 18 people.

All employees must undergo a training program to learn the reasons for the clean rooms as well as all procedures they will have to follow. One employee is assigned full time cleaning duties. He does periodic washing of floors, walls and ceilings, and uses a highly efficient vacuum system to keep all work areas spotless.

No paper is allowed in the room. Any writing is done on plastic sheets with a ball point pen.

There is a very good reason for all this seemingly undue caution about dirt particles. By reducing the amount of dirt contamination to a minimum, particles do not cling to instruments. Each part to be repaired is cleaned before it is brought to the clean room.

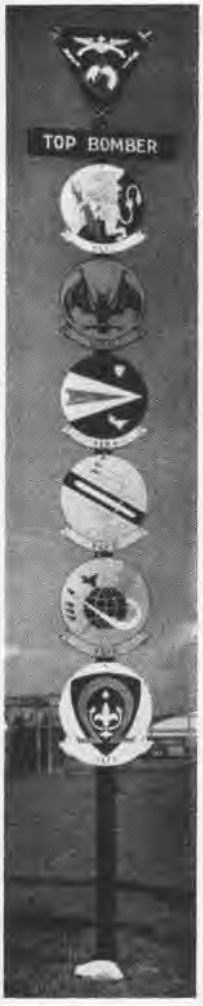
The air filtration system operates 24 hours a day, every day in the year. A positive air pressure differential keeps dust-laden air out. The shop is serviced by a central vacuum cleaning system.

This is the first of three ultra-clean rooms planned for O&R. The ultimate goal is for the entire Instrument Shop to come up to the high standards of clean room specifications. This will mean that hundreds of Avionics personnel will have to adopt the many clothes changing, air lock and shoe cleaning procedures as a way of life. It also means that the complex of clean rooms will be second to none in providing the Navy with top service in the field of electronics.

THIS ULTRA-CLEAN *white room has standards of cleanliness so great that they meet the exacting tolerances of high precision instrument processing. Employees work in lint-free clothing.*

WHIDBEY RECIPE FOR 'SUNDAY PUNCH'

THE UNITED STATES Pacific Fleet carries something it calls a "Sunday Punch." It was concocted by the "chefs" aboard the Naval Air Station at Whidbey Island, Wash.



What are the ingredients for the recipe? Take 12 heavy attack carrier-based bomber aircraft (*Skywarrior* type), mix in 15 to 20 well trained Navy pilots and add 350 technically trained sailors. Combine these ingredients vigorously over a six-month period, utilizing Air Defense, Strike, Operational Readiness, and Weapon Training exercises and a final Operational Readiness Inspection—then present proudly to Commander Task Force 77. The Task Force Commander will add the required amount of "salt."

NAS WHIDBEY, located 90 miles north of Seattle, is on the second largest island in the continental United States, some 167 square miles. It offers an ideal location for heavy attack training because it affords the best possible environment for all-weather operations. Temperatures are normally cool, giving the heavy attackers the best performance from the *Skywarrior* J-57 engines. Land and sea routes are established locally for instrument and navigation training, while target facilities are available at Boardman, Ore., and Spokane, Wash., for other phases of training.

With more emphasis placed on low-level training, the facilities at Boardman become increasingly important.

West Coast Heavy Attack Squadrons 2, 4, 6, 8, 10, 13 and Heavy Attack Training Squadron 123 train at Whidbey Island. Based at Whidbey for their training cycle, they deploy with Air Groups on attack carriers in the Pacific. A typical cycle is that of VAH-6, which recently returned from a seven-month operational cruise with Air Group Nine aboard USS *Ranger* and will deploy again after approximately six months training. Operational squadrons, under the administrative control of Commander Fleet AirWhidbey, RAdm. William S. Guest, are always in top operational readiness.

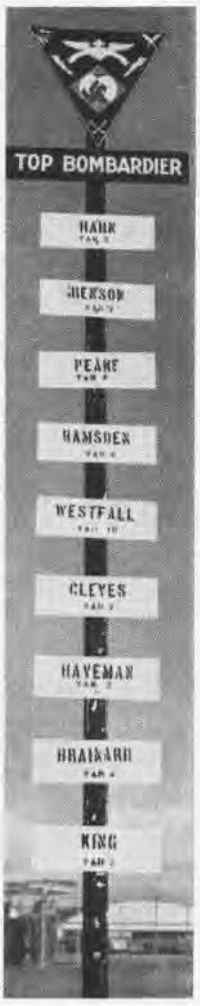
RAdm. Guest says, "Competition is a prime factor in training these squadrons. Our 'games' are rough and call for complete cooperation of each man within the squadrons. These events include: a monthly Bomber Stream, Top Bombardier Awards, Bulls-Eye Club, and an annual Bombing Derby."

Although other bombing techniques are appropriate, three basic types are taught the *Skywarrior* crews at Fleet Air Whidbey: loft bombing, pop-up, and low/high altitude bombing.

Before pilots and crewmen are assigned to a heavy attack squadron on the West Coast, they must complete and graduate from a course directed by Heavy Attack Training Squadron 123, a fleet replacement training squadron.

Training includes a 20 to 24-week pilot course, a 28-week bombardier/navigator course, a 20-week third crewman course, maintenance training courses ranging from 6 to 12 weeks, and other special subjects. All courses may vary depending upon the students' previous training and experience.

Graduation from VAH-123 does not end training. The squadrons pick up where the school leaves off. It takes a lot to develop a *Sunday Punch.*



By Byron S. Whitehead, JO2

FORMATION *of six VF-33 F-8E Crusaders makes fly-by over Enterprise before departing for Wheelus and "Gunnery-on-a-Shoestring."*

FEZ-TOPPED *C.O., Cdr. Smith, and VF-33 pilots are greeted by LCdr. Jack Verser, squadron operations officer, upon return from Wheelus.*

VF-33 COMPLETES COMPEXES IN AFRICA

"Ned one, off target; Ned two, in firing run." These were familiar calls to personnel at Wheelus AFB, Libya, early this summer when VF-33 deployed from the USS *Enterprise* for an exercise at the shore base. Cdr. Larry Smith, C.O., led his *Crusader* pilots in the operation, first of its kind in the Sixth Fleet.

The deployment, called "Gunnery-on-a-Shoestring," began when a preliminary liaison trip to Wheelus was made by Cdr. Smith and maintenance officer LCdr. Curtis Karvala, to determine if the exercise would be feasible in terms of range availability and maintenance facilities. They discovered that the 7272nd Air Base Wing was more than willing to accommodate the Navy and, following approval by ComSixthFleet and USAFE, the operation was underway.

Seven pilots launched from *Enterprise* and landed at Wheelus. Four days later, six other pilots relieved them. All completed their 20,000-foot gunnery competitive exercise requirements.

A significant feature of the venture was the performance of 18 squadron personnel who worked 15 hours a day performing maintenance and support functions. The men were awarded commendatory letters for their zeal and efficiency. The "can-do" atmosphere, combined with enthusiastic assistance from the Air Force, made *Shoestring* a real success. The favorable results of the operation may pave the way for similar ones by Sixth Fleet squadrons in the future.

In response to the outstanding support given VF-33 by the 7272nd wing, a group of Air Force fighter pilots were invited aboard *Enterprise* to observe the nuclear-powered carrier in action.

CRUSADER *maintenance information is passed on to Air Force ground personnel of the 7272nd Air Base Wing by VF-33 pilot, Ltjg. Malone.*

AIR FORCE *fighter pilots invited aboard the Enterprise, get first hand look at landing operations. LSO is VF-33's Ltjg. Norm Gandia.*

JUPITER SUPPORTS PACIFIC AVIATION

USS JUPITER, *namesake of the planet and the Navy's only aviation supply ship, delivers cargo to Seventh Fleet carriers by alongside replenishment. Fleet mail, in-port delivery, or helicopter.*

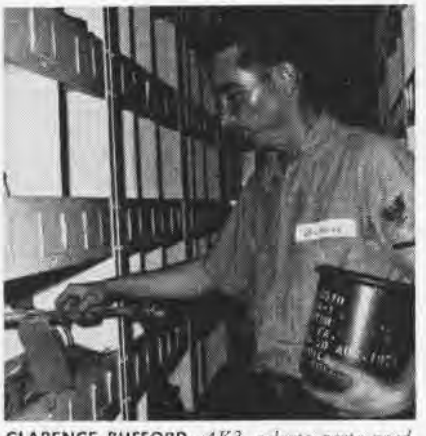
IF YOU SHOULD ask the men from Seventh Fleet aircraft carriers the best place to get aircraft spare parts, there is a good chance they will say, "*Jupiter.*" Home-ported at Yokosuka, Japan, this aviation supply ship is the only one of its kind. It supports Pacific ships with spare parts for aircraft, catapults and arresting gear. Last year her 180-man crew delivered more than $7 million worth of gear to WestPac carriers.

Only 459 feet long, *Jupiter* isn't a

JUPITER SUPPLYMEN *stand by to load helo with aircraft tires and other aviation supplies.*

By Tommy Thompson, JO1

big ship, but a walk through her five cargo holds would reveal more than 13,000 different parts. Included would



CLARENCE BUFFORD, *AK3, selects parts needed for Seventh Fleet carrier from hold No. 2.*

be tires and tubes, canopies, instrument panels, brake assemblies, electronic equipment, and catapult and arresting gear. Supply items range from one-cent packing rings to items valued at $23,000.

Jupiter personnel, including 28 aviation storekeepers, get parts to the customer in three ways: fleet mail, in-port delivery and replenishment at sea. If parts are large and bulky, transfer of cargo at sea is done by alongside replenishment. When the size of cargo doesn't warrant this method of transfer, *Jupiter* uses her helicopter landing platform located on the fantail.

Helicopter replenishment is convenient, fast and permits more than one carrier to collect supplies at the same time. *Jupiter* set a record recently when a helo landed, was loaded with 500 pounds of cargo, and launched again within 43 seconds. During an operation last February, *Kitty Hawk, Ranger* and *Yorktown,* converged on *Jupiter* with their helos and hauled away 8000 pounds of cargo. This efficiency earned the ship's supply department the U. S. Pacific Fleet Supply Award plaque and a grade of "outstanding" by ComFAirWestPac.

Jupiter's career began in 1939 as

STOCK CONTROL *cards are checked for accuracy by a crewman, Richard Jacques, AK3.*

the civilian merchant ship, SS *Flying Cloud.* Later re-named the SS *Santa Catalina,* she was commissioned in 1942 as *Jupiter* by the Navy. She earned six battle stars as an attack cargo ship in actions at Saipan, Pelelieu, Angur, Iwo Jima, Leyte and Linga Lingayen. In 1947 she was designated an aviation supply ship but decommissioned the same year.

The *Jupiter* was reactivated at the outbreak of the Korean conflict. She then served with both the First and Seventh Fleets until March of 1955 when she was assigned permanently to be home-ported at Yokosuka, Japan.

THE CANADIAN *CHSS-2 helicopter Fleet Introduction Program was conducted June 10 through July 31 by the Service Test Division, NATC Patuxent River, Md. The CHSS-2 Sea King is similar to the U. S. Navy's SH-3A ASW helicopter which holds the world's speed record of 210.6 mph. LCdr. Ted Fallen, RCN, C. O. of Helicopter Anti-submarine Squadron 50 headed the FIP contingent of nine officers and 25 men. The squadron is based at RCN Air Station, Shearwater, Nova Scotia. During the introduction program each Canadian pilot received approximately 34 hours of flight time.*

Arresting Gear is Sought

Demands Set by New Supercarriers

High on the list of current projects at the Naval Air Engineering Laboratory (Ship Installations) at Philadelphia is the development of improved arresting gear equipment for use on the Navy's supercarriers.

Designated the Mark 7 Mod 3 Arresting Gear, the new equipment will have an energy absorption capacity of 48,000,000 foot-pounds. This is an increase of 23 per cent over the maximum capacity of the current model, the Mk 7 Mod 2, and makes the Mk 7 Mod 3 the most powerful arresting gear in the world.

Translated into terms of performance, the Mk 7 Mod 3 equipment will be capable of arresting a 50,000-pound aircraft at a speed of 150 knots. This huge energy absorption capacity converts to reduced wind-over-deck requirements and improved operational reliability for present types of carrier aircraft, and assures satisfaction of the arrestment demands of new aircraft still on the drawing board.

The increase in capacity of the Mk 7 Mod 3 equipment over the Mod 2 is a tribute to NAEL(SI) design ingenuity. Both equipments utilize the same principle of operation, and both use many of the same parts.

The increase in capacity of the Mod 3 comes from use of a larger size cylinder, accumulator, air flask control valve, and larger sheave and anchor dampers. However, the Mod 3 configuration is such that the overall dimensions of the equipment are generally the same as those of the Mod 2.

The Mod 3 design also includes several new features, such as partial balancing of the control valve to reduce valve-operating loads and a symmetrical cable reeving arrangement for improved distribution of cable loads.

Another feature of the Mod 3 design is its compatibility with the Mod 2. Because of this, existing Mod 2 equipments can be economically converted to the Mod 3 configuration.

The first scheduled installation of the Mk 7 Mod 3 arresting gear will be aboard the Navy's newest carrier, the CVA-67. The installation will include four equipments for the cross-deck pendants, and one for the barricade. Conversion of existing Mod 2 equipment aboard other carriers will be made in accordance with the Fleet modernization program.

Marine's Ingenuity Honored

Designs Electronic Rendezvous Aid

MGySgt. M. M. Stonestreet, the 3rd MAW Avionics Chief at MCAS El Toro, received the Navy Commendation Medal for developing an electronic device which permits the KC-130F to pick up, identify and control tactical aircraft to a refueling rendezvous.

Sgt. Stonestreet began work on the design and development of the unit in 1961 and was instrumental in getting it accepted by the Navy.

The rendezvous aid unit permits the *Hercules* refueler to locate quickly and easily any tactical airplane equipped with Identification, Friend or Foe (IFF) equipment. This "acquire and control" can be done at ranges as great as 200 miles with the use of normal radar gear and the new unit.

Now installed on all of VMGR-352's *Hercules* transports, it will eventually be incorporated into all KC-130's.

Helicopter Pilot Honored

Air Medal for Vietnam Heroism

An Air Medal was presented to LCol. Harry C. Dees, USMC, at MCAS Cherry Point for "meritorious achievement in aerial flight as a helicopter aircraft commander in Navy Task Unit 79.3.5 . . .," operating in Vietnam. BGen. John P. Coursey, assistant MAW-2 commander, made the award. It was the 12th Air Medal to be earned by Col. Dees.

Now executive officer of Marine Wing Headquarters Group Two, LCol. Dees served in Vietnam from June 4 to August 1, 1962. In that period he flew 20 combat airlift missions "against insurgent communist guerrilla forces. . . . While often exposed to hostile fire at close range, LCol. Dees contributed materially to the success of his squadron."

Col. Dees saw combat in WW II and the Korean hostilities, serving with transport squadrons in both conflicts.

'Nomad' Tells Weather

Device Now in Production Stage

Marking the culmination of 12 years of research and development, the *Nomad* weather station is in production and soon will be operated in seven locations by the Navy. *Nomad* (Navy Oceanographic/Meteorological Automatic Device), is an anchored, seaworthy, fully automatic weather buoy which provides information from areas where data was previously sparse or lacking. The National Bureau of Standards conducted the research and development of *Nomad* for BuWeps.

Nomad normally transmits data on a six-hour schedule but in wind conditions exceeding 21 knots, reports hourly. Atmospheric pressure, air and sea temperature, wind direction and speed are recorded and sent to receiving stations.

Fully loaded, the station weighs 12 tons and is constructed of aluminum alloy with other non-magnetic materials. Its transmitter is peak-pulsed to 5,000 watts.

The Fleet Weather Facility at NAS Norfolk has received one of the first production models of NOMAD. It is to be moored off-shore. Information received will be made available to all meteorological services.

EXPERTS TRAIN NAVY'S 'BLOCKING BACKS'

TRAINING AIDS *available to Chief Bailey and fellow instructors include giant computer and slide rule, engine piston and projectors.*

QUESTION ASKED *about the R-3350 engine by Dennis J. Walther, A.A., is answered by Chief Bailey who has 20 years maintenance experience.*

ON A SCALE equal to its mission, the vast educational complex at NAS MEMPHIS, Naval Air Technical Training Command, graduates 17,000 servicemen yearly and trains 80,000 more in numerous Fleet stations. To do this, it has not only classrooms at headquarters but also 30 teaching units throughout the United States.

A former Commander of the NATTC, once a gridiron star, described aviation technicians as "blocking backs" who must pave the way for aviators who are the "half-backs."

Chief Aviation Machinist's Mate Rolla A. Bailey, one of 2800 Memphis instructors, is an example of the high caliber of teachers who train the "blocking backs." In his 20 years of service he has pushed planes, gassed them, pulled their engines and repaired them hundreds of times before taking up pointer and chalk. Now using the skills and knowledge garnered in the years which have taken him to the Mediterranean, Far East and Antarctica, he trains young men for their assignments in Naval Aviation.

The same is true of other tech training instructors. They average 10 years of practical experience in ships and shops before being selected for teaching duty. They turn out ordnancemen, electricians, metalsmiths, catapult men, arresting gear experts, aerologists, tower controlmen, radar operators, photographers and parachute riggers. More than 8000 instructors have been specially trained at Memphis since 1949.

Students walk into classrooms like Bailey's with very little knowledge of aviation, and in many cases, little of the Navy itself. Excellent training facilities, lecture presentations by well-qualified, space-experienced men and expertly outlined courses result in graduates ready to fulfill their role in the Navy's Fleets.

The principle that guides instructors at Memphis is simple: "You can't get five cents worth of use out of a five million dollar aircraft without proper maintenance." Graduates of NATTC join operational units where their sound technical background helps achieve that *proper maintenance.*

FOLLOWING FORMAL *classroom lecture and discussion, MSgt. W. F. Shannon, USMC, utilizes a static display to give students more graphic instruction in reciprocating engine mechanics.*

Double Honors for VP-56

Cited for Role in Cuban Quarantine

In July at NAS NORFOLK, a double presentation was made at VP-56 change-of-command ceremonies by RAdm. George P. Koch, Commander Fleet Air Wings, U.S. Atlantic Fleet. The squadron received a Letter of Commendation from the Commander in Chief, U. S. Atlantic Fleet, for its part in the Cuban Quarantine of October/November 1962, and the Commanding Officer received a citation for his leadership of the squadron during that period.

VP-56 was cited for "professional competence displayed during this period of increased international tension" and for "making significant sightings of Soviet block shipping and performing important anti-submarine warfare tasks."

VP-56, during the crisis, operated out of Guantanamo. Although the primary squadron task was shipping surveillance, the anti-submarine capabilities of the squadron were put to full use in the detection and tracking of submarines. One was tracked exclusively with underwater search devices; another was tracked in coordination with the USS *Cecil* which stayed with the contact until the sub surfaced.

The squadron, commanded by Cdr. D. W. Herlong, consisted of eleven 12-man flight crews flying the SP-2H *Neptunes*, supported by ground maintenance and administrative support personnel. The flight crews flew around the clock, averaging seven hours per flight crew per day during a 10-day period.

In the change of command, Cdr. C. G. Berkstresser, Executive Officer of VP-56, became the C.O. relieving Cdr. Herlong.

A TECHNICIAN *checks the optical milk glass globe used to simulate thermal radiation effects on aircraft from a nuclear explosion. Study is being made under a contract awarded North American Aviation by BuWeps.*

1000th Student Trained

Event Marked by VT-4 Aboard Lex

Ens. R. L. Laws became the 1000th student to complete VT-4's basic training syllabus when he made carrier qualification landings aboard the USS *Lexington* operating in the Gulf of Mexico last July. VT-4's C.O., Cdr. J. M. Jones, congratulated Laws on *Lexington's* flight deck.

Originally designated Basic Training Group Nine in 1958, VT-4 was the Navy's first basic jet training unit. After leaving the squadron, flight students report to advanced training for instruction in transonic jet fighters.

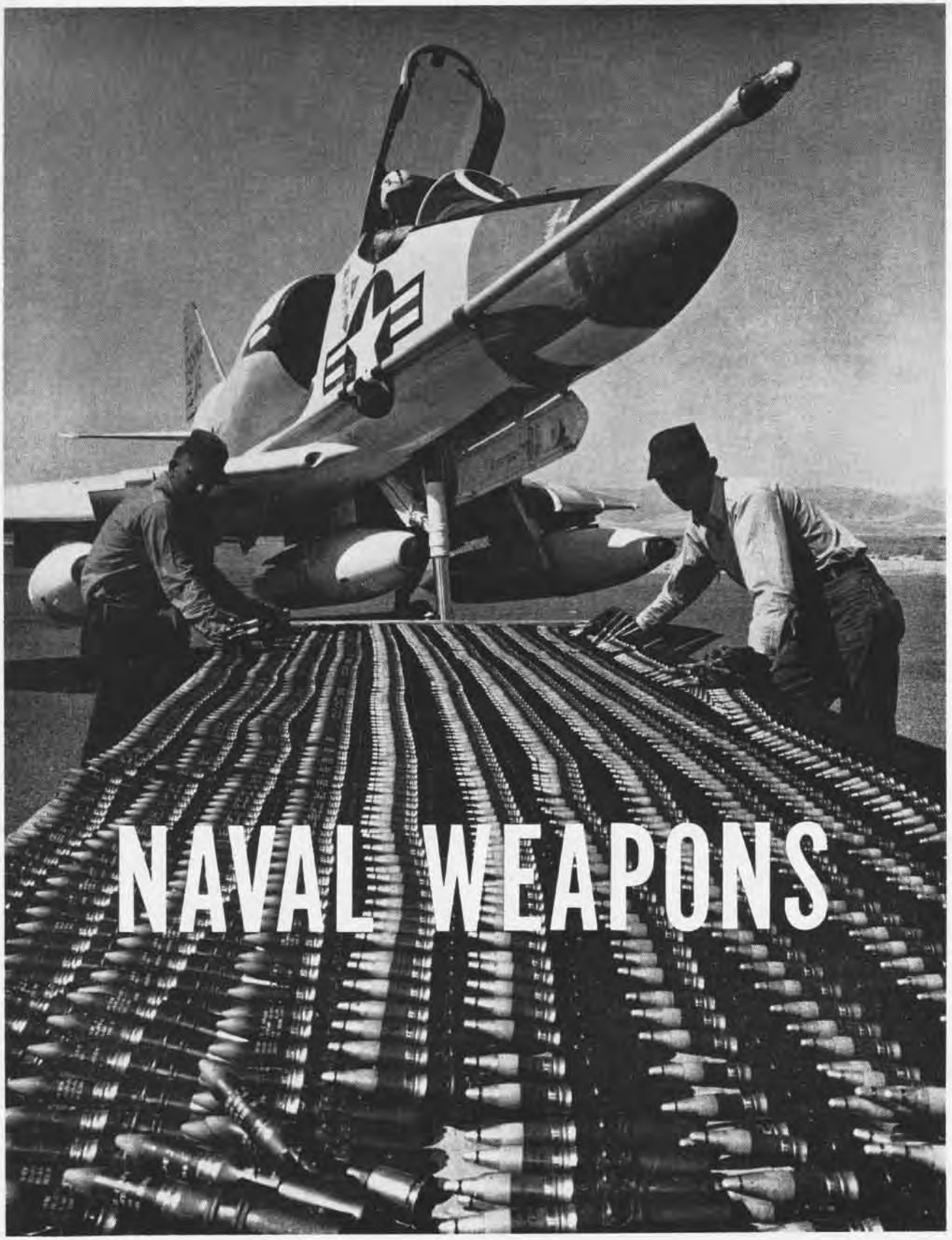
Scores High in Safety

NAS Memphis Wins 16th Award

"A Safe Place to Work" describes NAS MEMPHIS and tenant activities. The station has received, for the 16th time, the SecNav Award for safety achievement in industrial activities.

At ceremonies in the office of Capt. J. J. Munse, NAS commanding officer, Capt. T. H. Davie, Chief of Staff, presented the award to the station safety engineer, Frank J. Heintz. Mr. Heintz accepted the award on behalf of the Naval Air Station and tenant activities. On hand to share the honors were a large number of representatives of various commands and departments.

AT NAS SAN DIEGO, *three enlisted men are serving as test radar intercept operators (RIO's) in the F-4 Phantom II. Within the Fleet, only commissioned officers do this. The three men are Charles E. McCandless, ATC (right above), K. W. Kreminski, AT1 (L), and Rondal R. Scandrett, AT2 (C). After the F-4's have gone through O&R, the Flight Test Division performs ground and in-flight tests. Because of the shortage of RIO's in the Fleet, McCandless, Kreminski and Scandrett were trained to serve as test operators. According to Lt. H. V. Spade, Flight Test Officer, they are competent RIO's and are now serving in regular in-flight tests. Above, Chief McCandless performs a preflight check on the landing gear. The portable units keeps him cool. Once he is inside the F-4, the aircraft systems take over the cooling.*


NAVAL WEAPONS

A NAVY SKYHAWK *launches a barrage of deadly 5.0" Zuni rockets during the demonstration for President Kennedy at China Lake. These Zunis have a wallop equivalent to several broadsides of a destroyer battery. Each is 110 in. long, has a 5-inch diameter, weighs 105 pounds.*

To carry out its many tasks, the Navy must remain a flexible service, capable of action under an extremely wide variety of conditions, ranging from "brush fires" to the extreme case of all-out unrestricted warfare.

Bureau of Naval Weapons research and development work has paid off with guided missiles, advanced underseas warfare weapons, nuclear weapons and modern ordnance now in the Fleet. During 1963, significant progress has been made in development of futuristic weapons, weapons with human-like senses and responses, weapons of fantastically great power—air, ship and underseas launched—as well as in continued improvement in the levels of existing conventional weapons, guided-missiles, and related equipment necessary to enhance our fighting capability.

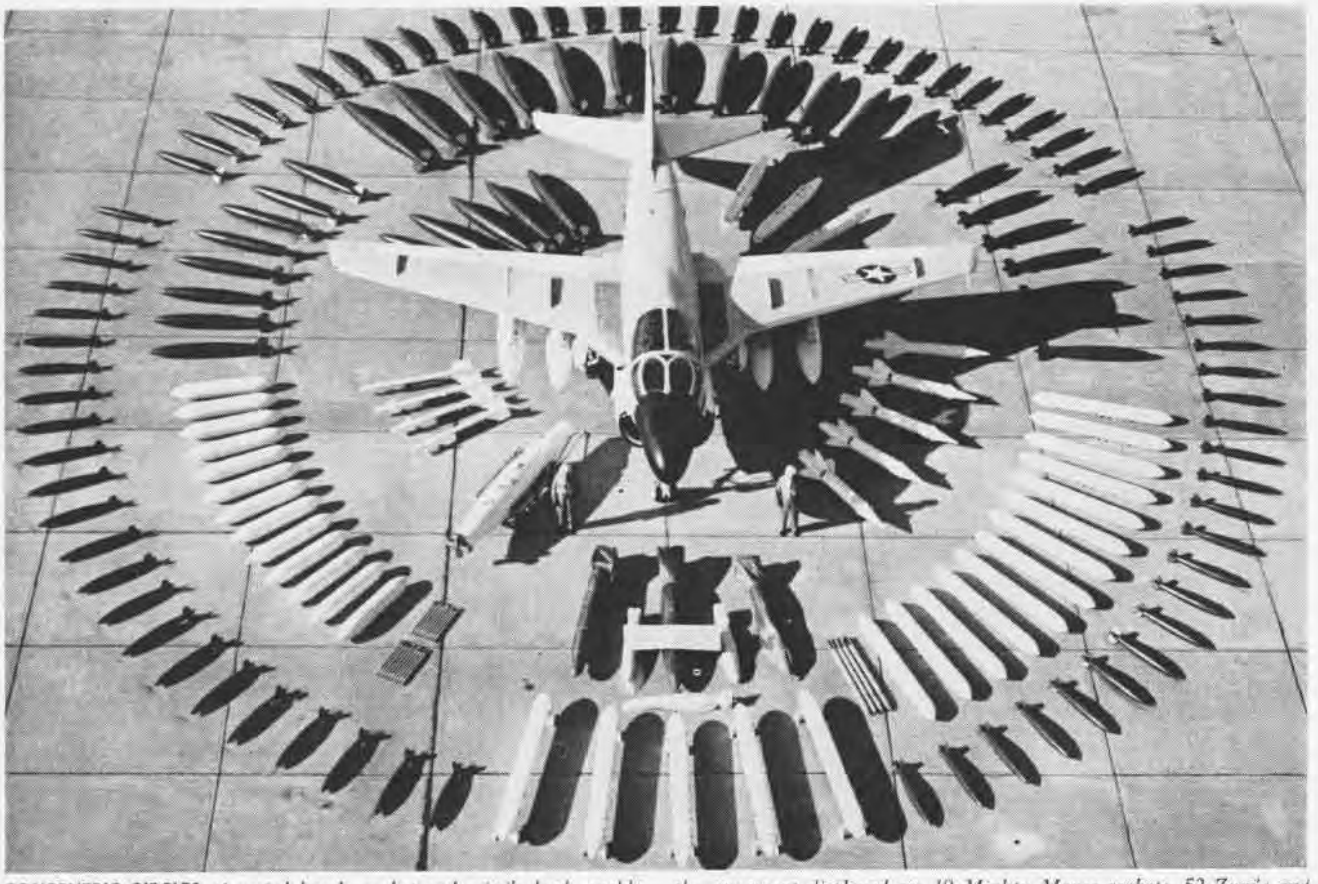
The following is a brief review of the major types of naval weapons now in being or under way. It is not an attempt to depict every system employed by the Navy since, for security reasons, this is not practical or possible.

Rockets for air-to-air missions and close support aircraft use against air-to-ground targets include the standard 5" HVAR and 2.75" *Mighty Mouse*, and the unguided and stabilized, 5.0" folding-fin *Zuni* which can be fired singly or in clusters from both fighter and attack aircraft. The *Zuni* utilizes several types of warheads, including flare, fragmentation, and armor-piercing. In attack-type aircraft, this all-weather, conventional explosive rocket is highly effective against tanks, pillboxes, gun emplacements, trains, motor convoys, ammunition and fuel dumps, and small ships. The launcher holds four rockets and is designed for transporting and storing the rocket as well as launching it. This results in greater speed in re-arming planes as they return to their bases between combat strikes. The launcher can be jettisoned after firing to increase the speed.

ASROC, *shown in launch from USS Norfolk, is capable of launching either target-seeking torpedoes or nuclear depth charges against subs.*

SUBROC MISSILE, *launched from a submarine below the surface, bursts out of the water and streaks skyward during test firing in the Pacific.*

SURROUNDING CHANCE VOUGHT'S *F-8 Crusader all-weather fighter is the armament which can be carried by this high-performance aircraft on a single mission. Various missions call for different types of attack; Navy strives to offer commanders a flexibility in choice of weapons.*



CONCENTRIC CIRCLES *of varied bomb, rocket and missile loads enable the Grumman A-6 fully armed to live up to its name, Intruder. Among the armament displayed are 19 Mighty Mouse rockets, 52 Zuni's and five Bullpup A's. The A-6 can carry nuclear loads for long range delivery.*

THE ADVANCED SPARROW III *is the prime armament for the F-4 Phantom II. It can also be carried by the F-3B Demon. This supersonic, all-weather, radar-guided, air-to-air missile is 12 ft. long, weighs 350 lbs., attains speeds over 1500 mph seconds after launching.*

STILL IN THE STRIKE category are Navy's accurate, command-guided *Bullpup A* air-to-surface missile, and the larger, longer range version, the *Bullpup B* now undergoing final development; the advanced *Sparrow III* which permits a high performance fighter to destroy high speed planes at practically all altitudes, in all weather, and from any angle; and the deadly infra-red homing *Sidewinder 1A* which locks on to the hot exhaust of supersonic jet aircraft. Fleet delivery of the higher performance *Sidewinder 1C* is scheduled for fiscal year 1964.

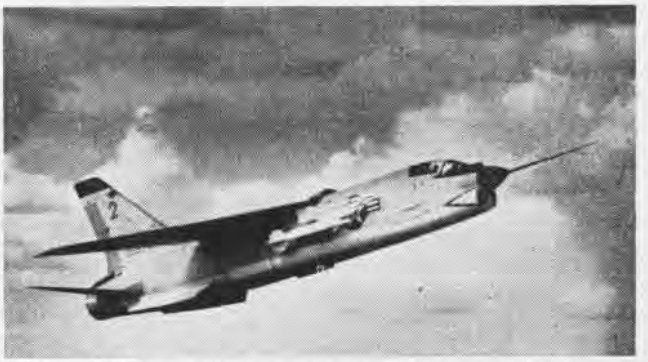
Under development to increase air-to-surface striking power is the solid fueled *Shrike* anti-radiation missile, the first of its particular breed.

Another new war club for the naval arsenal is the *Phoenix* which eventually will become the long-range, air-to-air missile planned as the major armament for the Navy's version of the TFX tactical fighter.

The three current surface-to-air missiles, each having different ranges, guidance systems, speeds and warheads, are as follows: The long-range boosted *Terrier* for use on carriers, cruisers and frigates comes today in two versions. The supersonic, long-range *Talos*, which, from cruisers, can destroy high altitude enemy planes using air-to-surface missiles, is also effective against ships. *Tartar*, smaller than *Terrier*, is potent against both high and low altitude targets; it is more suitable to destroyers and destroyer escorts and, because of its short launching interval, is also useful as a secondary battery for cruisers. *Typhon* is being readied against high performance targets. It is the latest in surface-to-air missiles, possessing an extremely low reaction time and a capability of operating in heavy electronic countermeasure environment.

Asroc, as its name implies, is an anti-submarine rocket which satisfies the Navy's anti-submarine warfare operational requirements for greater "stand-off" deliveries and quick reaction. It gives a destroyer or larger craft a weapon with which to attack a submarine at a distance. The weapon, which can be either a torpedo or a

CARRIER-BASED *and land-based attack aircraft can use this new powerful Bullpup B, an air-to-surface missile, carried here by a Skyhawk.*



SIDEWINDER 1A, *noted for its performance at extreme altitudes, permits defending fighters to knock down fast enemy aircraft miles away.*

IN TALOS, *Navy has a system of long-range high firepower defense against air attack.*

modern nuclear depth bomb, flies ballistically through the air and enters the water down range in the vicinity of the enemy submarine.

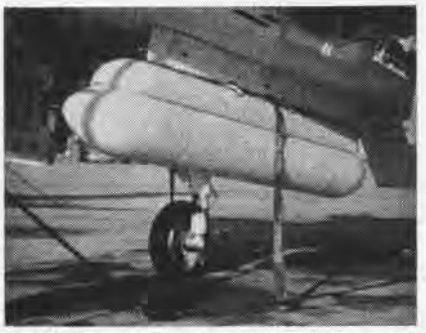
The sophisticated *Subroc* (submarine rocket), when it becomes available, will have some built-in guidance, although it will be somewhat of the same concept as *Asroc*. Launched underwater from the torpedo tubes in nuclear submarines, it will fly through the air, enter the water and proceed to target, providing a submarine with a radically improved kill capability matched to its detection progress.

Weapon Alfa is a 500-pound antisubmarine rocket which is installed on escort destroyers in the active Fleet and the new frigates. Equipped with a conventional explosive charge, the weapon is fired from a launcher resembling a gun turret. A special fire-control system aims the rocket. *Weapon Alfa* gives destroyers greater range and latitude of attack against submarines by removing the necessity of positioning the ship in the immediate area of the submarine as is necessary with depth charges. The rocket mount, which can be trained in an almost complete circle, enables a ship to fire the rocket as soon as a submarine is detected. The rocket sinks rapidly and covers effectively a larger ocean area than old type depth charges. Its diameter is nearly 13 inches; its weight, 500 lbs.; and its length, 8.5 feet.

For increased stand-off hitting power, converted destroyers or other surface ships will soon have remote-controlled *Dash* helicopter drones that can be dispatched as far as 15 miles to fire a pair of either high explosives or nuclear homing torpedoes against enemy submarines. Their mother ships need not come within view of the targets.

For limited war capability, the Navy has a large number of different types and sizes of torpedoes carrying lethal payloads for anti-submarine warfare. Among these are the long range, electric powered *Astor* Mk 45 for launchings from submarines, the wire-guided version of the Mk 37 designed for launching from destroyers and submarines, the new lightweight Mk 44 which is sufficiently rugged for use

ROCKEYE I, *an anti-tank weapon, mounted on the A-4B, provides close support for troops.*



GLADEYE, *a universal weapons dispenser, is shown mounted on a Navy A-4B Skyhawk.*

AN AIRCRAFT *can release Snakeye 1, a retarded bomb, without any danger to the plane.*

SHRIKE IS *a small and inexpensive air-to-surface missile which is under development.*

with *Asroc* and sensitive enough for searching large sea areas and finally homing on target submarines. The Mk 46 is in the advanced development stage. It is designed to operate against the highest speed, deepest operating nuclear submarines that exist today. It will be used in various ways, including being carried on destroyers and aircraft, and launched with the *Asroc* missile.

The new wire-guided EX-10 torpedo being developed for use by submarines and surface ships will have a much higher speed, longer acquisition and greater depth capability.

Lulu is an air-to-underwater missile for which no details have been released as of mid-1963. Developed by the Naval Ordnance Laboratory, White Oak, Md., and General Mills, it is an air-dropped atomic depth charge for employment against enemy submarines.

Improved ASW mines for aircraft and submarine laying, and mine counter-measures equipped to detect, localize and neutralize enemy mines, such as the Mk 56, being developed, and the Mk 57, due for service use during fiscal 1964, are vital parts of United States' national defense.

A number of promising approaches to torpedo counter-measures are currently under development.

Scat is a device something like *Hedgehog,* now in the testing stage aboard a submarine and a destroyer somewhere in the Pacific Ocean area.

IN THE FIRST *such launching by any Navy, guided missile cruiser USS Albany simultaneously test-fired three missiles: two Talos, one Tartar.*

THE DASH *(drone anti-submarine helicopter) is a vehicle that is to be used as a platform for delivering torpedoes in anti-submarine warfare.*

A complete family of aircraft bombs and bomb fuzes are available in the Navy. Different types and sizes are necessary in order to cover the wide spectrum of targets which must be attacked by naval aircraft. Many of the Navy's frontline planes also can carry atomic weapons. Underway is an extensive Navy program of bomb modernization to make a stockpile of bombs compatible with modern high performance aircraft and to improve their ballistic properties.

A whole new family of "free-fall" weapons is being developed which will have greater effectiveness and lethality than similar existing weapons. This program of development at the Naval Ordnance Test Station, China Lake, includes studies to determine the most effective damage mechanism and warhead systems that can be developed for use against surface targets. Among the free-fall weapon series are:

Rockeye, consisting of a retro-released cluster of 96 bomblets which are used for anti-tank and anti-personnel purposes. Each bomblet uses modified 2.75" rocket warhead. *Rockeye II* will be an improved version with a much greater lethality.

Gladeye, a general purpose dispenser. It is fitted with seven jettisonable containers, or canisters, designed to safely eject from the aircraft a variety of munitions (chaff, fragmentation bomblets, or leaflets) in level delivery or a dive.

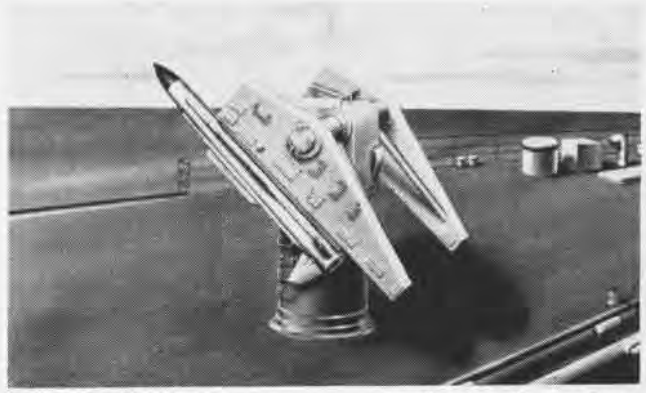
Snakeye, consisting of Mk 81 and 82 (250-and-500-pound) bombs have been modified to incorporate a unique retardation mechanism which permits low-level delivery without danger to the attack aircraft. *Snakeye II* will be a much improved bomb, combining both high and low drag features with improved warhead effectiveness.

Walleye, a homing glide weapon, employing a conventional warhead using advanced guidance to achieve greater accuracy, is still in development. It weighs approximately 1000 pounds and will be compatible with modern light attack and fighter aircraft.

Sadeye, a low drag, cluster bomb, designed to be delivered by all high performance aircraft equipped with single and multi-carriage bomb racks. Its 750 pounds can be delivered in toss, dive, or straight-and-level maneuvers.

In small scale, or limited wars, guns are used to provide close fire support to troops ashore; destroy coastal shipping, destroy selected land targets, and provide neutralizing fire in selected areas where troops will land. Guns also have the advantage of having a wide variety of ammunition and fuzes available for use against all types of targets. However, the Navy uses only two types of aircraft guns, the 20mm and the 50-cal. machine guns in patrol type aircraft for defense against attacking aircraft. In interceptor type aircraft, the machine guns are used to shoot down enemy aircraft and for

NAVY'S ADVANCED *Terrier, an all-weather, surface-to-air missile, blasts off in a test firing at Naval Ordnance Test Station, China Lake, Calif.*



ARTIST'S CONCEPT *of Typhon weapon control system shows a prototype installation in Norton Sound which eliminated test period ashore.*

strafing. Attack aircraft use them primarily for strafing when providing close air support to amphibious troops.

Newest is Navy's uniquely-designed High Performance Gun, *Hipeg*, an externally mounted 20mm cannon pod which instantaneously fires stockpile ammunition at the fantastic rate of 4000 rounds per minute on pin-point targets. The system, pictured on page 19, would fire the 887 shells shown in about four seconds. A one-second burst can deliver upon a tank target the equivalent of a 4000-pound object dropped from 1000 feet. The Navy has just completed initial development tests of the gun system, said to be the highest concentration of gun fire power ever mounted in one aircraft.

Navy's A-4 *Skyhawk* aircraft can carry three of the *Hipeg* gun pods under its wings and fuselage, each capable of firing 4000 rounds a minute, about twice the firepower possible on any military aircraft in use today. Each pod can be attached in three minutes and taken off in one minute, thus planes on observation missions can take off quickly unarmed.

The hard-hitting, fast-firing, and accurate *Hipeg* works on the revolver principle and can be adapted for many other military aircraft. A large single cylinder feeds two barrels which fire 66 rounds a second.

The improved air-launched guns on many high speed, jet attack planes is interchangeable with rockets, guided missiles, improved high explosive bombs, fire bombs, and aircraft practice ammunition. Navy's program also includes rifles. The .30-cal. M-1 rifle continues to be the standard rifle of the Navy. Seabee Forces have been equipped with the 7.62mm M-14 for logistic compatibility with the Marine Corps. The .223-cal. AR-15 rifles have been supplied for special forces and *Seal* (sea-air-land) teams.

The offensive force and weapons of the Fleet Marine Force have greatly increased the versatile capabilities for their naval supporting role, should the need arise. In addition to new 155mm SP howitzers, the Marines have under way improved artillery and anti-tank ammunition, and ammunition with improved range and lethality. Regular and Reserve Marines are equipped with M-14 rifles. Marine modernization programs include amphibian tractors M-48 medium guns and M-67 flame tanks, the M-103 heavy gun tanks, and the *Ontos*, an anti-tank weapon. In the missile category, the *Hawk* surface-to-air weapon projected from a mobile launcher continues in use, and the *Redeye* hand-held anti-aircraft weapon will soon be in combat units.

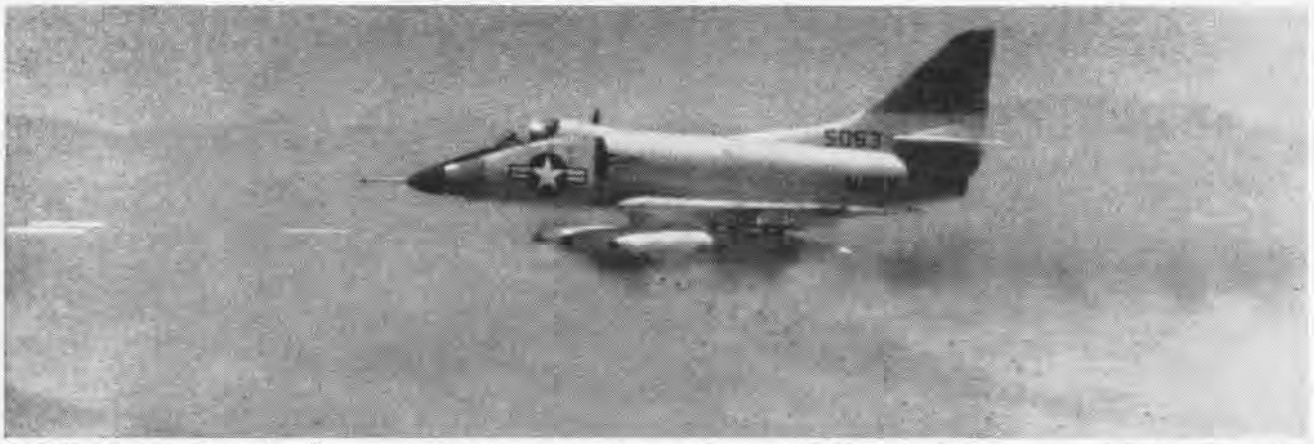
Polaris, named for the North Star, is Navy's two-stage ballistic missile, powered by solid fuel rocket motors and guided by a self-contained inertial guidance system independent of external commands or control.

The 1200 nautical (1380 statute) mile range operational missile is designated *Polaris A1*. The 1500 nautical (1725 statute) mile operational missile is designated *Polaris A2*. The first flight test of the third generation 2500 nautical (2880 statute) mile *Polaris A3* took place at Cape Canaveral, Fla., on August 7, 1962.

In terms of hardware design, *Polaris A3* is approximately an 85% new missile. On April 8, 1963, the development flight test program leapfrogged research and development problems by going to the preprototype

EXPERIMENTAL A-3 POLARIS *missile is shown as it leaves missile launching tube of Observation Island (EAG-154) off Cape Canaveral.*

A TARTAR *surface-to-air missile is launched from the fantail of the USS Norton Sound. It is designed especially for use aboard destroyers.*



A NAVY A-4 *attack aircraft fires Hipeg at a tank target a quarter of a mile away. The three pods slung underneath the aircraft can each fire at the rate of 4000 rounds of 20mm cannon shells per minute. Here tracers (in front of aircraft) have been mixed with armor-piercing shells.*

AS THE SKYHAWK *passes over the tank target, three pods which make up the Hipeg gun system can be clearly seen beneath the airplane. Note shell cases flying in vicinity of tank target.*

tactical version and a highly successful flight. On June 17, this more advanced model was successfully tested for the first time in a tube-launched firing from the USS *Observation Island* at sea. Late in 1963, after more pad and surface ship firings, the *A3* is expected to undergo its first submerged firing from a nuclear submarine. The *A3* is scheduled to become operational in mid-1964.

The *Polaris* Fleet Ballistic Missile System became operational on November 15, 1962 with the deployment of USS *George Washington* loaded with 16 *Polaris A1* missiles. The first five submarines can carry only *A1* missiles, but will be given *A2* and *A3* capability when they return to the United States for their first major overhaul. The remaining 35 *Polaris* submarines now in commission, under construction, or planned will be capable of firing *A1*, *A2*, and *A3*.

A relatively small fleet of atomic-powered submarines, each carrying 16 *Polaris* ballistic missiles in its hold and capable of firing them at distant targets while concealed and completely submerged, will represent a most important part of this country's capability to retaliate swiftly to enemy attack. The attacker's own destruction will be inevitable.

Since there is no substitute for firepower, the requirement of the future for improved naval weapons is expected to assume even greater importance in the missions of the Navy. Newer weapons must be of greater range, more easily moved, and possess greater killing power. The R&D job is a continuing and challenging one.

NAVY MISSILE AND ROCKET DESIGNATIONS

LAUNCH ENVIRONMENT SYMBOLS

Letter	*Title*	*Description*
A	Air	Air launched.
B	Multiple	Capable of being launched from more than one environment.
C	Coffin	Horizontally stored in a protective enclosure and ground-launched.
H	Silo Stored	Vertically stored below ground level and launched from the ground.
L	Silo Launched	Vertically stored and launched from below ground level.
M	Mobile	Launched from a ground vehicle or movable platform.
P	Soft Pad	Partially or nonprotected in storage and launched from the ground.
R	Ship	Launched from a surface vessel, such as ship, barge, etc.
U	Underwater	Launched from a submarine or other underwater device.

MISSION SYMBOLS

D	Decoy	Vehicles designed or modified to confuse, deceive, or divert enemy defenses by simulating an attack vehicle.
E	Special Electronic	Vehicles designed or modified with electronic equipment for communications, countermeasures, electronic radiation sounding, or other electronic recording or relay missions.
G	Surface Attack	Vehicles designed to destroy land or sea targets.
I	Intercept-Aerial	Vehicles designed to intercept aerial targets, defensive or offensive.
Q	Drone	Vehicles designed for target, reconnaissance, or surveillance purposes.
T	Training	Vehicles designed or permanently modified for training purposes.
U	Underwater Attack	Vehicles designed to destroy enemy submarines or other underwater targets or to detonate underwater.
W	Weather	Vehicles designed to observe, record, or relay meteorological data.

VEHICLE TYPE SYMBOLS

M	Guided Missile	Unmanned, self-propelled vehicles designed to move in a trajectory or flight path all or partially above the earth's surface and whose trajectory can be controlled remotely or by homing systems, or by inertial and/or programmed guidance from within. This term does not include space vehicles, space boosters, or naval torpedoes, but does include target and reconnaissance drones.
N	Probe	Non-orbital instrumented vehicles not involved in space missions that are used to penetrate the aerospace environment and report data.
R	Rocket	Self-propelled vehicles without installed or remote control guidance mechanisms, whose trajectory cannot be altered after launch.

Popular Name	Current Designation	Former Designation
	Missile Series	
Terrier BW-0	RIM-2A	SAM-N-7
Terrier BW-1	RIM-2B	SAM-N-7
Terrier BT-3	RIM-2C	SAM-N-7
Terrier BT-3A	RIM-2D	SAM-N-7
Terrier HT-3	RIM-2E	SAM-N-7
Regulus I	RGM-6A	SSM-N-8
Regulus I	RGM-6B	SSM-N-8A
Regulus I	BQM-6C	KDU-1
Sparrow I	AIM-7A	AAM-N-2
Sparrow II	AIM-7B	AAM-N-3
Sparrow III	AIM-7C	AAM-N-6
Sparrow III	AIM-7D	AAM-N-6A
Sparrow III	AIM-7E	AAM-N-6B
Talos (6B)	RIM-8A	SAM-N-6B
Talos (6BW)	RIM-8B	SAM-N-6BW
Talos (6B1)	RIM-8C	SAM-N-6B1
Talos (6BW1)	RIM-8D	SAM-N-6BW1
Talos (6BC1)	RIM-8E	SAM-N-6C1
Sidewinder I	AIM-9A	AAM-N-7
Sidewinder 1A	AIM-9B	AAM-N-7
Sidewinder 1C-SAR	AIM-9C	AAM-N-7
Sidewinder 1C-IR	AIM-9D	AAM-N-7
Bullpup	AGM-12A	ASM-N-7
Bullpup	AGM-12B	ASM-N-7A
Bullpup	AGM-12C	ASM-N-7B
Bullpup Trainer	ATM-12A	ASM-N-7 (Martin-Marietta)
Bullpup Trainer	ATM-12B	ASM-N-7A (Maxson)
Regulus II	RGM-15A	SSM-N-9
Regulus II	MQM-15A	KD2U-1
Hawk	MIM-23A	M-3
Tartar Basic	RIM-24A	SAM-N-7
Tartar Improved	RIM-24B	SAM-N-7
Polaris A1	UGM-27A	
Polaris A2	UGM-27B	
Polaris A3	UGM-27C	
Firebee	BQM-34A	Q2C
Firebee	AQM-34B	KDA-1
Firebee	AQM-34C	KDA-4
	MQM-36A	KD2R-5
	AQM-37A	KD2B-1
	AQM-38B	RP-78
	MQM-39A	KDB-1
	XQM-40A	KD6G-2
Petrel	AQM-41A	AUM-N-2
Redeye	XMIM-43A	
SUBROC	UUM-44A	
Shrike	AGM-45A	ASM-N-10
Sea Mauler	RIM-46A	
Typhon (LR)	RIM-50A	SAM-N-8
Condor	AGM-53A	ASM-N-11
Phoenix	AIM-54A	AAMN-11
Typhon (MR)	RIM-55A	SAM-N-9
	PQM-56A	CT-41
	Rocket Series	
Honest John	MGR-1B	M-50
Weapon Alpha	RUR-4A	
ASROC	RUR-5A	

STATUS PREFIX SYMBOLS

J	Special Test (Temporary)	Vehicles especially configured simply to accommodate test.
N	Special Test, (Permanent)	Vehicles so modified they will not be returned to original use.
X	Experimental	Vehicles under development.
Y	Prototype	Preproduction vehicles for test.
Z	Planning	Vehicles in planning stage.

SELECTED AIR RESERVE

THE 1963 *Chrysler "Fly Navy" convertible makes its appearance with Navy League and military officials at NAS Atlanta for its christening.*

BASS ON ICE *occurred when VMA-241, Los Alamitos, gave their C.O., LCol. L. N. Bass, a 300-lb. block when he complained of heat.*

Marines Train for F-8A

The addition of the F-8A *Crusader* to the ranks of the Marine Air Reserve Training Command has moved the enlisted technical training forward in a program designed to insure efficient handling of this modern jet fighter.

The joint Naval Air Reserve-MARTC program makes use of current training films, manuals, air maintenance trainers, OFT and Chance Vought instructors. Every available school is utilized by Air Reserve personnel.

A built-in advantage of the technical training program is appreciated when the six-month air reservist returns to the detachment already trained. His training is continued in the reserve command in accordance with an established syllabus. Thus a mechanic at Minneapolis is receiving the same training as one at Seattle.

Approximately 600 air reservists attended formal technical training schools in Fiscal Year 1963.

On the Air Weekly

In cooperation with Station WOR, NAS NEW YORK has been putting on a series of weekly radio interviews since the opening program of "Wings of Gold" June 16. The programs are heard over WOR every Sunday night from 11:15 to 11:30. The series was planned and prepared by Cdr. George L. Cantzlaar, special projects officer at the air station. Co-producer is Lt. Frank E. Marino.

The major portion of the 15-minute program is an informal talk between a celebrity from show business, sports, the arts, the professions or public life, and a Navy guest who is usually from NAS NEW YORK.

The series opened with an interview featuring John Charles Daly, moderator of the "What's My Line?" TV panel show. Like nearly all the other celebrities on the program, Mr. Daly served in the Navy. Among those on the program during the summer were Jackie Cooper of the "Hennessy" series; Barney Ross, former lightweight and welterweight world boxing champion, and Ben Alexander who is Sgt. Frank Smith in "Dragnet."

This fall the series is being released by WOR for broadcast by other stations in New York and Connecticut.

UP THE LADDER! *In last 18 months, Olathe's security division has had 90% advancement.*

Helicopter Haul

A Marine helicopter crew took up house-moving one day this past summer. It was practice in hauling heavy combat cargo for Marine Medium Helicopter Squadron 770.

In response to a request from NAS WHIDBEY ISLAND, LCol. Vernon Clarkson, Jr., USMCR, used his helicopter as a crane, picked up a Navy shed from remote Camano Island and carried it to Whidbey.

The shed had housed navigational aids for Whidbey pilots for about 20

THESE 23 *Naval Air Reservists took 85-day accelerated airman recruit training at Jax.*

years, but had outlived its usefulness on Camano. It is to be used at Whidbey to enclose part of the emergency crash radio network equipment.

The 30-minute flight over Puget Sound went off smoothly. The shed was delivered in perfect condition for its new job at the air station.

GCA Record at NAS Atlanta

The 75,000th ground control approach at NAS ATLANTA was made by LCdr. J. E. Ortiz, the station's assistant aircraft maintenance officer, in a C-54.

LCdr. D. C. Oliver, O-in-C of the unit, reported that the Secretary of the Air Force, flying a Lockheed *Jetstar* came within one approach of making this all-time record. The Secretary was talked down to a safe landing for the 74,999th GCA at Dobbins AFB. The unit is adjacent to the Dobbins runway and operates 24 hours a day.

Credited with talking LCdr. Ortiz down on the record approach are J. L. Tyson, AC1, final controller; H. E. Howell, ACC, director; E. B. Godwin, AC2, observer, and Lt. D. A. Pimm who was duty officer.

The Name is Changed

Change-of-name ceremonies took place in July when NAS MINNEAPOLIS became NAS TWIN CITIES, since Reservists come from both cities.

Capt. Wiley B. Howell, C.O., pointed out that the change of name "is recognition by the Navy Department of the whole-hearted support of both St. Paul and Minneapolis."

Marines at Roosevelt Roads

This year Roosevelt Roads has been the training station for three Leatherneck Reserve units. When VMA-132 from NAS NEW YORK, commanded by LCol. James D. Ireland, arrived at Roosevelt Roads, BGen. L. B. Robertshaw, C.G., MARTC, was on hand to greet the squadron. VMA-142 of MARTD Jax., had preceded VMA-132, and VMA-233 arrived two weeks later from Norfolk. This marks the second year in which Marine Air Reserve units have trained outside continental U.S.

Recognition at Olathe

The Naval Reserve Meritorious Service Ribbon went to four Weekend Warriors. The ribbon is the reserve equivalent of the Good Conduct Medal, and signifies perfect cruise participation, 90% drill attendance, and 3.2 minimum marks over a four-year period. Recipients were Larry Algott, ADR2; Lloyd Zikmund, YN1; Chas. Alvis, AMS1; Willard Johnston, ADRC.

BGEN. ROBERTSHAW *welcomes LCol. J. D. Ireland, VMA-132 C.O., to Puerto Rico.*

F-6A Model for Truman Library

Former President Harry S. Truman was presented a detailed scale model of the F-6A *Skyray* during an informal gathering at the Truman Library in Independence, Mo. The model was presented on behalf of NAS OLATHE, Kans., by the station's C.O., Capt. Louis L. Bangs.

The model was painted by LCdr. D. R. Howard, Officer Procurement Officer, to represent the *Skyrays* at Olathe.

ON TRAINING DUTY *at Pensacola, RAdm. W. E. Larned, USNR, and Capt. J. H. Caldwell examine Curtiss Pusher in Naval Air Museum.*

AT OLATHE, *Cdr. J. L. Evans, VR-881 C.O., presents Naval Reserve Meritorious Service Ribbon to Algott, Zikmund, Alvis, and Johnston.*

DITCHING DO'S AND DITCHING DON'TS

CREW MEMBERS MAN *their ditching stations during a drill aboard their aircraft. Drills are repeated, so that each man automatically does the right thing when word to ditch is passed.*

By Ltjg. Ronald A. Carlson

THIS IS NO DRILL. *The QE-11 ditched to put out an engine fire while on an SAR mission. The plane taxied on smooth water for 70 miles.*

A RECENT SURVEY at VP-40 indicated that a refresher training course in survival techniques was desirable. Quick as you could say "Prepare to ditch," a one-day school was organized and developed into a high morale factor among flight personnel.

The school differs from many others in that it gives each crew member a chance to actually use survival equipment stored in the aircraft. The squadron operates SP-5B *Marlins* and is based at NS SANGLEY POINT, Philippines.

Rather than dispose of over-age equipment at a complete loss, the squadron utilizes it in the training program.

The school is completed in a single day, divided into two phases. The first consists of classroom lectures, emphasizing equipment in the SP-5B. The classroom sessions end with a demonstration of the NC-3 chest-type parachute

LIFE RAFTS AFLOAT *and manned, the radar reflector (1) produces a typical blip on search plane's screen, as kite lifts radio antenna.*

SMOKE TRAIL *is made to attract attention of men in a passing aircraft. Mirrors, dye markers and water splashing are also regularly used.*

SOME PROTECTION *from the strafing guns of enemy aircraft is afforded by overturning the raft and hiding beneath it, escaping detection.*

ALL CLEAR, *the crew takes a quick muster and rights the raft. In background is the seawall of Naval Station, Sangley Point, Philippines*

and of techniques in bailing out or abandoning the plane in the water.

In the afternoon, the crews get firsthand experience. They are assigned one of two rafts, according to the inflight emergency bill. After demonstrating proper water entry techniques, the survivors inflate their MK-7, climb aboard, and simulate first aid to injured crewmates.

Each raft is rowed to a designated area and the crew begins its survival vigil. The radar reflector is rigged, the hydrogen generator for the "Gibson Girl" antenna is actuated and an attempt to raise the kite antenna is made.

Photos by Pat Adkins, PH3

The basic problem of obtaining fresh water is partly solved by solar stills desalting kits, or collecting rain from a thunderstorm.

Crews capsize their rafts and take cover underneath to avoid being detected by enemy aircraft that might have homed in on their radio signals.

After the capsize and reentry drills, a friendly aircraft appears. The students then use distress flares, mirrors, and dye markers to catch the pilot's attention.

The field work ends with a practice landfall on the seaplane ramp. The schooling ends with a comprehensive written examination, followed by a critique.

The survival school has unexpected valuable side rewards. It provides squadron aircraft on local flights a practical training period in checking the effective range of signal equipment being used by the men in the raft

Radar operators become familiar with effective ranges of the radar reflector and all airborne crew members get a firsthand look at dye markers in the water, smoke signals, and mirror flashes. All crews in VP-40 conduct emergency drills during each flight. They maintain swimming proficiency and top physical condition

WETTED DOWN *but wiser in the ways of ditching techniques, the men of VP-40 paddle to a landfall on the seaplane ramp. Dried out, they will take a comprehensive written examination and follow this up with a critique during which mistakes they made, if any, will be discussed*

AT SEA WITH THE CARRIERS

IN THE ATLANTIC *Fleet, USS Wasp (CVS-18) recently completed a successful good will tour in Caribbean ports after Fleet ASW exercises.*

IN THE PACIFIC *Fleet, USS Valley Forge (LPH-8) entered Moreel dry dock, Long Beach Naval Shipyard, Calif., for FRAM II major overhaul*

PACIFIC FLEET

Yorktown (CVS-10)

"Good morning, dad," was an oft-repeated greeting aboard *Yorktown* during her recent return voyage from the Far East. In the eight-month deployment, 44 men aboard became fathers.

Later, at Long Beach, Calif., the 15th reunion of the *Yorktown* Association celebrated (belatedly) the 20th anniversary of the carrier's commissioning with a one-day cruise. Among the guests were Adm. Jocko J. Clark, USN (Ret.), first commanding officer of *Yorktown;* others were retired Admirals Radford, Jennings, Combs, Boone, and Condit. Capt. W. C. Moore currently commands the carrier.

Ticonderoga (CVA-14)

Shortly after her return to North Island after a six-month WestPac tour —her fifth—*Ticonderoga* had a change of command ceremony. Capt. John P. Weinel relieved Capt. James G. Daniels, III.

In turning over command of CVA-14, Capt. Daniels joined the growing list of Ten Thousand Trappers. In the year of Capt. Daniel's command, *Ticonderoga* logged 10,259 arrested landings. While not all landings were without incident, Cdr. Thomas N. Meadows, X.O., points out there were no injuries to pilots, aircrewmen or ship's personnel.

Ranger (CVA-61)

This carrier claims to have the first at-sea branch of the Armed Forces Writers League. Called The Ranger Sea-Air Branch (#106), the chapter had its beginning when John D. Burlage, JO2, reported aboard, joined the league, and organized the chapter. Burlage authored *The Red Shirts Man the Pumps* (NANEWS, August, p. 26).

The AFWL is an international organization with headquarters in Washington, D. C. It encourages and helps military men, their dependents, and civilian employees of the military to prepare articles for the free-lance market.

Coral Sea (CVA-43)

Eleven men aboard *Coral Sea* received unique letters from fourth grade students of a California school recently. The "Thank you" notes were punched out in braille, thanking the men for guiding them on a tour of the ship shortly before CVA-43 deployed to WestPac. The children are students of the California School for the Blind.

When the carrier reached Hong Kong, she reversed a role. Usually, a Navy ship replenishes her fresh water supply while in port. At this Crown Colony, however, a severe drought over a period of six months had drained the city's water supply. Water was rationed to residents at the rate of four hours of running water every fourth day. All Navy ships entering Hong Kong were asked to refrain from taking fresh water from the city.

To meet the crisis, VAdm. T. H. Moorer, Commander U.S. Seventh Fleet, ordered all U.S. Navy ships entering the city not only to continue using their evaporators, but also to contribute fresh water to the city.

Capt. C. E. Roemer, *Coral Sea*'s C.O., ordered all hands to reduce their water consumption. The result was a daily contribution of 43,000 gallons of fresh water. At departure, CVA-43 had pumped ashore 256,500 gallons.

Lt. George W. White, Jr., of VF-154, made the 113,000th arrested landing aboard *Coral Sea,* in an F-8D *Crusader.* It was the 542nd landing made since the carrier deployed.

Kearsarge (CVS-33)

On her eighth cruise in WestPac waters, USS *Kearsarge* (CVS-33) con-

tinued her people-to-people program. At Kobe, Japan, 4000 Japanese and American guests boarded for a tour. On the second day, the carrier hosted 475 members of the George Washington Society of Kansai.

Hornet (CVS-12)

Hornet made an infrequent visit to San Diego recently to embark Marine Corps Reserve units for a vertical envelopment exercise. Elements of the 23rd Marine Regiment boarded, as did Marine Medium Helicopter Squadron 363 based at MCAS EL TORO. They joined the ship's ASW air group, consisting of VS-35, VS-37, VAW-11, and HS-2.

Lt. Thomas J. Simone had a near-frustrating time of it while serving aboard CVS-12 with VS-35. At the time he received orders to CNABaTra for duty, he had logged in 99 landings on *Hornet*, and had no further flights scheduled. An understanding Air Boss gave him one more mission, permitting Simone to become a *Hornet* Centurion.

Hornet has three double Centurions aboard. Lt. Carl E. Williams, also of VS-35, made his 200th landing in June. Cdr. Vernon R. Hubler, *Hornet's* Comm Officer, became CVS-12's first Double Centurion last year, and Cdr. William T. Zeigler, the carrier's navigator, became the second Double Centurion five months later.

Kitty Hawk (CVA-63)

The UH-2A Seasprite has replaced the UH-25B *Retriever* aboard *Kitty Hawk*. The first turbo-powered utility helicopter used by the Navy, the Kaman-built helo performs all missions formerly accomplished by the UH-25B, including plane guard, SAR, personnel and mail transfer, radar calibration, and transportation of cargo. The primary advantage of the *Seasprite* is increased performance and its ability to fly at night. It is the first Navy utility helo with a retractable main landing gear.

Constellation (CVA-64)

In slightly less than two years since commissioning, *Constellation* steamed a distance equal to four times around the world. She logged her 100,000th mile in July while in Far Eastern waters.

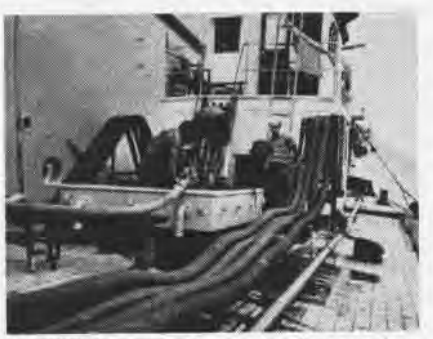
The summer months were busy ones

AN A-1 *Skyraider is directed to a catapult for launch from Seventh Fleet's USS Hancock.*

in the *Connie*. Men aboard witnessed the qualifications of two Air Force Centurions, welcomed 20 visiting high-ranking USAF officers, and received 46 Midshipmen for a six-week cruise.

MGen. R. M. Stillman, USAF, C. G. of the 313th Air Division of Okinawa, and 19 other senior officers embarked to witness Capts. J. R. Van Hook and R. P. Nunemaker, USAF, make their 100th successful carrier landings in the two-seat F-4B *Phantom II*. Van Hook and Nunemaker, attached to VF-143 as part of the inter-service personnel exchange, were honored by RAdm. R. B. Moore, ComCarDiv Five, who presented them with a special Air Force patch commemorating the occasion.

Lt. Bill Turley of VAH-10 landed an A-3B *Skywarrior* aboard *Constellation* earlier and became the first heavy attack pilot to become a Centurion aboard CVA-64. He became the ship's first pilot to make 100 landings aboard the carrier. In the aircraft



A CHINESE *barge takes on fresh water from the USS Princeton (LPH-5) at Hong Kong.*

were Ltjg. Andrew Lazas and Samuel Anderson, AQ3.

Constellation partially earned the title "Bird Farm" recently, while operating off the coast of Okinawa. Cdr. B. C. Spell, Air Boss aboard, busy in the Pri-Fly, spotted an unusual landing. He quickly dispatched E. J. Vuljac, AN, with an order to capture the thing. The "thing" turned out to be a pigeon. Upon close examination, the bird was found to have a Japanese leg band. It was given the name Homer and taken to Capt. Stanley W. Vejtasa, *Constellation's* C.O. Homer was released when the carrier neared Beppu, Japan.

Princeton (LPH-5)

During her regularly scheduled visit to Hong Kong, *Princeton* joined *Coral Sea* and other U.S. Navy ships in replenishing the Colony's water supply (see above). *Princeton* pumped 153,000 gallons ashore, via a civilian barge.

Midway (CVA-41)

The first fully automatic carrier landings aboard the *Midway*, using production equipment, have been made. Computers and precision SPN-10 radar teamed to land an F-4B *Phantom II* and an F-8D *Crusader* from NATC PATUXENT RIVER. The test pilots made the landings completely "hands off" while remote controls from the ship kept the planes in the correct flight path. The new gear will eventually be capable of landing aircraft within five feet of the centerline and ten feet of the desired touchdown point.

The 109,000th arrested landing was made aboard by Lt. H. Papa of VA-22 in an A-4C *Skyhawk*.

Thetis Bay (LPH-6)

U.S. Army pilots—27 in all—qualified for carrier operations on the amphibious assault ship *Thetis Bay*. The pilots are assigned to the Provisional Company, 18th Airborne Corps, Ft. Bragg, N.C. They made 518 helicopter day landings and 217 night landings on the ship while she was operating off Virginia Capes. This operation was the initial qualification for the Army pilots.

Capt. S. S. Weems, USA, made the 32,000th accident-free landing aboard *Thetis Bay* during this same period.

Bennington (CVS-20)

For the third year, under a DOD-inspired, inter-service indoctrination program, Air Force Falcons (equivalent to Naval Midshipmen) have boarded Navy aircraft carriers not only to observe, but to participate in shipboard operations.

This season, about 150 officers and cadets from the Air Force Academy boarded CVS-20 for a five-day cruise. In the at-sea period, their daily routine, with slight exceptions, parallelled the average sailor's day at sea.

Had the Falcons remained aboard a little longer, they would have witnessed Herculean efforts of the crew as it tried to muscle in on a non-official Navy "most." Reason for the afternoon of push-ups, sit-ups, jumps and grunts: to establish records for the ship's crew to work toward and to find the man who could claim title of MPFMOB (Most Physically Fit Man on *Bennington*). The results were a pleasant surprise to Capt. C. E. Healy, commanding.

CVS-20 Marines proved their emphasis on conditioning when Pfc. Don Bartolazzi ran away with top honors in the 300-yard shuttle run, finishing in 46 seconds. He also scored the most chin-ups, 36, making him the contest winner.

In other events, Raymond Hamady, AN, pumped out 84 push-ups, James Floyd, AN, leaped 28½ inches off the deck in a standing jump, and Finneas Haire, SN, sprang 8′ 11″ for the standing broad jump record.

Having established the MPFMOB, *Bennington's* challenge invites the determination of the MPFM in the Navy. The carrier issued a "proclamation (of sorts) to all flattops to meet or exceed any or all of the marks established during the recent 'JFK Contest' held on board CVS-20.

"All events must strictly conform to the required standards of the Navy-wide Quarterly Physical Fitness Examination. Each exercise is to be supervised by participating ships' officers.

"Here's to a STRONGER Navy!"

Hancock (CVA-19)

A new man reporting aboard *Hancock* at Hawaii as she readied for her Seventh Fleet assignment might have thought the *Fighting Hannah* was indeed "one hell of a fighting ship"—at least during one three-day period. There were power failures, torpedo hits, fires, explosions, and casualties. The crew loaded weapons, launched aircraft, shot down low-flying planes, repaired damaged bulkheads, fought fires, and treated injured personnel.

These three days simulated wartime conditions and were graded in accordance with the Pacific Fleet ORI. This is a mandatory preparation for all ships commencing a tour in the Far East.

Oriskany (CVA-34)

Oriskany welcomed her first turbo-powered helicopter squadron aboard, HU-1, Det Golf, commanded by LCdr. Del Crow. He flew the UH-2A *Seasprite* aboard from the detachment's home base, NAAS REAM FIELD.

The 69,000th carrier arrested recovery on *Oriskany* was made by LCdr. Richard E. Case of VAW-4 in an A-3 *Skywarrior*. Less than a month later, LCdr. Michael A. Zibilich of VA-164 registered the 70,000 arrested recovery in an A-4B *Skyhawk*.

ATLANTIC FLEET

Shangri La (CVA-38)

D. (for Danny, not David) Henderson, BM3, in *Shangri La* wraps his considerable fists along the bands of a giant sling shot—one of three aboard—pulls back, and turns loose. The giant slingshot, which measures 17 inches between prongs, is employed to propel certain lines across to other ships during at-sea operations, such as transfer of fuel or stores. The slingshot was conceived by *Shangri La's* C. O., Capt. E. L. Dashiell, Jr.

IN BOSTON, *James Salmon, MM3, cleans fresh water tanks in Lake Champlain (CVS-39).*

The slingshot is made of solid steel, 36 inches long, with a span of 18 inches. After the main shaft of the slingshot has been inserted in the top hollow of a lifeline stanchion, a boatswain's mate places a "Bolo" or "monkey fist" in the leather sling. With a pull of approximately 100 pounds, the monkey fist and attached line is flung some 200 feet to another ship.

Enterprise (CVAN-65)

RAdm. William I. Martin assumed command of CarDiv Two aboard the *Enterprise*, relieving VAdm. John T. Hayward. His most recent assignment was Chief of Naval Air Reserve Training, based at NAS GLENVIEW.

A distinguished delegation of Turkish Defense Ministry officers and parliamentarians boarded *Enterprise* for two days operational observation while the carrier was en route from Beirut to Genoa. They observed night flight operations and witnessed all the ship's operations, including refueling. Adm. William Gentner, ComSixthFlt, gave the NATO allies a classified briefing.

Saratoga (CVA-60)

Saratoga came up with a sea story similar to one *Constellation* tells. While the ship was at anchor in Genoa, J. R. Walker, AA, discovered a bird aboard. The bird, of course, was a carrier pigeon. A capsulated message was written in Yugoslavic and, after the ship pulled out to sea, J. Yonanivitch, QM3, was located and provided translating service. "If this message is found by a girl about 20 years of age," the message read, "let it be an invitation on marriage." It was signed Mita Mirsanvoic, Ulcinj, Yugoslavia.

"Since no one aboard the *Saratoga* met the requirements," a release on the incident reads, laconically, "it was decided to feed and board the pigeon until *Saratoga* had sufficient wind across the deck to launch." Two attempts to "launch" the bird failed; the carrier pigeon returned to the carrier both times. A glance at a map indicated some owlish wisdom in the

WITH HER CREW *forming a human American flag and the words "Yet Waves" on the flight deck, USS Ranger (CVA-61) returns to home port Alameda, Calif., after seven months in the Far East as a unit of 7th Fleet. Deployed, she visited Japan, the Philippines and Hong Kong.*

bird. Next port of call, Naples, was 289 miles closer to the bird's point of origin.

Saratoga's 40,000th Carrier Controlled Approach was effected in the recovery of an A-4C *Skyhawk* piloted by Ltjg. Robert D. Correll of VA-34.

The 72,000th arrested landing was made in an A-1H *Skyraider* piloted by Ltjg. Preston Allen of VA-35.

Cdr. Walt Zebrowski, C.O. of VA-34, has logged his 600th arrested landing in an A-4C *Skyhawk*. It was his 320th in the small attack bomber, and his 264th aboard the "Big Sixty from Dixie." The 600 landings were compiled aboard 21 carriers, including one British, HMS *Triumph*.

Independence (CVA-62)

Before reporting to the Sixth Fleet last month, *Independence* conducted refresher training in the Caribbean. On the first day of the cruise, VF-41 and VF-84, VA-72, VA-86, VMA-324, VFP-62, and VAW-12 flew aboard to conduct air operations. The carrier is commanded by Capt. L. V. Swanson.

The 49,000th landing aboard was made by Capt. Jack Mize, USMC, of VMA-324 in an A-4B *Skyhawk*.

Lake Champlain (CVS-39)

The green and white safety pennant reported in the July issue of NANews is still flying from the mast of *Lake Champlain*. The pennant was raised when the carrier entered Boston Naval Shipyard and was to remain until a serious shipboard accident occurred or the yard period was completed.

"There are so many hazards aboard ship right now," said William Pitcavage, HM3. "With all the welding, chipping and grinding, men's eyes were in constant danger. There are numerous chances for a man to fall, to have something dropped on him, or to lose fingers on a machine or tool. Yet we have remarkably few accidents, and the pennant is still flying."

The yard period was responsible for the birth of *Lake Champlain's* Marching Team. It started back on Armed Forces Day when one of the ship's military guard ship assignments required that she send a contingent of sailors to take part in Boston's Armed Forces Day Parade. Ltjg. Robert E. Seawright was given the job of turning the inexperienced seamen into a representative military unit.

"It wasn't much fun at first," reflected Seaman D. B. Harrison. "We weren't too sure of ourselves. But before long we were marching well and enjoying it."

"We decided it would be a shame to disband them completely when they'd probably be needed again," said Ltjg. Seawright.

"We've been all over the place," says Harrison. "There always seems to be a parade somewhere." The biggest problem, according to Harrison, was learning to march in step with the various bands near them. "They're all different. If we march near a kid's band, we have to take tiny steps. Those marching jazz bands throw everybody off."

Intrepid (CVS-11)

The Premier of Nova Scotia, the Honorable Robert L. Stanfield, visited *Intrepid* while the carrier was at Halifax during MidHuK (Midshipman Hunter-Killer) Cruise-63. He toured the ship, accompanied on his tour by RAdm. Noel Gayler, ComCarDiv 20, and Capt. J. C. Lawrence, C. O.

Wasp (CVS-18)

After extensive ASW exercises in the Caribbean, *Wasp* sailed to Puerto Cortez, Honduras, for a three-day good will visit. The carrier's band played a concert in the town's square and the ship's baseball and basketball teams accepted challenges from Honduran teams; they played to packed grandstands. On the last day of the visit, Dr. Ramon Villeda Morales, President of Honduras, his Cabinet, and other government officials were guests aboard. Before *Wasp* weighed anchor, nearly 1500 CARE packages were distributed to Hondurans.

The carrier then visited Jamaica for a four-day stay. RAdm. Robert E. Riera, ComCarDiv 14, and Capt. E. R. Fickenscher, CVS-18's C.O., hosted Sir Clifford Campbell, Governor General of Jamaica, and Sir Alexander Bustimente, Prime Minister, aboard.

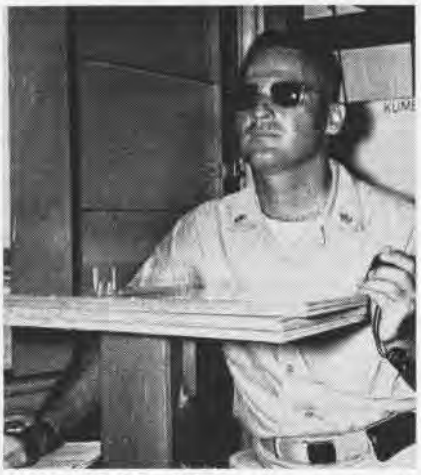
While operating off the Virginia Capes, *Wasp* responded to a mercy call when it learned a seaman was injured during a collision between the Norwegian tanker SS *Honor* and the American merchantman SS *San Juan*. LCdr. Thomas Butcher air evacuated the victim in a *Wasp*-based *Sea King* helo.

Valley Forge (LPH-8)

The first major overhaul in 17 years started on *Valley Forge* when she pulled in Long Beach Naval Ship Yard in mid-July. The amphibious assault ship is undergoing FRAM II (Fleet Rehabilitation and Modernization).

IMPORTANT JOB KEEPS KUME MEN HOPPING

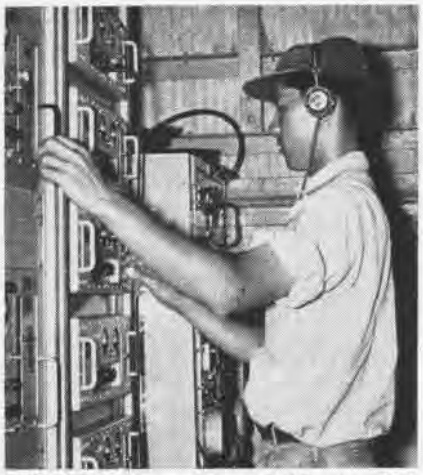
YACHTSMAN *Wilfred Kobayakawa, ETN3, applies the pole as he "boats" to and from work.*



JOSEPH AMATO, *ACC, watches aircraft make its run, prepares to use alidade to sight drop.*

KIDS KEEP KOOL *under Navy helo which forms link between Kume Shima and Okinawa.*

RED FLAGS UP *on Kume control tower indicate that aircraft are making runs on target.*



ETN3 KEEPS *close watch on UHF gear which puts tower control in touch with aircraft.*

OPERATING a scoreable bombing range, the only one of its kind operated by the Navy in the western Pacific, is an important task for the Operations Department at NAF NAHA, Okinawa. A few Navy men maintain the target, so that Navy, Marine and Air Force aircraft can practice and perfect their bombing and aerial mine-laying techniques.

Located just off the island of Kume Shima in the South China Sea, the range is open weekdays, weather permitting, and can handle a maximum of four jet or six propeller aircraft at one given time. The range consists of a broad expanse of shallow water, coral reefs and sand islands. Dummy bombs released by the aircraft send up a smoke signal at the point of impact.

The four men operating the range spend two hours getting to and from the site every morning and evening, utilizing a weapons carrier, a small open fishing boat and just plain shoe leather. This unusual transportation problem is complicated by the necessity of hauling five-gallon gasoline cans for the generator at the control tower.

Based on the increasing importance of the range, future plans call for a permanent housing structure for the generator and messing facilities.

Ultimately, however, the Navy will replace these far-flung towers with a remote radar spotting device called the MSQ-44. This apparatus, comparable to doppler radar, will be placed on Kume.

SPOTTING HUT *located on a long remote sand finger is used for helicopters to home in.*

MELVILLE FLOURNOY, *EN3, relays sightings to tower control to triangulate and score drops.*

Instructor Pilots Cited

Fly 18,000 Safe Hours at Whiting

Fifteen Navy and Marine Corps flight instructors at NAAS WHITING FIELD received certificates of commendation last June for flying more than 18,000 accident-free hours. The pilots, all from VT-2, each logged 1200 hours in earning the award and trained a total of 335 student aviators in the process.

RAdm. M. H. Tuttle, CNaBaTra, and Cdr. R. E. Duncan, VT-2's C.O., made the awards to LCdr. Dale Faler and Lts. R. S. White, J. W. Voss, D. F. Kahne, D. G. Kipp, E. R. Gilkison, Jr., C. H. Arnold, A. L. Kneff, C. E. Perrotta, B. R. Spencer, C. C. Morgan and R. J. Hennick. Marine pilots commended were: Capts. William F. Mullen, Jr., T. W. Nelson, Jr. and George T. Leonhardt.

'Horse' Leaves Ellyson

New Helicopter Replaces UH-19F

When Lt. Robert C. Williams, USCG, and his instructor, Lt. James L. Bolton, landed their UH-19F at Ellyson Field June 28, two milestones were marked. It was Williams' last student training hop and the final flight for the UH-19F helicopters as training aircraft at HT-8.

The UH-19F, known as the *Horse* because of its earlier designation, HO4S, is replaced by the Sikorsky SH-34G. Newer types of aircraft are being used to meet the demand for qualified pilots in the Fleet. The UH-19F went into service at Ellyson Field back in 1957.

Missile Frigate Ready

USS Halsey Commissioned July 20

Secretary of the Navy Fred Korth and FAdm. Chester W. Nimitz were the principal speakers at the commissioning of the guided missile frigate *Halsey* (DLG-23) July 20 at the San Francisco Naval Shipyard.

The *Halsey* is the fourth ship of her class to be commissioned. It is the first U. S. Navy ship to be named for the WW II hero, FAdm. William F. Halsey, famed for his fast carrier task force. The ship is one of a new class of ships designed and built from the keel up as a surface-to-air missile launching ship.

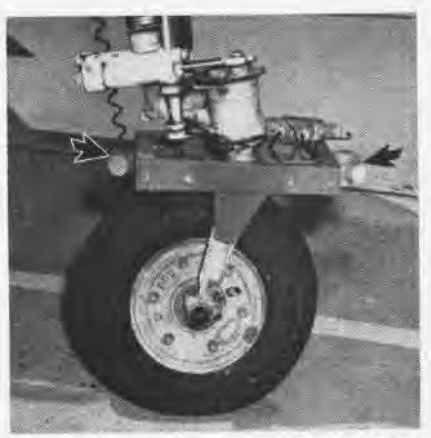
Capt. H. H. Anderson is first C.O.

PLANE POSITIONER SYSTEM TESTED

AIRMAN R. HOWEY DEMONSTRATES HOW AIRCRAFT IS ELECTRICALLY STEERED IN ZONE

AN AUTOMATIC aircraft positioner system is installed and being tested at Naval Air Test Facility, Lakehurst, N.J. The main purpose of the system is to provide the automatic positioning of an aircraft at the battery end of a shipboard catapult.

The system is a simple one. Its installation consists of two wires six feet apart and 175 feet long. An electrical power source generates an electric current in the wires. This current generates an electromagnetic field which is sensed by pickup coils installed on the aircraft nosewheel. This operates electrically the hydraulic braking system on the main gears of the aircraft.



ARROWS SHOW NOSEWHEEL PICKUP COILS

At one end, the gap between the wires widens to ten feet. This gap is called the bell mouth because of its shape. The pilot taxies the plane to the opening of the bell mouth. He flips a switch in the plane to the "on" position just before reaching the two wires of the controlled zone.

As the nosewheel reaches the wires, a light informs the pilot the system is operating. When the nosewheel veers from the centerline, electrical impulses brake the opposite main gear, putting the plane back on path.

At the end of the 175-foot span, the system energizes both brakes, stopping the aircraft in the proper position for catapulting.

In nosewheel steer type aircraft, the system reverts to the steering mechanism of the nosewheel to keep it on centerline and does not brake the main gear until final stopping. This permits the pilot to remain in complete control in event he desires to leave the magnetic field. He simply throws the switch that originally actuated the system to the "off" position, and the system no longer controls the operation of the aircraft.

The Aircraft Project Engineer at NAS LAKEHURST, who developed and tested system, is Mr. Larry Theriault.

Small Group Mans Target

GSTU Scores Hits for Fleet Units

Located on Culebra, an off-shore Caribbean island 20 miles from the eastern tip of Puerto Rico, a small group of Navy men performs an extremely important job. Three officers and seven enlisted men comprise the Gunfire Support Training Unit (GSTU), which is responsible for scoring and evaluating ship gunnery exercises and aerial bombardments on the surrounding targets.

Fleet aircraft squadrons are GSTU's big "customers" and use Culebra to increase their efficiency in bombing, rocketry and various weapon delivery techniques. Atlantic Fleet ships as well as Navy and Marine Corps Shore Fire Control Parties sharpen up their bombardment capabilities there. Several allied countries also make good use of the facilities and expert score-keeping available.

During the annual Caribbean exercise, Operation *Springboard*, GSTU serviced 55 ships, including vessels from British, Dutch and Canadian navies, in addition to 1249 aircraft representing 22 squadrons.

The unit, headed by LCdr. Glenn E. Ankrum, is under the operational command of the Caribbean Sea Frontier in San Juan, but receives principal assistance from Roosevelt Roads.

SPOTTERS RECORD HIT ON CULEBRA TARGET

Army Honors Staff Sergeant

Is Awarded Commendation Medal

A Commendation Medal from the Secretary of the Army has been presented to SSgt. James C. Smith, Marine Training Squadron 1, Cherry Point.

SSgt. Smith was cited for meritorious service from March 1962 to February 1963 as a member of the J1 Division of the U.S. Military Assistance Command in Vietnam. Maj. William L. Ball, VMT-1 X.O., presented the medal and citation in a brief ceremony.

"As Chief Clerk of the J1 Division," the citation reads, "Sergeant Smith performed his duties in an outstanding manner. When confronted with the absence of precedents, the integration of procedures which were predominantly Army, and the problems inherent to new operating methods, he cheerfully and willingly assumed the task of implementing a workable administrative system."

Jax Unit Wins Plaque

Outscores Others in Inspection

A commanding officer's prediction came true last June when NATTU at NAS JACKSONVILLE became the fourth annual winner of the Chief of Naval Air Technical Training's "Admiral's Plaque." The unit trains personnel in aviation electricity, ordnance and radiographic maintenance.

When Capt. H. D. Allen, NATTU's C.O., attended ceremonies for last year's plaque winner, NATTC GLYNCO, he signed his name in the guest book and added: "Keep it polished. We're coming after it."

Editor's Corner

NEW TO THE SLANGUAGE. A new term has cropped up around Naval Aviation and is apparently a permanent addition to the American lexicon. The term is "JFK." Aviation units, among others, refer to Navy men "doing their JFK's," meaning the basic physical fitness tests instituted by the President.

Stories for the Birds. Birds figured in three incidents involving Fleet aviation units recently. On the *Saratoga*, a carrier pigeon made a landing. (For details, see story in "At Sea with the Carriers," page 34). The USS *Constellation*, operating in the Pacific, discovered a stowaway owl (pictured here) while far out at sea. (The owl was released 10 days after his discovery.) But the most enterprising bird was one reported to have logged a cat shot and arrestment inside the *Skywarrior* piloted by Cdr. F. J. Last, Jr., C.O. of VAH-10, operating off the *Constellation*.

FULL CIRCLE. Proof that Washington, D.C., is a place where some people run around in circles comes from *Naval Aviation News* and its editorial staff, now located in offices at 3706 Main Navy. In 1947 the staff was located in 4823 Main Navy, just a blivet's throw away from our new home. In between, the staff was housed in several Pentagon locations and more recently in the Munitions Building, a total of eight moves since 1947.

Cruise Statistics Compiled. In the *Ranger's* newspaper, *The Shield*, LCdr. David P. Davison wrote of a new ship's report on its WestPac cruise. The report is entitled "The WestPac Catalogue of Little-known and Relatively Useless Information." It contained, he reported, such information as the following: "The Marine Detachment was called to attention 27,642 times. The word NOW was spoken over the comm system 123,411 times." Davison concludes, "This document will serve as a handy reference for future deployments; it will help other ships to gauge their performance."

ECONOMY CHAPLAIN. Reporting to NAAS Kingsville, Texas, for two weeks of training duty, Naval Reserve Cdr. L. L. O'Connor, CHC, described himself as an "economy chaplain." Interviewed by a *Flying K* station newspaper reporter, Chaplain O'Connor explained, "My name sounds Catholic. I'm a Presbyterian. I look Jewish. And I'm married to a Baptist."

STOWAWAY

Marines Get the Gate and Have It, Too. Deposed by a Navy Security Force after 19 years at NOTS China Lake, the U. S. Marines had their revenge for an almost-forgotten "day of infamy." Several years ago, Navy men had "swiped" the main gate of the station, "right under the Marines' noses." After the Navy took over the gate watch recently, the Marines pulled the same trick, delivered the gate and station sign back to the Navy at an evening ceremony. Said the departing Marine commander, Major Maurice Rose, "As a sort of friendly gesture on our departure, it is only natural that we commemorate the (first) occasion."

SENIORITY AND THE EXCHANGE PILOT. In two recent cases Marine aviation units were commanded by "foreigners." At MCAS Beaufort, S. C., Air Force Captain Andrew Patten temporarily took over the reins at VMF-333. Then came the announcement that Lt. Fredrick Lawler, USN, had assumed temporary command of VMA-225 at MCAS Cherry Point, N. C. Both commands were of short tenure, pending arrival of more senior Marines.

San Clemente's New "Runway." Flying a radioless *Cub*, a young pilot, awaiting orders to the Naval Aviation Cadet program, made a forced landing on a roadway on San Clemente Island off the California coast. He was bound for Santa Catalina above an overcast, made a snap decision to land on San Clemente before his fuel ran out. "It was either take a long swim or a long walk," he said. After spending the night on the island with Navy forces, he took off again. In honor of the forced landing, the roadway has been dubbed, "South San Clemente Airstrip, Runway 36."

NANEWS NOTE (1943): "Seven officers and 28 enlisted men bear the name *John Paul Jones* in this war."

Grampaw's Pearls (1945)—When you hear anybody blowing about how good a pilot he is, don't take it too seriously. Remember the parrot. Among birds he is the best talker and the worst flyer.

NEW FEATURE. Appearing opposite this page is the first in a series of 17 cartoon-illustrated "weathergrams" by Lt. Neil O'Connor, whose pen has been featured previously in Naval Aviation News. A second year student at the Monterey Postgraduate school in Meteorology, Lt. O'Connor's illustrated feature will try to explain many phenomena of the weather affecting aviation and the seas. Next month: Ground Fog. In following issues: Contrails, Icing, Air Masses, Jet Stream, Winds, Tornadoes, Thunderstorms, ITCZ, Insolation, Mountain Waves, Stability, Clear Air Turbulence, and Cold, Warm and Occluded Fronts.

Call out the Housing Experts. En route to Norfolk with his family for a change of duty, Cdr. Dave Robertson was camped out in a tent at Bull Shoals, Ark., vacationing. During the night, two of the Robertson sons became ill with fevers, and it was obvious that a doctor would have to be found somewhere in the wilderness area. At that point, about 0400, Mrs. Robertson wistfully wished that an old friend from Memphis, Dr. William Oswald, were near to minister aid. Twenty minutes later, a fishing party in a civilian plane landed near camp; included was Dr. Oswald. Question for the disbursing officer: Will Medicare handle a "house call" of this kind? (Story contributed by Bob Tilton)

LETTERS

SIR:

Mr. Bude Donato's letter which appeared in NANEWS' June issue encouraged us to do some digging on the subject of old *Beechcrafts*. Inquiries to the factory have indicated that Alameda's *Beechcraft* (BuNo 4715) is, indeed, older than VT-6's BuNo 4725, having been accepted by the Air Force for the Navy on 23 August 1941. Originally a JRB-2 aircraft, it was re-manufactured to the SNB-5P configuration during May 1953.

There may be older "Super Navy Bombers" in service elsewhere, but we do not know of them. Perhaps other readers can ferret them out. I would appreciate any help others may be able to give me. I shall be waiting to hear from them.

LT. D. LUEHRING

SIO, VT-6
NAAS Whiting Field, Fla.

SIRS:

My squadron, VP-49, believes that 22 hours is the longest endurance flight ever made in the SP-5B. I recently flew a 16.3 operational flight in SP-5B #135488 and am claiming this as a record for an operational mission in the SP-5B until someone can claim to the contrary.

Also along the record line, do you hold information on the highest operational flight hours a pilot has flown in one month? In June 1963, I logged 186.1 hours as pilot in command of SP-5B aircraft.

I'd appreciate "can you top this" information from any available source.

KEITH S. TURNER, LCDR.

VP-49
FPO, New York

PHONING *in the NAS Jax area, residents reach for a green directory. Of the cover sketch of CVA-60, RAdm. Robert Goldthwaite, ComFAir Jax said, "This is certainly symbolic of Jacksonville and a very nice thing to do."*

HEAVY ATTACK *Wing One 1962 bombing champs, LCdr. John Shattuck, now a commercial airline pilot, and bombardier, Ltjg. Alec Blunden, get punch bowls from Capt. J. M. Tully, Jr., for "professional skill" in VAH-11.*

Longer Training in Copters

First Student Completes 80 Hours

Ens. Edward D. Horning, who entered flight training in November 1961, was designated a helicopter pilot at ALF ELLYSON, Fla. He is the first student to complete the new 80-hour training syllabus in helicopters. ("Ellyson Field Expands Training," NANEWS, June 1963, pp. 18-20).

The training program at Ellyson was expanded from 60 to 80 hours to meet the demand for experienced helicopter pilots in all-weather flight operations. The additional 20 hours are devoted to instrument flight conducted in the Sikorsky H-34.

Upon completion of training at Ellyson, the student goes to a replacement air group for additional Fleet experience before reporting to his new squadron.

Ens. Horning will report to HS-3 at Norfolk after completing his replacement training at HS-1, Key West, Fla.

Lieutenant Modifies Gear

Cited for Design in Electronics

In June Lt. John C. Murphy was presented the SecNav Commendation for Achievement Award by VAdm. Paul D. Stroop, ComNavAirPac, at NAS NORTH ISLAND. Murphy initiated the re-design and modification of electronics equipment used in aircraft to identify them to ground radar.

The change increases flight safety by reducing the complexity of instrument procedures for pilots and simplifies aircraft identification for radar control.

MURPHY IS COMMENDED BY ADM. STROOP

Foreign Fliers at Cecil

VF-174 Trains French Navy Pilots

In July VF-174 completed the training of four Naval Aviators of the French Navy in the Chance Vought F-8E Crusader at Naval Air Station, Cecil Field, Fla.

Lts. Yves Goupil and Jean de la Fourniere, Ltjg. Jean P. Robillard, and Ens. Robert M. Phillipe completed an eight-week training period in the F-8E. Their syllabus included about three weeks of ground training and approximately 50 hours of actual flight time in the plane.

VF-174's primary mission is to provide replacement pilots to all F-8 *Crusader* squadrons stationed on the East Coast of the United States.

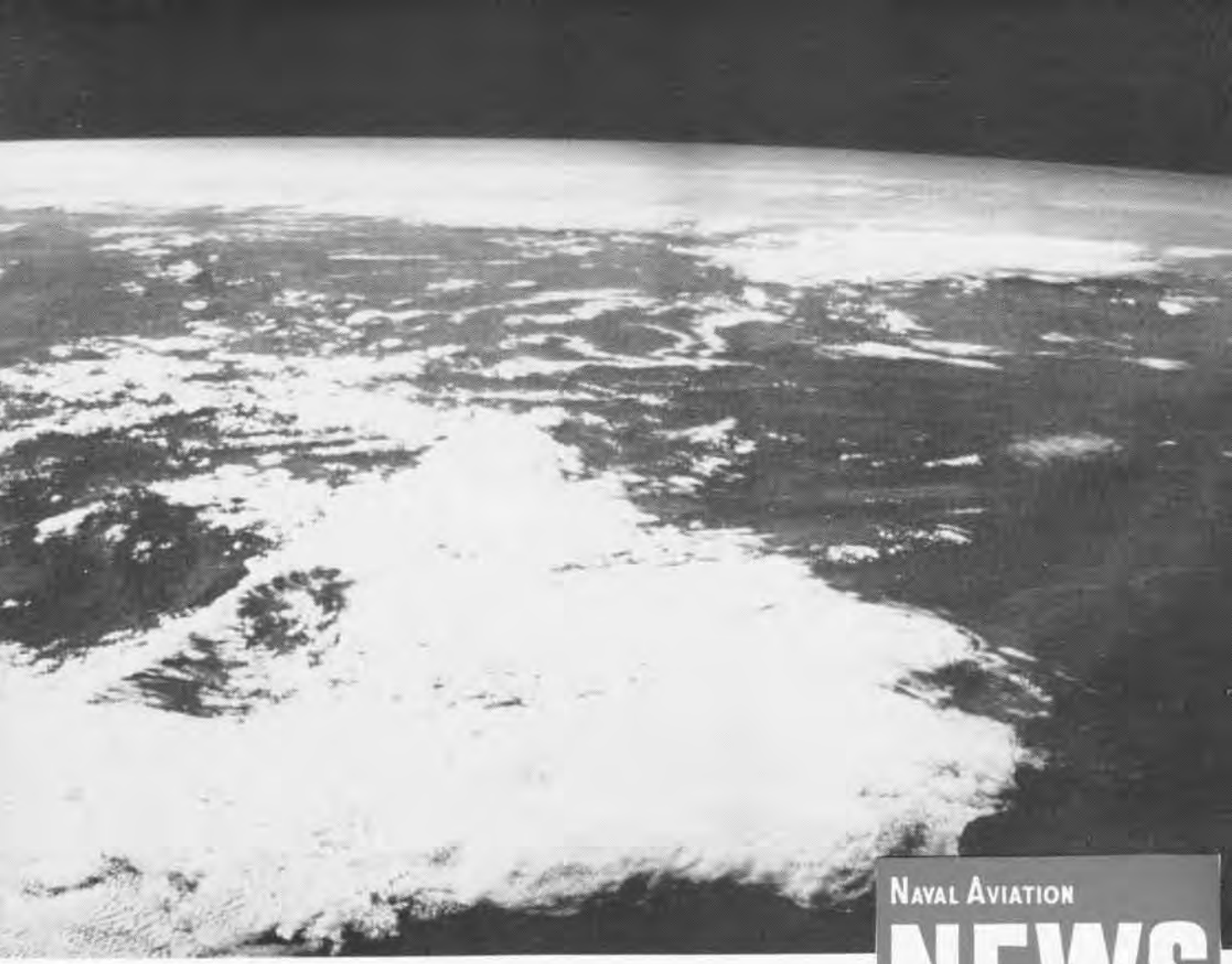
The French Government has ordered approximately 40 F-8's. The four French pilots will form the nucleus of the first French *Crusader* squadron when the planes arrive. Delivery of the aircraft is due sometime next year.

NEW AIR SPRING *suspension unit helps maintenance personnel accurately test jet engine performance aboard carriers. Seven CVA's will use device to isolate power plant from vibration of the ship's engines and screws.*

SQUADRON INSIGNIA

Patrolling the North Atlantic Barrier is the demanding and primary mission of VW-13, home-based at NS Argentia. Human and electronic eyes in squadron EC-121K Super-Constellations continually search the eastern seaward extension of NORAD's DEW line for unknown surface and air contacts. Re-commissioned in 1958, VW-13 flies 'round-the-clock patrols from Argentia and sister base, NS Keflavik, Iceland. Participating in 'Birds-eye,' a project set up by the Navy's Hydrographic Office, VW-13 collects data on ice distribution and characteristics throughout the vast polar regions. From Eielson AFB, Alaska, to Prestwick, Scotland, VW-13's planes and crews are Paul Reveres in cold war days.

AEWRON 13



NAVAL AVIATION
NEWS

SOMEWHERE A SUB LIES WAITING

This photo of the Atlantic (taken from 100 miles in space by Astronaut Gordon Cooper) shows only a small portion of the world's huge ocean area. Below the clouds is the seemingly endless neighborhood in which today's U.S. Navy anti-submarine experts live. Naval Aviation has a continuing need for men to take its ASW aircraft into the mid-ocean hunting grounds . . . and for men to operate and interpret sophisticated avionics equipment. Now, men who have completed two years of college may apply for either Naval Aviation Cadet (NavCad) or Naval Officer Candidate, Airman (OCAN) training. Can YOU qualify? Write to NavCad, Washington 25, D.C.