

NAVAL AVIATION

NEWS



44th Year of Publication

FEBRUARY 1963

NavWebs No. 00-75R-3





TOGETHERNESS, INTERNATIONAL STYLE

An unusual picture? Yes. A 'pretty' picture? Yes. A meaningful picture? Yes. It shows a Royal Navy Sea Vixen, right, passing fuel to an American Navy Skyhawk, which in turn is pumping fuel to an American Skywarrior, which is about to become connected with a British Scimitar. The 'compatibility' test was caught by a United States Navy photo plane, similar to the F-8 Crusader in the background. For more about American and British cross-deck tests, see page 35.



FRONT COVER

In an exercise, a division of Attack Squadron 94 'Shrikes' were photographed flying their A-4 Skyhawks over the Bay Bridge at San Francisco. The fact that Oakland and Mt. Diablo can be clearly seen means it was a very rare day in San Francisco. This picture was taken by Ltjg. Wm. Juby, VCP-63.

■ IN THIS ISSUE

- Aviation Chronology 6** *In Naval Aviation, the Year 1962 was a year of accomplishments, growth and increased strength. Records and events are listed.*
- Nina II 13** *Nina II never knew she was lost, but VP-18 found her, for an anxious world.*
- The Aardvarks 16** *At sea, VF-114 worked a Maintenance Requirements Card System and got the most out of calendar checks.*
- Overhaul 22** *Veteran NANews contributor, Elretta Sudsbury, writes of O&R North Island and its first overhaul of the Phantom II.*
- Survival Techniques 26** *At NAS Quonset Point, Jacksonville and Pensacola, courses teach experienced aviators how to live when the going gets rough.*
- Eulogy 28** *Capt. Richard L. Farrelly, USNR (Ret.), reminisces about the late RAdm. de Florez.*
- For Safety's Sake 30** *How HU-1 won the CNO Aviation Safety Award is told by Lt. John W. Brooks.*
- VX-4, VX-5 36** *The story of OpTEVFOR, begun in the January issue of NANews, is completed.*

■ THE STAFF

- Cdr. Cecil E. Harris** Head, Aviation Periodicals Office
-  **Cdr. Paul Jayson** Editor
- Izetta Winter Robb** Managing Editor
- LCdr. Robert J. Massey, Scot MacDonald, JOC** Associate Editors
- Cdr. Oliver Ortman, Harold Andrews** Contributing Editors
- Janis C. Burns** Assistant Editor
- James M. Springer** Art Director

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 2306 Munitions Bldg.; telephone: Oxford 62252 or 62259. Annual subscription rate is \$2.50 check or money order (\$1.00 additional for foreign mailing) made payable and sent to Superintendent of Documents, Government Printing Office, Washington 25, D. C. Single copy costs \$2.25.



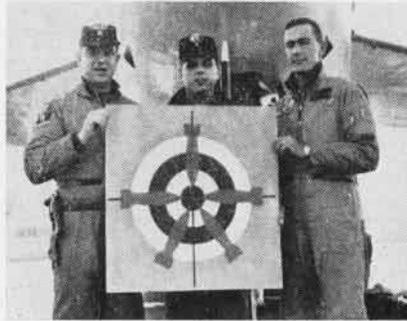
NAVAL AVIATION NEWS

NavAirPac Winners Named Efficiency 'E' Awards for 1961-62

Commander, Naval Air Force, Pacific Fleet, announced that ships and aircraft squadrons winning the Battle Efficiency E for the 1961-1962 competitive period were USS *Ticonderoga* (CVA-14), *Yorktown* (CVA-10) and *Pine Island* (AV-12).

Ships receiving E's for departmental excellence were: Operations: USS *Bon Homme Richard* (CVA-31), USS *Bennington* (CVS-20), and USS *Pine Island*; Engineering: USS *Ticonderoga*, USS *Yorktown*, and USS *Currituck* (AV-7); Communications: USS *Ticonderoga*, USS *Yorktown*, USS *Kearsarge* (CVS-33) and USS *Salisbury Sound* (AV-13); and Anti-submarine Warfare: USS *Kearsarge*. Outstanding supply department awards went to USS *Ticonderoga* and USS *Oriskany* (CVA-34).

Aircraft squadron winners were: VF-193 (AW); VF-91 (visual); VA-93 (jet); VA-115 (prop); VAH-2; VP-4 (land); VP-50 (sea); VS-33; and Helicopter Squadron Eight.



BURKE, CLEVES, HARRIS AND FIVE 'HITS'

Five Bull's-eyes Are Hit Sets Record for Pacific Coast

As Navy bombardier/navigators go, no one on the Pacific Coast can hold a candle to Ltjg. Charles A. Cleves: in a single training flight over Washington and Oregon, he scored five successive bull's-eyes, establishing for the Pacific Coast squadrons something of a record.

The event took place in late November with LCdr. Bill Burke piloting an A-3B *Skywarrior* (A3D) of VAH-2 based at NAS WHIDBEY ISLAND. Ltjg. Cleves filled the bombardier/navigator

slot while J. H. Harris, AM1, flew as third crewman. The flight, a routine "Sandblower" (simulated combat training flight), took off from Whidbey.

The first three hits were recorded on actual drops at the Boardman Bombing Range in Oregon. The *Skywarrior* then swung over to the Spokane Radar Bomb Scoring Site in Washington where the next two "dead center hits" were made. Mission completed, the heavy attack bomber returned to Whidbey.

Release of the story was held up for nearly a month while records were checked. The best search failed to find a similar accomplishment and Commander Fleet Air, Whidbey, entered Ltjg. Cleves' name in the record book.

RAdm. William S. Guest, Commander Fleet Air, Whidbey, and Commander Naval Air Bases, 13th Naval District, presented Ltjg. Cleves with a congratulatory letter, lauding his professional ability and skill as a heavy attack bombardier/navigator.

Distance Flight is Made Phantom II Solos Across Atlantic

The first unaccompanied trans-Atlantic ferry flight of an F-4B (F4H-1) *Phantom II* was completed in December by an aircraft of Fighter Squadron 101 Detachment Alfa. Lt. Nathaniel B. Dyer piloted the plane, with Ens. Lawrence S. Bowler as RIO.

The flight originated at NAS OCEANA and terminated on the flight deck of USS *Forrestal* (CVA-59) some 4300 miles and 9½ flight hours later.

In addition to the short ferry time, the pilot and RIO gathered valuable information for use in possible future flights of this nature. The *Phantom II*'s complex weapons system aided in the pinpoint navigation required.



CARRYING MACHINE gun pods and identified by Navy bureau numbers, these two T-28C's fly near the coast of Vietnam. Like the *NauCads* training in the T-28C who aspire to become fully qualified pilots, some of the T-28C's formerly used in the Training Command, have achieved a combat role. With additional store-carrying capability added by North American, they are now flying in support of the counter-insurgency forces against the Viet Cong.



CDR. BILL CARROLL, VR(F)-31 C.O., gives Lt. W. N. Longley "the Royal Order of the Streamlined Stork" for flying 600,000 miles in 4 years, 14 days, to deliver aircraft to operating forces, highest mileage ever recorded.

Pensacola Site of Museum Will House Naval Aviation Items

The Navy has established a Naval Aviation Museum at NAS PENSACOLA. It is under the military command of the Chief of Naval Air Basic Training (CNABaTra) and is located in existing facilities aboard the station.

Staff of the museum will select, collect, preserve and display appropriate memorabilia representative of the development, growth and historic heritage of Naval Aviation. The museum will serve to promote the traditions of the naval service and naval aviation for the Navy and Marine aviation cadets, aviation officer candidates, and junior officers undergoing flight training at Pensacola. It will also serve as an educational exhibit for the general public.

The museum will be stocked from voluntary contributions of appropriate items from active and retired personnel throughout the naval establishment. Naval districts and commands are currently being canvassed for assistance in locating items for the museum.

One officer and two enlisted men have been assigned collateral duties in staffing the newly established museum.

Master Handbooks Ready Join NATOPS, Flight Manuals

New experimental master pilot's manuals have been distributed for two aircraft models, the F-4B (F4H) *Phantom II* and the S-2D/E (S2F-3) *Tracker*. The new handbooks bring together, in one handy source, information previously appearing in the aircraft Flight Manuals and the NATOPS volumes.

The new publications are the result

of a recommendation of the semi-annual NATOPS conference held in Minneapolis in August 1962 that the possibility of combining the two manuals be investigated. Two different approaches to a combined manual were employed on the prototypes.

In the S-2D/E version, all unclassified information is published in one volume. In the F-4B version, information is published in three volumes: one corresponding to the present Flight Manual, less all operating information, a second corresponding to the NATOPS Manual, and the third containing classified information.

Both versions employ the latest techniques for improving ease of locating material, readability and clarity.

Two thousand sets of each version were produced. All squadrons operating the subject aircraft are receiving the new volumes which supersede the previous Flight Manuals. Sample volumes of each type are also being distributed to all other squadrons for evaluation of the method of presentation and convenience of use of the alternative versions.

All units receiving the new manuals have been urged to give them a thorough and objective evaluation before April 1963. If sufficient experience can be gained by that time, the semi-annual NATOPS conference, tentatively slated to be held that month, may be able to recommend a standard format, incorporating the best features of both versions, to be used in all future manuals.

New Air Command Named Navy Establishes Unit in Caribbean

On December 1, Navy established a new aviation command in the Caribbean. As of that date, Commander, U.S. Naval Air Bases, 10ND (ComNABTen) took military command over the assigned aeronautical shore activities within the district to insure that all services and facilities supporting aviation units would be provided.

RAdm. Allen Smith, Jr., became the first ComNABTen, with headquarters at San Juan, Puerto Rico. This duty is in addition to Adm. Smith's duties as Commander, Caribbean Sea Frontier; Commandant, 10ND; and Commander, Antilles Defense Command.

Activities in the new command are: NAS GUANTANAMO BAY; NS ROOSEVELT ROADS, Puerto Rico; Naval Station, TRINIDAD, West Indies.



LT. E. S. FITCH flew Skyhawk #139953 on its last flight to VA-125, NAS LeMoore, for use in ground training. He had flown it on its first Fleet flight in 1957. Cdr. James W. Porter, VA-125 C.O. (L), receives Skyhawk.

Satellite Duty Shared NASA, Navy Cooperate on ANNA

NASA and Navy have agreed upon a division of responsibility for Project ANNA to insure efficient exploitation of satellite technology as applied to the science of geodesy.

The tracking and data reduction, associated with the ANNA 1B satellite which was launched October 31, will be continued uninterruptedly by Navy, with full cooperation in tracking by the National Aeronautics and Space Administration. Follow-on satellites in the ANNA geodetic series will be conducted under the management of NASA, with Navy providing and operating ground tracking complexes to utilize instrumentation within the satellite. Navy will do the preliminary processing of data before giving it to NASA and will analyze selected ANNA data which is needed by the Navy for geodetic purposes.

Provision has been made for NASA to take full advantage of the experience built up within the Navy in the design and construction of this type of satellite.

Tracking and data reduction will be open to all agencies and countries.

Navy Accepts Seasprite Demonstration Given at Norfolk

The Kaman UH-2A (HU2K-1) *Seasprite* helicopter was accepted by the Navy December 18 in ceremonies at NAS LAKEHURST. Delivery of the first of these utility and rescue helicopters was accepted there by Helicopter Utility Squadron Two.

On the following day, a demonstration of the *Seasprite's* versatility was given for officials at NAS NORFOLK.



GRAMPAW PETTIBONE

Real Squeaker

A flight of three A-4B *Skyhawks* (A4B) were launched early one morning from their home CVA for a short flight to the beach. From a coastal air station in Japan, they were to perform a navigation flight to a target area in South Korea, release a practice bomb on the target and return to the ship.

The entire flight went off pretty much as planned. A low level run-in was made to the target and loft bombing completed. Then all three aircraft climbed to 38,000 feet for the return leg to the ship.

They passed through multiple layers of clouds on the climb-out, but all layers were scattered to broken and weather presented no difficulty whatever. The in-flight visibility was excellent. The wingmen maintained a very loose position, flying one mile abeam and stepped up approximately one thousand feet on the leader.

The No. 3 man, on the leader's starboard wing, noted that he was falling behind and increased power to 99%, easing the nose over to pick up some airspeed. As he closed up alongside, he eased the nose up to resume his stepped-up position and noted an immediate five per cent loss of RPM. Lowering the nose again didn't help regain the lost power, nor did throttle movement. He was rapidly falling behind the other two planes by now, so it wasn't just a gauge failure.

He decided to switch to manual, so he pulled the throttle back to a half-way position and threw the switch as the RPM was coming down. There was an immediate loud THUD which shook the whole aircraft, followed by three more violent thuds! Figuring he had compressor stalls, he shut the engine down, switched back to primary, hit the airstart switch and brought the throttle back around the horn. No light.

He glided on down, told the rest of the flight of his difficulty and tried several more airstarts, using the check



lists this time. No luck again and it didn't look good. The engine sounded like a bucket of loose bolts rattling around—must have been really chewed up back there.

After passing through three cloud layers and while still at 17,000 feet, he spotted the ocean below and ahead of him, and an airfield in a small valley surrounded by rugged mountains behind him. Since he wasn't wearing an exposure suit and the water temperature was probably too low for com-

Its too HAIRY for words!



fort, he turned back toward land and the airfield.

The terrain below looked mighty steep and rugged. He'd lost his flight during the letdown, and there'd be no one to spot him for rescue later. More and more cloud cover pretty well obscured the terrain as he descended, and he mulled over the NATOPS and squadron SOP's which called for ejection at 10,000 feet under the circumstances he was facing. He sure hated to eject, though.

He decided to try a flameout approach to the airfield! He hadn't practiced any and had no contact with the tower, for his calls on guard channel brought no response, but he was positive it could be done. Besides, his RAPEC seat would bail him out of almost any situation.

He hit the 180 position at 5000 feet and 240 knots, with gear up, flaps and hook down and brakes out. At the 135° position, he had 4000 feet and 230 knots and lowered his landing gear. His altitude looked O.K., but too much airspeed was going to make him land long. As he rolled into the groove, he retracted the brakes and pushed the nose over, trying to aim for an earlier touchdown. That runway sure looked shorter from this position! No one on the field either—looked deserted.

His rate of descent was tremendous and he had to break his glide at 5-600 feet and flare, still hotter'n a pistol. He set the *Skyhawk* on the deck at 200 knots about 3500 feet down the 6600-foot runway and held it on forcibly with stick full forward.

Heavy braking had absolutely no effect, so with the runway end coming up fast, he locked the brakes and started sliding. As the stricken plane rocketed off the end zone, and while still rolling at over 100 knots, he ejected!

The seat worked as advertised and at the top of its trajectory tumbled over backwards. As he swung over

hanging upside down, he could see the plane moving across a rice paddy below. A moment later he was thrown clear of the seat and, with eyes closed because of the wind blast, was about to pull the "D" ring when he felt the opening shock of the chute. Opening his eyes and looking down, he found he was parallel to the ground in a prone position, face down and moving at a high rate of speed feet first.

Almost immediately he struck the ground, hitting flat and face down in a rice paddy. There was no real impact at all and, although his face was under three or four inches of water, he found he could breathe. His mask was still delivering bail-out oxygen.

Getting to his knees in the mud, he undid the right rocket jet fastener and was reaching for the left when the chute billowed and he was dragged through the mud face down for ten feet or so. Finally getting rid of the chute, he stood up, not even scratched. The next couple of hours was spent getting the wreckage guarded, pictures shot, classified gear removed. The field he had tried for was old K-9.



Grampaw Pettibone says:

Great jumpin' Jehosophat! Over-confidence and ignorance darn near 'bought the farm' for this young man! A flameout approach is a so-so thing unless you're sure of the field and its equipment, have tower communications and have recently practiced flameout approaches. Since flameout practice is *not* allowed, there should be no question when ejection conditions are present. Use the seat under *optimum* conditions, not as a back-up for a squeaker like *this* one. If the plane had piled up sooner and gone up in smoke, he'd have been one singed chicken.

There's no substitute for knowing and using properly all emergency procedures. A relatively minor emergency switch from primary to manual fuel control at high altitude was mishandled into a major catastrophe.

Dead Wrong

An A4D pilot had been scheduled for a cross-country trip from his East Coast air station to MCAS YUMA. Purpose of the trip was to establish advance liaison with scheduled refueling stops for a full A4D squadron, all set to follow him in a few days. He was carrying starter probes and miscellaneous

maintenance items in a converted drop tank, and each planned fuel stop for the squadron movement was to be provided with the equipment and instructions necessary for proper servicing.

The first leg of his trip was uneventful, but as the pilot made the necessary liaison contacts at a Midwest base, rough weather was rapidly building up to the North and West. Two teletype severe weather warnings had been issued, and the local air base had issued one as well. All the weather was between him and El Paso, his next scheduled stop.

Base weather personnel informed him that severe thunderstorm activity was forecast, surface winds to 65 knots in gusts, very large hail and tops to 55,000 feet. To the North of his course, tornadoes were forecast. Not a very pretty picture to contemplate. The weather at El Paso was excellent and forecast to remain so.

On the strength of the destination weather and being a real get-it-done type, he didn't secure, but haunted operations and meteorology for the next seven hours hoping for a break in the weather.

The forecast weather developed as predicted and kept moving eastward in waves, with new build-ups continually forming. Extreme turbulence was now reported.

He filled out a DD175 after the first four hours, but threw it in the trash can after observing the thunderstorm activity on the base radar.

Finally, about 1730, he filed IFR at 35,000 feet to El Paso, straight through the middle of the storm belt, got another weather briefing, had another

quick look at the radar scope (no change) and took off, fueled to maximum capacity, at 1856 CST.

At 1911, he reported breaking out on top at 35,000 feet and followed this up with routine position reports up to 1931 CST. At 1935, a preliminary call by him to Wort Worth radio was abruptly terminated; and at 1937 the A4D dug a 30-foot crater in the ground, evidently striking in a near vertical dive. The pilot rode it in. At the time of the crash, the area was being deluged by a severe thunderstorm. He hadn't made it.



Grampaw Pettibone says:

Great balls of fire! Whatever possessed this man, an experienced pilot with over 4900 flight hours, to push into a solid wall of thunderstorms and hope for a hole to appear magically will never be known. We've lost four planes and three pilots to storms in this same area in 60 days and stressed quite a few surviving aircraft to the maximum.

One man, who ejected successfully, died of loss of blood caused by hail punctures before he was located by a rescue party. Today's aircraft cannot consistently take what old Mother Nature can dish out in severe thunderstorms. Even if you disregard the intent of CNO that deliberate flight into published severe weather areas not be attempted or permitted; even if you disregard your almost total inability to maintain heading or altitude; and disregard also the fact that this renders IFR altitude or directional separation worthless; the personal risk and odds on the need for ejection or bailout are too great. It's not a game of "chicken" you're playing, it's for keeps.





EXERCISE RIPTIDE III brought ships of NATO navies together in the eastern Atlantic during August. Destroyers from Great Britain,

United States and France screen the USS Newport News and carriers USS Enterprise, HMS Hermes and the Clemenceau of the French Navy.

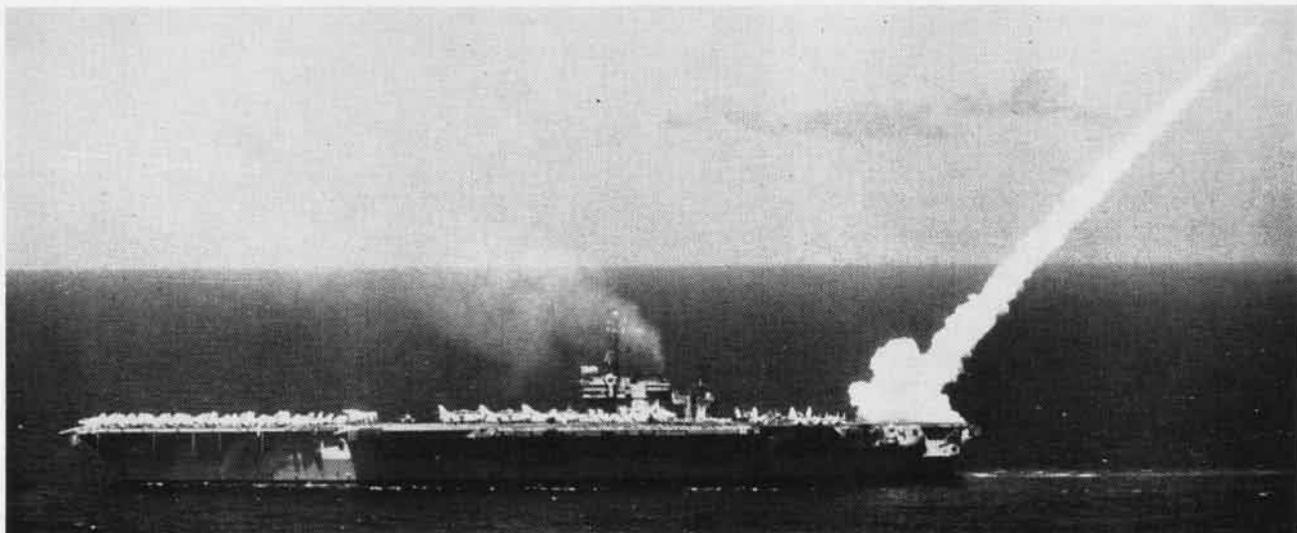
THE 1962 NAVAL AVIATION REVIEW

IN THE FIFTY-FIRST year of Naval Aviation, the narrow margin between peace and war was deeply impressed on all the nation. International tensions associated with Berlin flared intermittently throughout the year. Armed invasion and war in southeast Asia endangered the cause for freedom and took American lives. Terrorism raged in Algeria; riots and uprisings disrupted the peace of many South American countries. The impact of these seemingly distant crises, which through long association had acquired a disarming familiarity, was suddenly forced home as developments in Cuba brought the country face to face with imminent danger and the harsh possibility of violent war.

The year began with Naval Aviation at a strength expanded by the recall of the Reserves and other authorized increases as determined positions were taken over the divided city of Berlin. The year closed with the strength of the operating forces reduced to earlier levels as the critical nature of the international situation appeared to ease.

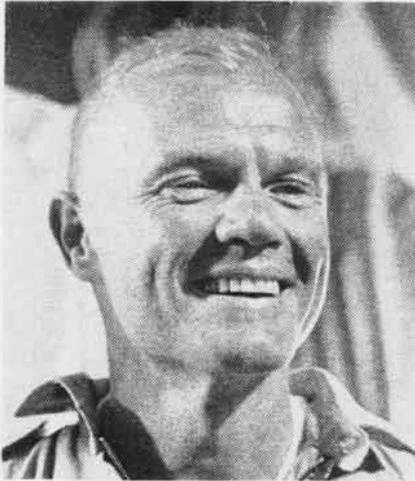
The operating aircraft inventory climbed slightly. Assignment of more newly developed aircraft, and of improved versions of models in use, enhanced strike and defensive capabilities of units afloat and ashore. A new anti-submarine airplane and a new utility helicopter began fleet introduction. Two new trainers and a new transport helicopter made first flights. A new tactical support aircraft and one designed for airborne detection and interceptor control were being readied for operational assignment. Selection of a prime contractor marked progress in joint service development of a new fighter. A carrier fighter, an anti-submarine helicopter and a utility amphibian put twelve new records in the book.

The attack carriers *Enterprise* and *Constellation* became ships of the striking Fleet. Two attack carriers were reclassified as anti-submarine; one anti-submarine carrier was awaiting retirement after service with the Training Command. One assault helicopter ship was commissioned, an-



TERRIER MISSILE in flight from the USS Constellation, CVA-64, off San Juan, Puerto Rico. Firings conducted during her shakedown, were

the first Terrier air defense missiles fired by an aircraft carrier. On the first day, two missiles each scored hits on their drone targets.



LT. COL. JOHN H. GLENN, USMC, became our first Astronaut to orbit the earth, in February.



LCDR. M. SCOTT CARPENTER was the second of the Mercury Astronauts to orbit the earth.



CDR. WALTER M. SCHIRRA, third Astronaut to orbit, was first to land in the Pacific.



LCDR. JOHN W. YOUNG, one of three active Naval Aviators picked for new astronaut team.



LT. CHARLES CONRAD, Jr., Astronaut selectee, like the others, is a former Navy test pilot.



LCDR. JAMES A. LOVELL, Jr., former flight instructor, fills out active Navy pilot trio.

other joined the Fleet. An advanced air base support ship went into service.

Major services were rendered to several government agencies involved in experimental research and testing. Among these were air logistic support of the National Science Foundation geophysical research in Antarctica and of the Defense Atomic Support Agency high altitude nuclear tests in the Pacific. Naval aircraft were also prominent in the recovery forces supporting Project Mercury orbital flights of the National Aeronautics and Space Administration.

Accomplishments in space mounted rapidly. Three Mercury Astronauts made successful orbital flights which demonstrated progressive capabilities. Satellites placed into orbit sent back photographs of weather formations, gave signals which assisted ship navigation, and for the first time provided an instantaneous communications link between hemispheres.

In the first quarter, the cold war with its vortex at Berlin became critical. The U.S. pledged aid to raise living standards in South Vietnam. Chinese Red advances in Vietnam were slowed; the struggle for power in Laos continued. Peace in Algeria seemed

imminent. The UN rejected Cuban charges against the U.S. International discussion of a nuclear test ban ground to another halt. An Astronaut made the first U.S. orbit of the earth. The President asked for authorization to double the Peace Corps. A three-day storm bit the Atlantic seaboard, revising much of its coastline.

JANUARY

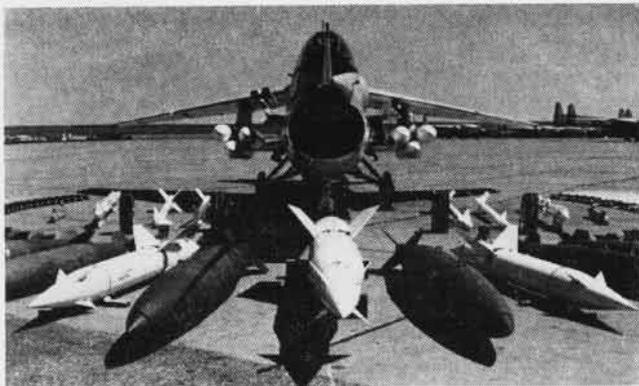
4—Mr. Fred Korth relieved Mr. John B. Connally as Secretary of the Navy.

4—An HUP-2 helicopter from NAS GROSSE ILE made seven flights to rescue 14 fishermen from an ice floe that had broken away from shore and was adrift in Lake Erie.

5—The USS *Essex*, CVS-9, and four destroyers went up the Elbe River to Hamburg, Germany, where they received a tumultuous welcome. During her stay, the *Essex* was visited by some 70,000 German citizens.

10—It was announced that the attack carrier, CVA-66, building at Newport News, would be named the USS *America*, third ship of the U.S. Navy to bear the name.

17—The first air operations on board the USS *Enterprise*,



WING PYLONS installed on the F-8D provide the Crusader with the conventional attack capability standard on all other Navy fighters.

CVA(N)-65, involving arrested landings and catapult launches, were initiated by Cdr. George Talley, Commander Air Group One.

23—The John Jeffries Award of the Institute of Aerospace Sciences was presented to Capt. Ashton Graybiel, USN(MC), Navy School of Aviation Medicine, for his studies of the effect of acceleration and anoxia on humans.

23—The last of 18 F8U-2N Crusaders of VMF(AW)-451 arrived at Atsugi, Japan, from MCAS EL TORO, completing the first trans-Pacific flight by a Marine jet fighter squadron.

24—Two Navy Phantom II fighters, designated F-110A by the Air Force, arrived at Langley AFB for use in orientation flights preliminary to the assignment of Phantoms to the Air Force Tactical Air Command.

24—A W2F Haukeye, piloted by Walter Berndt of Grumman, was successfully catapulted at NAS PATUXENT RIVER in the first launching with nose-tow gear designed to reduce catapult launch intervals by eliminating manual hook-up.

During January, Fleet Air Command's Keflavik, Bermuda and Azores were established; NAF ANDREWS AFB was commissioned; NAF ANNAPOLIS was disestablished; AFL EL CENTRO became an NAF and NAF McMURDO SOUND became McMurdo Station.

FEBRUARY

3—The advance air base support ship Tallabatchie County, AVB-2, was commissioned at Charleston Naval Shipyard after conversion from an LST, Cdr. C. T. Babcock commanding.

5—An HSS-2 Sea King became the first helicopter to exceed 200 mph in an official trial. Piloted by Lt. R. W. Crafton, USN, and Capt. L. K. Keck, USMC, over a 19-kilometer course from Milford to New Haven, Conn., the anti-submarine helicopter broke the world speed record with 210.65 mph.

6—The Navy's first supersonic two-seat training plane, the FSU-1T, made its first flight at Hensley Field, Dallas, piloted by John Konrad of Chance Vought Aircraft.

8—The first FSU-2NE Crusaders assigned to fleet squadrons were received by VF-11 at Cecil Field and VF-51 at Miramar.

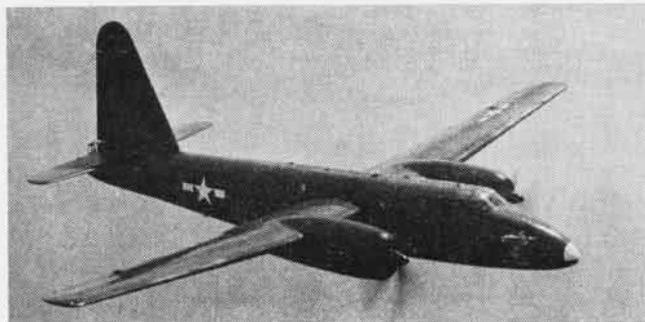
8—A detachment of VP-11 at Argentia began ice reconnaissance flights over the Gulf of St. Lawrence to aid in evaluating satellite readings of ice formations transmitted by Tiros IV which was put into orbit on the same day.

20—Mercury space craft, Friendship 7, with Astronaut LCol. John H. Glenn, USMC, was launched from Cape Canaveral by an Atlas rocket. His three turns about the earth were the first U.S. orbital flight. He was recovered some 166 miles east of Grand Turk Island by the destroyer Noa and delivered by helicopter to the USS Randolph.

21—The F4H-1 broke world records for climb to 3000 and 6000 meters with times of 34.523 and 48.787 seconds. LCdr. J. W. Young and Cdr. D. M. Longton piloted the plane on its respective record flights as NAS BRUNSWICK.

MARCH

1—Emergency enlisted ratings ESV, Aviation Pilot, and ESP, Photogrammetry Assistant, were disestablished; Guided



THE TRUCULENT TURTLE, P2V-1, first of the Neptunes that went out of production this year, set a distance record that stood for 16 years.

Missileman, GS, rating was retitled Missile Technician, MT.

1—The world climb record to 12,000 meters was broken at NAS BRUNSWICK, Me., when an F4H-1 piloted by LCol. W. C. McGraw, USMC, reached that altitude in 77.156 seconds.

3—The F4H-1 continued its assault on time-to-climb records at NAS BRUNSWICK as LCol. W. C. McGraw, USMC, and LCdr. D. W. Nordberg piloted Phantom II's to 9000 and 15,000 meters altitude in 61.629 and 114.548 seconds respectively.

11—The USS Constellation, CVA-64, while on shake-down in the Caribbean, fired the first Terrier missiles from an aircraft carrier, scoring hits on the first two shots.

30—LCdr. F. Taylor Brown piloted the F4H-1 Phantom II at NAS POINT MUGU, to a new world time-to-climb record for 20,000 meters with a time of 178.5 seconds.

During March the CVA Intrepid was redesignated CVS; NAS FORD ISLAND was disestablished.

In the second quarter, U.S. troops moved into Thailand to shore up free world defenses in Southeast

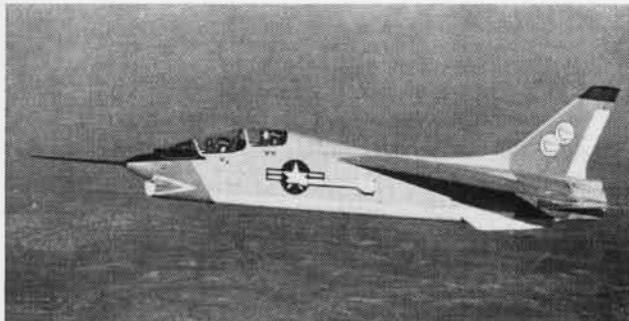


THE PHENOMENAL PHANTOM II, world altitude and speed record holder in several categories, set eight new records this year in speed of climb.

Asia. War in Vietnam ran unabated, difficulties in Laos seemed insoluble. Refugees from famine and oppression in Red China flooded Hong Kong. There was a reign of terror in Algeria. Castro held a mass trial of prisoners and offered their release for a price. A second U.S. Astronaut orbited the earth. Ranger IV was shot at the moon. Prices on the stock market continued to slip and sank to an almost record low in a frenzy of trading.

APRIL

3—An F4H-1 piloted by LCdr. John W. Young at NAS POINT MUGU set the seventh world time-to-climb record by an F4H by reaching 25,000 meters in 230.44 seconds.



TWO-SEAT VERSION of the Crusader, TF-8A, first flew in February. To give second pilot better forward vision, canopy was raised 15 inches.

12—The F4H-1 made a clean sweep of world time-to-climb records as LCdr. D. W. Nordberg piloted a *Phantom II* at Pt. Mugu on a climb to 30,000 meters in 371.43 seconds.

14—The amphibious assault ship USS *Okinawa*, LPH-3, was commissioned at Philadelphia, Capt. W. E. Lemos in command.

19—The Navy Unit Commendation was presented to VX-6 at NAS QUONSET POINT by RAdm. D. M. Tyree, Commander U.S. Naval Support Force, Antarctica. The squadron was cited for notable achievement in carrying out its responsibilities in the Antarctic during the period November 1955 to April 1961.

MAY

6—A *Polaris* missile, fired from the submerged submarine USS *Ethan Allen*, carried a live nuclear warhead into the atmosphere in the fifth of the nuclear tests conducted in the Pacific test area.

7—An F8U-2N, flown by Chance Vought's chief test



KAMAN ALL-WEATHER utility helicopter, UH-2A, began fleet introduction in October; reached fleet squadrons in the last month of year.



ASSAULT TRANSPORT helicopter, CH-46A (HRB-1), military version of Boeing Vertol 107, has rotor blade folding system operated by pilot.

pilot, took off carrying two 1000 pound bombs—the first *Crusader* flight with stores on wing pylons.

7—The USS *Wasp*, CVS-18, and seven destroyers entered the Baltic Sea where they were met by ships of the Federal German Navy and escorted to Kiel. The visit was part of a good will tour which took the task force to Oslo, Norway, later in the month and to Iceland early in June.

10—A *Sparrow III* fired from an F4H-1 scored a direct hit in a head-on attack on a *Regulus II* missile while both were at supersonic speed. The interception, made in the Pacific test range, was the first head-on hit scored by an air launched weapon on a surface launched guided missile.

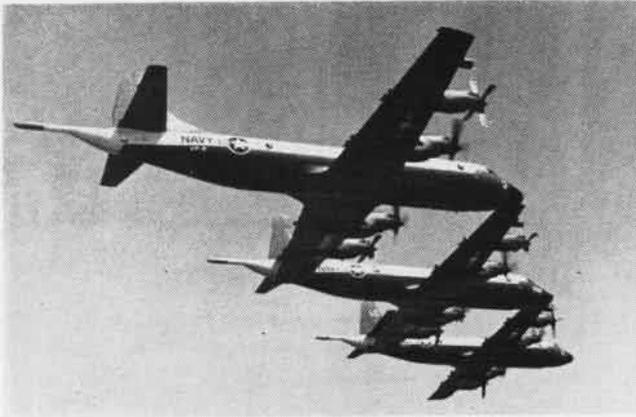
20—The field at NAS OLATHE, Kansas, was dedicated as Flatley Field in honor of the late VAdm. James H. Flatley.

22—Navy Astronautics Group was established at the Pacific Missile Range Headquarters, Point Mugu, Calif., under command of Cdr. J. C. Quillen, Jr., to operate the Transit Navigational System being developed under Navy management.

22—The Fiftieth Anniversary of Marine Corps Aviation. On this date in 1912, Lt. Alfred A. Cunningham, the first Marine Aviator, reported at Annapolis for flight training.

24—LCdr. M. Scott Carpenter in *Aurora 7*, was launched into orbit from Cape Canaveral on the second U.S. manned orbital flight. After completing three orbits, he landed in the Atlantic, some 200 miles beyond the planned impact area. He was located by a Navy P2V, assisted by para-rescue men dropped from an Air Force KC-54 and, after almost three hours in the water, was picked up by an HSS helicopter and delivered to the USS *Intrepid*, CVS-11. His capsule was retrieved by the destroyer *John R. Pierce*.

29—VAdm. Patrick N. L. Bellinger, USN (Ret), died in Clifton Forge, Va. His long and distinguished career as Naval Aviator No. 8 began on 26 November 1912 when he reported for flight training at Annapolis and ended with his retirement 1 October 1947 while serving on the General Board. He commanded the USS *Wright*, AV-1, USS *Langley*, CV-1, USS *Ranger*, CV-4, and was twice Commander of NAS HAMPTON ROADS. During the attack on Pearl Harbor he was present as Commander, Patrol Wing 2, served additionally as ComPatWings, Pacific, and early in 1943 became ComAirLant where, for the remainder of the war, he directed the training and outfitting of all naval aviation units in the Atlantic.



NEW SUBMARINE HUNTERS, P-3A Orions, went into service with Patrol Squadron Eight in July. They will eventually replace P-2 Neptunes.

JUNE

11—Conversion of the former light carrier, USS *Wright* to a command ship, CC-2, began at Puget Sound.

25—The nuclear-powered attack carrier, USS *Enterprise*, reported for duty with the Second Fleet.

29—A *Polaris* missile carrying the bullet nose shape of the A-3 advanced *Polaris*, was fired from Cape Canaveral.

29—The Bureau of Personnel announced establishment of a new aviation rating for Anti-submarine Warfare Technician, AX, as a replacement for the former ATS and SOA ratings.

30—At the close of Fiscal Year 1962, in which hours flown represented an increase of 7% over the previous year, the Naval Aviation safety record showed an improvement of 9%.

During June, VA-126 Detachment Alpha was commissioned as VA-127; VF-53, VF-92 and VF-142 were redesignated VF-143, VF-54 and VF-96 respectively.

In the third quarter, the Marines withdrew from Thailand, but the wars in southeast Asia were not over. Tensions flared briefly in Formosa Strait. Refugees fled from terrorism in Algeria. There was turmoil in South American countries. Flights to freedom kept the Berlin Wall in the headlines. Mariner II began its long journey toward Venus. The USSR put two Astronauts into almost identical orbits. Telstar went into orbit and to work. New astronauts were selected. Attention focused on Cuba as reports accumulated of an influx of war munitions and technicians from the USSR.

JULY

6—The Secretary of Defense directed establishment of a standardized designation system for all military aircraft and assigned primary responsibility for its formulation and application to the Air Force.

10—The nuclear power plant assembled at McMurdo Sound, which had achieved criticality on 4 March, began delivering electricity to the Antarctic base.

18—The President presented the Collier Trophy to four pilots, including Cdr. Forrest Petersen, USN, for outstanding achievement in aviation through their flights in the X-15 rocket-powered research aircraft.

18—The DSN-3 drone helicopter system, developed for use in anti-submarine warfare, completed contractor demonstrations at NATC PATUXENT RIVER, which included landings and take-offs from the destroyer USS *Hazelwood*.

22—The first P3V-1 *Orion* patrol plane assigned to a fleet squadron was received by VP-8 at Patuxent River.

25—An F4H-1, piloted by Lt. Alvin Newman, fired a two-stage *Caleb* rocket in the Pacific Missile Range, which pushed a 120-pound instrumented payload to an altitude of 1000 miles. It was one of the air-launched probes planned under Project *Hi Hoe* to measure ion composition of the upper atmosphere.

In July, Fleet Air Patuxent and Naval Air Bases, Severn River Naval Command, were established. MCAF IWAKUNI and MCAAS YUMA were both redesignated MCAS.

AUGUST

1—Naval Air Reserve Squadrons called up in October 1961, were released to inactive duty, reducing the air operating forces by 18 units and 3995 officers and men.

3—The first operational deployment of the A3J *Vigilante* in full squadron strength began as VAH-7 sailed from Norfolk on board *Enterprise* for NATO Exercise *Riptide III* and operations with Sixth Fleet in the Mediterranean.

6—Thirty-nine units of the Fleet and Training Command were cited for their outstanding safety records during fiscal 1962 and given CNO Safety Awards.

7—The first flight model of the A-3 advanced *Polaris* missile was successfully fired from Cape Canaveral.

17—The Chief of Naval Air Basic Training commended Training Squadron *Three* for outstanding performance in flying 125,296 consecutive accident-free hours in the period 1 March 1961-31 May 1962.

24—It was announced that Sikorsky had been selected to develop a heavy assault transport helicopter, designated CH-53A, for the Marine Corps.

30—First flight of the T2J-2, a twin-engine version of the *Buckeye* jet trainer in use by the Naval Air Basic Training Command, was made at Columbus, Ohio, with North American test pilot George W. Hoskins at the controls.

31—The passing of an era was marked at NAS LAKEHURST by the last flight of a Navy airship. The flight also marked the end of a year's service by two airships kept in operation after discontinuance of the lighter-than-air program for use as airborne aerodynamics and research laboratories in the development of VTOL/STOL aircraft and ASW search systems. Pilots on the last flight were Cdrs. W. D. Ashe and R. Shannon; passengers included lighter-than-air stalwarts VAdm. Charles E. Rosendahl, USN (Ret), and Capt. Fred N. Klein, USN (Ret).

31—The first S2F-3S *Tracker* assigned to a fleet squadron was accepted by VS-41 at North Island.

SEPTEMBER

7—Details were released of the X-22A vertical-take-off-and-landing aircraft to be built by Bell, featuring dual-tandem ducted propellers powered by four G.E. T-58 turbo-shaft engines.

11—A P2V *Neptune*, delivered to the Navy at the Lockheed plant, was the last of 1046 aircraft produced since delivery of the first airplane in 1946.

12—A Grumman *Albatross*, UF-2G, piloted by LCDr.



THE PRESIDENT and Cdr. Forrest Petersen at Collier Trophy presentation to X-15 pilots.



THE SECRETARY awarded DFC's to four pilots who set world records in the F-4 Phantom II.



SECNAV KORTH awarding DSM to VAdm. Pirie upon his retirement from U.S. Naval Service.

D. E. Moore, climbed to 29,460 feet over Floyd Bennett Field, N. Y., and bettered the world altitude record for amphibians carrying a 1000-kilogram load. On the same day, LCdr. F. A. W. Franke, Jr., piloted the *Albatross* to a new record for amphibians with a 2000-kilogram load with a climb to 27,380 feet.

15—LCdr. R. A. Hoffman, piloting a UF-2G, claimed the world 5000-kilometer speed record for amphibians with a speed of 151.4 mph on a closed-course from Floyd Bennett Field to Plattsburg, N. Y., to Dupree, S. D., to Floyd Bennett.

16—*Deep Freeze 63* began with the landing of four C-130BL aircraft of VX-6 at Williams Field, McMurdo Sound, delivering RAdm. David M. Tyree, Commander U.S. Naval Support Force, Antarctica, and others. The flight established physical connection between the polar continent and the outside world 11 days earlier than in any previous season.

17—Nine pilots selected to join the Nation's astronauts were introduced to the public at Houston, Texas. Three Navy men on the new team were: LCdr. James A. Lovell, Jr., LCdr. John W. Young and Lt. Charles Conrad, Jr. Of the remainder, Neil A. Armstrong and Elliott M. See, Jr., both selected as civilians, are Naval Aviators, the latter active in the Naval Air Reserve.

18—An Army-Navy-Air Force regulation was issued establishing a uniform system of designating military air-



VIGILANTES of Heavy Attack Squadron Seven and Air Group Six made their first overseas deployment in August on board USS Enterprise.

craft. By it, all existing aircraft were redesignated using a letter, dash, number and letter to indicate in that order, basic mission or type of aircraft, place in the series of that type, and place in the series of changes in basic design. Under the system, the *Crusader*, formerly F8U-2, became the F-8C indicating the third change (C) in the eighth (8) of the fighter (F) series. Provision was also made for indicating aircraft status and modification of basic mission by prefix letters. Thus the YF8U-1P became the YRF-8A, symbolizing a prototype (Y) of the photo-reconnaissance (R) modification of the F-8A aircraft.

21—It was announced that tests conducted at NOTS CHINA LAKE had included free flight of a new type rocket propulsion system called *Hybrid* because of its combination liquid and solid propellant in a single motor.

28—Significant progress in the Marine Corps SATS development program was indicated by successful tests of a trackless expeditionary catapult in which an F-6 (F4D) *Skyray* deadload airframe was launched at 141 knots.

During September, HMM-265 was commissioned, NAAS BROWN FIELD was decommissioned.

The fourth quarter found the nation tense as the President called world attention to the threat of Soviet missiles and long range bombers in Cuba and took firm measures to prevent their use and further reinforcement. The situation eased as USSR agreement to withdraw the weapons was followed by its implementation. Red China forces invaded India and tried to hold their gains by negotiation. A third U.S. Astronaut made orbital flight. Mariner II completed its mission to Venus. Castro's prisoners were released.

OCTOBER

2—The Fleet Introduction Program for the UH-2A (HU2K) Kaman all-weather utility helicopter began at NAS PATUXENT RIVER under the direction of Commander, Naval Air Test Center.

3—*Sigma 7* with Astronaut Cdr. Walter M. Shirra was launched into orbit by a *Mercury-Atlas* rocket from Cape Canaveral. After nearly six orbits of the earth and a flight of over 160,000 miles, he re-entered the atmosphere and landed in the Pacific, 275 miles N.E. of Midway Island, where he was retrieved by helicopter and delivered to the USS *Kearsarge*, CVS-33.

16—The CH-46A (HRB), a medium assault helicopter developed for use by the Marine Corps, made its first flight.

17—VMA-225 completed a two-way crossing of the Atlantic between MCAS CHERRY POINT and NS ROTA,



USS LEXINGTON transferred from the Pacific to the Atlantic Fleet in August and was redesignated an anti-submarine support carrier, CVS-16.



USS INTREPID was redesignated CVS-11 and assigned to anti-submarine forces in March. Was prominent in recovery of Astronaut Carpenter.



USS INDEPENDENCE, CVA-62, led all attack carriers in aircraft accident prevention and was winner of Admiral Flatley Memorial Award.



USS ESSEX, CVS-9, received the Admiral Flatley Award for her outstanding achievement in accident prevention in the anti-submarine class.

Spain. LCol. E. A. Harper, USMC, led the flight of 16 A-4C *Skyhawks* (A4D) which left Cherry Point on the 8th, flew to Bermuda and then directly to Rota. The flight returned to Cherry Point with stops at Lajes in the Azores and Bermuda. Refueling on both crossings was provided by *Hercules* tankers of VMGR-252.

18—The President presented the Harmon International Trophy for outstanding accomplishment in aviation. The Aeronauts Award went to Cdr. Malcolm D. Ross and the late LCdr. Victor A. Prather, for their record altitude flight in a balloon launched from the USS *Antietam*.

24—In the emergency created by the threat of missiles in Cuba, service tours of all officers and enlisted men on active duty were extended indefinitely.

29—RAdm. Paul D. Stroop was relieved as Chief of the Bureau of Naval Weapons by RAdm. Kleber S. Masterson who took over as Acting Chief until he was sworn in as Chief on 27 November.

31—The geodetic-satellite ANNA, developed for the Department of Defense under Bureau of Naval Weapons management, was placed into orbit from Cape Canaveral.

In October, USS *Lexington* was redesignated CVS-16; CVG-13, CVSG-62 and their component squadrons were decommissioned.

NOVEMBER

1—VAdm. Robert B. Pirie was detached from duty as Deputy Chief of Naval Operations (Air). On the same day he was awarded the Distinguished Service Medal by the Secretary of the Navy, and retired from the Naval Service.

2—LCol. John H. Glenn, USMC, was presented the Alfred A. Cunningham Trophy in recognition of his outstanding accomplishments in the space program and his selection as Marine Aviator of the Year.

2—The first flight of the XH-51A, a helicopter research vehicle developed under joint Army-Navy contract, was made at the Lockheed plant, with Donald Segner as pilot.

14—VAdm. William A. Schoech assumed duty as Deputy Chief of Naval Operations (Air).

21—The Secretary of the Navy terminated all extensions of service ordered in October as a result of the Cuban crisis.

24—The Department of Defense announced selection of General Dynamics Corporation as prime contractor, with Grumman Aircraft Engineering Corporation as an associate, for development of the F-111(TFX) tactical fighter for the Air Force and Navy.

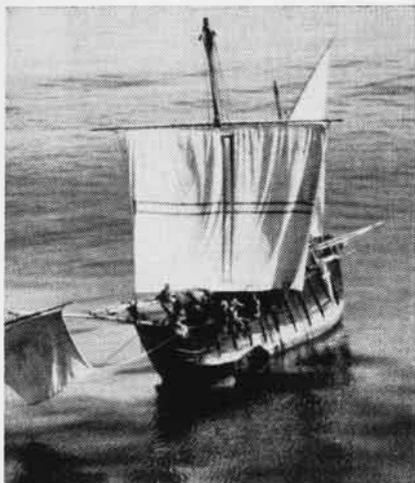
26—RAdm. James R. Reedy relieved RAdm. David M. Tyree as Commander U.S. Naval Support Force, Antarctica, in a brief ceremony at the South Pole.

30—In a change of command ceremony on board the USS *Ticonderoga*, CVA-14, VAdm. Paul D. Stroop relieved VAdm. C. E. Ekstrom as Commander Naval Air Force, Pacific Fleet.

DECEMBER

1—A new command, Commander U.S. Naval Air Bases, Tenth Naval District, was established with headquarters at San Juan, Puerto Rico, to exercise military control over the aviation shore activities within the District.

31—Twenty years ago, the USS *Essex*, CVS-9, oldest carrier in the U.S. Navy, was commissioned.



REPLICA OF THE NINA, Columbus' third ship, photographed from VP-18 P-2 that spotted it.



DISCOVERERS OF NINA II were: front row (left to right) Vines, Clarke, Long, Hughes, Clark; rear row: Hardison, Cdr. Anderson, commander, Lt. Stuckey, Ltjg. Damm, Lt. Lane, and Wilson.

VP-18'S CREW ONE FINDS THE NINA II

VP-18 HAS DONE it again! For the third time, it has found that equivalent of a needle in a haystack, a small craft in the Atlantic Ocean.

Crew One of the now well-known submarine hunters, headed by Cdr. Vernon F. Anderson, X.O., of VP-18, was the first to spot the missing *Nina II* November 30, about 800 miles east of Puerto Rico. Crew One was one of the many Navy, Coast Guard and Air Force units hunting for it.

It was by no means the first time that VP-18 had been a winner. The *Flying Phantoms* of VP-18, commanded by Cdr. R. F. Lyons, under the operational control of ComFAir-Wing 11, Capt. G. F. Grauenheim, were the first to locate the hijacked Portuguese cruise ship *Santa Maria* in 1961, and the first to find several Project *Mercury* capsules, including that of Astronaut Scott Carpenter. Flying *Neptunes*, the squadron has won the Atlantic Fleet Battle E three times in the past four years—1958, 1960 and 1962. The *Phantoms* have compiled more than 48,000 accident-free flying hours—a record extending back to 1957.

At the time of the recent exploit, VP-18 was operating temporarily out of NS ROOSEVELT ROADS, Puerto Rico, instead of their home base, NAS JACKSONVILLE, in order to participate in the Cuban quarantine. The squadron launched several *Neptunes* in the

By Lt. G. R. Poe and
Ltjg. J. B. DeFrancesco, Jr.

widespread search of the *Nina II*. *Nina II*, the replica of Columbus' third vessel, attempting to re-enact his famous voyage, set sail from Las Palmas in the Canary Islands October 10. The vessel had planned to follow latitude 24 North across the Atlantic, but was found almost 300 miles south of course at position 19° 39' north and 51° 32' west.

Shortly after 1400 EST, a radar contact was reported by the operator aboard the aircraft. The pilot altered heading, and a few minutes later R. E. Clark, AT2, reported visual contact on the horizon. Cdr. Anderson said later that he felt as though he were back in the 15th Century when the *Nina* came into view. "She was magnificent, with the big red cross on the main sail very discernable."

The aircraft dropped a sonobuoy to the ship and a crew member of the *Nina* swam to retrieve it. Since one of the nine-member crew was an American, one-way communication was soon established from the ship to the aircraft. The aircraft answered by tipping the wings for "Yes" and flying tight circles for "No." The arrangement worked out well.

The crew of the *Nina* reported that all was well aboard. Food was rationed, but there was enough left for about

20 more days. They said that they had been drifting in exceptionally calm seas for several days, and that they intended to continue on to San Salvador. [They landed at San Salvador December 26 after a trip of 97 days as against Columbus' voyage of 70 days in 1492.]

One of their first concerns was to have their families notified of their safety. Asked if they wanted anything in the way of supplies, a one-word answer came plainly, "Cigarettes."

When the *Nina* wanted to know her position, a piece of paper taped to a coffee can served as "messenger." This caused a great deal of commotion on board. The crewmen couldn't believe that they had been so far off course. The vessel carried no modern navigational gear, only a 15th Century sextant which cannot determine longitudinal lines of position.

The aircraft dropped a three-unit survival kit to the tiny caravel that included a 12-man life raft, a "Gibson Girl" emergency radio set, and supply package. The supply package contained food, a solar still to prepare potable water from sea water, cigarettes, blankets, first aid kits, and several other items designed for survival at sea. All members of the aircraft crew expressed admiration for the men on the ship. Lt. W. K. Stuckey summed up the crew's feeling with, "All I can say is that is sure takes a lot of guts to make a trip like that."

STORY OF A DAY ON THE FORRESTAL



CVA-59'S 'DAY' BEGINS BEFORE DAYBREAK



FIRST ORDER OF BUSINESS IS TO MOVE NUMBER ONE AIRCRAFT ON NUMBER ONE CATAPULT



THINGS START TO BUZZ AND LINES TO HUM



CREWMEN'S BALLET IS PROMPTED BY NEED FOR QUICK MOVEMENT AROUND THE CATAPULTS



FLINGING AIRCRAFT INTO AIR IS HALF OF CARRIER'S DAILY TASK



CARRIER FORMATION BREAKUP IS CAUGHT INSTANT IT COMMENCES



AWAITING PLANE RECOVERY, A BREATHER



THIS CREWMAN TAKES A 'DEEP BREATHER'



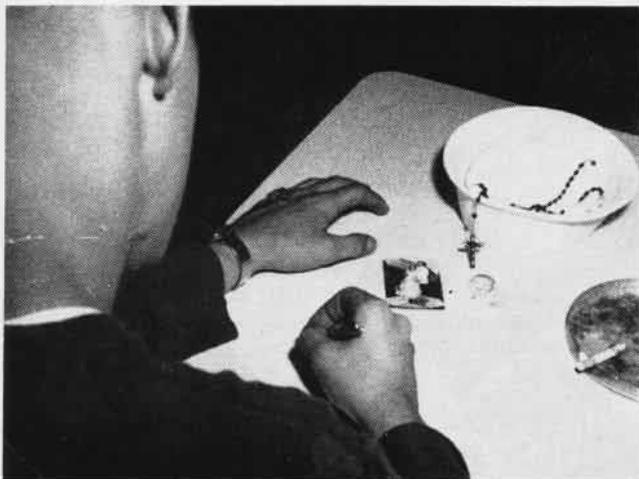
CORPSMEN WAIT RETURN OF A 'SICK BIRD'



IT'S SAFELY ABOARD; ANXIETY IS OVER FOR CORPSMEN AND CREW



RECOVERY COMPLETED, CREWMAN RUSHES TO UNHOOK LAST PLANE

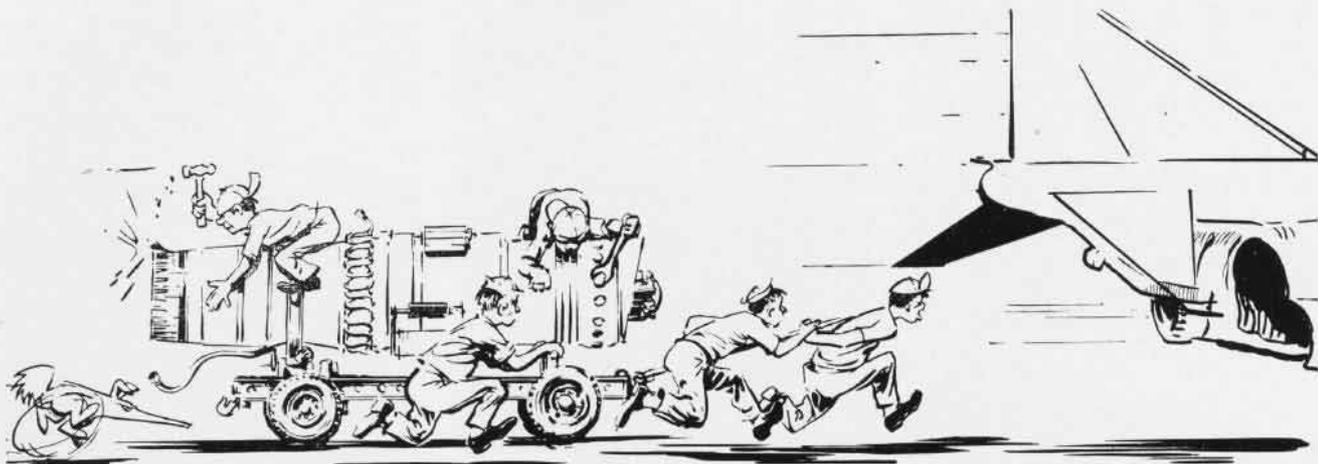


AT BUSY DAY'S END, A MOMENT TO WRITE THE FOLKS AT HOME



A CARRIER'S DAY BEGINS AT NIGHT—CYCLE IS READY TO REPEAT

VF-114 AND SCHEDULED MAINTENANCE



Known informally as the 'Aardvarks,' members of Fighter Squadron 114 acquired the nickname when this character began appearing on squadron gear, correspondence, etc. The squadron adopted the mythical mascot with permission of its creator, John Hart, the author of the syndicated comic strip 'B.C.' Here is a story of Aardvark maintenance advance.

THREE PHANTOM II major calendar inspections accomplished consecutively in three weeks—at sea in an operating carrier." This was the report of VF-114. Can other F4B(F4H) squadrons expect to duplicate this achievement? For those wanting to try, here is the case history of how the *Aardvarks* broke the time-in-check barrier.

VF-114's calendar checks were not always so "professional." In fact, the squadron was not satisfied with the average of 30 days it was taking them to check the *Phantom II*, using the newly introduced Maintenance Requirements Card System. The squadron decided to make an all-out assault on the time-in-check problem. (See "Card Sharp Maintenance Yields Bonus," *NANEWS*, July 1961, pp. 33-35, which describes the system.)

The *Aardvarks* studied their scheduled maintenance practice to pinpoint the trouble. Was it lack of skilled personnel? Could be, but most of their men were skilled "old timers." Was it the Maintenance Requirement Cards? Possibly. Was it the aircraft? Perhaps. But the answers to each of these questions did not pinpoint the problem.

VF-114 resolved to find the answer during a forthcoming three-week deployment at sea in *Kitty Hawk*. Knowing an up-dated version of the F-4B Maintenance Requirements Cards was on the way, the *Aardvarks* decided to

By John C. Butterworth
McDonnell Aircraft Corporation

invite a Contractor Maintenance Engineering Representative to make the cruise and bring his own "new deck." An appropriate message was sent through channels to the Contractor.

A week before going aboard ship, the Representative, loaded down with the latest cards, spare forms, new charts, rewritten Section I of NAVWEPS 01-245DA-6, and a handful of colored pills (one for each shade of seasickness), arrived.

The Maintenance Officer, Assistant Maintenance Officer, Planning Officer, Calendar Check Coordinator, and Contractor's Maintenance Engineering Representative became the team to beat the "time barrier." The squadron in-

tended to accomplish one calendar check and, if they were lucky, two during the three-week cruise. The team decided to focus its attention on the first check to be done at sea.

The Maintenance Requirements Card System is designed to provide two important tools:

1. An efficient planning system for accomplishing scheduled maintenance in the shortest period possible.
2. A set of "on site" check requirements for the maintenance mechanic.

The cards are programmed on the sequence chart to give the most efficient work schedule for accomplishing a calendar inspection under ideal conditions. Since ideal conditions seldom prevail, the working plan provided by the chart must be adjusted to meet changing conditions.

First requirement for a successful check is a good plan. Like a flight plan, it takes the check from start to finish, provides check points and allows for alternates.

The squadron had not been holding a full planning meeting. Instead, each shop had been informed of the date the aircraft would enter check and given work orders for unscheduled maintenance. What effect did this method have on the check? Plenty! The Check Coordinator was behind the eight ball before he started. Here's why this was almost certain to happen:



True, each shop knew the unscheduled work to be done, but the Check Coordinator did not. Therefore, he was not able to coordinate the unscheduled work with the rest of the check. The Check Coordinator must know all the facts before he starts the check.

A planning meeting was held for the first F-4B calendar check to be performed in *Kitty Hawk*. Did we learn anything? Look at this: the aircraft was due an even calendar check; *High Speed* modifications had just been incorporated; both engines were low time; one ramp had just been removed, inspected and lubricated. Since Aircraft Service Change #118 was to be accomplished, the Check Coordinator knew at once that he had a two-day, power-off period forced on him. He immediately scheduled it in the place where he thought it would least delay the check. The engine shop planned to give the engines a visual and stand run only. The Check Coordinator expected the engines to be ready before he needed them. With the latest re-issue of the F-4B maintenance cards—vastly improved, according to the Contractor—and with the use of two shifts of AM rates, this check should be a breeze, so everyone thought.

Eight days later the aircraft was ready for flight test. Why did this check take eight days instead of the "standard" check time of five? Eight days for the check seemed fairly good to the *Aardvarks*, but the Contractor's Representative insisted it could be done in five, using one full crew on days only.

The "time barrier" team analyzed the check delay by delay:

Ship drills had caused delays. Nothing could be done about this since drills are vital to combat readiness. Furthermore, delays for drills totalled less than two hours per day. Drills cost 16 running hours out of a possible 192, and the check, allowing 100% for unscheduled maintenance, required only 70 running hours. No, ship drills were not the problem.

The tightly packed hangar deck held up engine removal and transportation between the shop and the aircraft. The packed hangar deck had to be lived with and plans made to move whenever it opened up. In this instance, it prevented removal of engines on time, but this did not hold the check up as the engines were on time



for installation. No serious problem here, but on future checks, the power plants shop would have to do some planning to beat the hangar deck.

Movement of aircraft and equipment on the hangar deck had slowed down the check. Not over two hours during the eight days had been lost for this reason. But to eliminate any preventable time loss, the Maintenance Officer and the Hangar Deck Officer agreed to give more study to spotting check aircraft.

Replacement of wing fuel transfer hose assembly—F-4B ASC #118—had run over the two days scheduled for its completion. Since no power could be on while ASC #118 was being accomplished, it delayed all electrical and electronic operational checks. It had been scheduled at the point in the check where applicable access doors were open. Would another period in the check reduce interference with electrical work? This would be investigated, but the #118 was not the major cause of delay.

AM rates were pulled from the check for other work thought to be more important. The calendar check requires six AM's for a scheduled 19 consecutive hours on the odd calendar and 22 consecutive hours on the even calendar. These men constitute a team; within the team, the men are paired off to assist each other. In other words, when AM1 needs help, AM2 is scheduled in, etc. Therefore, when a man is pulled, his work is lost and also that of his assistant. This delay can easily snowball since much work of other rates cannot be started until the AM cards are completed. The pulling of men from the check did increase the "time in check." This was a problem to be worked out.

The Check Coordinator was so tied up with filling out forms that he couldn't stay on top of the check. Any problem? You bet! We

had a dandy here. The Check Coordinator can't spend his time as a clerk and get the check done on schedule.

Darkened ship conditions slowed the work. This does present a problem, but it is essential to flight operations and has to be lived with. Some types of work it slows; some, it stops.

After analyzing all delays, it became



apparent that the key problems were lack of coordination and pulling men off the check for other work.

Based on what was learned on the first check, VF-114 resolved that:

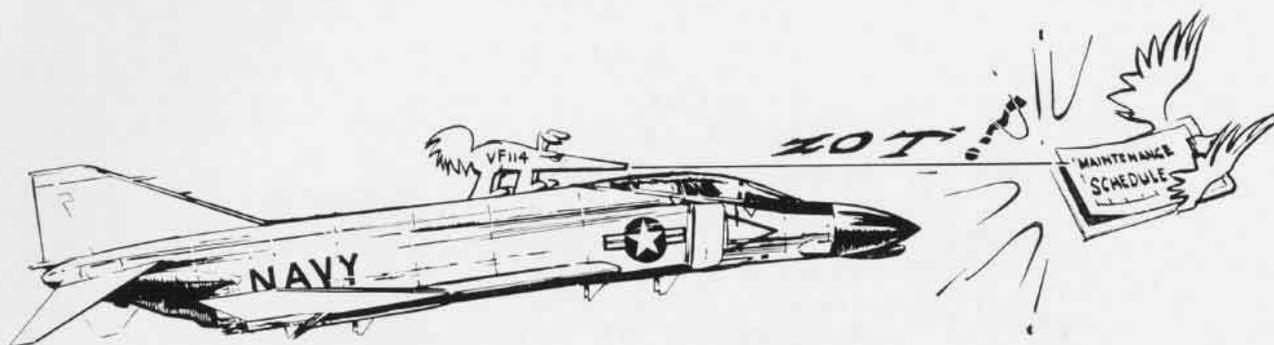
1. Check crew men would fill out their own forms per NAVWEPS 01-245FDA-6. The Check Coordinator, freed of paper work, could then concentrate on pushing the check.

2. One full crew would be used during the daylight hours only, with no men pulled from the check. Three AM's would work discrepancies at night, and when these had been completed, the men would do certain selected tasks. This, it was figured, would ease the AM shortage. Other special work by various shops would be performed as scheduled day or night.

3. Should an AOC be encountered, it would be worked around, and the needed part cannibalized from the next aircraft as it started into check.

THE PLANNING meeting for the next aircraft revealed that it would be an odd calendar check and that both engines were due for inspection. ASC #118 would be accomplished. The "time barrier" team studied the sequence chart and laid out the detailed plan for the check.

The AM's on the first day would



work until the first six hours on the chart were completed. A working day of 12 hours was established, but the men would be released before this if the work was completed. AME, PR, AO and AD specialists would work per schedule. At the completion of the six-hour mark on the sequence chart, the plane would be ready for jacking.

The night men—three AM's—would work discrepancies and, if they had time, perform those cards applicable to packing the nose wheel bearings, using a single jack in place of normal three-point jacking. Also the AE people could come in and perform their checks early at this time as no work was being done that would interfere. Therefore ASC #118 could be started the following day and the power restriction would not cause any time loss to speak of, as Power Plants had agreed during the planning meeting to really push ASC #118.

On the second day, AM's would work to the 12-hour mark on the chart with the night AM cleaning up discrepancies and, if they had time, closing up selected areas. Other specialists would work as scheduled, provided they did not require electrical power. Electrical power checks were to be rescheduled after ASC #118 was done.

Third day AM's would work to the 18-hour mark on the chart, bypassing those cards which involved electrical power checks. Specialists would again work as scheduled, provided no electrical power was required.

On the fourth day, ASC #118 would be complete. Specialists could

start their power check; AM's would clean up discrepancies and close up.

The fifth day would be devoted to turn-up and last minute details. The aircraft should be ready for test flight the morning of the sixth day.

A review of the detailed plan showed that the day AM's would be relatively free after three days. Therefore—might as well dream big—they would have time to perform 30 and 60-day checks before starting the next calendar check.

Did the plan work? Not to the letter. The aircraft was ready for test flight at the end of the sixth day, not on the morning of the sixth. O.K. What went wrong this time? Not one thing! The squadron met what are now considered normal problems and took them in stride. Briefly, the problems encountered were: FOD damage beyond repairable limits on one engine and a rudder power cylinder AOC. The power plant shop prepared another engine to meet the installation schedule. The AOC was transferred to the next aircraft coming into check. The Maintenance Officer had now determined that the squadron could possibly perform another calendar check before reaching North Island. The schedule slippage was caused by ship drills and delayed turn-up caused by flight operations.

Remember, it had been established that the six AM's would work off six hours on the sequence chart each day before stopping. This they did, and it did not take them a full 12-hour work day to do it. More than that, they

completed their scheduled work in the planned time and were able to perform 30 and 60-day checks on other aircraft.

THE THIRD AIRCRAFT was due an odd calendar check. Both engines were due inspection, but one had failed in flight and would be replaced. Also, ASC #118 would not be performed, owing to lack of parts kit and to the fact that the rudder power cylinder was AOC. The detailed plan for working the check was laid out just as the prior check had been, less the time allowance for incorporating ASC #118.

Four and a half days later the aircraft was ready for test flight. Again, normal ship problems had delayed the check to some extent. The AOC was cannibalized from another downed aircraft.

So there you have it! It cannot be done every time. Let's face it. No one can out-guess all the possible problems, such as major discrepancies, AOC's, personnel shortages, etc., that can shoot a check down. But it can be done most of the time if there is a sound plan and efficient execution.

VF-114 found the solution to the time-in-check problem: better planning and closer control. Through better *planning* they plotted out the best order of work and a schedule to complete it on time; through closer *control* they were able to cope with the inevitable minor setbacks and "force events to conform to their plans." To sum it up, the *Aardvarks* recognized they had a problem, went to work to find the solution, and went "ZOT."

PHANTOM II PERFORMS IN CUBAN CRISIS



FIGHTER SQUADRON 41 OFFICERS POSE IN FRONT OF ONE OF THE OUTFITS F-4B PHANTOM II'S AT NAVAL AIR STATION, KEY WEST, FLA.

FIGHTER SQUADRON FORTY-ONE, temporarily based at NAS KEY WEST during the "Cuban Affair," scored an impressive milestone in the history of the McDonnell-built *Phantom II* by shattering all previous flight time records for F-4B squadrons.

Between October 22 and November 22, 1962, VF-41, under operational control of the USAF Continental Air Defense Command, flew 1263 hours. During one 10-day period in October, 503 hours were logged, and 908 were flown during the month of November. Deployed to NAS KEY WEST on October 9, the VF-41 *Black Aces* recorded a total of 1618 hours by December 1. During this period, the tempo of operations was approximately three times the normal F-4B flight-hour program.

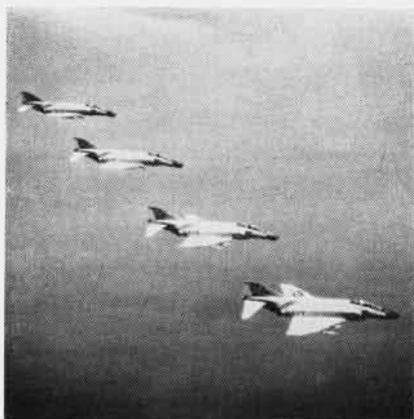
These achievements, accomplished with 14 aircraft and 17 pilot/RIO crews, demanded high utilization of aircraft and long hours of crew alert. While the high level of operations increased the demand for maintenance, it reduced the time available for its accomplishment. Maintenance personnel had to be on the job 24 hours a day.

Pilots and RIO's were required to stand by for 24-hour periods under varying alert conditions. Flights were launched on short notice at any time of the day or night in all kinds of weather. All operational commitments were fulfilled without any accidents.

VF-41's record operations were scored under less than optimum conditions. The *Black Aces* were deployed, without advance warning, to a base with limited facilities which, at that time, were not set up to support the F-4B.

Achievement of the high level of readiness and operations under these circumstances is credited by VF-41 "in great part, to the outstanding support afforded the squadron from all channels." Maintenance equipment was rushed in and installed on a high priority basis. Daily shuttle flights provided needed spare parts. The squadron says, "The importance of this support cannot be overstated."

Though outstanding efforts by the



PHANTOMS RETURN TO BASE AFTER MISSION

Black Aces themselves and superior logistic support were important, *Phantom II* itself has also received a share of the credit. VF-41 concludes that "under conditions of maximum effort, and with proper support, the reliability of the F-4B can be made to approach its performance."

The flight hour record tells only part of the story. The squadron was able to keep a high percentage of its aircraft in a ready-to-launch state. Ten to 12 of the squadron's 14 aircraft were consistently up during the most critical periods, and readiness seldom fell below eight planes.

Setting records is not a new experience for VF-41. The squadron received the Atlantic Fleet Safety Award in 1956 and the CNO Safety Award in 1957. In 1959, the *Black Aces* won the Atlantic Fleet all-weather fighter competition and, as Atlantic Fleet representative at the fourth annual Naval Air Weapons Meet at Point Mugu, emerged "Top Gun." Last year the squadron was edged out for the Navy E by a slim two points.

VF-41, normally based at NAS OCEANA and attached to CVG-7 aboard USS *Independence* (CVA-62), completed RCVG training in the F-4B in March 1962 and became the third operational *Phantom II* squadron in the Atlantic Fleet.

Cdr. D. L. Freeman is VF-41 C.O.

PEOPLE-TO-PEOPLE GESTURE IN S



TOYS FOR ESKIMO CHILDREN AT SCORESBY SOUND ARE WRAPPED



CRAGGY SETTING OF SCORESBY SOUND WAS PHOTOGRAPHED BY NEPTU



SACK FOR AIR DELIVERY IS PREPARED BY PARACHUTE RIGGER.



HAPPY DELIVERY CREWMEN REPORT TO KEFLAV

SANTA'S BACKYARD



NEW AS AIRCRAFT CIRCLED VILLAGE BEFORE PARACHUTE DELIVERY, DEC. 5



VAL STATION WITH SMILES, 'PACKAGES DELIVERED!'



BOXES CONTAINING TOYS ARE PACKED INSIDE SACK AND WRAPPED

In any season, the American Navy man holds a tender spot in his heart for children. At Christmas his aid to Santa Claus is world-wide, inspired by thoughts of home. These pictures show how one Navy unit became Santa's Helpers in a People-to-People effort 200 miles north of the Arctic Circle, 400 miles from their home base at NS Keflavik, Iceland. By 'passing the hat,' VP-16's Detachment 13 bought 100 gifts; they wrapped, packaged, and air-delivered the sackful to the snow-locked village of Scoresby Sound, Greenland. A message was also dropped, written in both English and Danish: 'We hope that our small gifts will bring joy to you during this festive time of year. Many of us have little boys and girls just like you at home in Jacksonville, Florida, [but] we will be separated from them because we are now at Keflavik. We would like to share our Christmas with you as we normally share it with our own children. It is our pleasure.'

★

★

★

Landssíminn	SÍMREYTI/6	Stjórnun
	<i>Officers' Men of VP-16</i>	
Stjórnun	LANDSSÍMI ÍSLANDS	Stjórnun
Stjórnun		Stjórnun
Stjórnun		Stjórnun
KAPTÓBIN VÍA REYKJAVÍKRAÐÍO NR 16/30 61W 6/12 1800		
ELT OFFICERS AND MEN OF PATROL SQUADRON SIXTEEN DET 13 KEFLAVÍK		
THANKS A LOT FOR YOUR KINDNESS DROPPING GIFTS TO THE KIDS IN SCORESBYSOUND WHICH YOU CAN BE SURE WE APPRECIATE VERY MUCH. SENDING YOU AND YOUR PEOPLE HOME IN JACKSONVILLE THE BEST WISHES FOR A MERRY CHRISTMAS AND A HAPPY NEWYEAR FOR THE KIDS. SINCERELY YOURS ELVIC NIILSEN CHAIRMAN DISTRICTCOUNCIL		
COL ELT 13		

CONFIRMATION OF DELIVERY, AN OFFICIAL RESPONSE TO AIR DROP



OVERHAUL & REPAIR workers check systems before the rework aircraft is disassembled.



ROSLYN JOHNSON calibrates the Central Air Data Computer. The CADC was processed in the Superclean Instrument Overhaul Facility at NAS North Island as a pilot rework package.

PHANTOM II REWORKED AT NORTH ISLAND

By Elretta Sudsbury

Overhaul and Repair, North Island

THIRTY THOUSAND pounds of brute force roared down the North Island runway. Hurling into the blue November sky, it climbed quickly, disappearing from sight in seconds.

The plane was an F-4B *Phantom II* (F4H) undergoing initial flight test after rework by the Overhaul and Repair Department.

Phantom II is designated for overhaul at NAS NORTH ISLAND and MCAS CHERRY POINT. Three other O&R's will repair F-4B accessories and components.

Increasing from three in the past

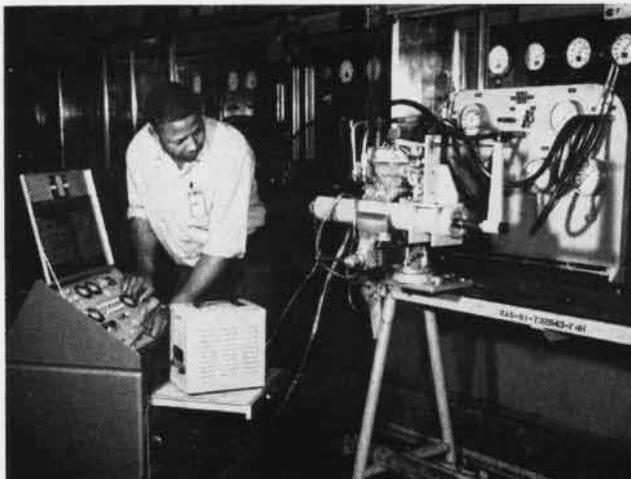
quarter, O&R NORTH ISLAND will rework 19 of the F-4B's during the second quarter of FY '64. Skills, facilities, space, tooling and engineering data and other requirements have been proved by the "pilot" run. According to Capt. Willoughby Mercer, O&R officer, the people at North Island did an outstanding job on their first *Phantom II*.

In January 1959, O&R specialists

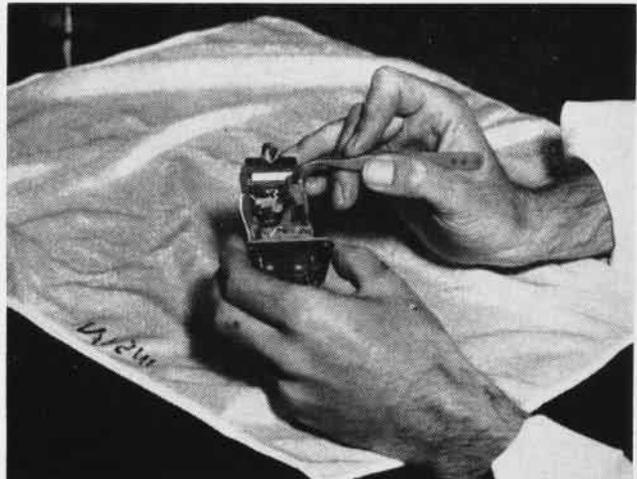
attended a Support Programming conference and early in 1960, Navy Contractor conferences determined the special support equipment needed.

A Pilot Rework Board was established at North Island in March 1961. The 24-man board consisted of key people from O&R, plus one member each from Supply and Industrial Relations Department. It was chaired by John Kreutzer first and then by C. E. Lewis, F-4B Pilot Program Weapons Manager, who succeeded him.

In the F-4B, tolerances are so close and equipment is so intricate that a



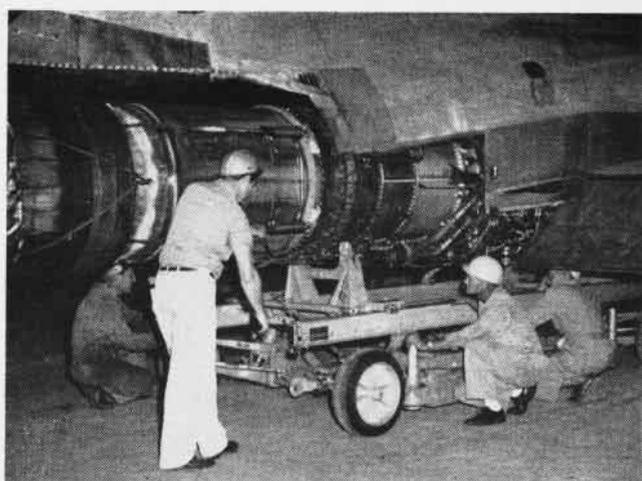
SPECIAL EQUIPMENT is needed for F-4B program. John Richardson gives stabilator cylinder assembly an electrical-hydraulic actuator test.



SINCE FOREIGN matter will affect operation, the Midget Accelerometer (Limited) is reworked under controlled conditions in superclean room.



WHEN THE TIME for final assembly of the F-4B Phantom II (F4H) arrives, Overhaul & Repair workers are involved in last big rework push.



EVERY PART of the aircraft is O&R's business. Here the assembly crew rolls one of the twin J-79's into the F-4B engine compartment.

wide range of specialized support equipment is required. Even the size of the aircraft is a factor; it requires more space than the other jet fighters in production at North Island. Too, there are "black boxes" in the F-4B so small that only one pair of hands can work in them at a time, yet they require knowledge of electronics, hydraulics, pneumatics, and instruments all in one human package.

One of the many "firsts" associated with the F-4B is WRAP (Weapons Readiness Achievement Program). The F-4B is the first aircraft supported by WRAP. The "Maintenance Instruction Manual," or WRAP guide for the F-4B, is an entirely new kind of handbook for maintenance.

The Component Pilot Rework

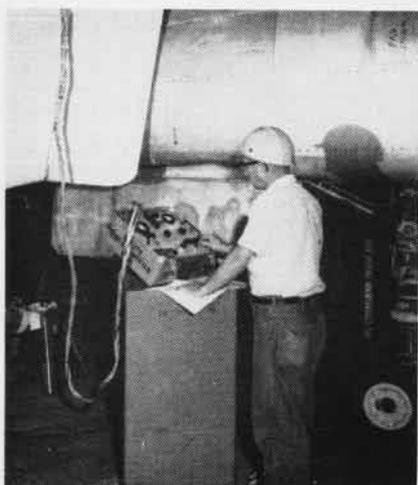
(CPR) package program is another "first" which the F-4B program claims. The components are so numerous and complex that 75 of the 1400 or so were handled as CPR packages; that is, each came to O&R as an individual project, packaged to include the component, technical data, tooling and support parts. To reduce out-of-service time of the F-4B and to provide a means of measuring the capabilities of O&R to produce the full range of accessories and components, the CPR packages were made a part of the original contract.

Many of the instruments are so precise that overhaul under controlled conditions had to be built into the maintenance plan. In the Superclean Instrument Overhaul Facility, guid-

ance and other equipment are reworked.

A full-scale training program was coordinated by Jack Sherman, Industrial Relations Department. Much of it was conducted by McDonnell and several subcontractors. Thirty-five employees received factory training. In addition, McDonnell sent a team of technicians to North Island to provide on-the-job instruction.

A pilot was checked out in the F-4B. Lt. H. V. "Sam" Spade, an F-3 (F3H) pilot, was sent to VF-121, NAS Miramar, for an accelerated aircraft maintenance and pilot course. In addition to serving as Test Pilot, Lt. Spade was the Progressive Aircraft Rework (PAR) Officer. He followed the F-4B Phantom II through to its final test.



H. L. TOMSON tests the Central Air Data computer after it is installed in Phantom II.



CAPT. MERCER, C.E. Lewis, Program Manager; and McDonnell's F. Megna check workbook.



LT. H. V. 'SAM' SPADE climbs into Phantom II which is now ready for its flight test.

VT-1 Enriches the Language Adds 'Grandurion' to the Jargon

Though the term is unknown to the latest dictionaries, it evidently signifies unique status, for pictures of *Grandurions* are displayed in a place of honor by Training Squadron One by Saufley Field.

VT-1 defines a *Grandurion* as a "flight instructor who has flown over 1000 (one Grand) accident-free instructional hours in the rear seat of the T-34 *Mentor* during one normal duty tour."

The prominently displayed *Grandurion* board contains an elite list of names and photographs. While a *Grandurion* is still attached to VT-1, his portrait is displayed on the board. When he is transferred, his name is added to a permanent honor roll list.

A thousand hours in the backseat of a T-34 may seem like a fair contribution on a tour of instructor duty. However, three instructors, Lt. E. Toner, Lt. F. G. Butler, and Lt. W. D. Dobbs, qualify as *Double Grandurions*.

E-2A Simulator Is Ordered Built for Training Device Center

A \$2,584,982 contract has been made with Goodyear Aircraft Corporation for a device to train personnel in the operation of the Navy's E-2A *Hawkeye* (W2F-1) warning and intercept control aircraft.

The device was ordered by the U.S. Naval Training Device Center, Port Washington, N. Y., for use at the Naval Air Technical Training Center at Glynco, Ga.

The trainer will be a fixed installa-

tion and part of a large system enabling coordinated training of surface and airborne personnel in combined operations against air and surface attacks.

The new equipment will simulate tactical operations involved in detecting high-performance, missile-carrying aircraft and coordinating the attack by supersonic fighters and surface-launched missiles, Goodyear Aircraft engineers said.

Included in the simulator will be areas for a radar operator, combat information center officer and an air control officer. An instructor's console is provided to create and modify the tactical problem and monitor and evaluate the trainee's performance.

A computer section, consisting of a special purpose digital computer, will be capable of simulating more than 50 targets, including enemy and friendly aircraft, submarines and helicopters.

RCVG-12 Logs Milestone 10,000 Maintenance Men Trained

Replacement Carrier Air Group 12, NAS MIRAMAR, recently graduated its 10,000th maintenance trainee. Training of maintenance replacement personnel for the Pacific Fleet attack carrier air groups started April 1958.

RCVG-12 squadrons train replacement pilots and maintenance personnel to operate and support the latest combat aircraft. They also give replacement maintenance personnel on-the-job training on the type of aircraft operated by their prospective squadron. Naval Air Maintenance Training Detachments at the same naval air station provide classroom training.

Seven Years of Safe Flight Cherry Point Squadron Celebrates

At MCAS CHERRY POINT, November 23, 1962 was a red-letter day for the station's Operations and Engineering Squadron. It marked the completion of seven consecutive accident-free flying years.

The squadron, presently headed by LCol. Loren W. Calhoun, began its string of accident-free time in 1955 and has now logged nearly 48,000 flying hours without mishap.

The unit's mission is to provide the personnel and facilities necessary for the operation and maintenance of the ten aircraft assigned to the squadron. These include a Beechcraft C-45 (SNB); one C-47 (R4D), C-54 (R5D) and C-119 (R4Q) transports; one Piper *Aztec* U-11A observation plane; two T-33 (TV-2) jet trainers; and three H-19 (HRS) helicopters.

The unit also provides line handling and refueling of visiting aircraft, including minor maintenance and replacement of aircraft parts.



L. I. MAYER, AEC, received the SecNav Achievement Award at North Island for his part in inventing and developing a training device to simulate post-load and in-flight operations of nuclear weapons on naval aircraft.

VP-17 Hits Safety Mark Logs 60,000 Accident-Free Hours

Patrol Squadron 17, based at NAS WHIDBEY ISLAND, completed 60,000 accident-free flight hours in mid-December. This record was achieved in a period covering eight years. During that time, squadron pilots flew the P-2F (P2V-6) and P-2E (P2V-5F), in addition to the SP-2H (P2V-7S) they currently operate. Cdr. D. E. McKinley, squadron C.O., logged the record hour.



THE XV-4A HUMMINGBIRD, Army's first turbojet VTOL airplane, made its initial conventional flight at Marietta, Ga. This unique, stubby-winged, twin-jet research craft has many flight characteristics of a real, live hummingbird. It will fly straight up, straight down, hover, then dart like a flash at about 500 mph. Built by Lockheed, it is a mid-wing monoplane, 32 ft., long with a wing span of 25 ft. and powered by two Pratt & Whitney turbojets.



VMF(AW)-451 TAXIES ONTO HANCOCK CATAPULT OFF VIETNAM



451'S CRUSADERS ADD TO SQUADRON'S 20,000 SAFE FLIGHT HOURS

VMF(AW)-451 RACKS UP THE RECORDS

LCOL. CHARLES E. CREW'S VMF(AW)-451 has not only given new meaning to the phrase "outstanding safety record," it has also accomplished a seemingly perfect marriage between combat readiness and aviation safety.

VMF(AW)-451's success story started in January 1961 when it was given a day fighter mission, 24 F-8C's (FSU-2) and an almost complete turnover of personnel. After six months of intensive training in the F-8C, 451 was redesignated "All Weather," issued 22 new F-8D's (FSU-2N) and given five more months of training, including carquals on *Lexington* and *Oriskany*.

The current deployment has been marked by operational highlights:

By Capt. David V. Wood, USMC
VMF(AW)-451

- First *Crusader* squadron to fly from California to Japan. The first 451 plane broke deck at El Toro on January 15, 1962. Only eight days later, with the help of C-130 (GV-1) tankers, the last 451 *Crusader* landed at NAS ATSUGI, Japan.

- Extensive operations from a SELF (Short Expeditionary Landing Field) unit on the island of Mindoro.

- Combat air patrol and escort flights in a Southeast Asia cold war "hot spot." After a Sunday-afternoon recall at Atsugi, in less than 48 hours,

six 451 *Crusaders*, pilots and mechanics, were aboard *Hancock* steaming off the Vietnam coast. The rest of the squadron stood by at Cubi Point.

- Carrier requalifications for the entire squadron on *Coral Sea*.

- Logged a record 1114 *Crusader* flight hours in a two-week gunnery deployment at Naha AB, Okinawa.

While racking up these operational records, VMF(AW)-451 was awarded two consecutive CNO Safety Awards and logged over 20,000 consecutive accident-free *Crusader* flight hours since March 1960.

The 20,000 mark occurred Dec. 18 on a flight by LCol. Crew on his 39th birthday; it put him over 4000 hours.

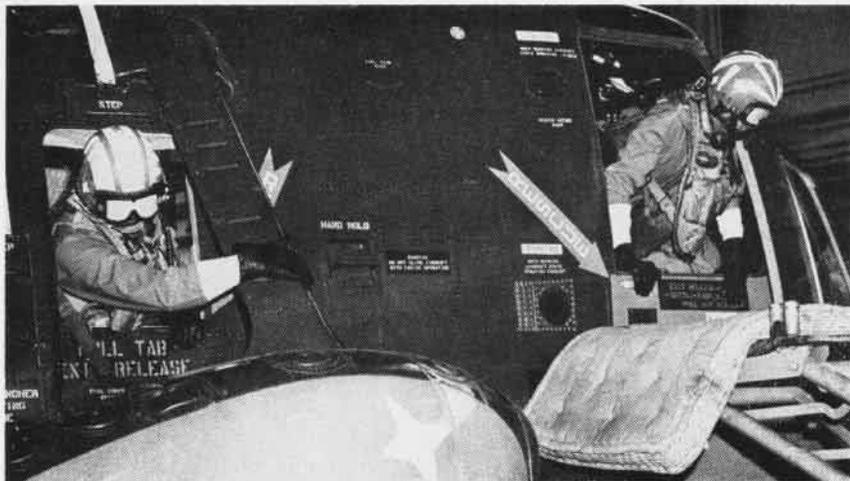


OPERATIONAL READINESS NEVER SLIGHTED IN QUEST FOR SAFETY



MGEN. F. E. LEEK, 1ST MAW, LCOL. CREW, COL. ADAMS, MAG-11

STATIONS STRESS SURVIVAL TECHNIQUES



HELO ASW SQUADRON 11 learns survival techniques. Crewman and pilot scramble out of *Sea King's* escape hatches with blindfolds taped over goggles to simulate ditching in total darkness.

ALTHOUGH the most advanced safety features have been installed in modern aircraft, experienced aviators still appreciate the importance of ditching drills. Helicopter Anti-Submarine Squadron 11, NAS QUONSET, for example, now flies the new improved SH-3A *Sea King* (HSS-2), but keeps grinding away at proper survival techniques.

The Navy's latest ASW helo, *Sea King*, travels at 200 mph and is capable of locating, identifying and destroying submarines operating beneath the ocean surface. It is designed to float on a moderate sea, but fire, a leaky hull, unusual landing attitude, or other factors could cause the ship to sink—so, on with lifesaving drills.

Exiting from *Sea King's* small hatch

while wearing survival suit, pistol and holster, one-man life raft, knee board and Mae West can be quite a problem which needs practiced "know-how." Pilots have discovered that extraneous gear sticking out of unzipped pockets can be serious under actual ditching conditions. Just for extra training, they practice ditching "blind."

Ditching drills are performed with more than routine interest by pilots and crewmen. Escaping from an aircraft which has made a forced water landing is especially important to a helo crew since they have no parachutes and ditching is a foregone conclusion in event of power failure. In a crucial moment, they want to know their way out in a hurry. If they

ditch, there usually isn't time to read directions.

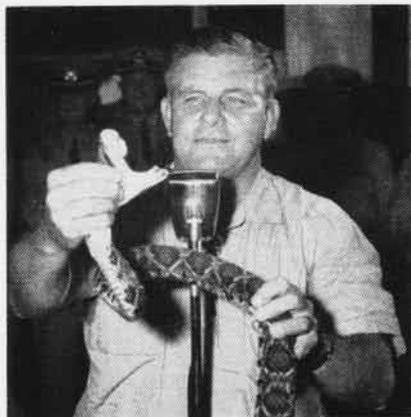
MEANWHILE, down at NAS JACKSONVILLE, Attack Squadron 44 leaves no stone unturned in its intensive survival training.

An average of 150 pilots are trained there each year, and in the course of instruction they are required to fly over land areas which include Georgia's Okefenokee Swamp and portions of Florida's vast Everglades. These areas are teeming with at least six varieties of deadly poisonous snakes, man-eating alligators, plus other hazards.

VA-44, which readies attack plane pilots in the Atlantic Fleet for carrier duty, has acquired the volunteer services of Ross Allen on a "when needed, when can" basis. Owner of a reptile institute, he is one of the world's foremost authorities on reptiles. An expert on land survival, Allen shows the men (using real live bait) some of the characteristics and habits of poisonous snakes.

During the course of instruction, methods of self-protection and snake-bite treatment are demonstrated to the squadron. The life of a downed pilot in these swamps could very well depend on his knowledge that a snake almost always strikes below the knee and what type of hard-surfaced protectors can be found suitable for covering the legs. Snakes can also be skinned, cleaned and eaten—should the need arise.

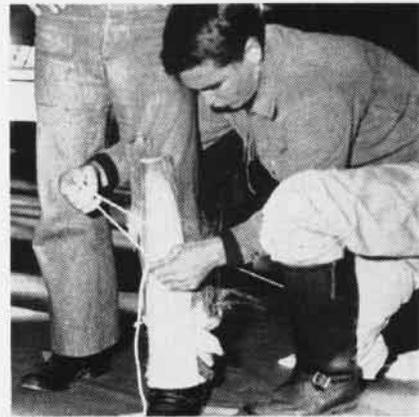
When student pilots of VA-44 speak of survival techniques, it is with the



ROSS ALLEN, noted reptile expert, displays business end of rattlesnake to men of VA-44.



RATTLESNAKE STEAK is being prepared for dinner. The skinning technique is demonstrated.



A SIMPLE DEVICE, such as the cabbage palm, can save a life in the snake-infested sub-tropics.



SNARE TRAP consists of line, log and limb and proves invaluable for food procurement.



MEAT IS PLACED on fabricated drawer near top of near-completed three-pronged smoke tent.



SMOKING and preserving meat is accomplished by enclosing the structure with a parachute.

authority of those who have been taught by one of the best instructors in the world. According to Lt. Edward F. Bronson, squadron survival training officer, these instructions have paid great dividends.

FUNDAMENTALS on "how to stay alive" are studied with equal intensity by student aviators at NAS PENSACOLA. Since man has little or no control over Mother Nature and her more treacherous elements, survival techniques and their proper application substantiate the need for survival training.

Every Naval and Marine Corps Aviator takes a two-week basic survival training course during Pre-Flight. This course includes lectures and field exercises in survival techniques, food

procurement and preparation, escape and evasion tactics, water safety and survival methods, parachute landings, and ejection seat procedures. They become thoroughly familiar with air, water and land survival.

Most important is the psychological aspect—learning to make necessary adjustments in any situation and capitalizing on prevalent circumstances.

A three-day survival trip to the forest swampland of Eglin AFB Reservation is an important phase of the basic survival course. Here, the student aviator learns to improvise, and is required to demonstrate his acquired knowledge. The student learns through practical experience and benefits by his mistakes.

Food procurement, one of the most

important phases, is learned on this "acid test" trip. A period of being deprived of an adequate diet teaches each aviator his own limitations whenever hunger enters the picture. They learn to identify the edible food from the harmful without becoming involved in a hopeless task of species identification. Raccoon, opossum and choice cuts of tender rattlesnake steaks constitute a valuable item to hungry men. However, if meat is not found, plant life is used.

Upon completion of the course, the student aviator has acquired valuable survival knowledge. He has mastered the psychological barriers and learned his physical and mental limitations. He has developed the will and the means to survive, should an unfortunate situation ever confront him.



NAVAL AND MARINE CORPS student aviators assemble their gear for a five-mile "acid test" trip to learn the rudiments of how to survive.



STUDENT DEMONSTRATES comfort and ease of construction of a hammock with versatile parachute. Hood protects survivor in foul weather.

SYNTHETIC training devices are now a regular part of every Naval Aviator's training, but this was not always so. A man whose life span included the development of aircraft from the very beginning was the inventor and engineer who really put electronic synthetic trainers into the Naval Aviation curriculum. It was he who wrote the first thesis in aeronautics presented for a

degree at the Massachusetts Institute of Technology in 1912.

RAdm. Luis de Florez, USNR (Ret.), who died December 5, 1962, at the age of 73, was the winner of the Robert J. Collier Trophy in 1944 for his contribution to the "safe and rapid training of combat pilots and crews." Noted scientist, innovator and Naval Aviator, Adm. de Florez initiated a

program that not everyone appreciated at first. This account by Capt. Richard L. Farrelly, USNR (Ret.), takes the reader back to the early hectic days of 1940 and 1941 in the Bureau of Aeronautics when, with verve and a fine disdain for red tape, Adm. de Florez paved the way for the establishment of the Navy's famed Special Devices Center, located at Port Washington, N.Y.

DE FLOREZ STARTED A TRAINING ERA

AT THIS TIME when many people are properly mindful of the wonderful accomplishments of the late RAdm. Luis de Florez, USNR (Ret.), I think it is appropriate to point out some of the obstacles which he overcame in getting started in the Navy.

Luis de Florez was a genius. A genius usually moves faster than those around him and, in so doing, causes most people great annoyance. Luis was no exception to this rule, and when he came to the Navy Department in July 1940, he was a complete headache to everybody. I know because I came to duty at the same time together with W. A. Read and J. B. Taylor, Jr., all four of us reporting to the Chief of the Bureau of Aeronautics. I was soon to take over as Administration Officer and, as such, one of my prime concerns was to try to keep Luis out of trouble.

Adm. John H. Towers, Chief of BUAER, was a great friend and admirer of Luis and wished him well, but the question was where to assign this bursting dynamo. He could not operate forever as Special Assistant to the Chief of BUAER, but where to put him? He had to have a base from which to operate and develop these ideas of his, but which division of BUAER was the proper one for these synthetic devices? In July 1940, the term, "synthetic training devices," was not well known, for it was only in England that synthetic trainers were being used. The U.S. Navy was doing nothing. It was finally decided that since these devices were experimental, they might fit into the Experiment and Development Section of the Engineering Division.

This decision caused a near mutiny. The Director of the Engineering Division couldn't figure out what de Florez was talking about, hated the sight of



THE LATE RADM. LUIS DE FLOREZ, USNR

him, considered him "a noisy, cocky, and upstart civilian." He felt also that his very presence was an insult to Engineering Division by implying that he, de Florez, could do anything more than was already being done by the Engineering Division Experiment and Development Section.

Although Adm. Towers had made this assignment, it was up to the Director of the Engineering Division to take over at that point, and this he did. In his estimation, the talked-of synthetic training devices were certainly not important and in too nebulous a state of existence to require any of the very scarce office space, so de Florez was told he could occupy a stool together with one half of an unused drawing table. Further, de Florez was reminded that he was now part of the Engineering Division where the working hours were 0800 to 1630 and that

absence from his drawing room section would be only by permission of the Director of Engineering Division.

Those who knew de Florez can imagine how long this sort of a relationship could last. The Engineering Division reverberated with shouts and invectives until nobody could work, nerves became raw, aircraft design could not proceed, the war effort was being held up, all on account of this "good-for-nothing upstart civilian with the silly mustache."

Soon the war came down the corridors to the Office of the Chief of BUAER; then in his absence, through my office, to the Assistant Chief, Marc Mitscher, who was also a warm friend of Luis and a great admirer. He wished to help him, but Engineering Division had a job to do and couldn't be completely disrupted even by a worthy Luis de Florez. A wise head listened to the hotheads on both sides of this controversy and ordered each to go at once on a week's leave. A breathing interval had been provided, but no permanent solution to the problem. This devastating tension soon resumed and the word was now spreading through all BUAER, so that Adm. Towers was hearing from all sides, "Can't you get rid of this fellow de Florez?" The Admiral had no thought of getting rid of Luis, but was most anxious to have him located where he could work effectively. What to do?

At this point in BUAER expansion, it was realized that Personnel Division could no longer include Training as a section and that Training must be established as a separate division.

Maybe this was an out for de Florez. After all, these talked-of devices, though synthetic, were also training, so perhaps Training Division was ripe

By Capt. Richard L. Farrelly,
USNR (Ret.)

for a Special Device Section. This was a real inspiration, and for de Florez any spot was better than the one he was in, so why not let loose his guns on the Director-to-be of Training. This approach worked pretty well, and the pro-tem Director of Training, Capt. A. K. Doyle, began to see talent in this funny "Bounding Basque" as he was now called. This appreciation of Luis was shared by Capt. Arthur W. Radford when he took over Training. The Special Device Division came into being and was assigned space and included on the new BUAER route sheet.

All seemed to be well, but it was apparent that the calm could not last long. Luis was, as always, moving faster than those around him. The next problem was the rapid growth in numbers of Luis' technical assistants and finding space to house them.

These assistants whom Luis required to construct his devices were all highly qualified technically, but having them commissioned as Reserve Officers in the United States Navy was not easy. A large number just failed to meet the requirements of BUMED. This was nonsense to de Florez. What did it matter if an electronic engineer of proved competence in civil life had less than 20-20 vision when his talents could be used at once in BUAER Training Division? "What's the matter with BUMED? Didn't they know there was a war about to start? What was Director of Training going to do about it? What was the Assistant Chief doing? Did the Admiral understand all these absurdities?"

It was not just an isolated case but a fistful of them, and soon Marc Mitscher had a list of 25 worthies whom BUMED would just as soon leave in their civilian suits. De Florez never let up. If BUMED still said "No," Luis would decide on some method of gaining his goal. In some cases, he obtained specialized exercises for weak eyes, in others, medical aid for tired ears or cures for drooping arches, and his team kept growing.

This growing team brought on the next and obvious problem: where to house them. The Director of Training was feeling the heat now. Fond as he was of Luis, he had not envisioned this exploding situation in his Special Device Section; his planners had no space they could allocate. BUAER planners had no space. SecNav had no space.

Luis listened to all these negatives and continued his shouts and groans, but he did not stop there. The genius kept pushing—and in his own way. Imagine the upheaval a few weeks later when de Florez bounced into the Assistant Chief with a sheaf of papers and gleefully stated, "I've got it. Here's a lease which I have just signed on a building uptown for five years and all I need now is \$100,000 for renovations."

Readers will appreciate that no one was authorized to obligate the Navy Department for leases of space in the D.C. area except Assistant SecNav, and here once again was this "noisy, obnoxious, cocky ex-civilian with the silly whiskers," daring to sign a five-year lease on a building which would require \$100,000 for renovations.

Assistant SecNav really blew on this one. Down the corridors to the Ninth Wing came the trampers. "Who is this de Florez? What did the Chief of BUAER have to say?" After all, war or no war, proper channels must be followed. Once again Marc Mitscher was a patient listener and once again Luis obtained his objective.

I will mention only one more incident so indicative of Luis' foresight and one that was so essential to his goal. The BUAER budget was being sharply scrutinized by SecNav and subsequently by the Congress. There seemed to be small chance that the Navy would include in its figures amounts as large as de Florez considered essential for his Devices. Once again the term, "synthetic training devices," would not be understood and the Congress would drastically cut the funds proposed for these purposes.

So Luis, entirely on his own initiative, invited important Congressmen to visit his building at 610 H Street N.E., and introduced his Devices. The proper ones came and spent the entire day. They sat in the trainers with realistic combat movies bringing them right into the fighting. They were co-pilots on navigation hops, pushed buttons, flashed lights, heard noises. They got the works and Luis got his money. First \$50,000, then \$1,500,000, then \$10,000,000; his requested figures were thereafter granted. He was in.

The story of the rest of Luis' life and his contributions to the Navy are well known, but these hectic days are the ones some of us will never forget.



GOLD SEAL for first T-34 to log 5000 hours is applied to BuNo. 140705 by Beech Rep John Stewart as VT-1's C.O., Cdr. H. E. Kendrick; Maintenance Officer, Cdr. Sullivan, and Plane Captain of Month, Burrell, AN, look on.

LPH-10 Ordered by BuShips \$31 Million for New Assault Ship

The Bureau of Ships has awarded a \$31,972,000 fixed-price contract to the Ingalls Shipbuilding Corporation, Pascagoula, Miss., for the construction of one amphibious assault ship.

LPH-10 will carry 2000 assault troops in addition to a crew of 900. She can carry either 20 large CH-37C amphibious transport helicopters or 30 light UH-34D *Seaborse* (HUS-1) helicopters.

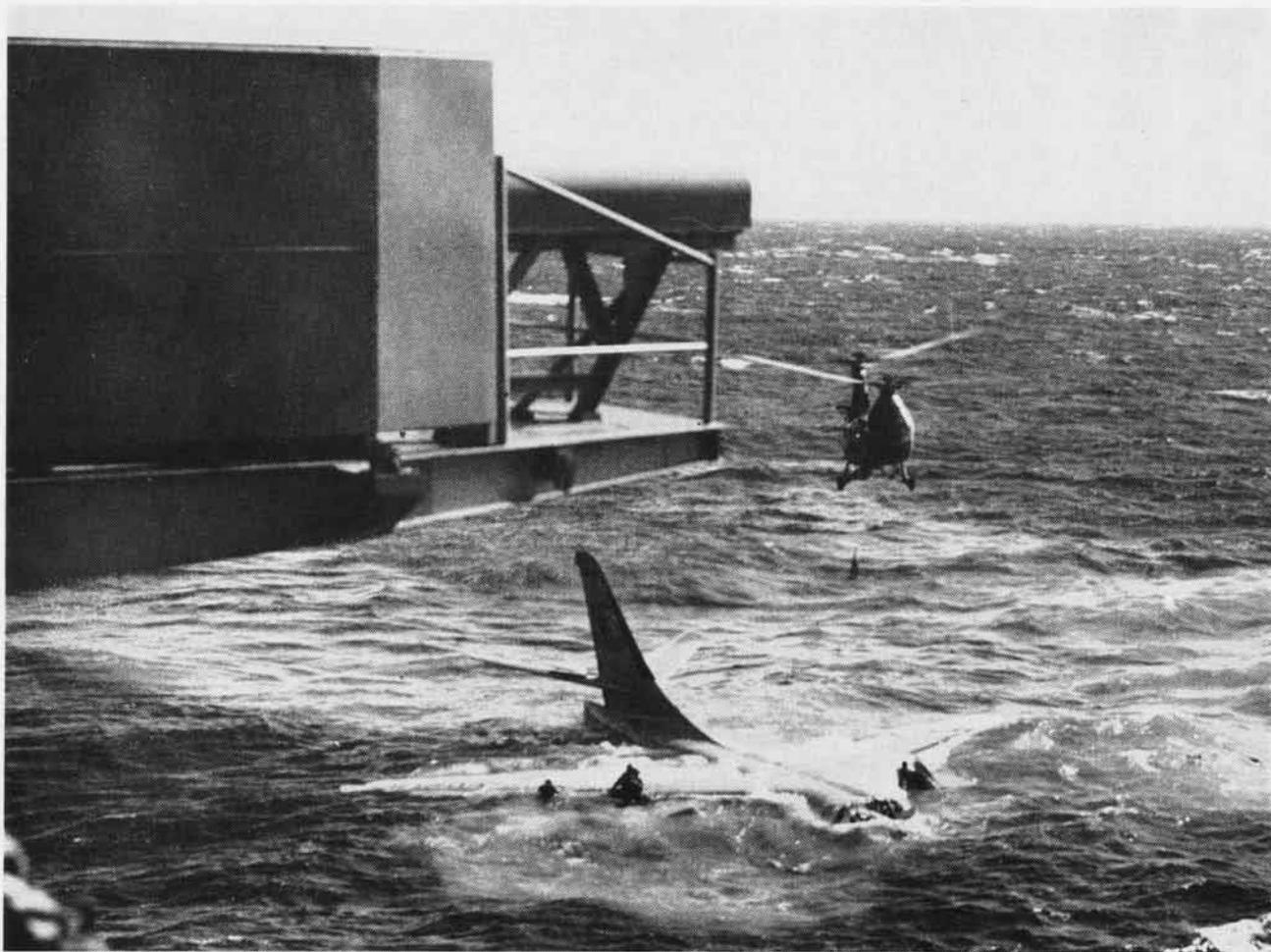
LPH's are 592 feet long, have a maximum width of 105 feet and a full load displacement of 18,300 tons.

LPH-10 will be the fifth amphibious ship to be built from the keel up as an LPH. *Guadalcanal* (LPH-7) and *Guam* (LPH-9) are under construction at the U.S. Naval Shipyard, Philadelphia, Pa. USS *Iwo Jima* (LPH-2) is assigned to the Pacific Fleet and USS *Okinawa* (LPH-3) to the Atlantic Fleet. Three converted *Essex* and one escort carrier conversion are in commission.



A HALF MILLION flight operations since Jan. 1, 1959 was record of MCAS Ynma with a landing Dec. 17 of a *Crusader* flown by 1st Lt. Marx Barnum (C) shown with MCAS C.O., Col. Black and VMF C.O., LCol. Dean Wilker

HU-1: THREE TIMES A SAFETY WINNER



AN HU-1 HELICOPTER, ATTACHED TO USS MIDWAY IN WESTPAC, LOWERS SLING TO CREW MEMBERS OF AN A3D THAT CRASHED INTO THE SEA

FOR THE THIRD consecutive year, Helicopter Utility Squadron One has won the Chief of Naval Operations Aviation Safety Award. The cake-cutting ceremonies are over, and the new plaque is hung in a place of honor. Why does HU-1 keep coming up with the winning combination? What makes its safety program outstanding?

Helicopter Utility Squadron One, under the command of Cdr. William C. Casey, is based at NAAS REAM FIELD at Imperial Beach near San Diego, Calif. Its primary mission is air-sea rescue in support of the Pacific Fleet. Squadron helicopters also carry cargo, mail and personnel, but the principal objective of HU-1 is and

By Lt. John W. Brooks

always will be the saving of lives.

From Ream Field HU-1 deploys compact units of pilots, aircrewmembers and maintenance personnel throughout the Pacific area. Over 150 such detachments operated with Pacific Fleet ships last year. These range from one pilot-four man units aboard cruisers, slightly larger units aboard Arctic and Antarctic bound icebreakers, through special support missions aboard a variety of ships operating from the Aleutians to the South China Seas, to three pilot-ten man detachments aboard attack carriers. In many instances these HU-1 units operate in virtual isolation

from other fleet air organizations. Yet this very handicap engenders a spirit of identity with the unit and its operational mission that is a major contribution to HU-1's outstanding safety record. With minimum access to sources of supply, operational readiness and safety consciousness must go hand-in-hand.

Another cornerstone of the squadron's winning combination is that HU-1 is, in effect, its own RAG (Replacement Air Group). Throughout its extensive training program, HU-1 strives to inculcate in new pilots and enlisted personnel not only a similar attitude toward safety, but also a complete understanding of the various mis-



SKIPPER (R) HANGS UP SAFETY AWARD

sions which the detachments must execute.

The aircrewman syllabus lasts three months, during which time enlisted personnel, in addition to standard requirements, complete a rigorous physical training program in preparation for the rescue situation. The water survival portion of this training is climaxed by two one-mile open sea endurance swims. The simple fact that the rescue situation will occur again in the future, just as it has 888 times in the past for HU-1, gives purpose to and inspires enthusiasm for this otherwise tedious training. A rescue aircrewman must be able to do the work of two whenever the chips are down.

Similarly, in their training, pilots in HU-1 are imbued with a sense of immediacy. Even prior to the time of perfecting their overwater technique, HU-1 pilots are operationally oriented. All available statistical analyses of helicopter accidents over the last five years are discussed in an attempt to pinpoint future problem areas and prevent their recurrence. Classroom work, pointing up the problems of small unit deploy-

ments, emphasizes the close links between safety consciousness, technical competence, and operational preparedness.

In a very real sense, HU-1's outstanding record is self-perpetuating. This is manifested routinely in maintenance work. A winning tradition has become a stimulus to conscientious aircraft maintenance in the home squadron as well as among deployed units. The momentum of a winning tradition further exhibits itself in the fact that while HU-1 now operates five different types of helicopters—and many pilots rarely fly two consecutive flights in the same type—no flight safety problem has been generated by this necessary requirement for versatility. On the contrary, it is felt that the experience gained, with a consequent increase in the bases of sound flight judgment, is an asset to HU-1's safety program.

HU-1 has steadily been preparing for the anticipated delivery of the all-weather UH-2A (HU2K-1). During the past 12 months the squadron has increased its night flying time over a hundred fold. HU-1 emphasizes that present maintenance of proficiency is the only sure key to a smooth transition to a night capability. Once all-weather helicopter operations become commonplace, operational preparedness will hinge upon the built-up reserve of experience gained by the squadron's pilots at the present time.

Again anticipating future requirements, HU-1 has pioneered in the use of "wet suits" for its aircrewman. The added safety advantage for the aircrewman in a rescue situation is multi-



HU-1 APPROACHES TO LAND ON A DD

plied by the operational latitude provided by this versatile and lightweight protection. Firm in the belief that "a safety advantage is an operational advantage," the HU-1 Safety Council, headed by LCdr. Thomas M. Murray, HU-1 Safety Officer, has devised and manufactured a unique container for the one-man liferaft. Parachutes are usually not worn by helicopter pilots because of the low altitudes at which they normally work. In their place, HU-1 pilots and aircrewmen wear, in conjunction with their Mae West lifejacket, a package that contains a one-man raft. The raft is fastened by lanyard to its package to prevent the possibility of losing it when it is most needed. The pack is extremely lightweight, easy to wear, and doubles as a backrest during flight.

HU-1 is looking for its fourth Safety Award plaque in 1963. Judging from past performances, and from the *esprit* engendered by the knowledge that there is no backup for their operational ability, they may find it. As has often been said about all safety records: "They don't happen by accident."



IF NEEDED, WET-SUITED CREWMAN READY



CREWMAN CHECKS LIFERAFT PACK LANYARD

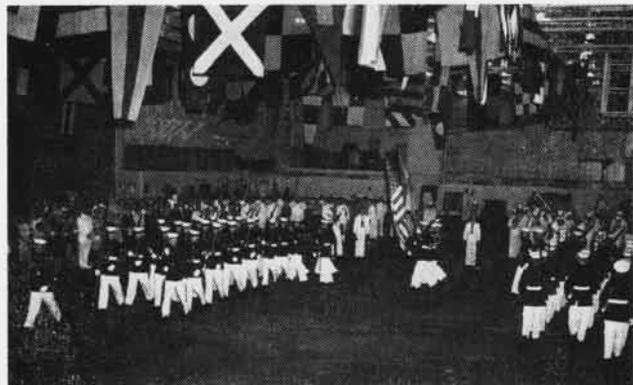


CREWMEN PRACTICE USE OF RESCUE SLING

AT SEA WITH THE CARRIERS



VADM. PAUL STROOP assumes command of the Naval Air Force, Pacific Fleet, relieving Adm. Ekstrom (center). Under SecNav Fay is at left.



FORRESTAL'S MARINE GUARD parades on bangar deck during an official reception in Beirut, Lebanon, during carrier's Mediterranean cruise.

PACIFIC FLEET

Ticonderoga (CVA-14)

In ceremonies aboard the *Ticonderoga* at the end of November, VAdm. Paul D. Stroop took command of Naval Air Force, Pacific Fleet. He relieved VAdm. Clarence E. Ekstrom who retired after 38 years of commissioned service. Under Secretary of the Navy Paul B. Fay presented the Distinguished Service Medal to Adm. Ekstrom. Adm. Stroop served as the

first Chief of the Bureau of Naval Weapons, Washington, prior to taking the ComNavAirPac position.

Kitty Hawk (CVA-63)

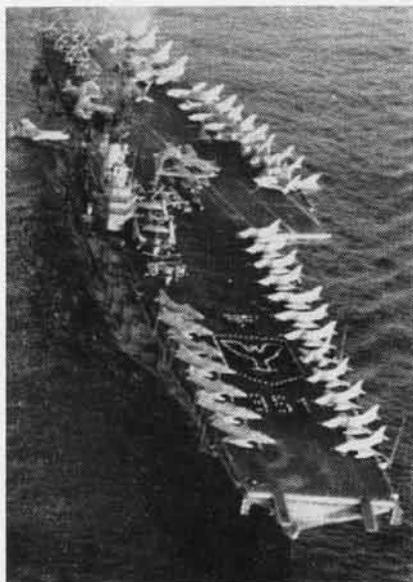
Forced aboard by approaching foul weather, Air Group 11's VA-112, VA-115 and VAW-11 detachment pilots had to make landings aboard *Kitty Hawk* while the carrier was at anchor in Buckner Bay, Okinawa. With 22 knots of wind across the deck in advance of a typhoon, eight *Skyhawks*, *Skyraiders* and *Tracers* caught the wire without incident. The final arrestment was made in the carrier's COD aircraft by the ship's aerologist, LCdr. McPhearson, who (according to the ship's PIO) may have been the first pilot to land aboard a flight deck at anchor at night.

landings in an A-4B *Skyhawk* (A4D). Lt. Johnson logged most of his *Hancock* landings during a 1958 cruise.

Hornet (CVS-12)

Flying an EA-1E *Skyraider* (AD-5W), Lt. James Adcox became the first Centurion of the *Hornet's* VAW-11 detachment.

The Commanding Officer of VS-37, Cdr. R. G. Coleman, Jr., joined the 100-landing club during the *Hornet's* WestPac cruise. His landing made him the first Pacific aviator to make the milestone landing in the S-2B *Tracker*



CROWS FOR 351 men is the message formed by newly rated men on Franklin D. Roosevelt.

Hancock (CVA-19)

Hancock established a new record for "thirst" in 1962. Steaming more than 68,000 miles during the year, the carrier took on more than 20,000,000 gallons of Navy special fuel oil, breaking its 1961 mark. Extensive periods of high speed operations during light wind conditions were given credit (or blame) for the need for more fuel oil.

Only two days separated the high points of a cruise for Lt. G. A. Johnson, VA-125 on the *Hancock*. On December 9, he made the carrier's 53,000th landing and on the 11th made his 100th landing aboard, both



GALE WINDS prevented Enterprise docking at Norfolk after Cuba duty, forced "liberty lift."



300TH LANDINGS came within minutes of each other for Lts. Clark and Brennock of VA-72.

(S2F-3). VS-37 is the first squadron deployed with the new *Tracker*.

Hornet's air group returned to San Diego December 20 after being the first PacFleet carrier unit to operate new models of the S-2D ASW aircraft and the SH-3A *Sea King* (HSS-2) helicopter with the Seventh Fleet. *Hornet* put into Long Beach after departure of the squadrons of CVSG-57.

ATLANTIC FLEET

Antietam (CVS-36)

With the easing of tensions following the Cuban affair, the delayed mothballing of the Navy's first angled-deck carrier, the *Antietam*, was started in the final week of 1962. She had been scheduled to move into Philadelphia in November.

Antietam, utilized as the Training Command's flight deck, used the extra time to rack up its 122,000th landing. The landing was made by a Fleet pilot, Lt. Thomas Campbell, VS-30. Capt. James Armstrong, C.O. of the *Antietam*, invited Lt. Campbell's entire squadron aboard for Thanksgiving dinner to celebrate the milestone.

Lexington (CVA-16)

Assigned as relief for the *Antietam*, the *Lexington* reported for her new assignment early in January as the Training Command carrier. The *Lex* was one of eight carriers assigned for Cuban quarantine duty.

The "extra" November assignment brought the title of Centurion to a pilot who had missed the designation by a mere eight landings during his first cruise in *Lexington*. He is LCdr.

Robert Dunn, VA-36, who added eight landings to the 92 he had totalled during a 1957 deployment. The latest landings were in a *Skyhawk* jet, the earlier ones in a *Skyraider* prop plane.

Franklin D. Roosevelt (CVA-42)

LCdr. St.C. Smith was pilot of an A-3 *Skywarrior* (A3D) which notched *Roosevelt's* 114,000th landing during its Mediterranean cruise.

The *Roosevelt's* air group commander, Cdr. G. C. Talley, and air group squadron members participated in an exchange program with Turkish Air Force officers. After hosting a group on board the carrier, the U.S. pilots made a tour of Turkish air fields.

Enterprise (CVAN-65)

The *Enterprise's* Centurion Club has its first member. He is Ltjg. Sidney Taylor, VA-64, who doubles as an LSO when not flying the A-4C *Skyhawk* (A4D). Commissioned in late November 1961, *Enterprise* has logged more than 11,000 landings in its first year. Landing #10,000 was registered by Cdr. Kent Lee, CAG-6, in a *Skyhawk* before the ship's first anniversary.

A candidate for "fastest landing-logger" is Lt. John Brickner, VF-102, flying the F-4B *Phantom II* (F4H). Lt. Brickner, in his first sea tour, has logged 400 carrier landings and more than 1500 hours. His RIO, Lt. Charlie Brooks, has been aboard 107 times while riding the back seat of the *Phantom*. Most of Brickner's landings were made in the F-6A *Skyray* (F4D) before the squadron transitioned to the F-4B.



FIRST ENTERPRISE Centurion Taylor gets the shoulder ride of football heroes from crew.



LEBANESE APPLES stacked for loading on the *Forrestal* show the size of crew's appetite.

Wasp (CVS-18)

Following its participation in the Cuban quarantine, the Boston-based *Wasp* logged its 50,000th landing en route homeward. Lt. Monte D'Armand, flying an S-2 *Tracker* with Ltjg. Henry von Kolnitz, co-pilot, received the landmark handshakes. Both are attached to VS-28.

Independence (CVA-62)

In 43 days at sea during the Cuban quarantine period, *Independence* logged the following: 597 movies for almost 1200 hours of show time, 2500 carrier landings, steamed 15,517 miles, consumed 126,739 gallons of fuel oil, used more than 8.8 million gallons of water, disbursed more than \$570,000 in pay to 4000-plus crewmen, took back some \$21,000 at the ship's soda fountains, sold more than \$133,000 at the ship's stores, washed 280,000 pounds of clothes and, of these, pressed 57,000 pounds.

While at sea, the *Blue Hawks* of VA-72 did some logbook scanning and discovered that the squadron's 14 *Independence* Centurions had logged a total of 2932 landings in the A-4C *Skyhawk* (A4D), an average of more than 200 per pilot. Two of the *Blue Hawks*, Lt. G. G. Clark and Lt. R. F. Brennock, passed the 300-landing mark.

To VAW-12's Lt. George Weaver went the honors for recording the 47,000th landing on the *Independence* flight deck, landing an E-1B *Tracer* (WF-2) on December 6.

Lake Champlain (CVS-39)

Champ's 5000th Carrier Controlled Approach (CCA) was recorded in

mid-November with Lt. J. M. Nelson, VAW-33 (Det. 39) as the receiver of control advice while bringing in his EA-1E (AD-5W) aircraft. The CCA unit is headed by Chief Air Controlman Robert Haley. Controllers John Hill and Victor W. Kowski were the "talkers" on the milestone approach.

VS-22, Quonset Point squadron which plies its ASW trade on the *Champlain*, recorded its 15,000th accident-free hour of flight, rounding out 30 months of accident-free operations since the unit's commissioning. Cdr. C. R. Wiseman, C.O., attributed the performance to the squadron's "rigid adherence" to the rules established in the NATOPS manual, S-2 Flight Handbook and Maintenance Handbook.

From 'Bible for Tail Hook Pilots'

Published by CVSG-59

"Render unto Caesar that which is Caesar's. As the two-finger run-up is the signal to fly, so is the 'cut' the signal to land. Therefore, holdeth ye not off after the cut, for whosoever floateth over the last wire soweth great anguish in the breast of the landing signal officer and causeth a blue cloud to form at the bridge. The wise pilot engageth an early wire, but the fool dwelleth in the air forever."

VT-9 Sets Enviably Record Logs 26,000 Accident-Free Hours

Flying the T-2A *Buckeye* (T2J-1), Training Squadron Nine, NAAS MERIDIAN, Miss., has compiled 26,000 accident-free single engine jet operations in a 315-day period.

VT-9, commissioned December 15, 1961, provides jet training for student

Naval and Marine aviators who have flown 25-30 hours in the T34 *Mentor* propeller-driven training aircraft.

In August the squadron was presented the Chief of Naval Operations' Safety Award for Fiscal 1962.

Cdr. D. J. Birdsong is C.O. of VT-9.



CDR. M. C. GRIFFIN, VA-44 C.O., pins USAF Commendation Medal on Cdr. R. P. McKenzie at NAS Jacksonville for his work as Intelligence Officer, Joint Strategic Planning Staff, Offutt AFB, from October 1960 to July 1962.

F9F NATOPS Meet Held Pro's Gather at Corpus Christi

The Chief of Naval Air Advanced Training hosted the NATOPS (Naval Air Training and Operating Procedures Standardization) semi-annual review conference for the F-9 (F9F-8/8T) at NAS CORPUS CHRISTI in November.

Representatives from ComNavAirLant/Pac, FMFPac/Lant, CNATra, Grumman and the Naval Tactical Doctrine Development Activity which



THE CREW of Ltjg. P. V. Kear, R. B. Hays, AT-1, and Lt. R. D. Harrop completed 1000th bombing run made by VAH-9 in one month and thus helped Sanford squadron to lead Heavy Attack Wing One for third time in row.

publishes the NATOPS manuals attended. Capt. William A. Jernigan represented the host command.

The group gathered to review and update operating procedures for the Grumman-built aircraft and prepare the required revisions for the *Cougar* NATOPS manual and Pocket Checklist.

The "pro's" found so many "opportunities for improvement"—requiring manual and check-list changes—that it was unable to complete the job in the three days available, and so arranged to continue its work at NAS MIRAMAR in December.

The review is expected to result in a completely "revised" manual.

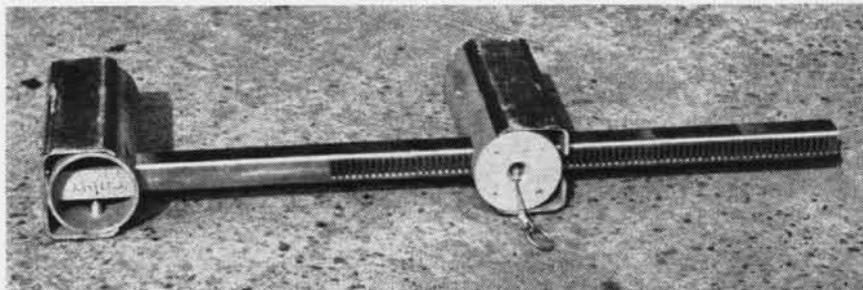
MAW-2 Flies 236,000 Miles Summer Reserve Airlift Successful

Transports of the Second Marine Aircraft Wing and personnel, MCAS CHERRY POINT, flew more than 236,000 miles in support of the 1962 Summer Reserve Airlift.

The first lift was made in March, the latest completed in September.

Ranging from Palm Beach, Fla., to Billings, Mont., Cherry Point aircraft airlifted some 7654 Marine Reservists, representing 54 units in 41 cities. In addition, almost 200,000 pounds of cargo were lifted to and from the training areas.

Logging nearly 1200 hours, local squadrons flew 175 sorties in transporting reserve units to training sites. These included Parris Island and Beaufort, S.C.; Cherry Point, New River and Camp Lejeune, N.C.; Bridgeport, Barstow, 29 Palms and San Diego, Calif.; McAlester, Okla.; Little Creek, Va.; and Vieques, Puerto Rico.



NAVAL AIR DEVELOPMENT CENTER, Johnsville, Pa., has developed a "universal" wheel chock suitable for use with all carrier aircraft. Experimental Model 1A has been tested and evaluated; it works equally well with A-4 and F-4 aircraft. The chock is lightweight and has no attaching parts. The replaceable non-skid is good for 30 days. BuWeps has initiated action to procure a fleet evaluation quantity by May 1963 of 1A chocks, 500 to Norfolk, 500 to Oakland.



HERMES CARRIES ten of the twin-boomed *Vixens*, a squadron of *Scimitars* and a squadron of *Gannett* and *Wessex* helicopters.



DE HAVILLAND *Sea Vixen* leaps from the flight deck of *Hermes* during flight operations in Exercise *Poker Hand* in the Med.

A QUICK EXCHANGE OF INFORMATION

TWO MEMBERS of all-weather interceptor squadrons based aboard the U.S. Navy and Royal Navy aircraft carriers have had a glimpse of the inner workings of their counterpart squadrons as the result of a cross-deck exchange of flight crewmen. The exchange took place in November 1962 during NATO Exercise *Poker Hand* in the western Mediterranean.

Principals in the one-day affair were Lt. Jim Southerland, Radar Intercept Officer of VF-74 in USS *Forrester*, and Sub-Lieutenant Robin H. Lee of Royal Navy 892 Squadron, based in HMS *Hermes*. Each visited the other's ship as one of a group of officers represent-

U	S					F			
				P		O			
	V	F	74	H	E	R	M	E	S
	I			A	R				
E	X	C	H	A	N	G	E		
	E			T	S				
R	N	892		O	T				
I				M	A				
O				I	L				
								U	K

ing the various ship's department and air groups. The exchange was designed to give the officers of the two ships a brief orientation in how the same job is accomplished by the other team.

Each of the ships carries a squadron with its navy's newest two-man, all-weather fighter planes: F-4B *Phantom II*'s for VF-74 and de Havilland *Sea Vixens* for 892 Squadron. Since swapping complete crews was out of the question, it was decided to exchange two radar observers.

SLt. Lee was given a fast familiarization session with the airborne intercept equipment in the F-4B and a run-through on in-flight emergency procedures. Then he made three flights in the *Phantom II*.

On the *Hermes*, Lt. Southerland received a similar run-through on equipment and procedures before flight in a *Sea Vixen*, piloted by Lt. R. A.

Chandler. Lt. Southerland mastered the unfamiliar knobs "only through constant attention."

Lt. Lee said of his flight, "It was the first mirror landing I'd ever had while watching the meatball." The observer's cockpit in the *Sea Vixen* is located slightly behind and to the right of the pilot.

As things developed, the two observers rarely met. Just at the end of the exchange when Lt. Southerland was about to board the aircraft returning Lee, Lt. Southerland asked what S/Lt. Lee thought of the *Phantom II* radar. Came the enthusiastic response without a bit of hesitation, "Smashing, I say!"



MINUTES AFTER his arrival aboard *Forrester*, SLt. Lee is hustled down to Ready Room One.



LT. SOUTHERLAND (R) describes *Sea Vixen* cat shot to his VF-74 pilot, Lt. Jack McHugh.

By Ltjg. J. R. Allietta



DURING A VX-4 AIR-TO-GROUND PROJECT McDONNELL DEMON WAS LOADED WITH 3000-LB. HIGH EXPLOSIVE DEMOLITION BOMB

TESTERS, APPRAISERS AND EVALUATORS

In the January 1963 issue of *Naval Aviation News*, the organization of the Operational Test and Evaluation Force was sketched, together with the responsibilities and activities of Air Development Squadron One. The two other aviation squadrons, also under the operational control of COMOPTEVFOR, are Air Development Squadron Four at Point Mugu and Air Development Squadron Five at China Lake, Calif. An account of their activities follows in this article.

TWENTY-SIX OFFICERS and 262 enlisted men comprise Air Development Squadron Four (VX-4), the only operational Navy organization and therefore the only exclusively military activity based at NAS POINT MUGU. This apparently unusual relationship of basing a Navy operational squadron at the Pacific Missile Range headquarters is not without good reason. The facilities of the Naval Air Station and the Pacific Missile Range, as well as the liaison with the Naval Missile Center and NOTS CHINA LAKE, are readily available to assist the squadron in carrying out its assigned tasks.

With the important task of serving the Fleet, VX-4 performs its assigned mission of conducting in an operational environment tests, evaluations, and investigations of aircraft weapon systems, support system equipment and materials, and developing tactics and doctrines for their use by Naval Air. Included in this mission is the development of all-weather fighter intercept tactics for the employment of air-launched guided missiles against all types of targets. As Fleet Air Detach-



ment, Point Mugu, the squadron assists, supports, and plays host to those fleet squadrons which deploy to NAS POINT MUGU for missile training and firing on the Pacific Missile Range.

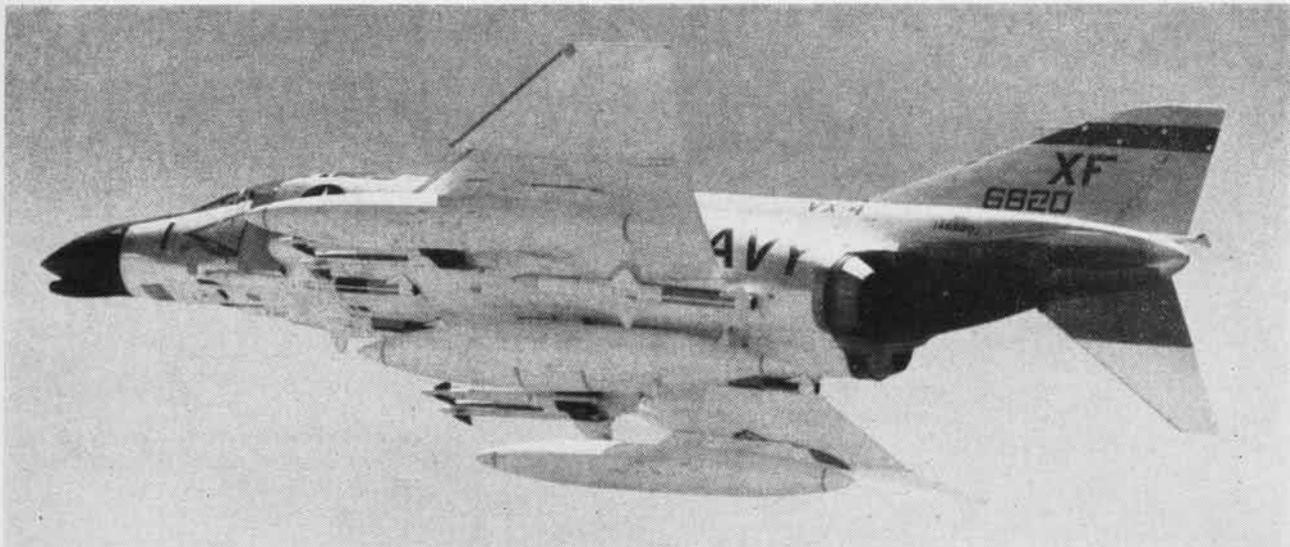
Commissioned in September 1952, VX-4 is under the operational control of COMOPTEVFOR. Administrative control is exercised by Commander Naval Air Force, Pacific. Commander Fleet Air San Diego also asserts author-

By Cdr. Warren Eli Johnston, USN

ity in that the Commanding Officer of VX-4, Cdr. H. N. Batten, is also Commander Fleet Air Detachment, Point Mugu.

Of the several different types of projects assigned to VX-4, all are projects concerned with the development of aircraft weapons systems, support systems and components. The squadron is not primarily a research organization; it develops the best ways to use an aircraft and its weapons in the fleet operational environment. When new aircraft with their associated weapons systems, or proposed systems, are "bought" by the Navy, VX-4 is assigned the project of developing the techniques, tactics, and procedures for maximum utilization of the aircraft and its equipments. All pertinent information gleaned from the projects is rapidly passed on to the Fleet as the project progresses.

Although preliminary, this information, promulgated as an Advanced Evaluation Note (AEN), is sound data. Close liaison is maintained with the operating squadrons, so that fleet inputs may be incorporated into the new tactics before becoming doctrine.



F-4B PHANTOM II (F4H-1) ALLOWED AIR DEVELOPMENT SQUADRON 4 MAXIMUM AIRBORNE TIME FOR PROJECT WORK PER SORTIES

During its decade of service, VX-4 has evaluated most of the Navy's air-launched guided missiles, including *Sparrow*, *Sidewinder* and *Bullpup*. Later models of these missiles are being evaluated in connection with newer model Navy airplanes. The squadron's stable of airplanes changes with assigned projects and as necessary to keep current with or anticipate fleet operations. Assigned aircraft include the F-8A (F8U-1), F-8D (F8U-2N), F-8E (F8U-2NE), F-4B (F4H-1), F-4A (F4H-1F), A-4B (A4D-2), A-4C (A4D-2N), T-33B (TV-2) and TC-45J (SNB-5). With so many different types of airframes and engines to be maintained, the squadron necessarily has an outstanding maintenance department.

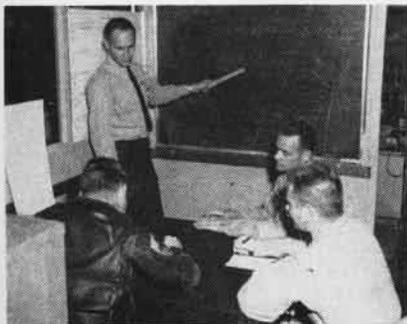
The squadron Maintenance Department, supervised by LCDrs. J. R. Foster and F. J. Sarris, depends on its quality control division to schedule and control the periodic inspections and expedite maintenance effort. All periodic inspections are performed by

check crews specifically assigned for each separate inspection. A crew leader coordinates all work of the check crew. An advantageous feature of the Maintenance Department is daily pre-flight inspections which are performed by duty section personnel during the early morning hours, thus allowing the aircraft to be available for launches by 0800 each day or earlier if the project dictates.

LCdr. C. J. Talmadge, as Chief Projects/Operations Officer, heads up the squadron Projects Department. Here the headaches of project coordination, report review, screening of project requirements, supervision of flight operations, plus the numerous explanations and procedures necessary for obtaining project materials, require more time than the normal working day. All project pilots, which include all but four of the officers, are experienced fleet personnel. The project officers have extensive operational experience or are graduates of test pilot schools

or possess aeronautical engineering degrees.

The squadron's flight surgeon, Lt. H. E. Brooks, administers the flight physiological and medical aspects of the projects. His predecessor, LCdr. A. W. Stevenson, was also one of the few flight surgeon/Naval Aviators and therefore an active project pilot as well. In addition, six Radar Intercept Officers, two Naval Enlisted Scientific Program (NESEP) trained officers and an LDO electronics specialist officer are assigned. In view of the variety of the projects, experience in all aspects is not only desirable, but necessary. VX-4's officer complement includes four Marines, one Air Force, and a Royal Navy Liaison Officer. Capt. R. M. Corbett, USAF, was formerly connected with the Air Force Development Missile Center at Holloman AFB, New Mexico. Lt. Jack Worth, Royal Navy, was assigned from a strike-fighter *Scimitar* squadron at Lossiemouth, England. The talent and experience level of the



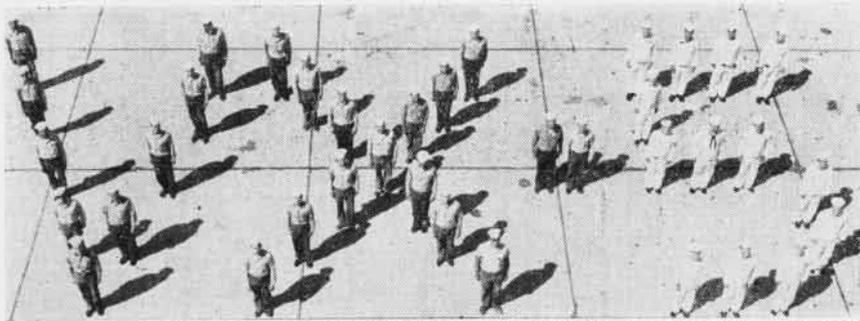
LCDR. TALMADGE GIVES FLIGHT BRIEFING



MECHANICS AT WORK ON A J79 ENGINE



CAPT. J. G. SMITH (R) GETS CHECKOUT



VX-5 SAILORS WHO PASSED COMPETITIVE TESTS AND ADVANCED IN RATING, MAY 1962

entire squadron, enlisted and officer, blends into a tremendously effective organization which is producing results and data for increasing the battle readiness of the air arm of the U.S. Navy.

VX-4 prepared for publishing by Commander, Operational Test and Evaluation Force, and approval by CNO, the preliminary Weapon System Tactical Handbooks for the F-4B (F4H-1), the F-8E (F8U-2N) and the F-3B (F3H-2) airplanes. With the assistance of the fleet squadrons, VX-4 is continually updating the handbooks to keep the information current and valid.

Although VX-4's primary reason for being is the prosecution of assigned projects and the promulgation of project reports, the squadron maintains an enviable military integrity. An unusual feature of VX-4 inspections is that a formal inspection and pass-in-review is held each time. During their squadron tour, officers become quite proficient in the manual of the sword. It has become routine for Chief Inspecting Officers to describe the squadron as "definitely outstanding in military bearing." Cdr. B. H. Creighton, X.O., takes charge of the squadron at all inspections.

Gatherings of a more informal nature, yet reminiscent of the traditions and formality of the "old" Navy, are the "Dining-In" nights that the squadron frequently holds. All squadron officers dressed in formal dinner uniforms gather for a night of dining and reviving of naval customs and traditions. The primary purpose of these affairs is to form a closer union of the officers. At each Dining-In, honored guests are invited to join in the festivities in the hope that the events of the evening will remain with them and stimulate interest in their commands

towards a revival of these traditions.

AIR DEVELOPMENT SQUADRON FIVE (VX-5), under the command of Cdr. William A. Schroeder, Jr., develops day and night tactics for the delivery of airborne conventional and special weapons by the Navy's carrier-based airplanes. The squadron mission is being accomplished by using almost all current types of Navy carrier aircraft. Additional tasks include providing technical assistance and logistic support as required by fleet squadrons when deployed to China Lake for weapons training.

Cdr. Schroeder and his Executive Officer, Cdr. Joseph E. Schwager, maintain squadron headquarters aboard the Naval Air Facility, U.S. Naval Ordnance Test Station (NOTS), China Lake, Calif. LCdr. Charles L. Putnam, O-in-C of Detachment A, based at Kirtland AF Base, Albuquerque, N. M., is currently evaluating the A-5A *Vigilante* (A3J). As a secondary task, Detachment A is assisting the Naval Weapons Evaluation Facility in the conduct of weapons ballistic tests associated with the *Vigilante*.

Project evaluation of the *Vigilante* and the F-4B *Phantom II* (F4H) are currently included in the list of project assignments. Development and evaluation work continually progresses in such fields as Nuclear and Conventional Warfare; Flash Blindness; Air-to-Ground Missile Delivery Tactics; and Electronics Guidance, Control, and Bomb Director Systems.

Although much of the squadron mission is detailed in letters of project assignment, design and development of "hardware" items require a significant amount of time and effort. It is not uncommon for modifications or new designs to be submitted, based on the performance of existing weapons and

related systems. This spirit of originality is not restricted to assignment of a particular task nor to a specific project officer.

The initiative and extra hours devoted by the officers and men of VX-5 have led to the development of numerous valuable pieces of equipment and delivery tactics. These include development of the multiple carriage bomb rack; design and development of improvements which have increased the reliability and effectiveness of smoke and spray tanks; a method of improving the reliability and decreasing costs of fusing devices for practice bombs; development of new delivery techniques reducing vulnerability of the delivery aircraft and increasing weapons effectiveness; study of bomb impact as a function of weapons effectiveness; development of an accurate, low altitude, slow speed weapons delivery tactic utilizing jet aircraft, and development of loft, roll-ahead, loop, and over-the-shoulder delivery maneuvers. This exchange of ideas is a strong factor in molding the squadron's 33 officers and 190 enlisted men into a closely knit and highly effective team.

Included within the personnel complements are one USAF and two USMC officers. Coupled with the services of scientists and engineers of NOTS, VX-5 employs a wealth of talent, capable of solving almost any problem associated with airborne weapons delivery. Utilizing the highly instrumented "Charlie" bombing range at NOTS CHINA LAKE, accurate and timely information is available continuously during a given delivery maneuver. Working in conjunction with military and civilian personnel assigned



CDR. PITTMAN AND ASSISTANT STUDY DATA

to the Naval Air Facility, VX-5 assists fleet squadrons when they deploy to China Lake for advanced training in modern weapons delivery techniques. Designated project officers monitor and revise Nuclear and Conventional Weapons Delivery Supplements to tactical doctrine publications. Visiting squadrons have an opportunity to discuss these changes with the authors. When squadrons change aircraft types, this "personal touch" becomes especially valuable through reduced training time and an increased understanding of delivery maneuvers.

In addition to squadron visits, there is an almost constant flow of visitors from other military test facilities and contractors. This interchange of ideas and information provides an excellent opportunity for all concerned to keep abreast of the state of the art. In addition to frequent releases of information by naval message, official letter, and telephone, personal contact plays a vital part as a medium of exchange. Conferences are arranged with NOTS scientists and engineers when required or desired by visitors seeking information or assistance in solving a specific delivery problem. Perusal of the visitor log indicates that about 500 official visitors were received by the Projects Department during the past year.

Although the ultimate purpose of the squadron is to submit written concepts and tactics, this deluge of "paper work" must be verified prior to publication. The individual efforts of each department are focused towards supporting project officers in order to enhance the total, effective completion of all assignments.

LCdr. Adolph Hengl, Aircraft Maintenance Officer, is continually faced



VX-5'S CDR. SCHROEDER GETS A-4E RECORDS



MULTIPLE CARRIAGE BOMBRACK ON A-4, FLOWN BY VMA-311, WAS EVALUATED BY VX-5

with the problem of providing safe and "ready" airplanes for project work. A recent innovation which utilizes the team concept has served to further improve maintenance efficiency. Within the Aircraft Maintenance Department are Material Control, Quality Control, Aircraft, Avionics/Weapons, and Line Divisions. In order to provide maximum aircraft availability for any particular project, flexibility is a primary requirement. Frequent requirements to make changes in configuration, ordnance loads, and instrumentation demands an alert crew that can perform at a combat pace whenever necessary. Installation of photo-panels, sophisticated instrumentation, modification of "black boxes," and a multitude of special ordnance configurations are made as a matter of routine during the conduct of nearly all project assignments.

Under the guidance of Cdr. Shelly B. Pittman, the Projects Department is responsible for conducting and reporting the results of project efforts.

The Operations Department, headed by LCdr. Marvin H. Warner, plans and coordinates a multitude of details associated with the simultaneous conduct of all projects. In essence, the major task includes getting the designated project pilot airborne, and on target, in the proper airplane, with the specified ordnance and fuel load, at the scheduled time. Improved, more versatile aircraft and related weapons systems have generated a requirement for elaborate range facilities to support, and adequately evaluate, total capabilities. Expenses incurred in constructing, operating, and maintaining such a facility is of significant con-

cern, requiring meticulous planning and scheduling of each flight to ascertain that highest possible "dollar-value" is received.

A tour of duty with VX-5 makes a lasting impression on many a modern day sailor. He is afforded the opportunity of witnessing the conception of a basic idea which is later molded into a perfected tactical maneuver or a piece of valuable equipment for use in the Fleet. A subsequent tour of sea duty invariably reveals the fruits of his efforts in the form of tangible contributions to the Navy's control of the high seas.

The future of VX-5 development efforts is irrevocably tied to the "new look" in weapons and aircraft now rapidly moving toward operational status with the Fleet.

The "new family" of aircraft, i.e., A-4E (A4D-5), A-6 (A2F), A-5 (A3J), and F-4 (F4H), are all receiving special attention in connection with a full exploitation of combat capability. The "new family" of weapons, both conventional and nuclear, is being studied in the light of operational applications to meet current and future combat environments.

In total perspective, the development work in naval attack aviation has almost tripled in the past 18 months as a result of new production, new tactical concepts, and intense interest in over-all improvement throughout the spectrum of attack warfare. All of this, in essence, generates the excitement and stimulation which VX-5 personnel feel as they tackle daily commitments with the expression, "We have no problems—only opportunities!"

LETTERS

SIRS:

Page 16 of the October 1962 Naval Aviation News carries a short report of an SNB being retired at MCAS IWAKUNI, Japan after 20 years service and logging nearly 10,000 flight hours. NAS MOFFETT FIELD can top this by 2000 flight hours.

On 25 October 1962, TC-45J (SNB-5) BUNO 12363 was transferred to Litchfield Park, Arizona, after completing a 20-year service life and having flown 11,903.5 hours.

C. H. NAPIER,
NAS Moffett Field

SIRS:

The presentation of the new designation system for U.S. Navy aircraft in the inside covers and center spread of the December 1962 issue of *Naval Aviation News* is very valuable. Is there any chance that this presentation is available in such a form as can be easily put on the wall, or do I have to tear up my issue of the *News*? If you have any solution to this problem, I am eager to know what it is.

G. P. MURPHY

Chicago, Ill.

*If readers do not wish to tear up their December *NA News*, we have sheets ready for them. Just let us know how many you need, and, as long as the supply lasts, we will send them out for use in offices or ready rooms.

SIRS:

Would you please tell me where to write for a copy of William T. Larkin's new book, *U.S. Navy Aircraft, 1921-41*, as mentioned in your magazine?

P. F. GIBBER, LT.

*Information may be obtained by writing Aviation History Publications, Post Office Box 624, Concord, California.

NOTS Experts Aid Program 'Gemini' Ejection Systems Tested

Engineers and technicians at Naval Ordnance Test Station, China Lake, the Navy's major space age weapons research and development center in the Mojave desert, are helping to perfect an ejection device for the safety of astronauts during the initial spacecraft boost phase and during re-entry.

Project *Gemini*, an enlarged and far more complex version of the *Mercury* spacecraft, is designed to carry two men through space for a week or more.

Using two life-like dummies instrumented with accelerometers and gyros, tests were made from a 150-foot high tower to obtain seat-dummy acceleration and roll, pitch and yaw data.

A series of sled tests, which simulate

ejection during flight are being conducted. A solid-propellant, rocket motor catapult generates sufficient force to throw the dummies 300 feet up from the pad and 700 to 800 feet out from the spacecraft to insure safe clearance. A parachute returns them safely to earth.

The prototype seats will eventually be subjected to a series of off-the-pad and sled tests in the qualification stage. A mock-up of a *Gemini* spacecraft will be mounted on a sled and propelled down a four-mile supersonic track at speeds in excess of 650 mph. During the run, the dummies will be ejected while the sled is traveling at a velocity approaching the speed of sound.

Patuxent Aids NOL Test Underwater Sound Data Collected

The Naval Air Test Center, Patuxent River, Md., has provided a Navy *Constellation* which flew between Bermuda and Great Britain via the Azores as part of Project *Neptune*, conducted by the Naval Ordnance Laboratory. Robert J. Ulrick directs the acoustics research program which has been undertaken for the purpose of studying the transmission of sound over distances greater than 1000 miles in the deep sea.

The data-collecting phase of the project consisted of dropping a pair of explosive charges every 100 miles across the Atlantic and recording the resulting acoustic signals with underwater hydrophones located at Bermuda. The distance was as much as 2500 miles. Four-pound TNT charges were used.

Immediately before each pair of charges was released, a sonobuoy was dropped into the ocean to telemeter the underwater sound from the charges to the plane. In this way, it was possible to obtain a positive indication that the charges had detonated and to record the precise time of detonation.

Project *Neptune* is designed to obtain data on the levels, frequencies and other characteristics of sound transmitted in the deep sea and to determine the effects of the Mid-Atlantic Ridge on the transmission of sound. This Ridge is a long mountain chain that runs north and south along the ocean floor to divide the Atlantic Ocean into the European and Hyperborean Basins.

NATOPS NOTICES

Pending Distribution

S-2D/E NATOPS Flight Manual
F-4B NATOPS Flight Manual

Watch this box for latest NATOPS
distribution data.

HS-11 Gets New Ear Muffs 'Mickey Mouse' Look is for Real

A casual spectator watching Navy Helicopter Anti-submarine Squadron 11 ground crewmen working with whirlybird traffic might think they had just joined the Mickey Mouse Club. The bulbous sound-proof ear muffs, recently adopted by the squadron, give the wearer the big-ear look reminiscent of Walt Disney's cartoon character.

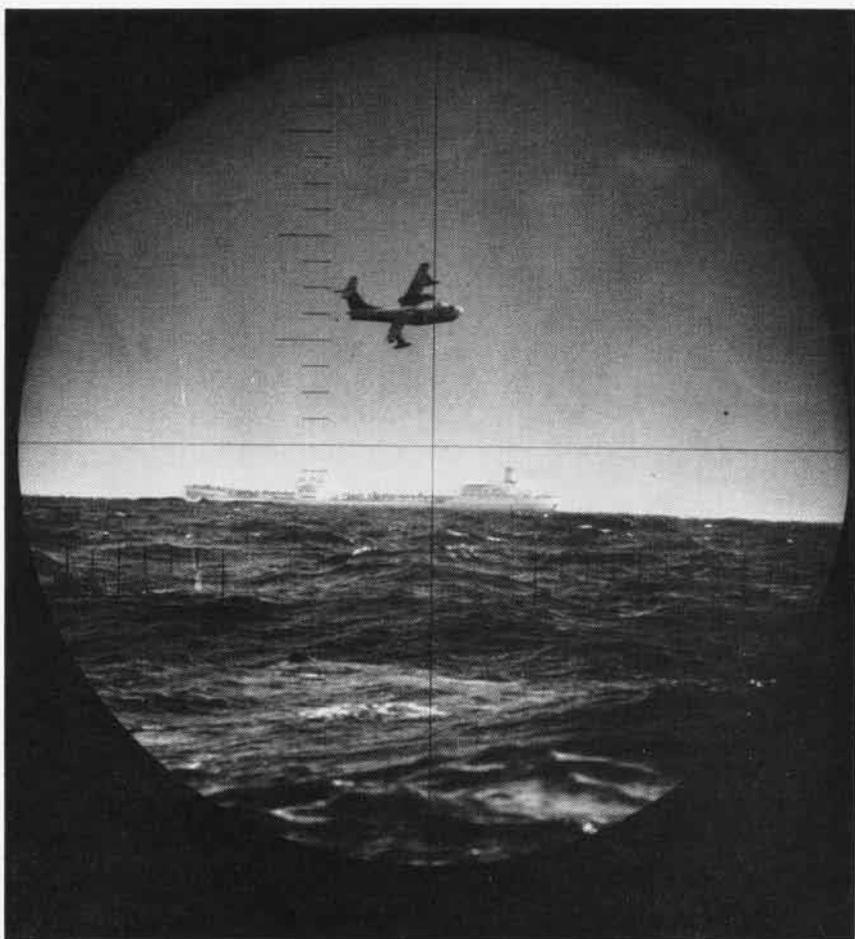
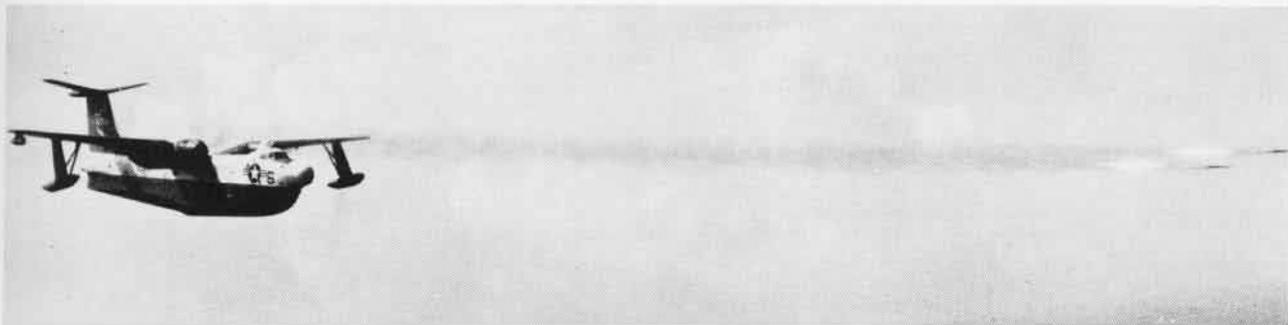
HS-11, currently training with the new Sikorsky SH-3A (HSS-2) anti-submarine helo at NAS QUONSET POINT, found that ground crews suffered fatigue and nervousness from the copters' high-pitched roars. Cutting off the sound has increased efficiency.

Cdr. Harold V. Pepper, squadron C.O., issued orders requiring all men working within 100 feet of operating helicopters to wear the "ear defenders."

The status-symbol has even crept into this area of organized society. Supervisory personnel wear yellow-painted muffs; aircraft handlers, directors and plane captains wear brown; maintenance men chose green; and for the ordnance men, the color is red.



BEAUCOUP BONNY DICK Spad Centurions of VA-196 pose for portrait. Lt. Art Keen is Senior Centurion with 300 A-1H (AD) traps on Bonne Homme Richard (CVA-31). Only two pilots were non-Centurions in Dec. 1962.



VP-49

Flying the long-range SP-5B Martin Marlin seaplane, equipped with the latest in submarine detection gear, Patrol Squadron Forty-Nine makes a vital contribution to the Navy's anti-submarine warfare capabilities in the Atlantic. The Bermuda-based unit recently adopted this new emblem (left), symbolic of its primary mission, ASW. The heraldry is emblematic of a proud unit striving to live up to its motto: 'No Sanctuary in the Deep.' Cdr. H. C. Hansen is C.O. of VP-49.