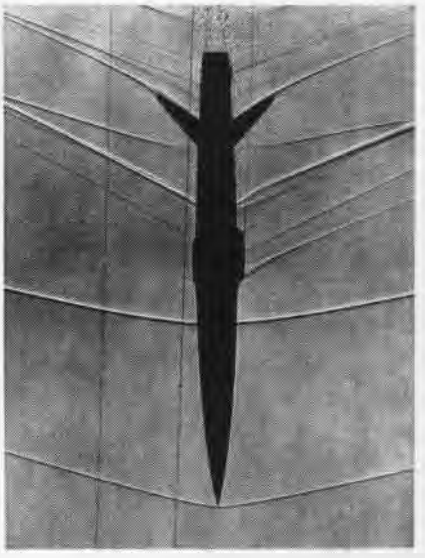
NAVAL AVIATION NEWS

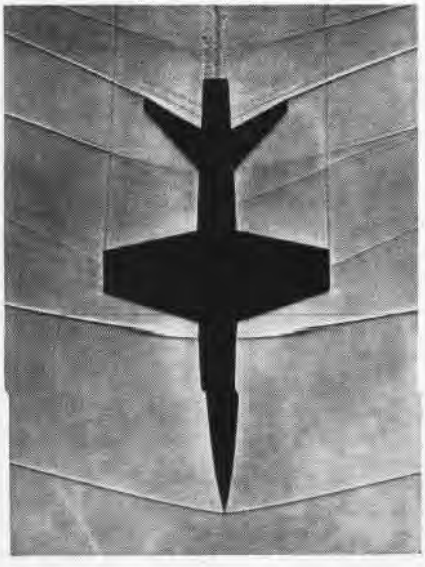
39th Year of Publication

JANUARY 1958

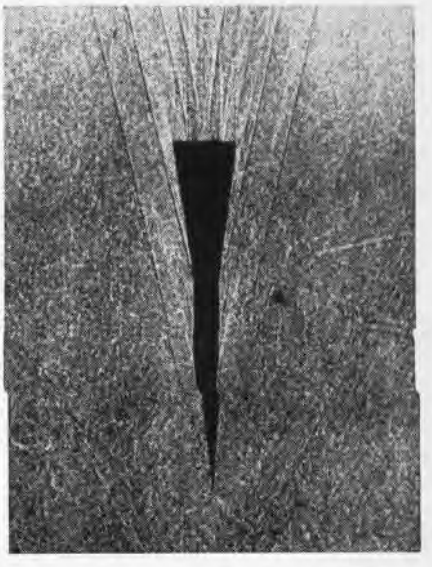
NavAer No. 00-75R-3

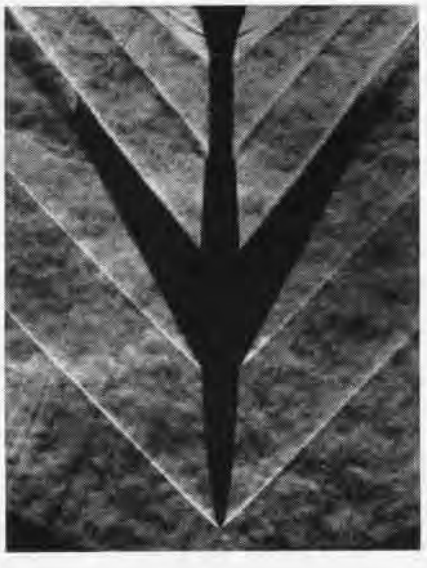
SHOCK WAVES AND VORTEXES

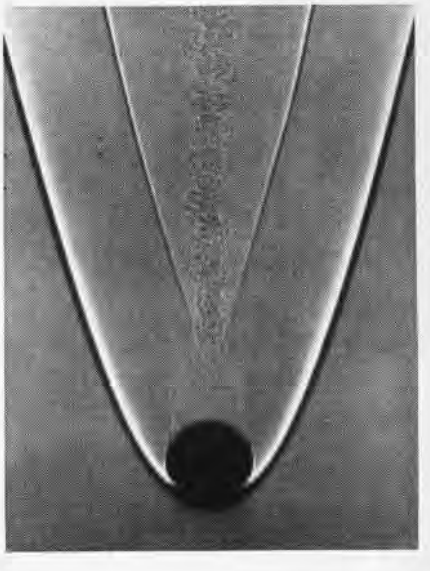




The sight of sound is shown in these photographs made at the Ames Aeronautical Laboratory, Moffett Field, California. Visualization of the angle of shock waves is made possible by an optical device known as the schlieren apparatus. Test models of varying design are subjected to speeds well into the hypersonic range, thus revealing to research scientists the complicated patterns of shock waves and vortexes now associated with high speed flight. Irregular pattern of model, upper left, is caused by maneuver being performed at Mach 1.6. Sphere, lower right, has been fired from light-gas gun; is travelling 10,000 mph.







FIRST OF ITS TYPE, *the 85,000-ton, nuclear-powered carrier, shown here in artist's conception, heralds a new era in carrier aviation. To be built by Newport News Shipbuilding & Drydock Co., the CVAN will be powered by eight pressurized water-type nuclear reactors.*

THE 1957 NAVAL AVIATION REVIEW

IN THE FORTY-SEVENTH year after the first naval officer was ordered to flight instruction, developments on the international scene again demonstrated the continuing importance of maintaining strong naval and naval air forces. During the Suez crisis, the Israeli-Egyptian disputes, the internal troubles of Jordan, and unrest in Syria, the Sixth Fleet displayed its unique ability to shift the scene of its operations in the Mediterranean to exert an influence for stability and peace. These operations and the continued deployment of Seventh Fleet for similar purposes in the western Pacific, raised the tempo of activity above normal flight schedules.

In numbers of operating aircraft and personnel on board, the strength of naval air forces at the beginning of the year was at about the previous year's level, but force power potential continued on the upward swing. Aircraft carrier strength was increased by the first operational deployment of the second *Forrestal*-class carrier and the commissioning of another. Future increase was promised by the keel laying of two more *Forrestals* and by the award of a contract to build the first nuclear-powered carrier. Four new angled decks joined the fleet and two attack carriers began major conversions. First operational use of several new aircraft added to both the attack and defensive capabilities of fleet task forces. Progress in guided missiles was marked by an acceleration of their use in everyday operations as well as an increase in the number of units and ships equipped to employ them.

Some readjustment of forces, production schedules, deployment plans, and policies were called for by top-level decisions to effect new economies and to reduce the overall size of the military establishment. These were beginning to take effect as the year closed. Some shore facilities were disestablished and some placed in reduced operating status. A few squadrons were decommissioned. Changes in aircraft and weapons procurement programs cancelled a few contracts and slowed down delivery schedules in others. Accompanied as the reductions were by rising costs of research, new equipment, and operating expenses, these decisions underlined the importance of continued emphasis on the established Navy practice of striving to do more with less. More than ever, increased striking power was being sought through better weapons and greater effectiveness in techniques of their employment.

By Adrian O. Van Wyen
Aviation Historian, DCNO (Air)

THE AIRSHIP *ZPG-2 is unmasted at NAS South Weymouth, prior to take-off on her record-smashing distance and endurance flight in March.*

EVENTS OF LATE 1956, omitted from last year's round-up (see NANEWS, January 1956) because of printer's deadlines, are hereby recorded.

Maj. Roy L. Anderson, USMC, piloting an HR2S-1 assault helicopter at Windsor Locks, Conn., set world records in speed and weight lifting as follows: 9 Nov., carried a payload of 11,050 pounds to an altitude over 12,000 feet; 10 Nov., carried 13,250 pounds to over 7,000 feet; 11 Nov., set a speed record of 162.7 mph over a 3-kilometer course.

The ZSG-4, first airship fitted with a dacron envelope, made its first flight, 29 November, at NAS LAKEHURST.

The USS *Compass Island*, EAG-153, first ship converted to support the Fleet Ballistic Missile Program, was commissioned 3 December, at the New York Naval Shipyard. On the same day the first *Terrier* missile destroyer, USS *Gyatt*, was commissioned at Boston.

Dr. William B. McLean, Technical Director of the Naval Ordnance Test Station, China Lake, was presented a $25,000 cash award on 5 December for his role in developing the air-to-air guided missile *Sidewinder*.

The first firing of the earth satellite launching vehicle involving the first stage *Viking* rocket, was successfully completed 8 December at Cape Canaveral, Fla.

Placement of the first production order for the Chance Vought supersonic bombardment missile, *Regulus II*, was announced 12 December.

The WF-2 *Tracer*, a carrier early warning plane adapted from the TF-1 design, made its first flight 17 December, at the Grumman plant, Peconic River, Long Island, N. Y.

On 19 December, the *Regulus I* bombardment missile completed its five-hundredth successful flight.

The keel of the USS *Kitty Hawk*, fifth in the *Forrestal* series, was put down 27 December at the Camden yard of the New York Shipbuilding Corporation.

The year 1957 began and ended with world attention focused on the Middle East. Through the first quarter, the Sixth Fleet steamed a tenuous course between peace and war and presented itself as the nation's strong argument for peace. At the same time, other elements of naval aviation were engaged in reorganization, in record flights, in the employment of new aircraft, and in training exercises designed to sharpen the combat readiness of all force elements. Dawn Breeze II in the Atlantic tested the ability of naval and naval air forces from five NATO nations to protect and support merchant convoys in the open sea under conditions of simulated atomic war. Beacon Hill in the Philippines area of the Pacific was the largest land-sea-air exercise in the Far East since the end of World War II.

January 1—The Naval Air Experimental Station was disestablished as a separate command and its functions assigned to the Naval Air Material Center, Philadelphia.

January 3—The USS *Oriskany*, CVA-34, was decommissioned and began angled deck conversion at San Francisco.

January 3—The last operational *Catalina*, a PBY-6A of NARTU ATLANTA, was ordered retired from service.

January 7—The Navy announced placement of a $27,000,000 order with the Bendix Aviation Corporation for *Talos* antiaircraft missiles.

January 7—First of the new Bell HUL helicopters was delivered to HU-2 at Lakehurst.

January 10—The Naval Air Mine Defense Unit was commissioned an Panama City, Florida, to develop and evaluate aviation systems, materials, and techniques for mine countermeasures.

January 15-25—In an evaluation of their all-weather capability, ZPG airships from South Weymouth operating in relays, maintained continuous radar patrol over the North Atlantic 200 miles off the New England Coast through some of the worst storms experienced in the area in years.

January 18—The TF-1Q, first naval aircraft equipped for electronics jamming, were first received by All Weather Attack Squadron 35 at San Diego.

January 18—Naval Air Facility, Lajes, Azores, was commissioned with Cdr. G. G. Gilmore as acting commander.

U. S. MARINES *in simulated vertical assault exercises with the new HR2S-1 helicopter.*

THE HUS-1 *Sikorsky utility helicopter was assigned to Marine squadrons in February.*

THE BELL HUL *began fleet service in January with Utility Squadron Two at NAS Lakehurst.*

MAJOR JOHN H. *Glenn, USMC, piloting the F8U-1P Crusader on its record breaking flight across the continent from Los Alamitos to New York at an average speed of 723.517 mph. Cameras in photo bays in the fuselage photographed the country from coast to coast.*

January 22—The USS *Kearsarge*, CVA-33, was placed in commission after major conversion at Puget Sound.

January 27—A reorganization of WesPac forces under VAdm. S. H. Ingersoll set up separate commands for Seventh Fleet and Formosa Defense. With the change VAdm. W. M. Beakley became Commander, Seventh Fleet, and VAdm. Ingersoll took over the Formosa Defense Command.

February 1—LCdr. Frank H. Austin Jr. (MC) completed the Test Pilot Training Program at NATC PATUXENT RIVER, and became the first Navy Flight Surgeon to qualify as a test pilot.

February 5—The first HUS-1 helicopter assigned to an operating unit was delivered to HMRL-363 at Santa Ana.

February 18—BAGR, Western District, accepted an AD-7 from Douglas Aircraft Company, the last of 3,180 *Skyraiders* delivered to the Navy since the first in 1945.

February 21—In recognition of the increasing significance of weather information, the Naval Aerology Branch, Op-533, became the Naval Weather Service Division, Op-58.

February 21—The Secretary of Defense awarded the Medal of Freedom to RAdm. Richard E. Byrd, USN(Ret) for his outstanding accomplishments as Officer-in-Charge, U. S. Antarctic Programs, and his long record of scientific and humanitarian contributions to the world.

February 23—End of the support phase of *Deep Freeze II* marked the completion of a second tour in Antarctica by VX-6. Except for R4D's, utility aircraft, and 57 men left behind to support wintering-over parties as weather permitted, the entire squadron reached Quonset Point one month later.

March 4-15—A ZPG-2 airship commanded by Cdr. J. R. Hunt, on a flight from South Weymouth, Mass., out over the Atlantic toward Portugal, the African coast, and back to Key West, Fla., set new world records for distance and endurance covering 9,448 statute miles and remaining airborne 264 hours 12 minutes without refueling.

March 7—The first turbine-powered catapult, designed primarily for use by Marine Corps expeditionary forces, launched its first aircraft at Georgetown, Delaware. An AD-4NA piloted by Joseph Barkley, All American Engineering test pilot, was launched with a gross weight of 16,400 pounds at a speed of 90 knots in a run of 210 feet.

March 8—Attack Squadron 156 received the first F11F *Tigers* assigned to a fleet operating unit after FIP at Patuxent River.

March 11—RAdm. Richard E. Byrd died. Early Naval Aviator, his pioneer flights over both poles and his polar explorations fired the imagination of the world and earned for him a special place in history.

March 14—Guided Missiles Unit No. 55 was established to train personnel in the operation and maintenance of the supersonic bombardment missile, *Regulus II*.

March 14—The USS *Ticonderoga*, CVA-14, was recommissioned after completing conversion at Norfolk.

March 20—The first Sikorsky HR2S-1 assault helicopters assigned to Marine Corps units, were accepted by Marine Helicopter Transport Squadron 461 at New River, N. C.

NEW EARLY WARNING *carrier aircraft, the WF-2, features a large saucer-like radome which houses the long range radar antennae.*

March 20—Adm. Jerauld Wright, Commander Atlantic Fleet, announced a reorganization of his forces to expand the responsibilities of antisubmarine elements and the establishment of the Anti-Submarine Defense Force under command of VAdm. Frank T. Watkins.

March 21—An A3D-1 *Skywarrior* piloted by Cdr. Dale W. Cox, Jr., broke two transcontinental speed records; one for the round trip Los Angeles to New York and return in nine hours 31 minutes 35.4 seconds, and the other for the east to west flight in five hours 13 minutes 49 seconds.

March 25—The first F8U-1 *Crusader* was delivered to a fleet unit, VF-32, two years to the day after the first flight of the experimental model.

March 27—Capt. V. C. Griffin died. Naval Aviator number 41, he made the first take-off from the Navy's first carrier, the USS *Langley*.

Conditions in the Middle East changed in the second quarter of the year, but they were no more stable. The Suez was opened under compromise, and the concern of neighboring countries over the process of forming a new government in Jordan created new international tensions which again required the Sixth Fleet to move eastward in the Mediterranean. At home and in other parts of the world where naval air forces were deployed, the routine activity of peacetime continued. There were more reorganizations; more world records broken. An intensive aviation safety program which began in 1951 and recorded new triumphs each year, reached its highest point to date with the close of fiscal year 1957, when it was announced that naval aviation had marked up its best safety record in history.

April 1—Thomas S. Gates, Jr., took the oath of office as Secretary of the Navy, relieving Charles S. Thomas whose resignation was effective this date.

April 4—The 15th launching of *Bullpup*, a small missile designed for use by tactical support aircraft, completed the contractor's flight tests in which high operating reliability and accuracy on the target were demonstrated.

April 5—In the Second Annual Naval Air Weapons Meet, VMF-314 won the Earle Trophy for first place in air gunnery, and VA-26 took the Kane Trophy for best in the air-to-ground competition. Best individual score of the meet was made by Cdr. A. Vraciu, commanding officer of VF-51 and third leading Navy Ace in World War II.

A3D SKYWARRIOR *on strip at Barber's Point after a record flight from Moffett Field that cut seven minutes from the TransPacific time.*

April 12—Scheduled production of the *Sparrow I* air-to-air missile was completed with delivery of the last missile on order.

April 13—Aviation officer distribution functions performed by the Office of DCNO(Air) since its formation in 1943, were transferred to the Chief of Naval Personnel.

April 15—The USS *Intrepid*, CVA-11, was recommissioned after conversion at New York.

April 21—The USS *Antietam* reported for duty to the Chief of Naval Air Training providing that command its first angled deck carrier for use in flight training.

April 22—The first FJ-4B *Furies* were assigned to VF(AW)-3 for the Fleet Introduction Program at Moffett Field. Upon completion of FIP in June, the first assigned to the fleet went to VA-214.

April 30—The Naval Aviation Medical Center at Pensacola was commissioned, combining under a single command the clinical, training, and research functions of the Naval School of Aviation Medicine and the Pensacola Naval Hospital.

May 1—A two-part rocket made up of the first stage *Viking* and a prototype third stage, was launched from Cape Canaveral on the second successful test of the earth satellite launching vehicle.

May 27—The first T2V-1 *Seastar* jet trainer was delivered to the Naval Air Advanced Training Command at Corpus Christi.

May 27—The USS *Coral Sea*, CVA-43, last of the World War II types scheduled for major conversion, was decommissioned at Puget Sound.

May 28—In a reorganization of the Naval Air Reserve

THE FJ-4B, *a Fury modified to carry a variety of bombs externally, added offensive power when it joined the operating forces in June.*

program, the Chief of Naval Operations directed that the 73 Auxiliary Air Units located throughout the country be decommissioned during the next six months.

June 4—The landing field at NAS OCEANA, Va., was named Soucek Field in honor of the late VAdm. Apollo Soucek, former altitude record holder, test pilot, task force commander and Chief of the Bureau of Aeronautics.

June 6—Two F8U *Crusaders* and two A3D *Skywarriors* flew non-stop from the *Bon Homme Richard* off the California coast to the *Saratoga* off the east coast of Florida.

This was the first Pacific carrier to Atlantic carrier flight in history and was completed by the F8U's in three hours, 28 minutes, and by the A3D's in four hours, one minute.

June 19—The Navy announced that an automatic navigator, developed after 10 years of study, was in production. Designed especially for high speed aircraft but adaptable to others, the equipment automatically furnishes accurate ground speed and precise position data and also enables the pilot to make pinpoint reports of observed target locations on the surface.

June 28—Airship Squadrons One and Four at Naval Air Facility, Elizabeth City were decommissioned.

June 28—Guide lines were issued for transferring operational capability of the air-to-surface missile *Petrel* to the Naval Air Reserve.

THE F11F *Tiger, carrier fighter equipped with air-to-air Sidewinder missiles and conventional armament, is operational in both Fleets.*

June 30—The aviation safety record for fiscal year 1957 of 3.06 major accidents per 10,000 flight hours, was a new record low for naval aviation.

The beginning of the International Geophysical Year culminated the nation's preparations to which naval air elements had contributed for more than a year, and opened the way for continued participation. High altitude Aerobee-Hi rockets, developed by Navy scientists, probed the ionosphere, photo planes completed glaciological surveys in Alaska, and plans were formulated for the air logistic support of another Deep Freeze expedition to Antarctica. On the operating front, the record smashing capabilities of new aircraft were again demonstrated, a third Forrestal carrier was commissioned, and a new era was heralded with the award of a contract to build a nuclear powered carrier. Large scale exercises in the North Atlantic and in the Mediterranean by naval units of NATO nations promoted closer working relations among the various national forces and demonstrated their ability to operate together as an effective naval force. The Middle East was a smoldering background for diplomacy but was otherwise temporarily quiet. In this quarter, the first plans toward reduction of forces were announced and preliminary steps were taken to achieve them.

T2V SEASTAR, *a two place single engine jet trainer designed for land and carrier operations, was assigned to the Training Command.*

July 1—With the dissolution of Naval Forces Far East as the overall command in the western Pacific, Naval Forces Japan and Naval Forces Korea were established to support and control naval units assigned to the respective areas.

July 2—The Secretary of the Navy announced plans to close or reduce 60 naval activities during the next half year as a part of the overall reduction of forces in the Department of Defense. Among these were one Naval Air Facility and one Naval Air Reserve Facility for disestablishment, one Naval Air Supply Depot for reduction to maintenance status, and five Naval Air Reserve Training Centers and one Naval Air Station for reduced operations.

July 15—RAdm. Robert E. Dixon relieved RAdm. J. S. Russell as Chief of the Bureau of Aeronautics.

July 15—With the establishment of Single Manager for Airlift Service, Fleet Logistic Air Wings, Atlantic and Pacific, and FlogWing Squadrons not assigned to the Single Manager Service were decommissioned and Fleet Tactical Support Squadrons were established to operate directly under the control of Fleet Commanders.

July 16—An F8U-1P *Crusader,* piloted by Maj. John H. Glenn, Jr., USMC, broke the transcontinental speed record with a crossing from Los Alamitos, Calif., to Floyd Bennett Field, N. Y., in three hours 22 minutes 50.05 seconds.

July 16—Two A3D *Skywarriors* on a routine flight to join VAH-2 at Barber's Point, made the Pacific flight from Moffett Field to Honolulu in the record time of four hours, 45 minutes.

July 30—The first pilotless helicopter flight was made at Bloomfield, Connecticut. Built by Kaman Aircraft under joint Army-Navy contract, the new helicopter was designed on the basis of principles developed experimentally under Navy contract using a modified HTK.

July 30—Air Force, Pacific Fleet and Air Force, Atlantic Fleet were re-titled to become Naval Air Force, Pacific Fleet and Atlantic Fleet respectively.

August 1—The attack carrier *Lake Champlain* was reclassified as a CVS to fit her new antisubmarine mission.

August 10—The USS *Ranger*, CVA-61, was commissioned at Norfolk, Capt. Charles T. Booth commanding.

August 12—The trustees of the Harmon Trophy announced the award of the 1957 Harmon International Trophy for Aeronauts to Mr. Malcolm D. Ross of the Office of Naval Research and LCdr. Morton L. Lewis of the Bureau of Aeronautics for their record ascent in the *Stratolab* balloon, 8 November 1956.

August 12—An F3D *Skyknight*, with LCdr. Don Walker aboard, was landed on the USS *Antietam*, at sea off Pensacola, by the Automatic Carrier Landing System. It was the first shipboard test of the system designed to bring planes aboard in all weather conditions without help from the pilot. In the period 12-20 August more than 50 fully automatic landings were completed.

August 15—The Hon. Garrison Norton, Assistant Secretary of the Navy for Air, presented the Distinguished Civilian Service Award to Mr. William Z. Frisbie for "his distinguished service to the Navy in his selection of new aircraft designs for Naval Aviation." In his long career, which began with the Bureau of Aeronautics in 1921 and ended with his retirement 24 May 1957, Mr. Frisbie participated in the design and evaluation of some phase of every naval airplane, guided missile, helicopter, and airship developed by BuAer during that time.

August 16—The Navy announced that construction of a nuclear-powered carrier to be equipped with eight reactors, had been assigned to the Newport News Shipbuilding and Drydock Company.

August 27—The Navy announced that all Naval Aviator candidates, except Aviation Cadets, entering flight training after 1 January 1958, would be obligated to serve three and one-half years on active duty after completing the course instead of the two years previously required.

August 28—The ground level ejection seat, designed and developed by the Martin-Baker Aircraft Co., Ltd., of England, and under evaluation by Grumman Aircraft for Navy, was demonstrated at NAS Patuxent River. A successful ejection was made by Lt. Sydney Hughes, RAF, from an F9F-8T flying at ground level at 120 mph. The new seat was acclaimed by Capt. E. L. Farrington, head of Aviation Safety, as "the most significant development in aviation safety since the advent of the parachute."

August 29—President Eisenhower signed a joint resolution of Congress which, subject to certain conditions, assigned the World War II carrier USS *Enterprise*, to the Enterprise Association for preservation and use as a memorial museum with the support of private funds.

Events of the fourth quarter were largely overshadowed by events in space. Successful launching of the first earth satellites by the USSR focused the attention of the world on space, rockets, and missiles, as reality seemed about to catch up with science fiction writers. But there was also activity on earth. New evidence of United States missile progress was made public and further progress was reported almost daily. Tension in the eastern Mediterranean countries eased but was not entirely relieved. New ships were commissioned; some the first of their type. A third Deep Freeze support operation began on the Antarctic Continent.

THE FIRST *stage rocket Viking roars off in first test of the satellite launching vehicle.*

TALOS DEFENSE *Unit, a land-based version of the Navy's shipboard missile system.*

REGULUS II, *supersonic long range missile, on tricycle landing gear used during tests.*

September 1—Classification of the USS *Yorktown* was changed from CVA to CVS.

September 3—The XKDT-1, a solid propellant rocket powered target drone, made its first flight in a launch from an F3H *Demon* over NAMTC Point Mugu, Calif.

September 14—The keel of the USS *Constellation*, sixth and last of the scheduled *Forrestal* class, was laid at the New York Naval Shipyard.

September 15—Airborne Early Warning Squadron 13 at NAS Patuxent River, was decommissioned.

September 17—At NAAS Chase Field, the first familiarization flight in the swept wing F9F-8T *Cougar*, was given to student naval aviator Ens. E. E. Steinbrink, marking its introduction in the final phase of flight training in the Naval Air Training Command.

September 17—The Navy announced cancellation of the surface-to-surface *Triton* missile program and plans to

USS ANTIETAM *first angled-deck carrier in the U. S. Navy and now the first angled deck to report for duty with the Air Training Command.*

USS TICONDEROGA, *CVA-14, after completing a six-month modernization at Norfolk in March, reported for duty with the Pacific Fleet.*

incorporate some of its features in other missile systems.

September 28—The LST *Alameda County* was redesignated an Advance Aviation Base ship, AVB-1.

September 30—The USS *Saipan*, CVL-48, last of the light carriers in operation, was decommissioned.

September 30—USS *Midway*, CVA-41, was recommissioned after conversion at the Puget Sound Naval Shipyard, Capt. F. E. Nuessle commanding.

October 1—The Naval Air Test Facility (Ships Installations) at Lakehurst, New Jersey, was commissioned, Cdr. R. M. Tunnell commanding.

October 1—Naval Air Station, Rota, Spain, was established to support air operations in the Mediterranean.

October 1—Naval Air Facility, Elizabeth City, and Naval Air Reserve Facility, Birmingham, disestablished.

October 12—A VX-6 *Skymaster* with RAdm. George J. Dufek, CTF-43, on board, landed at McMurdo Sound, marking the beginning of the squadron's third tour in Antarctica.

October 14—First air operations aboard the USS *Ranger*. Capt. C. T. Booth made the first landing aboard his ship in a TF-1 and was closely followed by an AD piloted by Cdr. M. G. Brambilla, skipper of VA-85.

October 15—A land-based version of the *Talos* shipboard missile system was turned over to the Army for evaluation and use at its anti-aircraft defense installations.

October 16—The USS *Lake Champlain*, with HMRL-262 embarked, arrived at Valencia, Spain, to give aid to thousands made homeless by floods.

October 21—The USS *Albemarle*, converted to support the operations of large jet seaplanes, was commissioned at Philadelphia, Capt. W. A. Dean commanding.

October 23—The Navy announced award of a 62-million-dollar contract to Lockheed for continued development of the Fleet Ballistic Missile *Polaris*.

November 13—The 1000-mile range *Regulus II* guided missile was fired at Edwards AF Base in its first launch with rocket boosters. After a 48-minute flight, the 11-ton missile was returned to the field by control aircraft.

USS SARATOGA, *CVA-60, was fully operational and was deployed to the Eastern Atlantic for participation in large 1957 NATO exercises.*

NEWEST *of the Forrestal Class, the USS Ranger, CVA-61, underway during builder's trials in the Norfolk area prior to commissioning.*

GRAMPAW PETTIBONE

Command Supervision

The following comments, made recently by the Senior Member of an Area Safety Council, point up the responsibility and capability of a squadron commanding officer in improving the safety of aircraft operations.

Safety in Naval Aviation has many facets and many technical areas, but there is one particular all-encompassing area that is fully as important as any other—*Command Supervision.* There is direct correlation between the attitude of the commanding officer and his unit's safety record, and, in the absence of information to the contrary, a deteriorating aviation safety record must be viewed as a breakdown of supervision from the top.

For example, one squadron operated for more than a year, including four months on deployment without an accident, and then with a change of command had eight accidents in one year. Then, subsequent to another change of command, this unit showed a steady and marked improvement in its accident rate.

In another case, a new commanding officer was able to reduce his squadron's accident rate to 27% of what it had been for the previous year.

Two AD *Skyraider* squadrons with long histories of trouble-free engine operations were visited by teams from the Naval Aviation Safety Center to determine the salient features that made these squadrons different from others. Among their conclusions were the following:

1. The squadron commander was very experienced and provided strong, positive leadership.

2. The commanding officer was vitally interested in safety of aircraft operations and every man in the squadron knew he was interested.

Seldom is supervisory error cited as a cause factor, but frequently it is only necessary to scratch the surface lightly to see a lack of supervision in the background.

Flight and ground safety is an essential element of good operating practice and is, therefore, a command function which must be given the utmost consideration at all times. Success in the accomplishment of our mission in Naval Aviation is not compatible with aircraft accidents, and accident prevention is a normal part of command duties. Whereas the need for close supervision of air operations is obvious, the need for more and better supervision of an effective ground program in aviation safety is increasing. Supervisory efficiency must be judged as much by accident prevention efforts as by other standards.

A properly planned operation, executed effectively, is inherently safe. A command's accident record is an indication of the effectiveness and efficiency of its commander.

Grampaw Pettibone Says:

Mighty well said! These remarks should help everyone see that there's no vision like supervision.

Squeeze Play

While taxiing to the runway for takeoff, the leader of a division of *Cougars* turned to look over his right shoulder at the remainder of his division, at the same time placing his left hand on what he thought was the glareshield. Instead, he rested his hand on the windshield frame.

The pilot had started closing the canopy prior to looking back to his division. The leading edge of the canopy frame caught his gloved fingers, whereupon he jerked his hand free, informed the tower that he had been injured, and returned to the line where he was met by an ambulance.

Grounding for an estimated six weeks resulted from the injury sustained—amputation of the tip of the right ring finger and simple fracture of the middle finger.

Grampaw Pettibone Says:

Ouch! This happened to a 5500-hour man with 120 hours in model, which proves that most anyone can get caught in the squeeze and getting caught can be really serious.

This guy must be a member of that Mouse Club!

Fog in the Cockpit

An F9F-6 in final approach for landing came over the boundary fence in a nose-high attitude. The attempted flare-out resulted in an increased rate of sink and the *Cougar* slammed down hard. The pilot was uninjured, but his airplane fared less well.

The cause of the pilot's difficulties was his attempt to land his *Cougar* while flying blind. His failure to turn up the temperature control caused condensation at low altitude, and the windshield fogged over. In spite of the lack of forward visibility, the pilot continued his approach, attempting to see around the windshield by opening the canopy. However, he didn't have his goggles in place over his eyes and the wind blast forced them over his helmet. For the remainder of the approach, the wind blast caused the goggles to administer a series of rabbit punches in the back.

Peering around the edge of the windshield, the pilot wasn't aware of the *Cougar's* cocked-up attitude.

The aircraft accident board concluded that the primary cause of the accident was the pilot's improper letdown technique and his failure to take corrective action to preclude the fogging of the windshield. A secondary factor was the over-rotation of the aircraft, causing a high rate of sink, caused by the pilot's preoccupation with his lack of forward visibility.

The board recommended that a refresher lecture on proper use of cabin temperature be given to all pilots and that pilots review proper wearing of H-4 helmets with goggles.

Grampaw Pettibone Says:

Seems to me that those goggles beating you between the shoulder blades should have driven home the idea that there was an easier—and safer—way of doing things. And that windstream musta caused quite a bit of eyeball sweat.

Since you had plenty of go-juice for a go-around, you could have saved yourself and your jetbuggy a beating by taking a waveoff when the windshield first fogged over, allowing time for clearing out the cockpit fog, thus making possible a less hairy landing.

Of Life and Limb

An FJ-3 *Fury* at altitude above clouds over Japan had a flameout. The pilot was instructed to eject. He spotted Atsugi through breaks in the clouds and decided to make a flame-out approach to the Naval Air Station. He descended at high speed, misjudged his approach and crash landed off the field. He was killed, the plane was a strike.

Another *Fury* flamed out at altitude in the same area during clear weather conditions. The pilot elected to make a flame-out approach to NAS Atsugi. He approached fast and caught the arresting gear cable. The cable parted, and the aircraft continued off the runway. There was minor damage to the aircraft and no injury to the pilot.

Grampaw Pettibone Says:

The first pilot sacrificed his life through failure to heed the on-the-spot advice to eject and the following life-saving information contained in paragraph 4.e. of OpNav Instruction 3750.12: "Normally a flame-out approach should be attempted only during daylight hours and when the approach from the high key position can be made clear of clouds with sufficient visibility to keep the field in sight."

His motives were commendable, but he crawled out on a limb when he tried to save his jet job. Familiarity with the data given in the aforementioned instruction is a *must* if the right decision is to be made at the right time. Like the man on that tellyvision contraption says, "This is *your* life!"

Understatement of the Month

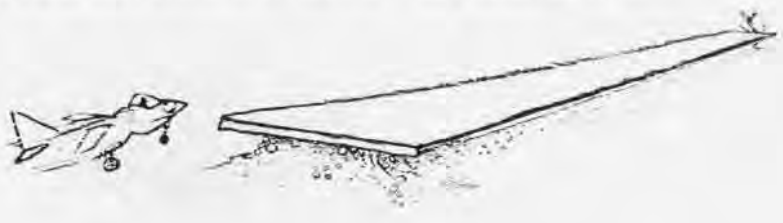
"I don't know what caused this accident but it appears that I retracted the gear prematurely and flew into a slight upgrade in the field. If so, this accident could have been prevented by conforming to local course rules which require 100 feet of altitude for gear retraction."

Something Concrete

At a recent Area Safety Council meeting, it was explained that undershooting at the local Navy airfield might prove dangerous or at least hard on tires since erosion and heavy rainfall had left a three to four-inch edge or lip on the ends of the runway. It was stated that repairs were planned, but all units should be warned to be careful of undershooting at the present time.

Grampaw Pettibone Says:

Let's get those repairs out of the planning stage and do something *concrete!* Otherwise those stiff upper lips on the runways will account for a lot of undercarriages coming unglued. With potholes in the runway threshold, the safety record's soon shot to pot—and that's no welcome matter!



Memorandum

TO: Desk Pilots (Temporary)

SUBJECT: Proficiency Flying

There has broken out in recent months a rash of weeping and gnashing of teeth over the plight of the desk bound pilot serving his tour ashore, regarding his inability to keep himself sufficiently qualified for rotation back to operational flight duty. In the halls of the Pentagon, at foreign shore establishments and in the public and service press, the sad tale of the proficiency pilot is told and retold every day. Almost everything under the sun has come in for some share of the blame – the budget, lack of suitable aircraft, lack of adequate fields and lack of time. Certainly all of these excuses have some validity at one time or another. All are obstacles – but none is insurmountable. In most cases it gets back to the old copy-book maxim: "Where there's a will, there's a way."

Most serious of the conclusions reached as a result of fallacious thinking on the subject is that the more senior a Naval Aviator becomes the less it is necessary for him to be reasonably well qualified in service types. Nothing could be farther from the truth. In fact, this kind of thinking, put into action, will bring about one of two results: reduction in the operational effectiveness of Naval Aviation; or in narrowing of the aviation command assignability of the officer concerned, and concomitant damage to his career, if he hopes for normal progress to command in Naval Aviation.

Let us look at the excuses that are offered for letting proficiency lag. The budget. Granted there has been and is less "Bravo" money for gasoline for all kinds of flying, including proficiency flying. But the desk-bound pilot can and is required to fly at least ninety hours a year. Whether this eight-hours-plus a month is sufficient to keep him currently qualified is largely a matter of what he uses the time for.

Boring holes in the atmosphere with the weather CAVU is hardly calculated to keep a pilot alert to the kind of environment he is liable to encounter on an operational flight. The question is: Does the proficiency pilot use the time allotted him to "get his flight time" or to really maintain his ability as a professional aviator? Does he get only the bare minimum of night time? Does he keep his instrument rating current? Does he fly on the gauges, at least simulated? Does he continue to make use of Operational Flight Trainers and the Link? His log book tells the story of his seriousness about keeping himself qualified.

Lack of suitable aircraft and lack of suitable facilities come in for the same kind of reasoning. Granted, every jet qualified pilot ashore is not located where he has access to jet aircraft – most of our jets are in the fleet and some of our fields cannot accommodate them if we had them. But in almost all cases service types of some kind, single or multi-engine, are available for him to fly. Even conceding that there is a possibility that the shore based aviator has nothing available other than "Beech's" or "J's" it gets back to what he uses his time in the aircraft for – it can be a joy-ride or it can be a proficiency maintenance hop.

As for the dearth of time and the plethora of paper-work, someone said a long time ago that if you want a job done give it to a busy man to do. At sea or ashore, in the fleet or in the Pentagon, a big part of the required work of the professional Naval Aviator, junior or senior, is flying. He will never be denied the time to maintain his professional specialty. He will make time – his own, if necessary.

A short time ago a senior Naval Aviator in a letter to his superior who had made some inquiries as to his flight time and his proficiency, stated that he doubted the necessity of senior desk-job aviators keeping themselves current in the finer points of flying or in service type aircraft. Compare him with another captain who sat behind a very important desk in the Bureau of Naval Personnel. Between major projects which kept him busy more than the required number of hours per day either at his desk or traveling he requested temporary duty at the Jet Transitional Training Unit at Olathe and in minimum time qualified himself in Cougars.

Which of these two men deserves consideration for the important and responsible commands in Naval Aviation? Which is better qualified to stand on the bridge of a carrier and make the "go" or "no go" decision that carries with it the responsibility for the lives of dozens of pilots and many millions of dollars in aircraft?

It is the announced policy of CNO and The Bureau of Naval Personnel to assign to operational aviation commands (commanding officers of carriers, tenders, fleet air wings, squadrons, air groups, etc.), only those who have maintained reasonable flight proficiency.

The naval aviator who keeps himself reasonably qualified in modern aircraft, who stays proficient in instrument flying, who has a first-hand knowledge of the capabilities and the limitations of the type aircraft in which he has been qualified, who understands the proper use of the black boxes fleet pilots must cope with, who can talk operational flying with juniors rather than just listen to them – he is the leader in Naval Aviation today and tomorrow. He is the man who will captain our aviation ships and command our task forces. He is the man who will be responsible for determining the future requirements of Naval Aviation in men and materials because he fully and completely understands his profession.

THE WORLD'S LARGEST *operational seaplanes, Navy R3Y Tradewinds, soar high above San Francisco Bay as they return to NAS Alameda. Alcatraz appears below them. The four Tradewinds, which belong to Fleet Tactical Support Squadron Two were completing various operational training flights. The turboprop seaplane is capable of speeds greater than 350 miles per hour. Squadron CO is Capt. Ned L. Broyles.*

NACA Scientists Honored

Exceptional Service Medals Given

The National Advisory Committee for Aeronautics has conferred its Exceptional Service Medal upon Robert G. Deissler and Seymour Lieblein, aeronautical research scientists at the NACA Lewis Flight Propulsion Laboratory, Cleveland, Ohio.

Mr. Deissler's scientific research has helped solve many of the fluid flow and heat transfer problems associated with aircraft nuclear propulsion. Mr. Lieblein's research has served to improve aircraft turbojet engines by increasing turbojet compressor performance and by reducing compressor weight and cost.

The honors were presented by Dr. Hugh L. Dryden, Director of the National Advisory Committee for Aeronautics, during special ceremonies at the Lewis Laboratory.

Marines to Study Terrier

Launcher Classes to Run 26 Weeks

A new course in *Terrier* missile launcher system repair has been established at the Ordnance School at Marine Corps Schools, Quantico, "in recognition of the guided missile's increasing role within the Corps."

The 26-week course is open to 12 students per class and will be available to staff NCO's with military occupational specialties of 0781, 0791 and Company grade 2191.

Officers, Staff NCO's and certain key civilians with previous training and experience in the electrical or hydraulic fields will be eligible to attend.

The syllabus of instruction was drawn up in cooperation with the W. L. Maxson Corporation, prime contractor for the launcher system. It will cover all phases of the launcher and its control system, as well as the study of the electric-hydraulic power drives, safety and interlock circuits, and fire control systems, according to a Marine Corps announcement.

Hawk Has Improved Radar

Tracks Targets at Lowest Levels

A radar "eye" that ignores stationary objects but speeds a surface-to-air missile instantly toward a threatening moving aerial target has been revealed by the Army. It is part of the *Hawk* air defense missile system designed to protect American cities against aerial invaders flying at even the lowest altitude.

Hawk's ability to seek out and destroy invaders at tree-top level is due to use of a radically advanced radar technique in the missile's guidance system.

Another unique aspect of the *Hawk* system is the extreme mobility of the ground support equipment which permits *Hawk* units to travel with mobile Army and Marine Corps assault forces.

Reservists Fire Petrels

VP-834 Pilots Train with GMU-11

Patrol Squadron 834, based at NAS FLOYD BENNETT FIELD, became the first Naval Air Reserve squadron to fire guided missiles as part of regular training when the squadron was deployed at Chincoteague, Virginia.

RAdm. Henry H. Caldwell, Chief of Naval Air Reserve Training, emphasized that this phase of squadron training is in line with the Navy's policy of supplying the latest training methods and information to naval air reservists.

The series of training firings of *Petrel* missiles was completed under the training program of Guided Missile Unit 11. The air-to-surface *Petrel* was designed for use against submarines and surface ships. It is considered extremely accurate, despite evasive tactics the target may employ.

Capt. James H. Newell, Commanding Officer of NAS NEW YORK, disclosed that increasing emphasis is being placed on anti-submarine warfare by the Naval Air Reserve because of the substantial increase in submarines which the Soviets are known to have made since the end of World War II.

New Booklet is Published

Describes Value of Training Aids

A new publication explaining when, where, why and how to use training aids effectively is now being issued by the Chief of Naval Operations. The booklet is entitled *Training Aids* (NAVAER 00-80T-63).

Designed to help everyone do a better and faster job of training, it is slanted for the use of schoolroom instructors, men administering training aids at a base or station, or instructors just ordered to duty.

Chapters cover the types of training aids that can be used effectively and explain just how to use these aids to achieve maximum results consistent with the level of the class. Anyone interested in visual and audio-visual devices will find them invaluable.

The book is illustrated throughout with photographs and line drawings.

STANDARD CONFIGURATION OF THE T2V REAR COCKPIT PANEL

A T2V FORWARD COCKPIT WITH TEST-FLOWN INTEGRATED PANEL

ANIP COCKPIT PROGRESS REPORT

THE DEVELOPMENT of complex aircraft has complicated cockpit instrumentation to the point where pilots cannot operate at top efficiency while observing and assimilating the information presented on the numerous instruments. Over four and a half years ago, the Office of Naval Research and the Bureau of Aeronautics, recognizing this fact, undertook a program to develop the ideal combination of the machine and the man who must operate it. Within the past two years, the Navy has been joined by the Army Signal Corps to extend this effort to cover rotary wing aircraft. The project is called the Army-Navy Instrumentation Program, or ANIP.

The result is an integrated instrument panel, a radically simplified and accurate system of flight instrumentation. It consists of a "contact analog" displayed vertically in front of the pilot, a mechanically operated horizontal navigational map display and stand-by instruments.

The contact analog is, as the name implies, analogous or similar to contact flight. It reproduces under all weather conditions the same basic visual cues as are seen during flight in clear weather.

The analog is a two-dimensional picture, presented on a flat, transparent cathode ray television tube $2\frac{5}{8}$ inches thick, 20 inches wide and 11 inches high. These tubes need only a few refinements for mass production to make space-saving home television a reality. The picture on the contact analog is made up of grid lines or random dots, both of which are being tried, and gives the pilot the perspective of third dimension, depicting sky and terrain information. The screen is located in front of the cockpit, much like a second windshield. When it is not being used, the pilot can look through it as if it were a window.

Signals for both the analog and horizontal navigational display are provided by a miniature, airborne, electronic digital computer which accepts and processes data from nearly 20 sensors.

The computer, which serves as a bantam "answer box" through its electronic computations, not only shows the pilot his true air speed, Mach number, rate of climb and altitude, but also figures the best altitude and speed to fly for maximum range and endurance under varying fuel loads. It also predicts how far the plane will fly in any direction and estimates time of arrival for any given destination. The computer is smaller than a breadbox and weighs less than 40 pounds.

The El Segundo Division of the Douglas Aircraft Company has served as prime contractor and project coordinator for fixed-wing application from the start. Douglas has installed the integrated panel in the forward cockpit of a Lockheed T2V. It has undergone successful flight tests in the jet trainer since 30 August 1957.

When the Bell Helicopter Corporation of Fort Worth, Texas, was awarded a contract to serve in a similar capacity for rotary-wing aircraft, Douglas turned over to them nearly two years of research and development findings. The exchange of data between two major manufacturers has expedited both programs.

Bell engineers designed and built the helicopter flight simulator, part of which resembles a helicopter cabin. Pilots sit in the cabin which will be placed atop a dynamic platform that can be made to pitch, roll, yaw and heave. In front of him is the contact analog display. The synthetically

MOCKUP OF FUTURE COCKPIT SHOWS TRANSPARENT ANALOG TUBE

THE INTEGRATED INSTRUMENT PANEL LONG-RANGE CONFIGURATION

created picture contains the same visual cues the pilot uses as he flies along on a clear day. Currently projected on the screen are moving grid patterns from which pilots can discern altitude, speed, turns and other maneuvers. Later additional information will be presented.

An electro-mechanical contact analog generator, designed by Bell for the simulator, is now in use. It is anticipated that a compact, all-electronic generator will be installed and flight tested in a Navy helicopter, the Bell HTL-7, early this year.

While the value of the simplified instrument panel to military aviation is obvious, the benefits of such a system to commercial aviation are just as important. In the interests of general flight safety, the results of the ANIP effort were declassified and released to industry. RAdm. Rawson Bennett, USN, Chief of Naval Research, representing the ANIP program, released the data to Mr. M. G. Beard, Assistant Vice-President of American Airlines, who accepted it as Chairman of the Aircraft Cockpit Standardization Committee of the Air Transport Activities Branch, Society of Automotive Engineers. By making the concept available at this stage of development, the commercial aircraft operators will be given more lead time to determine the most effective implementation. They will continue to be assisted by military efforts and will exchange information.

RAdm. Bennett stated that, while the system is not yet complete, studies indicate that this type of cockpit is fundamentally correct, and will meet the requirements for making instrument flight safer. Important "rake-offs" from the integrated instrumentation program are expected to be incorporated in operational Navy aircraft in two to three years.

Cdr. George W. Hoover has guided the research phase of the program since its beginning. He has been credited with channelling into the program the labors of more than 600 companies.

Greater flight safety is the goal. The military and top industry are working together with harmony and singleness of purpose to achieve it.

FUTURE HELICOPTER COCKPIT CONCEPT REFLECTS THOUGHT GIVEN TO PILOT COMFORT

THE HELICOPTER FLIGHT SIMULATOR DISPLAY

THE FASTEST JET CARRIER PLANE HAS WORK-OUT ON THE FDR

'PILOTS, MAN YOUR PLANES' PRESAGES AFTERBURNER BLASTS

COLLIER TROPHY GOES TO F8U

THE 46-YEAR-OLD Collier Trophy has been awarded to VAdm. J. S. Russell, former Chief of BUAER, and Mr. Charles J. McCarthy, Chairman of the Board of Directors of Chance Vought Aircraft, for the conception, design and development of the F8U *Crusader* as the outstanding aviation achievement of 1956. The plane is not only the first carrier-based plane capable of speeds in excess of 1000 mph, but is the first standard production jet-propelled aircraft to top that mark. Cdr. R. W. 'Duke' Windsor demonstrated this fact last year when he flew a *Crusader* to a new national speed record of 1015.428 mph.

Although no one man can be given credit for this remarkable plane, other Chance Vought men come in for a share of the *Crusader* development. They include: F. O. Detweiler, President; Ray Blaylock, Vice-President in charge of Engineering; Russ Clark, Chief Engineer; and Lyman Josephs, F8U Project Engineer.

The trophy was donated in 1911 by Robert J. Collier, to be awarded annually by the Aero Club of America. Collier was a member of the Club from September 1908 and President 1911-12. The National Aeronautic Association is now the administrator of the award by virtue of its assumption of all Aero Club functions in 1922. Since that year the NAA has awarded the trophy annually to the person or persons responsible for the year's outstanding development in the aviation field.

Recipients are selected through a committee appointed for the purpose by the Association. Each member selects one or more individuals or an organization which he considers may merit the award. These are nominated by the member in the form of statements supporting the particular achievement, and are submitted to the Committee Secretary several weeks before the Committee meeting. At the single meeting, members vote as to who should be the winner with a majority ruling.

The committee which made the Collier selection for 1956 consisted of 27 prominent figures in U. S. aviation.

POISED ON FDR'S STEAM CAT, F8U CRUSADER IS READY TO GO

VARIABLE INCIDENCE WING PERMITS SLOWER LANDING, TAKE-OFF

Departure Record is Set

VR-8 Clocks 62 Take-offs on Time

A new all-time Military Air Transport Service Record has been set by VR-8, operating out of Hickam AFB, Honolulu. As a prelude to the squadron's changing its home port to NAS MOFFETT FIELD, VR-8 aircraft recently ran off a string of 62 consecutive on-time departures.

The squadron received word June 27 that after 14 years on the island of Oahu its home port had been changed to the Bay Area air station. Never an outfit to waste time, VR-8 started its string of consecutive on-time departures five days later, July 2, and continued without a mishap until August 12 when an errant auto-feathering device caused TransRon Eight's first delay in 42 days.

VR-8 had an average of only eight aircraft in commission and a maximum of 10 available *Connies* during the entire period, in contrast to the squadron's complement of 14.

In early July, VR-8 engaged in extracurricular support missions for a Strategic Air Command movement which, when added to its already ponderous load, made the record more enviable.

Whiting Diagonal Parking

Plan Increases Safety and Space

At NAAS WHITING FIELD, there'll be no strain or manual handling of aircraft with the new diagonal parking system. The pilots will just taxi them in with the greatest of ease.

The plan has been developed by Cdr. W. W. Olson, Group Commander of BTG-3N, LCdr. A. E. Tripp, North Field Maintenance officer, and Lt. C. E. Snyder, Group Safety Officer.

Diagonal parking will permit more space around the aircraft, reduce hazards to ground personnel and provide less chance for taxi accidents. No manual handling of aircraft will be necessary.

The old form of parking was satisfactory when Whiting had the SNJ's and T-34's, but with the arrival of the larger T-28, an improved parking method was needed. Since the T-28's were assigned to Whiting, six accidents costing $13,000 have been attributed to unsatisfactory parking conditions.

It is estimated that diagonal parking will save about $25,000 annually.

CARRIER *qualifications were conducted aboard USS Antietam while the ship lay at anchor November 13. Wind force stayed between 22 and 30 knots, permitting T-28's like this to land and take off regularly during the day.*

Weather Central Praised

Lyautey Meteorologists Aided IGY

The U. S. Navy Fleet Weather Central, Port Lyautey, has been commended by the Chief of the Bureau of Aeronautics for "contributing materially to the International Geophysical Year."

It was specifically cited for "consistent and exceptionally high altitudes achieved in rawinsonde weather balloon ascensions and calculations." One such flight reached 154,659 feet, exceeding the theoretical limit for the type of balloon used.

Capt. E. T. Harding is commanding officer of the unit which serves as weather coordination center for the European and Middle East area.

VADM. ROBERT *Goldthwaite, Chief of Naval Air Training, and Cdr. John L. Butts, OinC of ATU-206, look over flight plan prior to Adm. Goldthwaite's making his first flight in the twin seat Grumman F9F-8T.*

Pacific Fleet to Get CVA-61

NAS Alameda will be Home Port

The USS *Ranger* (CVA-61), newest in the line of *Forrestal*-class carriers now in commission, will report this year to NAS ALAMEDA, California, its home port. It will be the first of its type to operate under VAdm. A. M. Pride, ComNavAirPac.

The new flat-top will spend the first months of 1958 on a shakedown and training cruise with the Atlantic Fleet before reporting to the West Coast some time in early summer.

Marines Airdrop Clothing

Kindness Benefits Navajo Indians

Marines at El Toro have airdropped 1500 pounds of warm clothing to needy Navajo Indians at the Indian reservation north of Winslow, Arizona.

The drop stemmed from a visit to the reservation by Marines last Easter. Children were seen going to school barefoot and poorly clad. When the Marines returned to El Toro with their families, they began to solicit clothing from base personnel and citizens in the Santa Ana area.

In October the material was put into the hands of a drop crew and flown to the reservation by R4D for delivery.

First E's Awarded A4D's

Earned by VA-34 in Cuba Exercise

Fifteen *Blue Blasters* of VA-34 earned the first E's ever awarded an A4D *Skyhawk* squadron during a recent deployment to NAS LEEWARD POINT, Cuba.

They scored 22 E's in three competitive exercises which covered over-the-shoulder, loft and high altitude bombing. The squadron expended 3641 bombs and didn't miss a single sortie.

Pilots who qualified for E's in over-the-shoulder bombing were LCdrs. C. D. Turner, S. N. Groves, R. S. Smith; Lts. W. L. Harris, M. M. McLeod, L. E. Morrison, F. C. Andrews; and Ltjgs. J. M. Gleim, D. T. Jackson, J. T. Anderson. Loft bombing E winners were Turner, Harris, McLeod, Andrews, Gleim, Ltjgs. D. L. Felt, J. R. Tuttle, W. A. Cargile, and Ens. I. D. Lewey.

Top *Blue Blasters*, Cdr. E. L. McClintock, CO of VA-34, Felt, and Cargile were the high altitude dive bombing E qualifiers of the outfit.

NAVY, ARMY LEADERS IN MED HEAR AIO PRESENTATION ON FDR

ADMS. DUERFELDT, BROWN, WITH LCDR. ROTCHSTEIN, FDR'S AIO

AIR INTELLIGENCE COMES OF AGE

WITHIN THE PAST few years, the Air Intelligence Officer has emerged from the level of "just another guy" in the squadron or group organization to a point where he has become a key member of the attack team.

Fleet aircraft have progressed from props to jets operating at supersonic speeds, their capability has increased to include all-weather missions, radical improvements have been made in special weapons and delivery concepts, and complicated means of detection and reconnaissance have combined to focus a great responsibility on the squadron, group and staff AIO.

The AIO still deals in recognition, search and rescue, mosaics, reconnaissance, targets, order of battle, maps, flak, pilot briefing and de-briefing, escape and evasion, just as he did in the pre-1952 era.

But since then he has been specially trained to cope with electronic countermeasures, air target materials program, photographic interpretation, radar analysis, radar order of battle, target folder production, simulated scope photography, and special weapons selection-delivery-effects. He has become a key man in a vital job.

Recently, Fleet commanders have expressed concern over the fact that the rank and experience level of AIO's assigned have not kept pace with the ever increasing complexities in modern combat planning and operational fields which the AIO must fully understand and appreciate. Further, it has been noted that there is too rapid a turnover of AI personnel and that a high percentage of this work has been performed by relatively inexperienced, single-tour officers. Adm. H. D. Felt, who was then Commander, Sixth Fleet, said in 1956:

"Regular naval officers are needed in this business. It is believed that they should be trained and detailed to Air Intelligence duties in the same manner as the Navy now administers Deck and Engineering officers.

"Let us abandon the idea of Air Intelligence being a 'specialty' and consider it as one of the requisites for education and development of a general line officer. We must reduce our self-inflicted vulnerabilities by training and assignment of regulars to all of the essential elements of our trade."

In keeping with the continuing efforts for the establishment and maintenance of an alert and efficient intelligence organization in the Navy, and supported by such comments, additional remedial action was taken by the Director of Naval Intelligence, RAdm. L. H. Frost. A special board was appointed to pinpoint major problems in the Air Intelligence program and to make recommendations for their solution. The board found that the program's weaknesses could be boiled down to these facts of major significance:

- The importance of the Air Intelligence Officers' duties in the planning, training for and execution of the commanders' operations has neither been recognized nor understood.
- Too few trained regular unrestricted aviation line officers were being made available for second tours of AI duties and as a result, too high a percentage of newly-commissioned reserve ensigns occupied fleet billets.
- Continuous training of fresh reservists for one tour was inefficient, expensive and did not produce the state of AI readiness required by the operating forces.
- Regular officers felt that duty in air intelligence hurt their chances for promotion by denying them command responsibility. They feared that if they became "specialists" in air intelligence they would deny themselves a chance for attaining the well rounded career to which all future commanders aspire.
- The board found training techniques to be adequate but cited the need for a system to guarantee that more and better qualified officers were fed into fleet billets.

Findings tabulated, the board recommended that top policy officers in the Navy take remedial action. DCNO (Air) concurred in these recommendations and agreed to support the drive to accomplish the following objectives:

- Publish a policy statement outlin-

STUDENT AIO PLOTS RADIUS OF ACTION AT NIS, WASHINGTON, D. C.

CLASSROOM SCENE AT 32-WEEK NAVAL INTELLIGENCE SCHOOL

ing the importance of air intelligence to fleet operations. Cite that an understanding of the relationship between air intelligence and fleet atomic planning and operations at all levels is imperative.

• Guarantee that air intelligence duty will help, rather than hurt, an officer's chances for advancement to a higher rank.

• More regular officers, experienced and motivated in air intelligence, should be assigned to air intelligence and every effort should be made to assign them to second tours.

Most of these recommendations are in the process of being implemented. At the same time, greater stress has been placed on the training of AI officers.

Fleet schools at Norfolk and Alameda, where officers are trained for squadron and special AI duty, are slated to increase from eight to 12 weeks duration to incorporate photo intelligence and radar analysis.

The Naval Intelligence School in Washington, in cooperation with the Photographic Interpretation Center, has increased its pace as well. Formerly, a class of 40 officers was convened every 19 weeks. One class was completed before another convened. Starting in January, 1957, a 32-week course for 45 officers has convened every 11 weeks to guarantee an output of more than 200 graduates yearly. It is expected that a well-rounded AIO will emerge from these schools, grounded in all phases of his future duties.

Officers directly concerned with the administration of the air intelligence program feel that immediate improvements will become more and more evident in fleet intelligence billets because today's AIO is a "triple-threat" man, qualified in Air Intelligence, Photographic Intelligence and Radar Analysis.

Simultaneously, creation of the new enlisted rate of Photographic Intelligenceman will greatly improve the overall air intelligence program.

Air intelligence has been given highest priority endorsement by top Navy planners. Adm. Arleigh Burke, CNO, has urged all flag officers to give air intelligence their full support and concern.

VAdm. William V. Davis, Jr., DCNO(Air), has said: "I consider a thorough understanding of air intelligence, whether gained through formal training or by association, to be a prerequisite for command."

Planners believe more and better qualified candidates will be drawn into the air intelligence program under the assurance that AI in their jackets will help their professional careers.

TERRAIN MODELS ARE MADE BY AIR INTELLIGENCE STUDENTS

PHOTOGRAPHIC INTERPRETATION IS A VERY IMPORTANT SUBJECT

LET'S LOOK AT THE RECORD

VF-173 Beats Old Record

Jesters Fly 279 Hops in 18 Days

The *Jesters* of VF-173 made 279 consecutive sorties without a dud while deployed with carrier air group Four aboard USS *Randolph* in the Mediterranean. They established this record in 18 flying days with FJ-3M *Furies*.

On two of the 18 days, Cdr. Roy E. Reed's *Jesters* flew 70 hops which added up to 100 flight hours. Another day, the squadron flew 36 sorties for 51 hours which surpassed the previous squadron record of 34 sorties in one day, set aboard the *Forrestal* in November 1956.

MAINTENANCE CHIEF IS PROUD OF RECORD

VAdm. Charles R. "Cat" Brown, Sixth Fleet Commander, showed his appreciation of the effort in a commendation to Capt. Dan Smith, CO of the *Randolph*. He said the flight time accumulated by the *Randolph* July 21 was probably an all-time high for a Mediterranean carrier.

3000th Ejection is Made

Alameda Device Active Since 1952

The 3000th firing of NAS ALAMEDA's ejection seat trainer has been made. Cdr. John R. Bowen, II, commander of Carrier Air Group Two, pulled the face curtain which automatically triggered the ejector.

Installed in 1952, the trainer is designed to provide a realistic and efficient means of training aviation personnel in the correct procedure and characteristics of seat ejection from disabled aircraft and to promote confidence in its use in an emergency.

The seat is powered by an ejection catapult using a cartridge at moderate acceleration (eight times gravity) whereby the seat moves along the rails of the training tower and decelerates to zero speed by gravitation before it reaches the track top. It is then lowered automatically at moderate speed to its preload position. Maximum seat travel is 20 feet.

VAH-5 Wins Douglas Prize

Unit Honored for Bombing Skill

VAH-5 is the 1957 winner of the "Douglas Trophy" given by the West coast aircraft company. The trophy is given annually to a squadron in HATWing One for achievement in several phases of bombing.

BOMBING EFFICIENCY PRIZE IS PRESENTED

Cdr. J. M. Tully, Jr., CO of VAH-5, received the trophy from Capt. J. R. Reedy, Commander of HATWing One.

ATU-206 Stars in Safety

10,000 Flight Hours—No Accident

Advanced Training Unit 206, based at Forrest Sherman Field, Pensacola, logged early in November its 10,000th accident-free flying hour for the first time since the unit was formed.

The high mark was recorded when Ens. Robert D. Kemper returned from a ground reconnaissance flight in an F9F-2 *Panther*.

In setting the unusually high mark, ATU-206 employed over 95 jet fighters flying an average of 140 sorties daily. It took 97 calendar days to reach 10,000 hours, including non-flying days and holidays.

Kingsville Paces NAATC

Safety Record is Best in Command

Safety-wise, NAAS KINGSVILLE led all Naval air stations in the Advanced Training Command during the period January through October 1957.

Kingsville pilots flew 93,631 aircraft flight hours with only 17 accidents in that period for an accident rate of 1.81 accidents per 10,000 hours of flight. Aircraft fatalities showed a sharp decrease during the ten months.

In the corresponding period last year, the station's record was 115,685 hours with 28 accidents, or 2.42 accidents per 10,000 flight hours.

Cdr. Frank R. West, Aviation Safety Officer at Kingsville, said: "Coordinated efforts of all pilots and maintenance crews has been the major contribution toward this good record."

LCDR. ROBERT *M. Ellis (R), Executive Officer of VF-84's Fury squadron is congratulated by the LSO, Lt. K. L. Templeton, after making the 14,000th landing aboard the Forrestal.*

Copter Units Win Awards

Oppama Squadrons Operate Safely

Three squadrons of Marine Light Helicopter Transport Group 16, based at Oppama, Japan, received aviation safety awards in late September for the April-June calendar quarter.

AirFMFPac Quarterly Aviation Safety Award certificates were presented to commanding officers of HMR(L)-162 and HMR(L)-163 and to Headquarters and Maintenance Squadron 16. For HMR(L)-162, it was the third consecutive quarterly award.

Awards for commendable achievement in aviation safety were based on flight records which show that HMR(L)-163 logged 1072 flight hours during the quarter without an accident; HMR(L)-162 had 931 hours and the Headquarters Squadron, 582.

CRUSADER SQUADRONS JOIN FLEET

14 SLEEK CRUSADERS LINE UP BEHIND CONVENTIONAL AD'S AS VF-32 READIES FOR DEPLOYMENT TO NAS LEEWARD POINT, CUBA

ATLANTIC and Pacific fleet squadrons are scheduled to deploy aboard carriers with F8U-1 *Crusaders* early this year.

Fighter Squadron 32 at Cecil Field, Fla., which in March 1957 became the first operational squadron to receive the *Crusader*, was also the first squadron to take the *Crusader* to sea.

Along with other squadrons of Carrier Air Group Three, the *Crusader* squadron went aboard the USS *Forrestal* at Mayport, Fla., for operations December 5-12. VF-32 previously completed its first carrier qualification operations during the week of November 14, 1957.

VF-154 gave the *Crusader* its first operational squadron workout at sea off the West Coast. This squadron, second to receive the *Crusader*, conducted carquals aboard the *Hancock* off the Pacific Coast in November and participated in further shipboard training operations in December.

Crusaders have set two enviable records. The F8U-1 earned the Thompson Trophy by flying at a 1000-mph pace while the photographic version, the F8U-1P, made the first supersonic crossing of the United States.

The *Crusader* is the first operational carrier-based fighter to incorporate a two-position wing, which improves its capability in the comparatively low speed range required for carrier landing operations.

The *Crusader's* ability to operate from carriers already had been proved. With Navy experimental test pilots at the controls, *Crusaders* completed their Fleet Introduction Program during January and February of 1957.

In early September, just after VF-32 had deployed to NAS LEEWARD POINT, Guantanamo Bay, Cuba, a safety of flight dispatch grounded all the planes for a fuel system reliability fix.

Three days later, parts to effect the necessary rework were received. Maintenance crews and Chance Vought representatives worked all night to get all 14 planes up and ready for scheduled air-to-air gunnery practice.

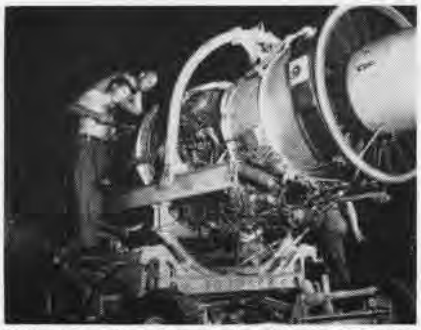
From that point forward, there was no stopping the *Crusaders*. Flight after flight boomed down the runway until four and a half days later the squadron had run up 171 hours in 133 sorties. Aircraft availability for the first operational period was maintained at 85 percent.

VF-32 went on to top that record in succeeding weeks and finished out the month of September with 625 hours to become the high time squadron of all the jet fighter/attack squadrons in the Jacksonville complex.

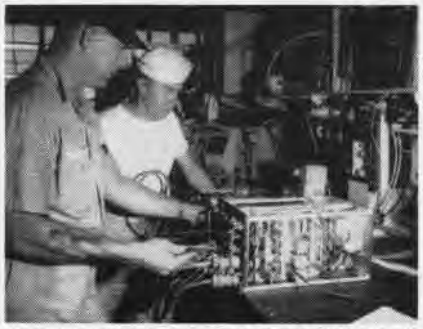
Several interesting statistics came to light at the end of the deployment. In 23 operating days, 745.4 hours were flown, consisting of 598 sorties. Average availability throughout the entire deployment was 80 percent. Maintenance man hours per hour of flight averaged 11.7.

Primary purpose of the deployment was gunnery qualifications but the syllabus was expanded to include familiarization, camera gunnery, missilry, field carrier landing practice, tactics, navigation, high altitude camera gunnery and instruments.

Utility Squadron Ten furnished towing services because a required *Crusader* tow chain (NANEWS Dec. 1957) was not available at the time of deployment.



POWER PLANT CREW PULLS 120 HOUR CHECK

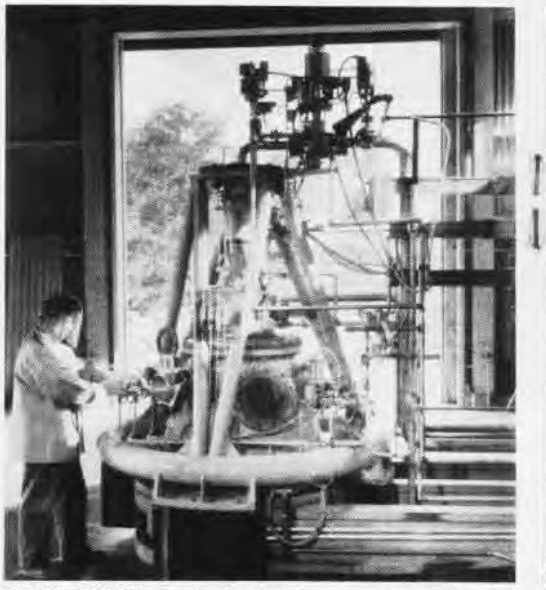


RADAR REPAIRS DURING CUBA DEPLOYMENT

CDR. GORDON, VF-32 CO, IS STRAPPED IN

AERONAUTICAL ALCHEMY AT N

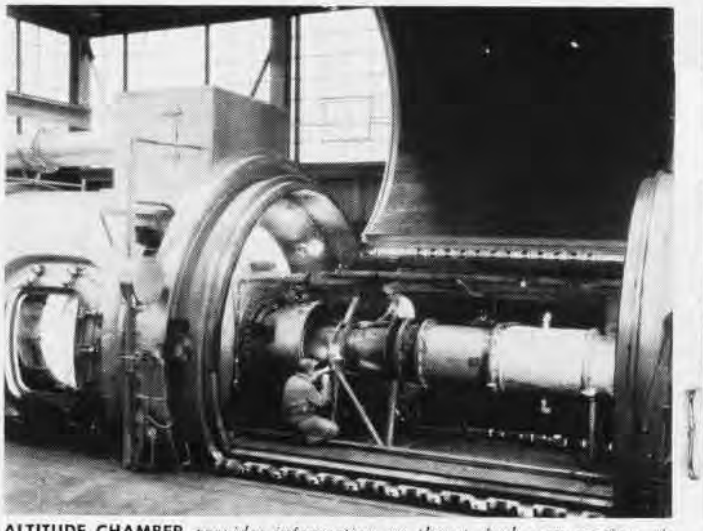
AT CLEVELAND, *Ohio facility, wind tunnel testing of advanced design aircraft engines and their components is conducted at speeds of 1500-2500 mph by NACA scientists.*



20,000 POUND *thrust developed on engine rocket test stand is transmitted via frame to measuring devices.*

PURSUIT of power describes tersely th
sion Laboratory, one of three majo
Advisory Committee for Aeronautics. N
Government engaged in research in ae
to problems of flight. Lewis Lab is p
aircraft powerplant problems and aerod
propulsion. Shown here are some of t
probed utilizing the $100 million worth

FUELS RESEARCH *program at Lewis. High energy chemical compounds and exotic fuels, like Boron, are subjected to tests in combustion apparatus.*



ALTITUDE CHAMBER *provides information on thrust, fuel consumption, air flow, stall limits and other characteristics of aircraft power plants.*

ACA'S LEWIS PROPULSION LAB

CLOSED-CIRCUIT *television of engine model operation enables the research scientists to study ramjet tests.*

he mission of the Lewis Flight Propul-
or facilities operated by the National
NACA is an instrument of the Federal
eronautics aimed at practical solutions
primarily engaged in investigation of
dynamics peculiar to high speed flight
the areas of investigation now being
h of equipment at the Cleveland plant.

PERFORATIONS *shown in tunnel serve to eliminate shock and pressure disturbances at transonic speeds. Either aerodynamic runs or burning engine tests can be conducted.*

REDUCED COMPRESSION *blade section, short primary burner and afterburner in futuristic turbojets are planned to take advantage of new fuels.*

ION PROPULSION *studied. Charged particles resulting from disassociation of matter are accelerated by magnets and demonstrated as thrust force.*

WORDS ON WEEKEND WARRIORS

NAS ANACOSTIA: *RAdm. H. H. Caldwell, CNARESTRA, receives traditional honors upon arrival to conduct Annual Military Inspection.*

NAS WILLOW GROVE: *Lt. O. Dussia, pilot; LCdr. L. Reba and G. Radcliffe, AD1, used a copter to aid state police find a missing child.*

THE STORIES behind the pictures on this page tell much of the story of the whole Naval Air Reserve. These scenes, with slight variations, are repeated time and again at activities under the cognizance of CNARESTRA.

Military proficiency, community relations, operational efficiency, individual initiative and universal hard work contribute to the effectiveness of the Naval Air Reserve today.

Annual Military Inspections climax the year's endeavors and represent thousands of working man-hours. Combat readiness, operating and training procedures, drill attendance, recruiting results, information efforts—all receive official review and comment.

NAS WILLOW GROVE received a telephone call from Mr. John Streeter for aid in finding his lost daughter. Capt. John Stewart, the CO, assigned a helicopter to start the search as soon as possible. The mission was successfully completed in 66 minutes.

Contact Thirty-Six was part of VS-861's training cruise at NAS KEY WEST. The operation called for a continuous tracking of submarines for a 36-hour period. The planes on target remained there until a relief arrived to take over. The Norfolk-based squadron, skippered by LCdr. John Fitzgerald, flew 799 hours in S2F *Trackers*, 300 of them working with subs.

Louis S. Crano, AMC, a member of VF-922 at NAS ST. LOUIS, nominated his employer of 19 years, the Griesedieck Brothers Brewery Company, for the Department of Defense Reserve Award. It is given to civilian concerns whose personnel policies assist and encourage Armed Forces Reservists in fulfilling their military obligations. The Commanding Officer of the station, Capt. Clayton Miller, presented the much-deserved award to Mr. Henry Griesedieck at an informal luncheon.

NARTU NORFOLK: *VS-861 Exec. LCdr. C. N. Campbell, Lt. C. J. Fisher, G. Russell, ADR3, and L. Urick, PHA2, flew last S2F in Contact 36.*

NAS ST. LOUIS: *Mr. Griesedieck, Capt. Miller, Chief Crano, seated, participate in presentation of Department of Defense Reserve Award.*

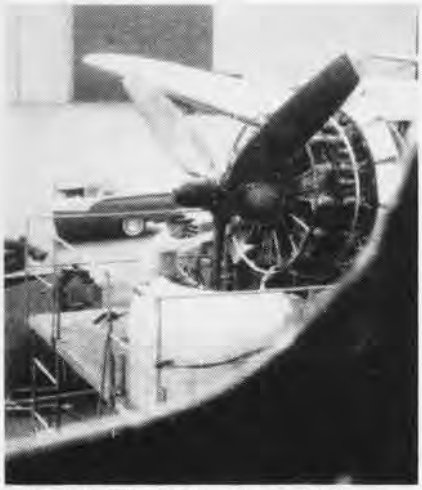
LCDR. J. *Canning takes a fix during VR-873 flight. Ditching drills were held en route.*

NAS OAKLAND

A TRAINING TALE: VR-873 WENT TO HAWAII, VR-872 TO SAN JUAN, VF-878 STAYED HOME.

AT HOME and in far away places, the men and women of the Naval Air Reserve spend part of each year on active training duty. As civilians they may be teachers, airline pilots, gas station attendants, accountants or students. As Reservists they form a team, a homogeneous unit, dedicated to keeping the country prepared to meet any emergency.

These NAS OAKLAND squadrons give a sampling of some usual—and unusual—cruises. VR-872 and 873 balanced work by sightseeing. In addition to other activities, VF-878 found time to prepare and film "A Day in the Life of A Weekend Warrior" for TV showing.



GOODFELLOW, *ADR2, checks R5D out at NAS Barber's Point before VR-873 return trip.*

OFFICERS PLAN *final details for VR-872 trip to San Juan via Minneapolis, Jax, Canal Zone.*

CREW MEMBERS *saw famous Minnehaha Falls during briefing period at NAS Minneapolis.*

ANCIENT CANNON *in front of the San Juan Capitol Building interested three VR-872 men.*

VF-878 SKIPPER, *Cdr. Pat Dennes, in Banshee cockpit, reported the cruise at home was most satisfactory training tour in four years.*

BRIEFING SESSION *in progress. VF-878 also had survival training, ejection practice, low pressure checks and tower familiarization.*

SURVIVAL SKILL PRACTICED

CAPTURE and interrogation are more than a phrase to officers and men of Patrol Squadron 56. They have now undergone special training in drills that simulate wartime conditions.

Every effort is made to make these exercises realistic, so that officers and men will know how to survive.

A typical exercise at NAS NORFOLK began when the two doors of a big P5M-2 opened. It required approximately three and a half minutes to inflate two rubber rafts, load hundreds of pounds of survival gear and men into the rafts on each side of the plane and clear the supposedly sinking aircraft.

The eleven men paddled to shore about 200 yards away. Ltjg. C. J. Thrailkill, pilot of the abandoned

CREW MEMBERS LEAVE 'DOWNED' SEAPLANE

plane, "reconnoitered" the area for the best spot for concealment. The rest unloaded the equipment, camouflaged the rafts, and covered tracks of their activity.

Then crewmen passed their survival gear across a narrow dirt road parallel to the beach, to a more sheltered location. The crew rolled across the road, rather than walked, to keep from leaving tracks.

Nearly two hours later, a six-man squad commanded by MSgt. Beeler Keaton, from the Naval Base Marine Barracks, in the role of "enemy troops," landed in a *Super Duck* near the beaching site of the downed airmen. In a short time, they were "prisoners."

Enemy rifles in their backs, they heard the strident voice of MSgt. Keaton yell, "What outfit you from? How'd you land here?"

One captive, Lt. John Sherman, navigator, seized a possible escape opportunity by lunging at an enemy guard. The guard threw Sherman to the ground, wrenching the rifle from his grasp.

The blindfolded captives were then taken to "enemy interrogation headquarters," actually BOQ SP-47. Here they were searched for dangerous weapons, and some were told to sign a

ELEVEN CREWMEN ESCAPED IN TWO RAFTS

receipt for their personal articles. Several signed.

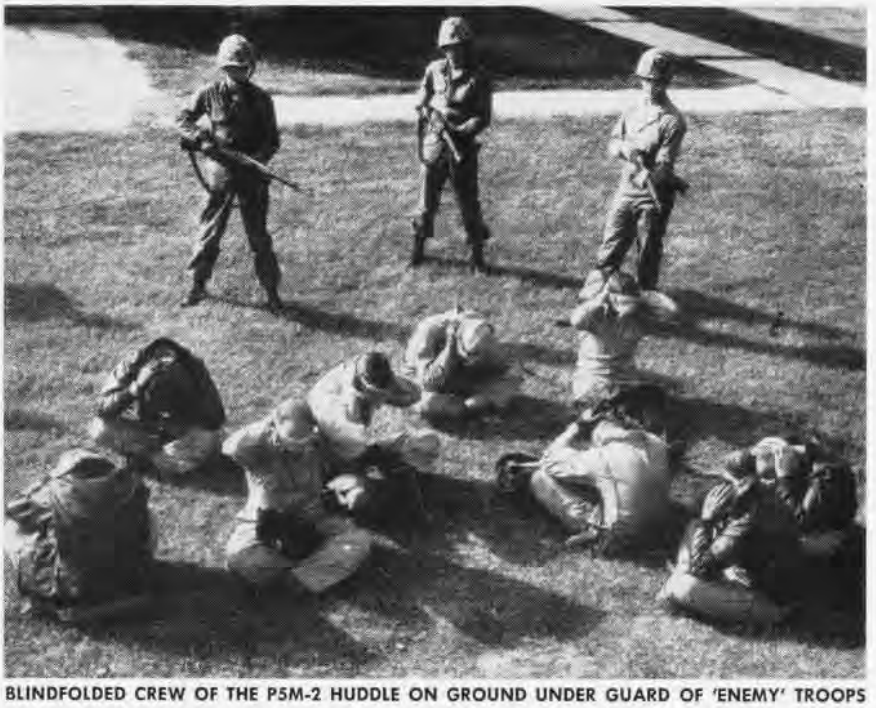
What they signed read in part: "Having at last been liberated by the People Volunteer Freedom Fighters, I no longer must pretend to defend the aggressive war-mongering capital-

TWO HOURS LATER, MEN WERE CAPTURED

ists. . . ." There was more like this.

The captives were then led into detention where they awaited their turn to be questioned by the interrogating officers. In an adjoining room, an enemy intelligence officer sat with a tape recorder listening for conversation that might be used later to "break" one of the crew. The interrogation went on until evening.

Summing up, the air intelligence officer of Commander Fleet Air Wings, Atlantic, Lt. Emil Frey, said, "Past experience has proved that there is no substitute for field training in the techniques of escape, evasion and the resisting of enemy interrogation."



BLINDFOLDED CREW OF THE P5M-2 HUDDLE ON GROUND UNDER GUARD OF 'ENEMY' TROOPS

STEEL DRUM MUSICIANS OF TENTH NAVAL DISTRICT ARE RANGED ABOUT RADM. GALLERY WHO SPONSORED THIS HIGHLY POPULAR BAND

SMALL BAND WITH A BIG BANG

Admiral Dan's Caribbean Steel Band is making quite a stir of a rhythmical variety and a good deal of noise. Named for the Commander Caribbean Sea Frontier and Commandant of the Tenth Naval District, RAdm. D. V. Gallery, the band is being heard—and listened to enthusiastically.

RAdm. Gallery no sooner heard steel drums played at carnival time in Trinidad, BWI, than he decided this was something for the U. S. Navy. He bought a set of "instruments," brought them back to San Juan, Puerto Rico, summoned Chief Musician Charles A. Roeper and arranged for a number of Navy bandsmen to get into the swing.

With great speed and proficiency, the bandsmen mastered the drums and took Puerto Rico by storm. Not only was the band honored in 10ND, but the "Pandemoniacs" were a hit in the Chicagoland Music Festival last August.

According to RAdm. Gallery, the steel band developed along the Trinidad waterfront a few years ago among natives who were too poor to buy a 10-cent whistle, but who had rhythm and melody in their souls.

From junk piles, they gathered various pieces of metal: brake drums from old automobiles, the tops of garbage cans, empty gasoline drums, and other equally improbable sources of music. Then some waterfront genius found that by putting variously sized dents in the top of a 55-gallon drum, he could get several different notes out of one drum.

At first only a few notes could be obtained from one drum. Working with a sledge hammer and cold chisel, and heating the drum over a bonfire, the natives found by trial and error how to make drums produce various musical notes, as many as three octaves of notes for a single drum. The notes were marked on the drum in white.

CHIEF ROPER WITH 'NOTE'-MARKED DRUM

Today there is great variety. Full size drums are called basses; shorter ones, tune booms; and thin drums which carry the melody, ping pongs. Other instruments include the boonga bonga, a drum of two notes (non-pitched); shack shacks, gourds filled with pebbles; claves, a couple of pieces of wood or bones that are knocked together, and the cutter, a brake drum from an old automobile.

This last "instrument" produces only one note, a sharp metallic one. You beat on the brake drum with a half-inch steel bolt, but "it requires a swivel-jointed, free-wheeling, force-lubricated wrist action that is hard to master," says Admiral Dan.

It is the proud boast of the Tenth Naval District Band that it is the first All-American steel band. They have 16 drums made in Trinidad, as well as shack shacks, claves, a cutter and boonga bonga. They are bound to make music wherever they go!

AUSTRALIANS TRAIN WITH VP-6

RAAF NEPTUNES FLANK AMERICAN P2V OF VP-6 OVER PACIFIC

AUSSIE FLIGHT CREWS APPROACH PLANE FOR MORNING TAKEOFF

WING COMMANDER RECEIVES HAWAIIAN LEI

Two Royal Australian Air Force P2V-5 *Neptunes* roared out of Hawaiian skies and into Barber's Point Naval Air Station to end the long flight from New South Wales.

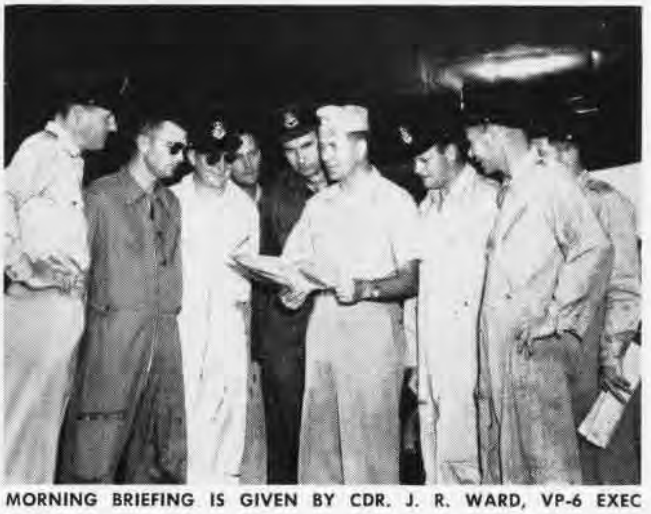
The flight marked the beginning of regular visits of Australian aircraft to Hawaii for training exercises with Patrol Squadron Six in antisubmarine warfare.

Hon. F. M. Osborne, Australian Minister for Air, said in Melbourne that this was an important event in Australian-American service relations. He said Australia intends to send two RAAF *Neptunes* to Hawaii every six months for operational training exercises with the U. S. Navy, and that the exercises would provide invaluable experience for the Royal Australian pilots.

Wing Commander John B. Hampshire arrived at Barber's Point with 28 crewmen of two airplanes. After 28 hours in the air, which included stops at Fiji and Canton, the Australian officers and men were met by RAdm. Leonard B. Southerland, ComFAirHawaii, and Capt. D. C. Goodman, Commander Fleet Air Wing Two. The Australians were accorded a traditional welcome.

The Australians spent their first week in ground school which included sessions in the ASW trainer, lectures and movies. The second week, their planes participated in day and night flights of six-hour periods over Hawaiian waters. They spent one day at sea in a submarine of the Pacific Fleet.

GROUND CREWS EXCHANGE INFO WHILE NEPTUNE IS REFUELED



MORNING BRIEFING IS GIVEN BY CDR. J. R. WARD, VP-6 EXEC

HU-2 Awards Certificates

Rescue Qualifications Recognized

Rescue Helicopter Aircrewmen certificates have been awarded by HU-2 to an initial group of men in recognition of their rescue proficiency.

The designation signifies that in addition to the general qualifications of an aircrewman, the man has completed the required training and has demonstrated his skill in helicopter rescue procedures, including the ability to go into the sea from the helicopter to effect the rescue of an unconscious or helpless survivor.

Cdr. John A. Harman, skipper of HU-2, presented the certificates.

PBM Squadron Gets P5M's

Replacement to take 18 Months

Replacement of the Navy's only remaining PBM squadron started at NAS CORPUS CHRISTI when Advanced Training Unit 501 accepted its first P5M. The PBM's will be retired from the Navy once the transition is made.

Although the P5M is new to the seaplane training unit, it is not new to Cdr. J. M. Kellam, ATU-501 O-in-C. He commanded the first P5M squadron in the Pacific and flew the first trans-Pacific flight to the Far East in the patrol plane.

Coast Airmen Aid Search

Missing Airliner Had 44 on Board

More that 170 men and 33 aircraft of HS-6 and VS-21, based at Ream Field and North Island, respectively, were mustered to board the *Philippine Sea* in November as that carrier joined in a search for survivors from a downed commercial airliner carrying 44.

At Ream Field the men were immediately assigned to helicopters, and the first flight of fully loaded helicopters left at 1530 to board the *Phil Sea* at Long Beach. Men from VS-21 flew in 13 S2F *Trackers* to land aboard the ship at sea as it sped toward Hawaii and the main search sector.

NavCad Uses Mirror System

Makes Carqual Aboard Antietam

History was made 12 November in the Naval Air Basic Training Command when ten student aviators carrier-qualified aboard the USS *Antietam*, using the mirror landing system for the first time.

Capt. F. K. Upham, CO of NAAS BARIN FIELD, Alabama, congratulated NavCad F. M. Conklin, the first student aviator to be guided aboard. He was followed by Ens. R. W. Brown, Ens. D. S. Logan, Ens. R. B. Rebber, Ens. D. E. Cramer, 1/Lt. J. E. Starc, 2/Lt. R. E. Davis, 1/Lt. J. M. Earle, 2/Lt. C. L. Dunning and 2/Lt. B. A. Martin. All ten of these men had been qualified in the routine manner —the LSO with paddles. They were attached to Basic Training Group 5.

Cdr. J. A. Rapp, OinC of the Group, said, "We are happy to get the system working satisfactorily. We hope that in the future all students will qualify using the mirror system."

TOM D'ANDREA, *known to millions as Gillis on "The Life of Riley", gets the feel of a jet cockpit. Marine Lt. Tom, Jr., a pilot with VMF(AW)-115 at MCAS El Toro, gave his father a Cook's tour and word on F4D's.*

BOY SCOUTS *of Tokyo Troop 6 inspect a plane of VMF-334 during a visit to NAS Atsugi. The scouts brought their own guide, former Marine First Lt. Herbert G. Gelhardt, right, who now works as a civil engineer in Tokyo.*

BRITISH DIXIELAND *Band of Hong Kong held a jam session on the hangar deck of the USS Princeton after a dinner and quick tour of the ship. Charles Spitler, SN, was called upon to fill in on the saxophone.*

BON HOMME RICHARD *sailors publish the carrier news magazine. Ian R. Mastrup, SN, Bennett J. Mintz, JO3, and E. G. Pollock, SN, pose with copies of the "Almanac." They work with Cdr. Richard Watson, the PIO.*

THIS COUGAR-ETTE *is an exact scale model of the F9F-8. It took two years to build. A Dyna-Jet engine develops 4½ pounds thrust, over 100 knots. LCdr. W. H. Weimer, NAS Akron, admires Harold Beamer's handiwork.*

CDR. M. P. DEPUTY, *VA-12 CO, is congratulated by Ranger skipper, Capt. C. T. Booth, immediately after making the first jet landing aboard CVA-61. Cdr. Deputy was flying an A4D-1 Skyhawk in VA-12 training exercise.*

'NAVY TOWN' IN A WHEAT FIELD

THEY USED to tell the story of an old chief who was about to retire when someone asked him where he planned to spend the rest of his life.

"I'm gonna buy me an anchor, put it over my shoulder and start walking," he said. "When I get so far away from the sea that somebody stops me to ask what I'm carrying, I'm gonna stop walking and settle down!"

If the story is true, the old timer would have walked right through Hutchinson, Kansas, because if there has ever been a *Navy* town, Hutchinson has been one since the first wartime student pilots arrived in 1942.

Most Navy towns are home ports for Navy ships or they are locales for major Naval bases. But Hutchinson, 600 miles from the nearest sizeable body of water, is the nation's most unique Navy town. Its only sea is an endless winter wheat crop which floods the immense grain terminals each summer, and its only ships are the massive combines which harvest the grain for the nation's breadbasket.

Where else, for example, would you ever expect to find a town so "Navy" that it had military personnel sitting on its Chamber of Commerce, its businessmen subscribing money to publish

ANNUAL NAVAL *Air Demonstrations are viewed by thousands of Kansas citizens.*

Welcome Aboard booklets for men ordered to duty, complete cooperation with the Navy in matters of entertainment, housing, schooling, education, business and other fields?

The Navy came to Hutchinson in 1942 to establish an air station for primary training. The city, like many other American cities in wartime, welcomed the military with open arms,

HUTCHINSON, KANSAS, *a Navy Town 600 miles from the sea, as seen by a student pilot flying a multi-engine plane from nearby Naval Air Station. Flat terrain enhances flight safety.*

and gave immediate aid in the selection of a 2565-acre tract south of town for a suitable base site.

By March of 1944, more than 2500 cadets had taken their primary training at Hutchinson Naval Air Station and at one time during World War II, more than 4000 enlisted men, students and officers were stationed at the prairie air station.

It was really during World War II that Hutchinson, a neat city of 40,000 souls, became "Navy." Perhaps it was the appeal of the opposite which drew the land-locked Kansans to the Navy, but, in short order, Midwestern hospitality was heaped on Navy men reporting for duty.

An example of Hutchinson's affinity to the Navy during World War II is

ADVANCED *Training Unit instructor briefs two student pilots prior to multi-engine flight.*

the fact that Hutchinson's Navy League chapter was one of the largest per capita in the country. Its Advisory Council of Naval Affairs Committee was largely responsible for the Navy-civilian harmony that existed.

HNAS completed its first mission with the defeat of Germany and Japan and the station was deactivated in 1946. With the advent of war in Korea, the Navy again chose Hutchinson for expanding its aviator training program. On June 30, 1952, the present multi-engine training program was begun.

Nowadays Hutchinson is an Advanced Training Command base for training units 604 and 614 who operate more than 100 *Neptunes* and *Trackers* in training cadets and student officers in the art of multi-engine flight.

Hutchinson has become, in the five years since its reactivation as a Naval Air Station, more Navy than ever and many Navy men eagerly seek assignment to the station in the dust bowl because of the hospitality and wholesome friendliness which prevails in the Kansas city.

Perhaps the primary reason Hutchinson is a Navy town is that it completely integrates the 2800 officers, enlisted men, and students of the station into community life. Hutchinson is the only sizeable city within 50

miles of the station, so it is the home of nearly all the married men.

These men and their families are active participants in the parent-teacher associations, scouting organizations, churches, civic clubs and social organizations. They work and live hand in hand with local citizens in every facet of city life.

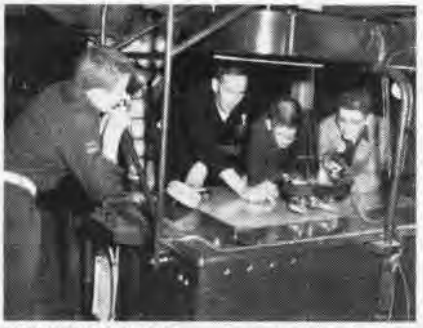
Kansans are vitally interested in the Navy. Each year nearly 1500 tour the station in special civic or social groups and several thousand come aboard for the Kansas Naval Air Show.

Station speakers are eagerly sought by civic clubs in the area. Naval Air spokesmen have given the people a much better understanding of the Navy than they got in the Thirties watching newsreel scenes of Battleship Row.

When the air station needed funds for a 40-page Welcome Aboard booklet to send to men being ordered to Hutchinson for duty, 254 Hutchinson business men advanced money. Half the booklet describes the Naval Air Station and half describes the city.

Hutchinson values Navymen's opinions regarding the city. To keep a hand on the station's pulse, the city extends an *ex officio* seat on the Chamber of Commerce Board of Directors to a representative from the base. He keeps civic leaders informed of Navy needs and offers Navy assistance in solving community problems.

Housing, a crucial problem to the married Navy man at any duty station, is given prime consideration by the city of Hutchinson. All citizens are familiar with the station Dependents' Information Office where they can list their rentals. The Hutchinson Real Estate Board extends a helping hand to any man trying to find a home. Any Navy man with a special housing problem is given individual consideration by civic leaders.



EXPLORER SCOUTS *get link trainer checkout during annual encampment at Hutchinson.*

With its outstanding schools, parks, pools and playgrounds, Hutchinson is considered a wonderful family town but it also offers a lot to the single man reporting for duty.

The city sponsors an excellent Servicemen's Center, operated by the Navy Mother's Club and other civic organizations. The club is supported by the Community Chest. In the past three years this popular center has accommodated nearly 40,000 servicemen.

Sailors on liberty can dance with volunteer hostesses, purchase a hamburger, try a piece of home-made cake or join in community singing around the club's upright piano.

In addition to the Servicemen's Center, four motion picture theaters and numerous public clubs are available for the bachelor's indulgence.

Not infrequently a Kansas farm couple will invite several HNAS sailors for Sunday dinner and a close look at a prairie farm.

STATE FAIR, *and local girls, provide entertainment for these sailors based in Kansas.*

For a night on the town, Hutchinson's eating places offer selections ranging from western steaks to fresh seafood and Italian delicacies. Each fall Hutchinson is host to the Kansas State Fair which offers all Navymen a wonderland of entertainment and an unusual insight into Kansas life.

One of Hutchinson's best features is the way it has exhibited itself as one of the best Navy towns by its outstanding cooperation between local police and the shore patrol in handling disciplinary cases. Local police and the shore patrol cooperate completely in handling all situations to the absolute satisfaction of the city and the Naval Air Station.

Capt. George B. Chafee, HNAS Commanding Officer, best explained the phenomenon of Hutchinson, Kansas, as a Navy town when he said:

"The people of Hutchinson like the Navy because it brings them something entirely different, and their whole-hearted friendship soon penetrates nearly every man who reports aboard. I think that's why Hutchinson has become such a 'Navy' town."

Few men will challenge San Diego, Norfolk, Pensacola or Long Beach on being Navy towns over the years, but Hutchinson, Kansas, is in the running.

P2V NEPTUNES *used in flight training at NAS Hutchinson fly over a Kansas landmark. Wheat elevators like this one store more than 33 million bushels of grain in Hutchinson area.*

IN FOREIGN SKIES

Canada's Iroquois Turbojet

The new *Iroquois* jet engine, designed and developed in Canada by Orenda Engines Limited, Malton, Ontario, as the power plant for the RCAF's CF-105 supersonic all-weather interceptor is being tested on a B-47 bomber on loan from the USAF.

Trans-Canada Air Lines reports in *Flight Horizons* that the *Iroquois* is considered by experts to be "one of the most powerful turbojet engines known to be in an advanced stage of development anywhere in the western world."

It has the concentrated power of 100 modern automobile engines, very nearly the equivalent of that required to drive the *Queen Mary*, and yet this engine is compact enough to fit easily into a modern living room.

It develops more than 20,000 pounds thrust, more than four of the B-47's six engines together. To test the *Iroquois* engine, the B-47 is literally packed with electronic measuring and recording equipment.

The *Iroquois* is mounted at the rear of the B-47 fuselage under the tail.

Supersonic Naval Interceptor

For some time, Saunders-Roe Limited has been building a number of prototype high altitude supersonic mixed power plant all-weather interceptors for the Royal Navy. These aircraft, designated S-R.177, are powered by de Havilland *Gyron Junior* jet and *Spectre* rocket engines. They are a direct development of the S-R.53 mixed unit interceptor which was demonstrated at Farnborough last September.

The S-R.177, which is somewhat larger than the S-R.53 carries more operational equipment, and its performance is considerably superior to that of the S-R.53. Its fully variable rocket engine enables it to operate higher and faster than any other known interceptor. Use of its jet engine under cruising conditions insures that its duration and ranges will equal, if not exceed, that of existing types.

COOKER (TU-110) *is a four turbojet aircraft, a development of Camel (TU-104). The major difference between the two Soviet planes is that the fuselage has been lengthened, and the Cooker has four engines instead of two. The transport can accommodate 78 passengers travelling first class, 100 travelling tourist. The aircraft has a 1850-nautical mile range at 440 knots.*

THE USSR'S COOT *(IL-18), a modification of Clam, is an aircraft designed by Ilyushin. It is powered by four turboprop engines which produce 4000 ESHP. This transport can carry 75 to 100 passengers, cruise 2700 nautical miles at 325 knots at an altitude of 26,000 to 33,000 feet. Coot has a low, straight wing, two passenger entrances on port side, and radar located in the nose.*

Ground-Testing the Comet

In the complex rig at Hatfield, England, the entire system of the Comet-4 and 4B is tested in every possible combination of the electrical loads that can occur in flight. It is one of many such rigs for thoroughly ground-testing *Comet* systems for flight certification.

TECHNICIANS CHECK COMET ELECTRONICS

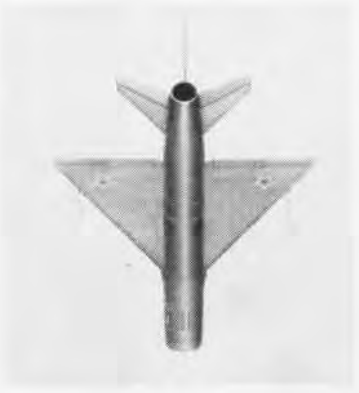
Four 14-kilowatt alternators provide the *Comet's* electrical supply through some 20 miles of cable, with contact breakers, relays and fuses. Radio and radar, lights, galley ovens, refrigerators, even razors demand electric energy. The rig reproduces the electrical loads when taxiing, at take-off, on the climb, cruise let-down and approach, also emergency conditions of all kinds.

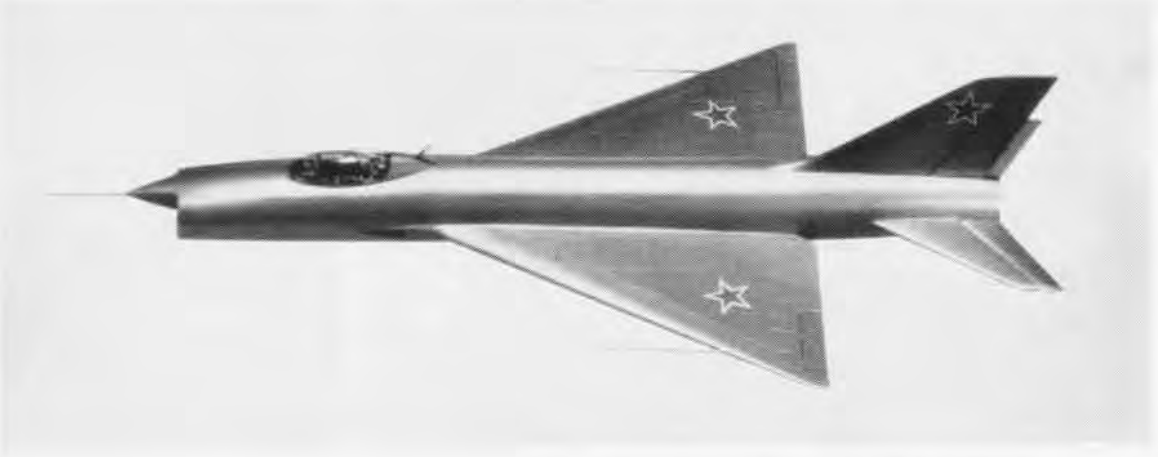
Admiralty Plans Copter Carrier

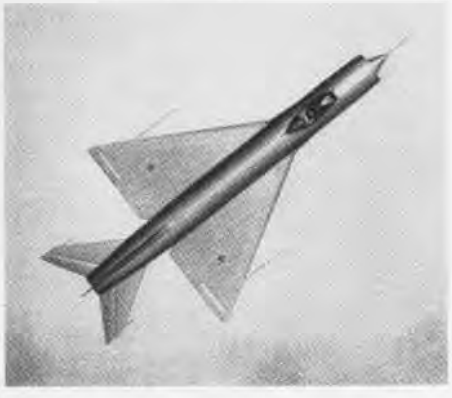
The British Admiralty plans to convert an aircraft carrier into the Royal Navy's first helicopter carrier.

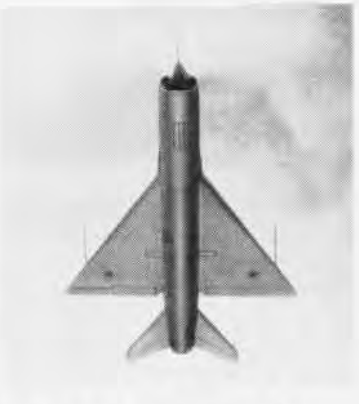
This ship and those like it, each carrying a complete Royal Marine Commando unit, would, the Admiralty feels, lend themselves to police actions requiring great flexibility of air-sea power.

The Royal Navy's first helicopter carrier is likely to be in service by 1960. It is expected to carry 20 of the big Wessex or S-58 aircraft now on order. Each of these is able to carry 14 or 15 fully equipped men.









RUSSIAN 'FISHPOT'

This fighter, designated 'Fishpot,' is the highest performance delta wing aircraft the Soviets have shown to date. Fishpot was seen at the Soviet Air Show at Tuchino, Moscow. The fuselage is long, clean and of uniform depth.

The true delta wing is swept approximately 60 degrees which indicates near Mach 2 performance. A conventional tail is swept sharply on the forward edge. A nose cone may have radar gear which would make Fishpot potentially an all-weather fighter. Its combat ceiling is probably well over 50,000 feet.

Aircrewman Saved in Med

Fell with Aircraft from Randolph

A sailor who plunged with a jet aircraft from the flight deck of the attack carrier *Randolph* into the Mediterranean Sea was rescued after spending more than 10 hours in a life raft.

During night flight operations, plane captain Frank Rubino, Jr., of VF-173, was spotting a jet fighter to the slick deck just prior to a night launch. As the pilot approached the aircraft, Rubino moved from the cockpit.

Just as Rubino vacated the cockpit the ship began its turn into the wind for launching aircraft. The plane started to skid in its chocks. Rubino climbed onto the plane as it skidded toward the edge of the flight deck but before he could enter the cockpit to apply brakes, the plane tumbled into the sea, carrying Rubino with it.

The plane ripped a set of life rafts from the side of the ship on its downward plunge. Although injured in the 50-foot fall, Rubino scrambled from the sinking plane onto a life raft.

The carrier and two accompanying destroyers, USS *John R. Pierce* and USS *Strong*, began rescue operations immediately. Hampered by complete darkness, heavy seas and low overcast, they were unable to spot man or raft.

The search continued through the night, and at dawn the *Randolph* launched nine search planes. At 0630, Ltjg. Robert McRight, an observer in one of the AD search planes, spotted Rubino in the raft about 15 miles from the ship. The plane radioed the USS *Pierce* and circled the raft until the DD picked up the injured sailor.

Rubino was transferred to the *Randolph* via helicopter where he received treatment for exposure and shock.

IT'S 34,000 *landings for the USS Wasp (CVS-18) since recommissioning in 1951. The new score was made by Cdr. P. L. Ruehrmund, former publisher of "Approach" and now Exec. Officer of Antisubmarine Squadron 30.*

Whiting Gets New Jeep

Holds Special Communication Gear

At Whiting Field is a new radio jeep which houses FM crash frequencies equipment and UHF/VHF communications sets. It can provide control tower operations at any outlying field without adding additional equipment.

Power for all equipment in the jeep is supplied by a 24-volt United Motors gasoline generator.

The FM equipment is for receiving and transmitting messages from the aviators without radioing the tower. UHF and VHF are also used for communication with the tower.

All equipment can be operated from a main control panel in the front overhead of the jeep, located above the driver. Furthermore, all the equipment with the exception of the FM crash gear can be operated from a remote control unit. The length of the power cable enables the remote unit to be moved 30 feet from the jeep.

The jeep is assigned to the Communications Department. It is a 1956 Willys four-wheel drive station wagon.

TO EXTEND *the range of the FJ-4B attack aircraft, the "buddy tanker" refueling system is being tested by the Columbus Division of North American Aviation, Inc. Two FJ-4's are being used. After climbing to altitude, the received aircraft meets the buddy tanker at 25,000 to 40,000 feet. Engineering work being done will permit transfer of fuel from either external or internal tanks.*

Airborne Shop Developed

Can be Dropped into Remote Areas

Army engineers have developed an airborne maintenance shop to speed field repairs of their equipment.

The unit, which weighs 9000 pounds, meets an urgent need occasioned by the emphasis on extreme mobility of military equipment. The steel shop is mounted on a standard military ¾-ton truck chassis and can be air-dropped into inaccessible areas.

It is similar in appearance to trucks used by telephone repairmen but has several unique features, including a power package unit consisting of a combination welding and power generating unit.

The unit carries oxyacetylene cutting and welding equipment and a complete assortment of hand tools. Tool compartments, located along the sides of the unit, are easily accessible to users standing on the ground.

A telescoping cover closes to provide overhead protection for personnel and slides forward to permit loading of material in the rear of the truck.

Randolph Pilot Rescued

Picked up 48 Seconds after Crash

Only 48 seconds after his *Skyraider* crashed into the water 80 yards astern of the *Randolph*, Ltjg. Joe Kearney rode the horse collar up to the carrier's plane-guard helicopter.

Kearney lost control of the ADSW *Guppy* while making a conventional approach during touch-and-go operations. Hovering over the *Randolph's* starboard quarter, Ltjg. Joe O'Donnell, helicopter pilot, spotted Kearney heading for the water and flared off toward the crash area.

Within 15 seconds of his crash, Kearney opened the safety belt, freed his shoulder harness and leaped out on the wing. He swam ten feet away before the *Guppy* submerged.

O'Donnell angled the helicopter over the crash area as crewman Hibbler lowered the horse collar to winch the *Guppy* pilot through the rescue hatch.

Ltjg. Kearney's only mark from the accident was a badly bitten tongue.

● The annual Farnborough Show, put on annually by the Society of British Aircraft Construction, is scheduled for September 1-7, 1958, inclusive. As in previous years, the public will be admitted only on the last three days.

VS-32 STARS IN ASW MISSION

VS-32 PILOTS FLEW THE S2F TRACKER AND CHALKED UP FINE RECORD IN NATO EXERCISE

AIR ANTI-SUBMARINE Squadron Thirty-Two has achieved an enviable record for carrying out its commitments regardless of foul weather. For its part in NATO exercises last fall under the command of Cdr. A. H. Sallenger, VS-32 received ComNavAir Lant's "Well done."

The squadron, commissioned in 1949, has been right from the start an ASW squadron. It has operated aboard the USS *Cabot, Valley Forge,* and *Leyte,* and in the spring of 1956 was assigned to the USS *Tarawa.*

Although operating in all-weather conditions and often around the clock, the squadron safety record has been excellent. At one time in the fall of 1956, the squadron had logged 5000 consecutive accident-free landings.

PILOTS AND CREWMEN READY TO FLY 'HOME'

Proficiency not only on the part of pilots who flew the S2F *Trackers,* but also on the part of ground personnel who maintain them, accounts for such a record.

On 22 October 1957, VS-32 completed its part in the seven-week NATO exercise which included *Seaspray, Strike Back* and *Pipe Down,* as well as two liberty ports, Plymouth, England, and Rotterdam, Holland.

Long experience in ASW work paid off as VS-32 flew every operational commitment it was assigned, regardless of weather. During *Strike Back,* VS-32 logged 706 hours of around-the-clock flying. The reward was 11 days in Rotterdam, the jumping off point for trips to nearby countries. Journeys were made to Germany, France, Belgium, Luxembourg and Sweden.

With Quonset Point, its home port ahead, VS-32 reviewed its assets: 1300 hours of flying, 386 carrier landings, foreign travel, and the "Royal Order of the Blue Noses" which certified that VS-32 had crossed the Arctic Circle.

On the final day of operations, 19 October, two members of VS-32 became "Centurians." In the nineteenth landing of the cruise, Ltjg. M. W. DeVoll reached the 100 mark, and Ltjg. E. J. Colgan earned his Centurian title on his sixteenth landing.

● While operating off the coast of Okinawa, USS *Princeton* recorded its 68,000th fixed-wing aircraft landing and less than 24 hours later, its 6000th helicopter landing.

ALF Bonham Has Birthday

Provides Drone, Missile Service

Bonham Auxiliary Landing Field, Hawaii, has observed its first anniversary as a Navy facility. A group of officers from NAS BARBER'S POINT, Bonham's parent organization, flew to the island of Kauai to help celebrate the occasion.

An officer and 47 men support Guided Missile Group One and VU-1 in conducting guided missile and drone aircraft operations at Bonham. Their work is connected with training mobile and deployable missile teams. They use the *Regulus I* missile, fired from short length launchers.

The airstrip and buildings used at Bonham are U. S. Air Force property.

USAF Unit Aboard NAS Jax

AD Direction Center Sets Up Shop

An Air Force squadron was commissioned at NAS JACKSONVILLE in July. The event set a precedent there.

The 679th Aircraft Control and Warning Squadron, commanded by Major Richard V. Riley, is a unit of the 35th Air Division (Defense), which is headquartered at Dobbins AFB, Georgia.

The squadron will operate an Air Defense Direction Center which will control interception of all unknown aircraft penetrating the Atlantic and Eastern Air Defense Identification Zones within designated boundaries.

AVIATION BOATSWAIN'S *Mate Third Class, John A. Yeckley, a member of TF-43 wintering over in the Antarctic, feeds meat to one of the sled dogs used for cross country treks from the base located at McMurdo Sound.*

THEY'RE PROS WITH LESS THAN 600 HOURS

Four Pilots Score Six E's

First Such Award to A4D Squadron

One year after they earned Navy wings, four pilots of VA-34 contributed more than a fourth of their squadron's total 22 E's. They are Lt. Donald L. Felt, Ltjgs. William A. Cargile, John T. Anderson and Ens. Ira D. Lewey.

Flying the A4D *Skyhawk* in special weapons bombing competition, they won six E's, the first ever awarded an A4D squadron. Each of the pilots had less than 600 hours total flight time.

Safety Device Developed

Shot Prevents Catapult Runaways

Navy scientists have developed an electro-mechanical device to halt runaway steam catapults on aircraft carriers. The new safety device prevents the catapult from reaching excessive speed if it accidentally disconnects from the aircraft it is launching.

Named the RSP — short for runaway shot preventer — the system prevents damage to the ship and its aircraft by cutting off the steam supply if the shuttle of the catapult uncouples prematurely from the plane.

With the new system, if a catapult accelerates suddenly to excessive speed, the RSP explodes a charge of gunpowder that closes the steam valve in two-tenths of a second. A water brake can then safely stop the catapult's moving shuttle before any damage is done.

The RSP was developed jointly by engineers of the Naval Ordnance Laboratory and the Naval Air Engineering Facilities at Patuxent and Philadelphia. NOL engineers E. E. Elzufon and E. F. Abrams perfected the high-speed explosive charge.

FAGU's Sharpshooters

Air or Ground, They Make Hits

Good shooting is the main aim, in every sense of the phrase, for officers and men alike at Fleet Air Gunnery Unit, NAAS El Centro, Cal.

On October 7, Capt. A. N. Schaaf, USMC, an instructor in FAGU's air-to-air gunnery course, scored 140 hits out of 182 rounds fired, for a score of 77%. He flew an F9F-8B.

A month later, on November 8, W. W. Wheeler, ADC, FAGU's leading chief, scored 522 of a possible 600 to take first place in the sharpshooter class at the 11ND Annual Pistol Championships. Wheeler was using a .45 caliber service automatic in the meet.

SWEPTWING F4D BEGINS 600-FOOT LAUNCH

Skyray is Deck-Launched

Feat Performed Aboard Ark Royal

Lt. Max K. Morris of VF-101 was deck-launched from the British carrier HMS *Ark Royal* in his F4D *Skyray*. It had lost its catapult hold-back fitting on an earlier launching from the USS *Saratoga* during crossdeck operations with the British ship.

Loaded with internal fuel, the *Skyray* used 600 feet of deck in making its successful afterburner launch.

Deceleration is Studied

Braking Affected by Clean Lines

Deceleration of the century-series Air Force fighters was principal subject of the 31st USAF-Aircraft Industry Flying Safety Conference in November.

Ideas were exchanged in an effort to find better ways of stopping the fighters after a mission. Touch-downs at speeds upward of 170 mph cause strain on tires, drag chutes and braking devices.

The "clean" aerodynamic lines of the supersonic fighters offer so little wind resistance that they have been known to roll more than seven miles during "no brake" tests conducted on the dry lake bed at Edwards AFB.

Technical papers presented at the November conference included the following: "Wheels, Brakes and Anti-skid Devices;" "Aircraft Tires;" "Aircraft Drag Chutes;" "Design and Application of Thrust Reversers for Ground and Flight Operations;" and also "Aircraft Arresting Systems."

VQ-1 Pilots Fly the TV-2

Stepping Stone to A3D Skywarrior

VQ-1's pilots have a new jet to fly these days, the TV-2 *Shooting Star*, a trim orange and white craft. The pilots like to take them up, according to LCdr. Hal B. Stewart, Administrative Officer.

LCdr. Stewart has been flying as many as three two-hour hops in the plane daily to qualify pilots and give refresher courses to flying officers with previous jet experience.

The trainer is being used to familiarize VQ-1 pilots with jet operating procedures as a stepping stone to flying the big A3D *Skywarrior*.

Iwakuni Gets New Theater

Building Will Have Many Uses

Iwakuni has a new theater with a seating capacity of 900. Of modern design, the air-conditioned building features a corrugated asbestos, cement and plate glass facade and a modern interior with cushioned seats and soft lighting.

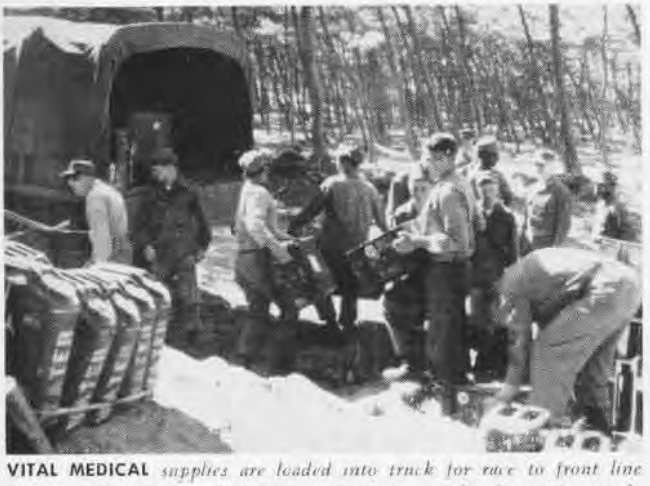
Although the new theater is planned primarily for the showing of movies on its cinemascope screen and stereophonic sound equipment, the stage, dressing rooms and orchestra pit will be able to accommodate the biggest stage shows touring the Far East.

LTJG. W. L. BUSH *(right), Whiting Field instructor and recipient of Pensacola Lions Club "Outstanding Instructor" award, watches his student, German Cadet Radcliffe, make a very careful preflight check of the T-28.*

MARINES REHEARSE EVACUATION

ELECTRONIC *machines like this were used to record wounds received and treatment given in exercise to improve evacuation techniques.*

MEDIC COMPANY *departs USS Tulare by copter to set up tent medical shop on beach. "Casualties" were under treatment within two hours.*



VITAL MEDICAL *supplies are loaded into truck for race to front line position where troops had been injured in simulated atomic attack.*

CASUALTIES ARE *transferred from front line aid station to rear area division hospital for treatment and re-transfer to hospital ship.*

DELIVERED *to hospital ship, radiation victims are treated. Weapons, helmets and equipment are gathered for decontamination and re-use.*

IN EARSHOT *of enemy lines, casualty is prepared for surgery in a division hospital. Lamp is powered by emergency battery from jeep.*

New Coast A-Bomb Range
Third Such Station for Pilots

A new special weapons delivery training range has been opened near NAAS El Centro, Calif. It is the third such range opened to train fleet squadrons in atomic weapons delivery techniques on the West Coast. Other target areas are at China Lake, Calif., and Fallon, Nev.

New plotting and tracking instruments developed by engineers at the Naval Ordnance Test Station, China Lake, have been installed. These devices enable ground observers to transmit accurate data to pilots operating over the range and allow them to correct mistakes in initial deliveries.

The new system is expected to cut pilot training time by more than 75 percent. Also it will probably save the government more than $13 million annually in costs of training pilots.

Arresting Gear at Dallas
Increased Safety at Air Station

At NAS Dallas, shipboard arresting gear has been adapted for use on landing strips. Since last June when four arresting cables were installed by Chance Vought Aircraft, 19 jet aircraft have been caught.

According to Cdr. L. W. Bertoglio, operations officer at the air station, these planes alone, assuming they ran off the runway and were total losses, would have cost about $15,000,000. Undoubtedly other damage would have run this figure upwards.

Rota's Night-Time Landing
R4D Lands Without Any Difficulty

The naval complex under construction by the U. S. Navy at Rota, Spain, took another stride towards its operational mission when a twin-engined Navy transport made the first night-time landing on the airstrip.

Piloted by LCdr. Sidney Edelman, the Douglas R4D *Skytrain* landed on the flare-lighted, 8000-foot airstrip with no difficulty. The plane was returning from Madrid.

Cdr. Edelman said conditions were "ideal," and the airstrip was "beautifully illuminated by a three-quarter moon." Twenty-five flares outlined the runway.

Fixed field lighting, navigation aids, control tower, and GCA for instrument landings are under construction.

WIND TUNNEL *tests on Bell Helicopter's XV-3 convertiplane have been successfully completed at NACA's Ames Laboratory. Developed for the Army, the XV-3 is a tilting rotor type with rotor propellers at each wing tip.*

VAP-62 Gets New Plane
Photo Skywarrior Arrives at Jax

Transition from propeller to jet became a reality for Heavy Photographic Squadron 62 at NAS Jacksonville when the squadron received its first A3D-1P, a photo configuration of Douglas' famed *Skywarrior*. The A3D will supplement VAP-62's present AJ-2P *Savages* and eventually the squadron will operate entirely with A3D-2P's, now in production.

VAP-62's *Skywarrior* is the only photo-equipped A3D-1 in the Navy. It is similar in appearance to others in the series except that the forward part of the bomb bay is modified to accommodate various aerial cameras and a photo navigator station. The aircraft was especially modified to study the problems of long range, high altitude and high airspeed aerial photography, utilizing latest types of aerial camera systems.

VAP-62 commander is Cdr. H. W. Drum; XO is Cdr. C. W. Hollinshead.

THIS TURBO-PROP *observation aircraft is being built for the U. S. Army and the Marine Corps by Grumman Aircraft. The AO-1 Mohawk (Marine OF-1) has been designed to operate from small, unimproved fields.*

Last F6F-5K is Converted
Program Ran 8 Years at Pensacola

The pilotless plane conversion program, which was once a major operation at NAS Pensacola's overhaul and repair department, has ended. The work began in 1949 on the F6F-5K pilotless drone. It included a complete overhaul of the popular World War II fighters and then equipping them with electronic controls that duplicated the work performed by a pilot.

During the Korean War in 1952 an F6F-5K was used as the first guided missile to be fired at an enemy in the history of Naval Warfare. It was loaded with a 2000-pound bomb, launched from a carrier deck under radio control of a mother plane, and sent into combat to destroy enemy land targets.

Carrier Training at Corpus
Carquals to be Made on Antietam

Advanced Training Unit student pilots began practicing carrier-type landings in jet planes as part of their regular training syllabus. A modern mirror landing system similar to that now in use aboard the USS *Antietam* has been installed at NAAS Alice-Orange Grove.

An initial group is scheduled to undergo final carrier qualifications aboard the *Antietam* January 22-23 as the carrier steams 50 miles off the Corpus Christi coast.

The *Antietam's* visit marks a turning point in advanced training policy. Never before have the jet student pilots received their carrier training before being ordered to the Fleet.

'Otter' Recon Successful
Antarctic Mountains Discovered

There are glowing reports of the sighting of previously undiscovered mountains and terrain deep in Edith Ronne Land. Discoveries were made when a single-engine *Otter* piloted by LCdr. Charles McCarthy made a photographic reconnaissance flight.

Lt. William Sumrall, navigator, D. Edward Thiel and Capt. Finn Ronne, scientific observers, were also aboard.

A complete photographic record was made in addition to other observations that will enable ground parties to select routes into the area for geological and other new mapping studies.

OPERATIONS, PUBLIC RELATIONS

SIX HOURS *after landing complicated GCA equipment was in operation and Norwegian Air Force pilots were making practice runs.*

MESSENGERS *of good will, these Marines of MATCU-64 combined business with pleasure while based in Norway during NATO exercises.*

IT'S ALMOST inevitable. Combined military operations further international relations on a person-to-person basis.

This was demonstrated many times during the NATO exercise, *Strike Back*. The experiences of Marine Air Tactical Control Unit 64, commanded by Major J. R. Rose, prove the point.

The twenty-man Ground Control Approach Unit from Marine Corps Air Station Miami was based on Andoy Island, Norway, for three weeks during the maneuvers. It was the first time in many years that American troops had visited Scandinavia.

MATCU-64 landed at Andienne, population 2,000, in three *Globemasters*, loaded with 16 tons of electronic equipment and spare parts. Within six hours, the GCA unit was set up and Norwegian Air Force pilots were making practice runs to check them.

It didn't take long for a mutual respect and liking to develop between the Norwegians and the Marines.

The Norwegian Air Force was greatly impressed with the effectiveness of the Marine GCA, especially when their GCI failed and the Marines took over the job of assigning aircraft to missions.

The Marines praised the Norwegian pilots and commented that their aircraft were always "shined up like new Cadillacs." They also said that the merchants and townsfolk were always very hospitable and helpful.

Consensus: It all ended too soon.

MUTUAL *admiration is apparent between MSgt. James Simmons and a young Norwegian miss.*

NORWEGIAN SHEEP *grazing around the Marine GCA trailers create an unusual scene on the small, rugged, mountainous island of Andoy.*

REASONABLY PRICED *ski sweaters were appropriate souvenirs of visit. TSgt. R. H. Mifflin discusses his purchase with a sales girl.*

HELIUM HEADQUARTERS, USN

SOME OF THE 50,000 CYLINDERS USED TO SHIP HELIUM; STORAGE TANK IN BACKGROUND

HELIUM IS BIG business at NAS LAKEHURST, New Jersey. The lighter-than-air station handles 35 million cubic feet of this gas annually. Not only does the station use helium for airships based there, but it acts as a central depot through which the gas is distributed to other users.

Landmark of the depot is a huge tank with a million cubic feet capacity. Visitors often ask, "What is the tank used for?"

Their curiosity would be even greater if they could see the erratic and sudden changes in the apparent volume of the tank. "Why," they might ask, "does the level of the tank rise and fall?"

The answer to that is part of the interesting and little known story of helium. Helium, which is used to inflate airships, is a colorless, odorless, tasteless, inert gas. It is surpassed in lightness only by hydrogen. Unlike hydrogen, however, it is non-combustible and therefore can be used with safety. Helium, of which the United States is said to have a monopoly, is extracted as a by-product of natural gas.

The production and distribution of helium is the responsibility of the Bureau of Mines, Department of Agriculture. The bureau supplies helium to the Armed Forces, the Atomic Energy Commission, the National Advisory Committee for Aeronautics, and commercial users. NAS LAKEHURST is the distributor of helium for the East Coast, except for naval airship stations which receive helium directly from the Bureau of Mines.

Helium is shipped from Kansas to the station in railroad carrier cars composed of specially designed compressed gas tanks. Each car transports about 210,000 cubic feet of helium.

At Lakehurst, the gas at 2400 pounds per square inch is transferred into storage cylinders, helium trailers, and, occasionally, directly into an airship.

Storage at the helium plant in the cylindrical storage tubes is maintained at four different pressures: 750, 1350, 1650 and 2400 pounds per square inch.

Helium is transferred utilizing a "downhill" flow owing to difference in pressure. The gas will flow from a cylinder of high pressure to one of low pressure; therefore, the gas at the lowest pressure is used first.

Transfer from the helium plant to hangars and to the four airship mooring circles is completed through two eight-inch underground pipe lines, one an issue line and the other a return-to-storage line. Gas pressure will vary in the issue lines depending upon whether an airship is being inflated (10-15 psi) or "topped off" (5-6 psi).

An airship when fully inflated and "free of wrinkles" has a helium pressure of approximately .005 psi.

When an airship is deflated for overhaul, the helium at the hangars is pumped through the return-to-storage line into the helium tank. The big tank which is up one day and down the next, can hold a total of 1,000,000 cubic feet of gas. The tank is used primarily for storing this impure helium which has become contaminated while in the airship envelope.

This contamination causes the helium purity to drop below an optimum operational level. Since a purity of 97% is desired, it is necessary to purge the impure helium in the tank.

Through the purging process, the helium is reclaimed at a cost of only 50 cents per 1000 cubic feet. Since the cost of new helium would be about $24 per 1000 cubic feet, the savings are sizeable.

The helium division, in addition to supplying, purging, purifying the gas used on the station, is responsible for the maintenance of equipment used in handling and shipping.

Constant vigilance is necessary to maintain the required inspection of the 40-50,000 cylinders which are used. Precautions must be taken in handling the supposedly empty cylinders, lest the retained pressure, held back by a malfunctioning valve, cause a vessel to "jet" or propel itself.

VF-121 Gets First Tiger

Miramar Squadron to get 13 More

The first of 14 new Grumman F11F-1 *Tigers* has been delivered to VF-121 at NAS MIRAMAR. Cdr. Jack E. Godfrey, squadron commander, accepted the plane from Ltjg. Vernon D. Moffitt, VR-31 pilot who also delivered the first North American FJ-4 *Fury* and the first McDonnell F3H *Demon* to Miramar squadrons in recent months.

The F11F-1 fighter is equipped with four 20-mm cannons and can carry the latest air-to-air and air-to-ground guided missiles. While undergoing tests last year a *Tiger* "shot itself down" by overtaking several rounds of 20-mm ammunition 12 seconds after they had left the plane's guns.

Ultrasonic Mapping Trainer

New Device used for Marine Pilots

An Ultrasonic Radar Mapping Trainer for all-weather pilots taking training, has been installed at the air intercept school run by Marine Training Radar Group 20 at Cherry Point. Pilots can familiarize themselves with the surrounding terrain, as seen from the air, without leaving the ground.

The trainer enables pilots to recognize landmarks in the area. It is scaled 200,000 to one and represents an area of 200 miles.

Land areas of the map are built of sand and clay, and cities, some smaller than a dime, are constructed of carborundum, a crystalline compound of carbon and silicon, and bridges are represented by staples.

The map is located in a sand-box type construction with a device called an aircraft simulator moving across the map. The pilot, sitting in an area duplicating an aircraft cockpit with instruments and radar scope, controls the simulated aircraft in the same manner he would an actual aircraft.

Besides training the pilot in radar mapping, the device also familiarizes pilots with equipment in their aircraft and trains them in radar and radar intercept tactics.

The trainer has provisions for six maneuverable targets which are controlled by an instructor. As the instructor sets the target in motion a "beep" appears on the pilot's radar screen. The pilot then maneuvers the simulated aircraft in a position to intercept the target, representing the enemy.

"This is the best set-up for intercept training," said MSgt. E. L. Fryer, NCO-in-charge of the school.

Shoe Polish Earns Award

Found Ideal for Lettering Plates

Use of liquid Shinola white shoe polish instead of lacquer to monofill engraved nameplates, knobs, oxygen regulator cases and other aircraft parts has earned Vernon C. Elmore, graphic arts mechanic helper at NAS CORPUS CHRISTI, a $50 beneficial suggestion award. Elmore's idea has been approved by the BUAER Incentive Awards Committee for optional adoption by other activities.

Elmore found that filling nameplates with a white lacquer stick, chalk, white lacquer paint or white wax did not work satisfactorily. The lacquer stick left a white film on the plate's background and its excess was hard to remove. Chalk bled through the background. White lacquer paint took too much time because it had to be hand-painted.

Liquid white Shinola polish was easy to apply and the excess easy to remove from the background. It is a good white, and when clear lacquered, does not bleed through. About half the previous time is saved and Shinola does not leave a white film on the plate's background.

Improvements at Sangley

BuAer Approves Several Projects

The Bureau of Aeronautics has authorized Naval Station Sangley Point to proceed with a number of maintenance and repair projects designed to benefit all personnel on board.

Included are general repairs on the station's roads, air conditioning of the dependents' ward of the station hospital, installation of a dust collection system in the carpenter shop and replacement of the Beach Crew shelter at the seaplane ramp. Construction is scheduled to begin soon.

R6D Makes Radio Survey

Flight Spans 26,000 Polar Miles

An R6D of Transport Squadron 22 flew 26,000 miles in November and December to make a survey of radio field strength and associated phenomena throughout the North Polar area.

The project was sponsored by the Navy Electronics Laboratory. Its purpose was to test the usefulness and limitations of low frequency radio signals in polar regions.

The Arctic area presents a serious challenge in many operational fields. One of the most important is the difficulty of getting reliable radio transmissions. Information obtained in the test will help in future prediction of radio reliability from existing low frequency stations.

Tests were also conducted to assist in the location of proposed radio stations to achieve the best and most extensive coverage possible. Low frequency radio transmissions are of great importance in the Arctic regions where reliable long range operation is required. Higher frequency propagation is unreliable because of polar magnetic disturbances.

Pilots of the flight attended polar navigation classes at McGuire AF Base.

FIRST COMMERCIAL *airplane ever to fly into Antarctica is boarded in San Francisco by Navy Seabees who will help man bases for scientists taking part in IGY science studies. The plane landed on sea ice at McMurdo Sound and took off successfully. These PAA stewardesses were third and fourth American women to visit continent. They helped judge beard-growing contest.*

LETTERS

SIRS:

The Ocean County Stamp Club's cachet cover, commemorating the 25th anniversary of the Cathedral of the Air at NAS LAKEHURST, N. J., has reached out to nearly all parts of the world.

The cachet shows an outline drawing of the famous cathedral and includes, within the design, the insignia of the Christian and Jewish chaplains of our armed forces. This is symbolic of the interdenominational nature of the edifice.

These commemorative cachets may be obtained by forwarding ten cents to Cachet Chairman, Ocean County Stamp Club, 514 Terrace Avenue, Toms River, N. J., or Chaplain's Office, U. S. Naval Air Station, Lakehurst, N. J.

CACHET CHAIRMAN
Ocean County Stamp Club

SIRS:

In the September 1957 issue of NAVAL AVIATION NEWS on page 36, you state as follows:

"The radome above the plane's fuselage houses search and tracking radar engineered by the Naval Air Development Center, Johnsville, Pa."

We would like to advise that the Hazeltine Electronics Division, Hazeltine Corporation, is presently under subcontract to the Grumman Engineering Corporation for the development and production of the search and tracking radar referred to in the above quotation.

JAMES W. EVANS

[Our sincere regrets on the misfire occasioned by inaccurate source material. Hazeltine and Grumman, not NADC, proposed and engineered the referenced radar equipment.

Warning System Developed

MC Copters Can Deliver TEW Units

A new, highly portable, tactical early warning system which promises to extend the nation's tactical defense perimeters to a radical extent is being developed by Sperry Gyroscope Company for the Marine Corps.

The new, long-range, search and height-finding radar system will detect close-in or distant high-speed enemy aircraft and missiles. The lightweight system is designed to satisfy the Marines' particular requirement for equipment that can be transported by helicopter and is adaptable to rapidly changing tactical situations in any environment.

Cartoonist Crane Honored

SecNav Cites Buz Sawyer Creator

CRANE ACCEPTS AWARD BY UNDERSECNAV

Cartoonist Roy Crane, creator of "Buz Sawyer," has been awarded the Navy Public Service Award for his "outstanding service to the U. S. Naval Establishment in the fields of recruiting, morale and public relations."

Mr. Crane received the citation from Hon. William B. Franke, Under Secretary of the Navy.

The citation stated that through the fictionalized adventures of "Buz Sawyer," read in newspapers around the world, Mr. Crane has realistically dramatized the experiences and achievements of a Naval Reserve pilot serving his country in assignments involving military test flying.

"At considerable personal expense," the citation continues, "Mr. Crane has continued to portray Buz as a military pilot, which has greatly increased the public's understanding of the Navy's contribution to defense in the field of military aviation."

MODEST BUZ SAWYER CHEERS HIS CREATOR

NAVAL AVIATION NEWS

Published monthly by Chief of Naval Operations and Bureau of Aeronautics to disseminate safety, training, maintenance, and technical data. Address communications to Naval Aviation News, Op-05A5, Navy Department, Washington 25, D. C. Office located in room 5E573 Pentagon; Telephone extensions 73685 and 73515.

CONTENTS

● COVER

Ltjg. James N. Ford of VF-154 pulls down the canopy of his F8U-1 Crusader after a day of gunnery at NAS Fallon.

● SUBSCRIPTIONS

Naval Aviation News is now available on subscription for a $2.50 check or money order ($.75 additional for foreign mailing) made payable to Superintendent of Documents, Government Printing Office, Washington 25, D. C. Single copies are 25 cents each.

● THE STAFF

Cdr. Bart J. Slattery, Jr.
Head, Aviation Periodicals Office

Cdr. George F. Rodgers
Editor

Izetta Winter Robb
Managing Editor

Lt. Barbara Sullivan
Joseph E. Oglesby, JOC
Associate Editors

E. L. Barker
LCdr. Warren E. Johnston
Contributing Editors

Deanna D. George
Editorial Assistant

James M. Springer
Art Director

● Printing of this publication has been approved by the Director of the Bureau of the Budget, 12 April 1955.