CHAPTER 5

Light Attack Squadron History (VAL)

VAL-4

Lineage

Established as Light Attack Squadron FOUR (VAL-4) on 3 January 1969.

Disestablished on 10 April 1972. The first squadron to be assigned the VAL-4 designation.

Squadron Insignia and Nickname

The squadron's first insignia was approved by CNO on 7 March 1969. Colors for the Yellow Jacket insignia were: a red background outlined in black; a white scroll outlined in black with black lettering; black stylized aircraft with yellow contrails; the yellow jacket had silver wings with black markings, a brown body outlined in black, the head and stinger tail were yellow with black markings; the lightning bolt from the tail was black and the explosion was yellow outlined in black.

The yellow jacket wasp was the squadron's first insignia design.

On 14 July 1971 CNO approved a modification to the squadron's insignia. Colors for the Pony insignia were: a red background outlined in black; a white scroll outlined in black with black lettering; the stylized aircraft were black with yellow contrails; the pony was black.

Nickname: Black Ponies, 1971–1972.

The squadron's second insignia, the Black Ponies, is the one that is best known.

Chronology of Significant Events

Sep 1968: VS-41 was assigned the responsiblity of training personnel scheduled for assignment to VAL-4.

Oct 1968: VS-41 received its first OV-10A Broncos for training VAL-4 personnel.

Jan 1969: VAL-4 was established with the mission of conducting surveillance and offensive operations in support of river patrol craft, as well as providing air support for SEALS and combined U.S. Army, Navy and South Vietnamese operations.

Mar 1969: VAL-4 was permanently based at the Naval Support Activity Detachment Airfield, Binh Thuy, South Vietnam, for combat operations. The squadron had two detachments, Det A assigned to Vietnamese Air Force Base, Binh Thuy and Det B at the Vung Tau, Army Airfield.

19 Apr 1969: The squadron began its first combat operations, flying air support of the Naval River Forces in the Mekong Delta of South Vietnam. The missions included normal patrol, overhead air cover, scramble alert and gunfire/artillery spotting.

Apr–May 1970: VAL-4's OV-10A Broncos participated in combined South Vietnamese and U.S. Riverine Force operations designed to neutralize sanctuary bases in the Mekong River Corridor in support of U.S. and South Vietnamese strikes against enemy sanctuaries in Cambodia.

A OV-10A Bronco taking off from Vung Tau, Republic of Vietnam, on a combat mission, June 1969.

1 Jul 1970: With the completion of new facilities for VAL-4 on Vietnamese Air Force Base Binh Thuy and the consolidation of VAL-4's operating units, the squadron's Detachment B was disestablished.

31 Mar 1972: The squadron conducted its last combat mission prior to its disestablishment on 10 April 1972.

Home Port Assignments

Location	*Assignment Date*
NAS North Island	03 Jan 1969
NSA Binh Thuy, South Vietnam	23 Mar 1969

Commanding Officers

	Date Assumed Command
CDR Gilbert L. Winans	03 Jan 1969
CDR Martin S. Schuman	06 Sep 1969
CDR Verle W. Klein	06 Mar 1970
CDR Leonard M. Rausch	03 Sep 1970
CDR Robert W. Porter	03 Mar 1971

A squadron OV-10A Bronco in flight, 1969.

Aircraft Assignment

Type of Aircraft	*Date Type First Received*
OV-10A	03 Jan 1969
YOV-10D	Jun 1971

Air Wing Assignments

Air Wing	*Tail Code*	*Assignment Date*
VS-41	UM	Sep 1968
COMFAIRWESTPAC	UM	Mar 1969

Unit Awards Received

Unit Award	*Inclusive Dates Covering Unit Award*	
NUC	01 Jun 1964	01 Jun 1968
	01 Apr 1971	31 Oct 1971
MUC	26 Mar 1969	03 Sep 1969
RVNGC	21 Nov 1968	21 Nov 1970

Unit Awards Received for VAL-4 Detachment B

Unit Award	*Inclusive Dates Covering Unit Award*	
NUC	14 Jun 1969	12 Aug 1969
PUC	24 Jun 1969	28 Feb 1970

Three squadron OV-10A Broncos on a combat mission over the Mekong Delta, circa 1971. Note the squadron's Black Ponies insignia on the tail.

PART 9

The Sixth Decade

1960–1969

The year 1961 marked the golden anniversary of Naval Aviation. It was a year filled with many nostalgic memories of past glories and also a year in which Naval Aviation attained new stature as an effective fighting force. One nuclear-powered and two conventionally powered attack carriers joined the operating forces, perhaps the greatest array of carrier-air might added during peacetime to any fleet in a single year. Before the decade was out, two more attack carriers had been commissioned and another was taking form on the ways. Four new amphibious assault ships, and others built to exploit the unique capabilities of helicopters in vertical assault and replenishment, joined the fleet. New high-performance aircraft went into operation. Vertical and short-takeoff-and-landing aircraft were developed; one went into service. New types of missiles appeared and such old standbys as Sparrows and Sidewinders were given new capabilities. On the other side of the ledger, the blimp and the flying boat, long-familiar figures in Naval Aviation, became victims of the relentless march of technology.

Efforts to conquer space began in earnest as manned orbital flight became a reality and a series of successes culminated in the first manned lunar landing. More than half the nation's astronauts had Navy backgrounds—Naval Aviators made the first American suborbital and orbital flights. Navy flight surgeons joined in the study of physiological effects of space flight. A Navy space surveillance system helped forge the necessary links for a continuous watch on space. Satellites developed by Navy scientists expanded our knowledge of space, and a Navy satellite navigation system gave to all nations an accurate means of traveling the earth's oceans. Carriers or amphibious assault ships, were at sea in both oceans during all orbiting periods to cover an emergency landing, and were always on station to recover the astronauts and their spacecraft upon their return to earth.

Support of the space program was responsible for a number of organizational adjustments within the Navy Department as well as for formation of a Recovery Force command in the fleet. Broader and more basic changes in departmental structure resulted from a series of high-level studies directed toward clarifying lines of authority and responsibility. The bureau system was abolished, and material support was centralized under a strengthened Material Command placed under direct control of the Chief of Naval Operations. New impetus was given to the project manager concept and other changes radiated outward to the operating forces and the shore establishment.

In other respects, the Navy's traditional role in controlling the sea remained unchanged. Revival of the old technique of naval blockade during the Cuban missile crisis found a modern Navy fully capable of performing it. Operating forces were near at hand to give aid to the stricken when hurricanes, typhoons, and earthquakes struck in widely distant points. The round-the-world cruise of a nuclear-powered task force and operations in the Indian Ocean carried the flag into many foreign ports. Crises in Africa, the Middle East, over Berlin and the threat of war in Caribbean nations, found naval forces ready to evacuate American nationals and by their presence to reaffirm the Navy's role in keeping the peace. In Southeast Asia, the nation responded to aggressive actions with retaliatory air strikes. As retaliation developed into war and the nation's commitment increased, the burden of the Navy's air war was carried by aircraft of the Seventh Fleet. The requirement for sustained naval action and support of operations ashore posed major problems for logistic planners and force commanders alike, as the action became progressively heavier despite repeated attempts to halt the fighting and to settle differences at the conference table.

1960

1 January Electronics Countermeasures Squadrons were redesignated Fleet Air Reconnaissance Squadrons, without change of their VQ letter designation.

15 January The Naval Weather Service Division was transferred from the Office of DCNO (Operations & Readiness) to the staff of the Vice Chief of Naval Operations, and an Office of the U.S. Naval Weather

1960—Continued

Service was set up as a field activity under the management control of the Chief of Naval Operations. The responsibilities of the new office included management control of the integrated Fleet Weather Central system and technical direction of meteorological matters within the shore establishment and the operating forces.

26 January The first of two giant unmanned balloons was launched from *Valley Forge*, at sea south of the Virgin Islands. Almost as high as a 50-story building and with a cubic capacity greater than that of the rigid airship *Akron*, the balloons carried 2,500 pounds, including 800 pounds of emulsion sheets to record cosmic-ray activity. The first balloon achieved an altitude of 116,000 feet and remained aloft 8 hours, while the second reached 113,000 feet and made a flight of 26½ hours. The balloons were tracked by early warning aircraft from the carrier and shore bases, and the instruments were recovered by a destroyer. The project was under the joint sponsorship of the National Science Foundation (NSF) and the Office of Naval Research (NRL).

Valley Forge prepares to launch Skyhook balloon 1046721

25 February A Navy R6D transport, carrying members of the Navy Band and a team of antisubmarine specialists, collided with a Brazilian airliner over Sugar Loaf Mountain, Rio de Janeiro. The accident took the lives of all 26 persons on board the airliner and all but 3 of the 38 Navy men on board the R6D.

29 February The Department of Defense announced that two new developments in airborne mine countermeasures had been successfully demonstrated to Navy and Defense officials by the Navy Mine Defense Laboratory and the Navy Air Mine Defense Development Unit at Panama City, Fla. The first was air-portable minesweeping gear that enabled a helicopter to become a self-sufficient aerial minesweeper; the second was equipment for transferring the minesweeping-gear towline from a surface minesweeper to a helicopter, from one helicopter to another, or from a helicopter to a surface minesweeper.

29 February Navy and Marine Corps personnel from Port Lyautey were flown to the Agadir area of Morocco to aid inhabitants of the city razed by a severe earthquake. Before rescue and relief operations were over, a Navy-wide effort brought food and clothing to the stricken people from Reserve and other units as far away as Seattle, Wash.

1 March A ZPG-3W airship of ZW-1 returned to NAS Lakehurst, N.J., from an Air Defense Command barrier patrol over the North Atlantic after having been on station for 49.3 hours and 58 hours in the air. This new record for continuous patrol more than doubled the best time logged by its predecessor, the smaller ZPG-2W.

18 March On the first firing test of Project Hydra, conducted at Naval Missile Center, Point Mugu, a 150-pound rocket was successfully ignited underwater and launched into the air. The test demonstrated the feasibility of launching rockets while floating upright in the water and gave promise of eliminating the cost of launching pad construction and allowing greater freedom in the choice of launching sites.

25 March In the first launch of a guided missile from a nuclear powered submarine, *Halibut* (SSGN 587), fired a Regulus I during training exercises off Oahu, Hawaii.

1960—Continued

26 March Elements of MAW-1 participating in Exercise Blue Star established an operational jet airstrip on the south shore of Taiwan within 72 hours of the amphibious landing. The 3,400-foot strip was surfaced with expeditionary airfield matting, equipped with MOREST arresting gear, portable TACAN equipment, portable mirror landing system, lower control system, and supported by a portable fuel tank farm. A4D aircraft operated from the strip with the assistance of JATO, and F4Ds and F8Us used afterburners for takeoff.

1 April CVSG-53 and -59, each composed of one HS and two VS squadrons, were established at NAS North Island, Calif. This marked the beginning of a reorganization of antisubmarine aviation which called for the formation of nine CVSGs and for the assignment of an additional replacement CVSG and a patrol squadron in each fleet to perform functions paralleling those being carried out by the previously established replacement carrier air groups.

13 April The navigation satellite Transit 1B was placed into orbit by a Thor-Able-Star rocket launched from Cape Canaveral, Fla. Designed by the Applied Physics Laboratory, the satellite emitted a radio signal at a precise frequency. Surface receiving stations used a measurement of the signal's doppler shift to determine their position with high accuracy. Among other experiments performed in connection with this launch, an uninstrumented satellite, mounted pickaback, was successfully separated and placed in its own orbit. Thereby, the feasibility of launching multiple satellites with a single vehicle was demonstrated.

Ground antenna for the navigation satellite 1105433

19 April The Secretary of the Navy established the Naval Space Surveillance Facility, Dahlgren, Va.

1 May Seventeen Basic Training Groups of the Naval Air Training Command were redesignated training squadrons (VT) and established as separate units, each under a commanding officer.

3 June Test launchings of Bullpup air-to-surface missiles from a Marine Corps HUS-1 helicopter were successfully completed at Naval Air Test Center, Patuxent River, Md.

10 June Seven helicopters of HS-4 from *Yorktown* rescued 53 merchant seamen from the British freighter *Shun Lee* which was breaking up on Pratas Reef, 500 miles northwest of Manila, Philippines. Under storm conditions in the wake of Typhoon Mary, the helicopter took 25 men from the wreck and 28 more from Pratas Island inside the reef.

21 June *Norfolk* (DL 1), from a position off Key West, Fla., fired an antisubmarine rocket missile (ASROC) in a public demonstration, marking the completion of a two-month technical evaluation. This missile featured a rocket-powered airframe carrying a homing torpedo, or alternatively, a depth charge.

22 June The navigation satellite Transit 2A was placed into orbit by a Thor-Able-Star rocket launched from Cape Canaveral, Fla. A Naval Research Laboratory Sol Rad I (Solar radiation) satellite, mounted pickaback, was also placed in orbit. In addition to further developing the Doppler navigation techniques, Transit 2A confirmed the practicability of using satellites for precise geodetic survey, provided critical measurements of the effect of the ionosphere on electromagnetic waves, and provided measurements of high frequency cosmic noise requested by the Canadian Government. The 2A had an operating life of 2½ years.

1 July The first Carrier On-board Delivery squadron, VRC-40 was established at NAS Norfolk, Commander John H. Crawford commanding.

1 July In a successful demonstration of the operating capabilities of a drone helicopter designed for use in antisubmarine warfare from destroyers, an experimental DSN-1 made an at-sea landing aboard *Mitscher* (DL 2), off the coast of Long Island, N.Y. Although the

1960—Continued

drone was manned by a safety pilot, the helicopter was flown by remote control from shore and maneuvered around the ship and into position for a landing before the pilot took command and made the final let down.

1 July To support the operations of the Pacific Missile Range, Calif., a Pacific Missile Range Facility was established at Eniwetok, Marshall Islands.

9 July *Wasp* sailed from Guantanamo Bay for the coast of Africa to support UN attempts to quiet disorders in the newly independent states of the Congo. By the time of her departure in early August, the carrier had supplied a quarter of a million gallons of gasoline in support of the UN airlift.

18 July The Navy terminated the Corvus air-to-surface missile program in order to permit increased emphasis upon other weapons systems offering a wider scope of employment.

20 July A Polaris ballistic missile was launched for the first time from *George Washington* (SSBN 598) while submerged at sea off Cape Canaveral, Fla. The missile broke clear of the water, ignited in the air and streaked more than 1,000 miles toward its target down the Atlantic Missile Range.

21 July The Navy announced that a contract for the development of the Missileer aircraft for launching the Eagle long-range air-to-air guided missile was being issued to the Douglas Aircraft Corporation.

1 August The Naval Air Rocket Test Station, Lake Denmark, N.J., was disestablished and the land was turned over to the Army for incorporation in Picattinny Arsenal. Navy liquid rocket development projects were transferred to other activities, primarily the Naval Ordnance Test Station, China Lake, Calif.; the Naval Propellant Plant, Indian Head, Md.; and the Naval Weapons Laboratory, Dahlgren, Va.

2 August A Naval Research Laboratory Aerobee rocket, instrumented to study the ultraviolet spectrum of the sun, was launched at the White Sands Missile Range, N. Mex., and soared over 90 miles into the atmosphere. As the rocket returned to earth, its nose cone separated from the main section and was parachuted to the ground.

11 August In the first recovery of an object after it had been in orbit, a Navy HRS-3 helicopter operating from *Haiti Victory* (T-AK-238) off the Pacific Missile Range, Calif., recovered the instrumented capsule discharged by *Discoverer XIII* on its 17th pass around the earth. The capsule was located about 330 miles northwest of Honolulu, Hawaii, by Air Force planes which directed the ship toward the spot. Recovery was made less than three hours after the capsule hit the water.

2 September Captain Holden C. Richardson, Naval Aviator No. 13, died at Bethesda, Md. A man of many attainments, Captain Richardson was the Navy's first engineering test pilot, helped develop the Navy's first catapults, was one of the designers of the NC boats supervised their construction and piloted one of them on the transatlantic attempt, was a pioneer designer of flying boat hulls, and one of the original members of NACA.

5 September An F4H-1 Phantom II, piloted by Lieutenant Colonel Thomas H. Miller, USMC, set a new world record of 500 kilometers over the triangular course at Edwards AFB, Calif., with a speed of 1,216.78 mph.

19 September The NASA Nuclear Emulsion Recovery Vehicle (NERV) was launched from the Naval Missile Facility, Point Arguello, Calif., by an Argo D-8 rocket. The instrumented capsule reached an altitude of 1,260 miles and landed 1,300 miles down range where it was recovered by Navy ships.

25 September An F4H-1 Phantom II, piloted by Commander John F. Davis, averaged 1,390.21 mph for 100 kilometers over a closed circuit course, bettering the existing world record for the distance by more than 200 mph.

20 October The Department of Defense announced establishment, under Navy management, of an Army-Navy-Air Force program to develop the prototype of an operational vertical takeoff and landing aircraft for the purpose of testing its suitability for air transport service.

10 November The Secretary of Defense directed that the Navy Space Surveillance System and the Air Force Space Track System, each performing similar services over different sections of the surveillance network, be placed under the control of the North American Air Defense Command (NORAD) for military functions.

15 November The Polaris Fleet Ballistic Missile Weapon System became operational as *George Washington* (SSBN 598) departed Charleston, S.C., with a load of 16 A-1 tactical missiles.

1960—Continued

17 November At the request of the threatened countries, President Eisenhower ordered a naval patrol of Central American waters to intercept and prevent any Communist-led invasion of Guatemala and Nicaragua from the sea. The patrol was carried out by a carrier and destroyer force which remained in the area until recalled on 7 December.

13 December An A3J Vigilante piloted by Commander Leroy A. Heath, with Lieutenant Henry L. Monroe as bombardier-navigator, climbed to 91,450.8 feet over Edwards AFB, Calif., while carrying a payload of 1,000 kilograms. This performance established a new world altitude record with payload and surpassed the existing record by over four miles.

Cdr. L. A. Heath and Lt. H. L. Monroe flew A3J to above 91,000 feet
NH 69962

19 December Fire broke out on the hangar deck of *Constellation* in the last stages of construction at the New York Naval Shipyard. Fifty civilian workers died in the blaze.

22 December Helicopters of HS-3 and HU-2 from *Valley Forge* rescued 27 men from the oiler SS *Pine Ridge* as she was breaking up in heavy seas 100 miles off Cape Hatteras, N.C.

1961

31 January A Marine Corps helicopter of HMR(L)-262 made an at sea recovery of a Mercury capsule, bearing the chimpanzee Ham, after it had completed a 15-minute flight reaching 155 miles high and 420 miles down range. The capsule was launched by a Redstone rocket from Cape Canaveral, Fla., in a preliminary test for manned space flight.

1 February The Space Surveillance System, with headquarters at the Naval Weapons Laboratory, Dahlgren, Va., was established, Captain David G. Woosley commanding. By this action, the system which had been functioning as an experimental research project since 1959, became an operational command.

21 February The navigation satellite Transit 3B, carrying Lofti (low frequency transionospheric satellite) pickaback, was put into orbit by a Thor-Able-Star rocket, fired from Cape Canaveral, Fla. Improper burning of the second stage and its failure to separate from the payload prevented achievement of the planned orbital path. Despite this, during the Transit's 39 days in orbit, prototype navigational messages containing ephemerides and time signals were inputted into its memory and reported back thereby providing the first complete demonstration of all features of the navigation satellite system.

6 March The Secretary of Defense established Defense policies and responsibilities for development of satellites, antisatellites, space probes and supporting systems. Each Military Department was authorized "to conduct preliminary research to develop new ways of using space technology to perform its assigned function." Although research, development, test and engineering of Department of Defense space development programs and projects were to be the responsibility of the Air Force, provisions were made for granting exceptions thereby leaving the door ajar to the possibility of the Navy developing a unique space capability.

10 April C-130BL Hercules of VX-6, piloted by Commander Loyd E. Newcomer and carrying a double crew of 16 and a special crew of five, landed at Christchurch, New Zealand, completing the emergency evacuation from Byrd Station, Antarctica, of Leonid Kuperov, a Soviet exchange scientist who was suffering from an acute abdominal condition. The round trip flight out of Christchurch was the first to pierce the winter isolation of the Antarctic Continent.

21 April The Office of the Pacific Missile Range Representative, Kaneohe, Hawaii, was redesignated

1961—Continued

and established as the Pacific Missile Range Facility, Hawaiian Area, to serve as the mid-Pacific headquarters for missile and satellite tracking stations located in the Hawaiian and Central Pacific areas.

29 April *Kitty Hawk*, the first of a new class of attack carriers equipped with Terrier anti-air missiles, was commissioned at Philadelphia, Pa., Naval Shipyard, Captain William F. Bringle commanding.

4 May A world record balloon altitude of 113,739.9 feet was reached in a two-place open gondola Stratolab flight by Commander Malcolm D. Ross and Lieutenant Commander Victor A. Prather (MC). Launched from *Antietam* off the mouth of the Mississippi, the balloon, which was the largest ever employed on manned flight, reached its maximum altitude 2 hours and 36 minutes after takeoff 136 miles south of Mobile, Ala. This achievement was marred by the death of Lieutenant Commander Prather, who fell from the sling of the recovery helicopter and died on board the carrier about an hour after being pulled from the water.

5 May Commander Alan B. Shepard, Jr., USN, became the first American to go into space as he completed a flight reaching 116 miles high and 302 miles down range from Cape Canaveral, Fla. His space capsule, *Freedom 7*, was launched by a Redstone rocket and recovered at sea by an HUS-1 helicopter of HMR(L)-262 which transported it and Commander Shepard to *Lake Champlain*.

Kitty Hawk, first carriers of new class 1069225

1961—Continued

Shepard's recovery completes first U.S. manned space flight NH69954

17 May An HSS-2 helicopter flown by Commander Patrick L. Sullivan and Lieutenant Beverly W. Witherspoon, set a new world class speed record of 192.9 mph for 3 kilometers at Bradley Field, Windsor Locks, Conn.

24 May Three F4H Phantom II fighters competing for the Bendix Trophy bettered the existing record for transcontinental flight from Los Angeles to New York. The winning team of Lieutenant Richard F. Gordon, pilot, and Lieutenant (jg) Bobbie R. Young, RIO, averaged 870 mph on the 2,421.4 mile flight and set a new record of 2 hours, 47 minutes.

24 May Commander Patrick L. Sullivan and Lieutenant Beverly W. Witherspoon, flying an HSS-2 helicopter set another new world class speed record with a mark of 174.9 mph over a 100-kilometer course between Milford and Westbrook, Conn.

1 June Ships of the Second Fleet, including *Intrepid*, *Shangri-La*, and *Randolph*, were ordered to stand by off southern Hispaniola when a general uprising seemed about to follow the assassination of President Trujillo of the Dominican Republic.

21 June The Secretary of the Navy approved plans for terminating the lighter-than-air program that would disestablish all operational units by November, put eight of the 10 remaining airships in storage and deactivate the Overhaul and Repair shop at Lakehurst, N.J.

29 June The navigation satellite Transit 4A was put into a nearly circular orbit at about 500 miles by a Thor-Able-Star rocket fired from Cape Canaveral. Although Greb and Injun satellites riding pickaback did not separate from each other, both operated satisfactorily. Transit 4A was the first space vehicle to be equipped with a nuclear powered generator.

10 July The first NATOPS (Naval Air Training and Operating Procedures Standardization) Manual was promulgated with the distribution of the HSS-1 manual. This manual prescribed standard operating proce-

Sullivan and Witherspoon NH 69959

1961—Continued

dures and flight instructions which were peculiar to the HSS-1 and complemented the more technical information contained in the HSS-1 Flight Manual (or handbook). As the NATOPS system developed, NATOPS Flight Manuals were issued which consolidated flight and operating instructions with the handbook information, the first being that for the F9F-8T dated 15 December 1963. Further publications included the NATOPS Manual, which contained generalized instructions covering air operations, and other manuals dealing with such subjects as carrier operations, air refueling, instrument flight, and landing signal officer procedures.

18 July The first of a series of 10 unguided rocket launches was made at Naval Missile Center, Point Mugu, Calif., to develop an economical research rocket using a standard booster. Called Sparro-air, the rocket was designed and built at Point Mugu by combining two Sparrow air-to-air missile rocket motors. It was launched from an F4D Skyray to an altitude of 64 miles.

21 July Captain Virgil I. Grissom, USAF, the second American man-in-space, completed a 15 minute, 118 mile high flight 303 miles down the Atlantic Missile Range. Premature blowoff of the hatch cover caused flooding of the capsule and made its recovery impossible, but Grissom was picked up from the water by a second helicopter and delivered safely to *Randolph*.

3 August The Director of Defense Research and Engineering approved revisions to the tri-Service Vertical Take-Off and Landing (VTOL) program whereby administrative responsibility for a tilting wing aircraft (later developed as the XC-142) was transferred from the Navy to the Air Force but with the three services continuing to share the cost equally.

26 August *Iwo Jima* was commissioned at Bremerton, Wash., Captain T. D. Harris commanding. First of the amphibious assault ships to be designed and built as such, the new ship was 602 feet overall, of 17,000 tons standard displacement, and equipped to operate a helicopter squadron and an embarked detachment of Marine combat troops in the "vertical envelopment" concept of amphibious assault.

28 August The Naval Ordnance Test Station, China Lake, Calif., reported on tests of Snakeye I mechanical retardation devices which were being developed to permit low altitude bombing with the MK 80 family of low drag bombs. Four designs of retarders (two made by Douglas and two by NOTS) had been tested in flight, on the station's rocket powered test sled, or in the wind tunnel. One of Douglas' designs had shown sufficient promise that a contract had been issued for a number of experimental and prototype units.

28 August Lieutenant Hunt Hardisty, pilot, and Lieutenant Earl H. DeEsch, RIO, flew an F4H Phantom II over the 3-kilometer course at Holloman AFB, N. Mex., and averaged 902.769 mph for a new low altitude world speed record.

11 September Task Force 135, commanded by Rear Admiral F. J. Brush, composed of *Shangri-La* and *Antietam*, two destroyers, an attack transport and two fleet tugs, was ordered to the Galveston-Freeport area of Texas for disaster relief operations in the wake of Hurricane Carla.

1 October In response to the call of the president as a result of renewed tension over the divided city of Berlin, units of the Naval Reserve, including five patrol and 13 carrier antisubmarine squadrons of the Naval Air Reserve, reported for active duty.

16 October The Astronautics Operations Division, Op-54, with mission, functions and personnel, was transferred from the Office of DCNO (Air) to Op-76 of the Office of DCNO (Development).

23 October The Polaris A-2 was fired from underwater for the first time as *Ethan Allen* (SSBN 608) fired it 1,500 miles down the Atlantic Missile Range.

31 October Fleet Airship Wing One and ZP-1 and ZP-3, the last operating units of the LTA branch of Naval Aviation, were disestablished at NAS Lakehurst, N.J.

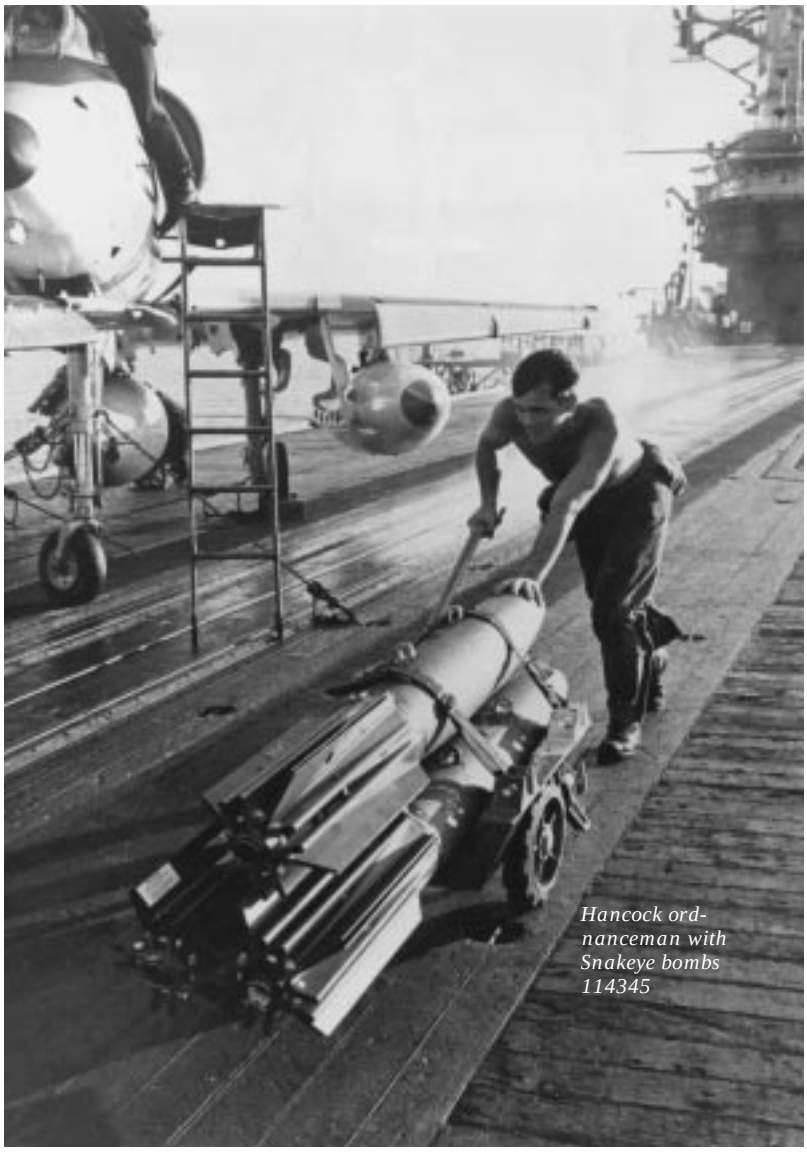
6 November *Antietam* left British Honduras for Pensacola after 4 days of relief operations following hurricane Hattie. Helicopters, from VT-8 and HMR(L)-264, carried over 57 tons of food, water and medical supplies and transported medical and other relief personnel to the people in Belize, Stann Creek and other points hit by the hurricane.

22 November Lieutenant Colonel Robert B. Robinson, USMC, flying an F4H-1 Phantom II, set a world speed record, averaging 1606.3 mph in two runs over the 15 to 25-kilometer course at Edwards AFB, Calif.

25 November The nuclear-powered *Enterprise* was commissioned at Newport News, Va., Captain Vincent P. DePoix commanding.

1961—Continued

Iwo Jima built as amphibious assault ship NH 69957



Hancock ordnanceman with Snakeye bombs 114345

Skyburner pilot R. B. Robinson stands alongside F4H with which he set 1606.3 mph record NH69958

1961—Continued

Enterprise, first nuclear-powered aircraft carrier, with planes spotted on flight deck 1063056

1 December An HSS-2 helicopter, flown by Captain Bruce K. Lloyd and Commander Don J. Roulstone, laid claim to three new world speed records over a course along Long Island Sound between Milford and Westbrook, Conn., with performances of 182.8 mph, 179.5 mph, and 175.3 mph for 100, 500, and 1,000 kilometers, respectively.

5 December Commander George W. Ellis piloted an F4H Phantom II on another world record, surpassing the existing record for altitude sustained in horizontal flight with a height of 66,443.8 feet over Edwards AFB, Calif.

6 December In a joint Navy-Air Force ceremony, new wings were pinned on America's first astronauts, Commander Alan B. Shepard, Jr., USN, and Captain Virgil I. Grissom, USAF. The new designs displayed a

B. Lloyd and E. Roulstone NH 69961

1961—Continued

shooting star superimposed on the traditional aviator wings of the respective services.

8 December The landing field at NAS Anacostia, Washington, D.C., was closed at 0500 hours, all approach procedures were terminated and air traffic facilities ceased operation. Thus, ended the career of a station unique for the variety of its operations and services, and in terms of continuous operations, the fourth oldest in the U.S. Navy.

14 December Installation of the Pilot Landing Aid Television system (PLAT) was completed on *Coral Sea*, the first carrier to have the system installed for operational use. Designed to provide a video tape of every landing, the system was useful for instructional purposes and in the analysis of landing accidents making it a valuable tool in the promotion of safety. By early 1963, all attack carriers had been equipped with PLAT and plans were underway for its installation in antisubmarine carriers and at shore stations.

30 December An HSS-2 helicopter flown by Commander Patrick L. Sullivan and Captain David A. Spurlock, USMC, at Windsor Locks, Conn., bettered its old three-kilometer world record at 199.01 mph.

1962

1 January Three new Fleet Air Commands were established under Commander, Naval Air Force Atlantic, one with headquarters at Keflavik, Iceland, one at Bermuda and the other in the Azores.

17 January First air operations were conducted by *Enterprise* as Commander George Talley made an arrested landing and catapult launch in an F8U Crusader. Although three TF Traders of VR-40 had taken off from her deck on 30 October 1961 to transport VIPs to the mainland after observing sea trials, Commander Talley's flights marked the start of *Enterprise* fleet operations.

23 January The last of 18 F8U-2N Crusaders VMF(AW)-451, arrived at Atsugi, Japan, from MCAS El Toro, Calif., completing the first transpacific flight by a Marine Corps jet fighter squadron. Stops were made at Kaneohe, Hawaii, Wake Island, and Guam and air refueling was provided by GV-1 tankers. The flight was led by Lieutenant Colonel Charles E. Crew, commanding officer of the squadron.

24 January Two Navy F4H Phantom II fighters, designated F-110A by the Air Force, arrived at Langley AFB, Va., for use in orientation courses preliminary to the assignment of Phantom's to units of the Air Force Tactical Air Command.

26 January To overcome deficiencies disclosed during operation of ships equipped with surface-to-air missiles, the Chief of the Bureau of Naval Weapons designated an Assistant Chief for Surface Missile Systems who was to head a special task force and direct all aspects of surface missiles within the Bureau and to act with the Chief of Naval Personnel and the Bureau of Ships on matters involving these Bureaus.

5 February An HSS-2 Sea King became the first helicopter to exceed 200 mph in an officially sanctioned trial. Piloted by Lieutenant R. W. Crafton, USN, and Captain Louis K. Keck, USMC, over a course along the Connecticut shore from Milford to New Haven, the antisubmarine helicopter broke the world record for 15 to 25 kilometers with a speed of 210.65 mph.

L. K. Keck and R.W. Crafton NH69960

1962—Continued

8 February A detachment of VP-11 at NAS Argentia, New Foundland, began ice reconnaissance flights over the Gulf of St. Lawrence to aid in evaluating satellite readings of ice formations transmitted by Tiros 4 which was put into orbit the same day.

20 February Lieutenant Colonel John H. Glenn, USMC, in Mercury spacecraft *Friendship 7*, was launched from Cape Canaveral, Fla., by an Atlas rocket. His three turns about the earth were the first U.S. manned orbital flights. He was recovered some 166 miles east of Grand Turk Island in the Bahamas by *Noa* (DD 841) and then delivered by helicopter to *Randolph*.

Glenn begins orbital flight NASA62MA6-112

Navy men on first astronaut team:

Shepard (NH69953)

Glenn (NH69952)

Carpenter (NH69951)

Schirra made six orbits NASA62MA7-24

1962—Continued

21 February The F4H-1 Phantom II established new world records for climb to 3,000 and 6,000 meters with times of 34.52 and 48.78 seconds. Lieutenant Commander John W. Young and Commander David M. Longton piloted the plane on its respective record flights at NAS Brunswick, Maine.

1 March New world climb records to 9,000 and 12,000 meters were established at NAS Brunswick, Maine, when an F4H-1 piloted by Lieutenant Colonel William C. McGraw, USMC, reached those altitudes from a standing start in 61.62 and 77.15 seconds, respectively.

3 March The F4H-1 continued its assault on time-to-climb records at NAS Brunswick, Maine, as Lieutenant Commander Del W. Nordberg piloted the Phantom II to an altitude of 15,000 meters in 114.54 seconds.

31 March Lieutenant Commander F. Taylor Brown piloted the F4H-1 Phantom II at NAS Point Mugu, Calif., to a new world time-to-climb record for 20,000 meters with a time of 178.5 seconds.

3 April Lieutenant Commander John W. Young piloted the F4H-1 to its seventh world time-to-climb record by reaching 25,000 meters in 230.44 seconds at NAS Point Mugu, Calif.

McGraw, Longton, Nordberg and Young set five F4H time-to-climb records at NAS Brunswick 711031

F4H-1 completed time-to-climb record sweep in project high jump 1143454

1962—Continued

12 April The F4H-1 made a clean sweep of world time-to-climb records as Lieutenant Commander Del W. Nordberg piloted a Phantom II at Point Mugu, Calif., on a climb to 30,000 meters in 371.43 seconds. Speed attained was better than 3 miles per minute, straight up.

30 April The Naval Air Research and Development Activities Command was disestablished and responsibility for overall management and coordination of the aeronautical research and development activities in the Third and Fourth Naval Districts was returned to the Bureau of Naval Weapons.

10 May A Sparrow III fired from an F4H-1 scored a direct hit in a head-on attack on a Regulus II missile while both were at supersonic speed. The interception, made in the test range of the Naval Air Missile Center at Point Mugu, Calif., was the first successful head-on attack made by an air-launched weapon on a surface launched guided missile.

22 May The Navy's first space satellite command, the Navy Astronautics Group, was established at the Pacific Missile Range Headquarters, Point Mugu, Calif., under command of Commander James C. Quillen, Jr. In addition to its other duties, the new command was given responsibility for operating the Transit Navigational System being developed by the Navy for the Department of Defense.

24 May Lieutenant Commander M. Scott Carpenter in *Aurora 7* was launched into orbit from Cape Canaveral, Fla., on the second U.S. manned orbital flight. Upon completing three orbits he returned to earth, landing in the Atlantic 200 miles beyond the planned impact area. He was located by a Navy P2V, assisted by para-rescue men, dropped from an Air Force RC-54 and, after almost three hours in the water, picked up by an HSS helicopter from *Intrepid* and returned safely to the carrier. His capsule was retrieved by *John R. Pierce* (DD 753).

29 May Vice Admiral Patrick N. L. Bellinger, USN (Ret.), died in Clifton Forge, Va. His long and distinguished career as Naval Aviator No. 8 began on 26 November 1912 when he reported for flight training at Annapolis, Md., and ended with his retirement 1 October 1947 while serving on the General Board. As one of the pioneers in Naval Aviation, he conducted many experiments, scored a number of "firsts" and made several record flights.

1 June The final report on the titanium alloy sheet rolling program was issued by the Materials Advisory Board of the National Research Council, thereby terminating this program as a formally organized effort. Achievements of the program during the six years included acquiring metallurgical and engineering data for a number of titanium alloys and familiarizing the aerospace industry with their properties and methods of fabrication. High strength, heat-treated sheet alloys developed under this program were soon utilized in a number of aircraft including the A-7, later models of the F-4, the Air Force SR-71 and in deep submergence vehicles used in oceanographic research. The success of this effort also led to the establishment of a similar refractory metal sheet rolling program to develop metals for use at extremely high temperatures.

A-7 attack plane carries bombs and missiles NH69970

26 June The 1,500-mile-range Polaris A-2 missile became operational as *Ethan Allan* (SSBN 608) departed Charleston, S.C. carrying 16 of the A-2 missiles.

29 June A Polaris missile was fired 1,400 miles down range from Cape Canaveral, Fla., carrying the new bullet-nose shape to be used in the A-3 advanced Polaris. The first flight model of the A-3 was successfully fired from the same base on 7 August 1962.

1 July The commands Fleet Air Patuxent and Naval Air Bases, Potomac River Naval Command were established and assigned as additional duty to Commander Naval Air Test Center, Patuxent River, Md.

1 August Squadrons of the Naval Air Reserve that had been called up in October 1961, were released to inactive duty, reducing the strength of the naval air operating forces by 18 squadrons and 3,995 officers and men.

1962—Continued

31 August The passing of an era was marked at NAS Lakehurst, N.J., by the last flight of a Navy airship. The flight also marked the end of a year's service by the two airships kept in operation after the discontinuance of the lighter-than-air program for use as airborne aerodynamics and research laboratories in the development of VTOL/STOL aircraft and ASW search systems. Pilots on the last flight were Commanders Walter D. Ashe and Robert Shannon and the passengers included lighter-than-air stalwarts Vice Admiral Charles E. Rosendahl, USN (Ret.), and Captain Fred N. Klein, USN (Ret.). Many lighter-than-air men from many parts of the country were on hand to observe and to lend a hand in docking the airship after its last flight. This ended a 45-year LTA saga that began with the DN-1, the Navy's first airship.

12 September A Grumman Albatross, UF-2G, piloted by Lieutenant Commander Donald E. Moore, climbed to 29,460 feet over Floyd Bennett Field, N.Y., and set a new world altitude record for amphibians carrying a 1,000 kilogram load. On the same day, Lieutenant Commander Fred A. W. Franke, Jr., piloted the Albatross to a new record for amphibians with a 2,000 kilogram load with a climb to 27,380 feet.

15 September Lieutenant Commander Richard A. Hoffman, piloting a Grumman Albatross, UF-2G, set a new world 5,000 kilometer speed record for amphibians carrying a 1,000 kilogram load with a speed of 151.4 mph on a course from Floyd Bennett Field to Plattsburgh, N.Y., to Dupree, S. Dak., and return to Floyd Bennett Field, N.Y.

17 September Nine pilots selected to join the nation's astronauts were introduced to the public at Houston, Tex. The three Navy men on the new team were: Lieutenant Commander James A. Lovell, Jr., Lieutenant Commander John W. Young, and Lieutenant Charles Conrad, Jr.

18 September A joint Army-Navy-Air Force regulation was issued establishing a uniform system of designating military aircraft similar to that previously in use by the Air Force. By it, all existing aircraft were redesignated using a letter, dash, number, and letter to indicate in that order, the basic mission or type of aircraft, its place in the series of that type, and its place in the series of changes in its basic design. Under the system, the Crusader, formerly designated F8U-2, became the F-8C indicating the third change (C) in the eighth (8) of the fighter (F) series. Provision was also made for indicating status of the aircraft and modifications of its basic mission by prefix letters. Thus the YF8U-1P became the YRF-8A symbolizing a prototype (Y) of the photoreconnaissance (R) modification of the F-8A aircraft.

3 October *Sigma 7*, piloted by Commander Walter M. Schirra, USN, was launched into orbit by a Mercury-Atlas rocket from Cape Canaveral, Fla., and after nearly six orbits and a flight of over 160,000 miles, landed in the Pacific, 275 miles northeast of Midway Island. Helicopters dropped UDT men near the capsule and it and Commander Schirra were hoisted aboard *Kearsarge.*

Schirra emerges from Mercury 8 on recovery ship Kearsarge NH69950

Response to space stimuli is studied 110522

1962—Continued

8 October To strengthen the air defense of the southeastern United States, VF-41, equipped with F-4B Phantoms, was transferred from NAS Oceana, Va., to NAS Key West, Fla., for duty with the U.S. Air Force in the North American Air Defense Command (NORAD).

16 October The Chief of Naval Operations directed that a few helicopters be converted to aerial minesweepers for use in a mine countermeasures development and training program and eventual assignment to fleet squadrons. The RH-46A (HRB-1) was initially designated for this conversion but the RH-3A (HSS-2) was later substituted.

17 October VMA-225 completed a two-way crossing of the Atlantic between MCAS Cherry Point, N.C., and NS Rota, Spain. Lieutenant Colonel Edwin A. Harper, USMC, led the flight of 16 A-4C Skyhawks (A4D) which left Cherry Point on the 8th, flew to Bermuda and directly to Rota. After a brief layover, the flight returned to Cherry Point by way of Lajes in the Azores and Bermuda. Refueling on both east and west flights was provided by 10 Marine KC-130F Hercules tankers of VMGR-252.

19 October As operational units began moving to patrol stations in Florida to counter the threat posed by missiles and bombers in Cuba, all aircraft and squadrons not required for air defense, reconnaissance and antisubmarine patrol were relocated to prevent overcrowding.

23 October VFP-62, which had been flying photo reconnaissance over the missile sites in Cuba since the 15th, flew the first low-level photo mission over Cuban territory. For its outstanding accomplishment during this crisis, in the period 15 October–26 November 1962, this squadron was awarded the Navy Unit Commendation which was presented personally by the president on 26 November 1962.

24 October As the president imposed a blockade of Cuba which he had announced in his TV broadcast two days earlier, ships of the blockading force were in position at sea, *Enterprise*, *Independence*, *Essex* and *Randolph*, and shore-based aircraft were in the air, patrolling their assigned sectors. On the same day the service tours of all officers and enlisted men were extended indefinitely.

31 October The geodetic satellite Anna, developed for the Department of Defense under Bureau of Naval Weapons management, was placed into orbit from Cape Canaveral, Fla. The Anna satellite contained three independent sets of instrumentation to validate geodetic measurements taken by several organizations participating in the Anna worldwide geodetic research and mapping program.

5 November Two Marine Corps helicopter squadrons began, as additional duty, a transition training program in which some 500 Marine aviators qualified in fixed-wing aircraft would be trained to operate helicopters. The need for the special program arose from the increased proportion of helicopters in the Marine Corps, coupled with an overall shortage of pilots and the inability of the Naval Air Training Command to absorb the additional training load within the time schedule allotted.

20 November As agreement was reached over the removal of missiles and bombers from Cuba, the naval blockade was discontinued and the ships at sea resumed their normal operations. Next day, the extensions of service ordered in October were cancelled.

30 November The Bureau of Naval Weapons issued a contract to the Bell Aerosystems Co., for construction and flight test of two VTOL research aircraft with dual tandem-ducted propellers. Thereby the tri-service VTOL program was expanded to include a tilting duct craft to be developed under Navy administration in addition to the tilting wing XC-142 and the tilting engine X-19A both of which were administered by the Air Force.

1 December Two new commands, Fleet Air Caribbean and Naval Air Bases, Tenth Naval District, were established and assigned as additional duty to Commander, Caribbean Sea Frontier.

14 December The Naval Air Material Center at NAS Lakehurst, N.J., was renamed Naval Air Engineering Center.

18 December Transit 5A, a prototype of the Navy's operational navigation satellite, was launched into a polar orbit by a four-stage Blue Scout rocket fired at the Naval Missile Facility, Point Arguello, Calif. The satellite's radio failed after 20 hours in orbit and prevented its utilization for navigation purposes. However, certain secondary experiments were successful.

19 December An E-2A piloted by Lieutenant Commander Lee M. Ramsey was catapulted off *Enterprise* in the first shipboard test of nose-tow gear designed to replace the catapult bridle and reduce launching intervals. Minutes later the second nose-tow launch was made by an A-6A.

E-2A is used for early warning and to control tactical aircraft 1143451

1963

7–13 January Helicopters from NAS Port Lyautey, Morocco, NS Rota, Spain and *Springfield* (CLG 7) flew rescue and relief missions in the flooded areas of Beth and Sebou Rivers in Morocco. Over 45,000 pounds of food, medicines and emergency supplies were flown in and some 320 marooned persons were lifted to safety.

29 January A Walleye television glide bomb, released from a YA-4B, made a direct impact on its target at the Naval Ordnance Test Station, China Lake, Calif., in the first demonstration of its automatic homing feature.

9 February The Secretary of the Navy approved with minor modification the recommendations of his Advisory Committee on the Review of the Management of the Department of the Navy, commonly known as the Dillon Board for its chairman John H. Dillon. With this approval, he set into motion a series of changes in lines of authority and responsibility that would be implemented during the year, most of which were outlined in a General Order issued on 1 July 1963.

22 February An LC-130F Hercules of VX-6 made the longest flight in Antarctic history covering territory

Walleye, a missile that sees 1112651

1963—Continued

never before seen by man. The plane which was piloted by Commander William H. Everett and carried Rear Admiral James R. Reedy among its passengers, made the 3,470 mile flight from McMurdo Station, south beyond the South Pole to the Shackleton Mountain Range and then southeastward to the pole of inaccessibility and returned to McMurdo in 10 hours and 40 minutes.

25 February The transmitter in the Navy-developed Solar Radiation I satellite was restarted after 22 months of silence. Launched 22 June 1960 with Transit 2A in the first of the pickaback firings, the 42-pound satellite provided detailed data on solar storms for eight months and was turned off on signal from earth on 18 April 1961 when magnetic drag reduced the satellite's spin to a level too low for useful scanning of the sun.

8 March The Department of Defense and National Aeronautics and Space Administration (NASA) announced an agreement establishing working arrangements concerning the nonmilitary applications of the Transit navigation satellite system. Under it NASA assumed responsibility for determining the suitability of Transit equipment for nonmilitary purposes, while the Navy retained its responsibility for overall technical direction and for research and development as necessary to meet and support military requirements.

1 April To bring their title in line with their functions, Replacement Air Groups (RAG) were redesignated Combat Readiness Air Groups (CRAG).

8 May The Air Force announced that two squadrons of A-1E Skyraiders would be added to the 1st Air Commando Group at Hurlburt AFB, Fla. This decision followed field tests of two Skyraiders loaned by the Navy in mid-1962 and led to a further decision, announced by the Secretary of the Air Force in May 1964, that 75 Skyraiders would be sent to Vietnam as replacements for B-26 and T-28 aircraft employed there by the 1st Air Commando Wing.

16 May *Kearsage* recovered Major L. Gordon Cooper, USAF, and his *Faith 7* capsule, 80 miles southeast of Midway, after his 22-orbit flight.

13 June Lieutenant Commanders Randall K. Billings and Robert S. Chew, Jr., of NATC Patuxent River, Md., piloting an F-4A Phantom II and an F-8D Crusader aircraft, made the first fully automatic carrier landings with production equipment on board *Midway* off the California coast. The landings, made "hands off" with both flight controls and throttles operated automatically by signals from the ship, highlighted almost 10 years of research and development and followed by almost 6 years the first such carrier landing made with test equipment.

20 June The last student training flight in the P-5 Marlin by VT-31 at NAS Corpus Christi, Tex., marked the end of the seaplane in the flight training program. The pilot and instructor was Lieutenant Phillip H. Flood; the student was Ensign Arnold J. Hupp.

29 June FAW-10 was established at NAS Moffett Field, Calif., Captain John B. Honan commanding.

1 July General Order No. 5 set forth new policies and principles governing the organization and administration of the Navy and directed their progressive implementation. It redefined the principal parts of the Navy, adding a Naval Military Support Establishment as a fourth part under a Chief of Naval Material, responsible directly to the Secretary of the Navy and with command responsibilities over the four material bureaus and major project managers and an overall task of providing material support to the operating forces of the Fleet and the Marine Corps.

1 August VMF (AW) squadrons equipped with F-4B aircraft were redesignated VMFA squadrons.

2 August Shortly after midnight, an F-3B Demon piloted by Lieutenant Roger Bellnap, launched the first of a series of five planned space probes designed to measure the ultraviolet radiation of the stars. The probe, a two-stage solid-propellant Sparroair, was launched from a nearly vertical altitude at 30,000 feet over the Pacific Missile Range and reached a peak altitude of 66 miles.

23–24 August In a joint Weather Bureau-Navy project titled Stormfury, a Navy A-3B Skywarrior piloted by Commander John F. Barlow of VAH-11 seeded Hurricane Beulah with silver iodide particles in an experiment to determine whether the energy patterns of large storms could be changed. Although the second day seedings appeared to have some effect, results were considered too indefinite to draw firm conclusions.

6 September Five SH-3A helicopters of HS-9 based at NAS Quonset Point, R.I., rescued 28 workmen from two Texas Towers oilwell platforms shaken by gales and heavy seas off Cape Cod, Mass.

18 September To provide the continuing action necessary for effective management of the inactive air-

1963—Continued

craft inventory, an informal Review Board was established with representation from CNO, the Bureau of Naval Weapons, the Aviation Supply Office, and the storage facility at Litchfield Park, Arizona, to review the inventory at least every six months for the purpose of recommending the retention or disposal of specific models.

18 October The selection of 14 men for a new astronautic team was announced by NASA. Among those chosen were five naval aviators: Lieutenant Commander Richard F. Gordon, Jr., Lieutenant Commander Roger B. Chaffee, Lieutenant Alan L. Bean, Lieutenant Eugene A. Cernan, and Captain Clifton C. Williams, USMC.

25 October Navy ships and aircraft began departing from Port-au-Prince after nearly two weeks of relief operations in Haiti, laid waste by Hurricane Flora. Four Navy ships, including the carrier *Lake Champlain* and the amphibious assault ship *Thetis Bay*, aided by Navy and Marine Corps cargo aircraft from east coast stations, delivered nearly 375 tons of food, clothing and medical supplies donated by relief agencies, and provided other assistance to the stricken populace.

26 October The long range A-3 Polaris missile was launched for the first time from *Andrew Jackson* (SSBN 619), a submerged submarine, cruising about 30 miles off Cape Canaveral, Fla.

8 November During 8, 21 and 22 November, Lieutenant James H. Flatley III, and his crew members, Lieutenant Commander Smokey Stovall and ADJ1 Ed Brennan, made 21 full-stop landings and takeoffs in a C-130F Hercules on board *Forrestal*. From this test the Navy concluded that the C-130 could carry 25,000 pounds of cargo and personnel 2,500 miles and land on a carrier. However, the C-130 was considered too risky for use in routine COD operations.

30 November The Secretary of Defense approved use of funds effective 1 July 1964, for the purpose of placing Naval Aviation Observers in the same pay status as pilots.

2 December The Chief of Naval Material reported to the Secretary of the Navy for duty as his assistant for Naval Material Support and assumed supervision and command of the four material bureaus—Naval Weapons, Ships, Supplies and Accounts, and Yards and Docks.

6 December Transit 5BN-2 was launched into polar orbit by a Thor-Able-Star rocket from Vandenberg AFB, Calif. This, the first navigation satellite to become operational, provided data for use by surface and submarine forces.

20 December Carrier Air Groups (CVG), were redesignated Carrier Air Wings (CVW).

21 December *Saratoga* began receiving weather pictures from the Tiros 8 weather satellite while moored at Mayport, Fla. This was the start of an operational investigation of shipborne readout equipment in which *Saratoga* continued to receive test readings from Tiros, in port and at sea, through May 1964 and from the experimental weather satellite Nimbus in September 1964.

1964

1 January Fleet Air Wings, Pacific was established with Rear Admiral David J. Welsh in command.

1 January The last three seaplane tenders under Commander, Naval Air, Atlantic (COMNAVAIRLANT), *Duxbury Bay*, *Greenwich Bay* and *Valcour,* were transferred to Cruiser-Destroyer Force Atlantic. Although the employment of these ships as seaplane tenders had been secondary to their use as flagships for Commander, Middle East Force, for several years, this transfer was the final step in the phaseout of patrol seaplanes in the Atlantic Fleet.

15 January The commands Fleet Air Southwest Pacific and Fleet Air Japan were disestablished.

15 January Carrier Divisions 15, 17, and 19 were designated Antisubmarine Warfare Groups 1, 3, and 5 respectively and transferred from Commander, Naval Air, Pacific (COMNAVAIRPAC) to Commander, Antisubmarine Warfare Force, Pacific (COMASWFORPAC) for administrative control. Mission of the new groups was to develop antisubmarine carrier group tactics, doctrine and operating procedures including coordination with patrol aircraft operations.

17 February An Office of Antisubmarine Warfare Programs was established under the Chief of Naval Operations to exercise centralized supervision and coordination of all antisubmarine warfare planning, programming and appraising.

28 February A helicopter piloted by Commander Dale W. Fisher of HU-1 made the first landing on the deck of the combat store ship *Mars* (AFS 1) during her

1964—Continued

shakedown cruise off San Diego. Although the concept of vertical replenishment at sea had been discussed and tested as early as 1959 and helicopter platforms had been installed on certain logistics ships since then, commissioning of *Mars* provided the first real opportunity to incorporate the helicopter into the fleet logistic support system.

9 March A ceremony was held at the David Taylor Model Basin Aerodynamics Laboratory commemorating the 50th anniversary of its establishment. Originally set up at the Washington Navy Yard, the Laboratory was moved to its present location at Carderock, Md., in 1944. Captain Walter S. Diehl, USN (Ret.), an aerodynamics authority of world repute, attended the ceremony and received a citation for his outstanding contributions to the work of the Laboratory.

13 March Instructions were issued to redesignate all Heavy Attack Squadrons, VAH, upon assignment of RA-5C aircraft, as Reconnaissance Attack Squadrons, RVAH.

23 March Two Marine helicopter crews of VMO-1 rescued 11 sick, injured and wounded members of a road engineering party that had survived attacks by hostile Indians in the dense jungle of the Amazon basin near Iquitos, Peru. Their helicopters were transferred ashore in the Canal Zone from *Guadalcanal* and were airlifted to Iquitos by a U.S. Air Force C-130.

28 March Within five hours after a devastating earthquake struck in Alaska, the seaplane tender *Salisbury Sound* was underway from NAS Whidbey Island, Wash., to render assistance and P-3A Orions and C-54 Skymasters, moving up from Moffett Field, Calif., were en route with emergency supplies. For 14 days the ship provided power and heat to the severely damaged Naval Station at Kodiak while its crew served in many capacities to help people on shore.

1 April The last of 15 astronauts completed a helicopter flight familiarization program at Ellyson Field, as a phase of their training for lunar landings. The training was designed to simulate the operation of the Lunar Excursion Module of Project Apollo. Instituted by the Navy at the request of NASA, the program was scheduled in a series of two-week courses for two students and had been in progress since 12 November 1963.

4 April Commanded by Rear Admiral Robert B. Moore, the Concord Squadron composed of *Bon Homme Richard*, *Shelton* (DD 790), *Blue* (DD 744), *Frank Knox* (DD 742), and fleet oiler *Hassayampa* (AO 145) of Seventh Fleet, entered the Indian Ocean from the Pacific and began a six-week cruise which carried it near Iran, the Arabian peninsula, down the African Coast and into many ports along the way for goodwill visits.

23 April The Chief of Naval Operations broadened the opportunities for Naval Aviators to qualify as helicopter pilots by extending responsibilities for transition training to commands outside the Flight Training Command.

1 May A P-3A Orion, commanded by Captain Paul L. Ruehrmund of VX-1, returned to NAS Key West,

P-3, newest antisubmarine patrol aircraft NH 69967

1964—Continued

Fla., completing an 18-day, 26,550 nautical mile flight which, in several stages, carried it around the world. On the over-water leg of the flight, the plane dropped explosive sound signals to assist Naval Ordnance Laboratory scientists studying the acoustical properties of the sea as a medium for sound transmission over long distances.

7 May The Chief of Naval Operations informed the Chief of Naval Personnel of an agreement by which the U.S. Air Force and U.S. Coast Guard would train Navy pilots in the techniques of operating HU-16 seaplanes in Search and Rescue and requested its implementation.

24 June PHC Clara B. Johnson of VU-7 was designated an aerial photographer and became the first WAVE with the right to wear the wings of an aircrewman.

26 June An LC-130F Hercules, commanded by Lieutenant Robert V. Mayer of VX-6, completed a round-trip flight from Christchurch, New Zealand, to Antarctica in an emergency evacuation of Petty Officer B. L. McMullen, critically injured in a fall. Two planes, with teams of medical specialists on board, flew from NAS Quonset Point, R.I., to Christchurch where one plane stood by while the other undertook the hazardous flight.

29 June A new specification for the color of naval aircraft was issued which changed the color scheme for patrol aircraft assigned to antisubmarine work to gull gray with white upper fuselage.

1 July The Pacific Missile Range facilities at Point Arguello, Calif., and on Kwajalein Atoll were transferred from Navy to Air Force and Army command, respectively.

2 August North Vietnam motor torpedo boats that attacked *Maddox* (DD 731) patrolling international waters in the Gulf of Tonkin, were damaged and driven off by ships gunfire and rocket and strafing attacks by aircraft from *Ticonderoga*.

5 August On orders from the president to take offensive action toward preserving our right to operate in international waters, aircraft from Seventh Fleet carriers *Constellation* and *Ticonderoga* attacked motor torpedo boats and their supporting facilities at five locations along the North Vietnam coast. In 64 attack sorties against the concentrations, these aircraft sank or seriously damaged 25 boats and destroyed a major part of their petroleum stores and storage facilities.

15 August The president announced existence of a program to develop a counterinsurgency (COIN) airplane designed to perform a variety of missions in peace and war. The Navy Department, as the designated Department of Defense development agency, selected North American Aviation Co., as the contractor for construction of the prototype, later assigned for designation OV-1OA and the name Bronco.

29 August *Boxer* and two LSDs arrived off the coast of Hispaniola to give medical aid and helicopter evacuation services to people in areas of Haiti and the Dominican Republic badly damaged by Hurricane Cleo.

28 September The Polaris A-3, Fleet Ballistic Missile, became operational as *Daniel Webster* (SSBN 626) departed Charleston, S.C., with a full load of the new missiles.

30 September Three ski-equipped LC-130 Hercules aircraft of VX-6 took off from Melbourne, Australia; Christchurch, New Zealand and Puntan Arenas, Chile, respectively, and made flights to Antarctica, landing on Williams Field at McMurdo Sound. The flight from Melbourne, the first in history from Australia to Antarctica, passed over the South Pole to drop a 50-pound sack of mail to the wintering-over party, then landed at Byrd Station before proceeding to McMurdo Sound. The arrival of Rear Admiral James R. Reedy, Commander Naval Support Forces, Antarctica, on this flight, on 1 October, marked the official opening of Operation Deep Freeze '65.

1 October *Franklin* (AVT 8), formerly CVS, CVA and CV 13, was stricken from the Navy Register—first of the World War II Essex Class carriers to be labeled unfit for further service.

3 October Operation Sea Orbit ended as *Enterprise* and *Long Beach* (CGN 9) arrived at Norfolk and *Bainbridge* (CGN 7) reached Charleston, S.C. This task force, the world's first composed entirely of nuclear powered ships, left Gibraltar on 31 July, sailed down the Atlantic and around Africa, across the Indian and Pacific Oceans, and around Cape Horn, completing a 65 day and 30,216 nautical mile round-the-world cruise without taking on either fuel or provisions.

17 November Helicopters of HMM-162 from *Princeton*, began delivery of 1,300 tons of food and clothing to people in the inland areas of South Vietnam flooded by heavy rains following a typhoon.

1964—Continued

26 November Nine helicopters of HU-2 and four from NAS Lakehurst, N.J., assisted the Coast Guard in the rescue of 17 men from the Norwegian tanker *Stolt Dagali* cut in two by collision with the Israeli liner *Shalom* off the New Jersey coast.

17 December Commander Theodore G. Ellyson, Naval Aviator No. 1, was enshrined in the National Aviation Hall of Fame at Dayton, Ohio—first naval officer to be so honored.

1965

1 January In accordance with the provision of General Orders prescribing the organization and administration of the Navy, all Naval Air Bases Commands were disestablished.

12 January The Department of Defense announced that the Transit all-weather navigation satellite system had been in operational use since July 1964. This system, when completely developed, would consist of four satellites in polar orbit and would provide a ship at the equator with a navigational fix once an hour.

19 January *Lake Champlain* recovered an unmanned Project Gemini space capsule launched from Cape Kennedy, Fla., in a suborbital flight 1,879 miles down the Atlantic Missile Range and within 23 miles of the carrier.

7 February In retaliation for a damaging Viet Cong attack on installations around Pleiku, a fighter-bomber strike, launched from the carriers *Ranger, Coral Sea,* and *Hancock,* blasted the military barracks and staging areas near Dong Hoi in the southern sector of North Vietnam.

8 February The title and designation of Naval Aviation Observers, 135X, were changed to Naval Flight Officers, 132X, to be effective 1 May.

6 March A Sikorsky SH-3A helicopter, piloted by Commander James R. Williford, took off from *Hornet* berthed at North Island, Calif., and 15 hours and 51 minutes later landed on *Franklin D. Roosevelt* at sea off Mayport, Fla. The flight surpassed the existing distance record for helicopters by more than 700 miles.

8 March With surface and air units of Seventh Fleet standing by, 3,500 Marines, including a helicopter squadron and supporting units, landed without opposition at Da Nang, an air base near the northern border of South Vietnam.

12 March Four enlisted men completed 24 days of living in a rotating room in a test conducted at Pensacola, Fla., by the Naval School of Aviation Medicine to determine the spinning rate men can endure without discomfort and to check out procedures for conditioning men for space flight.

23 March Astronauts Virgil Grissom and John Young landed their *Gemini 3* spacecraft east of Bermuda roughly 50 miles from the intended splash point. The craft was spotted by Coast Guard helicopter about 20 minutes after the landing and within an hour the two astronauts were picked up by helicopter and delivered to *Intrepid*.

26 March Seventh Fleet air units began their participation in Operation Rolling Thunder, a systematic bombing of military targets throughout North Vietnam waged by land and ship based air, as pilots from the carriers *Coral Sea* and *Hancock* launched strikes on island and coastal radar stations in the vicinity of Vinh Son.

15 April Carrier pilots of Seventh Fleet joined the battle in South Vietnam with a strike against Viet Cong positions near Black Virgin Mountain. Their attack was so successful that future in-country missions were assigned to Seventh Fleet, and to carry them out, one carrier was normally operated at what was called Dixie Station off the coast of South Vietnam. Dixie operations continued from 20 May 1965 to 4 August 1966 when land-based air was well enough established to handle most of the required air attacks in that area.

19 April Six Navy and two Marine Corps aviators emerged from two sealed chambers at the Aerospace Crew Equipment Laboratory, Philadelphia, Pa., after a 34-day test to learn the physical effect of prolonged stays in confined quarters and a low-pressure pure oxygen atmosphere.

27 April As revolt in the Dominican Republic threatened the safety of American nationals, *Boxer* sent her Marines ashore while embarked helicopter pilots of HMM-264 began an airlift in which over 1,000 men, women and children were evacuated to ships of the naval task force standing by.

10 May Seaspar, a surface-to-air version of the Sparrow III air-to-air missile, was fired in the Pacific Missile Range test area from *Tioga County* (LST 1158) on its first shipboard test.

12 May Some 1,400 men of the 3rd Battalion, 3rd Marines landed at Chu Lai, South Vietnam, from *Iwo Jima* and an APA and LSD.

1965—Continued

18 May Members of the Naval Air Reserve began a volunteer airlift supporting operations in Vietnam. On weekend and other training flights from their home stations to the west coast, Hawaii, and Southeast Asia, these pilots and crews, flying C-54 and C-118 aircraft of the Air Reserve, carried key personnel and urgently needed cargo to the combat zone, logging over 19,000 flight hours in the first 18 months of the operation.

1 June The new Marine Corps expeditionary airfield at Chu Lai, South Vietnam, 52 miles south of the major base at DaNang, became operational as the first aircraft arrived and the first combat missions took off from the strip.

7 June The *Gemini 4* spacecraft of J. A. McDivitt and E. H. White splashed down in the Atlantic about 40 miles off target after a four-day flight. Minutes later Navy frogmen dropped from a helicopter to attach the flotation collar and in less than an hour after landing the astronauts were aboard *Wasp* which had kept position for possible landings in each orbit since blastoff on 4 June.

17 June While escorting a strike on the barracks at Gen Phu, North Vietnam, Commander Louis C. Page and Lieutenant Jack E. D. Batson, flying F-4B Phantoms of VF-21 and *Midway*, intercepted four MiG-17s and each shot down one, scoring the first U.S. victories over MiGs in Vietnam.

17 June *Independence* with CVW-7 on board, arrived at Subic Bay for duty with Seventh Fleet. Her arrival, from the Atlantic Fleet around the tip of Africa, added a fifth attack carrier to naval forces operating off Vietnam.

Independence with fighters on forward deck 1047141

1965—Continued

23 June In an unusual mission for ships of her type, the seaplane tender *Currituck* carried out a shore bombardment of Viet Cong positions in the Mekong Delta area of South Vietnam.

30 June Seven years after its establishment, the Pacific extension of Dewline ceased to operate and Barrier Force, Pacific and Airborne Early Warning Barrier Squadron, Pacific went out of existence.

1 July FAW-8 was established at NAS Moffett Field, Calif., Captain David C. Kendrick commanding.

1 July The Navy's first Oceanographic Air Survey Unit (OASU) was established at NAS Patuxent River, Md., Commander Harold R. Hutchinson commanding. Tasks assigned included aerial ice reconnaissance in the North Atlantic and Polar areas and aerial operations concerned with worldwide magnetic collection and observation, known as Project Magnet.

1 July Helicopter Utility Squadrons (HU) were redesignated Helicopter Combat Support Squadrons (HC) and Utility Squadrons (VU) were redesignated Fleet Composite Squadrons (VC) as more representative of their functions and composition.

14 July *Yorktown* left San Diego for Subic Bay on a turnaround trip to deliver urgently needed materials to forces operating in and around South Vietnam.

13 August To achieve the increase in personnel necessary to carry out missions created by the requirements of a deteriorating international situation, a temporary policy was established which deferred the separation of officers and enlisted men from active service.

26 August The barrier air patrol over the North Atlantic ended as an EC-121J Warning Star of VW-11 landed at Keflavik, Iceland. The landing also signaled a change in which a new and advanced radar system took over from the aircraft and men of Naval Aviation who for the past 10 years had maintained constant vigil over the northern approaches to the American continent.

29 August *Gemini 5* splashed down into the Atlantic 90 miles off target after a record breaking eight-day space flight, and 45 minutes later Navy frogmen helped astronauts Gordon Cooper and Charles Conrad out of their space capsule and aboard a helicopter for flight to the prime recovery ship *Lake Champlain*.

31 August President Johnson approved a policy on the promotion and decoration of astronauts by which each military astronaut would receive, upon the completion of his first space flight, a one grade promotion up to and including colonel in the Air Force and Marine Corps and captain in the Navy, and Gemini astronauts completing a successful space flight would receive the NASA Medal for Exceptional Service (or cluster).

1 September In accord with the provision of an act of Congress, the Secretary of the Navy authorized additional pay to flight deck personnel for duty performed in the hazardous environment of flight operations on the decks of attack and antisubmarine carriers.

11 September Lead elements of the First Cavalry Division, U.S. Army, with their helicopter and light observation aircraft, went ashore at Qui Nhon, South Vietnam, from *Boxer* in which they had been transported from Mayport, Fla., by way of the Suez Canal.

24 September As the accelerated frequency of manned space flights placed increasing demands upon Navy recovery capabilities, a flag officer was designated CNO Representative and Navy Deputy to the DOD Manager for Manned Space Flight Support Operations and given additional duty as Commander, Manned Space Recovery Force, Atlantic. His assigned mission was to coordinate and consolidate operational requirements with all commands providing Navy resources in support of manned space flights.

14 October The A-1, 1,200 nautical mile range, Polaris missile was retired from duty with the return of *Abraham Lincoln* (SSBN 602) to the United States for overhaul and refitting with the 2,500 nautical mile range Polaris A-3.

15 October To expand Pacific airlift capabilities, VR-22 was moved from its base at NAS Norfolk to the west coast at NAS Moffett Field, Calif.

2 December The nuclear powered *Enterprise,* carrying the largest air wing (CVW-9) deployed to the western Pacific to that time, joined the action off Vietnam with strikes on Viet Cong installations near Bien Hoa.

16 December *Wasp* recovered Captain Walter M. Schirra and Major Thomas P. Stafford, USAF, in their *Gemini 6A* spacecraft one hour after their landing in the western Atlantic about 300 miles north of Puerto Rico. The astronauts had completed a one-day flight

1965—Continued

during which they made rendezvous with *Gemini 7* and kept station with it for three and one-half orbits.

18 December Helicopters of HS-11 recovered Lieutenant Colonel Frank Borman, USAF, and Commander James A. Lovell, in the western Atlantic about 250 miles north of Grand Turk Island and delivered them to *Wasp*. During their 14-day flight in *Gemini 7*, the astronauts carried out many experiments in space, including station keeping with *Gemini 6A*, and established a new duration record for manned space flight.

20 December The Secretary of the Navy established a Director of Naval Laboratories on the staff of the Assistant Secretary for Research and Development and directed that he also serve as Director of Laboratory Programs in the Office of Naval Material. Subsequently, administrative responsibility for laboratories was transferred to this dual office while test and evaluation facilities, such as Naval Air Test Center, Naval Missile Center, and Naval Air Engineering Center were placed under the command of the Naval Air Systems Command.

1966

20 January A contract for production of the Walleye television homing glide bomb was issued to the Martin Marietta Corporation.

26 February The first unmanned spacecraft of the Apollo series, fired into suborbital flight by a Saturn 1B rocket from Cape Kennedy, Fla., was recovered in the southeast Atlantic 200 miles east of Ascension Island by a helicopter from *Boxer*.

1 March The Naval Air Transport Wing, Atlantic was disestablished.

2 March *Constellation* began receiving weather data from the operational weather satellite Essa 2. Her equipment was the second experimental shipboard installation of receivers capable of presenting a picture of major weather patterns taken from space and its evaluation was a continuation of that begun on board *Saratoga* with the satellites Tiros 8 and Nimbus in late 1963 and 1964.

16 March *Leonard F. Mason* (DD 852) recovered astronauts Neil A. Armstrong and David R. Scott in *Gemini 8*, who after completing the first space docking with another satellite, experienced control difficulties which necessitated an emergency landing in the Pacific 500 miles east of Okinawa.

17 March The X-22A VTOL research aircraft made its first flight at Buffalo, N.Y.

X-22A, for vertical takeoff and landing 1111306

31 March Flight test of a Helicopter Capsule Escape System, involving recovery of personnel by separation of the inhabited section of the fuselage from the helicopter proper, demonstrated the feasibility of its use during inflight emergencies. The test was conducted at NAF El Centro, Calif., with an H-25 helicopter.

4 April NASA announced selection of 19 men for the Astronaut Team, among whom were 11 who had qualified as Naval Aviators including John S. Bull, Ronald E. Evans, Thomas K. Mattingly, Bruce McCandless II, Edgar D. Mitchell and Paul J. Weitz on active duty in the Navy and Gerald P. Carr and Jack R. Lousma on active duty in the Marine Corps. Don L. Lind (USNR), and Vance D. Brand and Fred W. Haise, Jr. (former Marine pilots), were selected as civilians.

5 April The Secretary of Defense approved a joint request from the Secretaries of the Navy and Air Force that Navy air transport units be withdrawn from the Military Airlift Command. The withdrawal was accomplished by disestablishing Navy units during the first half of 1967.

10 April Two Navy enlisted men, and a Medical Officer and a civilian electronics technician acting as observers, began spinning at 4 rpm in the Coriolis Acceleration Platform of the Naval Aerospace Medical Institute at NAS Pensacola, Fla. It was the beginning of a 4-day test to determine the ability of humans to adapt to a new form of rotation such as may be used in space stations to produce artificial gravity.

1966—Continued

18 April In a reorganization of Naval Air Basic Training Command schools at NAS Pensacola, Fla., the Naval Pre-Flight School was redesignated Naval Aviation Schools Command and six existing schools became departments of the new command. The six schools were: Aviation Officer Candidate, Flight Preparation, Survival Training, Instructor Training, Indoctrination for Naval Academy and NROTC Midshipman, and Aviation Officer Indoctrination.

1 May A reorganization of the Navy Department became effective which placed material, medical, and personnel supporting organizations under command of the Chief of Naval Operations, abolished the Naval Material Support Establishment and its component bureaus and in their place set up the Naval Material Command, composed of six functional, or systems, commands titled: Air, Ships, Electronics, Ordnance, Supply, and Facilities Engineering.

11 May The Commanding Officer of MAG-12 piloted an A-4 Skyhawk on a catapult launch from the Marine Expeditionary Airfield at Chu Lai, Vietnam. It was the first combat use of the new land based catapult capable of launching fully loaded tactical aircraft from runways less than 3,000 feet long.

15 May *Intrepid*, operating as an attack carrier although still classified as an antisubmarine carrier (CVS), joined Seventh Fleet carriers in action off Vietnam. On the first day, her air wing (CVW-10), composed entirely of attack squadrons, flew 97 combat sorties against Viet Cong troop concentrations and supply storage areas around Saigon.

18 May The XC-142A tri-service V/STOL transport made its first carrier takeoffs and landings during tests conducted aboard *Bennington* at sea off San Diego. The tests, including 44 short and six vertical takeoffs, were made with wind over the deck varying from zero to 32 knots. Lieutenant Roger L. Rich, Jr., along with other Navy, Marine, and Army pilots took turns at the controls.

6 June *Wasp* recovered *Gemini 9* astronauts Thomas P. Stafford and Eugene A. Cernan 345 miles east of Cape Kennedy after their 72-hour space flight on which they made successful rendezvous with another satellite and Cernan spent well over an hour outside the spacecraft. The astronauts elected to remain in their space craft during the recovery and were hoisted aboard the carrier.

7 June A C-130 Hercules, piloted by Commander Marion Morris of VX-6, returned to Christchurch, New Zealand, after a flight to McMurdo Station, Antarctica, to evacuate Robert L. Mayfield, UT-2, who had been critically injured in a fall. It was the third emergency air evacuation from Antarctica during the winter night.

16 June An attack by A-4 Skyhawks and F-8 Crusaders from *Hancock* in an area 24 miles west of Thanh Hoa, was the first carrier strike on petroleum facilities since 1964 and the beginning of what became a systematic effort to destroy the petroleum storage system of North Vietnam.

1 July Three North Vietnam torpedo boats came out to attack *Coontz* (DLG 9) and *Rogers* (DD 876) operating about 40 miles off shore on search and rescue missions. Aircraft from *Constellation* and *Hancock* made short work of the attackers, sinking all three with bombs, rockets, and 20mm cannon fire. After the attack, *Coontz* pulled 19 survivors from the water.

19 July The Chief of Naval Operations established the LHA program to bring into being a new concept of an amphibious assault ship. Plans developed through preliminary study envisioned a large multipurpose ship with a flight deck for helicopters, a wet boat well for landing craft, a troop carrying capacity of an LPH and a cargo capacity nearly that of an AKA.

21 July A helicopter assigned to HS-3 from *Guadalcanal* recovered astronauts John W. Young and Michael Collins after their landing in the Atlantic 460 miles east of Cape Kennedy, Fla. The astronauts had

The XC-142A vertical takeoff and landing aircraft during trials aboard Bennington NH 69968

1966—Continued

Helicopters from Wasp approach astronauts E.A. Cernan and T. P. Stafford at end of Gemini 9A flight NASA66H725

Guadalcanal, amphibious assault ship, crew formation recalls its Gemini recovery role NH 69955

1966—Continued

Recovery of Collins and Young NASA66H1030

spent over 70 hours in space, had docked with an Agena satellite and Collins had made a space stand and a space walk.

25 August *Hornet* recovered the second unmanned space craft of the Apollo series after its suborbital flight about 500 miles southeast of Wake Island.

3 September Naval Air Test Center pilots completed a 2 day shipboard suitability trial of the RH-3A helicopter minesweeper aboard *Ozark* (MCS 2) on the open sea. This trial completed the Center's evaluation of the helicopter for the minesweeper role. The following year the ship and a helicopter detachment from newly established HC-6 were utilized in a mine countermeasures development and training program in the Atlantic Fleet and a detachment from HC-7 was prepared for training and operation on *Catskill* (MCS 1) in the Pacific.

8 September An A-3A Skywarrior, equipped with a Phoenix missile and its control system, located, locked on at long range and launched the missile scoring an intercept on a jet target drone. The event occurred over the Navy Pacific Missile Range near San Nicolas Island. Although the Phoenix had been launched successfully before, this was the first full scale test employing all functions of the missile control system.

15 September A helicopter assigned to HS-3 from *Guam* recovered *Gemini 11* astronauts Charles Conrad and Richard Gordon at sea 700 miles off Cape Kennedy, Fla. The recovery marked the end of a three-day mission in space in which the astronauts completed several dockings with an Agena satellite, established a new altitude record of over 850 miles and Gordon made a walk in space.

16 September Helicopters from *Oriskany* rescued the entire crew of 44 men from the British merchant ship *August Moon* as she was breaking up in heavy seas on Pratas Reef 175 miles southeast of Hong Kong.

26 October Fire broke out on the hangar deck of *Oriskany* while operating in the South China Sea off Vietnam, resulting in the loss of 44 officers and men. Heroic efforts by the crew against great odds prevented greater loss of life and damage to the ship.

8 November The Chief of Naval Operations approved a reorganization of the Naval Air Reserve involving the disestablishment of all Air Wing Staffs and establishing in place of each an administrative unit titled Naval Air Reserve Staff and a training unit titled Naval Air Reserve Division (Fleet Air).

15 November *Wasp* made the last recovery of the Gemini program, picking up astronauts James A.

1966—Continued

Lovell, Jr., and Edwin A. Aldrin, Jr., and their spacecraft 600 miles southeast of Cape Kennedy. The astronauts were lifted from their spacecraft to the ship by an SH-3A helicopter of HS-11.

1967

26 February The first application of aerial mining in Vietnam occurred when seven A-6As, led by Commander Arthur H. Barie of VA-35's Black Panthers, planted minefields in the mouths of the Song Ca and Song Giang rivers. This operation was aimed at stopping coastal barges from moving supplies into immediate areas.

1 April The status of Overhaul and Repair Departments at six Navy and one Marine Corps air station was changed to that of separate commands, each titled Naval Air Rework Facility.

12 April A wing insignia for Aviation Experimental Psychologists and Aviation Physiologists was approved. The new design was similar to Flight Surgeons Wings except for use of the gold oak leaf of the Medical Service Corps in place of the leaf with acorn of the Medical Corps.

24 April Seventh Fleet carrier aircraft launched their first strikes on MiG bases in North Vietnam with an attack on Kep Airfield, 37 miles northeast of Hanoi. The attack was delivered by A-6 Intruders and A-4 Skyhawks from *Kitty Hawk* and was followed-up by another A-6 attack the same night. While providing cover for the bombers during the first attack, Lieutenant Commander Charles E. Southwick and Lieutenant Hugh Wisely, flying F-4B Phantom IIs of VF-114, each were credited with a probable MiG-17 kill in aerial combat.

15 May The Chief of Naval Operations directed that a new department titled Aircraft Intermediate Maintenance (AIMD) be established in all operating carriers except the one operating with the Naval Air Training Command. The function of the new department was to assume responsibility for maintenance afloat formerly held by Air Wing and Air Group commanders.

19 May Two A-7A Corsair II aircraft, piloted by Commander Charles Fritz and Captain Alex Gillespie, USMC, made a trans-Atlantic crossing from NAS Patuxent River, Md., to Evreux, France, establishing an unofficial record for long distance, nonrefueled flight by light attack jet aircraft. Distance flown was 3,327 nautical miles; time of flight was seven hours and one minute.

24 May The seaplane tender *Currituck* returned to North Island, Calif., after completing a 10-month tour in the western Pacific and the last combat tour for ships of her type.

Electronics enables A-6 to bomb accurately through clouds 1143448

1967—Continued

8 June Aircraft launched from *America* to aid *Liberty* (AGTR 5) as she was under attack by Israeli aircraft and motor torpedo boats, were called back before reaching their destination when a message of regret and apology was received from Tel Aviv. Commander, Sixth Fleet, then sent medical teams on board destroyers to the scene to aid in caring for the wounded.

18 June The first scheduled winter flight to Antarctica was successfully completed when a Navy LC-130F of VX-6 flying from Christchurch, New Zealand, landed at Williams Field, seven miles from McMurdo Station. Although earlier winter flights had been made to Antarctica as a result of medical emergencies, this was the first planned flight.

30 June Naval Air Transport Wing, Pacific, was disestablished at NAS Moffett Field, Calif.

1 July DODGE satellite was placed into orbit by a Titan III-C fired from Cape Kennedy, Fla. DODGE (an acronym for Department of Defense Gravity Experiment) was developed by the Applied Physics Laboratory under management of the Naval Air Systems Command to provide a three-axis passive stabilization system that could be used on satellites orbiting the earth at synchronous altitudes. In addition to demonstrating the basic feasibility of this form of stabilization, Dodge carried color television cameras and on 25 July made the first full-disc color photograph of the earth.

1 July The title of the Office of the Naval Weather Service was changed to Naval Weather Service Command and its mission modified to ensure fulfillment of Navy meteorological requirements and the Department of Defense requirements for oceanographic analyses; and to provide technical guidance in meteorological matters. On the same date, the Naval Weather Service Division, Op-09B7, was disestablished and its functions assigned to the new command.

1 July Naval Air Propulsion Test Center, with headquarters at Trenton, N.J., was established by merger of the Naval Air Turbine Test Station, Trenton, N.J., and the Aeronautical Engine Laboratory of NAEC Philadelphia, Pa.

19 July Air Transport Squadron Three, last Navy component of the Military Airlift Command, was disestablished at McGuire AFB, N.J., ending an interservice partnership that began in 1948 when Navy and Air Force transport squadrons combined to form the Military Air Transport Service.

29 July Fire broke out on the flight deck of *Forrestal* as aircraft were being readied for launch over Vietnam. Flames engulfed the fantail and spread below decks touching off bombs and ammunition. Heroic effort brought the fires under control, but damage to aircraft and the ship was severe and the final casualty count was 132 dead, two missing and presumed dead, and 62 injured.

29 July The vice president announced that the Navy Navigation Satellite System, Transit, would be released for use by merchant ships and for commercial manufacture of shipboard receivers.

15 August The Aircraft Carrier Safety Review Panel held its first meeting. Headed by Admiral James S. Russell, USN (Ret.), the panel was appointed to examine actual and potential sources of fire and explosions in aircraft carriers with the object of minimizing their occurrence and damage and to propose further improvement in the equipment and techniques used to fight fires and control damage by explosion.

10 October Rear Admiral Albert Cushing Read, USN (Ret.), Naval Aviator No. 24, died in Miami, Fla. Well known commander of the NC-4 on the first flight across the Atlantic in 1919, Admiral Read made many contributions during his Naval Aviation career which began in July 1915 and carried through to his retirement in September 1946.

31 October *Currituck*, last seaplane tender in service, was decommissioned at Mare Island, Calif., and transferred to the Reserve Fleet.

6 November An SP-5B Marlin of VP-40 at NAS North Island, Calif., made the last operational flight by seaplanes of the U.S. Navy. With Commanders Joseph P. Smolinski and George A. Surovik as pilot and copilot and 15 passengers including Rear Admiral Constant A. Karaberis on board, the flight ended seaplane patrol operations in the Navy. For more than fifty years, seaplanes had been a mainstay in the Navy's enduring effort to adequately integrate aeronautics with the fleet.

9 November *Bennington* recovered the unmanned *Apollo 4* spacecraft about 600 miles northwest of Hawaii and after its 8½-hour orbital flight.

1968

19 January A C-130 Hercules of VR-24 and helicopters from NAF Sigonella, Italy, delivered food, clothing and medicine to the west coast of Sicily to aid

1968—Continued

Bennington prepares to recover Apollo 4 capsule NASA 67H1536

some 40,000 persons made homeless by an earthquake in the region of Montevago.

23 January When word was received of the capture of *Pueblo* (AGER 2) by a North Korean patrol boat, a Task Group, composed of *Enterprise* and screen, was ordered to reverse course in the East China Sea and to run northward to the Sea of Japan where it operated in the vicinity of South Korea for almost a month.

27 January At the call of the president in the emergency created by the seizure of *Pueblo* (AGER 2), six carrier squadrons of the Naval Air Reserve reported for active duty.

28 March The Secretary of the Navy approved establishment of a new restricted line officer category (152x) called the Aeronautical Maintenance Duty Officer (AMDO).

31 March President Johnson announced that as an indication of American willingness to make concessions opening the way to peace talks with the North Vietnamese, the bombing of targets north of the 20th parallel would stop on the following day.

4 April The *Apollo 6* unmanned spacecraft was recovered after its orbital flight by *Okinawa* about 380 miles north of Hawaii.

3 May The Aviation and Submarine Safety Centers were combined to form the Naval Safety Center. At the same time the Office of the Assistant Chief of Naval Operations (Safety) was established.

22 June The keel for *Nimitz* was laid at Newport News, Va.

1 July To insure a more rapid and efficient transition to combat status in the event of mobilization, the Naval Air Reserve was reorganized into wings and squadrons known collectively as the Naval Air Reserve Force, and effective 1 August, Commander Naval Air Reserve Training assumed additional duty as Commander, Naval Air Reserve Force.

6 July VMO-2 stationed at Da Nang, South Vietnam, received the first OV-10A Broncos to arrive in South Vietnam. The aircraft, specifically developed for counterinsurgency warfare, was immediately employed for forward air control, visual reconnaissance and helicopter escort.

24 August A change in uniform regulations provided a new breast insignia for Navy and Marine Corps

1968—Continued

personnel qualified as Flight Officers. The new wings replaced the old Naval Aviation Observers wings effective 31 December.

16 September The Department of Defense announced that six naval air reserve squadrons called to active duty immediately after the seizure of *Pueblo* (AGER 2) would be returned to inactive status within the next six weeks.

22 October Helicopters of HS-5 from *Essex* located and recovered astronauts Walter M. Schirra, Donn F. Eisele, and R. Walter Cunningham about 285 miles south of Bermuda and delivered them safely to the ship. It was the end of an 11-day mission in space and the first manned flight of the Apollo program.

1 November In response to orders from the president, all bombing of North Vietnam was halted at 2100 Saigon time. The last Navy mission over the restricted area was flown earlier in the day by Commander Kenneth E. Enney in an A-7 Corsair II from *Constellation*.

6 November The lighter-than-air hangar at NAS Lakehurst, N.J., was designated a National Historic Landmark by the National Park Service of the Department of the Interior.

27 December Helicopters of HS-4 hovered over *Apollo 8* after it ended its historic flight around the moon with a predawn splashdown in the Pacific within three miles of *Yorktown*. At first light, astronauts Frank Borman, James A. Lovell, and William A. Anders were picked up by helicopters and carried to the ship.

Schirra, Eisele, and Cunningham aboard recovery ship Essex after orbiting earth for 11 days in Apollo 7 NASA68H986

New way, A-7 launch with nose tow gear 119077

Old way, launching with catapult bridle 1110446

27 January Commander, Naval Air Systems Command directed that the Naval Aviation Integrated Logistic Support Task Force be phased out. This Task Force, generally known as NAILS, had made an in depth study of aviation logistics with particular emphasis on spares and repair parts support management. Among other things, it recommended that a NAILS Center be established.

1969

3 January VAL-4, the first Navy squadron of its type, was established at NAS North Island, Calif., to operate the OV-10A Bronco. When VAL-4 deployed to Vietnam in March, it became an important part of the brown-water Navy, operating from two airfields in the Mekong Delta to provide direct support for U.S. and Vietnamese Navy Riverine operations.

14 January A fire aboard *Enterprise* resulting from detonation of a MK-32 Zuni rocket warhead overheated by exhaust from an aircraft starting unit, took 27 lives, injured 344 and destroyed 15 aircraft. Repairs to the ship were completed at Pearl Harbor, Hawaii, in early March.

An F-4B from VF-143 fires Zuni rockets during Seventh Fleet operation in South China Sea 110794

1969—Continued

3 February The Naval Air Systems Command issued a contract to Grumman for development of the F-14A fighter and manufacture of six experimental aircraft. The F-14, intended as a high performance replacement for the F-4 and abortive F-111B, will feature a variable-sweep wing and carry the Phoenix missile.

13 February *Randolph* was decommissioned, and placed in the Reserve Fleet. This was followed on 30 June by the decommissioning of *Essex*, which was placed in reserve, and on 1 December by the decommissioning of *Boxer* which was sold for scrap.

13 March Apollo 9 Astronauts James A. McDivitt, USAF, David R. Scott, USAF, and Russell L. Schweickart were recovered by a helicopter from HS-3 off *Guadalcanal* after completing a 10-day orbit of the earth.

14 April North Korean aircraft shot down an unarmed EC-121 propeller-driven Constellation which was on a routine reconnaissance patrol over the Sea of Japan from its base at Atsugi, Japan. The entire 31-man crew was killed. U.S. response was to activate Task Force 71 to protect such flights over those international waters in the future. Initially, the TF consisted of the carriers *Enterprise*, *Ticonderoga*, *Ranger*, and *Hornet* with cruiser and destroyer screens.

26 May Apollo 10 Astronauts Thomas P. Stafford, USAF, John W. Young, USN, and Eugene A. Cernan, USN, were recovered by HS-4 off *Princeton* after making an 8-day orbit of the earth.

26 May A new, major development in carrier fire prevention occurred when *Franklin D. Roosevelt* put to sea from Norfolk Naval Shipyard, Va., after an ll-month overhaul which included installation of a deck edge, spray system using the new seawater compatible, fire-fighting chemical, Light Water.

1 June On a flight from Stephenville, Newfoundland, to Mildenhall, England, Lieutenant Colonel R. Lewis, USMC, and Major C. L. Phillips, USMC, piloted an OV-10 Bronco to a world record of 2,539.78 miles for point to point distance for light turbo-prop aircraft.

24 June The first operational "hands off" arrested landing using the AN/SPN-42, Automatic Carrier Landing System, on a carrier was performed by Lieutenant Dean Smith and Lieutenant (jg) James Sherlock of VF-103 when their Phantom II landed aboard *Saratoga*. AN/SPN-42 was an outgrowth of SPN-10 which was first tested in 1957 but was found not to meet all fleet requirements.

30 June Personnel on duty in the naval aeronautical organization at the end of the fiscal year, in round

OV-10A, light armed reconnaissance aircraft 1143446

1969—Continued

numbers, included a grand total of 177,000 with 28,500 officers of whom 15,200 were HTA pilots. Enlisted men numbered 147,700 of whom 27 were pilots. Respective figures for Marine Aviation were: 72,500; 9,600; 5,600; 62,800, and 5.

14 July The first A-7E Corsair II assigned to an operational squadron was delivered to VA-122, the A-7 West Coast training squadron at NAS Lemoore, Calif. The A-7E version of the Vought Corsair II incorporates heads-up-display (HUD) and Project Map Display (PMDS) whereby vital information from flight and navigation instruments are projected into the pilots normal field of vision, thereby permitting him to concentrate on his mission without looking down at instruments. Service use of this equipment culminated a development effort of more than 15 years duration.

24 July Apollo 11 Astronauts Neil A. Armstrong, ex-USN, Edwin E. Aldrin, Jr., USAF, and Michael Collins, USAF, were recovered by HS-4 off *Hornet* after the first moon landing during which Armstrong and Aldrin walked on the moon, 20–21 July. The first person to set foot on the moon was a naval aviator, Neil Armstrong.

1 August The Naval Air Systems Command issued a contract to Lockheed Aircraft Corporation for development of the S-3A, a carrier based antisubmarine warfare plane designed for all weather operation and equipped with modern detection and data processing equipment. It was scheduled to replace the S-2 Tracker in the seventies.

17 August Hurricane Camille swept into the Gulf Coast near Gulfport, Miss., leaving many people homeless and causing heavy property damage. Naval Aviation performed emergency assistance and HT-8 received a letter from the president praising it for services rendered during the disaster.

31 August Two LC-130s of VXE-6 arrived at McMurdo Sound, Antarctica, six weeks in advance of the opening of Operation Deep Freeze 70. Among the passengers were Rear Admiral David F. Welch, Commander Naval Support Force, Antarctica, and seven scientists.

1 September The Naval Aviation Integrated Logistic Support Center, Patuxent River, Md., was established to provide intensified logistics management for Naval Aviation.

8 September As part of Project Birdseye, the Arctic ice-survey mission initiated in March 1962 to gather ice-flow information for the Naval Oceanographic Office, VXN-8 provided ice surveillance for SS *Manhattan* during the ship's historic voyage from the East Coast of the United States to Alaska through the ice-packed Northwest Passage.

30 September CVSG-57 was disestablished followed by the disestablishment of CVW-10 on 28 November and CVSG-52 on 15 December.

22 October The Naval Air Systems Command and the United Kingdom executed a Memorandum of Agreement whereby the Hawker-Siddely Harrier, a vertical take-off and landing aircraft, could be purchased. A subsequent Letter of Offer covered procurement of 12 aircraft with initial delivery in January 1971. The Harrier, U.S. designation AV-8A, was being procured for operational use by the Marine Corps as a result of interest generated in September 1968 when Marine Aviators Colonel

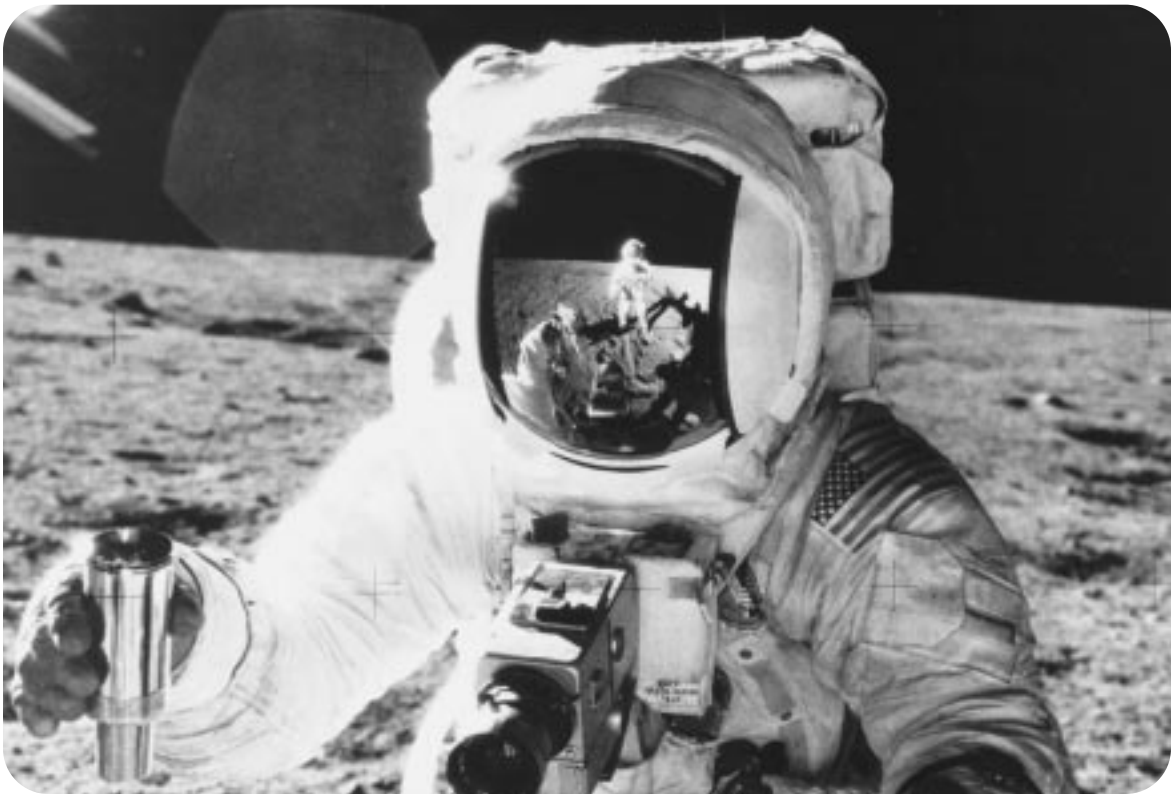
Pilots converting to the AV-8A learn new vocabulary

1969—Continued

Marine Harrier demonstrates its hover capabilities

Thomas H. Miller, Jr. and Lieutenant Colonel Clarence M. Baker flew the aircraft in England. The Harrier was a further development of the Kestrel, which in early phases received developmental support from the United States and West Germany as well as the United Kingdom.

24 November The Apollo 12 Astronauts, an all-Naval Aviator crew of Richard F. Gordon, Jr., Charles Conrad, Jr., and Alan L. Bean, were recovered by HS-4 off *Hornet* after circling the moon, and in a lunar module, landing there with Conrad and Bean on 19 November for 31½ hours.



Three of the first four men on the moon have flown for the Navy NASA-AS12497278

UH-1B on Mekong Delta patrol 1143447

A C-2 Greyhound makes carrier on board delivery to Kitty Hawk during operation off Vietnam 1143450

QH-50D drone helicopter on ASW mission 1143449

CH-46A for vertical assault HN69966

CH-46A during vertical replenishment NH 69969

SP-2H, on patrol inspects a Vietnamese junk 1115829

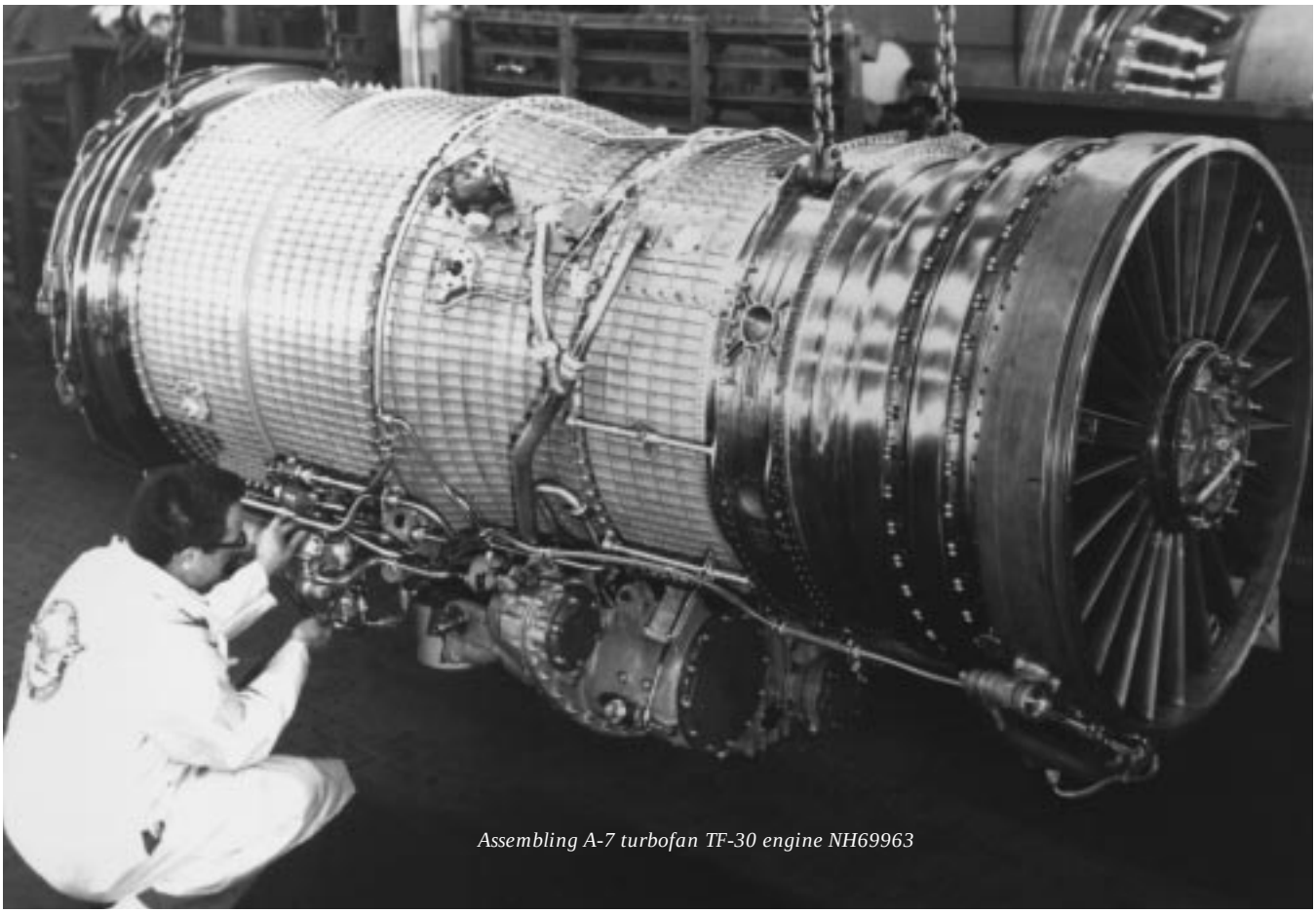
H-2 stands plane guard during flight operations K31638

Marine CH-53A, Sea Stallion, lifts large Truck NH 69965

Shrike antiradar missiles HN69964

Mounting Gun-pod on A-4 4710124

Light water in washdown system, used for fighting fire



Assembling A-7 turbofan TF-30 engine NH69963

Reloading M-60 machine gun on UH-1B helicopter K58290

Echo II test at Lakehurst 1143455

Task Force 77 units in the Tonkin Gulf, Oriskany (center), as seen from signal bridge of Constellation 1143453

Human centrifuge used in study of space flight 1036457

Nuclear-powered Enterprise, Long Beach, and Bainbridge preparing for 1964 round the world cruise 1103800

Naval air interdicts Vietcong supply route by destroying highway bridge with bombing NH 69956

Helos deliver guns and ammo to troops USMC 184967

Advanced aviation base ship, Tallahatchie County, decommissioned in 1970

Iroquois come in for refueling from LC-130 Hercules during deepfreeze K87381

Guam aids peru earthquake victims K84668

PART 10

The Seventies

1970–1980

Naval Aviation began its seventh decade with the United States heavily embroiled in the Vietnam War and 1980 ended with carriers *Dwight D. Eisenhower* and *Ranger* deployed in the Indian Ocean. The country had no sooner ended its long military involvement in Vietnam than it faced a growing crisis in the Middle East, a crisis that reached hostile proportions late in 1979 when Iranian hoodlums captured the United States Embassy in their capital city, Tehran.

Throughout the 1970s, the American public became increasingly aware of the country's critical dependence upon oil from foreign sources. During this time, an acute consciousness of the United States' position as a two-ocean nation reemphasized the reliance upon the U.S. Navy to keep sea lanes open and commerce moving unhampered.

For nearly ten years, the burden of the Navy's air action fell upon the carriers and aircraft of the Seventh Fleet. To meet this responsibility, naval air relied on established weapons and material and introduced new ones. The Walleye, a television-guided glide bomb designed to home automatically on target, was tested successfully in combat. Helicopters flexed their muscle in a combat role and served also as aerial tanks and flying freight trains. Land-based patrol aircraft, in Operation Market Time, scoured the coastline of South Vietnam to search out enemy infiltrating vessels and locate surface forces for interception. In 1972, Operations Linebacker I and II waged heavy interdiction and bombing campaigns against North Vietnam. Aircraft of the Seventh Fleet performed the most extensive aerial mining operation in history, blockading the enemy's main avenues of supply. An uneasy truce finally resulted in the United States disengaging itself from Vietnam in 1973. Two years later, Naval Aviation was called upon to assist in the evacuation of refugees fleeing the North Vietnamese takeover of South Vietnam. In 1979, naval air power helped rescue thousands of Indochinese who took to the high seas in poor vessels to escape mounting tyranny in their homelands.

Against the unrelenting need for vigilance was pitted a declining material inventory and difficulty in retaining experienced personnel. Much of the 1970s can hardly be called bountiful for Naval Aviation. As the surplus of equipment left over from Vietnam eroded through constant use, money for replenishment was not abundant. The high inflation rate that beset the world's industrial nations plagued defense budgets and drove downward the purchasing power of military salaries. Nevertheless, Naval Aviation continued to make headway in the areas of research and development.

Early in the 1970s, the Navy introduced the F-14 Tomcat, and the Marine Corps accepted the AV-8 V/STOL Harrier. At the end of the decade, a new fighter/attack aircraft, the F/A-18 Hornet, was undergoing flight trials. The submarine threat was confronted by the addition to the fleet of the light airborne multipurpose system (LAMPS) which combined shipboard electronics with the SH-2D helicopter. As 1980 drew to a close, the latest LAMPS version was under test in a new Navy airframe, the SH-60B Seahawk. Also at decade's end, the Navy's latest heavy-lift helicopter, the CH-53E, was ready for acceptance by a Marine Corps squadron. Airframes were not the only items which saw advance. The fields of electronics, missiles, and crew systems also benefited from improvements. Finally it should be mentioned that during the 1970s two nuclear supercarriers, *Nimitz* and *Dwight D. Eisenhower* were commissioned; a third, *Carl Vinson*, was launched.

As Naval Aviation began its eighth decade, there was no serious reason to doubt that its superior record of achievement would endure. Aircraft, integrated with the fleet, would continue to provide the United States with the strongest naval power on earth.

1970

15 January *Bennington*, *Valley Forge* and *Tallahatchie County* were decommissioned. As a part of the continuing ship reduction program, this was followed by the decommissioning of *Princeton* on 13 February, *Hornet* on 26 June and *Yorktown* on 27 June. Earmarked in 1970 for decommissioning in 1971 were *Bon Homme Richard* and *Shangri-La*.

1970—Continued

31 January *Midway* was recommissioned following a four-year conversion-modernization at the San Francisco Bay Naval Shipyard, Calif. Other ship developments that followed were the commissioning of *Inchon* on 20 June, completing *Ticonderoga's* conversion from CVA to CVS in May, and laying the keel of *Dwight D. Eisenhower* on 15 August.

10 February As part of the U.S. withdrawal from Vietnam, two Marine squadrons, VMFA-542 and VMA-223, returned to Marine Corps Air Station El Toro, Calif. The same month, VMA-211 and MAG-12 were reassigned to Japan. In September, VMFA-122, VMFA-314 and VMA(AW)-242, as well as two aviation support units, H&MS-13 and MABS-13, returned to the U.S. On 13 October, the last Marines left Chu Lai, a base from which they had been operating since 1965.

16 March The crash of an EC-121 reconnaissance plane took the lives of 23 Navy passengers at Da Nang Air Base, South Vietnam.

28 March The first North Vietnamese MiG kill since the 1 November 1968 bombing halt occurred when Lieutenant Jerome E. Beaulier and Lieutenant (jg) Stephen J. Barkley in an F-4 Phantom II of VF-142 off *Constellation* shot down a MiG-21 while escorting an unarmed Navy reconnaissance plane on a mission near Thanh Hoa, North Vietnam.

1 April CVWR-20 and CVWR-30 were established followed by CVSGR-70 and CVSGR-80 on 1 May. This was a continuation of a program initiated in July 1968 to give Naval Air Reserve an improved combat readiness. The reorganization placed all carrier-type squadrons in two reserve carrier air wings and two carrier ASW groups. Twelve VP and three VR squadrons joined the carrier squadrons under the control of Commander Naval Air Reserve Force.

10 April The A-4M Skyhawk made its first flight at the McDonnell Douglas plant at Palmdale, Calif. This aircraft was equipped with a high power engine (nearly 50 percent more thrust than that of the Skyhawk from 1954) and brake parachute; these features made it particularly adaptable for operations from short airfields in forward areas.

17 April Apollo 13 astronauts James A. Lovell, Jr., USN; John L. Swigert, Jr., ex-USAF; and Fred W. Haise, Jr., ex-USMCR, were recovered by HS-4 off *Iwo Jima* after their abortive moon flight.

2 May A VC-8 helicopter rescued twenty-six persons from a Dutch Antillean Airlines DC-9 ditched in the Caribbean. The helicopter was piloted by Lieutenant Commander James E. Rylee and Lieutenant (jg) Donald Hartman; crewmen were ADC William Brazzell and AD Calvin Lindley.

9 May Approximately 30 U.S. Navy craft, helicopters and OV-10 Bronco aircraft participated with the combined South Vietnamese/U.S. Riverine Force in operations into the Mekong River Corridor to neutralize sanctuary bases in that area. This followed the initial series of strikes by combined U.S.-RVN ground forces against enemy sanctuaries in Cambodia during the first week of May.

31 May Following Peru's earthquake which took 50,000 lives, injured 100,000 and made 800,000 homeless, *Guam* and HMM-365 provided victims with over 200 tons of relief supplies and transported over 1,000 evacuees and medical patients on 800 mercy flights. Before *Guam* left the Peruvian coast on 21 June, her crewmen spent two days in Lima at the invitation of a grateful Peruvian government.

1 June CVW-4 and -12 were disestablished, followed by the disestablishment of CVSG-51 on 30 June.

9 June Sikorsky pilot James R. Wright and copilot Colonel Henry Hart, USMC, flying a Marine Corps CH-53D, established a New York, N.Y., to Washington, D.C., record for helicopters of 156.43 mph with an elapsed time of 1 hour, 18 minutes and 41.4 seconds from downtown to downtown. The following day they established a New York, N.Y., to Boston, Mass., record for helicopters of 162.72 mph with a city to city time of 1 hour, 9 minutes, 23.9 seconds.

30 June As a result of reductions in force levels, personnel on duty in the naval aeronautical organization at the end of the fiscal year, in round numbers, included a grand total of 162,600 with 25,900 officers of whom 14,500 were pilots. Enlisted men numbered 135,900 of whom 22 were pilots. Respective figures for Marine Aviation were: 72,000 total; 9,900 officers of whom 5,700 were pilots; 62,000 enlisted men and 4 enlisted pilots.

1 July Naval Air Systems Command Liaison Office, Dayton, Ohio, was disestablished. This marked the end of an office that had its beginning in October 1920, when the Navy detailed an aviation officer to McCook Field to observe and report on experimental work.

1970—Continued

17 July The P-3C began deployed operations as VP-49 took over patrol responsibilities at Keflavik, Iceland. This ASW aircraft, which was described in an unveiling ceremony 14 months earlier as "two or three times as effective as anything we now have," featured the latest antisubmarine warfare equipment including directional sonobuoys, a high capacity computer and related displays.

8 September The Department of Defense modified its basic space policy (established in March 1961) by providing that functional responsibilities of the services would be considered in assigning programs for development and acquisition of space systems. In addition, the Director of Defense, Research and Engineering would assure that specific space programs administered by one service would be broad enough to meet the related needs of other services.

25 September A Condor television-guided air-to-surface missile was launched by an A-6A at a standoff distance from its target. The aircraft was 56 miles from the target when the missile made a direct impact. The test was conducted at the Naval Weapons Center, China Lake, Calif.

25 September As a result of the Jordanian crisis caused by Palestinian commando attempts to unseat the monarchy in Amman, *John F. Kennedy* joined *Saratoga* and *Independence* in the Mediterranean, followed by seven other U.S. Navy ships, including *Guam* on 27 September. This strengthened the Sixth Fleet to some 55 ships which served as a standby force in case U.S. military protection was needed for the evacuation of Americans and as a counterbalance to the Soviet Union's Mediterranean fleet.

25 October Sailors and Marines completed four days of assistance and relief to thousands of Filipinos left homeless, hungry and injured by Typhoon Joan which had struck southern Luzon and Catanduanes Island in the Republic of the Philippines, leaving 600 dead and 80,000 without shelter. Over 300 tons of rice, flour, blankets and fuel were air-lifted by HMM-164, while galleymen aboard *Okinawa* worked round-the-clock baking over 5,000 loaves of bread, and inland, medics groped by flashlight to aid the injured.

29 October Following the ravages of Typhoon Kate and flood waters that inundated some 140 square miles of Vietnam south of Da Nang, the helicopter forces of 1st Marine Aircraft Wing performed rescue and relief operations for over 9,000 South Vietnamese. Initial rescue operations began when MAG-16 evacuated some 900 people the first day during floods termed the worst since 1964.

21 November Navy planes dropped flares along the coast of North Vietnam to divert attention from an Army-Air Force search and rescue team that searched a vacated prisoner-of-war compound at Son Tay, 20 miles west of Hanoi.

21–22 November In response to attacks on unarmed U.S. reconnaissance aircraft, 200 U.S. aircraft conducted protective reaction air strikes against North Vietnamese missile and antiaircraft sites south of the 19th parallel. The strike forces included Marine Corps and Navy aircraft from *Hancock, Ranger,* and *Oriskany.*

24 November The Senate Preparedness Investigating Subcommittee completed a three-day "Investigation into Electronic Battlefield Program," which dealt with the development and use of sensor surveillance to locate hostile forces in South Vietnam and thus take the night away from the enemy. As representatives of the Services and OSD explained to the committee, the program had its beginnings in 1966 when the Navy sought to adapt the air-dropped radio sonobuoy to ground use by replacing the hydrophone with a microphone. In the initial phase, the project was called ALARS (for Air Launched Acoustical Reconnaissance) which was a part of the TRIM (Trail Road Interdiction Mission) Project. In August 1966 a scientific study group proposed a broader air-supported barrier system, and in September, the Secretary of Defense established the Defense Communications Planning Group to implement the concept and later expanded the mission to cover a variety of tactical applications with a variety of sensors. Although the air-supported sensor responsibility was eventually assigned to the Air Force (under the code name Igloo White), the initial combat mission was carried out from November 1967 to June 1968 by a newly established Navy squadron, VO-67, equipped with 12 OP-2E aircraft.

24 November A T-2C modified by North American Rockwell to a super-critical wing configuration was test flown by North American test pilot Edward A. Gillespie at Columbus, Ohio. The supercritical wing, based upon theoretical development by Dr. Richard Whitcomb of NASA, promised to delay the onset of transonic shock separation, buffeting, and other undesirable aerodynamic phenomena and thus give greater flexibility to aircraft intended for operation in the sonic speed regimen.

1970—Continued

25 November The Chief of Naval Material established a Navy Space Project Office with responsibility for the integration and coordination of space activities within the purview of the Naval Material Command and with responsibility for management of designated space projects.

21 December The F-14A aircraft, piloted by Grumman test pilots Robert Smyth and William Miller, made its first flight at Grumman's Calverton, Long Island, N.Y., plant.

1971

1 January Task Force 77, the Attack Carrier Striking Force Seventh Fleet, continued operations off Vietnam on Yankee Station, the "on line" area in the Gulf of Tonkin, with missions consisting of interdiction of the Ho Chi Minh Trail in Laos, air support for allied ground forces in South Vietnam (SVN), photographic reconnaissance, combat air patrols and electronic warfare. On station at the beginning of the year were *Hancock* and *Ranger*.

6 January The Marine Corps/Navy's first AV-8 Harrier was accepted by Major General Homer S. Hill, USMC, at Dunsfold, England. The Harrier was the first vertical take-off and landing (V/STOL) fixed-wing aircraft ever accepted for use as a combat aircraft by U.S. armed forces.

19 January *Enterprise* completed sea trials with her newly designed nuclear reactor cores which contained enough energy to power her for the next ten years.

22 January The Navy's most advanced antisubmarine warfare aircraft, the land-based P-3C Orion, established a world record in the heavyweight turboprop class for long distance flight. The production model aircraft, piloted by Commander Donald H. Lilienthal with a crew of eight, set the record with a flight of 6,857 statute miles over the official great circle route from NAS Atsugi, Japan, to NAS Patuxent River, Md. The flight, which topped the Soviet Union's IL-18 turboprop record of 4,761 miles set in 1967, lasted 15 hours, 21 minutes. In order to avoid Russia's Kamchatka Peninsula, the Lilienthal flight actually covered 7,010 miles.

26 January The AV-8A Harrier arrived at the Naval Air Test Center, Patuxent River, Md. for commencement of Board of Inspection and Survey trials.

Southeast Asia.

27 January A P-3C at the Naval Air Test Center, Patuxent River, Md. with Commander Donald H. Lilenthal as Plane Commander established a world speed record for its class of 501.44 mph over the 15 to 25 km course.

27 January NAVAIR expedited procurement of the TCW-33P VWS (Ventilated Wet Suit) to permit its issuance to VS and VP squadrons during the winter of 1971–1972. The evaluation of 3,100 ventilated wet suits had begun in 1969 and enthusiastic acceptance by flight crews led to the decision that the suits should

1971—Continued

AV-8A Harrier (VTOL) comes in for a recovery on board Guadalcanal K-89288

be procured for early issue rather than phased in as stocks of the Mk 5 anti-exposure suit were depleted.

29 January The Navy's newest carrier-based electronic warfare aircraft, the sophisticated EA-6B Prowler, entered service with VAQ-129 at NAS Whidbey Island, Wash. The Prowler, a derivative of the two-place A-6 Intruder, was lengthened to accommodate a four-place cockpit and replaced the A-3 Skywarrior. VAQ-129 (redesignated from VAH-10 in 1970) became the replacement training squadron when it commenced instructing aircrew and ground support replacement personnel for all the Navy's Prowler squadrons.

31 January Alternating on Yankee Station, *Hancock*, *Ranger* and *Kitty Hawk* flew a total of 3,214 sorties during the month, of which 3,128 delivered ordnance in Laos. A-6 and A-7

A-6 Intruder releasing ordnance during bombing mission over Vietnam NAH-003854

1971—Continued

aircraft were particularly effective in attacking truck traffic, the enemy having put a seasonally high number of trucks on the road, averaging close to 1,000 per day.

4 February A P-3C, at the Naval Air Test Center, Patuxent River, Md., with Commander Donald H. Lilienthal as Plane Commander, set a world record for its class of 45,018.2 feet altitude in horizontal flight.

5 February The Navy announced the first successful test-firing of a Condor air-to-surface missile armed with a live warhead. The missile, which was fired from an A-6 Intruder jet aircraft and guided by television, scored a direct hit on a target ship, which was out of sight from the launching aircraft.

8 February Commander Donald H. Lilienthal and crew in their P-3C completed the assault on world records for unlimited weight turboprop planes, establishing an altitude record of 46,214.5 feet, and time-to-climb records of 3,000 meters in 2 minutes 51.7 seconds; 6,000 meters in 5 minutes 46.3 seconds; 9,000 meters in 10 minutes 26.1 seconds; and 12,000 meters in 19 minutes 42.2 seconds.

17 February The Weapons Systems Explosive Safety Review Board approved service use of the pyrotechnic seeding device, WMU-1/B. This unit, consisting of a silver iodide (catalyst) generator, became the first weather modification unit released for production and general use by the Navy. Later that year this device was used over the island of Okinawa to enhance rainfall and thus replenish the island's water reserves.

24 February The Navy disclosed that an electronic eavesdropper, developed at the Naval Air Development Center, Warminster, Pa., had been used in Southeast Asia since June 1967. Called the Acoubuoy, it was dropped along trails and broadcasted passing sounds to aircraft up to 20 miles away.

28 February In Vietnam during the month, two carriers remained on station throughout the period as strike sorties rose to an average of 122 per day because of a 40 percent increase in enemy truck movements from the previous month, averaging more than 1,400 a day. A program was extended to A-7 aircraft night all-weather seeding missions heretofore flown exclusively by the A-6. The computer release of flares over targeted road segments was followed by visual delivery of seeds which allowed the enemy minimal chances of spotting the emplaced mine fields.

9 March Construction began on the joint U.S./U.K. naval air and radio communications station located on the Indian Ocean atoll of Diego Garcia. Later in the month, Naval Mobile Construction Battalion 40, supported by U.S. surface vessels, commenced the major construction effort.

10 March On Yankee Station, *Ranger* and *Kitty Hawk* set a record of 233 strike sorties for one day and went on during the ensuing six-day period to mark up a strike effectiveness record that exceeded record performances by TF-77 during the previous three-year period.

16 March The first SH-2D LAMPS (Light Airborne Multi-Purpose System) helicopter test flight took place at Kaman's Bloomfield, Conn., facility. This flight followed testing aboard *Sims* (DE 1059) to determine deck strength for helicopter operations. It was announced later in the month that 115 H-2 helicopters would be committed to the LAMPS program. The LAMPS system was configured to extend the range of ASW and ASMD on destroyers, frigates, and destroyer escorts as an airborne extension of the ships' own detection systems.

29 March The first active AIM-9G missile was launched from an NUH-2H helicopter by the Weapons System Test Division of NATC.

31 March In Vietnam, strike sorties launched by the carriers serving on Yankee Station during the month totaled 4,535 of which 4,479 were sorties delivering ordnance. These figures were up by 1,074 and 1,065, respectively, from the previous month. Over 680 Acoubuoy seed and interdiction package missions were flown during the month with unknown results. Approximately 75 percent of the interdiction packages, however, obtained one or more road cuts while implanting Acoubuoy seeds.

1 April HM-12, the Navy's first helicopter squadron devoted exclusively to mine countermeasures, was established at NAS Norfolk, Va. The mission of HM-12 was to remove or eliminate enemy mines from sealanes and amphibious operating areas. To accomplish this task HM-12 helicopters towed specially designed mechanical magnetic and acoustic minesweeping equipment which would activate the enemy mines, thereby eliminating them as a threat to future operations in the area. HM-12 employed CH-53A Sea Stallions until they received the Sikorsky RH-53D built specifically for mine countermeasures.

1971—Continued

5 April Modernization of the Naval Air Reserve continued when the first A-7 Corsair IIs were received by VA-303 at NAS Alameda, Calif. The first reserve squadron to operate the modern jet, VA-303 received its full complement of 12 aircraft by the end of June. Less than four months later, VA-303 made the initial reserve A-7 squadron deployment, marking the first extended deployment of a reserve squadron on other than annual active duty training.

16 April The A-4M Skyhawk entered squadron service with VMA-324 and VMA-331 at MCAS Beaufort, S.C. The most advanced in the A-4 series, the aircraft featured a new self-contained starter, carried twice as much 20mm ammunition, and had 20 percent more thrust (11,200 pounds). The new model Skyhawk, the seventh major version, was developed specifically for the Marine Corps and was capable of delivering all air-to-ground weapons in the naval inventory.

16 April VMA-513 at MCAS Beaufort, S.C., took delivery of three AV-8A Harrier aircraft, thereby becoming the first operational high performance V/STOL squadron in the United States.

30 April In Vietnam during the month, three carriers assigned to TF-77—*Ranger*, *Kitty Hawk*, and *Hancock*—provided a constant two carrier posture on Yankee Station. Hours of employment remained unchanged with one carrier on daylight hours and one on the noon to midnight schedule. Strike emphasis was placed on the interdiction of major Laotian entry corridors to South Vietnam (SVN). Strike sorties delivering ordnance totalled 3,648. Fifteen strike sorties were flown into North Vietnam (NVN) during the month.

1 May A board to study and make recommendations on Aeronautical Engineering Duty personnel policies, which had been appointed the preceding 14 December with Rear Admiral Daniel K. Weitzenfeld as senior member, submitted its report. The board reported that the AED community was at full strength and had an excellent base of aspirants from which to select new applicants. A number of recommendations were made to further the careers of Aeronautical Engineering Duty Officers (AEDO) and their use by the Navy. The more significant recommendations included achieving "a limited joining with the AMD (152) group in recognition of a common purpose in support of Naval Aviation," and identifying billets which could be filled by either Aeronautical Engineering Duty or Aeronautical Maintenance Duty Officers.

18 May In Vietnam, *Midway*, after relieving *Hancock* on 10 May, commenced single carrier operations on Yankee Station until the end of the month. This had not been in effect since January, when *Kitty Hawk* served a two-week "on station" tour alone. During the one-carrier operations, *Ranger* and *Kitty Hawk* were away for upkeep periods in Japan.

21 May Technical evaluation of a new fire control system with a helmet-mounted sight was begun at the Naval Air Test Center, Patuxent River, Md.

28 May The Secretary of Defense announced measures to strengthen the Sixth Fleet. He said that fleet readiness was to be improved by the almost continuous presence of a helicopter carrier, and by a substantial increase in the hours flown by maritime air patrols and the ship-operating days of sea patrols. This followed an earlier announcement by the Pentagon on 24 May that the Sixth Fleet would be strengthened in response to the growing Soviet naval power.

31 May As in previous months in Vietnam, strike emphasis was placed on the interdiction of Laotian entry and throughout corridors to SVN. Southern Laotian routes leading to Cambodia also received increased emphasis during the month. Although weather cancellations remained at a comparatively low level, conservation of strike sorties was still accomplished by limiting carrier sorties to 60–70 per day, resulting in a total of 2,645 sorties that delivered ordnance. Two protective reaction strikes were carried out in NVN during the month. NVN surface-to-air missile (SAM) coverage south of 20° N continued at a high level. The increased SAM threat required additional aircraft in support of strike and reconnaissance flights.

28 June A proposal by the Naval Training Command Board to consolidate all naval training was approved. The board had convened under the direction of the CNO on 8 February. Training had been under review since World War II by official study groups and boards, the first being the Hopwood Board in 1955 which recommended that training be divorced from the Bureau of Naval Personnel. Major recommendations of the Naval Training Command Board established a single training command, Chief of Naval Training, with headquarters at Pensacola, Fla. Chief of Naval Technical Training was established at Memphis, Tenn. Education and programs which had been under the Chief of Naval Personnel were placed under the new command of Director of Naval Education and Training. Three former air training staffs were consolidated into a single staff with eight training wings to be

1971—Continued

located at major pilot training bases. Public announcement of the new single training command was made on 21 July and became effective on 1 August.

29 June Light gull gray, Federal Standard Color No. 36440, applied to carrier aircraft was replaced with glossy light gull gray Federal Standard Color No. 16440. This change was directed by MIL-C-18263F (AS) of this date.

30 June During June in Vietnam, the realignment of carriers continued as *Midway* departed Yankee Station on 5 June, relieved by *Kitty Hawk*, and *Oriskany* commenced strike operations on 16 June. A total of 14 two-carrier days and 16 single-carrier days during the month resulted in a monthly strike sortie count of 2,431. The Navy's strike sortie count for Fiscal Year 1971 thus came to 32,230 sorties, 172 under the annual ceiling. June strike operations were under the influence of the southwest monsoons with attendant clouds and rain.

7 July The last active duty A-1 Skyraider, an NA-1E, was retired. The aircraft, which had been assigned to the Naval Air Test Center, Patuxent River, Md., and was used in many test programs there, including slow speed and ordnance release, was turned over to the Confederate Air Force, Harlingen, Texas for museum display.

13 July Deputy Secretary of Defense David Packard issued a new directive defining policy for acquisition of major defense systems. Basically, Mr. Packard sought to return authority to the military departments, subject to approval by the Secretary of Defense, at key points in the development acquisition process. Among the various points of the policy were increased emphasis upon the project manager (called program manager in the DOD directive), reiteration of the importance of maintaining a strong technology base, and the definition of the entire development-acquisition process as three distinct phases: (1) program initiation, (2) full-scale development, and (3) production/deployment. The new directive emphasized the importance of making accurate cost predictions and realistic schedule forecasts and of relating the military benefits anticipated from a new technology to the cost of the technology. To reduce the magnitude of risk, prototyping was to be part of the advanced development effort; operational suitability of a system was to be tested and evaluated before it was committed to large scale production—thus the popular description of the policy as "fly before buy."

24 July CVSGR-80 began ASW operations from *Ticonderoga*. It was the first time in naval history that the Naval Air Reserve had demonstrated the capability for immediate employment of fleet-size wings and groups, fully manned, properly equipped, and operationally ready to perform all phases of carrier operations.

26 July The Apollo 15 spacecraft was launched from the Kennedy Space Center for a lunar mission. On 30 July the lunar module Falcon commanded by Colonel David R. Scott, USAF, with Lieutenant Colonel James B. Irwin, USAF, a Naval Academy graduate, class of 1951, separated from the command ship, *Endeavor*, with Major Alfred M. Worden, USAF, and landed on the moon in the Hadley-Apennine area. The crew accumulated 66 hours, 55 minutes on the moon's surface before they departed on 2 August. Five days later, *Okinawa*, primary recovery ship for Task Force 130, accomplished the recovery of the Apollo 15 crew after splashdown in the Pacific. The mission was the first of three moon flights geared directly to scientific investigation and achieved far more than all the previous lunar missions combined.

28 July HC-7 was awarded the Presidential Unit Citation, the second Navy helicopter squadron to receive the citation for duty in Vietnam. The other helo squadron to win the award was HA(L)-3. Operating from ships at sea on Yankee Station, HC-7 SAR detachments were credited with rescuing 76 U.S. aviators from Vietnam waters. During the early stages of the conflict, the squadron had made several overland rescues in NVN under intense enemy fire.

30 July In Vietnam, with *Oriskany*, *Midway* and *Enterprise* serving intermittently on station, a total of 22 two-carrier days and nine single-carrier days resulted in a strike sortie count of 2,001. Strike operations during the month of July were disrupted when the carriers on station evaded three different typhoons—Harriet, Kim and Jean. A slight increase in SVN strike sorties occurred during the month. These were mainly visual strikes against enemy troop positions and in support of U.S. helicopter operations.

30 July The Navy accepted the first operational BQM-34E Firebee II aerial jet target. The Firebee II had been developed by Ryan Aeronautical Company under contract to the Naval Air Systems Command and was designed to maneuver at greater speeds and altitudes than the standard Firebee target previously in use. Jet-powered, the remote-controlled target system was rated at Mach 1.5, offering subsonic and supersonic mission capabilities.

1971—Continued

3 August Pilots of VMA-142, -131 and -133 began qualification landings in A-4Ls aboard *Independence.* During a three-day period, four active duty and 20 reserve pilots operated aboard the carrier. This was the first time that Marine Air Reserve squadrons qualified in carrier duty.

26 August VAW-124 flew the carrier-based early warning E-2B nonstop across the Atlantic. The Hawkeye left NAS Norfolk, Va., flew over Newfoundland, Canada, and Lajes, Azores, to reach *America* which was deployed to the Sixth Fleet in the Mediterranean.

31 August During the month, dual carrier operations were conducted only during the first week; and, as of the 16th, *Enterprise* filled in the remainder of the month alone on station. Thus, a total of 8 two-carrier days and 23 single-carrier days represented a near reversal of July's carrier mix, producing a strike sortie count for the month of 1,915.

30 September Single carrier operations on Yankee Station were conducted throughout the month, except for one two-carrier day. The schedule had *Enterprise* flying the first four days, *Oriskany* the middle of the month and *Midway* completing the last four days. The single carrier posture, combined with the low intended sortie rate, produced 1,243 strike sorties during the month. *Oriskany* flyers participated in a joint USAF/USN protective reaction strike in southern NVN on 21 September.

5 October HC-4 at NAS Lakehurst, N.J., accepted its first SH-2D LAMPS helicopter, making it the first fleet operating unit to use the new LAMPS configured Seasprite. One week later at NAS Imperial Beach, Calif. HC-5 became the first West Coast-based helicopter squadron to receive the new Seasprite.

8 October About one hundred officers and men of the Mobile Mine Countermeasure Command and four CH-53 Sea Stallion helicopters were airlifted from Norfolk, Va., and Charleston, S.C., to the Sixth Fleet at Souda Bay, Crete, by C-5s of the 437th Military Airlift Wing in a demonstration of the world-wide quick reaction mine countermeasures capability. A detachment of four CH-53As from HM-12 recorded the first overseas deployment of the new helicopter. The detachment began sweeping operations upon arrival at Souda Bay. From 2 to 7 November the squadron participated in the first integration of airborne minesweeping operations into an amphibious assault exercise, conducted from *Coronado* (LPD 11).

29 October HS-15, the first sea control ship squadron, was established at NAS Lakehurst, N.J. The squadron was devised tactically to protect convoys and vessels not operating with or within the protective range of carriers. Tests along these lines were conducted subsequently aboard *Guam* utilizing the SH-3H Sea King helicopters of HS-15 and Marine Corps AV-8A Harriers of VMA-513. Tests included V/STOL and helo compatibility, antisnooper and antisurface tactics, bow and cross axial landings, night operations and shipboard control of airborne intercepts.

31 October On Yankee Station during the month, single carrier operations were conducted except for the last day. *Midway* completed her final line period 10 October, with *Enterprise* taking over the next day for the remainder of the month. *Oriskany* joined the last day, and together the three carriers recorded a total of 1,024 ordnance-delivering strike sorties, 30 of them in SVN, the remainder in Laos. The air warfare posture in NVN was altered 20 October through the deployment of six MiG aircraft south of 20° N—two each at Vinh, Quan Lang and Bai Thuong.

8 November The jet-powered S-3A, the Navy's newest antisubmarine warfare aircraft, made its official roll-out at Lockheed's Burbank California facility. Christened the Viking, the aircraft was designed to replace the aging S-2 Tracker.

17 November The Office of the Assistant Secretary of Defense reported that the Navy had been designated the lead service in making aircraft ready for use in Project Grass Catcher—the interception of drug smugglers. During January and February 1972, four OV-10s were loaned to the Bureau of Customs.

30 November Preliminary evaluation of the F-14A was conducted at Grumman's Calverton, N.Y., facility by a team from NATC Patuxent River, Md. The Tomcat was designed for all fighter missions, including air-to-air combat and fleet defense.

30 November Alternating on Yankee Station, *Oriskany, Constellation* and *Enterprise* provided 22 two-carrier days on the line, delivering 1,766 ordnance-bearing strike sorties, twelve and nine of them into NVN and SVN, respectively. Two reconnaissance missions were flown during the month, with the airfield at Vinh the mission assignment. Escort aircraft on both missions expended ordnance in a protective reaction role against firing antiaircraft artillery sites near the field. Other protective reaction strikes were executed.

1971—Continued

2 December NAF Cam Ranh Bay, South Vietnam, was disestablished and patrol squadron detachments which had routinely rotated at NAF Cam Ranh Bay were deployed to NAS Cubi Point, R.P. At Cam Ranh Bay the patrol squadrons were part of the Vietnam Air Patrol Unit under the operational control of Commander, Fleet Air Wing 8 or 10. Operational tasking could also come from Commander, Task Force 77, on Yankee Station or Commander, Seventh Fleet. The patrol squadrons worked closely with Commander, Vietnam Coastal Surveillance Force. Their missions were to provide air patrol coverage for SVN along her coast line to detect any infiltration of NVN trawlers taking men and supplies into SVN. These missions were known as Market Time patrols. Patrol squadrons also provided aerial reconnaissance and ASW patrols for naval forces operating from Yankee Station and other areas of the Gulf of Tonkin and the South China Sea.

2 December Commander George W. White, at the Naval Air Test Center, Patuxent River, Md., became the first Navy test pilot to fly the F-14A Tomcat. By the end of 1971, nine of the aircraft were assigned to various flight test programs. Purchase plans had called for an eventual total of 313 aircraft—301 for operations and 12 for research and development.

8 December Amphibious Group Alpha, formed around *Tripoli*, was directed to move from Okinawa to the vicinity of Singapore in anticipation of a possible Indian Ocean deployment. This followed indications by the head of the UN relief mission in Dacca, East Pakistan/Bangladesh that as a result of the Indo-Pakistani war, which began on 3 December, evacuation of foreign civilians by means of carrier-based helicopters might be required.

8 December Commander-in-Chief, U.S. Pacific Fleet (CINCPACFLT) confirmed a requirement previously enunciated by Commander, Naval Air Force Pacific Fleet, for a system of video coverage of the entire launch and recovery sequence of carrier operations.

10 December *Enterprise* and other units from Yankee Station formed Task Force 74 and departed Vietnamese waters for the Indian Ocean. On 12 December the Royal Air Force evacuated Western nationals from East Pakistan/Bangladesh, thereby eliminating the requirement for an American evacuation operation. Task Force 74 entered the Indian Ocean on 15 December, as a show of force in connection with the Indo-Pakistani war.

12 December VX-4 reported on an extensive series of evaluations of the helmet mounted sight, the Visual Target Acquisition System, in the F-4 that had commenced in 1969. While the report cited a number of shortcomings, it concluded that the helmet sight was superior to operational equipment used by fighter pilots in air-to-air combat.

15 December VMA(AW)-224, part of CVW-15 on board *Coral Sea*, arrived on Yankee Station. VMA(AW)-224 was the first Marine Corps squadron to fly combat missions into NVN from a carrier operating on Yankee Station.

31 December During 1971 HAL-3, the Seawolves, the only light attack helicopter squadron in the Navy, flew 34,746 hours in squadron aircraft in support of their mission to provide quick reaction armed helicopter close air support for all naval forces and South Vietnamese forces operating in the southern part of SVN. During their flights in 1971, HAL-3 expended 16,939,268 rounds of 7.62mm ammunition; 96,696 2.75-inch rockets; 32,313 40mm grenade rounds; and 2,414,096 rounds of .50 cal. machine gun ammunition in carrying out their assigned missions. HAL-3 lost six aircraft during 1971.

31 December *Constellation* and *Enterprise* operated on Yankee Station together during the month until 10 December, when the latter was unexpectedly directed to transit to the Indian Ocean where she operated as

UH-1B helicopter from HAL-3 flies low over the Mekong Delta, South Vietnam NAH-002810

1971—Continued

flagship for the newly formed TF-74 for the possible evacuation of U.S. citizens from East Pakistan in connection with the Indo-Pakistani war. *Constellation's* tour was extended to the end of the month due to the new contingency operations. *Coral Sea* came on the line 15 December. A total of 2,462 ordnance delivery strike sorties were flown during the month. The number of surface-to-air missile firing incidents increased and the bold excursions by MiG aircraft into Laos prompted both the USAF and USN to develop new tactics, combining efforts, to suppress the MiG threat. A major protective reaction strike effort by both USAF and USN commenced 26 December and terminated 30 December. In this period, TF-77 flew 423 strike sorties employing all-weather A-6A systems backed up by A-7Es as pathfinders, with Dong Hoi, Quang Khe and Vinh the major targets assigned to the Navy. During the month, the Laser Guided Bomb (LGB) was introduced by squadrons aboard *Constellation*. Initially, 16 trial LGB drops were road cuts, with subsequent targets antiaircraft artillery sites. In the coming year, LGBs were to be used effectively against heretofore seemingly indestructible targets in NVN, such as heavy steel bridge structures built into solid rock.

1972

1 January The area of responsibility assigned to Commander-in-Chief, Pacific (CINCPAC), was shifted westward to include the Indian Ocean and the Persian Gulf. U.S. naval communications, refueling and logistical airstrip facilities continued under construction on the island of Diego Garcia to assist in covering the new area of responsibility for the U.S. Navy.

6 January Training Air Wing Five was established at Whiting Field, Fla. The new wing was composed of Naval Air Stations Whiting and Ellyson Fields; VT-2, VT-3 and VT-6; and HT-8. This was the first training wing established under the reorganization of the Naval Air Training Command. The wing was established to coordinate and supervise training activities that previously had been the responsibility of each station and squadron.

18 January *Enterprise* joined *Constellation* on Yankee Station following her tour in the Indian Ocean in December 1971, where she had shown force and the flag in connection with the Indo-Pakistani war and the buildup of Soviet naval forces off the Indian subcontinent.

18 January *Guam* began the first in a series of tests to analyze the sea control ship concept (SCS). SCS was a concept in which a shipboard platform would have a smaller complement of aircraft than the large carriers (CVA) and would maintain control of sea lines/lanes in low threat areas of the world. A SCS ship would be designed to carry the V/STOL aircraft as well as helicopters, in order to provide protection of underway replenishment groups, mercantile convoys, amphibious assault forces and task groups with no aircraft carrier in company.

19 January Lieutenants Randall H. Cunningham and William P. Driscoll in an F-4 of VF-96 off *Constellation* shot down a MiG-21, the first enemy aircraft downed since 28 March 1970, when Lieutenants Jerome E. Beaulier and Steven J. Barkley in an F-4 of VF-142 off *Constellation* downed a MiG-21. The 19 January action occurred during a protective reaction strike in response to earlier antiaircraft artillery and surface-to-air missile firings from the area which had menaced an RA-5C reconnaissance plane and its escorts. This accounted for the Navy's 33rd MiG shot down in the Vietnam war since the first shoot down on 17 June 1965, downed by Commanders Louis C. Page and John J. Smith in an F-4 of VF-21 off *Midway*.

21 January The S-3A Viking, the Navy's newest ASW aircraft, conducted its maiden test flight from Lockheed's Palmdale, Calif., facility. The S-3A met the Navy's requirements for a 400 knot plus aircraft with a 2,000 mile sub hunting range to replace the aging S-2 Tracker. The S-3A, while about the same size as the S-2, had twice the speed and range of the Tracker. It had been equipped with the latest sensor and weapon systems and could cover nearly three times the area of the S-2 Tracker.

31 January With only light ground action, limited troop contacts and the withdrawal of U.S. ground troops continuing during the month, the level of air operations also remained low, a situation which continued generally throughout the first three months of the year. During January, a total of only eight Navy tactical air attack sorties were flown in South Vietnam (SVN). In North Vietnam (NVN), there was very little attack effort except for some protective reaction strikes. *Coral Sea, Constellation* and *Enterprise* served intermittently on Yankee Station during the month.

11 February As a result of the shift from conventional to jet aircraft, the Navy announced that the Aviation Machinist's Mate Class B school on reciprocating engines, located at the Naval Air Technical Training Command, NAS Memphis, Tenn., was closing.

1972—Continued

LT Cunningham shows how he and LT(jg) Driscoll bagged MiGs 1151717

Pre-flight pilot briefing for combat mission over Vietnam.

1972—Continued

11 February The Navy announced that the development and installation of mufflers on engine test cells at the Naval Air Rework Facility, Alameda, Calif., had eliminated 85 percent of the audible noise in testing jet engines for the A-3.

29 February During the month, naval air attack sorties in SVN had risen to 733 compared to 8 during January. The increase was due to the preemptive operations by allied forces in preparation for an expected large-scale enemy offensive during Tet which did not materialize. *Constellation, Coral Sea* and *Hancock* served overlapping tours on Yankee Station, assuring two to three carriers on station at a time during most of the month.

10 March There were limited attack strikes into NVN; however, protective reaction strikes increased significantly. During the period 5 January through 10 March there were 90 protective reaction strikes by USN and USAF aircraft against surface-to-air missile and antiaircraft artillery installations, compared to 108 such raids during the entire year of 1971.

16 March HAL-3, the only armed UH-1 Navy helicopter squadron to serve in Vietnam, was disestablished. HAL-3 and VAL-4 were the only Navy air units to be homeported in-country. HAL-3 provided valuable gunship support for Navy and Army riverine operations in the Mekong Delta from 1967 to their disestablishment. During this time HAL-3 pioneered various tactics in support of patrol boats and shore installations. They operated from various bases in the Mekong Delta and from specially-equipped Patrol Craft Tenders (AGP) (former LSTs).

23 March VMA-513 completed the Harrier DOD sortie rate validation and demonstrated the capability of the AV-8A to respond rapidly and repeatedly to requests for close air support while operating from austere forward bases. During the ten-day test, the squadron flew 376 sorties with a complement of six aircraft.

24 March A QF-4B target aircraft that the Naval Air Development Center, Warminster, Pa., had converted from a combat configuration into a maneuvering target, was delivered to the Naval Missile Center for testing. The QF-4B would fulfill the requirement for a full-size, high-altitude, supersonic, maneuvering aerial target capable of flying at altitudes in excess of 50,000 feet and at airspeeds exceeding twice the speed of sound.

29 March The BQM-34E, supersonic Firebee II, was utilized by the Atlantic Fleet Weapons Range for the first time in missile defense exercises with *Wainwright* (DLG 28). The target was launched from a DP-2E at an altitude of 20,000 feet and accelerated to Mach 1.52 while testing the ship's ability to withstand penetration of high altitude, high speed enemy craft.

29 March Due to the fleet requirements for qualified aircrew personnel, the Naval Air Technical Training Unit's Photographer's Mate Class "A" School initiated flight training again as part of the course. The flight training requirements for the Photographer's Mate Class "A" School had been dropped 16 years earlier.

30 March Naval Air attack sorties in SVN had dropped from 733 in February to 113 during March. On 23 March the U.S. canceled further peace negotiations in Paris, France, because of a lack of progress in the talks. This was followed by the North Vietnamese invasion of SVN. This "Easter or Spring Offensive" was the result of the long buildup and infiltration of NVN forces during previous months and presaged some of the most intense fighting of the entire war. The NVN invasion prompted increased air operations by the carriers in support of South Vietnamese and U.S. forces. The carriers on Yankee Station when NVN invaded on 30 March were *Hancock* and *Coral Sea*. During the month four carriers had rotated on Yankee Station; they were *Constellation*, *Kitty Hawk*, *Coral Sea* and *Hancock*.

1 April VAL-4, the last Navy combat force in Vietnam, was withdrawn. VAL-4 flew the OV-10 Bronco and its mission had been to provide quick reaction and close support for river patrol boats and the mobile riverine forces in South Vietnam.

5 April Operation Freedom Train involved Navy tactical air sorties against military and logistic targets in the southern part of NVN that were involved in the invasion of SVN. The operating area in NVN was limited initially to between 17° and 19°N. However, special strikes were authorized against targets above the l9th parallel on various occasions. The magnitude of the North Vietnamese offensive indicated that an extended logistics network and increased resupply routes would be required to sustain ground operations by NVN in their invasion of SVN. Most target and geographical restrictions that were placed in effect since October 1968 concerning the bombing in NVN were lifted gradually and the list of authorized targets expanded. Strikes in NVN were against vehicles, lines of communication (roads, waterways, bridges, railroad bridges and railroad tracks), supply targets, air defense targets

1972—Continued

and industrial/power targets. Aircraft involved in Freedom Train operations were from *Hancock*, *Coral Sea*, *Kitty Hawk* and *Constellation*. By the end of April, operations were permitted in NVN throughout the region below 20° 25'N and many special strikes above the 20th parallel had also been authorized.

6 April Heavy air raids were conducted against NVN, the first since October 1968 when a halt was called on heavy raids. Since the bombing halt in October 1968, the U.S. air effort had been concentrated on interdicting men and supplies moving along the routes into SVN. Except for protective reaction strikes and a five-day operation at the end of 1971, called Proud Deep, very few heavy attack missions had been flown into NVN. The U.S. heavy reactionary raids were prompted by a massive invasion of SVN by six North Vietnamese divisions, that by 6 April involved 12 of North Vietnam's 13 divisions. The objectives of these heavy raids were: (1) destruction of all NVN aggression-supporting resources, (2) harassment and disruption of enemy military operations, and (3) reduction and impediment of movements of men and materials through southern NVN.

6 April Elements of two Phantom II Marine squadrons, VMFA-115 and VMFA-232, flew into Da Nang from Iwakuni, Japan, as part of the reinforcing effort in support of SVN troops, particularly around Quangtri. VMFA-212 arrived from Kaneohe, Hawaii, on 14 April. Targets for Marine sorties were enemy tanks, trucks and troops, giving SVN forces a chance to regroup and reestablish a line of defense north and west of Hue.

6 April The Navy's new air superiority fighter, the F-14 Tomcat, arrived at Naval Air Test Center, Patuxent River, Md. The swing-wing, twin-engine Grumman aircraft arrived for a series of catapult launches, automatic carrier landing system checks, airspeed system calibrations and weight and balance checks to determine its suitability for naval operations.

7 April During the week ending 7 April, the Navy flew 680 sorties in SVN to counter the NVN troop concentrations and their equipment flow, and to support the SVN forces with close air support, direct air support and interdiction missions. This was more than five times the number of sorties the Navy flew for the entire month of March.

11 April The Harpoon anti-ship missile underwent its first drop test at the Naval Missile Center, Point Mugu, Calif. The missile, developed by McDonnell Douglas Corporation, was dropped from 20,000 feet by a P-3 Orion operated by the Missile Center. The Harpoon was designed to be launched from aircraft or ships from a stand-off range against enemy ship targets.

12 April The new P-3C Acoustic Sensor Operator Trainer (Device 14B44) was made available for training aircrew personnel at Fleet Aviation Specialized Operational Training Group, Pacific Detachment. It was designed to train aircrewmen in the operation of sensor stations on the P-3C Orion aircraft. The simulator could duplicate the real world conditions of underwater acoustical data and also simulate the detection, classification and localization procedures of the AQA-7 Jezebel system on board the P-3C Orion.

14 April The Navy averaged 191 sorties per day in SVN, a 97 percent increase over the previous week. Sorties concentrated west and north of Quangtri City with interdiction and direct air support flown in the area. Carriers on Yankee Station were *Constellation*, *Hancock*, *Coral Sea*, and *Kitty Hawk*.

16 April Apollo 16 was launched successfully from Kennedy Space Center, Fla., for a lunar highlands investigation. The astronaut team was composed of Captain John W. Young, Lieutenant Colonel Charles M. Duke, USAF, and Lieutenant Commander Thomas K. Mattingly. Astronauts Young and Mattingly, the Navy members of the Apollo 16 crew, landed on the moon four days later to conduct scientific research.

16 April Aircraft from *Coral Sea*, *Kitty Hawk* and *Constellation* flew 57 sorties in the Haiphong area in support of U.S. Air Force B-52 strikes on the Haiphong petroleum products storage area. This operation was known as Freedom Porch.

25–30 April An example of Naval Air action against enemy positions inside central and south SVN during NVN's spring offensive occurred the last six days of April as *Hancock's* VA-55, -164 and -211 struck enemy held territory around Kontum and Pleiku and *Constellation's* VA-146, -147 and -165, hit areas around the besieged city of Anloc in support of SVN troops, some only 40 miles outside the capital of Saigon. Targets attacked included artillery fire bases, enemy tanks, bunkers, troop positions, ammunition caches and gun emplacements.

27 April HC-1, aboard *Ticonderoga*, recovered Apollo 16 after it splashed down in the south Pacific.

1972—Continued

28 April The AIM-54A Phoenix missile was launched from an F-14 for the first time. The aircraft was flying from Point Mugu, Calif.

30 April Operations by Navy and Marine Corps aircraft in Vietnam had expanded significantly throughout April, with a total of 4,833 Navy sorties in SVN and 1,250 sorties in NVN. The Marine Corps flew 537 sorties in SVN. The dramatic increase in Navy sorties was supported by directing all four carriers operating in the western Pacific to the support of operations in Vietnam. *Coral Sea* and *Hancock* were on Yankee Station when the North Vietnamese spring offensive began. *Kitty Hawk* was ordered to Yankee Station on 1 April and arrived on 3 April. *Constellation* was ordered to Yankee Station on 2 April and arrived on the line 7 April. Between 8 and 30 April the Navy effort grew gradually from 240 sorties a day to a peak of over 300, resulting in a monthly average of 270 sorties per day.

1 May While flying weather was good for the first seven days of May, the Navy averaged 97 attack sorties daily into NVN while flying an average of 168 a day into SVN. The Navy's efforts at this time were still concentrated in support of SVN forces attempting to stem the NVN offensive, then a month old. SVN troops were retreating toward Hue. Quangtri City had fallen 1 May and an attack against Hue appeared imminent. The city of Anloc remained surrounded by the NVN. The first week of May also witnessed NVN's newly deployed combat support surface-to-air missiles, the SA-7 Grail infrared-seeker missile.

4 May The Navy's first night carrier landing trainer was unveiled at NAS Lemoore, Calif. This trainer permitted pilots to simulate night landings of the A-7E on carrier decks.

5 May VP-9 aircraft departed NAS Moffett Field, Calif., for NAS Cubi Point, R.P., to augment the VP units tasked with ocean surveillance air patrols in relationship to the mining of NVN harbors and the corresponding movement of Communist bloc ships.

6 May In the second most active dog-fight day of the war, Navy flyers shot down two MiG-17s and two MiG-21s. Scoring the kills were flyers from VF-111 and VF-51 aboard *Coral Sea* and two planes from VF-114 off *Kitty Hawk*.

8 May For the first time in more than three weeks, U.S. forces attacked targets in the vicinity of Hanoi, with Navy pilots flying 50 attack sorties. Another 96 sorties were flown in southern NVN between the capital and the DMZ, while 99 were directed against the enemy in SVN.

9 May Operation Pocket Money, the mining campaign against principal NVN ports, was launched. Early that morning, an EC-121 aircraft took off from Da Nang airfield to provide support for the mining operation. A short time later, *Kitty Hawk* launched 17 ordnance-delivering sorties against the Nam Dinh railroad siding as a diversionary air tactic. Poor weather, however, forced the planes to divert to secondary targets at Thanh and Phu Qui which were struck at 090840H and 090845H, Vietnam time, respectively. *Coral Sea* launched three A-6A and six A-7E aircraft loaded with mines and one EKA-3B in support of the mining operation directed against the outer approaches to Haiphong Harbor. The mining aircraft departed the vicinity of *Coral Sea* at 090840H in order to execute the mining at precisely 090900H to coincide with the President's public announcement in Washington that mines had been seeded. The A-6 flight led by the CAG, Commander Roger E. Sheets, was composed of Marine Corps aircraft from VMA-224 and headed for the inner channel. The A-7Es, led by Commander Leonard E. Giuliani and made up of aircraft from VA-94 and VA-22, were designated to mine the outer segment of the channel. Each aircraft carried four MK 52-2 mines. Captain William R. Carr, USMC, the bombardier/navigator in the lead plane, established the critical attack azimuth and timed the mine releases. The first mine was dropped at 090859H and the last of the field of 36 mines at 090901H. Twelve mines were placed in the inner segment and the remaining 24 in the outer segment. All MK 52-2 mines were set with 72-hour arming delays, thus permitting merchant ships time for departure or a change in destination consistent with the President's public warning. It was the beginning of a mining campaign that planted over 11,000 MK 36 type destructor and 108 special MK 52-2 mines over the next eight months. It is considered to have played a significant role in bringing about an eventual peace arrangement, particularly since it so hampered the enemy's ability to continue receiving war supplies.

10 May Operation Linebacker I, the heavy strike of targets in most of NVN, evolved and lasted until restrictions on operations above 20°N were imposed 22 October. The operation was an outgrowth of Freedom Train and the President's mining declaration which also stated that the U.S. would make a maximum effort to interdict the flow of supplies in NVN. On this first day of Linebacker I, the Navy shifted its attacks from targets in southern NVN to the coastal

1972—Continued

LT Dose of VF-92 explains MiG manuever 1151760

region embracing Haiphong north to the Chinese border. In all, 173 attack sorties were flown in this region this day, although another 62 were directed into SVN in continuing support of allied forces there.

It was the most intensified air-to-air combat day of the entire war. Navy flyers shot down eight MiGs. An F-4 Phantom II, from VF-96 on board *Constellation,* while engaged in aerial combat over Haiphong shot down three MiGs for the first triple downing of enemy MiGs by one plane during the war. Lieutenant Randall H. Cunningham was the pilot and Lieutenant (jg) William P. Driscoll was the RIO of the F-4. These three MiG downings, coupled with their 19 January and 8 May downing of two MiGs, made them the first MiG aces of the Vietnam War. Three other kills were scored by planes of VF-96 and one by VF-92 off *Constellation* and one by VF-51 off *Coral Sea*.

During the five and one-half month period of Linebacker I, the Navy contributed more than 60 percent of the total sorties in NVN, with 60 percent of this effort in the "panhandle", the area between Hanoi and the DMZ. Tactical air operations were most intense during the July-September quarter with 12,865 naval sorties flown. Most attack sorties in NVN fell into two classes—armed reconnaissance and strike. The former was directed usually against targets of opportunity within three main areas—near Hanoi, Haiphong and the Chinese border. Strike operations were preplanned and usually directed at fixed targets. Most types of fixed targets, not associated with armed reconnaissance, required approval by the Commander-in-Chief, Pacific, or by the Joint Chiefs of Staff, prior to attack. Principal Navy aircraft were the A-7 and A-6, which accounted for roughly 60 and 15 percent of the Navy's attack sorties, respectively. About 25 percent of the Navy's effort was at night. Carriers participating in the initial May-June operations from Yankee Station were *Constellation*, *Coral Sea*, *Hancock*, *Kitty Hawk*, *Midway* and *Saratoga*.

10 May Commander, Naval Air Systems Command, promulgated a plan for management of advanced prototype development and demonstration of a thrust-augmented wing Attack Plane-Fighter Vertical/Short Takeoff and Landing aircraft. A prototype development manager was to be established under the Deputy Commander for Plans and Programs and was to be assisted by a small cadre of management and technical personnel located in the Assistant Commander for Research and Technology's organization and at the contractor's facility.

11 May Naval aircraft flying from *Coral Sea*, *Midway*, *Kitty Hawk* and *Constellation* laid additional mine fields in the remaining ports of significance in NVN—Thanh Hoa, Dong Hoi, Vinh, Hon Gai, Quang Khe and Cam Pha as well as the Haiphong approaches. This early mining was not confined solely to the seven principal ports. Other locations were also seeded early in the campaign, including the Cua Sot, Cap Mui Ron, and the river mouths, Cua Day and Cua Lac Giang, south of Don Son and the Haiphong port complex.

12 May The 72-hour delay arming time on the initial mines laid at Haiphong was up at 120900H Vietnam time. Nine ships at Haiphong had taken advantage of the grace period to depart the port. Twenty-seven ships remained. Both Soviet and Soviet-bloc ships headed for Haiphong at the time had diverted to different destinations, thus avoiding a direct confrontation with the mine fields.

13 May CH-53 and CH-46 helicopters of HMM-164 aboard *Okinawa* airlifted 1,000 South Vietnamese Marines from SVN's 369th Marine Corps Brigade from a landing zone near Hue to an area 24 miles northwest of the city behind NVN lines.

1972—Continued

CH-53A Sea Stallion supplying Marines S-54231-A

14 May During the first two weeks of May, and the fourth day of Linebacker I, 992 military targets in NVN had been attacked by Navy pilots. Storage areas accounted for 17 percent, roads and trucks 15 percent, railroads 13 percent and bridges other than rail for 11 percent of the targets hit. The number of targets attacked would be increased by nearly 50 percent by the end of the month as Linebacker gained momentum.

17 May Two A-4 Marine squadrons, VMA-311 and -211, arrived from Japan at the recently reactivated base at Bien Hoa, SVN. These units concentrated air strikes against enemy troops surrounding An Loc and responded to calls from counterattacking SVN forces attempting to gain ground in adjacent areas.

18 May The scope of the air war in Vietnam changed when the Uong Bi electric power plant near Haiphong was struck. This marked the beginning of strikes on a class of targets formerly avoided, including power plants, shipyards and the Haiphong cement plant. Over 60 of the Navy's more than 200 sorties into NVN that day were in the Haiphong region, the first since 10 May.

25 May The Secretary of the Navy signed the Incidents at Sea Agreement between the U.S. and

1972—Continued

USSR. Since 1945 Naval Aviation history recorded 15 serious incidents of firing on U.S. Navy planes by Communist bloc aircraft. The agreement was designed to help prevent unintentional accidents between the two navies and help reduce tension on or over the high seas.

31 May During the month, the Navy had flown 3,949 attack sorties against NVN as compared to 1,250 during April; continuing attack sorties into SVN numbered 3,290 for May compared to 4,833 in April. While naval sorties in SVN had dropped by over 500 from the previous month of April, USMC air attack sorties in support of allied forces in SVN increased from 543 in April to 1,502 during May. Targets in NVN hit by naval planes increased to 2,416 in May from 719 during April, with railroads accounting for 16 percent, roads and trucks 14, storage areas 13 and bridges 10 percent of the targets hit. Enemy MiGs shot down over NVN by naval flyers during May totaled 16, including 11 MiG-17s, two MiG-19s and three MiG-21s, while the Navy lost six planes, including two F-4s and two A-7s to SA-2 surface-to-air missiles, and one F-8 and one RA-5 to unknown causes, probably surface-to-air missiles. With *Saratoga* joining the other five carriers on Yankee Station during the month, carrier strength totaled six, the greatest number since the war began. Meanwhile, by the end of the month, the term "quasi-stalemate" best described the war situation in SVN. The SVN army was still regrouping and holding on, and the forward thrust of the NVN seemed to be halted.

20 June VMA(AW)-533 with A-6A Intruders arrived at the remote jungle base of Nam Phong, known as the "Rose Garden," in the east central plains of Thailand in juxtaposition to the NVN attacks in the SVN highlands. Roads, aircraft parking and storage areas had been hacked out of the jungle by a joint USN/USMC engineering team in preparing this advance base. Between 23 May and 18 June the following Marine Corps units had arrived in preparation for operations against the invading NVN forces: Task Force Delta; VMGR-152, Det D with KC-130 Hercules; H&MS-36, Det D with CH-46 Sea Knights; VMFA-115 with F-4B Phantom IIs and VMFA-232 with F-4J Phantom IIs.

21 June VF-31 aircraft from *Saratoga* shot down a MiG-21. This was the third MiG downing by Navy pilots during June. On 11 June VF-51 aircraft from *Coral Sea* shot down two MiG-17s in the Nam Dinh area of NVN.

21 June The Chief of Naval Material directed that the Commander, Naval Electronic Systems Command (ELEX) take on the responsibility and authority for final decisions involving development, acquisition and support for equipment and capabilities providing platform-to-platform command, control and communications (C3) involving satellites, air, surface and sub-surface elements. The directive involved a proposal to rename the ELEX to reflect this assignment and prohibited large scale lateral movements between the systems commands. Despite these qualifications, a dispute arose as to whether ELEX should undertake detailed management of most electronic material program or apply control through broad gauged decisions. The decision has resulted in the transfer of Project Management Offices for Space (PM-16) and Reconnaissances, Electronic Warfare and Special Operations (or REWSON—PM-7) from the Chief of Naval Material to the Commander, ELEX (as PME-107) and in the redesignation of the Naval Air Systems Command's Electronic Warfare Project Management Office as REWSON followed by the physical merging of the two REWSON project management offices with a double hatting of the incumbents.

23 June HS-2, -15, -74 and -75 came to the aid of flood stricken residents in the Wilkes-Barre, Scranton and Pottstown areas of Pennsylvania. Besides the extensive rescue and evacuation work conducted by these squadrons they were also involved in transporting medical supplies and personnel, equipment, food and clothing to the flood victims.

29 June NAVAIR announced the formation of a "Buddy-Up" Program whereby reserve officers attached to Naval Air Systems Command Reserve Units would establish a working relationship with various Naval Air Systems Command activities. This was envisioned as developing into a means whereby the reserve officers would identify and undertake to perform meaningful project work for the activities.

30 June Navy tactical air attack sorties in SVN during June were 2,021. This was a considerable decrease in comparison to the April and May figures. The decrease reflected the stalemate on the ground in SVN. Navy attack sorties against Linebacker I targets in NVN involved 3,844 sorties in June. Linebacker I attack sorties against the road transport system, water transport craft and storage targets increased from the pre-June levels. The greatest number of Navy concentrated strikes, which involved 10 or more attack aircraft striking a compact cluster of tactical targets, was flown from April through June and comprised 40 percent of the total Navy attack effort.

1972—Continued

30 June The Naval Air Rework Facility and the Naval Air Station at North Island, Calif., submitted to the Naval Civil Engineering Laboratory an interim report on pollution studies. A follow-on final report was published in August with the title "Environmental Collection Data Base." It contained methodological information on effective means of measuring the extent of various types of environmental pollution, related some pollutants to particular industrial or operational activity, and contained quantitative data on the extent of pollution found to be present. Thus, it provided an important first step in devising plans to lessen the environmental impact of pollution produced by naval operational and industrial air activities.

1 July A reorganization of the Naval Air Training system occurred when the Naval Air Advanced Training Command was disestablished and the Chief of Naval Air Training was relocated to Corpus Christi, Tex. This action was part of the Navy's effort to consolidate training under a concept called "single base training." When pilots completed their primary training they were assigned to a specific program involving training in either jets, props or helos. This training would be completed at one specific training base where the pilots would finish their instruction before receiving their wings. The new structure/organization came under the control of the Chief, Naval Air Training Command.

1 July Tactical Electronic Warfare Wing 13 (TACELWING-13) was disestablished at NAS Whidbey Island, Wash. It had been established to introduce the complex electronic warfare EA-6B Prowler into fleet service.

15 July A three-day test demonstration of the ability of the UH-2C Seasprite to fire Sparrow III missiles against surface targets was completed at the Pacific Missile Range, Sea Test Range, Calif. The helicopter, modified to carry a single missile mounted on a rail launcher, fired four missiles during the course of the demonstration.

22 July *Tripoli* arrived in Subic Bay, R.P., with HMM-165 on board to provide relief support after record rains caused disastrous flooding in the central Luzon valley between Manila and Lingayen Gulf. Tens of thousands of people were affected and additional ships were tasked for Philippine flood relief operations.

31 July The Navy began night operations regularly on 24 May and during June and July night sorties constituted 30 percent of the total Navy attack effort in NVN, relying primarily on the A-7 and A-6. About 45 percent of the Navy armed reconnaissance effort was at night during June and July. The A-7 flew about as many night sorties as it did day sorties. The A-6 flew more night than day armed reconnaissance sorties during the summer months. The total number of Navy night sorties during June and July were 1,243 and 1,332 respectively. Three to four carriers were maintained on Yankee Station during the summer months. The carriers involved were *Constellation*, *Coral Sea*, *Hancock*, *Kitty Hawk*, *Midway*, *Saratoga*, *Oriskany* and *America*.

31 July There was a dramatic change in NVN's air defense effort during the summer months. During the earlier periods of April and May, the Navy air effort in NVN involved intensive air-to-air combat and a large number of surface-to-air missile (SAM) firings. In contrast, during June and July there was an increase in Linebacker I Navy attack sorties, but there was a decrease in the number of air-to-air combat incidents and SAM firings. MiG kills decreased to three in June by Navy aircraft and zero in July compared to 16 MiG kills by Navy aircraft in May. After mid-June, almost all North Vietnamese aircraft sighted or engaged were MiG-21s. Navy/MiG encounters were primarily against MiG-21s, representing a considerable change from May, when 11 of 16 Navy kills were MiG-17s.

5 August *New Orleans* relieved *Tripoli* in Philippine flood relief operations. HMM-165 transferred to *New Orleans* to continue support due to their knowledge of terrain and problems inherent in the flood relief operations.

5 August A Naval Air Test Center pilot made the first fully automated landing aboard *Ranger* in an F-4J Phantom II. The test landing device linked the plane's controls with a computer aboard ship and enabled the aircraft to land with the pilot's hands off the controls. The system was developed to make safer landings at night and in low visibility conditions.

7 August An HC-7 Det 110 helicopter, aided by planes from *Saratoga* and *Midway*, conducted a search and rescue mission for a downed aviator in NVN. The pilot of an A-7 aircraft from *Saratoga* had been downed by a surface-to-air missile about 20 miles inland, northwest of Vinh, on 6 August. The HC-7 helicopter flew inland over mountainous terrain to rescue the pilot. The rescue helicopter used its search light to assist in locating the downed pilot and, despite receiving heavy ground fire, was successful in retrieving the pilot and returning to an LPD off the coast of NVN. This was the deepest penetration of a rescue heli-

1972—Continued

copter into NVN since 1968. HC-7 Det 110 continued its rescue efforts and by the end of 1972 it had successfully conducted 48 rescues during the year, 35 of those under combat conditions.

17 August The Naval Material Command and the Air Force Systems Command reached an agreement relating to Navy and Air Force responsibilities for aircraft engine production at the Pratt & Whitney Aircraft Divisions, East Hartford, Conn., and West Palm Beach, Fla. The Memorandum of Agreement provided that an Air Force Deputy Plant Representative and staff be assigned to the Naval Plant Representative Office (NAVPRO) to represent the F-15 Program Director on F-15 matters and to advise the NAVPRO on the in-plant management of Air Force engine programs.

29 August John Konrad, Vought Aeronautics test pilot, made the first flight in a two-place version of the A-7E that the company had developed to demonstrate to the Air Force and the Navy the advantages of such a configuration for use as an advanced trainer or for such tactical duties as electronics countermeasures.

31 August Although Marine Corps air efforts were concentrated in SVN, the Marines contributed significantly to U.S. efforts in NVN to prevent offloading and transportation of supplies from Chinese merchant ships at Hon La and Hon Nieu. HMA-369, with seven AH-1J helicopters, using the Cobra weapons system, operated from *Denver* (LPD 9) against water transport traffic in late June, and from *Cleveland* (LPD 7) in early August. HMA-369's operations during August were extended to include night surveillance and attack. In addition HMA-369 helicopters served as airspotters for naval gunfire and as airborne tactical controllers for fixed-wing aircraft attacking lucrative targets.

The Navy flew 4,819 sorties in August against NVN. The downward trend of Navy attack sorties in SVN continued during July and August. The stepped-up campaign in the Mekong Delta accounted for a sharp rise in Marine Corps air activity in SVN. The Marine Corps air effort rose from 8 percent of the total air effort in SVN during May to 43 percent during August.

11 September VMFA-333 flying off *America* downed a MiG-21 near Phuc Yen airfield in North Vietnam. This was the only MiG kill for the Navy/Marine Corps during September and brought the grand total of MiGs downed by Navy/Marine Corps pilots to 55 since the war began.

30 September During September the number of Navy tactical air attack sorties decreased from the level flown in August. There were 3,934 Navy tactical air attack sorties flown into NVN, down by about 800 from the August total. During July and August, more than 45 percent of the Navy armed reconnaissance sorties were at night. However, in September, only 31 percent of the armed reconnaissance sorties were flown at night. In SVN the Navy flew 1,708 tactical air attack sorties, a decrease from the level flown in August. About half of the Navy's tactical air sorties were close and direct air support sorties in SVN. Marine Corps activity stayed relatively high during September because of stepped-up ground activity in the Mekong Delta. Marine Corps tactical air sorties for September were 1,296. Carriers operating on Yankee Station during the month of September were *Hancock*, *Kitty Hawk*, *Midway*, *Saratoga*, *Oriskany* and *America*.

1 October The first two F-14 Tomcat squadrons were formed at NAS Miramar San Diego, Calif. The new squadrons carried the designations VF-1 and VF-2. These squadrons were established to receive the Navy's first new fighter plane in 14 years, the McDonnell Douglas F-4 Phantom II was introduced in 1958.

8 October The first F-14 Tomcat, the Navy's new sophisticated fighter, was delivered to VF-124. VF-124 was designated the F-14 training squadron for all F-14 fighter squadrons of the Pacific and Atlantic Fleet.

23 October The U.S. ended all tactical air sorties into NVN above the 20th parallel and brought to a close Linebacker I operations. This goodwill gesture of terminating the bombing in NVN above the 20th parallel was designed to help promote the peace negotiations being held in Paris, France. During May through October, the Navy flew a total of 23,652 tactical air attack sorties into NVN. U.S. tactical air sorties during Linebacker I operations helped stem the flow of supplies into NVN, thereby limiting the operating capabilities of North Vietnam's invading army. Carriers involved in Linebacker I operations were *Enterprise*, *Constellation*, *Coral Sea*, *Hancock*, *Kitty Hawk*, *Midway*, *Saratoga*, *Oriskany* and *America*.

31 October During October the total number of Navy tactical air sorties into NVN was 2,661. Tactical air sorties into SVN during October were 2,097 and 1,599 for the Navy and Marine Corps, respectively. Air operations in SVN followed the general pattern of the ground war. NVN increased their small-scale attacks throughout SVN in an apparent effort to gain territory before a possible cease-fire. Thus, the main objective

1972—Continued

of Navy and Marine Corps tactical air sorties were close and direct air sorties in support of allied ground troops, with a view toward frustrating the enemy's desire to acquire territory before a cease-fire agreement was signed.

22 November Groundbreaking ceremonies for the new Naval Aviation Museum building were officiated by Admiral Arthur W. Radford, USN (Ret). Admiral Radford, former Chairman of the Joint Chiefs of Staff, was the Chairman of the Naval Aviation Museum Association, Inc., a non-profit organization of Naval Aviation enthusiasts who labored since 1965 to finance and create the first part of the new museum building. All funds for the building of the first phase of the museum were contributed by private individuals and organizations. The museum was designed to be built in three phases. The first phase consisted of 65,000 sq. ft. of floor space with future expansion of 140,000 sq. ft. The Naval Aviation Museum was established at NAS Pensacola, Fla., in December 1962 by the authority of the Secretary of the Navy. It had been housed in a temporary building until enough money had been accumulated to build the first phase of the new museum building.

30 November The majority of the Navy's tactical air sorties in SVN during October and November can best be described as close and direct air support attacks. Targets attacked during these sorties accounted for more than 75 percent of all known targets during October and November. The percentage of Navy sorties flown for interdiction purposes in SVN decreased markedly during October and November compared to the previous levels in the spring and summer months.

13 December An HC-1 Detachment Five SH-3G Sea King helicopter, stationed aboard *Oriskany*, rescued a VFP-63 pilot involved in operations in the Tonkin Gulf while on Yankee Station. This was the fifteenth pilot rescued by HC-1 detachments while they were operating aboard a carrier on Yankee Station during 1972. During 1972 HC-1 rescued a total of 36 people, including the 15 pilots.

17 December During the period 23 October through 17 December there was a U.S. bombing halt above the 20th parallel in NVN. No MiG kills or U.S. losses were recorded during this period. Three to four carriers were maintained on Yankee Station during the bombing halt. Carriers alternating on Yankee Station were: *Enterprise*, *Kitty Hawk*, *Midway*, *Saratoga*, *Oriskany*, *America* and *Ranger*.

18 December Linebacker II operations were initiated on 18 December when negotiations in the Paris peace talks stalemated. The Linebacker II operations ended on 29 December when the North Vietnamese returned to the peace table. These operations involved the resumed bombing of NVN above the 20th parallel and was an intensified version of Linebacker I. The reseeding of the mine fields was resumed and concentrated strikes were carried out against surface-to-air missile and antiaircraft artillery sites, enemy army barracks, petroleum storage areas, Haiphong naval and shipyard areas, and railroad and truck stations. Navy tactical air attack sorties under Linebacker II were centered in the coastal areas around Hanoi and Haiphong. There were 505 Navy sorties in this area during Linebacker II. Between 18 and 22 December the Navy conducted 119 Linebacker II strikes in North Vietnam. Bad weather was the main limiting factor on the number of tactical air strikes flown during Linebacker II. The following carriers participated in Linebacker II operations: *Enterprise*, *Saratoga*, *Oriskany*, *America* and *Ranger.*

19 December HC-1 helicopters, aboard *Ticonderoga,* recovered the crew of Apollo 17 after splashdown. The Apollo 17 crew consisted of Naval

Helicopter from HS-6 recovering astronauts from Apollo 14 lunar mission.

1972—Continued

Apollo 14 capsule after splashdown in the Pacific Ocean awaiting recovery.

Aviators Captain Eugene A. Cernan and Commander Ronald E. Evans and geologist Harrison H. Schmidt. This recovery marked the end of NASA's Apollo lunar program. Naval Aviation squadrons and naval surface units performed all the recovery operations for the 11 Apollo missions. There were 33 astronauts involved in the Apollo program, 22 of whom had Navy backgrounds.

23 December An example of attack squadron action during the year is portrayed by the following partial roundup of operations by VA-56 which ended its seventh line period this date. Flying combat with CVW-5 off *Midway* during portions of every month since April, the squadron recorded a total of 180 days on the line, engaged in 5,582.9 combat hours, flew over 3,000 sorties, performed 2,090 and 781 day and night carrier landings, respectively, and amassed a total of 6,301 flight hours during its line periods. It conducted strikes against such targets as the Haiphong, Ninh Binh, Ha Tinh, Kien An, Tam Da and Than Hoa bridge complexes, the Haiphong, Vinh, Doung Nham and Nam Dinh petroleum areas, and the Gia Lam railroad yards across the Red River from Hanoi. Other actions included mining operations and protective flights for four search and rescue (SAR) missions, including one at night inside NVN, and one for two Air Force officers downed off the coast. During the line periods, four of the unit's A-7Bs were lost to antiaircraft artillery and surface-to-air missile fire, with two pilots taken prisoner-of-war, one listed as missing in action, and one retrieved.

25 December A Christmas day bombing/tactical air attack recess went into effect during which none of the U.S. air services flew sorties. Since the beginning of the heavy raids against the Hanoi/Haiphong complex on 18 December to persuade NVN to return to the conference table and release the American POWs, 420 raids by B-52s had been conducted, with 18 December accounting for 122, the highest number. Carrier strikes from TF-77 and tactical aircraft from Thailand supplemented the raids, mainly to suppress missile sites and confuse the NVN air defense systems. Heavy attacks were resumed on 26 December, with 113 B-52 raids, the next highest sortie count. Targets, as before, were powerhouses, railroads, missile assembly points, command and control stations, fuel reserves, airfields and railroad marshaling yards. By the end of the 27th, intercepted enemy messages indicated NVN was losing its missile potential as new missiles could not be moved from assembly points to the launchers.

1972—Continued

28 December An F-4J Phantom II, from VF-142 on board *Enterprise*, downed a MiG-21. This was the 24th MiG downed by Navy/Marine Corps pilots during 1972. The total MiG downings by Navy/Marine Corps pilots during the Vietnam war from the first in June 1965 through December 1972 were 56. Statistics for Navy/Marine Corps downings of MiGs during 1972:

Constellation:	VF-96, 8 MiGs
	VF-92, 1 MiG
Coral Sea:	VF-51, 4 MiGs
	VF-111, 1 MiG
Midway:	VF-161, 4 MiGs
Kitty Hawk:	VF-114, 2 MiGs
Saratoga:	VF-103, 1 MiG
	VF-31, 1 MiG
America:	VMFA-333, 1 MiG
Enterprise:	VF-142, 1 MiG

29 December Heavy raids around Hanoi, which had been resumed the day after the Christmas bombing halt, were eased as NVN showed indications of returning to the conference table. The over 700 sorties by B-52s during the 11 heavy-bombing days were believed accountable for the eventual resumption of negotiations which led to the peace agreement and the release of American POWs. On 28 and 29 December, during a total of 160 raids, no B-52s were lost to NVN air defenses, indicating the virtual paralysis of the system. Only two percent—15 B-52s were lost from over 700 raids during the whole 11-day heavy bombing period.

30 December The U.S. called another bombing halt in North Vietnam and the Navy ended all tactical air sorties above the 20th parallel. The bombing halt was called when North Vietnam returned to the negotiating table to continue the Paris peace talks.

31 December During 1972 the Navy conducted 33.9 percent of all tactical air attack sorties flown in SVN. There were 23,802 tactical air attack sorties flown and 160,763 general purpose bombs delivered by Navy fixed-wing aircraft, with Marine Corps fixed-wing aircraft delivering 111,859 general purpose bombs in SVN during 1972. The Navy and Marine Corps each lost five fixed-wing aircraft in SVN during 1972. In NVN the Navy conducted more than 60 percent of the tactical air attack sorties flown, for a total of 28,093. The Navy and Marine Corps lost 49 aircraft in NVN during this period. In 1972 the carriers spent a total of 1,403 on-line days at Yankee Station, with an average on-line period of slightly more than 25 days for each carrier. Carrier and Carrier Air Wings on Yankee Station during 1972 were:

Hancock with CVW-21
Kitty Hawk with CVW-11
Oriskany with CVW-19
America with CVW-8
Enterprise with CVW-14
Midway with CVW-5
Saratoga with CVW-3
Constellation with CVW-9
Coral Sea with CVW-15
Ranger with CVW-2

Marine Corps squadrons operating off carriers on Yankee Station during 1972 were VMA(AW)-224, VMCJ-2 and VMFA-333. Marine Corps land-based fixed-wing squadrons in Southeast Asia during 1972 were VMFA-115, VMFA-212, VMFA-232, VMA(AW)-533, VMCJ-1, VMA-211, VMA-311, VMGR-151, H&MS-15, and H&MS-12.

1973

1 January A major reorganization in naval reserve affairs got under way as a result of the announcement two days earlier by the Secretary of the Navy that the Naval Surface and Air Reserve Commands would be consolidated into Commander Naval Reserve Force located in New Orleans, La.

8 January Representatives of the U.S. and Greek navies signed an accord in Athens formally granting the U.S. Sixth Fleet home port facilities in the Athens vicinity. Under the arrangement, one of the Sixth Fleet's two carrier task forces in the Mediterranean Sea would be stationed in the Athens area.

12 January VF-161, flying off *Midway*, shot down a North Vietnamese MiG-17, the last enemy "kill" of the war, making a total of 57 MiGs shot down by Navy and Marine Corps pilots during the Vietnam conflict.

27 January The Vietnam cease-fire, announced four days earlier, came into effect and *Oriskany*, *America*, *Enterprise* and *Ranger*, on Yankee Station, cancelled all combat sorties into North and South Vietnam. During the U.S. involvement in the Vietnam conflict (starting in 1961 and ending on 27 January 1973) the Navy lost 526 fixed-wing aircraft and 13 helicopters to hostile action. The Marine Corps lost 193 fixed-wing aircraft and 270 helicopters to enemy action during the same period. Operation Homecoming, the repatriation of U.S. POWs between 27 January and 1 April, began and NVN and the Viet Cong released 591 POWs. Of the 591 POWs released during Operation Homecoming, 145 were Navy personnel, all but one of whom were Naval Aviation personnel.

1973—Continued

Former POW CDR William R. Stark is greeted by his family upon his arrival at NAS Miramar, Calif.

27 January Task Force 78 was formed to conduct minesweeping operations in North Vietnamese waters under the code name Operation Endsweep. It consisted of surface minesweeping elements and an Air Mobile Mine Countermeasures Command. The latter was made up of HM-12, HMH-463 and HMM-165, organized into units Alpha through Delta, an airborne mine countermeasures planning element, command and control element, an aircraft element and a material element.

28 January Aircraft from *Enterprise* and *Ranger* flew 81 combat sorties on the first day of the Vietnam cease-fire against lines-of-communication targets in Laos. The corridor for overflights was between Hue and Da Nang in SVN. These combat support sorties were flown in support of the Laotian government which had requested this assistance and it had no relationship with the cease-fire in Vietnam.

1 February The U.S. Third Fleet was reactivated at Pearl Harbor, Hawaii, with the merger of the First Fleet and Antisubmarine Warfare Forces, Pacific Fleet. The change was made to reduce fleet staffs and achieve economies while retaining control of operational units, including some 100 ships and 60,000 men serving a 50-million-square mile area from the West Coast to beyond Midway Island.

3 February Task Force 78 flagship *New Orleans,* with escort ships, began a six-day mine countermeasures exercise in Subic Bay, R.P., in preparation for scheduled Endsweep operations in NVN.

5 February Commander, Task Force 78, and other Navy mine demolition experts met with North Vietnamese leaders in Haiphong to discuss Operation Endsweep, the clearing of mines in NVN.

6 February Surface minesweepers of Task Force 78 began preliminary sweeping to prepare an anchorage in deep water off the approaches to Haiphong Harbor. Ships of the force included *New Orleans* and *Inchon*. The ocean anchorage would be used by command and supply ships of the U.S. Navy in on-scene support of minesweeping of NVN harbors, coastal and inland waterways. During the operation Task Force 78 ships were joined by *Tripoli*.

Minesweeping TF-78 on Operation Endsweep off Haiphong Harbor.

6 February NAVAIR established a policy that new avionics equipment generally be designed for automatic troubleshooting with the general purpose Versatile Avionics Shop Test (VAST) computerized equipment. This policy significantly improved the maintenance of avionics equipment through use of the VAST system which was designed with the capability to test the majority of avionics within the Naval Aviation inventory.

11 February Aircraft from *Constellation* and *Oriskany* operating on Yankee Station, the location of which was changed to a position off the coast of the northern part of South Vietnam, flew strikes against

1973—Continued

targets in southern Laos. Combat sorties from carriers on Yankee Station against targets in Laos had continued since the cease-fire in Vietnam.

14 February The Pentagon announced a step-up of U.S. air strikes in Laos to 380 daily, an increase of 100. Aircraft from *Oriskany* and *Enterprise* flew about 160 of these sorties into Laos on this date.

25 February Planes from *Ranger* and *Oriskany* flew combat support missions over Cambodia. The combat support sorties were flown in support of the government of Cambodia at its request.

27 February Airborne mine countermeasures began off Haiphong during Operation Endsweep. This was a "first" in mine warfare as airborne minesweeping had never been done with "live" mines. A CH-53 Sea Stallion from HM-12 made two sweeps in the Haiphong shipping channel. All operations were abruptly halted and minesweeping task force moved to sea as the President called for "clarification . . . on a most urgent basis" of Hanoi's delay in releasing American POWs.

4 March The withdrawal of U.S. troops from Vietnam resumed and the naval minesweeping force returned to its position off Haiphong. Minesweeping operations continued in and around Haiphong and the harbor was reopened after being closed for ten months because of the U.S. naval mining which began in May 1972. In addition, *America* was ordered to depart the Far East for the U.S. This was the initial move in reducing the number of carriers serving in Southeast Asia from six to three by mid-June 1973.

21 March VXN-8 returned to NAS Patuxent River, Md., from Project Magnet deployment to the Southern Hemisphere under the direction of the U.S. Naval Oceanographic Office. During the deployment, two flights were made around the world within the Southern Hemisphere, and an over-the-South-Pole flight by an RP-3D on 4 March was a first for that type of aircraft.

29 March The remaining U.S. combat forces left South Vietnam; and the United States Military Assistance Command, Vietnam (MACV), was disbanded, officially ending U.S. military involvement in South Vietnam. The last phase of Operation Homecoming was concluded when the final group of 148 American POWs was released by Hanoi. This brought the total to 591 POWs released, 566 of whom were U.S. military personnel with 144 being naval pilots and aircrewmen.

29–31 March *Forrestal* led two other Sixth Fleet ships into Tunisian waters where Sea King helicopters from the carrier evacuated some 200 persons and airlifted four tons of relief supplies to flood victims in Tunisia.

1 April Two new air wings were established as the final phase of the reorganization of the AirLant community, completing the functional wing concept: Air Antisubmarine Wing One with VS-22, -24, -27, -30, -31 and -32 and Helicopter Antisubmarine Wing One with HS-1, -3, -5, -7 and -11.

13 April The Secretary of the Navy announced that an agreement with the United Kingdom had been signed providing for an eight-month joint study of an advanced V/STOL Harrier involving participation by Rolls-Royce, Hawker-Siddeley, Pratt & Whitney Aircraft and McDonnell Douglas. The overall aim was to determine the feasibility of joint development of an advanced concept V/STOL incorporating a Pegasus 15 engine and an advanced wing.

16 April The Cruise Missile Project Office was established in the Naval Air Systems Command with responsibility to develop both tactical and strategic versions of the cruise missile.

30 April The last Marine NAP (enlisted Naval Aviation Pilot) retired. He was Master Gunnery Sergeant Patrick J. O'Neil, who enlisted during World War II and completed over 30 years of active duty.

3–9 May Fighting broke out between Lebanese army units and Palestinian guerrillas in Lebanon. Martial law was declared. Among U.S. forces in the Mediterranean, *John F. Kennedy* and *Forrestal* were alerted for possible contingencies. A cease-fire agreement between Lebanese and Palestinian negotiators stabilized the situation.

8 May In a ceremony at the Douglas Aircraft Division, Long Beach, Calif., the first McDonnell Douglas C-9B Skytrain jet transports were accepted by the Navy and delivered to Fleet Tactical Support Squadrons One and Thirty. A commercial version of the DC-9, the C-9B had a maximum 32,444 pound payload range of 1,150 statute miles with a ferry range of about 3,400 miles. It accommodated 107 passengers five-abreast.

18 May A four-day trial of a prototype glide slope indicator was completed aboard *Truxtun* (CGN 35). The indicator, developed by the Naval Air Engineering Center, consisted of a hydraulically stabilized Fresnel lens. It was one of several steps taken to achieve an all weather capability with LAMPS helicopters.

1973—Continued

25 May The first production RH-53D Sea Stallion, specially configured for the airborne mine countermeasures mission, arrived at the Naval Air Test Center, Patuxent River, Md., for weapons systems trials. Navy preliminary evaluation and the initial phase of the Board of Inspection and Survey trials had begun at Sikorsky Aircraft Division on 15 May.

25 May Skylab II, carrying a three-man, all-Navy crew of Captain Charles Conrad, Jr., Commander Joseph P. Kerwin, MC, and Commander Paul J. Weitz, rendezvoused with the earth-orbiting Skylab I workshop. Among the crew's first tasks was repairing the Skylab I meteoroid shield and solar array system which had been damaged during launch. The crew boarded the workshop, made repairs, conducted medical experiments and studied solar astronomy and earth resources for 28 days before returning to earth on 22 June.

7 June The Deputy Secretary of Defense directed the Navy to produce preliminary plans for a $250-million prototype development plan for a jet fighter aircraft costing less than the F-14 Tomcat missile-armed fighter.

13 June The National Aeronautics Association presented the Robert J. Collier Trophy for 1972 jointly to the Navy's Task Force 77 and to the Seventh and Eighth Air Forces for their "demonstrated expert and precisely integrated use of advance aerospace technology" in Operation Linebacker II, the 11-day air campaign in December 1972 against North Vietnam that "led to the return of the U.S. prisoners of war."

22 June The all-Navy crew of Skylab II astronauts was recovered after their 28-day mission in space by HC-1 and flown aboard *Ticonderoga*.

30 June FAW-1 and -2 were redesignated Patrol Wings 1 and 2. This was the end of the use of the FAW (Fleet Air Wing) designation and beginning of the Patrol Wing designation which had been used prior to World War II.

27 July Operation Endsweep was closed officially and Task Force 78 was disbanded. During the six months of its existence, the airborne element had made 3,554 sweeping runs totaling 1,134.7 sweeping hours in 623 sorties. The surface elements had made 208 sweeping runs of 308.8 hours. The aviation material casualties were three helicopters lost in operational accidents. Mine logistics carrier station operations in the Gulf of Tonkin were conducted by *Enterprise*, *Oriskany*, *Ranger*, and *Coral Sea* at various periods and their respective aircraft flew support sorties for Operation Endsweep.

28 July Skylab III commanded by Captain Alan L. Bean, USN, in company with civilian doctor Owen K. Garriott and Major John R. Lousma, USMC, was launched into space.

31 July HSL-33, the Navy's first squadron dedicated solely to providing LAMPS detachments for LAMPS-configured ships of the Pacific Fleet, was established at NAS Imperial Beach, California.

15 August After intensive bombing for more than six months, the U.S. ended its combat involvement in Cambodia, as voted by Congress on 30 June. Aircraft from carriers *Ranger* and *Oriskany* had conducted combat sorties in Cambodia during February. After March 1973, carriers on Yankee Station conducted carrier air patrols; electronic intelligence patrols; surface, subsurface, and surveillance coordinator patrols; and training, tanker, communications relay and reconnaissance sorties.

16 August The F-14's quick-reaction dogfight capability was demonstrated at the Pacific Missile Range, Point Mugu, Calif. when, from a distance of less than a mile, the aircraft shot down a maneuvering QT-33 target drone with a Sparrow III missile.

29 August HM-12 received the first RH-53D Sea Stallion helicopters. The RH-53Ds were configured especially for minesweeping operations.

6 September A BQM-34E Firebee II target drone, equipped with a graphite-epoxy composite wing, was test flown successfully at the Point Mugu Sea Test Range, Calif., reaching a speed of Mach 1.6 at 40,000 feet and a maximum acceleration of six Gs. The graphite-epoxy composite would save 40 percent of the weight of metal counterparts in various aeronautical applications. The test wing was designed and fabricated by the Naval Air Development Center, Warminster, Pa.

7 September The Navy announced that the Blue Angels flight demonstration team planned to switch to the slower, smaller and less expensive A-4F Skyhawks rather than continue to use the F-4J Phantoms they had been flying since 1969.

25 September The three astronauts of Skylab III made a successful splashdown in the Pacific, ending a record 59-day, 24-million-mile flight. They were recovered by HC-1 and flown aboard *New Orleans*. During Skylab III, Captain Alan L. Bean, USN, Commander of Skylab III, set a new record for the most time in space, eclipsing Navy Captain Charles Conrad's record of 49 days, three hours, and 37 minutes.

1973—Continued

The S-3A Viking making its first catapult launch from Forrestal as part of its initial carrier suitability tests C121073

1 October The formal Board of Inspection and Survey service acceptance trials of the S-3A began at the Naval Air Test Center, Patuxent River, Md. The tests were to utilize seven S-3A aircraft during a four-month period, including weapons system checkouts, carrier suitability, flying qualities and performance, and propulsion and airframe evaluation.

5 October *Midway*, with CVW-5 embarked, put into Yokosuka, Japan, marking the first home porting of a complete carrier task group in a Japanese port as a result of the accord arrived at on 31 August 1972 between the U.S. and Japan. In addition to the morale factor of dependents housed at a foreign port, the development had strategic significance because it facilitated continuous positioning of three carriers in the Far East at a time when the economic situation demanded the reduction of carriers in the fleet.

8–13 October Task Force 60.1 with *Independence*, Task Force 60.2 with *Franklin D. Roosevelt* and Task Force 61/62 with *Guadalcanal* were alerted for possible evacuation contingencies in the Middle East. *John F. Kennedy*, in the Atlantic, was directed to a holding area off Gibraltar.

9 October The Pentagon announced that *Guadalcanal*, an amphibious assault ship with U.S. Marines aboard, was operating in the eastern Mediterranean Sea as part of the Sixth Fleet. Other elements of the fleet were moving toward Crete, including *Independence* and *Franklin D. Roosevelt*, on alert as a result of the 1973 Yom Kippur war between Arab and Israeli forces.

19–24 October Some 50 A-4 aircraft were flown from the U.S. to supply Israel, staging through the Azores and *Franklin D. Roosevelt* which was located south of Sicily. When necessary, *John F. Kennedy*, off Gibraltar and *Independence*, off Crete, also provided assistance. On the 24th, *Iwo Jima* entered the Mediterranean with reinforcing Marines.

27 October Due to the situation in the Middle East, the U.S. government ordered a worldwide "precautionary alert" of its military forces. Possible unilateral intervention by the Soviet Union was feared. By 28 October, three U.S. aircraft carriers and two amphibious assault carriers were off Crete.

1973—Continued

29 October The Defense Department announced that a naval task force centering around *Hancock* had been ordered to the Indian Ocean. This was prompted by the Middle East war and the consequent Arab oil embargo and was the first of four task groups deployed into the Indian Ocean in 1974 to focus on such areas as the entrance to the Persian Gulf and the entrance to the Red Sea.

16 November Skylab IV, commanded by Lieutenant Colonel Gerald P. Carr, USMC, and with a crew consisting of Lieutenant Colonel William R. Pogue, USAF, and Edward G. Gibson, civilian, was launched at the Kennedy Space Center, Fla. The scheduled 56-day "open-ended" space flight had among its aims study of the Comet Kohoutek, earth resources and the sun.

21 November In the first test of its full arsenal of Phoenix missiles, an F-14 operating over the Pacific Missile Sea Test Range, Calif., fired six Phoenix missiles and guided them simultaneously at six separate targets 50 miles away, obtaining four direct hits.

1 December The Blue Angels became the Navy Flight Demonstration Squadron (Blue Angels) and was designated a shore activity located at NAS Pensacola, Fla.

Bow view of Tarawa, the first ship in the new class of Amphibious Assault Ships, underway

1973—Continued

7 December *Tarawa*, the first of a new class of amphibious assault ships, was launched at Pascagoula, Miss.

17 December *Iwo Jima* departed Tunisia after three days of flood relief assistance by her helicopters which conducted refugee rescue, equipment deliveries and other flood associated missions.

20 December Two women physicians, Lieutenants Jane O. McWilliams and Victoria M. Voge, graduated from the Naval Flight Surgeon Training Program, to become the first women naval flight surgeons.

20 December The Naval Air Engineering Center was relocated officially from Philadelphia, Pa., to NAS Lakehurst, N.J., and authority and responsibility for the air station was reassigned to the Chief of Naval Material to be exercised through NAVAIR. Subsequently, on 8 January 1974, the Air Station was placed under the Naval Air Engineering Center. Thereby, the basic organization arrangements involved in relocation of the Naval Air Engineering Center from League Island, Philadelphia to NAS Lakehurst were completed although the physical transfer would be phased over much of 1974. The relocation was part of the Shore Establishment Realignment announced by the Secretary of Defense in March of 1973. Thus, an affiliation between Naval Aviation and the League Island site at Philadelphia, which began with the establishment of the Naval Aircraft Factory in 1917, was terminated except for a few residual aviation oriented functions.

31 December Ellyson Field, NAS Pensacola, Fla., officially became the Naval Education and Training Program Development Center to administer the Navy's enlisted advancement system, including the development of advancement and special examinations as well as administering and conducting various courses, studies and training programs.

1974

18 January The Secretary officially named the Navy's fourth nuclear-powered carrier *Carl Vinson*. The name was chosen in honor of Carl Vinson's contributions to the national defense during his fifty years in the House of Representatives.

4 February VT-4 students aboard *John F. Kennedy* conducted the final flights of the TF-9J Cougars.

5 February The Naval Aerospace Institute at Pensacola, Fla., announced that the repatriated Navy and Marine Corps prisoners-of-war from Vietnam were scheduled to come to Pensacola for periodic checks of their physical and mental status.

8 February Skylab IV astronauts Lieutenant Colonel Gerald P. Carr, USMC, mission commander, Dr. Edward Gibson, and Lieutenant Colonel William Pogue, USAF, landed in the Pacific after a record-setting 84 days in space. They were recovered by HC-1 which flew them aboard *New Orleans*. This event marked the 32nd astronaut retrieval by Naval Aviators since the space program began in 1961.

20 February The S-3A Viking ASW aircraft was introduced officially in the Navy in ceremonies at NAS North Island, Calif. VS-41 accepted the first aircraft. The Viking, a highly advanced, carrier-qualified jet aircraft, was designed to replace the older, propeller-driven S-2 Tracker which had been the Navy's primary carrier-based submarine hunter for over twenty years.

ADM Thomas B. Hayward, CNO, delivering remarks at the launching ceremony for Carl Vinson in 1980 KN-29933

1974—Continued

22 February Lieutenant (jg) Barbara Ann Allen became the Navy's first designated female aviator when she received her Wings of Gold in a ceremony at NAS Corpus Christi, Tex.

1 March Sikorsky's triple-turbine helicopter, the YCH-53E, the largest and most powerful helicopter in the western world, made its first flight. The CH-53E was a growth version of the CH-53 which had been in Navy service since 1965.

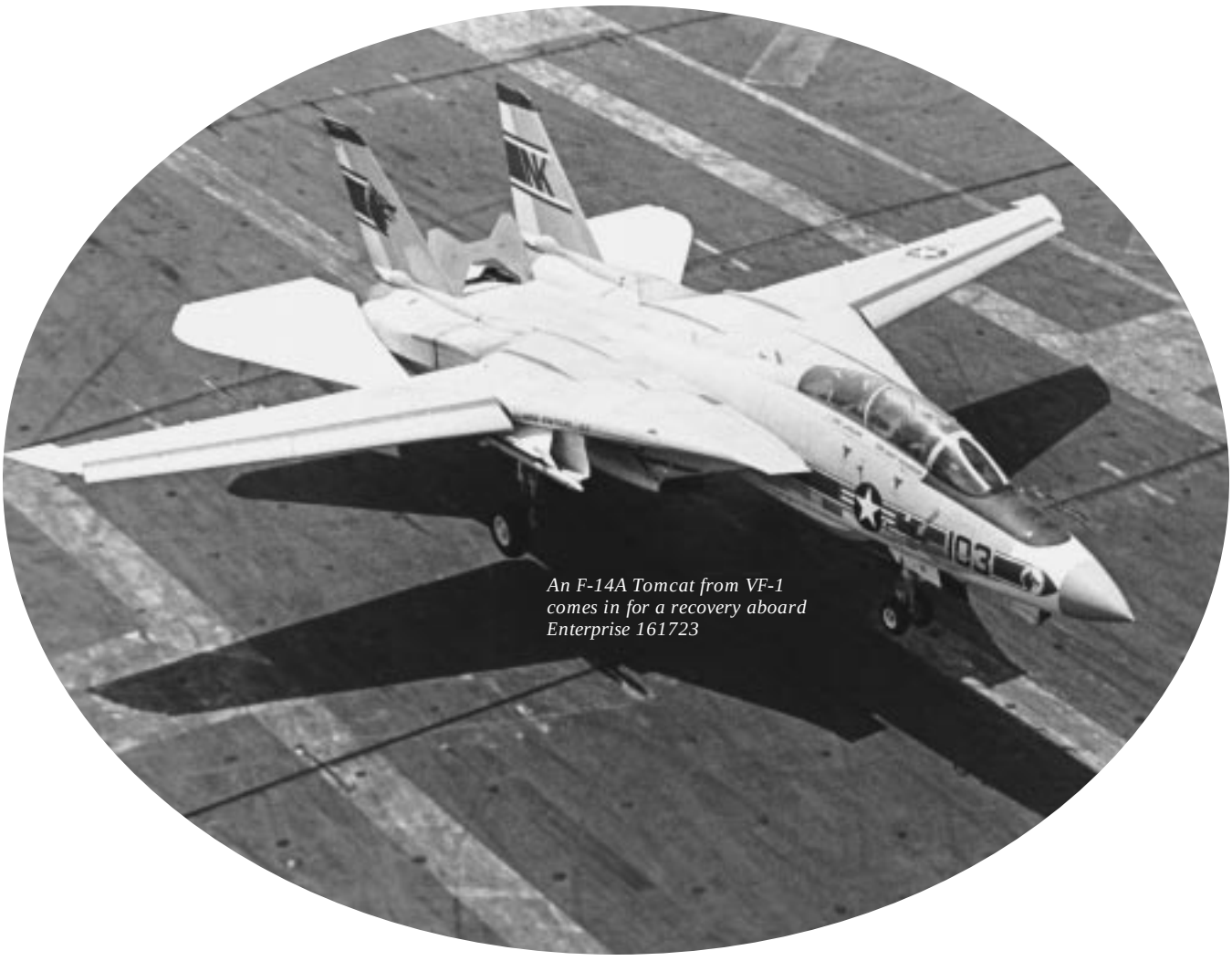
1 March *John F. Kennedy* commenced a year-long overhaul at Norfolk Naval Shipyard to be converted to handle the new CV concept (an air wing capable of performing strike and ASW operations) and to operate the new F-14 Tomcat fighter as well as the S-3A Viking.

15 March *Intrepid* was decommissioned and placed in the reserve fleet after thirty years of service to the Navy. Since her commissioning on 16 August 1943, *Intrepid* had seen duty as a CV, CVA and CVS. During World War II her air groups shot down 266 enemy planes, destroyed 298 more on the ground and damaged 178 others.

18 March The first operational F-14 Tomcat fighter aircraft made its maiden landings and takeoffs from *Enterprise*. The operations were conducted by VF-1 and -2 of CVW-14.

22 March Rear Admiral Brian McCauley arrived in Cairo, Egypt, with a small military planning staff to help plan the clearing of the Suez Canal of unexploded ordnance. The United States, Egypt, France, and the United Kingdom were involved in the project known as Nimbus Star.

2 April The last C-54 Skymaster in the Navy's flying inventory was retired to storage. The twenty-nine-year-old C-54Q saw its last service with the Naval Test Pilot



An F-14A Tomcat from VF-1 comes in for a recovery aboard Enterprise 161723

1974—Continued

School, NAS Patuxent River, Md. The Skymaster, BuNo 56501, had flown almost 15,000 hours with more than 2,500,000 nautical miles since its acceptance on 24 March 1945.

11 April At the Naval Missile Center, Point Mugu, Calif., the P-3 Orion fired its first Harpoon missile. The aircraft involved was a P-3A; the missile scored a direct hit on a remote-controlled *Septar* target boat.

14 April The Navy donated the ASW carrier *Yorktown* to Charleston, S.C., for the city's National Naval Museum. The "Fighting Lady" had spent 25 years with the Pacific Fleet before being transferred to the Atlantic in 1969. She was decommissioned 27 June 1970.

22 April A twelve-plane detachment of RH-53D Sea Stallions from HM-12 began minesweeping the Suez Canal as part of Project Nimbus Star.

4 June NAVAIR established an Aircraft Survivability/Vulnerability branch. This office was created in response to the need for a thoroughly coordinated Navy technical program addressing the need for better aircraft survivability in combat.

5 July Two Marine Corps aviators, Major John H. Pierson and his co-pilot, Major David R. Shore, flew an OV-10A Bronco 4,480 kilometers from NAS Whidbey Island, Wash., to Homestead AFB, Fla. This flight set a new world record for distance in a straight line by a Class C-1-F, Group II aircraft. The National Aeronautics Association sanctioned the record.

22 July As a result of the conflict between Turkish and Greek Cypriot forces on Cyprus, the U.S. Ambassador to Cyprus, Roger Davies, requested the evacuation of U.S. citizens. In a joint Navy/Marine Corps effort, HMM-162 from the Sixth Fleet carrier *Inchon* evacuated 466 people, 384 of them U.S. citizens, in only five hours. *Forrestal* provided air cover for the operation.

5 August The world's largest unmanned balloon was launched successfully from Fort Churchill in Manitoba, Canada. The flight was sponsored by the Office of Naval Research and NASA's Office of Space Science. The facilities of the Navy's Skyhook program were used for the launch. The entire flight train—balloon, an 800-pound instrument package, and a parachute—lifted to an altitude of 155,000 feet. As the balloon rose to float altitude it assumed a fully inflated form of 512 feet in diameter with a volume of 50.3 million cubic feet. The balloon traveled 500 miles west and was tracked by Project Skyhook's DC-3.

9 August The Navy announced the first acceptance by VQ-4 of an EC-130 Hercules TACAMO aircraft.

10 August Sikorsky's YCH-53E, Number 1, flew in a hover at a gross weight of 71,700 pounds. It carried an external load of 17.8 tons and hovered at a wheel height of fifty feet. This was the heaviest gross weight ever flown—and the heaviest payload ever lifted—by a helicopter in the western world.

24 August Navy and Marine Corps helicopters completed six days of disaster flood relief work in central Luzon, R.P. Aircraft from NAS Cubi Point, R.P., *San Jose* (AFS 7), *Tripoli* and Clark AFB, R.P., provided airlift of emergency food supplies.

RH-53D Sea Stallion of HM-12 minesweeping the Suez Canal 1151672

1974—Continued

28 August The Chief of Naval Operations released a formal VFAX operational requirement directing NAVAIR to perform industrial solicitation and full-scale development. The VFAX concept was by this time under management by NAVAIR's PMA-265. The aircraft that finally emerged from the VFAX concept was the McDonnell Douglas F/A-18 Hornet.

14 September The SEU-3/A Lightweight Ejection Seat manufactured by the Stencel Aero Engineering Company primarily for the AV-8A Harrier was approved for service use.

17 September *Enterprise* sailed from San Francisco, Calif., with VF-1 and -2 aboard. This event marked the initial deployment of the Grumman F-14 Tomcat, the Navy's newest fighter.

17 September The prototype LAMPS MK-III H-2/SR helicopter was delivered to the Kaman Aerospace Corporation for flight certification tests. Prior to this delivery, Naval Air Development Center, Warminster, Pa., engineers completed extensive design modifications which were required to incorporate the LAMPS MK-III developmental avionics package.

2 October The Joint Logistics Commanders signed an agreement making Dupont's HT-4 the standard fabric for all flight suits.

19 November The Central Treaty Organization Exercise Midlink 74 got underway as the largest naval exercise ever held in the Arabian Sea. Participating were forces from the United States, United Kingdom, Iran, Pakistan, and Turkey. *Constellation* was part of the eight-ship force from the United States.

2 December The Navy's Advanced Low Volume Ramjet (ALVRJ) successfully completed its first free flight at the Pacific Missile Range at Point Mugu, Calif. The ALVRJ was a unique propulsion system designed for high performance missiles. It was developed for NAVAIR by LTV.

1975

3 January The Association of Naval Aviation was formally founded "to stimulate and extend appreciation of Naval Aviation . . . past, present and future." The non-profit organization became open to any officer, enlisted person or civilian who contributed to, or was interested in, U.S. Naval Aviation.

17 January The first production model of Lockheed's updated P-3C Orion was delivered to VX-1, the Navy's antisubmarine warfare evaluation squadron at NAS Patuxent River, Md. New avionics and software included a versatile computer language, the Omega worldwide navigation system, increased sound-processing sensitivity, a tactical display scope, improved magnetic tape transport, and a seven-fold increase in computer memory capacity from 65,000 to 458,000 words.

21 January *Saratoga*, along with three other surface vessels, was released from contingency response off Cyprus. *Saratoga* had been maintaining a response alert for possible assistance in the evacuation of American citizens from the strife-torn island.

28 January The AIM-54 Phoenix missile was given approval for service use.

9 February *Enterprise* responded to calls for disaster relief from the island nation of Mauritius which was struck on 6 February by Typhoon Cervaise. Arriving at Port Louis on the 12th, carrier personnel spent more than 10,000 man-hours rendering such assistance as restoring water, power and telephone systems, clearing roads and debris, and providing helicopter, medical, food and potable water support to the stricken area.

15 February The Sikorsky YCH-53E transport helicopter completed Navy Preliminary Evaluation conducted by the Naval Air Test Center, Patuxent River, Md., and HMX-1.

2 March The F-14A Tomcat and the Phoenix Missile system were given approval for service use.

17 March The S-3A Viking was given approval for service use.

18 March NAVAIR established an Assistant Commander for Test and Evaluation and assigned to him the functions involving management of T & E and its facilities. This important organizational development had its direct origins in a decision by the Secretary of Defense (SECDEF) made in mid-1960s which stressed the need for adequate Test and Evaluation (T & E) data to provide a basis for determining whether new equipment was developed sufficiently to warrant procurement for service use. In a much more historic sense, the establishment of the Assistant Commander, Test and Evaluation was part of Naval Aviation's long-standing commitment to a consolidation of T & E. This commitment resulted, as early as 1942, in the creation of NAS Patuxent River, Md., as a facility for testing experimental airplanes, equipment, and material.

1975—Continued

23 March *Hancock,* en route from Subic Bay, R.P., as relief for *Enterprise,* on station in the South China Sea, loaded HMH-463 at Pearl Harbor, Hawaii, for transport to the southwest Pacific. The unit would support operations in case evacuations of American and other nationals from areas of the Indochinese peninsula became necessary. Meanwhile, North Vietnamese forces continued their advance southward and were poised to cut off the entire northern quarter of the Republic of Vietnam some 300 miles north of Saigon.

1 April Eugene Taylor "Smokey" Rhoads, Chief Aviation Pilot, USN, died at the Veterans Hospital, San Diego, Calif. Rhoads was a member of the flight crew that made the first trans-Atlantic flight in May 1919 in the NC-4.

12 April Operation Eagle Pull was activated for Cambodia. Twelve CH-53 Sea Stallions of HMH-462 evacuated 287 persons from Phnom Penh to *Okinawa.* Among those evacuated were U.S. Ambassador John Gunther Dean and Cambodian President Saukhm Khoy, as well as newspapermen and other foreign nationals. Upon completion of the evacuation, helicopters of HMH-463 from *Hancock,* retrieved the elements of the 31st Marine Amphibious Unit which had established the perimeter from which the evacuees had been rescued.

13 April The Naval Aviation Museum was dedicated at Pensacola, Fla. All funds for construction of the 68,000-square-foot structure had been donated privately. The building was presented to the Navy by the Naval Aviation Museum Foundation, Inc. It replaced the small temporary museum set up in 1962. Among the 72 vintage aircraft at the museum, a feature attraction was the original NC-4, the first airplane to fly the Atlantic Ocean. Plans, and an ongoing drive for privately donated funds, called for continued expansion of the new museum through three more stages to eventually reach 260,000 square feet of floor space.

19 April *Midway, Coral Sea, Hancock, Enterprise* and *Okinawa* responded to possible evacuation contingencies by deploying to waters off Vietnam as North Vietnam overran two-thirds of South Vietnam and pronounced the carriers' presence a brazen challenge and a violation of the 1973 Paris Peace Accords.

Sailors from Durham (LKA 114) lending a hand K-107587

Sailor from Durham (LKA 114) cares for two Vietnamese children separated from their mother during the evacuation K-107619

1975—Continued

29 April In a period of three hours, Operation Frequent Wind was carried out by U.S. Navy and Marine Corps helicopters from the Seventh Fleet. Frequent Wind involved the evacuation of American citizens from the capital of South Vietnam under heavy attack from the invading forces of North Vietnam. The military situation around Saigon and its Tan Son Nhut airport made evacuation by helicopter the only way out. President Ford ordered the evacuation when Viet Cong shelling forced the suspension of normal transport aircraft use at Tan Son Nhut. With fighter cover provided by carrier aircraft, the helicopters landed on Saigon rooftops and at Tan Son Nhut to evacuate the Americans. The airport became the main helicopter landing zone; it was defended by Marines from the 9th Amphibious Brigade flown in for that purpose. All but a handful of the 900 Americans in Saigon were evacuated. The last helicopter lifted off the roof of the United States Embassy at 7:52 p.m. carrying Marine security guards.

Flight from Saigon as Communists take over in 1975.

Escaping South Vietnamese pilot and family land aboard Midway, plane is now at Naval Aviation Museum, Pensacola, Fla.

1975—Continued

30 April VW-4, the Hurricane Hunters, was disestablished. Established 15 November 1952 as VJ-2 and redesignated VW-4 in 1953, it was the Navy's last squadron specifically detailed for hurricane reconnaissance. During its more than 30 years of service, VW-4 made major contributions to meteorological science, oceanographic research, the National Weather Service, and the Naval Weather Service Command.

2 May *Midway* off-loaded at Utapao, Thailand, over 40 USAF helicopters used in South Vietnam evacuation operations. At the same time, carrier personnel assisted in the recovery and on-loading from the Utapao Airport of over 95 South Vietnamese Air Force craft, including F-5 fighters and A-37 light bombers, which had been flown into Utapao when South Vietnam fell to the Communists. The aircraft were transported to Guam.

2 May Development of a new carrier-based fighter by the McDonnell Douglas and the Northrop aircraft corporations was announced by NAVAIR. To be designed for speeds in excess of Mach 1.5, a combat ceiling in excess of 45,000 feet and a radius of action of more than 400 nautical miles, development was to emphasize improved maneuvering performance, reliability, and maintainability.

5 May The first training class for a new type of physician, the Aviation Medical Officer (AMO), began at the Naval Aerospace Medical Institute, Pensacola, Fla. The program was initiated because of the acute shortage of flight surgeons. The AMOs were not scheduled to undergo flight training nor be assigned duty involving flying; instead, they were to augment the efforts of flight surgeons where aeromedical workloads were heavy, performing flight physicals and providing routine medical care.

12–14 May *Coral Sea* participated with other Navy, Air Force and Marine forces in the recovery of the American merchantship SS *Mayaguez* and her 39 crewmen, illegally seized on 12 May in international waters by a Cambodian gunboat controlled by the Communist Khmer Rouge. Protective air strikes were flown from the carrier against the Cambodian mainland naval and air installations as USAF helicopters with 288 Marines from Battalion Landing Teams 2 and 9 were launched from Utapao, Thailand, to rescue the crew and secure the merchantman. Eighteen Marines, airmen and Navy corpsmen were lost in action. Alerted for response, but not utilized before the release of the commandeered ship and crew on the 14th, were *Hancock*, operating as an LPH platform, and *Okinawa*.

1 July All U.S. naval gunfire training activities at the Puerto Rican island of Culebra were terminated through a joint Washington-San Juan agreement, ending a controversy that had dragged on for years. The announcement indicated that air-to-ground weapons training at Culebra Cays would continue for a limited time only because of previously scheduled training activities.

1 July The aircraft carrier designation CVA was replaced with CV. This change was made to improve the accuracy of designations in modern warfare. By removing the letter A, which stood for attack, the new designation CV could serve a multipurpose air, surface, and ASW role, depending on the type of aircraft carried.

24 July HS-6 operating off *New Orleans* recovered the Apollo spacecraft and astronauts Vance D. Brand (former Navy pilot), Thomas P. Stafford (USAF) and Donald K. Slayton (USAF). This splashdown marked the end of the Apollo-Soyuz mission, the first joint U.S.-Soviet space effort, and the end of the Apollo Program. It was also the final planned at-sea recovery in the U.S. space program.

28 July The U.S. Senate cleared the way for construction at Diego Garcia by voting to expand the U.S. support facility on the Indian Ocean island. It ended a long dispute over construction at the installation, permitting the Navy to begin an $18.1 million expansion to include aircraft runway extension, petroleum-oillubricants storage areas, a pier and additional power plant facilities.

29 July The Navy created the lighter-than-air project office at the Naval Air Development Center, Warminster, Pa. The purpose of this office was to enhance expertise in lighter-than-air technology within the Navy.

1 August A KA-3B Skywarrior, attached to VAQ-208, completed the longest nonstop flight ever made by a carrier-based tactical jet aircraft. The flight originated at the Naval Station, Rota, Spain, and ended at NAS Alameda, Calif. It covered a distance of 6,100 miles and lasted 13 hours.

2 August The Commandant of the Marine Corps announced that the twelve Marine Corps fighter/attack squadrons would remain an all F-4 Phantom force until their replacement by F-18 aircraft beginning in the early 1980s. The Marine Corps was scheduled originally to be equipped with four squadrons of the F-14 Tomcats, but instead these four would be used to transition four Navy fighter squadrons from F-4s to F-14s, thus retaining the authorized 18- squadron Navy force for overall air defense.

1975—Continued

14 August The newly commissioned *Nimitz* completed refresher training at Guantanamo Bay, Cuba, before beginning her cruise with a nuclear task force to northern European waters. The world's largest ship at the time, *Nimitz* had an overall length of 1,092 feet, an extreme breadth of 292 feet, a flight deck area of four and a half acres, and displaced 95,000 tons with a combat load. The Navy's second nuclear carrier, *Nimitz* was named in honor of the World War II hero and former Chief of Naval Operations, Fleet Admiral Chester W. Nimitz.

Nimitz commissioned on 3 May 1975 1161470

26 Septmber The Chief of Naval Operations approved the popular name Tomahawk for the Navy's SLCM.

3 October VMGR-352 took delivery of the first KC-130R Hercules refueler/transport.

22 October The Chief of Naval Operations and Defense Systems Acquisition Review Council initiated new policies on development and operational test and evaluation functions along with weapon system acquisition.

24 October The Navy reported that a new method of conducting Shrike pilot training programs had been developed. This method consisted of captive flight firings linked to a communications pod and was performed at the Air Combat Maneuvering Range at Yuma, Ariz. The new method could be adopted to all versions of the A-4 Skyhawk, A-6 Intruder and A-7 Corsair aircraft.

27 October *Inchon* and five surface vessels served as a contingency evacuation force, with *John F. Kennedy* in support, as U.S. citizens were advised to evacuate their dependents from Lebanon due to prolonged government instability and increased armed skirmishing among political factions in the country.

1 November Effective this date, the Naval Aerospace Recovery Facility at NAF El Centro, Calif., was disestablished and the mission statement of the National Parachute Test Range, also at El Centro, was modified to absorb its function. The Naval Air Facility was assigned to the CNO for command and support.

25 November The first launch in the XJ521 Program took place at Point Mugu. The XJ521 was an air-to-air medium range missile resulting from modifications by the United Kingdom to the American Sparrow AIM-7E-2. The missiles were fired from an F-5 aircraft at QT-33 targets.

6 December H-46 Sea Knight helicopters from NAS Whidbey Island, Wash., began search and rescue operations in the northwestern Washington state areas flooded by heavy rains. Four days of this humanitarian work saw a total of 113 people evacuated after being stranded by the flood waters.

8 December The first production prototype of Sikorsky's three-engine, multimission CH-53E transport helicopter made its first flight at the company's Connecticut plant. The flight of about 30 minutes consisted of low-altitude hovering and limited maneuvering.

1976

28 January The Navy awarded a contract for an initial funding of $16 million to the McDonnell Douglas Corporation to begin full-scale development of the new F-18 Air Combat Fighter.

11 February The first Terrain Contour Matching (TERCOM) Guidance Test Vehicle was flown using a modified Navy Firebee drone. TERCOM was then used in the Tomahawk Cruise Missile.

1976—Continued

18 February The night attack weapons system, a modified air-to-surface Maverick missile designed to enhance the performance of night tactical and strike aircraft, scored a direct hit on a moving M-48 tank during a test conducted at the Naval Weapons Center, China Lake, Calif.

2 March Two VS-22 Lockheed S-3A Viking aircraft landed aboard *Saratoga* off the coast of Italy, completing the first Atlantic crossing by S-3A Vikings. The S-3A Vikings departed NAS Cecil Field, Fla., and made stops at NAS Bermuda, NAS Lajes, Azores, and NS Rota, Spain, before landing on *Saratoga*. Their flight across the Atlantic proved that rapid augmentation of S-3A Viking carrier antisubmarine assets was possible from long distances.

20 May Bell Helicopter's AH-1T made its first flight. The following week the AH-1T flew to 120 knots and did mild sideslips, climbs and descents.

26 May A contract for a new Navy multi-engine aircraft trainer to be designated T-44A was awarded to Beech Aircraft. The aircraft would replace the TS-2A.

28 May Helicopter crews from HS-4 aboard *Ranger;* detachments from HC-3 on *Camden* (AOE 2), *Mars* (AFS 1) and *White Plains* (AFS 4); and helicopters from NAS Cubi Point, R.P., assisted in the Philippine disaster relief efforts in the flood ravaged areas of Central Luzon. Over 1,900 people were evacuated; more than 370,000 pounds of disaster relief supplies and 9,340 gallons of fuel were provided by Navy and Air Force helicopters.

29 May *Tarawa* was commissioned at Ingalls Shipbuilding Division of Litton Industries in Pascagoula, Miss. *Tarawa* was the first of five in a class of amphibious assault ships to join the fleet.

5 June The Navy launched the first fully guided Tomahawk cruise missile over the White Sands Missile Range in New Mexico. The missile was airborne for 61

CH-46 helicopters from HMM-163 operating from Tarawa K-114732

1976—Continued

minutes after it was released from the wing of a Pacific Missile Test Center, Patuxent River, Md., A-6 Intruder aircraft at an altitude of 11,500 feet. This was the first in a series of flights intended to test the functional operation of the test vehicle's capability to perform navigation, guidance updates, and low-terrain following maneuvers. It was also the first test flight using a turbofan engine, previous tests had utilized the turbojet engine.

6 June An A-6 Intruder successfully test fired the tactical version of the Tomahawk cruise missile using the TERCOM navigation system. The Tomahawk was designed as a long-range weapons system with strategic and tactical application which could be launched from tactical and strategic aircraft, surface ships, submarines and land platforms.

24 June The Navy accepted its first T-34C Mentor aircraft. The new aircraft would replace the aging T-34B and T-28B/C used in primary and basic flight training. It would be the first training command aircraft to have maintenance and supply support provided by civilian contractors.

24 June The Navy's Air-Launched Low Volume Ramjet (ALVRJ) set a new distance record traveling over 100 nautical miles at sustained speeds of over 1,700 miles per hour. This was the fifth flight for the ramjet at the Navy's Pacific Missile Test Center at Point Mugu, Calif.

30 June A new eight-inch laser-guided projectile, developed jointly by the Navy and Marine Corps, was fired successfully from the new major caliber light weight gun mounted in *Hull* (DD 945).

30 June A Naval Aviation tradition came to an end when brown shoes were stricken from the officers' and chiefs' uniforms. The tradition initially distinguished the Brown Shoe Navy of the aviators from the black shoes of the surface officers.

1 July The Navy's Sea-Air Operations Gallery, part of the new National Air and Space Museum of the Smithsonian Institution, was opened to the public. The Sea-Air Operations Gallery presented a "you are there" mock-up of an aircraft carrier's hangar deck, bridge and preflight operations room. Audio/visual presentations of take-offs and landings from a carrier were presented in the bridge areas. The hangar deck included Navy aircraft past and present. Famous events in Naval Aviation history were depicted throughout the gallery.

6 July *Coral Sea* was presented the Meritorious Unit Commendation for her actions during the *Mayaguez* crisis in May 1975. *Coral Sea* played a major role in the return of SS *Mayaguez* after Cambodian gunboats seized the merchant ship on the high seas off the coast of Cambodia. *Coral Sea* provided air support to the landing of Marines at Koh Tang Island as CVW-15 conducted strikes on specified military targets.

9 July The CH-46 Sea Knight helicopter's effectiveness and life were extended with the delivery of the first two CH-46E prototypes. The major modifications to the CH-46E helicopters were new T-58-GE-16 engines, an Omega-Doppler navigation system, new crashworthy pilot and copilot seats, a combat crashworthy fuel system, a new rescue hoist and an infrared suppressor for engine exhaust.

12 July *Ranger* and her escort ships of Task Force 77.7 entered the Indian Ocean and were assigned to operate off the coast of Kenya in response to a threat of military action in Kenya by Ugandan forces. A VP-17 P-3 aircraft visiting Nairobi and a U.S. Middle East Force ship visiting Mombassa further demonstrated U.S. friendly ties and support for Kenya during her crisis with Uganda.

12 July The Navy phased out the last C-117 (Douglas DC-3), perhaps the most famous transport plane of all time. The last C-117 was flown from Pensacola, Fla, to Davis Monthan Air Force Base, Ariz., the boneyard for obsolete military aircraft.

27 July *America* and other elements of Task Force 61, with *Nimitz* standing by, supported the evacuation of 160 Americans and 148 other nationals from Beirut, Lebanon. The amphibious transport ship *Coronado* (LPD 11) removed the evacuees from Lebanon and arrived in Athens on 29 July. During January through July 1976 the contingency evacuation force for the "Lebanon Civil War Crisis" involved, at different intervals, the support of *America*, *Nimitz*, *Iwo Jima*, *Independence*, *Guadalcanal* and *Saratoga*.

27 July The first phase of a program to develop the AV-8B Harrier, a version of the current AV-8A with improved payload and range, was approved by the Department of Defense.

13 August An HU-16 Albatross, the Navy's last operational seaplane made its final water landing in Pensacola Bay, Fla. After two-touch-and-go landings the aircraft was flown to Sherman Field where it was turned over to the Naval Aviation Museum in Pensacola.

1976—Continued

A P-3B Orion from VP-17 on patrol in the Pacific Ocean.

20 August *Ainsworth* (FF 1090) became the first ship to have installed a production version of the Harpoon Command and Launch Missile System.

21 August A Navy task force headed by *Midway* made a show of force off the coast of Korea in response to an unprovoked attack on two U.S. Army officers who were killed by North Korean guards on 18 August. *Midway's* response was in support of a U.S. demonstration of military concern vis-à-vis North Korea.

29 August The Navy's last S-2 Tracker aircraft, operating with VS-37, was withdrawn from active service. Many of the pilots who flew the Tracker credit it with being the Navy's most versatile airplane of its era. The S-2 entered service with VS-26 in February 1954 and provided the Navy with 22 years of active service.

15 September Test flights began on the east coast air combat maneuvering range (ACMR) under construction off the coast of Cape Hatteras, N.C. This follow-on system to the Navy ACMR at Yuma, Ariz., would provide air combat training for East Coast squadrons.

17 September The new space shuttle program was unveiled by NASA. Of the 28 astronauts in the space program, 12 had either a Navy or Marine Corps aviation background.

29 September The Navy's Ship-Deployable, Tactical, Airborne Remotely-Piloted Vehicle (RPV) (STAR) achieved the first automatically closed-loop recovery of an RPV into a net-encapsulated arresting assembly. The test occurred at the National Parachute Test Range, El Centro, Calif.

30 September *Oriskany*, the last Essex-class attack carrier, was decommissioned at San Francisco, Calif., and placed in the mothball fleet. *Oriskany* saw extensive action in the Korean and Vietnam conflicts.

4 October The first overseas operational commitment on a carrier for the AV-8A aircraft began when VMA-231, equipped with the AV-8A Harrier, embarked on *Franklin D. Roosevelt* and departed for the Mediterranean Sea for a Sixth Fleet deployment.

5 November The latest model of the Sea Cobra helicopter, the AH-1T, was turned over to the Marine Corps from Bell Helicopter Textron for further testing. The new version offered an improved payload of 4,392 pounds over the previous payload of 2,739 pounds.

13 November The first at-sea firing tests of the SM-2 (extended range) guided missile from *Wainwright* (CG 28) were completed, using a modified Terrier fire control system to control the missile flight. *Wainwright's* test capped a highly successful five-year program with observers reporting excellent accuracy.

1976—Continued

1 December Naval Air Facility, China Lake, Calif., was disestablished after more than 30 years as a separate command, and became part of the Naval Weapons Center.

1 December NAAS Saufley Field, Fla., was disestablished. The closing of the basic tactical and combat flying base brought to an end one of the early fields used in association with the training of Naval Aviators at NAS Pensacola, Fla. The primary training installation was opened for flight purposes in 1940 and named after Richard C. Saufley, Naval Aviator #14, who was killed while on a record endurance flight on 9 June 1916 after being in the air 8 hours and 51 minutes. Saufley Field was used initially by aviation students practicing landings and takeoffs away from the normal flight pattern at NAS Pensacola. Established as NAAS Saufley Field in 1943, aviation students in basic training received instructional courses in ground training, formation flying, and cross-country flying employing the SNJ Texan and T-28 aircraft.

1977

6 January The first F404 development engine was tested successfully at the General Electric plant in Lynn, Mass., approximately a month ahead of schedule.

13 January NAS Jacksonville, Fla., announced that two AV-8A Harrier aircraft had made a bow on approach and landing aboard *Franklin D. Roosevelt*. This may have been the first time in Naval Aviation history that a fixed-wing aircraft made a bow-on, downwind landing aboard a carrier at sea. This landing, with jets facing aft, demonstrated that V/STOL aircraft could be landed aboard a carrier without many of the conditions necessary for fixed-wing, non-V/STOL aircraft.

14 January For the first time, an all-nuclear-powered task group was operating in both deployed fleets. The Seventh Fleet task group was composed of *Enterprise* and her nuclear-powered escort ships, while the Sixth Fleet task group had *Nimitz* with her nuclearpowered escort ships.

31 January The TA-7C, a two-seat Corsair II converted from an earlier model and designated a combat crew and instrument trainer, was delivered to the Navy for use at NAS Cecil Field, Fla., and NAS Lemoore, Calif. Replacement pilots for the light attack squadrons flying A-7s would train in the TA-7Cs.

27 February *Enterprise* and her escort ships were directed to operate off the east African coast in response to public derogatory remarks against the U.S. by the President of Uganda and his order that all Americans in Uganda meet with him.

1 March The Naval Air Rework Facility and Naval Air Station at Lakehurst, N.J., were disestablished and the mission of the Naval Air Engineering Center was modified to absorb their functions.

1 March The Navy's new F/A-18 fighter/attack aircraft was assigned the name Hornet, a name often used for Navy ships-of-the-line. The plane, scheduled for fleet delivery in the early 1980s, would replace the F-4 Phantom II and the A-7 Corsair II.

24 March Initial service acceptance trials for the CH-53E Super Stallion were completed at NATC. The growth version of the CH-53E had three turbine engines instead of two. The Super Stallion carried mission loads of 16 tons compared to nine tons for the CH-53D. It had 7 rotor blades instead of 6 and could accommodate 56 troops.

25 March NAVAIR announced that its Advanced Concepts Division and the Naval Air Development Center, Warminster, Pa., were testing a lighter-than-air craft known as Aerocrane. This project represented the first government-sponsored study of lighter-than-air flight in several years.

5 April The Navy took delivery of the new T-44A trainer at NAS Corpus Christi, Tex. The Beech aircraft signaled a significant modernization trend in the Navy's flight program. The T-44A would eventually replace the TS-2A Tracker, flown by training squadrons since the early 1960s.

8 April The Navy's first E-2C ARPS aircraft joined the fleet at NAS Norfolk, Va., assigned to VAW-121. The ARPS aircraft was designed to improve the radar capability in its mission of airborne early warning. VAW-121 was scheduled to receive three additional ARPS aircraft that year, making it the first ARPS squadron.

12 April An operational requirement was established for night vision capability in U.S. Marine Corps transport helicopters.

21 April *Franklin D. Roosevelt*, the first carrier to launch a jet plane, 21 July 1946, returned to the U.S. from her last overseas deployment prior to her decommissioning on 1 October 1977.

1977—Continued

22 June The new OV-10D Bronco series, undergoing test and evaluation at NATC's Strike Aircraft Test Directorate, Patuxent River, Md., was equipped with a night vision sensor which allowed the two-man crew to pinpoint targets in the dark. Called FLIR, for Forward Looking Infrared Radar, the sensor could detect the thermal radiation from all objects in its field of view, including individual soldiers. While primarily designed to provide a "night eyes" capability, FLIR also offered various degrees of vision through camouflage, dust, smoke, haze and light fog. It was also to be used for navigation; terrain avoidance and surveillance; target detection, recognition and tracking; gun laying; and as a landing aid.

13 July An F-4J Phantom II landed for the first time using the microwave landing system (MLS) at the FAA Test Facility at Atlantic City, N.J. A pilot from the Naval Air Test Center, Patuxent River, Md., was at the controls. The MLS was designed to reach out electronically, catch the target aircraft, and fly it to a safe landing without the aircraft's pilot touching the controls.

23 July Rear Admiral Alan B. Shepard, Jr., USN, was inducted into the Aviation Hall of Fame. He was cited for outstanding contributions to aviation as a Naval Aviator, instructor and test pilot, and for his contributions to space technology. He was the first American launched into space and the fifth to walk on the moon.

11 August The first CH-46E Sea Knight with newly developed fiberglass rotor blades was flown by Marine Corps helicopter pilots. The helicopter was the first of 400 to be retrofitted with new rotor blades which were less susceptible to corrosion and fatigue damage.

26 August The Navy unveiled its new XFV-12A vertical/short takeoff and landing research aircraft at the Rockwell International facility in Columbus, Ohio. The XFV-12A, a single engine, single seat, thrust-augmented wing prototype high-performance fighter aircraft, was designed to operate from small ships.

29 August The first production model of the P-3C Orion update II arrived at NATC for technical evaluation. It incorporated the latest in avionics and weapons systems, including a turret-mounted infrared detection device to drop out of the nose to identify targets day or night. The aircraft also had the Harpoon air-to-surface missile system.

1 September The LAMPS MK III helicopter contractors were selected by the Navy. Sikorsky Aircraft Division was selected to build the helicopter and General Electric's aircraft engine group was selected to provide the engines. The LAMPS helicopter was intended to carry a crew of three, fly 170 miles an hour and operate at altitudes up to 10,000 feet.

30 September The Joint Cruise Missile Project Office was established in the Naval Material Command with the Navy and Air Force sharing responsibility for developing a cruise missile. The Cruise Missile Project Office had been a project of the Naval Air Systems Command.

1 October The Naval Aviation Logistics Center became fully operational at Patuxent River, Md. The new center was responsible for the implementation, coordination and management of Navy-wide depot-level aviation maintenance programs.

31 October The Department of Defense directed a significant relocation of the essential mission of the National Parachute Test Range at El Centro, Calif. The Range had been responsible for RDT&E for parachute systems and for providing common airfield support to aviation units. With this change, the RDT&E mission was moved to the Naval Weapons Center at China Lake, Calif. The airfield support mission remained at El Centro with the existing Naval Air Facility there.

14 November The Chief of Naval Air Training formally accepted the T-34C aircraft manufactured by Beech Aircraft Corporation. The T-34C, a turboprop, two-place trainer, was to replace the T-34B and T-28 training aircraft.

1978

2 February The Tomahawk cruise missile was launched successfully from the submarine *Barb* (SS 220) and flew a fully guided land attack test flight that terminated at Edwards AFB, Calif. This was the first launch of the Tomahawk from a submarine.

9 February The first satellite of the new Navy Fleet Satellite Communications System was launched. This system satisfied the need for worldwide tactical command, control and communications for the entire fleet.

16 February Eleven of the 35 astronaut candidates selected to participate in NASA's space shuttle program were Navy personnel. Eight of the Navy selectees were in the pilot training program and the other three were trained as mission specialists.

1978—Continued

27 February A contract for the CH-53E Super Stallion helicopter was awarded to Sikorsky Aircraft to begin full-scale production. The CH-53E provided the Navy and Marine Corps with a heavy-lift helicopter, able to lift twice as much as the earlier D model.

28 February The Department of Defense authorized full-scale development of Sikorsky Aircraft's SH-60B LAMPS MK III helicopter. The aircraft was designed primarily for antisubmarine and antiship missions and to be deployed aboard frigates, destroyers and cruisers.

17 March NASA selected four two-man crews for early orbital flights of the space shuttle. Captain John W. Young, USN, was selected as commander and Commander Robert L. Crippen, USN, as pilot for the first scheduled orbital test. Colonel Joe H. Engle, USAF, and Commander Richard H. Truly, USN, were selected as the backup crew. Also included in the first group of two-man crews was Lieutenant Colonel John R. Lousma, USMC.

10 April The first TA-7C attack trainer arrived at NATC Patuxent River, Md., for Board of Inspection and Survey trials. The TA-7C was designed to provide a position for both the instructor and the student in the aircraft, thus providing a more efficient method of instruction while reducing fuel consumption about one-half. The new two-seater would also reduce the number of aircraft required for transition training.

14 April The first of 12 C-2A Greyhounds rolled off the SLEP line at NARF North Island, Calif. SLEP would add between seven and ten years of service to the carrier-on-board-delivery aircraft. There was no other aircraft in the Navy's inventory which could carry as many supplies and personnel to a carrier at sea.

9 June Rear Admiral William L. Harris, NWC Commander, accepted the Daedalian Weapons Systems Award in San Antonio, Tex., on behalf of the Naval Weapons Center and the Naval Air Systems Command. The Order of Daedalians, a national fraternity of military pilots, selected NWC and NAVAIR as co-winners of the 1978 award in recognition of the success of these two Navy commands in working together as a team in the development and improvement of a family of heat-seeking guided missiles known as Sidewinder. The Daedalian Weapons System Award and accompanying perpetual trophy was presented annually by the Order of Daedalians to the individual, group or organization, military or civilian, judged to have developed the most outstanding weapon system. The recipient was selected from nominations submitted by the Departments of the Army, Navy, and Air Force on a rotating basis.

8 July The Naval Air Test and Evaluation Museum at NAS Patuxent River, Md., opened its doors to the public for the first time. Its premier exhibition depicted the full scope of test and evaluation in Naval Aviation. The displays were varied, showing the many different types of aircraft which have passed through the Patuxent River test facility over the years.

21 July The final flight of the service acceptance trials for the AH-1T Cobra helicopter gunship was made at Naval Air Test Center, Patuxent River, Md. The helo carried an increase of more than 200 percent in its armament payload and was designed to fly farther and fight longer and harder over a target than previous models of the Cobra.

22 July Captain Holden C. Richardson was inducted into the National Aviation Hall of Fame at Dayton, Ohio. Naval Aviator #13, Captain Richardson was the first Naval Aviation engineering officer to be so honored.

2–3 August The mock-up of the SH-60B ASW helicopter was put through shipboard compatibility trials aboard *Arthur W. Radford* (DD 968). Earlier trials were conducted July 25-26 aboard *Oliver Hazard Perry* (FFG 7). The SH-60B was being developed by Sikorsky Aircraft.

3 August NAVAIR reported a major advance in the technology of escape systems. During the summer, the Naval Weapons Center at China Lake, Calif., successfully tested a vertical-seeking ejection seat. While carrying a dummy crew member, the seat was fired downward from a suspended test module. It traveled downward less than 45 feet before reversing direction and traveling upward; it then parachuted safely to the ground. These tests demonstrated that the vertical-seeking seat would make it possible to safely eject upside down, within 50 feet of the surface, thus greatly increasing the safety envelope of ejection seats.

14 September A Navy technical evaluation was completed on the CH-53E Super Stallion helicopter to determine if performance had been altered by changes made since the initial trials conducted by the Board of Inspection and Survey. The Super Stallion successfully completed the 60-hour test program.

1978—Continued

15 September The test-bed P-3C Orion was delivered to the Naval Air Development Center, Warminster, Pa., for the Update III program. The aircraft featured an advanced signal processor developed by IBM which provided a four-fold improvement in isolating sounds of submerged targets from ocean background noise. Lockheed California Company was the prime contractor of the P-3C and had been involved with its development over the past 17 years.

9 November The U.S. Marine Corps' newest light attack aircraft, the AV-8B, flew for the first time at McDonnell Douglas Corporation in St. Louis, Mo. The AV-8B Harrier had more than double the payload and radius of its predecessor, the AV-8A.

18 November The Navy's new strike fighter, the F/A-18 Hornet, made its first flight at McDonnell Douglas Corporation in St. Louis, Mo. The Hornet was designed for a combat radius of more than 550 miles and a ferry range of more than 2,000 miles.

18 December Commander, NAVAIR formally established the undergraduate Jet Pilot Training System Project. This project was designed to provide Naval Aviation with an integrated training program consisting of aircraft, simulators, academics, and training management. VTXTS was aimed at the intermediate and advanced jet training levels.

27 December *Constellation* and her escort ships were directed to the vicinity of Singapore in response to the internal crisis in Iran and because of vital U.S. interests in the Persian Gulf area. On 2 January 1979, the president directed *Constellation* and her escort ships to remain on station in the South China Sea and not enter the Indian Ocean.

1979

16 January The first F/A-18 Hornet arrived at NATC Patuxent River, Md., for evaluation trials. Testing during the year included in-flight refueling, land-based catapult launchings and arrested landings, speed tests and at-sea carrier takeoffs and traps aboard *America*.

24 January Vice President Walter P. Mondale presented Lieutenant Colonel Herbert Fix with the Harmon International Aviation Trophy. Colonel Fix received the award for his role as Commanding Officer of HMH-463 during the evacuations of Phnom Penh and Saigon in 1975. The citation praised Colonel Fix for carrying out his missions "without casualties among the aircrews of 16 rotary wing aircraft in HMH-463, although the operations took place under combat conditions involving antiaircraft fire, machine gun and small arms fire, and in part at night with few navigational aids." Colonel Fix was the first U.S. Marine Corps pilot to receive the Harmon Trophy. At the time of the award, he was Project Manager for the H-1/H-3 Helicopters Project Office at the Naval Air Systems Command.

25 January The Navy's YAV-8B, the Harrier prototype built by McDonnell Douglas, arrived at the Naval Air Test Center, Patuxent River, Md., to test its aerodynamic improvements not found in the AV-8A.

28 January *Constellation* and her escort ships were released from contingency operations in the South China Sea. The contingency operations had been issued in response to the internal crisis in Iran. The crisis abated when the Shah of Iran departed for exile on 16 January. Due to the uneasy situation in Iran all U.S. government dependents and nonessential American citizens were ordered to evacuate the country on 30 January.

9 February The Secretary of the Navy announced that the helicopter portion of the Navy's LAMPS MK III was to be known officially as the Seahawk. Designated SH-60B, the Sikorsky helicopter took its name from the Curtiss SC-1 Seahawk which was a catapult launched, noncarrier, float plane of late World War II.

The newest plane in the Navy inventory, the F/A-18 Hornet, is examined by naval officers.

1979—Continued

14 February The Tomahawk missile was launched from the nuclear powered attack submarine *Guitarro* (SSN 665) off the California coast. This successful test was part of a planned series of three submarine launches and flight tests of the Tomahawk conducted between February and June which demonstrated the missile's over-the-horizon capability to search for, locate, and conduct simulated attacks on a target ship at sea.

27 February The Navy took delivery of the last A-4 Skyhawk from the McDonnell Douglas Corporation, setting a record for the longest production run for any U.S. military aircraft. Built as an attack bomber and as a two-place trainer, the A-4 had been in continuous production for 26 years. The final Skyhawk off the production line was an A-4M attack bomber built for operation by the Marine Corps. It was the 2,960th Skyhawk manufactured by McDonnell Douglas and was delivered to VMA-331.

7 March *Constellation* and her escort ships were ordered to the Gulf of Aden in response to the conflict between North and South Yemen. The Gulf of Aden and the Persian Gulf were considered vital waterways for the passage of petroleum products to the U.S. and her allies.

11 March A P-3B Orion from NATC Patuxent River, Md., flew the first transoceanic flight guided by NavStar, the space-based radio navigation system. The six-hour flight was from NAS Barbers Point, Hawaii, to NAS Moffett Field, Calif. The NavStar system comprised 24 satellites in earth orbit providing radio navigational information.

20 March The last variant of the P-2 Neptune rolled off the production line at ceremonies in Japan. This was the longest production run of any aircraft type in history, 34 years from the first model which was built in 1945 in Burbank, California by the Lockheed Corporation. The P-2 was the mainstay of the U.S. Navy's ASW patrol fleet during the 1950s and early 1960s until it was replaced by the P-3 Orion.

26 March The AV-8A Harrier was used at NATC Patuxent River, Md., to test a new ski jump ramp developed by the British to cut down the takeoff distance for the Harrier. The new ski jump ramp was designed with a 12-degree angle of elevation and was 130 feet long. The total takeoff distance for a Harrier using the new ramp was 230 feet compared with the 930-foot runway necessary for a Harrier to make a no-catapult, flat-surface launch. NATC Patuxent River was evaluating the ramp for possible use in the fleet.

16 April *Midway* relieved *Constellation* as the Indian Ocean contingency carrier. *Midway* and her escort ships continued a significant American naval presence in the oil-producing region of the Arabian Sea and Persian Gulf.

21 April The Navy's Supersonic Tactical Missile test vehicle made its first flight at the Pacific Missile Test Center, Point Mugu, Calif. This advanced integral rocket/ramjet test vehicle was developed by Vought. It was described as a major step toward development of a new generation of high performance, air-to-surface tactical standoff missiles.

23 April In a ceremony at NAS Norfolk, Va., Vice Admiral Forrest S. Petersen transferred ownership of the last Kawanishi H8K2 flying boat to the Japanese Museum of Maritime Science. Code named Emily by the allies during World War II, the big craft was brought to the United States by the Navy late in 1945 to undergo tests at Patuxent River, Md. When the tests were completed, the Emily was stored at Norfolk and outlasted all its sister aircraft. In July 1979, the Museum of Maritime Science transported the Emily to Tokyo.

30 April A RH-53D Sea Stallion from HM-12 set a new nonstop, transcontinental flight record by flying from Norfolk, Va., to San Diego, Calif. The helicopter flew 2,077 nm in 18.5 hours, air refueling from an Air National Guard HC-130 Hercules. The flight demonstrated the long-range, quick-response capability of the RH-53D helicopter and was commanded by Lieutenant Rodney M. Davis.

22 May The first of two McDonnell Douglas AV-8C Harriers arrived at NATC Patuxent River, Md., for service acceptance trials. Improvements built into this aircraft over the AV-8A included a new UHF radio, a chaff and flare dispensing system, lift improvement devices, a radar warning system and secure voice equipment.

30 May *Midway* and her escort ships were released from contingency operations in the Arabian Sea and departed for the Pacific.

12 June The Deputy Secretary of Defense approved the mission element need statement for the VTXTS. This system represented a major step toward meeting the continuing requirement to provide undergraduate pilot training for student Naval Aviators and transition students of the U.S. Navy and Marine Corps.

1979—Continued

20 June Lieutenant Donna L. Spruill became the first Navy woman pilot to carrier qualify in a fixed-wing aircraft. Lieutenant Spruill piloted a C-1A Trader to an arrested landing aboard *Independence.*

1 July With the disestablishment of U.S. Army Executive Flight Detachment, HMX-1 became the single source of helicopter support for the White House.

17 July *Saipan* was operating off the coast of Nicaragua for possible evacuation of American diplomats and others due to the turmoil surrounding the fall of that government.

18 July VP-23, flying the P-3C Orion, fired the new Harpoon missile. VP-23 was the first operational fleet patrol squadron to receive, fire and make an operational deployment with the Harpoon missile. On August 17, a ceremony at NAS Brunswick, Maine, marked the introduction of the Harpoon antiship missile into operational service as an air-launched weapon.

19 July The President announced he had instructed the U.S. Seventh Fleet to aid the Vietnamese "boat people" and assist them to safety. U.S. Naval Aviation and surface units of the Seventh Fleet stepped up patrolling, assistance and rescue efforts in support of these Vietnamese refugees.

Vietnamese refugee boarding White Plains (AFS 4) after being rescued from their 35 foot boat in the South China Sea NAH-002785

Aerial view, taken by a P-3B Orion from VP-22, of boat people aboard their small craft displaying an "SOS" sign 1175289

21 July Neil A. Armstrong, a Navy pilot during the Korean War, was inducted into the Aviation Hall of Fame in Dayton, Ohio. He served as an experimental test pilot for the National Advisory Committee for Aeronautics and flew a variety of high speed aircraft including the X-15. Later, after being selected as an Astronaut by NASA, he served as command pilot of the Gemini 8 mission, during which he participated in the first docking of a spacecraft. His most notable achievement came as commander of the Apollo 11 Lunar Landing Mission when he became the first man to step on the moon.

24 July The Bell XV-15 successfully converted in flight from the helicopter mode to the fixed-wing mode. The XV-15 flight test program was founded as a joint U.S. Navy/NASA/Army research effort to evaluate the tilt rotor concept.

27 July The Navy's newest turbo-jet-powered aerial target, the Northrop BQM-74C, successfully completed its first flight over the Pacific Missile Test Center, Point Mugu, Calif. The 33-minute flight also marked the first airborne launch of the BQM-74C when the target was launched from under the wing of an A-6 Intruder. Following completion of the flight, the BQM-74C was safely landed at sea, retrieved, and returned to Point Mugu for inspection, refurbishment, and eventual reuse. The BQM-74C was the only target in the world using a Digital Avionics Processor which allowed it to provide realistic low cost antiship cruise missile simulation in training.

30 August The first prototype of the Navy's SH-60B Seahawk helicopter was unveiled at the Sikorsky

1979—Continued

Aircraft Division at Stratford, Conn. The SH-60B was designed to operate from destroyers, frigates and cruisers in performing its role in the LAMPS mission—detecting, classifying, locating and destroying hostile submarines and surface vessels over extended ranges. Secondary missions for the helicopter included search and rescue, medical evacuation and general fleet support. The SH-60B was officially dubbed the Seahawk in February 1979.

30 August A U.S. Navy CH-53D Sea Stallion helicopter of VR-24 lifted a 12-foot bronze statue of the Madonna and Child to the top of Mt. Tiberius on Capri, Italy, to replace one which had been destroyed by lightning. The statue was too large to be transported overland.

15 September The first UC-12B for the Navy arrived at NATC Patuxent River, Md., for preliminary evaluation tests. The UC-12B is the military version of the Beechcraft Super King Air 200 which was purchased by the Navy to replace aging reciprocating engine aircraft and supplement the Navy's transport inventory. The UC-12B was designed to carry 8 to 12 passengers. It had a maximum cruise speed of 300 mph and a range up to 1,760 miles. The aircraft could operate from short, grass runways and fly at 31,000 feet. It had advanced solid state avionics which could automatically navigate the plane through bad weather conditions. The UC-12B had been designed for reliability, maintainability and low cost of operation, with a configuration which lent itself to a variety of transport, training and utility missions.

18 September The Circulation Control Rotor made its first flight using the airframe and propulsion system from an HH-2D helicopter. This CCR was initiated by the Navy as an advanced rotor system with improved performance, reduced maintenance requirements, and reduced vibration levels from extant rotor systems.

28 September RVAH-7 was disestablished, closing the history on the last RA-5C Vigilante squadron in the Navy. The Vigilante had provided 15 years of tactical support to the fleet as a photographic reconnaissance plane and had served valiantly in Vietnam with integrated intelligence sensors and photographic equipment. Some of the RA-5C Vigilantes were planned for use as drones.

1–8 October The AV-8C Harrier shipboard trials were conducted aboard *Saipan*. Testing consisted of 33 flights involving short take-offs, vertical take-offs and vertical landings by the AV-8C.

11 October *Nassau* and other amphibious ships headed for Guantanamo Bay, Cuba, in a show of force ordered by the President in response to maneuvers by a Russian combat brigade in Cuba. On 17 October, 1,800 Marines landed in Guantanamo Bay as a demonstration of naval power in the wake of the Soviet refusal to withdraw the Russian combat brigade from Cuba.

14 October The A-6E TRAM aircraft was introduced into the fleet, at NAS Oceana, Va. The A-6E TRAM provided the U.S. Navy with the finest all-weather attack system in the world.

28 October *Kitty Hawk* and her escort ships were directed to operate south of the Korean peninsula in response to the assassination of South Korean President Park Chung Hee on 26 October.

30 October The F/A-18 Hornet made its first landing at sea aboard *America* for five days of sea trials. A total of 32 catapult and arrested landings were completed.

4 November One Naval Aviator and 14 Marines were among the more than 60 Americans taken hostage when the United States Embassy in Tehran, Iran, was seized by a mob of Iranian revolutionaries. Spokesmen for the mob demanded that the United States return to Iran the deposed Shah who was in a New York hospital at the time.

18 November *Midway* and her escort ships, which had been operating in the Indian Ocean, arrived in the northern part of the Arabian Sea in connection with the continuing hostage crisis in Iran.

20 November The last RA-5C Vigilante in the Navy departed NAS Key West, Fla., on her final flight. The RA-5C was one of the Navy's finest and only all-weather carrier based reconnaissance aircraft. With this final flight, the entire reconnaissance inventory of 156 Vigilante aircraft was phased out.

21 November *Kitty Hawk* and her escort ships were directed to sail to the Indian Ocean to join *Midway* and her escort ships which were operating in the northern Arabian Sea. The two carrier forces provided the U.S. with A-6 and A-7 attack aircraft and F-4 and the modern F-14 fighter aircraft, which could respond to a variety of situations if called upon during the Iranian hostage crisis.

1979—Continued

3 December *Kitty Hawk* and her escort ships arrived on station in the northern Arabian Sea for contingency operations during the Iranian hostage crisis. This was the first time since World War II that the U.S. Navy had two carrier task forces in the Indian Ocean in response to a crisis situation.

12 December The development program for the LAMPS MK III SH-60B Seahawk helicopter reached a major milestone when the aircraft completed its first flight at the Sikorsky test facility in West Palm Beach, Fla.

17 December The first two-seater F/A-18 Hornet arrived at NATC Patuxent River, Md., for armament and stores separation testing. During 1979 NATC had conducted 416 flights in the F/A-18 for a total of 555 hours testing the new fighter/attack plane. On 12 December NATC completed a successful live firing of a Sidewinder missile from the F/A-18.

21 December The Defense Department announced a three-ship nuclear-powered carrier battle group from the Sixth Fleet would deploy to the Indian Ocean to relieve the Seventh Fleet carrier battle group led by *Kitty Hawk*. The Sixth Fleet carrier battle group consisted of the nuclear-powered *Nimitz* and her nuclear-powered escort ships.

24 December A massive Soviet airlift of 5,000 Russian airborne troops and equipment into the Afghanistan capital of Kabul was conducted. The U.S. protested the large influx of Soviet troops which the Soviet Union claimed were there at the request of the Afghanistan government. On 27 December, a Soviet-backed coup installed a new president in Afghanistan. Two carrier task forces centering around *Midway* and *Kitty Hawk* continued contingency operations in the northern Arabian Sea.

31 December During 1979, Navy carrier forces responded to five crisis situations around the world. The following carriers responded for contingency operations: *Constellation* responded to the crisis which involved North and South Yemen; *Saipan* responded during the Nicaraguan turmoil; *Nassau* was involved in the response to Russian combat troops in Cuba; *Kitty Hawk* responded to the alert in Korea; and *Midway* and *Kitty Hawk* conducted contingency operations during the Iranian hostage crisis.

31 December U.S. Navy surface and aviation forces of the Seventh Fleet continued their patrols and rescue assistance efforts connected with the Vietnamese boat people following the President's order in July. During the last six months of 1979, Navy ships embarked over 800 Vietnamese refugees. Vietnamese refugees picked up by merchant vessels with the aid of P-3 patrol aircraft totaled over 1,000.

1980

1 January *Midway* and *Kitty Hawk* continued on contingency operations in the Arabian Sea in response to 53 Americans held hostage at the American Embassy in Teheran, Iran, since 4 November 1979.

1 January VP-23 deployed from Keflavik, Iceland, to Diego Garcia and made its first operational flight out of the Indian Ocean base within ten days after receiving orders, thereby demonstrating its rapid deployment capability.

2 January A detachment of P-3B Orions of VP-10, deployed at Rota, Spain, flew photoreconnaissance missions to locate areas damaged in an earthquake which struck the Azores the day before, killing some 50 persons and injuring another 500.

4 January *Nimitz* rendezvoused with her nuclear-powered escort ships in the Mediterranean and headed to the Indian Ocean via Africa's Cape of Good Hope to relieve *Kitty Hawk* which was on contingency duty. This left *Forrestal*, the only carrier with the Sixth Fleet, in the Med.

4 January The first TA-7C Corsair II assigned to the Pacific Missile Test Center, Point Mugu, Calif., was test flown.

7 January Reconnaissance Attack Wing One was disestablished. The wing had consisted of nine fleet squadrons, one training squadron and a support command which had provided tactical reconnaissance for Navy carrier deployments. The phaseout coincided with the final retirement from the fleet of all RA-5C Vigilantes on 20 November 1979 and the disestablishment of the last RVAH squadron on 28 September 1979.

22 January *Nimitz* and her escort ships joined *Midway* and *Kitty Hawk* and their escort ships on station in the Arabian Sea. The following day *Kitty Hawk* departed for Subic Bay, R.P., having spent 64 days in operations connected with the Iranian crisis.

1980—Continued

5 February *Coral Sea* relieved *Midway* which had been on contingency operations in the Arabian Sea since the Iranian hostage crisis broke out in November 1979.

29 February VMO-1 began flying the new OV-10D Bronco observation plane at New River, N.C. The D version, manufactured by Rockwell International, had the FLIR and laser rangefinder designator systems. The new systems enabled the pilot to locate a target at night or in bad weather and then pinpoint the exact range and location with a laser beam. An automatic video tracker computer system locked on to a moving target with information provided by the infrared system. The TV-like video display gave the pilot and observer a computer-assisted sighting capability. Conventional improvements included the upgraded T-76 turboprop engine, larger fiberglass propellers and an increased fuel capacity.

1 March It was reported that the CNO had proposed to the Secretary of Defense a plan to reactivate the *Essex*-class carrier *Oriskany* and several other major moth-balled ships to help fulfill the Navy's missions in the Indian Ocean and other areas.

6 March *Nassau* began a month-long cruise to the Caribbean to demonstrate U.S. capability to defend the Panama Canal in accordance with the 1979 treaty with Panama. *Nassau* had a 400-man Marine detachment, CH-46 Sea Knight and CH-53 Sea Stallion helicopters and AV-8A Harriers on board.

16 April *Dwight D. Eisenhower* and her nuclear-powered escort ships departed East Coast ports en route to the Indian Ocean to relieve *Nimitz*. This was the second all nuclear-powered task force to head for the Indian Ocean since the beginning of the Iranian hostage crisis. Two days later, *Constellation* and her escort ships departed Subic Bay, R.P., steaming to the Indian Ocean to relieve C*oral Sea*.

24 April Eight RH-53D Sea Stallions operating from *Nimitz* in the Arabian Sea took part in a joint task force operation to rescue the American hostages in Tehran, Iran. The mission was later aborted at a desert refueling site. Subsequently, one of the helicopters collided with a C-130 Hercules aircraft resulting in the loss of eight lives. All other personnel were evacuated on the remaining C-130s.

30 April *Constellation* and her task group relieved *Coral Sea* and her escort ships. *Coral Sea* had been on station for 89 days in connection with the Iranian crisis.

5 May *Saipan* and other Navy ships provided humanitarian search and rescue support operations for the vast sealift of Cuban refugees heading for the U.S. through the Florida Straits. The Navy ships had been diverted from the annual combined training exercise Solid Shield to undertake the mission.

8 May Arriving in the Arabian Sea from the U.S. via the Cape of Good Hope, *Dwight D. Eisenhower* conducted turnover with *Nimitz*, which had been involved in Iranian contingency operations for 115 consecutive days.

26 May The President embarked on *Nimitz* off Norfolk, Va., and thanked the men of *Nimitz* and her escort ships for their sacrifice during an extended nine-month deployment to the Mediterranean and the Indian Ocean. *Nimitz* had spent 144 straight days at sea in connection with the Iranian hostage crisis.

27 May *Coral Sea* was diverted to standby duty south of the Cheju-Do Islands in the Sea of Japan in response to conditions of civil unrest in the Republic of Korea. She was relieved by *Midway* three days later.

31 May P-3 Orions from various patrol squadrons of Patrol and Reconnaissance Force, Seventh Fleet, continued their search, begun the previous year, for refugees in the South China Sea and Gulf of Thailand. These aircraft had investigated more than 15,000 radar contacts and dropped radio transmitters and/or refugee survival packs to people in distress. To this date, over 2,500 refugees had been rescued through efforts by all elements of the Navy.

3 June The first AGM-65E laser Maverick missile was fired at Eglin AFB, Fla., from a Marine Corps A-4M Skyhawk. The missile was the laser-guided version of the USAF's air-to-ground Maverick with a heavier warhead. It was being developed by Hughes Aircraft Company for use by the Marine Corps in close-air support of combat troops.

15 June A loading demonstration of the F/A-18 Hornet was held at NATC Patuxent River, Md. The aircraft showed off some of its weapons capabilities, among them the 20mm Vulcan cannon, AIM-7F advanced Sparrow, AIM-9L Sidewinder, flare dispensers, rocket launchers, advanced fuel-air explosives, and a Rockeye and other bombs. Hornet weaponry also included Walleye, Maverick, Harpoon and HARM missiles, and laser-guided bombs.

1980—Continued

23 June The Navy granted approval for service use for two advanced sonobuoys. The AN/SSQ-2 Directional Command Active Sonobuoy System and the AN/SSQ-77 Vertical Line Array DIFAR represented the first major improvements in the sonobuoy field since the AN/SSQ-53 DIFAR was introduced in 1968. These sonobuoys reinforced their article's unique position as the vital link between the search aircraft and "enemy in liquid space." They provided a three-to-five fold improvement over existing active and passive airborne sensors.

8 July The Navy terminated its support operations at Key West, Fla., for the Cuban refugees. Eleven Navy ships as well as P-3 Orion patrol aircraft assisted the unofficial freedom flotilla which involved civilian boats crossing the Florida Straits to transfer Cuban refugees to the U.S. Over 115,500 had arrived from Mariel, Cuba, since the freedom flotilla began.

18 July Charles "Pete" Conrad, former Navy pilot and NASA astronaut, became the twelfth former Naval Aviator to be enshrined in the prestigious Aviation Hall of Fame, Dayton, Ohio.

30 July An automatic parachute release system developed by Vought Corporation was designed to save the lives of pilots who ejected from their aircraft under adverse conditions. The new system, developed with U.S. Navy funding, was called SEAPAC. It had seawater activated switches which automatically released the parachute harness when a pilot entered the water.

31 July A T-2C Buckeye was launched successfully from a fixed-angle, three-degree ski jump at Naval Air Test Center, Patuxent River, Md. This launch was the first part of feasibility demonstrations to evaluate the use of ramps for takeoffs by conventional, as opposed to V/STOL, aircraft.

31 July A Limited Duty Officer aviator program for second class, first class and chief petty officers, pay grades E-5 through E-7, was established, with the first 35 enlisted personnel selected and scheduled to report to NAS Pensacola, Fla., in April 1981. After completing aviation officer indoctrination, primary flight and maritime (prop) training, the new officers were assigned to an initial three-year tour as primary flight instructors. Major objectives of the program were to improve utilization and retention of aviators, provide further upward mobility for enlisted personnel, improve the flight instructor program and provide for replacement of aviators in selected shipboard billets.

17 August *Midway* relieved *Constellation* to begin another Indian Ocean deployment and complement the *Dwight D. Eisenhower* task group still on contingency duty in the Arabian Sea.

22 September *Dwight D. Eisenhower* and *Midway* continued contingency operations in the northern Arabian Sea as war erupted between Iraq and Iran.

12 October Ships of the Amphibious Force, Sixth Fleet, including *Guadalcanal,* began assisting the victims of a massive earthquake which devastated the Algerian city of Al Asnam. The ships took up positions 20–25 miles offshore to render helicopter support in the disaster relief efforts.

6 November *Ranger* and accompanying ships of her task group relieved *Midway* in the northern Arabian Sea. *Midway* thus completed her second Indian Ocean deployment in connection with the Iranian crisis, for a total of 157 days on the line.

11 November For the first time, the LAMPS SH-60B Seahawk worked with the RAST system aboard a ship underway. The guided-missile frigate *McInerney* (FFG 8) conducted the shipboard aspect of the exercise which included mainly electronic communications and not an actual landing. This test was conducted from the Bath Ironworks and Yard at Bath, Maine.

13 November VFA-125, the Navy's first F/A-18 Hornet squadron, was established at NAS Lemoore, Calif. The new squadron would train Navy and Marine Corps personnel to fly and maintain the new fighter-attack aircraft.

22 November Aircraft carrier suitability tests of the Tomahawk II medium range air-to-surface missile were completed.

25 November RH-53D Sea Stallions from VR-24, together with units of the U.S. Army and Air Force, began disaster relief assistance to victims of the devastating earthquake at Avellino, Italy, on 23 November which killed over 3,000 persons and made many more homeless. Commander, Fleet Air Mediterranean, headquartered at Naples, was director of U.S. military support efforts.

8 December *Independence* and her escort ships relieved *Dwight D. Eisenhower* and her task force which had been involved in Iranian contingency operations since 8 May. *Dwight D. Eisenhower* returned to Norfolk, Va., on 22 December after a 251-day deployment, the longest underway deployment for a Navy

1980—Continued

ship since World War II. She had been underway for 152 continuous days.

31 December Carrier operations during 1980 in connection with the Iranian crisis consisted of 10 tours by eight attack carriers (two with two tours each) in the Indian Ocean/Arabian Sea. The carriers accumulated a grand total of 723 days on station. Those with over 100 contingency days on station during the year included *Dwight D. Eisenhower,* whose two tours totaled 199 days; *Midway,* with two tours representing 118 days; *Constellation,* with 110 days; and *Nimitz,* with 108 days. Other carriers involved in contingency operations in the Indian Ocean were *Coral Sea, Ranger, Independence* and *Kitty Hawk.*

An F-4 Phantom II in colorful 1976 bicentennial markings.

An E-2 Hawkeye in colorful 1976 bicentennial markings.

An H-3 in colorful 1976 bicentennial markings.

A TA-4J Skyhawk in colorful 1976 bicentennial markings.

Pilot ejecting from aircraft aboard Shangri-La NH-90350

F-4J Phantom of VF-21 making a successful barricade arrested landing aboard Ranger.