PART 7

Korean Operations

1950–1953

The outbreak of war in Korea caught U.S. military services in the midst of a transition. The establishment of the Department of Defense in 1947 and its reorganization in 1949 required readjustments within the services to which none had become completely acclimated. Successive decreases in the military budget and the prospect of more to come had reduced the size of all services, and a reorganization of operating forces to keep within prescribed limits was in process. New weapons and equipment had not been completely integrated, and tactical doctrine and new operating techniques for their most effective employment were still being developed. This was particularly apparent in Naval Aviation, where the introduction of jet aircraft had created a composite force in which like units were equipped with either jet or propeller-driven aircraft having wide differences in performance characteristics, maintenance and support requirements, and tactical application.

Combat requirements in Korea were quite different from those of the island-hopping campaign of World War II. Only the landings at Inchon, two and a half months after the shooting began, followed the familiar pattern. The UN's intention to confine the battle area to the peninsula resulted in a limitation of air operations in support of troops. This was a normal enough mission for carrier air, but the need to sustain it for extended periods over an extremely large landmass made quite a difference. Carrier forces also flew deep support missions; attacked enemy supply lines; roamed over enemy territory looking for targets of opportunity; bombed enemy bridges; interdicted highways and railroads; attacked refineries, railroad yards and hydroelectric plants; and escorted land-based bombers on special missions. All were carried out effectively, but were new experiences for units trained to interdict enemy sea-lines of communication and ward off attack by enemy naval forces.

The see-saw action on the ground as the battle line shifted and as action flared up and quieted again required great flexibility of force and demanded the ability to carry out a variety of missions, but after the first six months of the war, the overall air campaign developed into a monotonous, although serious, routine. It was a battle described by Commander Task Force 77 in January 1952 as "a day-to-day routine where stamina replaces glamour and persistence is pitted against oriental perseverance."

Compared to World War II, Korea was a small war. At no time were more than four large carriers in action at the same time. Yet in the three years of war, Navy and Marine aircraft flew 276,000 combat sorties, dropped 177,000 tons of bombs and expended 272,000 rockets. This was within 7,000 sorties of their World War II totals in all theaters and bettered the bomb tonnage by 74,000 tons, and the number of rockets by 60,000. In terms of national air effort, the action sorties flown by Navy and Marine Corps aircraft rose from less than 10 percent in World War II to better than 30 percent in Korea.

There was another and perhaps greater difference between the two wars. Support of forces in Korea required major attention from the planners and of units assigned to logistic supply, but action in Korea was only a part of the total activity of the period. Outside the combat area fleet forces continued their training operations on the same scale as before, and fleet units were continuously maintained on peaceful missions in the eastern Atlantic and in the Mediterranean. Research and development, although accelerated, did not shift to emphasize projects having direct application to the war effort but continued on longer range programs directed toward progressively modernizing fleet forces and their equipment with more effective weapons. New facilities for test and evaluation were opened. Advances in guided missiles reached new highs indicating their early operational status, and ships to employ them were being readied. Firings of research missiles like Loon, Lark and Viking from shore installations and from ships provided both useful data and experience. Terrier, Talos, Sparrow, Sidewinder, and Regulus passed successive stages of development. Research in high-speed flight, assisted by flights of specially designed aircraft, provided data leading to new advances in aircraft performance. The carrier modernization program continued and was

revised to incorporate the steam catapult and the angled deck, together representing the most significant advance in aircraft carrier operating capability since World War II.

In a period when Naval Aviation was called upon to demonstrate its continuing usefulness in war and its particular versatility in adapting to new combat requirements, it also moved forward toward new horizons.

1950

10 January *Norton Sound* departed Port Hueneme on a 19-day cruise in Alaskan waters where it launched two Aerobees, one Lark, and one Loon, and tested an auxiliary propulsion system for the Lark under severe conditions. In addition to its crew, the ship carried 27 observers representing the Army, Navy, and Air Force, including 8 scientists connected with the Aerobee upper atmosphere research program.

13 January In the first successful automatic homing flight of a surface-to-air guided missile, a Lark, CTV-N-10, launched at the Naval Air Missile Test Center, NAMTC Point Mugu, Calif., passed within lethal range of its target, an F6F drone, making the simulated interception at a range of 17,300 yards and an altitude of 7,400 feet.

7 February In a demonstration of carrier long-range attack capabilities, a P2V-3C Neptune, with Commander Thomas Robinson in command, took off from *Franklin D. Roosevelt* off Jacksonville, Fla., and flew over Charleston, S.C., the Bahamas, the Panama Canal, up the coast of Central America and over Mexico to land next day at the Municipal Airport, San Francisco, Calif. The flight, which covered 5,060 miles in 25 hours, 59 minutes, was the longest ever made from a carrier deck.

8 March Operation Portrex, the largest peacetime maneuvers in history and the first to employ airborne troops in an amphibious operation, was brought to a climax with a combined amphibious and airborne assault on Vieques Island. The Joint Armed Service Exercise, which began 20 February and extended through 14 March, was staged to evaluate joint service doctrine for combined operations, to service test new equipment under simulated combat conditions, and to provide training for the defense forces of the Caribbean Command.

10 March The Secretary of Defense announced that the Bureau of Aeronautics, under a research program begun in 1946, had developed a new lightweight titanium alloy for use in jet aircraft engines. The alloy was described as being as strong as high-strength steel and only half as heavy, highly resistant to corrosion, and so composed as to retain its basic properties at high temperatures.

22 March The submarine *Cusk* (SS 348), from a position off the Naval Air Missile Test Center, NAMTC Point Mugu, Calif., launched a Loon guided missile and, at the midway point of a 50-mile flight, surrendered control to the guidance station on San Nicolas Island. This station completed the first successful operation involving transfer of guidance by splashing the missile 360 yards from the center of the target, Begg Rock.

1 April The Naval Air Rocket Test Station, Lake Denmark, N.J., was established, superseding the Naval Aeronautical Rocket Laboratory, for the purposes of testing and evaluating rocket engines, components and propellants, and training service personnel in handling, servicing and operating rocket engines.

8 April A PB4Y Privateer of VP-26, with 10 men on board, was lost over the Baltic Sea after being attacked by Soviet aircraft.

18 April The experimental model of the Consolidated Vultee P5Y, a 60-ton seaplane, passed its initial flight test at San Diego, Calif. The plane was equipped with four Alison T-40 turboprop engines, each rated at 5,500 hp and each turning 15-foot contra-rotating propellers.

21 April The first carrier takeoff with the AJ-l heavy attack plane was made from *Coral Sea* by Captain John T. Hayward, commanding VC-5.

The AJ-1, carrier-based heavy attack plane 197506

1950—Continued

21 April The heaviest aircraft ever launched from a carrier, a P2V-3C, piloted by Lieutenant Commander Robert C. Starkey of VC-6, took off from *Coral Sea* with a gross weight of 74,668 pounds.

3 May The submarine *Cusk* (SS 348) launched a Loon guided missile, and after submerging, tracked and controlled the missile's flight to a range of 105 miles.

11 May A Viking missile was successfully launched from *Norton Sound* near Christmas Island, south of Hawaii. It was the first Viking launched from a ship and set a new altitude record for American-built single-stage rockets of 106.4 statute miles.

15 May The Navy announced the completion of a new test chamber at the Ordnance Aerophysics Laboratory, Daingerfield, Tex., making it possible for the first time to conduct tests of full-scale ramjet engines up to 48 inches in diameter at simulated altitudes up to 100,000 feet.

19 June The Caroline Mars (JRM-2) completed the 2,609-mile flight from Honolulu, T.H., to San Diego, Calif., with 144 men aboard for the largest passenger lift over the Pacific on record.

25 June The U.S. Government asked for an emergency meeting of the UN Security Council to consider the invasion of the Republic of South Korea launched by North Korean forces early in the morning of the 25th (Korean time). The council, meeting later the same day, adopted a resolution calling for the cessation of hostilities and the withdrawal of North Korean forces above the 38th parallel, and also calling on all members to assist the UN in the execution of the resolution.

27 June The president announced that he had ordered sea and air forces in the Far East to give support and cover to Republic of Korea forces and had ordered the Seventh Fleet to take steps to prevent an invasion of Formosa.

27 June In a night meeting the UN Security Council adopted a resolution calling upon all its members to assist the Republic of Korea in repelling the armed attack on its territory.

30 June President Truman announced that, in keeping with the UN Security Council request for support to the Republic of Korea (ROK) in repelling the invaders and restoring peace, he had authorized the USAF to bomb military targets in North Korea, the use of Army ground troops in action to support ROK forces, and had directed a naval blockade of the entire Korean coast.

3 July Carrier aircraft went into action in Korea for the first time. *Valley Forge* with Air Group 5, and HMS *Triumph* operating in the Yellow Sea, launched strikes on airfields, supply lines and transportation facilities in and around Pyongyang, northwest of Seoul. This was the first combat test for the Grumman F9F Panther and the Douglas AD Skyraider. It was also the occasion for the first Navy kills in aerial combat during the war and the first shoot-down by a Navy jet, as F9F pilots of VF-51 Lieutenant (jg) Leonard H. Plog and Ensign Elton W. Brown, Jr. shot down two Yak-9s on the first strike over Pyongyang.

8 July To obtain maximum effectiveness in the employment of all air resources in the Far East Command and to ensure coordination of air efforts, Commander in Chief, Far East approved and adopted as policy the agreement of Commander, Naval Forces, Far East and Commanding General, Far East Air Forces. Under it, the Navy controlled the operations of its carrier aircraft whenever they were on missions assigned to Commander, Naval Forces, Far East and of its shore-based aircraft whenever they were on naval missions. On all other missions, the operations of naval aircraft, both carrier and shore-based, were under the Air Force. For shore-based Marine air this control was direct, but for naval aircraft the control was of a coordination type. The selection of targets and their priority by a General Headquarters Joint Service Target Analysis Group ensured that the air campaign was coordinated with the overall objectives.

12 July The command Naval Air, Japan was set up in Tokyo to provide an interim staff to administer the expanding aviation forces in the Far East, and on 9 August was formally established as Fleet Air, Japan, with Rear Admiral George R. Henderson in command.

16 July Fleet Air Wing 1 headquarters moved from Guam to Naha on Okinawa to direct patrol squadron operations in the Formosa Strait.

18 July *Valley Forge* and HMS *Triumph* returned to action with strikes on airfields, railroads and factories at Hungham, Hamhung, Numpyong, and Wonsan, and did particularly heavy damage to the oil refinery at Wonsan, North Korea. For the remainder of the month, this force struck deep behind enemy lines and flew close support missions as required while shifting entirely around the peninsula from the Sea of Japan to

1950—Continued

AD Skyraider prepares to take off on close support mission 428637

Wonsan refinery after carrier strike 707876

the Yellow Sea, in operations intended to relieve the pressure on UN forces which were fighting a delaying action while withdrawing toward Pusan.

20 July Fourteen squadrons of the Organized Reserve were activated for duty with Naval Aviation forces. Included were eight carrier-fighter and two carrier-attack squadrons, one antisubmarine squadron, two patrol squadrons, and one Fleet Aircraft Service squadron.

22 July *Badoeng Strait* arrived at Yokosuka, Japan, with elements MAW-1 on board. Four days later, *Sicily* arrived at the same port with a load of ammunition, and on 1 August, *Philippine Sea* reported to Commander, Seventh Fleet in Buckner Bay, Okinawa. These were the first carrier reinforcements to arrive in the Far East and the beginning of carrier deployment to the combat area that, by the war's end, totalled 11 attack, one light and five escort carriers sent into action—some for two or three tours.

23 July *Boxer* arrived in Yokosuka, Japan, with a load of 145 P-51 and 6 L-5 Air Force aircraft, 19 Navy aircraft, 1,012 passengers, and 2,000 tons of additional cargo, all urgently needed for operations in Korea. In

1950—Continued

making this delivery, *Boxer* broke all existing records for a Pacific crossing, steaming from Alameda, Calif. to Yokosuka in 8 days and 16 hours.

27 July To meet the requirements of supporting combat forces in Korea, Fleet Logistic Air Wing, Pacific, was established as a unit of the Pacific Fleet and independent from the existing Fleet Logistic Air Wing.

3 August Elements of VMO-6, equipped with HO3S helicopters and OY observation planes, began operations in Korea, supporting the First Provisional Marine Brigade in the vicinity of Changwon. Among the services rendered by the helicopters on their first day in a combat area were the delivery of rations and water to troops on a mountain and the evacuation of the more severe heat casualties.

3 August VMF-214, operating from the escort carrier *Sicily* in Tsushima Strait, began the combat operations of the First Marine Aircraft Wing in Korea with a rocket and incendiary bomb attack on Chinju. *Badoeng Strait*, with VMF-323 on board, joined the action three days later and thus began a long service of close air support by Marine squadrons from light and escort carriers.

4 August FAW-6 was established at Tokyo, Japan, under Acting Commander Captain John C. Alderman, and assigned operational control over all United States and British patrol squadrons in the Japan-Korea area.

5 August *Valley Forge* and *Philippine Sea* began what was to become almost three years of continuous fast carrier operation, with attacks on enemy lines of communication in southwestern Korea and close support missions on the Pusan perimeter.

7 August ZP2K-1 (subsequently redesignated ZSG-2), a K-class airship modernized and equipped with inflight refueling equipment and attachments for picking up sea water as ballast, was delivered to the Navy.

7 August Flight of a helicopter under automatic control was made at Mustin Field, Philadelphia, Pa., using an HO3S-1 helicopter equipped with a single axis automatic pilot. Successful test of this instrument confirmed the feasibility of a helicopter automatic pilot which was being developed under the leadership of L. S. Guarino at the Aeronautical Instrument Laboratory, Naval Air Material Center.

24 August In a test conducted at the Naval Ordnance Test Station, Inyokern, Calif., a Terrier surface-to-air guided missile intercepted an F6F drone at a range of more than 11 miles from the point of launch.

31 August Pilots of VC-5 completed carrier qualifications on board *Coral Sea* in the AJ-1 Savage, marking the introduction of this long-range attack bomber to carrier operations.

15 September Landings at Inchon—Under heavy support by naval gunfire and aircraft, elements of the

Heavily armed Corsair on pre-dawn launch 419929

1950—Continued

First Marine Division landed on Wolmi Island at 0630 and, after landing craft were regrouped and the tide was again favorable, followed up with a successful assault of the mainland at Inchon.

Beginning 12 September carrier support was provided by two carriers in preliminary strikes in the objective area and on highways leading into Seoul, and was augmented by two escort carriers the day before the landing and by the arrival of *Boxer* on D-day. The HMS *Triumph,* operating with the Blockade and Covering Force, provided air defense for the assault forces enroute. As the troops advanced inland, carrier support continued until 3 October with close air support missions and strikes against enemy lines of communications.

18 September Fleet Logistic Air Wing was replaced by Fleet Logistic Air Wing, Atlantic/Continental, and assigned status parallel to that of the previously established Fleet Logistic Air Wing, Pacific.

19 September Two days after the capture of Kimpo Airfield by troops working inland from Inchon, the first elements of MAW-1 arrived from Japan, and early the next morning began air operations from Kimpo with strikes supporting troops advancing on Seoul.

23 September An HO3S-1 helicopter, equipped with an automatic pilot developed by the Aeronautical Instruments Laboratory, was successfully flown with three axis automatic control at Mustin Field, Philadelphia, Pa.

2 October The Bureau of Aeronautics authorized the establishment of Project Arowa (Applied Research: Operational Weather Analysis) at Norfolk, Va., for the purpose of developing basic meteorological research data into practical weather forecasting techniques.

10 October The carrier force moved into action off the east coast of Korea with strikes and sweeps from Wonsan to Chongjin in preparation for amphibious landings at Wonsan. When a heavy concentration of mines in the harbor delayed the scheduled landings, the carrier attack shifted northward and inland to assist the advance of UN forces which, by the time the landings were made on the 26th, had swept past the intended objective area and were advancing toward the Yalu River.

28 October The Chief of Naval Operations directed that each station, air group, wing, and squadron establish a permanent Instrument Flight Board to check the instrument flying proficiency of Naval Aviators and Naval Aviation pilots and to supervise and coordinate the instrument training of all pilots attached. It was further directed that, with certain exceptions, all Group I Naval Aviators maintain a valid instrument rating after 18 months from date.

29 October The fast carrier force retired to Sasebo, Japan, as the advance of UN forces toward the Yalu River rapidly reduced the area which could be attacked and there was no further need for its services.

31 October The National Advisory Committee for Aeronautics (NACA) issued a report on tests at the Langley Aeronautical Laboratory in which a wind tunnel was used to determine the characteristics of a fully submerged, high-speed submarine. The interrelationships of basic naval sciences dealing with aeronautics and naval architecture were thus reemphasized.

6 November As enemy opposition stiffened, the fast carrier forces returned to action, attacking targets in their assigned area east of the 127th meridian. Two days later, the force was given a primary mission of cutting off Chinese Communist reinforcements from Manchuria by destroying the international bridges across the Yalu River.

9 November The initial strikes against bridges crossing the Yalu River at Sinuiju were opposed by enemy MiG-15s. In this, the first encounter of Navy jets with

Amen downed Navy's first MiG 421821

1950—Continued

MiGs, the commanding officer of VF-111, Lieutenant Commander William T. Amen, in an F9F Panther, scored one kill and became the first Navy pilot in history to shoot down a jet aircraft.

10 November The Naval Guided Missile Training Unit No. 21, under training to operate Terrier missiles, was relocated from the Naval Ordnance Test Station Inyokern, China Lake, Calif. to *Norton Sound*, and redesignated a fleet activity under Commander, Air Force, Pacific Fleet.

29 November Emergency conditions on the front lines, created by the deep penetration of a communist offensive, required a shift of emphasis in fast carrier operations from bridge strikes to close air support. As the situation worsened, support operations of carrier forces were intensified through December to cover the withdrawal of troops toward east coast ports and their evacuation by ships, and continued into January as the Communist advance rolled past the 38th parallel and was slowly brought to a halt.

6 December Five days after arriving from Korea, *Valley Forge* sailed from San Diego under emergency orders to return to action in Korea.

7 December As the southward advance of communist forces required the evacuation of airfields in northern Korea, VMF-214 took off from Yonpo and landed on board *Sicily* off Hungnam without a break in its close air support operations.

17 December The light carrier *Bataan*, with VMF-212 embarked, joined forces in the Sea of Japan protecting the evacuation of troops from Hungnam and other ports. *Bataan* was pressed into service after delivering replacement aircraft to Japan and her squadron was one of those which evacuated from Yonpo early in the month.

18 December VP-892, the first all-Reserve squadron to operate in the Korean war zone, began operations from Iwakuni, Japan.

19 December President Truman proclaimed a national emergency.

1951

16 January As a step in the implementation of a program providing for early service evaluation of the Terrier and Sparrow 1 air-defense missiles, together with the development of production engineering information and the establishment of production facilities, an advance order was placed with the Sperry Gyroscope Company for 1,000 Sparrow 1 air-to-air missiles.

29 January Task Force 77 began a series of air attacks against rail and highway bridges along the east coast of northern Korea. With the additional assign-

A Corsair drops napalm bomb in close support of troops 1061489

1951—Continued

Sparrow I air-to-air missiles on wing of F3D 1023526

ment of bombing highways and lines of communication in northeast Korea, its responsibilities for interdiction would occupy a major share of its attention until the end of the war.

1 February The first of two heavy attack wings, HATWING-1, was established at Norfolk, Va., Captain Robert Goldthwaite commanding. Its first squadron, VC-5, reported for duty the next day.

5 February Six AJ-1 and three P2V-3C aircraft of VC-5 departed Norfolk for Port Lyautey, French Morocco, via Bermuda and the Azores. Completion of the flight on the 8th by all but one AJ, which was grounded at Lajes, Azores, by lack of spare parts, was the first transatlantic flight by carrier-type aircraft.

8 February Marine fighter squadrons returned to Korea after a period in Japan, and began support operations from the airfield at Pusan, South Korea.

6 March A Talos missile, powered by a ramjet engine, was launched by the Naval Ordnance Test Station, and operated two minutes in the longest full-scale ramjet flight yet achieved.

29 March CVG-101, composed of Reserve squadrons called to active duty from Dallas, Tex.; Glenview, Ill.; Memphis, Tenn.; and Olathe, Kans., flew its first combat missions from *Boxer*—the first carrier strikes by Reserve units against North Korean forces.

29 March A Regulus XSSM-N-8 test vehicle, operating under airborne command, took off from the lake bed at Edwards AFB, Muroc, Calif., circled the field, and landed successfully.

31 March A program for development of a propeller-driven vertical takeoff fighter was initiated with issuance of a contract to Convair for the XFY-1. A somewhat similar aircraft, the XFO-1 (later redesignated XFV-1), was ordered from Lockheed three weeks later as an alternate solution to the design problems.

2 April Two F9F-2B Panthers of VF-191, each loaded with four 250- and two 100-pound general-purpose bombs, were catapulted from *Princeton* for an attack on a railroad bridge near Songjin, North Korea. This was the first Navy use of a jet fighter as a bomber.

Test of Regulus I surface-to-surface missile, JATO launches Bird and main engine provide long range 1053792

A submarine fires a Regulus I guided missile 636833

1951—Continued

Deflector diverts jet exhaust on F9F takeoff 423763

ADs destroy Hwachon Dam in only aerial torpedo in use in Korea 428678

8–15 April When reports indicated the possibility of an amphibious attempt on Formosa from the China coast, Task Force 77 left the Korean area temporarily to make a show of strength in the Formosa Strait. From 11 to 14 April the force steamed off the China coast and flew aerial parades outside the international limit off the mainland.

1 May In the first and only use of aerial torpedoes in Korean combat, 8 Skyraiders and 12 Corsairs from *Princeton* made an attack on the Hwachon Dam. Destruction and damage to the flood gates released the waters of the reservoir into the Pukhan River and prevented Communist forces from making an easy crossing.

1 June MAW-1 inaugurated the policy of basing one squadron immediately in the rear of the First Marine Division to provide ground alert aircraft which were on call through the Joint Operations Center for close air support missions.

Preparing Skyraider for strike 428982

1951—Continued

Arming F9Fs 20mm guns 1030116

12 June Two PB4Y-2s of VP-772 were transferred from NAS Atsugi, Japan, to Pusan, South Korea, to fly flare dropping missions for Marine Corps night attack aircraft. The success of the operation, which was conducted as an experiment, was such that the practice of assigning specially equipped patrol aircraft for this purpose was continued.

17 June Postwar research on high-speed, jet-propelled seaplanes had progressed to the point that a contract was issued to Convair for development of a delta-winged, hydroski-equipped research seaplane with fighter characteristics. Through subsequent redesign, the aircraft became the XF2Y-1.

18 June The ZPN-1 airship made its first flight.

1 July The Naval Air Turbine Test Station was established at Trenton, N.J. Its mission was test and evaluation of turbojet, turboprop, ramjet, pulsejet engines and accessories and components.

10 July The UN military representatives, headed by Vice Admiral C. Turner Joy, arrived at Kaesong, Korea, for armistice discussions with Communist leaders. Thus began many trying months in which negotiations were alternately suspended and reopened while hostilities continued unabated.

7 August The McDonnell XF3H-1 Demon, an experimental model of a Navy shipboard jet fighter, completed its first flight at St. Louis, Mo.

7 August A Viking high-altitude sounding rocket, developed by the Naval Research Laboratory and launched at the White Sands Proving Grounds, N.M., achieved an altitude of 135.3 miles.

7 August The Navy's sonic research plane, the D-558-2 Skyrocket, piloted by Douglas test pilot William B. Bridgeman, set an unofficial world speed record of 1,238 mph over Muroc, Calif.

8 August The Secretary of the Navy established the classification AVM for Auxiliaries, Guided Missiles Ships, and changed the designation of *Norton Sound* from AV 11 to AVM 1.

15 August The Douglas Skyrocket D-558-2, the Navy's sonic research plane, piloted by William B. Bridgeman, reached 79,494 feet over Muroc, Calif., the highest altitude achieved by man to that date.

23 August *Essex*, veteran of World War II and first of the postwar converted carriers to go into action, joined Task Force 77 off the east coast of Korea and launched her planes in combat. On this strike, F2H-2 Banshees flown by pilots of VF-172 went into action for the first time.

25 August F2H Banshees and F9F Panthers from *Essex*, operating with Task Force 77 in the Sea of Japan, provided fighter escort for Air Force B-29s on a high altitude bombing mission against the marshalling yards at Rashin on the extreme northeast border of Korea.

2 September HMR-161, equipped with HRS-1s, arrived Pusan, South Korea, aboard *Sitkoh Bay* and flew ashore prepared to perform transport, assault,

F2H Banshees from Essex seek out North Korean targets 433959

and supply missions for the First Marine Division. On 13 September it began its support of the First Marine Division with Operation Windmill I. In this initial combat test of transport helicopter capabilities, the squadron lifted one day's supplies for the First Marine Battalion on a seven-mile carry from its base to the forward area.

7 September In its first shipboard launching, a Terrier surface-to-air missile was fired from *Norton Sound* and simulated an interception of an F6F target drone.

15 September The Department of Defense Joint Parachute Test Facility, consisting of Navy and Air Force parachute units, was established under the management control of the Bureau of Aeronautics at NAAS El Centro, Calif.

21 September As activity on the front quieted down and the lines remained fairly stable, the Fast Carrier Task Force was relieved of its close air support duties and ordered to concentrate its attack on railroad tracks as a part of the interdiction program.

3 October HS-1, first of its kind in the Navy, was established under the command of Commander Joseph T. Watson, Jr. at NAS Key West, Fla.

6 November A Neptune patrol bomber of VP-6 failed to return from a weather reconnaissance mission over international waters off Siberia after Soviet planes fired upon it.

1 December The U.S. Naval Aviation Safety Activity was established at Norfolk, Va., under the Chief of Naval Operations to promote the aviation safety program and to direct specific effort toward maintaining the highest practicable level of aviation safety throughout the Navy. In April 1955, this activity was redesignated the Naval Aviation Safety Center.

11 December ATG-1, operating from *Valley Forge*, flew its first combat mission, attacking coastal rail lines and bridges in northeast Korea. This was the first of the ATGs formed after experience in Korea had demonstrated that five squadrons then in Carrier Air Groups could not be operated effectively in combat from *Essex* class carriers. Temporary withdrawal of one squadron from each group scheduled for deployment provided the units from which ATGs were formed. These temporary groups, which were not formally established and existed from 1951 to early 1959. As many as eight were in existence by 1955.

12 December The Kaman K-225 helicopter, equipped with a Boeing YB-502 turbine engine, made its first flight at Windsor Locks, Conn. This Navy-sponsored development was the first demonstration of the adaptability of gas-turbine engines to helicopters.

19 December A test of emergency assembly capabilities with nuclear weapons was conducted aboard *Philippine Sea* at San Diego, Calif., marking the initial and successful introduction of special weapons in the Pacific fleet.

1952

4 January The new classifications CAG and CLG were established for heavy and light cruiser guided missile ships and *Boston* (CA 69) and *Canberra* (CA 70) were changed to (CAG 1) and (CAG 2), respectively.

1 February The Chief of Naval Operations approved a modification of the Project 27A carrier conversion program which provided an increase in the capacity of deck operating equipment. Changes included use of more powerful arresting gear, higher performance catapults and a replacement of the number three centerline elevator with a deck-edge type of greater capacity. Conversion of three *Essex* class carri-

1952—Continued

ers incorporating these modifications was completed in 1954 under Project 27C (Axial Deck).

1 April Guided Missiles Service Unit No. 211 was formed at the Naval Mine Depot, Yorktown, Va. This, the first of six scheduled Terrier units, was made up of personnel who had been trained by Guided Missiles Training Unit No. 2 at the Consolidated Vultee Aircraft Corporation, San Diego, Calif.

28 April The Navy announced that the British-developed steam catapult would be adopted for use on U.S. aircraft carriers, with the first installation on *Hancock*. This decision followed tests conducted during the first three months of the year at the Naval Shipyard, Philadelphia, Pa.; the Naval Operating Base, Norfolk, Va.; and at sea, during which U.S. naval aircraft were launched by this device from HMS *Perseus*.

8 May The Fleet Air Gunnery Unit was established as an integral part of the operating forces of the Pacific Fleet under Commander Air Force, Pacific Fleet. Its mission was to provide air gunnery training on an individual and tactical unit basis for units of the Pacific Fleet.

16 May Two Terrier missiles were fired separately at F6F-5K target drones and each destroyed its target, thereby culminating the Terrier developmental program and permitting emphasis to be shifted to production of the first tactical model.

26 May The Navy's first, and for many years the world's largest, wind tunnel was disestablished at the Naval Gun Factory, Washington, D.C. Completed in 1914, the 8-by-8-foot wooden tunnel served the Navy for over 30 years as an aerodynamic laboratory for research in aircraft design.

26–29 May The feasibility of the angled-deck concept was demonstrated in tests conducted on a simulated angled deck aboard *Midway* by Naval Air Test Center pilots and Atlantic Fleet pilots, using both jet and prop aircraft.

17 June The Aviation Medical Acceleration Laboratory was dedicated at the Naval Air Development Center. This laboratory, which featured a human centrifuge with a 110-foot arm capable of producing accelerations of up to 40 Gs, was designed and constructed as a research tool for investigating pilot reactions to accelerations encountered in high-speed flight at various temperatures and altitudes and later also proved useful in the astronaut training program.

20 June A contract was issued for the construction of a 7-foot-by-10-foot slotted throat transonic wind tunnel at the David Taylor Model Basin.

23–24 June Combined elements of Air Force, Navy and Marine Corps virtually destroyed the electric power potential of North Korea with attacks on prime military targets which had been bypassed through almost two years of war. On the 23d, the main effort was directed against the hydroelectric plant at Suiho, 40 miles up the Yalu River from Antung, Manchuria. The attacks continued the next day with more attention being given to the plants at Chosen, Fusen and Kyosen. This two-day attack, which involved over 1,200 sorties, was the largest single air effort since the close of World War II and the first to employ planes from all the U.S. services fighting in Korea.

1 July To provide the fleet with officers and enlisted personnel trained in the operation, maintenance and control of surface, and submarine-launched guided missiles, the Naval Guided Missile School was established at the Fleet Air Defense Training Center, Dam Neck, Virginia Beach, Va. The Naval Air Guided Missile School (advanced) was also established at the Naval Air Technical Training Center, NAS Jacksonville, Fla., to provide aviation personnel trained in the maintenance of air-launched guided missiles.

11–12 July In one of the major coordinated air efforts of the war, Navy, Marine, Air Force, Australian, and British air elements launched a round-the-clock attack on the railroad yards and industrial facilities at Pyongyang.

14 July The keel of *Forrestal*, the first of the 59,900-ton aircraft carriers, was laid at the Newport News Shipbuilding and Drydock Company, Newport News, Va.

1 August The Naval Air Special Weapons Facility was established at Kirtland AFB, Albuquerque, N.Mex., thereby providing for naval participation in various programs involved in the application of nuclear weapons to aircraft.

28 August In the first of six attacks on North Korean targets, Guided Missile Unit 90, based aboard *Boxer*, launched an explosive-laden F6F-5K drone under control of two ADs against a railroad bridge at Hungnam.

29 August The new UN philosophy of mass air attack was again demonstrated in the record-breaking around-the-clock raid on Pyongyang. The entire car-

1952—Continued

rier air force of Task Force 77 teamed up with 5th AF, MAW-1, Republic of Korea Air Force and British air elements to spread destruction on the supply concentrations in and about the city.

1 September *Mississippi* (EAG 1), having been outfitted with Terrier surface-to-air missiles at the Norfolk Naval Shipyard, reported to Commander Operational Development Force to participate in the missile's evaluation.

3 September The Naval Ordnance Test Station, Inyokern, Calif., fired the first fully configured Sidewinder air-to-air missile, thereby initiating an extensive period of developmental testing.

8 September Deputy Chief of Naval Operations (Air) became responsible for all phases of basic and technical training of personnel for air launched missiles. However, the training program was to be administered through the Commander Naval Air Technical Training Command. The Bureau of Personnel had formerly been responsible for all individual training.

15 September VX-4 was established as a unit of Air Force, Pacific Fleet, at the Naval Air Missile Test Center (NAMTC) to conduct operational evaluation tests of air-launched missiles. The squadron's initial test assignment was to assist with tests of Sparrow I.

1 October Aircraft carriers designated CV and CVB were reclassified as Attack Carriers and assigned the designation CVA.

3 November A Regulus Assault Missile (RAM) was launched from *Norton Sound* off the Naval Air Missile Test Center (NAMTC) and landed on San Nicolas Island in the first shipboard demonstration of the RAM missile system.

12 November The final configuration of the ZP3K (later ZSG-3) nonrigid airship was flown and accepted at NAS Lakehurst. The airship was a modernized antisubmarine configuration of the K model and was designed especially for carrier-based operation. Thirty K-class airships were so configured.

18 November The feasibility of using a helicopter as an aerial minesweeper was demonstrated in the first of a series of tests conducted by VX-1 pilots flying an HRP-1 helicopter off Panama City, Fla.

16 December *Princeton*, operating in the Sea Test Range of the Naval Air Missile Test Center (NAMTC), catapulted F2H-2P control planes and then launched a Regulus assault missile. The pilots of the control planes guided the missile to a target point on San Nicolas Island, where they transferred control to other pilots who successfully landed the missile.

1953

12 January In the initiation of test operations aboard the Navy's first angled deck carrier, *Antietam*,

F9F Panther takes off from Antietam during the operational suitability tests of angled flight deck 477063

1953—Continued

Captain Samuel G. Mitchell, the ship's commanding officer, landed aboard in an SNJ. During the next four days, six aircraft models made landings, touch-and-go landings, night landings, and takeoffs in winds of varying force and direction.

18 January A P2V of VP-22, conducting patrol of Formosa Strait, was shot down off Swatow, China, by Communist Chinese antiaircraft fire. Rescue operations were hampered by shore battery gunfire and high seas, the latter causing the Coast Guard rescue plane to crash on takeoff. Total losses from the incident were 11 men, 7 of them from the P2V crew.

9–10 February A maximum effort strike against supply concentrations and transport targets from Wonsan through Songjin to Chongjin was launched by the carriers of Task Force 77.

13 February The first full guidance flight of a Sparrow III missile was conducted at the Naval Air Missile Test Center.

1 March Aircraft from Task Force 77 heavily damaged the hydroelectric plant at Chosen and four days later repeated the attack, cutting the penstocks and destroying sections of the main power plant.

6 March *Tunny* (SSG 284), outfitted at the Mare Island Naval Shipyard, San Fransico Bay, Calif., to launch Regulus surface-to-air missiles, was commissioned.

19 March Task Force 77 launched a heavy strike against the city of Chongjin, North Korea, completely ravaging the industrial section of the city.

20 March The ZP2N-1 (later ZPG-2) airship made its first flight at Akron, Ohio. The airship was the production model of the nonrigid N class but with an envelope of 975,000 cubic feet. It was originally designed for mid-ocean antisubmarine warfare and convoy-escort operations and contained provisions for inflight refueling, reprovisioning and servicing. A total of 17 of these airships were procured in ASW and AEW configurations. The AEW configured airships were designated ZPG-2W.

9 April The XF2Y-1 Sea Dart, an experimental delta-wing jet seaplane equipped with hydroskis, made its first flight at San Diego, Calif.

3 May Commanding General, Far East Air Forces listed 30 major North Korean airfields to be maintained unserviceable in order to limit Communist air action and to prevent augmentation of their air arm preceding the date of a possible armistice. Responsibility for six of these fields was assigned to Task Force 77 and the naval air campaign featured periodic attacks upon them until the end of the war.

21 May An AD-4 Skyraider took off from NAS Dallas, Tex., with a bomb load of 10,500 pounds. Combined with the weight of its guns, ammunition, fuel and pilot, its total useful load of 14,491 pounds was 3,143 pounds more than the weight of the aircraft.

7–19 June The major effort of carrier air was directed on a round-the-clock basis against the Communist front line and supporting positions to counter an apparent effort by the enemy to gain ground prior to a possible armistice.

23 June Lieutenant Commander George H. Whisler, Jr., while attached to VR-31, completed the first transcontinental round-trip solo flight between sunrise and sunset. Lieutenant Commander Whisler departed NAS Norfolk, Va., at 0518 in an F9F-6 Cougar (BuNo 127432) and landed at NAS North Island, Calif., at 0905 local time, after stops at NAS Memphis, Tenn., and Webb AFB, Texas. After 50 minutes on the ground Lieutenant Commander Whisler departed NAS North Island, Calif., in an F3D-2 Skyknight (BuNo 127076) headed for NAS Norfolk, Va. He refueled at NAS Dallas and arrived at NAS Norfolk, Va., at 1921, local time.

25 June Task Force 77 deployed four F4U-5N Corsairs to Kimpo to operate under the 5th AF for an indefinite period. The purpose was to intercept night attacks being made on the field by aircraft flying too slowly to be intercepted by jets.

30 June The Research and Development Board and three other activities of the Department of Defense were abolished as the president's Reorganization Plan No. 6 became effective. The functions of these activities were assigned to the Secretary of Defense, six new Assistant Secretaries of Defense were created, and the chairman of the Joint Chiefs of Staff was given managerial control of the Joint Chiefs.

8 July The designation Antisubmarine Support Aircraft Carrier (CVS) was established for attack carriers assigned to antisubmarine warfare, and five CVAs assigned the new mission were redesignated effective one month from date.

10 July The Naval Air Development Unit was established at South Weymouth, Mass., to participate in development and testing of equipment designed for antisubmarine warfare and air defense.

1953—Continued

11 July Major John F. Bolt, USMC, downed his fifth and sixth MiGs while operating with the Fifth Air Force in Korea, becoming the first Naval Aviator to attain five victories in jet aerial combat.

12 August In the first successful shipboard launching of a fully guided Terrier, the missile was fired from *Mississippi* (EAG 1), and hit its target, an approaching F6F drone.

20 August Lieutenant Colonel Marion E. Carl, USMC, piloted the D-558-2 Skyrocket to a new altitude record of 83,235 feet over Edwards AFB, Calif.

Marine Ace Major Bolt USMC 348324

15 July *Tunny* (SSG 284) launched a Regulus missile off Naval Air Missile Test Center (NAMTC). This, the first submarine launching of a Regulus, was completed with a simulated attack after which the missile was successfully recovered on San Nicolas Island.

25 July Pilots of Task Force 77 flew 538 offensive and 62 defensive sorties—their record for one day of operations in the Korean War.

27 July On the final day of the Korean War, Task Force 77 expended its major effort on transportation facilities, with airfields a secondary target. The attacks destroyed or damaged 23 railroad cars, 11 railroad bridges, 1 railroad tunnel, 9 highway bridges, and numerous buildings.

27 July United Nations and Communist representatives signed an armistice at Panmunjom, bringing hostilities to a halt in Korea.

D-558-2, high speed research aircraft in which LtCol. Marion E. Carl made flights at 1,143 mph and 83,235 feet 651837

1953—Continued

2 September Project 110, a conversion plan for *Midway*-class carriers, was promulgated. Basic changes were the same as those for the angled-deck version of Project 27C but with the addition of a modified C-11 steam catapult in the angled-deck area.

11 September In its first successful interception, a Sidewinder air-to-air missile, test fired at the Naval Ordnance Test Station, Inyokern, Calif., sent an F6F drone down in flames.

1 October *Hornet* completed conversion at the New York Naval Shipyard; the last of nine *Essex* class carriers modernized under Project 27A.

3 October A new official world speed record of 752.943 mph over a 3-kilometer course was set by the F4D Skyray at Muroc, Calif. Piloted by Lieutenant Commander James F. Verdin, this was the first carrier aircraft to establish this record in its normal combat configuration.

16 October A Douglas F4D-1 carrier fighter, flown by test pilot R. O. Rahn, broke the 100-kilometer closed course speed record at 728.114 mph.

19 November The Chief of Naval Operations endorsed the common utilization of the Fleet Air Gunnery Unit by the Pacific and Atlantic Fleets and the Marine Corps "as a step towards increased emphasis and standardization in the combat employment of aircraft armament."

3 December The Steam Catapult Facility, NAMC, Philadelphia, Pa., was established by Hon. James H. Smith, Assistant Secretary of the Navy for Air, with the launching of F9F and AD aircraft.

3 December The first successful test of super circulation (boundary layer control) on a high-speed airplane, an F9F-4 Panther, took place at the Grumman Aircraft Corporation field at Bethpage, Long Island, N.Y. John Attinello, a BuAer engineer, was credited with developing this practical application of the aerodynamic principle.

19 December The Navy and Bureau of Standards announced that under a joint project with the code name "Tinkertoy" methods had been developed for the automatic manufacture of electronics equipment and that a sonobuoy assembled by this method was in production. Tinkertoy was a technique for utilizing automatic machinery to attach basic electronic components to ceramic wafers and to build the wafers up into modules which could be readily assembled into complete units. Its importance at the time was viewed as breaking an electronics production bottleneck. In a broader view it was a step towards the development of microelectronics and solid state circuitry.

Speedster Verdin in Skyray 630092

Wings for medics. Helicopters were used to fly battle casualties from the front to rear area hospitals 420530

Landing in a rice paddy USMC 131109

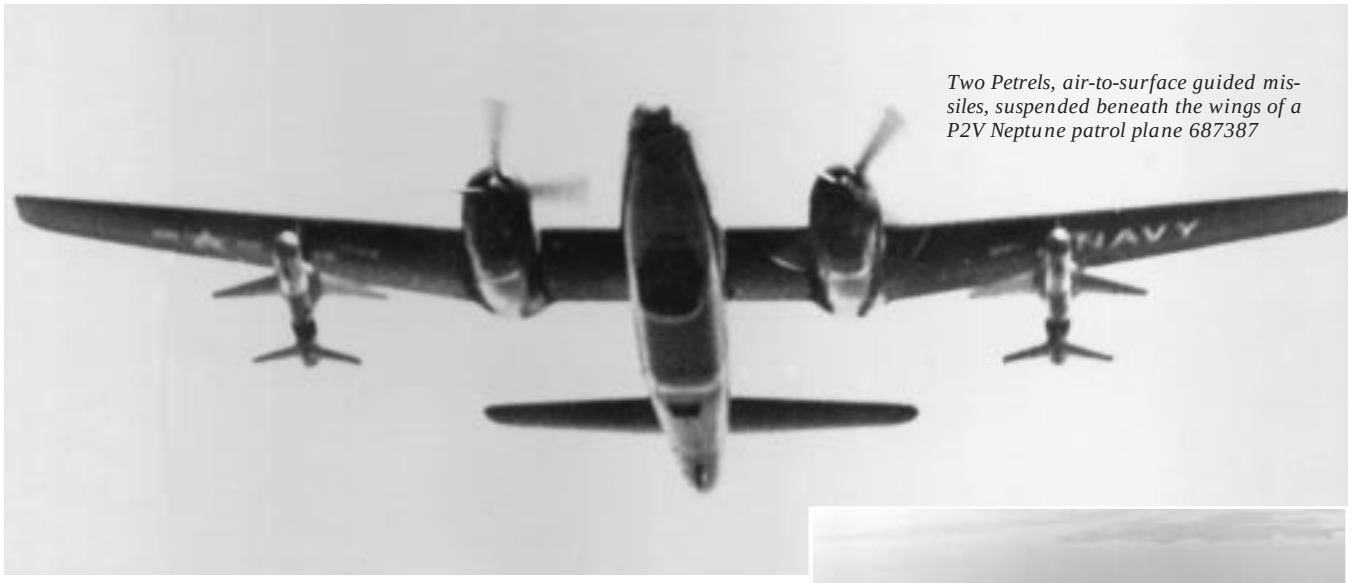
HTLs preparing to takeoff from Valley Forge in western Pacific 424772

Interdiction. Repeated attacks denied railroad to stubborn foe 1053759

Locomotive, but no railroad 1053760

An AD Skyraider test fires the Mighty Mouse, a high speed long-range air-to-air rocket, at NOTS Inyokern 707573

F9F Panther jets dump reserve fuel before landing on Princeton upon return from air strike over Korea 429191



Two Petrels, air-to-surface guided missiles, suspended beneath the wings of a P2V Neptune patrol plane 687387

The P5M-2 Martin Marlin features a "T" tail 1053791

XF7U-1 Cutlass, Vought's tailless twin-jet fighter, taking off from Midway during carrier evaluation 432148

AJ-1 Savage landing aboard Lake Champlain 630663

F2Hs en route to target pass Lake Champlain 630627

Early version of Lockheed WV, radar picket plane for long-range patrol, on seaward extension of Dewline 1053793

At the end of a patrol flight a P5M-2 Martin Marlin sets down at NAS Sangley Point in the Philippine Islands 676502