

U.S. Marine Corps Aviation

*Diamond
Anniversary* **75**th *Year of
Naval
Aviation*

Volume Five of a Commemorative Collection

U.S. Marine Corps Aviation

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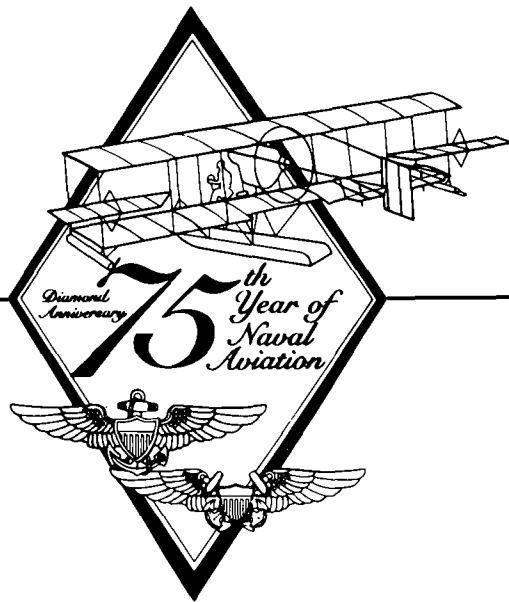
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Introduction

In any historical appreciation of Marine Corps Aviation, there are two factors which make Marine Aviation unique. The first is the close relationship between Marine and Naval Aviation, and the second is the unchanging objective of Marine Aviation to provide direct support to Marine ground forces in combat.

One of the reasons for the partnership between Marine and Naval Aviation is the commonality which they have shared since their very beginnings. Both are under the umbrella of the Department of the Navy and there is an interlocked approach to planning, budgeting, procurement and operations, at all levels from Washington to the major fleet, field and base commands. All aviators of the naval establishment, whether Marine or Navy, are trained in the same training commands, in the same equipment, and by the same instructors and technicians, under the same syllabi. This adds up to the closest bond between two major air forces.

The second factor — the basic objective of Marine Aviation: to support Marine Corps operations on the ground — speaks for itself. While there have been a few variations in some aspects of Marine Aviation planning, there has never been a departure from this objective.

U.S. Marine Corps Aviation

By Major General John P. Condon, USMC(Ret.)



I. The Early Years: 1912-1941

Marine Aviation was officially born on May 22, 1912, when First Lieutenant Alfred A. Cunningham, USMC, reported to the camp "for duty in connection with aviation." This was several months after the Naval Aviation Camp was established at Annapolis in 1911, manned by Lieutenants T. G. Ellyson, John Rodgers and J. H. Towers, plus mechanics and three aircraft.

There was much talk at the time of an emerging mission for the Marine Corps of the "occupation and defense of advance bases for the fleet." The Advance Base School had been commissioned at the Philadelphia Navy Yard and Cunningham was among the first Marines to be assigned. In the spring of 1912, Lt. Cunningham was ordered to Annapolis for flight instruction. A second Marine was soon assigned to the school, First Lieutenant Bernard L. Smith, followed by Second Lieutenant William M. McIlvain in December, and First Lieutenant Francis T. Evans in June 1915. On March 31, 1916, First Lieutenant Roy S. Geiger reported to Lieutenant Commander Henry C. Mustin at Pensacola. Each of these five Marines, all eager to "learn the new," had his own concept of how this new arm could enhance the effectiveness of Marine Corps operations. They were the prewar nucleus of Marine Aviation.

Cunningham obtained orders to the Burgess Company and Curtiss factory at Marblehead, Mass. After two hours and 40 minutes of instruction, he soloed on August 20, 1912, even though he had only *witnessed* two landings prior to his own. Cunningham stated that just as the gasoline gage stick was indicating about empty, "I got up my nerve and made a good landing, how I don't know....This was my first solo."

First Lieutenant B. L. Smith became Marine Aviator No. 2 with an official designation as Naval Aviator No. 6. Like Cunningham, Smith's contributions were enormous in the experimental and early developmental phases of Naval and Marine Aviation. There was some difference between them concerning the concept of Marine Aviation. Cunningham favored complete emphasis on support of the Corps as the function of Marine Aviation, whereas Smith viewed Marine Corps support as a combined effort of Naval and Marine Aviation. It would seem that the passage of time has confirmed the soundness of both of their concepts.

One of B. L. Smith's earliest contributions to Marine Aviation came with a combined landing force/fleet

exercise at Culebra, P.R., in January February 1914. It was a test of the ability of a Marine force to occupy, fortify and defend an advance base and hold it against hostile attack. Smith and McIlvain, with 10 enlisted mechanics, one flying boat and one amphibian, embarked at Philadelphia and arrived at Culebra early in January.

Using their C-3 Curtiss flying boat primarily, Smith and McIlvain flew scouting and reconnaissance missions. Throughout the exercise on an almost daily basis, the two pilots took officers of the brigade on flights over the island and its defenses to "show the ease and speed of aerial reconnaissance and range of vision open to the eyes of the aerial scout." Based on his experience at Culebra, Lt. Smith later recommended that the Marine air unit for the advance base mission be composed of five aviators and about 20 enlisted mechanics and ground crewmen.

Smith was ordered to the U.S. Embassy in Paris by the Secretary of the Navy in 1914, where he served as aviation observer and as an intelligence officer. During this tour, he visited French aviation units and occasionally flew in combat with them. After being ordered back from France in 1917, he directed much of the design and procurement of naval aircraft, and also organized the aerial gunnery and bombing school at Miami. In 1918, Smith was ordered back to Europe to organize the Intelligence and Planning Section for Naval Aviation at Navy Headquarters in Paris. After the war, he had charge of assembling material and equipment for the famous transatlantic flight of the Navy's NC-4 in 1919.

Second Lieutenant McIlvain reported to Annapolis for flight instruction in December 1912, becoming Marine Aviator No. 3 and officially designated Naval Aviator No. 12.

In January 1915, McIlvain was the only Marine left at the Navy Flying School, and it was at this time that the "Marine Section, Navy Flying School" was officially formed. In August as the war in Europe escalated, an agreement was reached between the Navy and the Army for the training of Navy and Marine pilots in land planes at the Signal Corps Aviation School in San Diego. Secretary of the Navy Daniels believed that defense of advance bases and, in the case of Marines, possible joint operations with the Army, required an aviation force able to operate from either land or water. McIlvain was one of the first two Naval Aviators sent to the Army flight school.

During his training there, McIlvain flew for the first time in a cockpit inside a fuselage instead of from a seat in the open, in front of the wings of a primitive "pusher." He stated later that he never

would forget "the feeling of security I felt to have a fuselage around me."

First Lieutenant Francis T. Evans reported to Pensacola in the summer of 1915, becoming the fourth Marine Aviator and Naval Aviator No. 26. One of his many contributions to Marine and Naval Aviation involved spin-recovery as a basic element of aviation safety. Up to that time if one inadvertently got into a spin, there was no known recovery technique. A spin usually meant the loss of both aircraft and pilot.

At the time, there was much discussion about whether or not a seaplane, with its heavy pontoons, could be looped successfully. Early in 1917, on a routine flight over Pensacola Bay in a new N-9 seaplane, Evans decided to make an attempt to end such discussions. At an altitude of about 3,500 feet, he put the plane into a dive to pick up enough speed to get "over the top" of the loop maneuver. He lost too much speed on the way up and the plane stalled and went into a spin. Evans, without realizing he was in a spin, instinctively pushed his control wheel forward to regain air speed and controlled the turning motion of the spin with the rudder. Recovering from the spin, he climbed back up and tried again, stalling, spinning and recovering until he finally managed to complete the loop without a stall. To make sure he had witnesses, Evans then flew over the seaplane hangars and repeated the



Marine Aviator No. 1, Capt. Alfred A. Cunningham.

whole show. Pensacola incorporated the spin-recovery technique into the training syllabus, and Evans was awarded a Distinguished Flying Cross retroactively in 1936 for his extraordinary discovery in 1917.

First Lieutenant Roy S. Geiger reported to Pensacola March 31, 1916, as Marine Aviator No. 5. He was formally designated a Naval Aviator on June 9, 1917, becoming the 49th naval pilot to win his wings. During his training Geiger made 107 heavier-than-air flights, totaling 73 hours of flight time, plus 14 free balloon ascents, totaling 28 hours and 45 minutes.

Geiger was undoubtedly the most distinguished aviator in Marine Aviation history and one of its greatest pilots. His distinction stems primarily from his early entry into aviation, his participation in every significant Marine Corps action from WW I through WW II, and his continued and constant leadership role in Marine Aviation over a period of almost 30 developmental and action-packed years. Geiger became a career model for both aviation and ground Marines in WW II, serving with superior distinction as both the commanding general of the First Marine Air Wing in the hardest days of the battle for Guadalcanal, and later as commander of the Third Marine Amphibious Corps at Bougainville, Guam, Peleliu and Okinawa.

As the war in Europe increased in intensity and the United States came closer to becoming involved, these five —

Cunningham, Smith, McIlvain, Evans and Geiger — were the foundation on which Marine Aviation was built.

With the U.S. declaration of war against Germany, the Navy and Marine Corps air arms entered a period of greatly accelerated growth in manpower and equipment. Marine Aviation developed its own units and bases, and the Navy Department adopted antisubmarine warfare as Naval Aviation's principal mission.

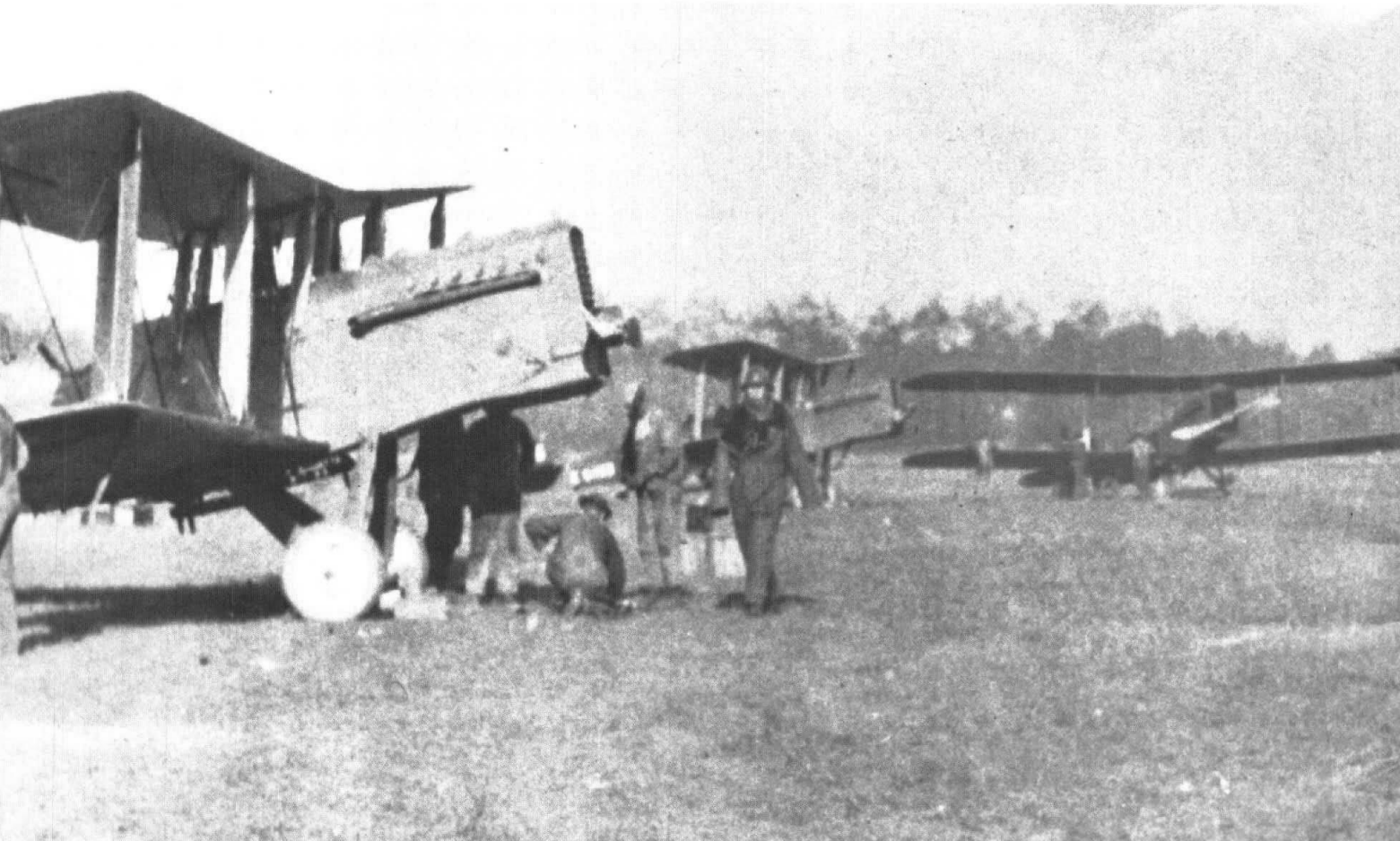
The Marine Corps entered the war with 511 officers and 13,214 enlisted personnel and, by November 11, 1918, reached a strength of 2,400 officers and 70,000 men. Under the energetic direction of Major General Commandant George Barnett, the Marine Corps' primary goal was to send a brigade to France to fight alongside the Army. Marine Aviation began an aggressive effort to ensure that the new arm got its share of the Corps expanding manpower and that its units would be sent to France in support of the brigade. Cunningham, as the designated commanding officer of the Aviation Company of the Advance Base Force at Philadelphia, became the principal leader and driving force of Marine Aviation expansion.

Marine Corps Aviation soon found itself split between two separate missions. Cunningham's Aviation Company at Philadelphia, renamed the Marine Aeronautic Company, was assigned the mission of flying seaplanes on antisubmarine patrols. Maj.Gen.

Barnett had secured Navy Department approval in the summer of 1917 for the formation of a Marine air unit of landplanes to provide reconnaissance and artillery spotting for the brigade being sent to France. By October 14, the Marine Aeronautic Company had attained a strength of 34 officers and 330 enlisted men, and was divided into the two projected units. The 1st Marine Aeronautic Company of 10 officers and 93 men would prepare for seaplane missions, while the 1st Aviation Squadron of 24 officers and 237 enlisted would organize to support the Marine brigade in France.

The 1st Marine Aeronautic Company led the way into active service. In October the company, commanded by then-Captain Francis T. Evans, moved from Philadelphia to Naval Air Station (NAS), Cape May, N.J. On January 9, 1918, the company embarked at Philadelphia for duty in the Azores to begin antisubmarine operations. The unit's strength on deployment was 12 officers and 133 enlisted personnel, with equipment initially at 10 Curtiss R-6s and two N-9s. Later in the deployment, the company received six Curtiss HS-2Ls, which greatly enhanced its ability to carry out its basic mission.

During 1918, the Aeronautic company operated from its base at Punta Delgada on the island of San Miguel. It flew regular patrols to deny enemy submarines ready access to the convoy routes and any kind of base activity in the



Azores. It was not the stuff of which great heroes are made, but the First Aeronautic Company was the first American aviation unit to deploy with a specific mission, which was well and faithfully carried out.

The First Marine Aviation Force

The deployment of the First Aviation Force, was a much more complex undertaking. The story begins with the Marine landplane unit, the 1st Aviation Squadron, commanded by Captain McIlvain. The squadron was to receive basic flight training at the Army Aviation School at Hazelhurst Field, Mineola, L.I., N.Y. It would then move to the Army Advanced Flying School at Houston, Texas, and upon completion of that syllabus would be deployed to combat. The squadron moved from Philadelphia to Mineola on October 17, 1917, to begin training. In November, the six officers in its balloon contingent were sent to Fort Omaha, Neb., for training as artillery observers. The rest of the story reveals Marine initiative, determination, flexibility and success.

At Mineola, the squadron flew JN-4B Jenny trainers with civilian instructors, and the main body of the squadron lived in tents. Training progressed reasonably well but, by December, temperatures were dropping rapidly and something had to be done. In the absence of any other orders, Capt. McIlvain packed his troops, equipment and aircraft on a train that he had requisitioned and headed south on

January 1, 1918. They paused at Washington to request orders, resumed the journey, and somewhere en route they received orders to the Army's Gerstner Field at Lake Charles, La., where training continued in a more suitable climate.

The next chapter in this account of a firm resolution to prepare for combat concerns Captain Geiger's Aeronautic Detachment at Philadelphia. This unit was organized on December 15, 1917, with four officers and 36 enlisted men, most of whom were detached from McIlvain's squadron. The unit's mission was not yet clearly defined, but it was planned to be a supporting element of the Advanced Base Force. However, on February 4, 1918, Geiger received orders to take his detachment, now 11 officers and 41 men, to NAS Miami, Fla. Soon after arriving, Geiger, seeking a base for the entire 1st Aviation Force, moved his command to a small airstrip on the edge of the Everglades, owned at the time by the Curtiss Flying School. To secure Marine training facilities independent of the Army, Geiger absorbed the entire School into the Marine Corps, arranging to commission the instructors in the reserves and requisition the school's Jennies. On April 1, McIlvain's squadron arrived at the field from Lake Charles and, for the first time, the nucleus of the 1st Aviation Force was consolidated at one location.

Capt. Cunningham launched a campaign to bring his squadrons to full

strength in men and machines. He made repeated recruiting visits to the Officers' School at Quantico, Va., and collected other volunteers elsewhere. As long as they seemed willing, able and in possession of a reasonable set of credentials as potential pilots or mechanics, they got orders to Miami.

Even with this influx of strength, the two detachments could not furnish enough pilots for the planned four squadrons of the 1st Aviation Force. Realizing this, Cunningham toured the Navy air installations and recruited Naval Aviators, most of them young reservists who wanted to go to France. These officers, already qualified Navy seaplane pilots, transferred from the Navy to the Marine Corps, and reported to the Marine field at Miami for landplane training. Of 135 pilots who eventually flew in France with the 1st Aviation Force, 78 were transferred naval officers.

By June 16, the force was organized into a headquarters and four squadrons designated A, B, C and D. On July 13, the force, less Squadron D which was left behind temporarily, trained at Miami. On July 18, the 107 officers and 654 enlisted men of the three squadrons sailed for France in the transport USS *De Kalb*.

At Miami, the Marine Flying Field became a bustling military complex of

Marine DH-4s comprised the Day Wing of the Northern Bombing Group in France.



hangars, warehouses, machine shops, and gunnery and bombing ranges. The completion of the manning and training of Squadron D was accomplished as a first priority, and then additional personnel were trained to provide air patrols off the Florida coast.

First Marine Aviation Force in France

The force disembarked at Brest on July 30, and found a full bag of administrative and supply problems. Foremost among them was the fact that no arrangements had been made to move them the 400 miles to their base locations near Calais. This was solved and the two-day trip accomplished with the requisition of a French train by Maj. Cunningham. Squadrons A and B were located at landing field sites in Calais and Dunkirk, with Squadron C occupying a field near the town of La Fresne. The force headquarters were established in the town of Bois en Ardes.

The worst problem encountered was a delay in the arrival of the force's aircraft. Before leaving for France, Cunningham had made arrangements with the Army for the delivery of 72 DH-4 bombers. These British-designed aircraft were to be shipped to France, assembled there and issued to the Marine force. Due to delays in assembly, followed by an administrative error which sent most of the assembled aircraft to England, the first one did not reach the force until September. When it became clear that the delays were in the offing, Cunningham got the Navy's approval to make a deal with the British. For every

three Liberties that Cunningham sent the RAF, they sent back one DH-9A with engine installed.

Unable to get his pilots into the air immediately in American machines, Maj. Cunningham again talked to the British and made arrangements for Marine pilots to fly bombing missions with RAF Squadrons 217 and 218 in DH-4s and 9s. Each pilot flew at least three missions under this cooperative agreement.

On October 5, Squadron D arrived at La Fresne bringing the strength of the force to 149 officers and 183 enlisted. At this point, the squadrons were redesignated 7, 8, 9 and 10, to conform to the Northern Bombing Group identification system. The Germans had evacuated their submarine bases on the Channel coast, eliminating the planned mission of the Marines. Instead the Marine force was placed in general support of the British and Belgian armies in their final assault on the crumbling German defenses.

By October 12, the Marines had received enough of their own DH-4s and 9As to begin flying missions independently of the British. Two days later, Captain Robert S. Lytle of Squadron Nine led the Marines' first mission in their own aircraft, bombing the German-held railyards at Thielt, Belgium. The bombing was without incident but, on the way back to base, the formation of eight DHs was jumped by 12 German fighters. The Germans succeeded in separating one aircraft from the rest of the formation and concentrated their attack on Second Lieutenant Ralph Talbot, one of the Naval Reserve officers who had transferred to Marine Aviation. Talbot's gunner,

Corporal Robert G. Robinson, quickly shot down one attacker, but two others closed in from below, spraying the DH with fire and wounding Robinson in the arm. In spite of his wounds, Robinson cleared a jam in his gun and continued to fire until hit twice more, while Talbot took frantic evasive action. With Robinson unconscious in the rear seat, Talbot brought down a second German with his fixed guns and then put the plane into a steep dive to escape the remaining German fighters. Crossing the German lines at an altitude of 50 feet, he landed safely at a Belgium airfield where Robinson was hospitalized. Robinson ultimately recovered and, for this mission, both he and Talbot were awarded the Medal of Honor.

Between October 14 and November 11, the Marines carried out a total of 14 bombing missions against railway yards, canals, supply dumps and airfields — always flying without fighter escort.

During their tour in France from August 9 to November 11, Marines of the 1st Aviation Force participated in 57 missions. They dropped a total of 33,932 pounds of bombs, at a cost of four pilots killed, and one pilot and two gunners wounded. They scored confirmed kills of four German fighters and claimed eight more. During its brief period in combat, the force earned a total of 30 awards, including Talbot's and Robinson's Medals of Honor and four Distinguished Service Medals.

The Curtiss R-6 trainer was similar to the JN-4 Jenny.



Survival: 1919-1920

The 1st Aviation Force arrived back in the United States early in January 1919, and was disbanded in February, with most of the remaining personnel and equipment sent to Quantico and Parris Island, Calif. From the remnants of the force, Maj. Cunningham formed a new Squadron D to support the Second Provisional Brigade in the Dominican Republic, and Squadron E to support the First Provisional Brigade in Haiti. In September, the Marine Flying Field at Miami was closed, and the last chapter in the story of Marine Aviation in WW I ended.

The Marine Corps, along with the other services, began a desperate struggle to convince Congress that it should at least maintain prewar levels of personnel, bases, facilities and equipment. Within this overall struggle for appreciation and legislation, Maj. Cunningham fought for permanent status for Marine Aviation. He appeared before such august bodies as the General Board of the Navy, and wrote numerous articles to persuade

skeptics within and outside the Corps of the value of aviation for future military operations. As a result of his efforts and those of other dedicated individuals, Marine Aviation won its battle for survival. Congress established Marine Corps strength at approximately one-fifth that of the Navy — 26,380 Marines. It then authorized an additional 1,020 Marines for aviation and established permanent aviation bases at Quantico, Parris Island and San Diego.

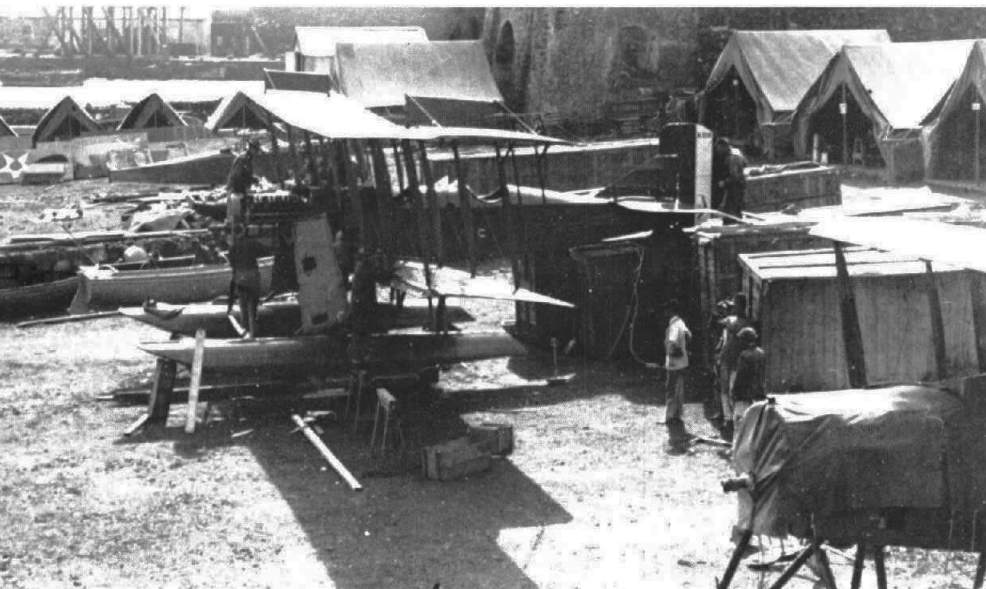
While the postwar situation was being identified in Washington, some more or less permanent operating organizations were shaping up in the field. On October 30, 1920, Major General Commandant Lejeune approved an aviation table of organization. Existing personnel were formed into four squadrons, each of two flights. The First Squadron (flights A and B) consisted of the planes and crews in the Dominican Republic. The Second and Third Squadrons (flights C, D, E and F) were stationed at Quantico, with the Fourth Squadron (flights G and H) at Port au Prince, Haiti, in support of the First Provisional Brigade. The detachment at

Parris Island was designated Flight L, and it was ordered to prepare to move to Guam.

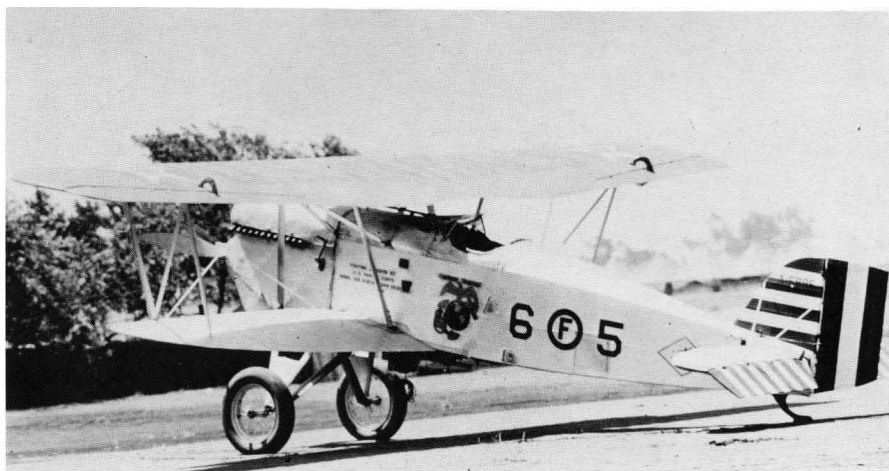
In 1924, the Marine Corps withdrew its air units from the Dominican Republic and, with the additional strength thus made available, Marine Aviation was established on the West Coast. The Second Air Group, which was formed in 1925, consisted of an observation, fighter and headquarters squadron.

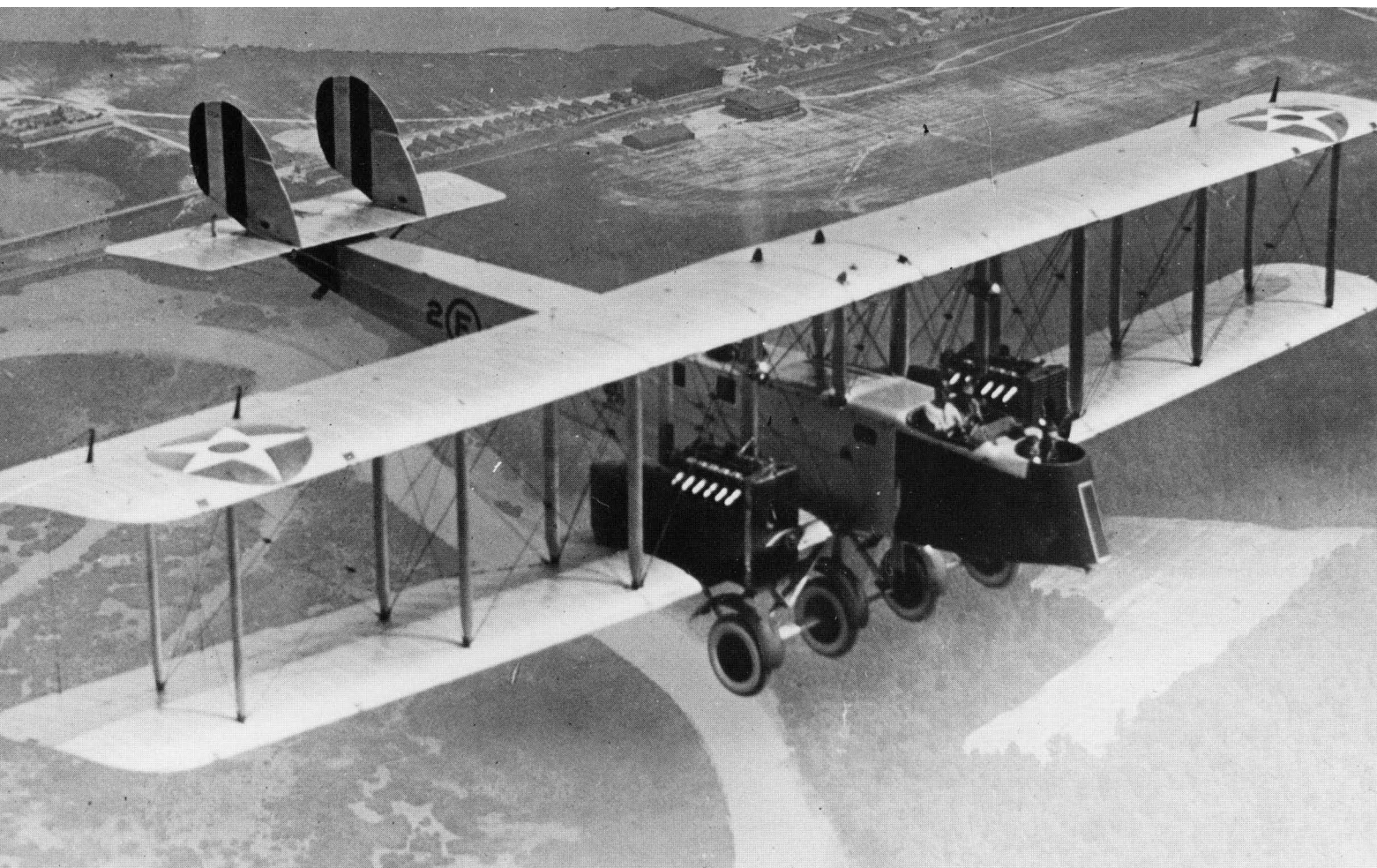
Previously mentioned was the need at the end of WW I for Marine Aviation to prove itself to Congress, the American public, and to the rest of the Marine Corps. The Corps found it necessary to combine serious military exercises with headline-hunting spectacles in order to make the point for Marine Aviation and for the Corps in general. One of the largest of the maneuvers in this category was conducted in 1922 from Quantico. This exercise was a practice march of 4,000 Marines from Quantico to Gettysburg, Pa. Three of the big Martin MBT bombers were assigned in support of the troops on the march. They flew a total of 500 hours and 40,000 air miles, carrying passengers and freight and maintaining radio contact with the column in execution of simulated attack missions. Similar exercises were held almost annually to keep the operational capabilities of the Corps and Marine Aviation in the public eye.

In addition, Marine Aviators tested new equipment and techniques during the decade. They also made several important long-distance flights and participated in numerous significant air races. One of these flights consisted of two DH-4s led by Lieutenant Colonel



Left, the First Aero Company at Porto Delgado, Azores. Bottom left, a Standard E-1. Bottom right, a FB-1, the first of a long line of Boeing fighters.





A Martin MT assigned to VF-2M, Quantico, Va. It was the largest aircraft in the Marine Corps prior to WW II.

Thomas C. Turner, from Washington to Santo Domingo, the longest unguarded flight over land and water made up to that time. Another led by Maj. Geiger was a flight of three Martin MBTs from San Diego to Quantico which took 11 days, with many stops for repairs and fuel along the route. Another dramatic flight was led by First Lieutenant Ford O. Rogers, involving two DH-4s flying from Santo Domingo to Washington, to St. Louis, to San Francisco, back to Washington and on to Santo Domingo. This flight, including engine changes on the way back to Washington, took two and one-half months and 127 hours of actual flying time. It demonstrated the skill of Marine pilots and the technical competence of Marine mechanics.

Air races became an American institution in the twenties. Marines sometimes flew Navy aircraft and at other times flew their own squadron aircraft. A prime participant in the former was Lieutenant C. F. Schilt who flew a Navy seaplane to second place in the renowned Schneider Cup race in 1926. In another famous race, the winning Marine pilot was Major Charles A. Lutz who took first in the Curtiss Marine

Trophy Race at Anacostia in 1928, flying a Marine Curtiss *Hawk*.

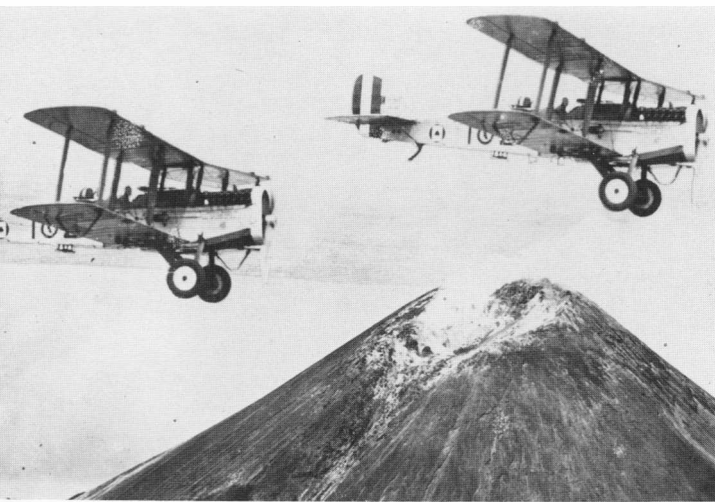
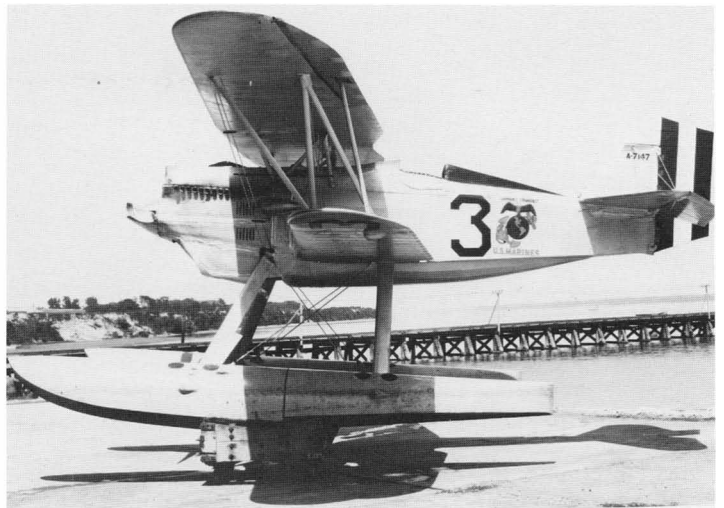
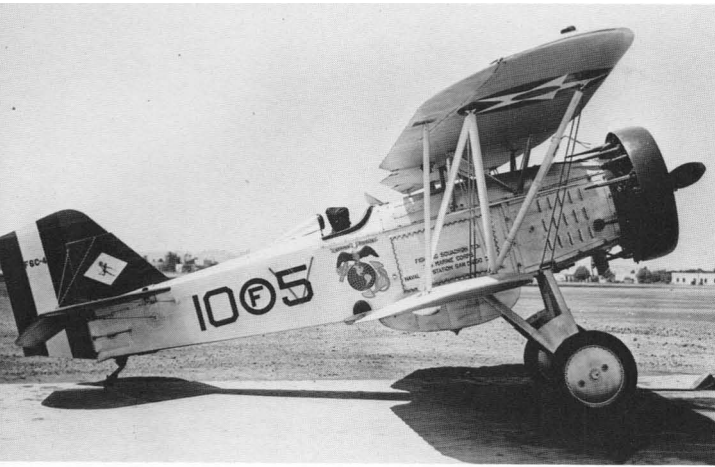
The Quantico Marines had a show schedule of no small proportions well into the thirties. They worked up well-practiced precision show routines which literally put Marine Aviation "on the map." These shows helped to establish a solid reputation for competence and flying skill for Marine Aviation in the eyes of the American public. Prime leaders of these spectacular squadron air demonstrations through the late twenties and into the thirties included Majors "Tex" Rogers, "Sandy" Sanderson, Oscar Brice and many other great Marine pilots — almost always under the expert tutelage of Roy S. Geiger. These public shows, always in addition to the normal emphasis on routine training and proficiency requirements, were important factors in the progress of Marine Aviation to mature stature.

During the twenties and thirties, Marine Aviation had units in support of the brigades in Haiti, the Dominican Republic, China and Nicaragua. The aviators, for the first time, had a real chance to demonstrate their ability to

support ground operations.

In both Haiti and Santo Domingo there was drawnout, tedious guerrilla warfare in largely roadless tropical jungle terrain. Generally, because of limitations of armament and performance of the aircraft — plus the lack of reliable air-ground communications — aviation was most effective in the indirect support role. The ability of aviation to enhance operations in trackless terrain was becoming clear to the Marine Corps through these types of expeditionary deployments.

In Haiti in 1919, Lieutenant L. H. M. Sanderson of Squadron Four made a change in the delivery tactics used in bombing. He abandoned the usual practice of having the bomb sighted and released by the observer in the rear seat of the aircraft. Instead, he put the aircraft into a dive of about 45 degrees, sighted the target over the nose of the plane, and released the bomb himself from the front cockpit, at about 250 feet. He found this method improved the accuracy of the



Top left, a Curtiss F6C-4 fighter. Left, Marine DH-4s over Mt. Momotombo, Nicaragua. Top right, a Curtiss F6C-3 modified for racing.

drops and his success brought about the adoption of the dive method by the squadron. While Sanderson never claimed to be the inventor of dive-bombing, he was certainly one of the first Marine or Naval Aviators to use it as a standard technique.

In addition to operations in Haiti and Santo Domingo, the outbreak of civil wars in China and Nicaragua in 1927 also saw Marine Aviation deploying with the Marine brigades dispatched to each area. In China, Fighting Squadron Three from San Diego, and Observation Squadron Five, which was formed in China with aircraft from San Diego and personnel from Guam, were dispatched to Tientsin. The airfield was about 35 miles from Tientsin and the aviation personnel had to furnish their own security in a very exposed position. There was no combat during their 18-month stay. The squadron flew a total of 3,818 sorties in support of the brigade.

In Nicaragua, the guerrilla-type warfare gave aviation its first opportunity to provide a form of close air support to Marines in combat. In 1927, a civil war led to American intervention. Following were years of sporadic bush fighting

which continued until 1932. Observation Squadron One from San Diego and Observation Squadron Four from Quantico, constituted the Marine Aviation support for the brigade. The Nicaraguan deployment produced some notable achievements by Marine Aviation, precursors of what was to become the Marine air-ground team standard of future decades.

The thirties opened with an economic worldwide crisis, referred to half a century later as the great depression. The effect on Marine Aviation and its allocated portion of Marine Corps and Navy appropriated funds was debilitating. One of the first results was to end Marine Aviation's involvement with ballooning. At San Diego, two observation squadrons were consolidated into one and the same action was taken at Quantico with two fighter squadrons. The squadron at Guam, which had been there since the end of WW I, was returned to the U.S. and decommissioned. Marine Aviation units were all withdrawn from Nicaragua in 1932 and from Haiti in 1934. Thus, consolidation, contraction and postponement became the planning

considerations most commonly encountered at the start of the decade immediately preceding Pearl Harbor.

This cutback was not without its beneficial effects. It reinforced WW I ingenuity displayed by Cunningham and Geiger in "making do with what you've got" and in solving problems with imagination and initiative.

Refinement and definition of the Marine Corps mission took place early in the decade. With the formation of the Fleet Marine Forces (FMF) replacing the East and West Coast Expeditionary Forces, the aviation components of the newly formed FMF became Aircraft One at Quantico, and Aircraft Two at San Diego. The Commandant was responsible for research and the development of doctrine, techniques and equipment for amphibious warfare, much of which was conducted at the Marine Corps schools in Quantico.

What evolved from the Quantico research effort was the *Tentative Landing Force Manual*, published by the Navy Department in 1935. This manual laid out in detail all of the principal steps for conducting amphibious assault. The concepts were tested and improved in fleet exercises during the thirties, and the resulting doctrine guided Marines to their hard-won triumphs in the amphibious assaults of WW II. The manual, as a whole, gave recognition to Marine Aviation as an integral and vital element in the execution of the primary mission of the Marine Corps.

From the mid-twenties, Marine squadrons had qualified aboard fleet carriers from time to time as part of their mission, beginning with the converted collier USS *Langley*. Such operations were often uneven in that the West Coast squadrons gave them more emphasis than they received in Quantico. However, in 1931, two scouting squadrons in San Diego were assigned to operate as

component units of Pacific Fleet carriers until 1934 when they rejoined Aircraft Two.

Prior to the two scouting units' assignment to Aircraft Battle Force, Pacific Fleet, Marine squadrons were somewhat loosely controlled with respect to doctrine and training. From 1931 to 1934, the two squadrons operated under the Navy, affording valuable experience to about 60 percent of active duty Marine pilots. The benefits of this experience were soon transmitted to the training of all squadrons of the Fleet Marine Force on both the East and West Coasts. The spread of this disciplined syllabus training with a clearly defined mission was a real milestone in the evolution of Marine Aviation.

Air operations during the decade reflected the increasing capabilities and enhanced sense of purpose of Marine Aviation. While the races, spectacles and air shows continued they gradually became secondary to fleet problems, amphibious exercises and development, and to annual qualification in aerial

gunnery and bombing. The thirties saw increased participation by Marine Aviation in coordinated exercises which were laying the groundwork for refinement of an emerging concept of the air-ground team.

Expansion and Training

Of all the armed services, Marine Aviation experienced the greatest expansion during WW II. In 1936, there were 145 Marine pilots on active duty and by mid-1940 the number had only increased to 245. The war in Europe and in the Atlantic was in full swing in late 1939 and this increase of only 100 pilots in four years indicates the measured tempo of the national preparation, slightly more than one year before Pearl Harbor. By the end of 1940, Marine Aviation pilot strength had risen to 425, well over double what it was in 1936, having been augmented by the Marine Corps Aviation Reserve. The reserve at this time was relatively small, tightly knit and, as always, intensely loyal and

responsive. Before the end of the war against Japan, Marine Aviation had reached a total of over 10,000 pilots on active duty.

At the time of Pearl Harbor, Marine Aviation unit and plane strengths were 13 squadrons and 204 aircraft. By the end of the war, just less than four years later, the figures were 145 squadrons and approximately 3,000 aircraft. Total Marine Aviation personnel strength had risen from approximately 1,350 in 1939 to over 125,000 by V-J Day. To accomplish such a herculean task, a base complex was required in the continental U.S., larger than anything seen before by Marine Aviation. On the East Coast, Marine Corps Air Station (MCAS), Cherry Point, N.C., replaced Quantico as the focal point of aviation training, and today remains the hub of aviation activity east of the Mississippi. Similarly, El Toro, Calif., replaced San Diego on the West Coast and today continues as the center of Marine air operations oriented to the Pacific. In both cases, the Marine air-ground team concept was a paramount





Opposite page, all of Marine Corps Aviation on the West Coast in 1932. Left, new aircraft arrived in the form of the Grumman F3F-2 in 1938.

factor in site selection, as the two centers are in close proximity to the major Marine ground bases on each coast, Camp Pendleton in California, and Camp Lejeune in North Carolina.

II. World War II

The First and Second Marine Aircraft Wings (MAWs) were commissioned in July 1941, the First at Quantico and the Second at San Diego. Each had only one Marine Aircraft Group (MAG) by December 7, MAG-II at Quantico and MAG-21 almost entirely at Ewa, Hawaii, since January. Deployments by some squadrons and detachments of others had been made from MAG-21 prior to December 7. Thus, of the 92 MAG-21 aircraft complement, 44 were deployed and 48 were on the field at Ewa that fateful Sunday morning.

The attack at Ewa was simultaneous with similar attacks on all air installations on the island of Oahu. At Ewa, every Marine plane was knocked out of action in the first attack. Aircraft were not widely dispersed because a general warning about the possibility of sabotage had been issued just hours before, and planes were parked near the runways, away from the perimeters of the field area, to protect them from any local action on the ground.

At 0755, two squadrons of Japanese fighters swept in from the northwest on low-altitude strafing runs and, with

cannon and machine guns, blazed the parked planes. The strafing runs were repeated again and again until all aircraft were destroyed. MAG-21 lost four Marines killed in the attack, and 13 were wounded. Of the 48 planes, 33 were demolished, with the remainder, except one, suffering major damage. One R3D transport was at Ford Island for repairs and somehow escaped damage in the attacks there. Fortunately, no carriers were in port on December 7. *Enterprise* was on the way back from Wake where she had delivered the 12 F4Fs of VMF-211, and *Lexington* was en route to Midway with 18 SB2U-3s of VMSB-231. One thing was unquestionably clear. The nation was in for a long and bitter fight.

Wake Island

Wake is a tiny atoll some 2,000 miles west of Honolulu. It was first claimed for the United States in 1898, but was largely neglected until jurisdiction over the island was passed to the Navy Department in 1934. In 1935, Pan American Airways chose Wake as a stop on its clipper route to the Orient. Prewar Pacific Fleet planning included Wake Island, but work was not begun on a projected seaplane base at the island — to support long-range reconnaissance of the mid-Pacific areas containing the Japanese-mandated island — until early 1941.

The first military force to arrive on

Wake was the advance detail of the First Marine Defense Battalion on August 19, 1941. Major Paul Putnam and his 12 F4F-3s aboard *Enterprise* departed the ship on December 4, for the relatively unfinished strip. They found the strip long enough for operations, but too narrow for any but single-plane takeoffs, inadequate with respect to taxiing surfaces, and without any revetments for the parking and dispersing of aircraft. VMF-211 had recently received its new F4Fs and barely had time to become familiar with them.

There was no radar on the island and the only fueling equipment for the aircraft was by hand pump from 55-gallon gasoline drums. Maintenance shelters for the mechanics on the line were practically nonexistent, as were any storage facilities for tools, maintenance gear and the few spare parts the squadron could bring with it. In addition, there were only two mechanics, and a preponderance of ordnancemen, in the advance party of the squadron which had arrived by ship November 29.

First word of the attack on Pearl Harbor was received early in the morning of December 8. Maj. Putnam was already airborne, on patrol with four F4Fs. When he landed and heard of the attack, a second patrol of four was launched. While they were north of the island at 12,000 feet, the first attack came undetected from the south through a rain squall at 1,500 feet — 36 twin-engine bombers. The bombing and strafing attack was devastating, leaving the squadron with only the four planes airborne and inflicting a casualty count of 20 killed and 11 wounded. The major supply of aviation gasoline was destroyed, as were the tools, the few spare parts and the maintenance manuals for the new planes. All that was left were the four F4Fs and the salvageable parts from the wrecked remains of the rest.

At 1145 on the 9th, the second raid hit but this time there was fighter opposition to flame one bomber, and antiaircraft (AA) fire to get another. However, the damage was again severe. When the enemy came again on the 10th, Captain Elrod got two bombers, but the flight of 26 Japanese planes hit a supply of dynamite and set off all the three-inch and five-inch ready ammunition at one AA battery and one seacoast battery nearby.

Early on December 11, a Japanese task

force arrived off the southern tip of the island and prepared to land. Shore batteries, in a 45-minute action, scored many hits and sank one destroyer (the first Japanese surface warship to be sunk by U.S. naval forces in WW II). The Japanese force abandoned the landing attempt and withdrew. Airborne during the action were Maj. Putnam and Capts. Elrod, Freuler and Tharin. As the force retreated, they went to work with 100-pound bombs and repeated strafing runs, scoring bomb hits on two light cruisers and a medium transport. The strafing caused one destroyer to blow up about 20 miles offshore. The ship's AA fire cut Elrod's main fuel line and his plane was wrecked as he made a beach landing just short of the air strip. Freuler's engine was badly shot up as well.

However, less than four hours after the landing attempt was thwarted, 30 bombers were again over the island. Lieutenants Kinney and Davidson hit them, with Davidson getting two, Kinney damaging another, and AA knocking down one and damaging three more. On the 12th, an early raid by flying boats was met by Capt. Tharin, who shot down one of the two four-engined aircraft. There was no further raid until the 14th, when the early seaplane raid was repeated, followed by the return of the 30 bombers from Roi at 1100. The raid killed two Marines and wounded a third, and also made a direct bomb hit on one of the two remaining fighters.

The make-shift engineering section continued its heroic efforts, trading from plane to plane and salvaging from wrecks so that, by December 17, there were still two serviceable F4Fs available. On the 20th, a Navy PBY landed in the lagoon and brought word from Pearl Harbor of a relief force on the way. It took off on the return flight at 0700 with unit reports, mail and urgent administrative matters. It was the last contact with Wake from the outside.

Just one hour and 50 minutes after the PBY took off, 29 bombers and 18 fighters arrived over the island, and this time there was a more ominous aspect about them. They were carrier types, indicating that new weight had been introduced to soften up the island defenses. Three hours later, 33 bombers from Roi arrived and reduced the AA defenses of the island to a total of only four three-inch guns left of the original 12. The two F4Fs were still serviceable. On December 22nd, Freuler and Davidson had the morning patrol, when 33 bombers and six fighters arrived from the carriers. Capt. Freuler managed to get one of the fighters but, in so doing, debris and flames from his target disabled his plane. As he headed back, wounded in the shoulder, to attempt a forced landing on

the strip, he caught a last glimpse of Davidson with enemy fighters on his tail. Freuler crash-landed his burning aircraft on the field, but Davidson was not seen again. Now the island was without aircraft and the remaining personnel of VMF-211 joined the defense battalion as infantrymen.

On the 21st and 22nd, the relief task force was about 600 miles from Wake. Because the ship losses and damage sustained at Pearl Harbor put a very high premium on what was left, the decision was made, reluctantly, on the 23rd, to turn back to Pearl Harbor.

In the early morning of December 23, the first Japanese troops landed on Wilkes Island, part of the Wake Island complex. At 0700, Commander Cunningham, the island's commander, ordered its surrender.

Marine Aviation did not participate again in early defensive operations until the Battle of Midway. Along the route to Australia, there were other islands to be defended. Airfields were built on most of these and, as soon as they were ready, Army, Navy or Marine aircraft units were assigned. Although the Japanese took Guam and the Philippines in the early days following Pearl Harbor, none of these island bases on the route to the southwest Pacific suffered the fate of Wake Island.

With the fall of Wake Island, the immediate concern of the 2nd MAW and MAG-21 was the reinforcement of Midway and the closest of the outer islands, from which a Japanese force could interdict the routes to and from Hawaii and the southwest. Of almost equal concern was the earliest possible provision of air defense for those Allies-held islands farther out on the route to Australia and the southwest.

All of the lifeline "route islands" were in American or British hands, but the only one that had any air defense was Fiji, where 22 British planes were based. Colonel Larkin of MAG-21 began strengthening Midway almost immediately after Pearl Harbor by dispatching Marine Scout Bomber Squadron (VMSB) 231 when it returned from deployment aboard *Lexington*. The long overwater flight was made one week later on the 17th. It was a major accomplishment to get the squadron ready to deploy again in one week's time. In addition, the arrival of VMF-221 was like a Christmas present on the 25th when it flew in from *Saratoga* with 14 F2As, on its way back to Pearl Harbor from the aborted relief task force for Wake. Aviation deployments came from elements of both the 1st and 2nd wings.

An important step toward organized expansion was taken on March 1, 1942. Squadrons were broken into as even a



In 1940, the 1st MAW HQ aircraft was this Curtiss SBC-4.

distribution of talent as possible, to form additional Marine air groups and fighter or bomber squadrons. For the most part, the reorganization was ahead of the equipment curve and the new units struggled along with minimum aircraft, sending whatever was available in planes and pilots to the MAG at Midway.

Personnel shifts continued in a constant effort to spread what experience and talent were available, as widely as possible. Regrettably, inexperienced and partially trained pilots generally had to be moved westward to Midway and Samoa, with some veterans going back to Ewa and the West Coast to take over new squadrons. The net effect was to turn Ewa, Midway and Samoa into training bases with minimum aircraft assigned. This was the case on the eve of the battle of Midway at the end of April. A typical squadron on the West Coast in the spring of 1942 would have as many as 60 lieutenants just out of flight training and only six obsolete F2As to fly.

Battle of Midway

After the Battle of the Coral Sea, intelligence increasingly indicated a brewing assault by the Japanese, with Midway Island the target for invasion. Its occupation would give the Japanese the ability to control and interdict any operations from Hawaii.

On May 2, Admiral Chester W. Nimitz made a visit to Midway and, afterwards preparations for an attack intensified. By the end of May, the airfield was literally choked with any aircraft that could be spared from Hawaii. Included were four B-26s and 17 B-17s of the Army, and six Navy torpedo planes of the latest type. The Navy patrol planes, which had been based on the island from the beginning, now totaled 16. MAG-22 had 19 SBD-2s, 17 SB2U-3s, 21 F2A-3s and seven F4F-3s. The SBDs and the F4Fs were to carry Marine Aviation well into the start of its

swing to superiority, but at this point they were brand-new to these squadrons which, in turn, were largely manned by inexperienced pilots. As for the SB2U-3s and the F2As, both were obsolescent but they were all that was available.

The Japanese task force was formidable. It was composed of four carriers, including *Akagi* and *Kaga*; two battleships; three cruisers; adequate supporting destroyers; and the transport group carrying a landing force of 5,000 troops. The plan called for three days of softening up Midway by aircraft and naval bombardment, following which the 5,000 troops would land in the assault. In the approach to the Midway area, the transport group took a more southerly route with the main force coming into the area from the northwesterly quadrant.

The first sighting came from a patrol PBV which uncovered the transport force 700 miles to the west of the island at 0900 on June 3. The B-17s were sent out, and they found and struck the transport group but without any identified success.

The first sighting of the main enemy force came at 0525 on the morning of June 4. The four Army B-26s and the six Navy TBFs were launched for a torpedo attack against the carrier, reported to be 180 miles to the northwest of the island. At 0555, Navy radar picked up "many

planes" bearing 310 degrees at 89 miles and inbound for Midway. Within 10 minutes, all planes of both Marine squadrons were airborne. The fighters were divided into two units of 12 and 13 aircraft: seven F2As and five F4Fs under Major Parks were vectored directly on course for the inbound enemy planes; and 12 F2As and one F4F under Captain Armistead were vectored out to 10 miles to await an anticipated attack flight on a slightly different inbound heading. The dive-bombers were divided into two groups also, with 16 SBDs under Major Henderson and 11 SB2Us under Major Norris, both proceeding in company to attack the carriers "180 miles out, bearing 320 degrees, enemy course 135 degrees, speed 20 knots."

At 14,000 feet and 30 miles out, Maj. Parks and his 12 fighters ran into what looked like the whole Japanese air force: 108 planes, divided into several waves of attack, dive-bomber and fighter aircraft. Joined in just a few moments by Armistead and his 13, the 25 fighters gave all they had and scored well. They reduced the attack flight to almost half of the 36 horizontal bombers they started with, and the dive-bombers from 36 to 18 by the time they were over the target.

The courageous and resolute attack by the Marine fighters with their inferior planes resulted in the heaviest losses

they would sustain in all of WW II. Fifteen of the 25 pilots, including Maj. Parks, were lost in the brief action. In Maj. Parks' flight of 12, only Captains Carl and Carey and Lieutenant Canfield returned, while the Armistead flight lost six out of its 13. Although 13 F2As and two F4Fs were lost, the damage inflicted by the Marine fighters on the overwhelmingly superior striking force left the Japanese with considerably less weight to throw against the American carriers as the battle developed. It was a costly contribution to the successful outcome of the battle.

Because the fighters went after the inbound attack flight, the bombers headed toward the Japanese carriers were very much alone. In the first launch with the B-26s and the TBFs, no fighters were even airborne. The attack on the main Japanese force at 0710, almost 150 miles from Midway, was like the slaughter of the fighters closer in. Five of the six TBFs and two of the four B-26s fell to either enemy fighters or AA fire, without scoring a single hit on a Japanese ship.

Maj. Henderson's SBDs reached the enemy force ahead of the slower SB2U-3s at 0800. They went into a wide circle at 8,500 feet preparatory to launching a glide-bombing attack from 4,000 feet above the carriers. This was because the



Grumman F4F Wildcat fighters were the mainstay of the "Cactus Air Force" at Guadalcanal prior to the introduction of the F4U.

pilots were not experienced in the SBD which was new to the squadron. They had no time to learn and develop their dive-bombing tactics, a far less vulnerable approach than glide-bombing. Defending fighters hit them at 8,000 feet and Maj. Henderson was one of the first to be shot down.

Postwar analysis of Japanese records showed that, at 0810, hits were scored on two of the carriers, *Akagi* and *Soryu*, but that damage was quickly brought under control. Eight of the 16 SBDs were shot down in the attack and, tragically, no significant damage was done to the enemy carrier force. Major Norris and his 11 SB2Us arrived at the target about 15 minutes after the SBDs and was immediately attacked by defending fighters. The flight was out of position for a run on the carriers and was forced to choose a battleship as target, inflicting minor damage on either *Kirishima* or *Haruna*. Three planes were shot down and one pilot was recovered by a PT boat. At 1900, six SBDs and five SB2Us were launched to search for and attack a "burning carrier," 200 miles northwest of the island. The flight could not locate the enemy carrier and, on the return leg 40 miles from the field, Maj. Norris went into a steep turn while letting down and was not seen again.

June 4, 1942, was indeed a rough day for both fighters and dive-bombers of Marine Aviation — high on courage and resolve, low on time and equipment. At 0630, June 5, Captain Marshall Tyler, the third skipper of VMSB-241 in the fateful 24 hours of June 4-5, took off with what dive-bombers were left — six SBDs and six SB2Us. They had no trouble finding the target, as an oil slick 50 miles long led them right in. Capt. Tyler led the SBDs in a steep dive-bombing run from 10,000

feet against *Mogami* and achieved six near misses but no direct hits. The SB2Us were led by Captain Richard Fleming in another glide-bombing run from 4,000 feet at *Mikuma*, a light cruiser. Fleming was hit in the attack and, as he pulled out, his plane burst into flames and crashed into the after turret, starting many fires and causing extensive damage. He was posthumously awarded the Medal of Honor for his courageous and determined attack against the cruiser and his participation in all three missions of his squadron. This was the last Marine Aviation mission in the battle.

Any summary of the Battle of Midway gives top honors to the Navy carrier pilots. While no one surpassed the pilots of the Marine fighter aircraft and dive-bombers in sheer guts and determination, the carrier air groups showed what could be done with a minimum level of training in the up-to-date SBDs and F4Fs assigned.

In Adm. Nimitz' post-action message to the Marine Aviation units at Midway, he summed up their part in the Battle of Midway as follows: "Please accept my sympathy for the losses sustained by your gallant aviation personnel based at Midway. Their sacrifice was not in vain. When the great emergency came, they were ready. They met, unflinchingly, the attack of vastly superior numbers and made the attack ineffective. They struck the first blow at the enemy carriers. They were the spearhead of our great victory. They have written a new and shining page in the annals of the Marine Corps."

The Road Back

Japan's early strategy carried it southward over and around the Philippines, westward to the Netherlands

and East Indies, and eastward toward New Guinea and the Bismarck Archipelago. By January 23, 1942, the Japanese had taken Rabaul, and almost immediately began to build it into their major base of operations in the eastern area of the Southwest Pacific. They viewed Rabaul as the focal point from which they could dominate New Guinea and Australia on the right, and the Solomons, New Caledonia, Fiji, and perhaps even New Zealand on the left. Little time was wasted by the Japanese and, within two months, they had pushed down this chain to Bougainville and beyond, and by early May to Tulagi in the southern Solomons.

One outcome of the Battle of the Coral Sea was that the Japanese abandoned, for the time being, their attempt to occupy Port Moresby in New Guinea and simultaneously seize Tulagi. The Battle of Midway took care of step two of their planning, which was the occupation of Midway and the seizure of the western Aleutians. These two outcomes made it feasible to reassess what could be done realistically with the policy of "doing the most with the least" in the South Pacific. Admiral Ernest J. King wasted no time in Washington looking into the matter, as he had been concerned almost from the beginning of the year with what he saw as the Japanese' step three: the conquest of New Caledonia, Fiji and Samoa. To offset such a move, it seemed logical to go "up" the same stepping stones the enemy was already starting "down."

The planning began as early as February 18, when Adm. King successfully sold the idea of making a base out of the island of Efate in the New Hebrides. By the end of March, a force had arrived at Vila, the capital of Efate, with the mission of building an airfield. The force was composed of the 4th Defense Battalion (Reinforced), a forward echelon of MAG-24, and 500 troops of the Army's Americal Division. VMF-212, under Lieutenant Colonel Harold W. Bauer, one of the great younger leaders of Marine Aviation, was on its way from Ewa to Efate by any transportation and with any incremental detachments that could be arranged. The squadron was in place and operating by June 9 and Col. Bauer became the anchor of all the preparations to open Espiritu Santo and mount the Naval and Marine Aviation effort for the Solomons campaign.

The campaign began with the Tulagi and Guadalcanal landings August 7. It was a turning point in the war against Japan, characterized by bold planning, high risk, short deadlines, almost nonexistent intelligence, inadequate shipping, dogged determination, magnificent combat performance, and exceptional stamina.

Marine Aviation played a major role in



The Brewster F2A Buffalo suffered greatly in combat against the Japanese Zero at Midway.



all phases of the operation and, because it was an all-Marine-type landing from the initial stages, assumed the overall aviation command as the force was augmented by Army Air Corps and allied squadrons from Australia and New Zealand. From time to time, Navy fighter, dive-bomber and torpedo squadrons also operated temporarily ashore from their carriers, and rendered key assistance in beating off steady Japanese attempts to retake the island.

On August 7, there were two Marine squadrons in the South Pacific: VMF-212 at Efate, and VMO-251 newly-arrived at Espiritu Santo. VMO-251 was equipped with F4F-3Ps long-range photo planes. They had arrived from Noumea in the latter part of July, and had barely had time to put their planes in commission before the landing. They did not receive their long-range fuel tanks until two weeks after the landing and so were not of much use in the operation. The land-based fighters and dive-bombers to support the First Marine Division (1st MarDiv) were those of the four MAG-23 squadrons and, as far as training and

aircraft were concerned, it was again almost the same situation of "new pilots and old machines" tragically seen at Midway.

However, just prior to sailing from Hawaii, things began looking up for the first two squadrons to leave for Guadalcanal. VMF-223, commanded by Captain John L. Smith, received brand-new F4F-4s; and VMSB-232, under Major Richard C. Mangrum, turned in its old SBD-2s for new SBD-3s, complete with self-sealing fuel tanks and armor plate. Both squadrons embarked in the escort carrier *Long Island* and launched for Guadalcanal about three weeks later on August 20, from a point about 200 miles southeast of the island. The other two squadrons of the group, VMF-224, commanded by Captain Robert E. Galer, and VMSB-231, led by Major Leo R. Smith, were in about the same shape as the first two squadrons. They left Hawaii on August 15 aboard the aircraft transports *Kitty Hawk* and *HammondSPORT*, and arrived at Guadalcanal on August 30.

From the very beginning of the

The Douglas SBD-1 gave the Marine Corps its first modern dive-bomber prior to WW II.

operation, the Japanese made it clear that they intended to run an "at any cost" operation to push the Marines back into the sea. There were two large air attacks on the first day. The next day, the pattern of daily operations was established as a raid of 45 bombers sank another destroyer and a transport.

On September 8, operations became complicated when General A. A. Vandegrift was informed that the carriers and the transports, which still held most of the Marine supplies, could not stay for the third of the three promised days and would have to leave the area. To make matters worse, on the night of the 8th, Japanese naval forces almost annihilated the screening force for the transports, sinking four cruisers and heavily damaging a fifth. Until the 20th, when the first planes arrived, this daily routine of heavy bomber raids did not let up. However, in between raids, every effort was made to bring in aviation fuel

Designed as a fighter, the F4U Corsair proved to be an excellent bomber and provided air superiority over the Zero.





and other supplies, and to do what engineering work could be rigged without equipment to improve the condition of the airfield.

On August 12, the field had 3,800 usable feet, 400 drums of aviation gasoline, and a captured Japanese radio which was used to transmit a message that the field was "ready to receive fighters and dive-bombers." At this point, it was found that the transports bringing VMF-223 and VMSB-232 were being held up at Suva because of the action on the 8th. There was also some word from the task group commander that the squadrons needed more carrier time before he could bring them forward and launch them, and that he "was writing a letter about the subject." Admiral J. S. McCain replied by dispatch that he needed fighters and dive-bombers "now" at Guadalcanal, and the ships were underway. Some pilots from 223, who were fresh out of flight school, were traded for an equal number from Col. Bauer's 212 at Efate, who had been out a little longer and were more experienced. This was done on the way to the launch point and, on the 20th, a mighty cheer went up on "the canal" when the 19 F4Fs and 12 SBDs began to land in the waning hours of the afternoon.

The Solomons Campaign

Guadalcanal was undoubtedly a case of living from crisis to crisis in aviation supply, maintenance and availability of aircraft for periods that seemed interminable. As if these problems were not enough, the days were punctuated with either massive bombing raids or "washing machine Charlie" single bombers overhead all night.

From late August 1942, when the Marine Aviation defense operation began, until the end of the immediate threat in mid-November, there were gradual increases in fighter and dive-bomber strength. While most of these came from scheduled commitments of units deployed from Hawaii or the West Coast, during the early weeks, they came from VMF-212 in Efate and VMO-251 at Espiritu Santo, as individual reinforcements on temporary stays. On the same basis, detachments from carrier squadrons flew in for periods sometimes in excess of a month. Also, the Army Air Corps operated similarly and moved pilots in from training bases in the area as soon as they had a bare minimum of training. It was an "all-hands" evolution, for sure, and it was a major factor in saving Guadalcanal and giving the nation a foothold in the Solomons which was never relinquished.

It would be incomplete, indeed, to treat this critical period of Guadalcanal

without mention of those great leaders who "made it happen," the top of Marine Aviation, the Navy and the Army Air Corps. At the very top is Roy Stanley Geiger, who inspired and drove Marine Aviation to the levels of determination and stamina displayed at Guadalcanal. Heading the groups and squadrons supporting him were Colonel Bill Wallace of MAG-23, Lieutenant Colonel Dick Mangrum of VMSB-232 and Major John L. Smith of VMF-223. These were followed by Major Bob Galer of VMF-224 and Major Leo Smith of VMSB-231.

During the early weeks of September 1942, the fighter squadrons were, periodically supported by aircraft and pilots of VMF-212, led by Lieutenant Colonel Joe Bauer, and VMO-251, with skipper Lieutenant Colonel John Hart. VMF-212 moved in permanently in mid-October, and VMO-251 (as a fighter squadron) under Major Joe Renner, arrived later. In early October, MAG-14, under Colonel Oscar Brice, relieved MAG-23 and brought VMF-121, commanded by Major L. K. Davis with Captain Joe Foss as Executive Officer; closely followed by VMSB-132 under Major Ben Robertshaw, and VMF-112, commanded by Major Paul Fontana. In mid-November, VMSB-131 and VMSB-142, under Lieutenant Colonel Pat Moret and Major Bob Richard, respectively, rounded out the Marine units participating in the critical August-November phase of the battle.

Units of the Army Air Corps and the Navy, were key participants in winning this lasting foothold in the Solomons at Guadalcanal.

December 1942 saw the beginning of Guadalcanal's establishment and build-up as the principal base for the move up the chain to zero in on Rabaul. The change didn't happen overnight, however. Air raids were somewhat less frequent, and there were daily signs of improvement in runways and taxiways. More aircraft of all types appeared in increasing numbers, and the aviation command was divided generally into a Strike Command at Henderson Field and a Fighter Command at Fighter Two.

There were many changes in command during the development of Guadalcanal as the anchor base for the reduction of the Solomons and Rabaul. Brigadier General Louis Woods relieved General Geiger in November and stayed until just before Christmas, when he was relieved by Brigadier General Pat Mulcahy. At this time, the air command was known as "Commander, Air Cactus," "Cactus" being the code name for the island. When Woods took over, the two tactical commands were newly formed under Colonel Al Cooley as Strike Commander and Lieutenant Colonel Joe



Above, the Grumman-designed TBF/TBM was used only as a regular bomber and rocket-firing aircraft by the Marine Corps. Right, though obsolescent by December 7, 1941, the SBD continued to serve with distinction through the Philippine campaign in 1945.

Bauer as Fighter Commander. Bauer was lost, however, in mid-November, and Lieutenant Colonel Sam Jack took the Fighter Command. By the time Mulcahy relieved Gen. Woods, Colonel Oscar Brice had taken over the Strike Command and in late January Lieutenant Colonel Ed Pugh relieved Jack as Fighter Commander, holding that job until after the assault on Munda, in early July.

In mid-February 1943, a major reorganization of the area command structure took place and Rear Admiral Charlie Mason came to Guadalcanal as Commander, Air Solomons, short-titled ComAirSols. Six weeks later, Admiral Marc Mitscher relieved Mason and stayed in the job until late July, when he was relieved by General Nate Twining of the Army Air Corps. The command passed from service to service until the Solomons were put in the "backwater" category and Rabaul had been bypassed and rendered useless. As these changes developed, and as more fighters, bombers and fields became available, the staffs of the fighter and strike commands grew in size and special qualifications. The switch to assault operations set the pattern for many similar chain-type offensives en route to Japan.

The first move forward was taken in late February as troops landed unopposed on the Russell Islands, 55 miles to the northwest. Navy Seabees had completed a field in six weeks, and a Marine air group was in full operation.

There were several other important items which marked the operations in the early months of 1943 as the drive "up the slot" got under way. First, was the arrival of VMF-124 in early February, equipped with the first of the Vought F4U *Corsairs* in the South Pacific theater, the "Bent-Wing Bird" to the Marines and "Whistling Death" to the Japanese. Since the *Corsair* had real performance superiority over the Japanese combat aircraft and much greater range than the F4F, things really began to happen in the daily routine of the air campaign. Within three months, all eight Marine fighter squadrons in the Solomons were not only equipped with the *Corsair*, but each squadron had been thoroughly trained in its employment and maintenance. This was just 12 months after the sorry situation faced by the Marine pilots at Midway.

AirSols routinely struck the airfields of southern Bougainville with escorted heavy bombers, night attacks by Navy

and Marine Corps TBFs, and some mining at night of the harbor areas by the TBFs. The shorter-range SBDs, as well, were invariably escorted in their routine reduction efforts against the fields in New Georgia. However, this does not mean that the defending Japanese had tossed in the towel; their fighter presence was made known repeatedly and invariably with surprise.

Almost as if to make known the fact that they were still "up there," down the slot they would periodically come, attacking ships at Tulagi or standing off the beaches of Guadalcanal. With allied strength at constantly growing levels, these forays were not only literally destroying Japanese naval aviation but, in the process, they were creating an ever-growing number of Marine, Army Air Corps and Navy fighter aces. The change in the character of air operations at this time, from defense to offense,

meant that most of the contacts with Japanese fighters, and in the case of the bombers with AA, were strictly in hostile territory. This increased emphasis on survival techniques, coast watcher networks, and rescue operations — the famed "Dumbo" missions.

The next big show was the assault on the central New Georgia airfields in order to be comfortably within fighter range of southern Bougainville. This began with initial landings of two companies of the 4th Marine Raider Battalion at the southern tip of New Georgia on June 24. The Japanese resisted these incursions fiercely with heavy air attacks and clouds of fighters, but they were met on D-day by a 32-plane, combat air patrol which was relieved on station from the fields at the Russells and Guadalcanal.

On July 9, the planned push from Rendova and New Georgia for the airfield at Munda Point began and, on the first day, the troops advanced half the distance to the field and were then stopped cold. Instead of a quick thrust to the airfield, it took the better part of six weeks to gain it and three Army divisions instead of the originally planned one. It was finally taken on August 5, and in nine days the Seabees had done enough so that two Marine squadrons could commence operations, VMFs 123 and 124. Big

strikes were run day and night against Ballale and Kahili, the major Japanese fields in southern Bougainville. In defending Munda, it is interesting to note that the Japanese expended 358 planes. Of the total, the Marines got 187, with the Army, Navy, New Zealanders and the AA sharing the balance. The cost was 94 aircraft, 34 of them Marine.

During the Munda and associated operations, attempts were made to accomplish a version of what later became the Marine close air support system. However, the difficulties of determining accurate positions in the jungle terrain made it impossible to achieve complete success. Attempts were made, which included air liaison parties with ground units, and a good deal was learned which refined subsequent operations, but it was a long way to the smooth doctrine which became operational in the Philippines.

On August 15, landings were made at Barakoma on Vella Lavella without much problem on the ground. However, as was anticipated, at only 90 miles from Kahili airfield the Japanese were overhead early and often. Again, continuous combat air patrols from Munda, similar to those at Guadalcanal and the Russells, for the landings there ensured that not one ship was hit during daylight. As was

becoming customary, the Seabees built a field for Marine fighters at Barakoma in short order. With that, plus the fields in the Munda area and the newly-formed Bomber Command from Guadalcanal, Kahili, Ballale, and the Shortlands began to feel the allied presence "in spades." Several names became prominent in the fighter ace category at this stage of the Solomons operation. Famous among them were Marines Greg "Pappy" Boyington, Ken Walsh, Bob Hansen, Donn Aldrich and Wilbur Thomas.

September and October 1943 sounded the death knell for Japanese air operations from southern Bougainville as a result of the intensive operations. Ballale and Kahili began to take on the same lunar-landscape look that had signaled the end of operations at Munda and Vila plantation a few weeks before. But it was not the Japanese custom to give up without making it a costly affair in the air as on the ground.

Almost daily dive-bombing and strafing attacks were the routine life of the Japanese defenders but, in spite of these, operational aircraft continued to appear in the photo coverage of the airfields.

Admiral W. F. Halsey, and Adm. Nimitz had, some time before the reduction of Kahili, Ballale and the Shortlands, made the decision that the last step closest to



Rabaul would involve a total bypass of southern Bougainville. Under consideration were two much more lightly held areas of central Bougainville: Empress August Bay on the west coast, and Kieta on the eastern side. The decision was for Torokina Point at Empress August Bay and D-day was set for November 1. October became an extremely busy month with preparatory attacks from every possible base in the general area, from Rabaul to southern Bougainville. Included were commitments from General Douglas MacArthur for heavy air attacks on Rabaul and Kavieng, and planned carrier air assaults on Rabaul.

The main landings at Torokina put the assault elements of the 3rd Marine Division ashore as planned, with the forward echelon of the 1st Marine Air Wing and its fighter command, on November 1. Opposition was light but very effective. There was no airfield left on D-day, nothing but a narrow coconut grove at Torokina Point. Nevertheless, on D-day plus 1, the fighter command was on the air with radar coverage and air-ground communications, controlling 32 fighter patrol overhead. This continued until the Seabees finished enough of the Torokina strip 40 days later.

In addition to control of the day fighter patrols, a Marine-manned New Zealand ground control intercept radar was landed early in the operation for the control of night-fighters, but was not sited until about the time Torokina airfield was completed. Night-fighters from VMF-531, however, were overhead nightly and were controlled by either the fighter command or by the fighter directors on ships of the task forces in the area. VMF-531 was the first Marine night-fighter squadron and was commanded by Lieutenant Colonel Frank Schwable, one of the earliest Marine night-fighter pioneers. The squadron was equipped with Lockheed PV-1 *Venturas*. They were hardly suitable for the task but, until the later night versions of the F4U and F6F became available, they filled the breach.

The Bougainville operation was resisted by the Japanese with air attacks, day and night; by surface strikes against the amphibious force; and by reinforcement of the defenses around the perimeter. When operations began from Torokina Point, the doom of Rabaul was at hand. Large fighter sweeps began in mid-December which were staged through Torokina to top off the fuel tanks, rebrief the various flight leaders and coordinate launch, rendezvous and departure. These sweeps were typically comprised of over 100 fighters and, at first, included P-40s, F4Fs, F4Us and P-38s. Results were usually about eight to 10 Japanese shot down for each allied

loss. The fighter sweeps were later reduced in size to be more manageable and, between December 17 and January 1, a total of 147 Japanese were reportedly destroyed over Rabaul by this tactic. There was no letup in the strikes on Rabaul and its complex of fields. However, it was a matter of bypass again, once the SBDs and TBFs began operating from the Piva strips.

Central Pacific Operations

Even before the demise of Rabaul was imminent, a major push through the central Pacific began on November 20, 1943, with the assault on Tarawa in the Gilbert Islands. This had a significant effect on the relationship between Marine Aviation and Marine ground forces. The Marine divisions were, of course, the spearhead of the amphibious

assaults but, in the bypassing strategy in the central Pacific, the distances were so much greater that there was no way that shore-based Marine Aviation could provide what it did in the Solomons.

While Marine Aviation was equipped with carrier-suitable aircraft, both it and the Navy were caught in a bind, the Marine Corps with respect to carrier training and the Navy regarding availability of ships for the Marine flyers. The net result was that Marine Aviation was relegated to the backwaters of the war, almost entirely from the reduction of Rabaul in early 1944 until the Philippines and Okinawa in 1944 and 1945. There wasn't another chain of islands like the Solomons in all the right places in the central Pacific, or a division of carriers that could take Marine squadrons into the many amphibious assaults that marked the central Pacific route to Japan. Even so, several MAGs were displaced

The PBJ (B-25) provided the Marines with their heaviest bomber. Its multiple forward-firing guns had twice the fire power of a fighter aircraft.



forward from the Solomons and from Hawaiian areas, notably to Roi, Engebi and Majuro in the Marshalls, and later to Peleliu, Tinian and Guam.

In late July 1944, General Vandegrift made an extensive inspection trip to the Pacific. On his return through Pearl Harbor, conferences were held with Admirals Nimitz, Tower and Sherman; General Rowell, Commander, Marine Air Wings, Pacific; Brigadier General Thomas, Director Plans and Policies; and Brigadier General Harris, Director of Marine Aviation. The decisions reached brought significant changes in the employment of Marine Aviation for the balance of the war. There was a revalidation of the primary role of Marine Aviation as the support of Marine ground forces, with a recommendation that a division of six *Commencement Bay*-class escort carriers be manned with Marine Aviation squadrons for the purpose. The

six carrier groups would be trained at MCAS Santa Barbara, Calif. Each group would be composed of one VMF squadron with 18 planes and one Marine torpedo-bomber (VMTB) squadron with 12 planes, under a Marine Air Support Group known as Marine Carrier Groups, Aircraft, Fleet Marine Force, Pacific.

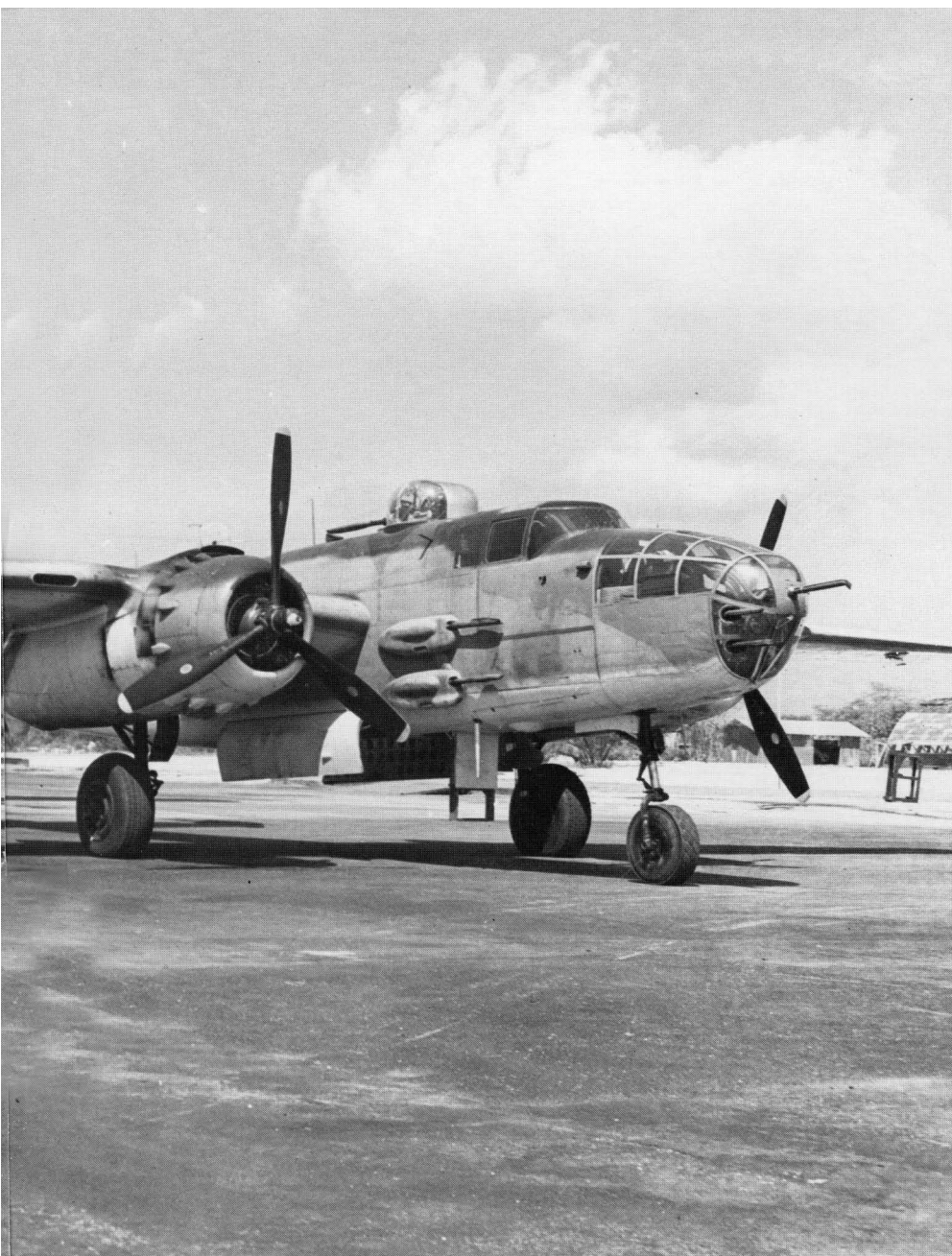
By the time the units were assembled, trained and qualified aboard their ships, the war was drawing to its end. The first of the Marine escort carriers (CVEs) to deploy was *Block Island*, which arrived off Okinawa on May 10, 1945. In addition to attacks on Japanese installations in the Okinawa area, she also supported the Marine divisions on the island. She was joined by the *Gilbert Islands* on June 1, and both participated in strikes in the Okinawa area and in the Balikpapan invasion. Two more Marine CVEs came out before the end, *Cape Gloucester* and *Vella Gulf*. All four Marine CVEs

participated in various aspects of the wind-down of the war, *Block Island* and *Gilbert Islands* taking part in the surrender of Formosa and the evacuation of approximately 1,000 allied POWs who had been imprisoned there.

The Philippines

During the Leyte operations in the fall of 1944, the kamikaze threat became a serious problem for our carrier task forces. To deal with it, faster climbing fighters were needed with greater top speed in order to reach and shoot down the suicide planes before they could reach their targets. The *Corsair*, which was not then operating in the fleet, had these capabilities and became the solution. Ten VMF squadrons were immediately assigned to carrier duty with Task Forces 38 and 58, two squadrons aboard each of five fast carriers of the *Essex* class. Between January and June 1945, the program operated and helped solve the problem. Since many pilots had no previous carrier experience, the operational accident toll was a little heavy at first. However, all units soon settled down and the only difference was in the uniforms being worn in the ward room. It was an admirable example of the close relationship which exists between Naval and Marine Aviation in training, equipment and operational understanding.

As events began to crowd into each week of the fall of 1944, the two gigantic pushes westward toward the Japanese home islands began to come together. With Peleliu and Ulithi as major air and fleet bases in the southwest Pacific, decisions previously made to also take the Philippines route were being carried out. MAG-12 arrived in early December at Tacloban, and MAG-14 in early January at Guiuan on neighboring Samar. Later, as the landings moved to Mindoro and then to Luzon at Lingayen Gulf, one of the most interesting involvements of Marine Aviation in the Pacific war began to unfold. On Bougainville, now one of the backwaters of the war, Major General Mitchell, ComAirNorSols, and commanding the 1st Marine Air Wing, had his Chief of Staff, Colonel Jerry Jerome, set up a close air support school with two MAGs, a total of seven SBD squadrons. The school was under the charge of the operations officer, Lieutenant Colonel Keith McCutcheon. A formal curriculum was drawn up, including a multilecture course for all pilots, communications technicians, and officers of the 37th Army Division, also stationed at Bougainville and scheduled for deployment to the Philippines. The program was an unqualified success. Once established at Dagupan near the



foot of Lingayen Gulf, Jerome's command was designated MAGSDAGUPAN and there they operated for the next three months. Their mission was to keep a nine-plane air alert cover over the 1st Cavalry Division on its dash to Manila, ordered by MacArthur, to free allied prisoners at Santo Tomas prison. In 66 hours, the 1st Cavalry was in Manila with its flank protected all the way by Jerome's MAGSDAGUPAN.

Okinawa

In April 1945, the long struggle on Okinawa, which would bring the war to an end, began with the largest amphibious operation of the war. The operation reunited Marine Aviation with the Marine ground forces on a scale heretofore unknown.

For Marine Corps Aviation, as for all participating units, the Okinawa operation was the culmination of all that had been learned in the Pacific war. Here, knocking on the door of the enemy homeland, after four long years, was the final test.

Planning for the operation separated strategic and tactical aviation. Strategic air fell to the Army Air Forces (AAF) with the 20th Air Force. The 10th Army's Tactical Air Force (TAF) was commanded by Major General Mulcahy with Brigadier General Bill Wallace as his Air Defense Commander. Bearing in mind that the TAF could not function until the command had moved ashore and the amphibious phase of the operation was ended, tactical air during the afloat phase came from a task unit of the Amphibious Force Commander who headed 18 escort carriers of what was known as carrier-based tactical aviation. The kamikaze problem delayed the shift of command ashore until May 17, after the landings were initiated on April 1. In the TAF organization, the Air Defense Command alone, by the end of June, had a total of 15 Marine fighter squadrons and 10 AAF fighter squadrons. In its Bomber Command, there were 16 bomber squadrons by mid-July. When the radar warning units', reporting and communications network units are added in, the size and scope of the TAF is evident.

There were three Landing Force Air Support Control Units (LFASCU) under Colonel Vernon Megee which were outside the command chain of the TF, and reported to Air Support Control Units, PhibPac. This was complicated by the inability to shift control ashore earlier than May 17, but generally worked well in processing, evaluating and assigning air support aircraft through the LFASCU's ashore. In conjunction with the latter, there were two VMTB squadrons assigned to the TAF, originally

for antisubmarine patrol. However, this function was taken over by the patrol squadrons of the Navy and the two TBF squadrons were used for close air support, supply drops to troop units, and other special troop support missions for which they were well-suited. As could be expected, there were some problems throughout the operation but, generally, air support was handled, evaluated, processed and delivered by shore-based, CVE-based and fast CV-based aircraft more quickly and smoothly than in any other operation of the war.

Four Marine observation (VMO) squadrons operated at Okinawa, twice as many as in any other operation of the war. They not only spotted for the artillery, but also flew message pickups and drops, laid wire, transported personnel and performed general utility functions. They also performed superbly in the evacuation of wounded with planes modified to carry stretchers.

Marine Aviation had about one-tenth of its total personnel strength participating in the Okinawa operation, or about 1,575 officers and 10,800 enlisted personnel. The Marine total plane commitment to the operation was around 700. Altogether, the 17 Marine squadrons (two VMTBs) shot down 506 Japanese aircraft during the campaign.

There was no way the end of the war could be announced to the entire island simultaneously but, as the word quickly spread ashore and to ships anchored close in, there was no need. Every weapon that could be fired was cut loose and, against the night sky, rivaled any display put on by AA at the height of the operation. It signaled to all that at last Japan had capitulated. It took a little time to restore order and control, and realize that the long struggle had come to an end, but then things settled down rapidly.

The Occupation of Japan and Demobilization

For the occupation, two MAGs went to Japan and several units were assigned to China, with the rest eventually sent home. The drop in strength of the Marine Corps and Marine Aviation began as abruptly as it had increased at Pearl Harbor — almost immediately. However, a few overall statistics are in order before closing the book on WWII. There were 38 Marine squadrons of all types in combat against the Japanese. They shot down a total of 2,354 Japanese aircraft. Members of Marine Aviation were awarded a total of 11 Medals of Honor, and units of Marine Aviation were awarded 78 Presidential Unit Citations, 52 Navy Unit Citations and one Distinguished Unit Citation (Army).

Marine Aviation assignments during the occupation period after the war were largely confined to Japan and mainland China. MAG-31 was established at the Yokosuka naval base airfield at Oppama, five days after the formal surrender aboard USS *Missouri*. The mission of MAG-31 was surveillance and reconnaissance of the Tokyo Bay area, and it was a key air unit of the Japanese occupation until July 1946, when it returned to the U.S.

MAG-22 flew into the Omura airfield on Kyushu from Okinawa, the entire logistic move being made by airlift. The group then moved to the U.S. in early December 1945. MAG-22 had been formed on Midway in the spring of 1942, and it saw home for the first time that December.

Headquarters of the 2nd Marine Air Wing, with MAGs 14 and 33, remained at Okinawa until February 1946, when they returned to the continental U.S. Marine air units in the occupation of China



The use of helicopters in combat was pioneered by Marine Corps HRS-1s in Korea.

consisted of the 1st Marine Air Wing and its attached groups, MAGs 12, 24, 25 and 32. Their mission was primarily to fly show-of-strength patrols, and provide reliable air transport and logistic services to all Marine units in the occupation. MAGs 12 and 32 were transferred back to Marine Air West in California in the spring of 1946. Remaining units were gradually reduced, the last element, Air Fleet Marine Force WestPac, in January 1949.

In the 10 months from V-J Day to July 1, 1946, Marine Aviation went from 103 fighter and bomber squadrons to only 27, and in the next year the total dropped to 21. This level was held until June 30, 1950, when squadron strength dropped to 16, only three more squadrons than the total number in Marine Aviation on December 7, 1941. The Marine Corps was not alone in this seeming rush backward to a state of unpreparedness.

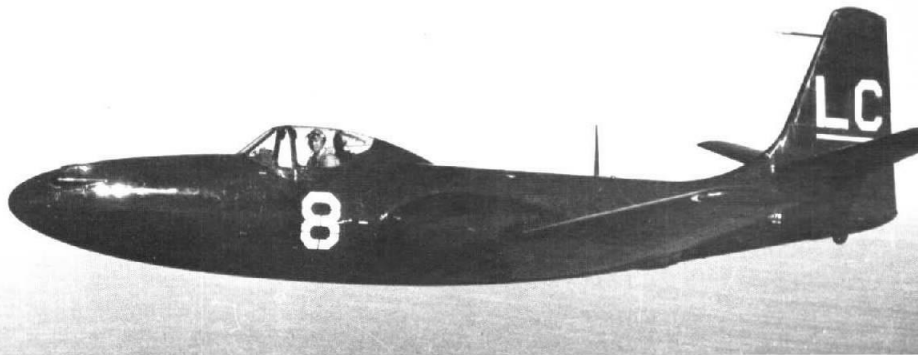
III. Post-WW II Operations

The period following the end of WW II brought a cascade of technological advances, unprecedented in both volume and application to almost all fields of endeavor. For aviation in general, the advent of the jet age opened new horizons in transportation and worldwide communication, but for military aviation it was a new ball game. An era of range extension, compression of speed/time factors, routine all-weather operations, and greatly improved weapons delivery accuracy.

The major problems that dominated the period following V-J Day, from the Navy's and Marine Corps' viewpoints, was the effect of the atom bomb on future amphibious operations. For the planners and architects of tactics, the problem boiled down to devising some means of rapid concentration of troops from greatly increased dispersal distances that went with fleet cruising dispositions in the atomic age. It had to be a swift concentration in order to gain the relative safety of close contact with defending forces in minimum time, to lessen the likelihood of enemy atomic attack. The most promising design for a vehicle which might accomplish this turned out to be that of rotary-wing aircraft. The operational concepts were explored by special boards and study groups at Quantico, while the Division of Marine Aviation was investigating every rotary-wing aircraft idea that industry was trying to put into flying form. A developmental helicopter squadron, HMX-1, was formed at Quantico, and much in the same way that the development of amphibious landing craft was pursued in the thirties, each idea was given consideration and tested.



VMA-121 introduced Marine Corps ADs to Korean combat. The aircraft were able to carry heavier loads than the B-17s of WW II.



Jet fighter squadrons became a part of Marine Corps Aviation with the introduction of the McDonnell FH-1 Phantom.

Progress was slow because the state of the art was in its infancy but, by the early fifties, some realistic capabilities were in hand.

The first major surprise of the post-WW II years came when, in late June 1950, the United States responded in crisis fashion to the North Korean invasion of the new Republic of South Korea (RoK), just four years and nine months after V-J Day.

IV. Korean War

On June 25, the North Koreans attacked with nine well-equipped infantry divisions, spearheaded by one armored division equipped with Soviet-built T-34 tanks. The RoK forces were no match for the invaders. Seoul fell on June 28, and its near collapse was faced by the U.S. and the United Nations (UN) in the first week of the war.

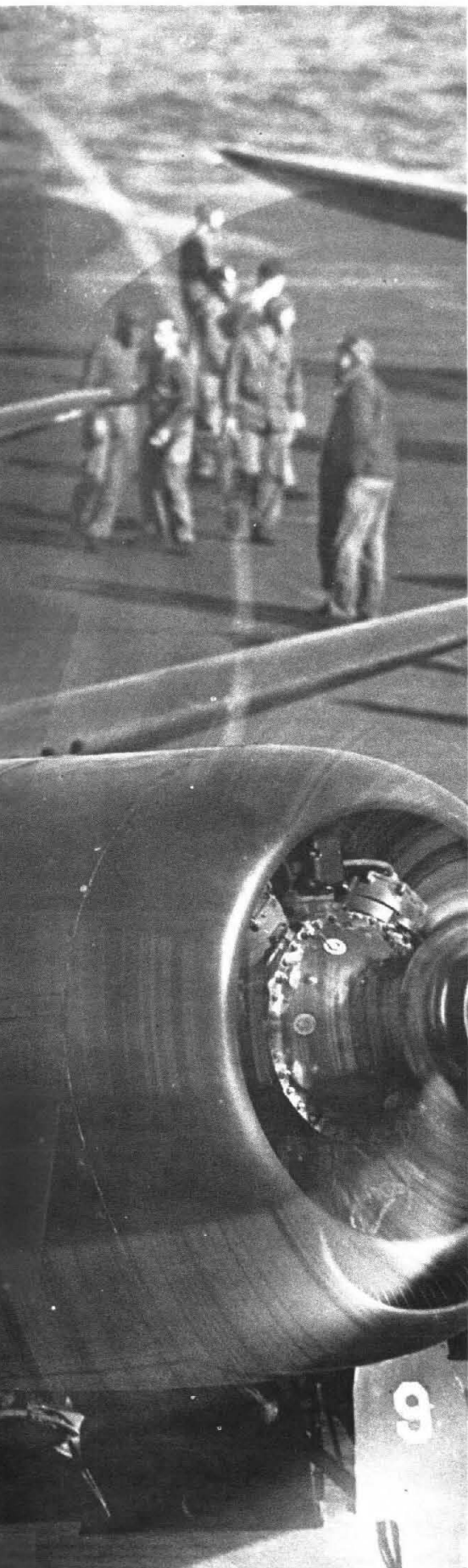
The United States responded to the invasion of South Korea both independently and through strong support and leadership in a UN resolution condemning the breaking of world peace by the North Koreans. President Truman

gave General MacArthur the go-ahead to send Army units into Korea from Japan and to take other actions in support of the shattered RoK forces. In addition to the Army forces, a naval blockade of the entire Korean coast was ordered, and Air Force units based in Japan were authorized to bomb specific targets in North Korea.

In response to urgent requests for U.S. reinforcements, the First Provisional Marine Brigade was activated on July 7. It was an air-ground team composed mainly of the Fifth Marine Regiment and MAG-33, both based on the West Coast. The time and space factors in the activation and deployment of the brigade were extraordinary. Normally, after the cutbacks and reductions following WW II, the division-wing teams on both coasts would have been hard pressed to deploy one reinforced brigade of regiment-group size in 30 days, let alone the seven days required in this case.

At departure, the strength of the brigade was 6,534. MAG-33 totaled 192 officers and 1,358 enlisted men, and was composed mostly of VMFs 214 and 323, night-fighter squadron VMF(N)-513 and





VMO-6. An important component of VMO-6 was a detachment of four HO3S-1 Sikorsky helicopters, hurriedly assigned and moved to El Toro from HMX-1 at Quantico. Aircraft strength at deployment added up to 60 F4Us, eight OYs and the four HO3S-1s. The original plan to hold the brigade in Japan temporarily was abandoned. This was a result of the deteriorating position of the UN command in Korea which, by the fourth week of the war, had drawn into a perimeter-type defense of the port of Pusan at the southern tip of the peninsula. MAG-33 shipping had been directed to Kobe and debarkation began there on July 31. The fighter squadrons were flown off the *CVE Badoeng Strait* to Itami near Osaka, where they were checked for combat by the ground crews, and hastily transported overland from Kobe. With one refresher hop at Itami, VMF-214 landed aboard the *CVE Sicily* for operations on August 3 and, on August 5, VMF-323 returned to *Badoeng Strait* for the same purpose.

VMF(N)-513 was assigned to the 5th Air Force (5th AF) for control and began shore-based operations from Itazuke airfield on the southern island of Kyushu. Its mission was to fly night heckler operations over the brigade, while the two carrier-based units provided close air support. On arrival at Kobe, a tank landing ship (LST) was waiting to reembark Marine Tactical Air Control Squadron (MTACS) Two and the ground echelon of VMO-6 for transport to Pusan. The aircraft of VMO-6 were readied at Kobe and Itami, and ferried to Pusan by air. Thus the air-ground integrity of the brigade was intact as it entered its first combat less than 30 days after activation, a truly remarkable achievement.

At the time of the commitment to action of the brigade, the UN defense had contracted to a perimeter around the southernmost port of Pusan. It was vital that the perimeter be reduced no further, since the port was the logistic link to a viable base position in support of a UN recovery on the peninsula. To bring this to reality, the Marines were accorded the honor of restoring the confidence of UN troops by destroying the myth that the North Koreans were somehow invincible. Like the deployments aboard the fast carriers in WW II to help thwart the kamikaze threat, the basing of VMFs 214 and 323 aboard *Sicily* and *Badoeng Strait* again showed the wisdom of the long-standing commonality policies between Naval and Marine Aviation.

From *Sicily* in the form of eight *Corsairs*, came the first Marine offensive action of the war. Eight VMF-214 F4Us took off at 1630 on August 3, 1950. They carried incendiary bombs and rockets and made numerous strafing runs. VMF-323 joined the fray from *Badoeng Strait*

on August 6. Because the carriers were so close to the front lines of the perimeter, the strikes could reach their targets in a matter of minutes at almost any point where support was requested. MAG-33 aircraft were constantly orbiting on station over the front line as the ground forces advanced, and communications within the air-ground team were steady, from the tactical air control parties (TACP) with the battalions all the way back to the brigade headquarters. The air support system, controlled by the active presence of Marine Tactical Air Control Squadron Two and VMO-6 at brigade headquarters from August 6 on, was a complete success.

The 5th AF exercised overall control of tactical air operations in Korea but Marine Aviation units, as components of an integrated Fleet Marine Force, operated in support of the brigade as their highest priority, and in support of other UN units as a lower priority. The brigade control organization consisted of three battalion tactical air control parties and one regimental TACP, each consisting of one aviation officer, an experienced and fully-qualified pilot, and six enlisted technicians. In addition, there were the facilities and personnel of MTACS-2 at brigade headquarters, as well as the Brigade Air Section of the staff. There was also the Brigade Observation Section, consisting of the tactical air observer, three gunnery observers, and the light observation and rotary-wing aircraft of VMO-6.

The foregoing gives an abbreviated description of the brigade air support system which operated very effectively through some of the most rugged fighting of the Korean War. In addition, brigade air in the case of VMO-6 established so many "firsts" with their helicopters during the period that it was obvious that a major tactical innovation was in the making. An adjacent Army infantry regiment summed up the air component performance in the perimeter: "The Marines on our left were a sight to behold. Not only was their equipment superior or equal to ours, but they had squadrons of air in direct support. They used it like artillery. It was 'Hey, Joe, this is Smitty. Knock the left off that ridge in front of Item Company.' They had it day and night. It came off nearby carriers and not from Japan with only 15 minutes of fuel to accomplish the mission."

Gen. MacArthur asked the Joint Chiefs of Staff for the 1st Marine Division, with appropriate air in the form of the 1st Marine Aircraft Wing. General Lemuel C. Shepherd knew full well that the understrength division could hardly deploy the reinforced Fifth Marines to the brigade, let alone field the balance of the division, but he had an abiding faith in the

loyalty and performance potential of the Marine Corps Reserve. The reserve, ground and air, came through and in less than 60 days after receiving the initial orders, both the wing and division made the landing at Inchon on September 15.

With the strengths of the division and the wing being only at 7,779 and 3,733, respectively, there was no way war-strength manning levels could be reached and maintained without drawing heavily on both the ground and aviation organized reserve contingents. Division war strength ran about 25,000 and the wing about 9,500. On July 19, 1950, mobilization of the Marine Corps Reserve was authorized. The first reservists arrived at Camp Pendleton and El Toro on July 31, and by utilizing some units and personnel of the 2nd Division and 2nd Wing on the East Coast, the 1st MarDiv and the 1st MAW were able to realize their scheduled mount-out dates of

August 10-15. Because many reservists were combat veterans of WW II, only about 10 percent required any form of basic indoctrination and training. The fact that personnel were well-trained, experienced and seasoned was a key factor, particularly in aviation, since the total time required from commencement of pilot training to operational status is a matter of some two years. The Marine Corps Reserve made the Marine Corps force in readiness a reality of the Korean War.

The sky over the objective area was to be divided between the air units of Joint Task Force Seven of the Navy, and those of X Corps. The command was designated by the 1st MAW as Tactical Air Command, X Corps (TAC X Corps) with principal units VMF(S) 212 and 312, plus VMF(N)s 513 and 542. The command of X Corps was given to Gen. Cushman who had MAG-33 which was

under Colonel Frank Dailey. Close support for the landing was assigned to the task group, including the two small carriers *Sicily* and *Badoeng Strait*, still operating with VMFS 214 and 323.

The 1st MAW designated MTACS-2, which had controlled air support for the brigade, to function in that capacity for the landing and, upon establishment of X Corps ashore, to then continue to patrol for TAC X Corps.

A primary and crucial objective in the Inchon landing was Wolmi-do Island. Preparation of Wolmi-do began on September 10, with attacks by VMFs 214 and 323 with bombs, rockets and napalm. The *Corsairs* literally blackened the entire island with napalm to the extent that, during the second day of attacks, the whole island appeared to be ablaze. During the afternoon of September 15, VMFs 214 and 323, plus three squadrons of Navy *Skyraiders*, alternately blasted Inchon, integrating their strikes with naval gunfire from 1430 right up to H-hour. The successful outcome was indeed welcome.

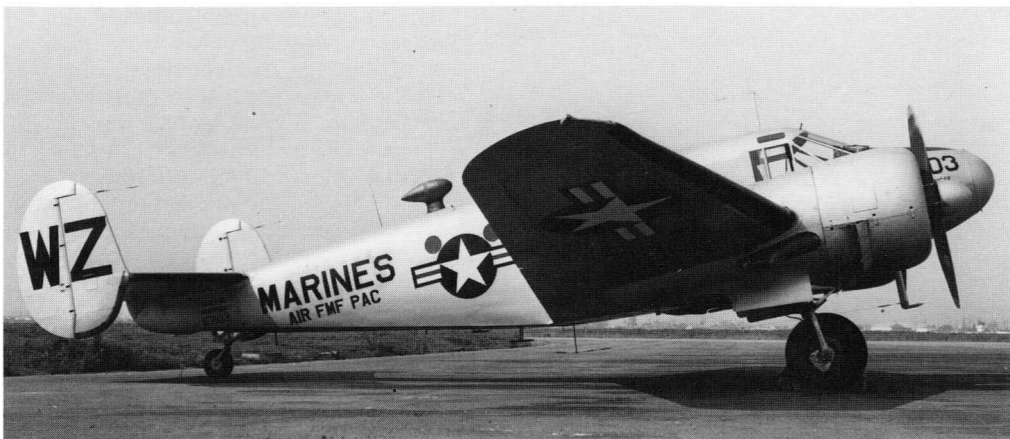
During the advance from the beachhead, which commenced the day following the landing, the air support control system functioned precisely as previously described. One of the key objectives of the assault phase and the advance toward Seoul was the capture of Kimpo airfield. As the objective areas widened and expanded with the advance, however, it was essential to bring in more shore-based aviation to meet the demand quickly on a constantly broadening front. The field was captured and declared secure in the mid-morning of September 18. The first plane to land at Kimpo was an HO3S of VMO-6 which brought Gen. Shepherd and Colonel Krulak.

Gen. Cushman established his headquarters at Kimpo on September 19, and was quickly joined by MTACS-2, Marine Ground Control Intercept Squadron (MGCIS) 1 and VMO-6. The first fighter squadron of MAG-33 to check in was VMF(N)-542 with five F7Fs,



VMCJ-3, with its Grumman F9F-8Ps, was one of three Marine Corps squadrons to provide photoreconnaissance support.

Beech SNBs provided small transport and multiengine training throughout WW II and into the 1970s.



landing late in the afternoon of the 19th. *Corsairs* of VMFs 212 and 312 landed shortly after 542 and also went into action on the 20th. During the transition of the squadrons assigned to MAG-33 from MAG-12 in Japan, the operational burden of Marine air support was handled entirely by the two CVE-based *Corsair* squadrons, VMFs 214 and 323, administratively assigned to MAG-12. Also supporting the move forward of the division-wing team into the Korean peninsula was VMF(N)-513, still operating from Itazuke AFB in Japan. Control of air support had passed from the Amphibious Force Commander to MTACS-2 ashore on D-plus-2, when the Landing Force Commander (1st MarDiv) declared he was ready to assume control.

With Kimpo in hand, the next major objective became the forced crossing of the Han and the taking of the essential key terrain from which to launch the assault on Seoul properly. MAGs 12 and 33 made their contributions to these endeavors by rapidly increasing their strengths and capabilities at Kimpo, and through strikes against redeployment and reinforcing moves by the communists attempting to improve the defenses of the city.

From September 19 on, both MAGs 12 and 33 flew "maximum effort" schedules in close support of both the 1st and the 5th Marines in their assaults toward the city. Typical during this period was a flight of five *Corsairs* led by Lieutenant Colonel Lischeid of VMF-214 which effectively broke up a threatened counterattack on Hill 105-S, held by the 1st Battalion, 5th Marines. On the 24th, on the east slopes of Hill 56, VMF-323 dropped 500-pound bombs only 100 yards in front of the attacking Marines, F Company, 2nd Battalion, 5th Marines, enabling them to seize the high ground of their objective.

The supply lines of the North Korean invading forces had been cut totally and the Inchon landing had halted the North Korean army.

During the period of the Inchon-Seoul operation, September 15-October 7, the 1st MarDiv suffered 2,450 battle casualties. The division took 6,492 North Korean prisoners and estimates of total enemy casualties added up to 13,666, most of whom were counted dead on the battlefield. These figures represent a ratio of better than eight to one, a commendable performance considering the speed with which the air-ground team was put together and deployed. It says much for the force-in-readiness concept of the Marine Corps and for the wisdom of maintaining a viable, strong and loyal Marine Corps Reserve, ground and air.

When it became clear that the landing had achieved a total rout of the North

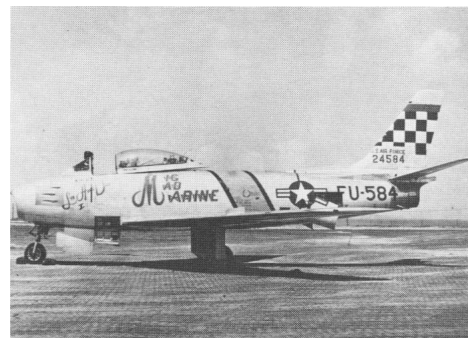
Koreans, Commander in Chief, Far East (CINCFE) made plans for the follow-up. It was decided that the UN command could conduct pursuit operations beyond the 38th parallel into North Korea but the authority for Gen. MacArthur to deploy his forces was burdened with several limitations. Briefly, no force other than those of the Republic of Korea could enter if there was a clear indication of Soviet or Chinese entry. Also, there could be no attack of any type against any portion of Chinese or Soviet territory. Further, only RoK forces would be deployed in those provinces of North Korea bordering on the Soviet Union or Manchuria.

Generally, the plan was for the 8th Army to advance along the axis; the RoK II Corps in the center and the RoK I Corps up the East Coast direct to Wonsan. The 1st Marine Division would make an assault landing at Wonsan and the 7th Army Division would follow ashore in an administrative landing. After establishment ashore at Wonsan, the X Corps would then advance west to join up with 8th Army. The entire force would then advance north to two phase lines; only RoK forces would advance beyond the second phase line, in keeping with the restrictions mentioned above. The 8th Army would cross the parallel on October 15 and the Wonsan landing was set for a D-day of October 20.

The discovery that the harbor and approaches to Wonsan were sown with rather sophisticated Russian mines of all kinds made it impossible for any landing to be made until the harbor was safely swept. The delays entailed in the sweeping, combined with the early taking of Wonsan by the RoK I Corps, reversed the normal order in amphibious operations. When the assault elements of the division finally landed at Wonsan, they were welcomed ashore by the already well-established Marine Aviation units.

On October 13, General Field Harris, commanding the 1st MAW and TAC X Corps, flew into Wonsan and decided to begin operations there immediately. VMF-312 flew in from Kimpo on the 14th, and wing transports brought in 210 personnel of the headquarters and VMF(N)-513 the same day. Two LSTs sailed from Kobe with MAG-12 equipment and personnel, while some bombs and rockets were flown in on the planes of VMF(N)-513. On the 16th, VMFs 214 and 323, still on board *Sicily* and *Badoeng Strait*, began operations at Wonsan, covering the minesweeping activities until October 27.

With the change from an assault to an administrative landing at Wonsan, the 1st MAW was placed under the control of Far East Air Force, with delegation of control to the 5th AF north of the 38th parallel. This required the daily



An Air Force F-86 flown by John Glenn while on exchange duty in Korea.

operations schedule to be submitted to 5th AF at Seoul by 1800 of the previous day. The distance involved and relatively poor communications made it extremely difficult to get clearance back in time. This was resolved between Gen. Harris and General Partridge, Commanding General 5th AF, with permission for the former to plan and execute missions for X Corps in northeast Korea without waiting for 5th AF clearance.

With the major changes in strategy that accompanied the collapse of the North Koreans, and the rapid advances of 8th Army and the two RoK Army Corps to the north, CINCFE issued some new directions which affected X Corps and the Marines directly. One aspect was an order for the 1st MarDiv to "advance rapidly in zone to the Korean northern border."

Chosin Reservoir

The 1st MarDiv command post was moved to Hungnam on November 4, with the 7th and 5th Marines operating north, closing the "stretch" to less than 60 miles. Wonsan, from the viewpoint of Marine Aviation, was looking like a bypassed Japanese base from WWII. The concentration of the division north of Hungnam, in its march to the Yalu River, made the airfield at Yonpo increasingly attractive to the 1st MAW because it was in the center of the Hungnam-Hamhung area. This meant that response times for close air support would be considerably reduced. On November 6, MAG-33 was ordered to Yonpo from Japan, and was operating there by November 10, in time to receive VMF-212 from Wonsan. On the 15th, VMF-214 was ordered ashore from *Sicily* and set up at Wonsan with MAG-12 supporting the squadron as best it could.

By November 27, the 1st MarDiv was concentrated in the vicinity of the Chosin Reservoir, with the command post at Hagaru, the 7th and 5th Marines at Yudamni, and the 1st Marines along the main supply route with a battalion each at Chinhung-ni, Koto-ri and Hagaru.

On the morning of the 27th, the 1st MarDiv began its attack from Yudam-ni on schedule, but the lead regiment had only advanced about 2,000 yards when it was stopped by stiff resistance. That night, the Chinese communist forces attacked in great strength at all Marine positions from Yudam-ni to Koto-ri. Intelligence reports showed that opposing the Marines and associated troops in the Chosin Reservoir area was the Chinese 9th Army Group, 3rd Field Army. This force, added to the five divisions already identified by the 1st MarDiv, totaled more than 100,000 seasoned Chinese infantry troops. With the disposition of the 1st MarDiv north of Hungnam and Hamhung, plus attacked units of Royal Marines and assorted Army units totaling only 20,500, the balance in the two orders of battle favored the Chinese by better than five to one.

The situation had changed so radically and quickly that, on November 28, Gen. MacArthur called Generals Walker and Almond to Tokyo for a lengthy conference. The result of these deliberations was a change of strategy to abandon the previous plan for North Korea and pull back instead to a more defensible line to the south. General Smith had already decided to start moving without any further delay, and ordered the 5th and 7th Marines to move back to Hagaru from Yudam-ni, the first leg of what would be a 68-mile fight through more than 100,000 fanatical enemy troops.

The 1st MAW command post and attached headquarters and service units, plus five VMFs had moved to Yonpo from Wonsan and Japan by late November. The sixth squadron, VMF-323, was still operating from *Badoeng Strait*. Rounding out the 1st MarDiv combat line-up was VMO-6 with its OYs and HO3S helicopters, operating from Yonpo mainly, but also from wherever else required. The air part of the air-ground team was ready to do its job. The manner in which it performed its task compares with what Marine Aviation did at Guadalcanal.

From the time the decision was made to fight south to the sea, 5th AF had given 1st MAW the sole mission of supporting the 1st MarDiv and the rest of X Corps. Task Force (TF) 77 aircraft provided backup for additional close support while Navy and 5th AF tactical squadrons attacked troop concentrations and interdicted approach routes all along the withdrawal fronts of 8th Army and X Corps.

When reviewing the fighting withdrawal of the Marine air-ground team from the Chosin Reservoir against terrible odds, and assessing the part

Marine Aviation played in the operation, it is important to remember the tactical air control party (TACP) structure of the Marine air control system. Every strike against enemy positions along the route, wherever the column was held up or pinned down, was under the direct control of an experienced Marine pilot on the ground in the column, known to the pilots in the air delivering the attack. Other methods have been tried repeatedly, but there is no substitute for the TACP.

From the start of the 68-mile battle to the sea on December 1, to its completion at Hungnam on December 12, so much happened on a daily basis that only shelves of books could tell the story in detail. The same air support principles in almost every detail were followed in support of the division on its fight up to Hagaru and Yudam-ni, as were applied in supporting its fight back down to the sea.

The air support plan for the operation called for a flight over the key movement of the day at first light. This initial would be assigned to the forward air controller (FAC) of the unit most likely to need close air support first. As that flight was called in, another flight would be assigned to relieve it on station. This meant that response times from request to delivery on target could be reduced to the minimum. If the aircraft on station did not eliminate that target, additional strength would be called in, either from Yonpo or from TF-77. From time to time, any suitable aircraft in the area would be diverted from its assigned mission and called in.

Each night, the column would be defended through unit assignments to key perimeters of defense. During daylight, when *Corsairs* were on station, the Chinese could not mass their troops to mount such attacks because, when they tried, they were immediately subjected to devastating air strikes with napalm, bombs, rockets and overwhelming 20mm strafing. Not one enemy mass attack was delivered against the column during daylight hours.

The first leg of the fight south was from Yudam-ni to Hagaru, a movement which brought the 5th and 7th Marines together with elements of the 1st Marines, 1st MarDiv headquarters and the division command post. It was essential that Hagaru be held because it would give the division its first chance to evacuate the seriously wounded by air. During the period from the first airstrip landing on December 1, to December 6, the Combat

Cargo Command (CCC) C-47s, augmented by every Marine R4D in the area, flew out a total of 4,312 wounded, including 3,150 Marines, 1,137 Army personnel and 25 Royal Marines.

The Yudam-ni to Hagaru leg was completed by the afternoon of December 4. With most of the heavy action taking place on the 1st and 2nd, 1st MAW aircraft flew well over 100 close support sorties both days, in support of the division and the three Army battalions of the 7th Division which were heavily hit east of the reservoir trying to withdraw to Hagaru. On December 4 and 5, 1st MAW aircraft continued the march with almost 300 sorties against enemy positions, vehicles, and troop concentrations throughout the reservoir area. But on December 6, they resumed their primary role over the division as the second leg, Hagaru to Koto-ri, began.

Air planning for the second leg drew heavily on the experience gained during the move from Yudam-ni. The FACs were again spotted along the column and with each flanking battalion, and were augmented with two airborne TACs who flew their *Corsairs* ahead and to each side of the advancing column. A four-engined R5D (C-54) transport, especially configured to carry a complete tactical air direction center (TADC), controlled all support aircraft as they reported on station, and assigned them to the various FACs or TACs, as appropriate for the missions requested. The system worked smoothly and made it possible for the column to keep moving on the road most of the time, even while the support aircraft were eliminating a hot spot.

Napalm bombs and high-velocity aircraft rockets awaiting VMF-214.



By evening of December 7, the division rear guard was inside the perimeter of the 2nd Battalion, 1st Marines at Koto-ri. For the two days, 1st MAW aircraft flew a total of 240 sorties in support of the X Corps withdrawal, with 60 percent in support of the division. Most of the remainder was flown in support of other units in the column. In addition, X Corps was supported by 245 sorties from TF-77 carriers and 83 from the 5th AF. The Navy sorties were almost entirely close support, and the Air Force mostly supply drops. With just one more leg to go, the move was almost completed, but the third leg, Koto-ri to Chinhung-ni, was tough to contemplate. It involved the hazardous passage of a precipitous defile called Funchilin Pass, plus a blown bridge just three miles from Koto-ri that had to be made passable, the test drop of a bridge section at Yonpo (as an experiment), revision of parachutes and rigging, and the successful drops of the necessary material at Koto-ri.

The air and ground plans for the descent to Chinhung-ni involved the same coverage and column movement coordination as had been so successful on the first two legs. The night of December 7 brought a raging blizzard to the area, reducing visibility almost to zero and denying any air operations on most of the 8th. As a result, little progress was made from Koto-ri and installation of the bridge sections was delayed.

The night of the 8th saw the end of the weather problem, and the clear skies and good visibility promised a full day for the 9th. From the break of day, there was complete air coverage over the main

supply route under the direction of the airborne TADC, the TACs and the battalion FACs. The installation of the bridge was covered and, when it was in place, the column began its move down to Chinhung-ni on the plain below. It is interesting to note that the bridge was installed at the base of the penstocks of one of several hydroelectric plants fed by the Reservoir. Eighteen months later, in June 1952, two of these plants were totally destroyed by MAGs 12 and 33 in one attack, Chosin Three by MAG-12 and Chosin Four by MAG-33, the latter in one of the largest mass jet attacks of the war.

The truck movement from Chinhung-ni to Hungnam began early in the morning of December 11. By early afternoon, the last unit cleared the town and the curtain dropped on one of the military classics of all time. The three shore-based fighter squadrons moved to Japan on the 14th and, by the 18th, the last of the 1st MAW equipment was flown out of Yonpo. With the displacement of the 1st MAW, air coverage of the evacuation of Hungnam became the responsibility of the light carriers.

A few summary statistics serve to place in perspective the magnitude of the support 1st MAW rendered to the operation. From October 26 to December 11, 1950, 3,703 sorties in 1,053 missions were controlled by the tactical air control parties of Marine, Army and RoK units. Close air support missions accounted for 599 of the total, with 468 of these going to the 1st MarDiv. The balance of 454 missions was search and attack. On the logistics side, Marine Transport Squadron (VMR) 152, the 1st

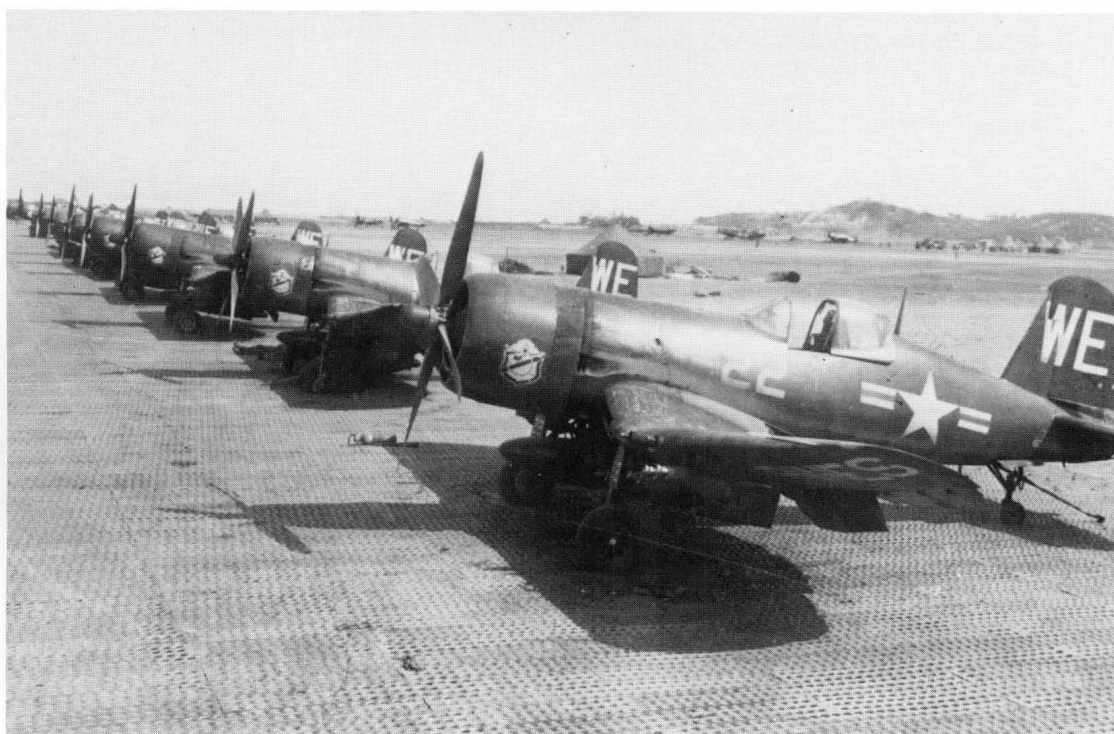
MAW transport squadron, averaged a commitment of five R5Ds a day to the Combat Cargo Command during the operation, serving all units across the UN front. With its aircraft not committed to the CCC, from November 1 to the completion of the Hungnam evacuation, 152 planes carried over 5,000,000 pounds of supplies to the front and evacuated over 4,000 casualties.

One other milestone for Marine Aviation was its first jet squadron to see combat when VMF-311, under Lieutenant Colonel Neil McIntyre, operated at Yonpo for the last few days of the breakout movement.

In any historical treatment of this epic fighting withdrawal, it is important to emphasize that there was total control of the air over the entire operation from beginning to end. Without that, not only would the withdrawal have been far more costly, but it might have been impossible.

After the breakout from the Chosin Reservoir area and the evacuation from Hungnam, the Korean War went into a lengthy phase of fierce fighting between the ground forces. There were many moves of both the 1st MarDiv and elements of the 1st MAW. The basic thrust of the wing was to keep its units as close to the zone of action of the division as possible, in order to reduce, to a minimum, the response time to requests for close air support. The Joint Operations Center, manned by the 8th Army and 5th AF, processed all requests

Black Sheep aircraft loaded with variable time-fused bombs prior to a strike in Korea.



for air support, published a daily operations order, approved all emergency requests for air support, and generally controlled all air operations across the entire front.

This was a difficult time for the 1st MAW because whenever a proposal was made for improving wing support of the 1st MarDiv, the attempt ran head-on into the official position that there were 10 or more divisions on the main line of resistance and there was no reason why one should have more air support than the others. From 1951 to mid-1953, there were various agreements between the 1st MAW and 5th AF regarding support of 1st MarDiv. While these were helpful, they never really satisfied the Marine Corps.

The 1st MAW, still tactically composed of MAG-33 at K-3 and K-8 airfields, and MAG-12 newly established at K-6, had more or less settled down to the routine of stabilized warfare. The wing headquarters and Marine Air Control Group were at K-3.

MAG-33 was composed of VMFs 311 and 115, both with F9F *Panthers*, and VMJ-1 equipped with F2H *Banshees* carrying the latest Navy-Marine aerial photographic camera and photo-processing equipment. All were at K-3 with accompanying headquarters and service squadrons. At K-8, on the southwest side of the peninsula, MAG-33 had VMF(N)-513 with F7F-3Ns and F4U-5Ns. In mid-1952, the squadron received F3D *Skyknights* and became the first jet night-fighter unit of the wing, making MAG-33 entirely jet.

MAG-12 was the "prop side of the house" with Marine attack squadrons (VMAs) 212, 312, and 323 equipped with the last of the *Corsairs*, and VMA-121 with AD *Skyraiders*. VMA-312, under the administrative control of MAG-12 and operating for short periods at K-6, maintained the wing leg at sea and was based aboard the escort carrier *Bataan*. The wing was supported on the air transport side by a detachment of VMR-152, plus its own R4Ds. The rear echelon of the wing was at Itami, Japan, where it functioned as a supply base.

While VMO-6 continued its support of the division through 1951-53 with its OYs, OEs and HO3Ss, the big news in helicopters was the arrival of the first transport helicopter squadron, Marine Transport Squadron (HMR) 161, on August 31, 1951. It was attached to the division and administratively supported by the wing in the pattern of VMO-6. Just two weeks later, the squadron executed

the first resupply and casualty evacuation lift in 2.5 hours, moving 19,000 pounds of cargo seven miles to the engaged 2nd Battalion, 1st Marines, and evacuating 74 casualties. It was number one in a long and still growing list of Marine Corps combat lifts. HMR-161 set standards for helicopter operations with troops which are still in active use. The squadron was a leader in night and marginal weather operations of all kinds, and developed many different movements of field equipment in combat.

Another piece of Marine Aviation equipment that was moved into the 1st MarDiv early in 1951 was a radar bombing system that could direct bombing aircraft to their proper release points at night or in bad weather. Designated the MPQ-14, the system was designed to provide close air support around the clock, regardless of the weather. While that

ambitious goal was not attained, the use of the MPQ-14 gear in Korea was a success. It continued to fill the need many years after Korea. The MPQ controller vectored the aircraft to the release point and, at the proper spot, directed release by radio and, in later refinements, automatically. The work that was done with the MPQ gear in Korea established confidence in its use and set procedures in its employment which are still standard practice.

In the spring of 1952, MAG-33 acquired a new and special squadron, VMJ-1. This was a photoreconnaissance unit, equipped with 10 F2H-2P *Banshees* containing the latest Navy-Marine camera configuration that made the aircraft by far the most efficient photorecon system in the entire 5th AF. Totally unarmed, almost all of its missions were flown unescorted at high altitude. But often



Top right, rearmed aircraft being positioned for takeoff at K-3 Korea. Right, the first night jet kill was accomplished with a Douglas F3D Skyknight.

the pilot, in the event of cloud obstruction, descended below the cloud deck to get his target if the area was not too "hot." There was an advantage to unescorted missions: a single *Banshee* at high altitude presented a very low profile to enemy AA radar and radar fighter direction gear. The unescorted missions penetrated all the way up the East Coast to the Soviet border and, at the extreme northeast end of the run, Vladivostok was clearly visible. Other missions took the aircraft the length of the Manchurian border, down the Yalu to the point where the range of the MiG dictated escort.

From November 1951 to July 1953, there was an arrangement between the 5th AF and 1st MAW which provided for a few Marines, after they finished their tours in MAG-33 jets, to experience several weeks of temporary duty with the F-86 squadrons. During

this period, these "visitors" shot down a total of 21 MiG-15 aircraft. At any given time, there was usually only one Marine on duty with each of the two operating F-86 wings. The high scorer and only Marine jet ace of the group was Major John F. Bolt, with six kills, although Major John Glenn, getting three in July 1953, was closing in fast when the cease-fire was announced.

The 1st MAW post-armistice plan, a part of the 5th AF plan, was effective on July 27, 1953. Its basic objective was twofold: to carry out 5th AF responsibilities as assigned, and to maintain a high level of combat readiness in all units.

Because of the uncertain duration of the armistice, it was necessary to deploy additional Fleet Marine Forces to the Far East in order to maintain a posture of amphibious readiness in the area. Late in the summer of 1953, the

3rd MarDiv arrived in Japan accompanied by MAGs 11 and 16. The latter was a helicopter transport group equipped with HRS-2s and based at Hanshin AFB with its two squadrons and service units. MAG-11, comprised of three F9F squadrons, was based at Atsugi, as was VMR-253, an additional transport squadron assigned to the 1st MAW and flying the Fairchild R4Q *Packet*.

V. Technological Development

Both in Korea and Japan, the period was one of intensive training, including landing exercises and joint exercises with the Army and the Air Force, concentrating on bombing and gunnery. One program within the wing was an exchange program between Japan-based and Korean-based squadrons. The objective of the program was to familiarize pilots new to the area with flight conditions in Korea, just in case the cease-fire didn't work out.

In June 1956, the 1st MAW moved its headquarters to NAS Iwakuni, Japan, and control of the wing passed from the 5th AF to Commander in Chief, Pacific Fleet (CinCPac), in Hawaii, thus ending Marine Aviation participation in the Korean police action.

For Marine Aviation, this period between the Korean War and the major involvement of the U.S. in Vietnam in 1965 was characterized mainly by research and development. New aircraft in Marine Aviation reflected the tremendous effects of technological advances during the period leading up to Vietnam.

The types which most advanced Marine Aviation capability during this nine-year period were the jet fighter and attack aircraft, helicopters, and the turboprop transport. It all began in 1947 with the commissioning of HMX-1 at Quantico to develop the use of helicopters, and VMF-122 flying the first jet, the FH-1 *Phantom* at Cherry Point. These were closely followed by VMF-311 at El Toro in 1948, first with TO-1s (F-80Cs), the Lockheed *Shooting Star* for jet indoctrination of experienced pilots, and then late in 1949 operating the F9F *Panther* for normal fighter/attack training. But the aircraft that heralded the rapid advance of technology with the loudest



Marine jet fighters went to sea with the Grumman F9F Panther.

bang, was the F4D-1. This was a short-range, all-weather, high-rate-of-climb (for its time) interceptor, equipped with the Marine Corps' first afterburner. A serviceable and successful carrier fighter, the *Skyray*, came to the Corps in late 1955 and early 1956. It was assigned in rather limited numbers because of its shorter range and because it was rapidly overtaken by additional design advances. The FJ-2 *Fury* came into the inventory at approximately the same time.

With the earlier establishment of the HRS series as the first significant step in building a Marine Corps helicopter transport capability, two additional developments took place in the mid-fifties. The first was a medium helicopter, the HUS series with greatly increased capability. The second was the first design of a heavy helicopter, the HR2S-1. The HUS became the principal vehicle in the rotary-wing lift capability of the Corps, the inventory showing 309 HUSs in the transport squadrons. The HR2S was programmed for a major part of the lift capability but, because of shortfalls in its performance parameters, the overall numbers were cut back. Competitive selection of a new heavy helicopter resulted in a design winner, the CH-46 *Sea Knight* by Boeing-Vertol. This was followed by a series of attempts by the Department of Defense to unify the requirements of all services. However, they were not able to integrate the tri-service requirements into a single vehicle. At this time, Navy competition resulted in a true heavy-lift machine for the Marine Corps, the CH-53 *Sea King* series by Sikorsky.

Following similar developmental procurement, the light observation helicopters, which have not been mentioned previously except for the very early H03S-1 used in Korea, underwent progressive refinements. Deliveries of the UH-1E, began by 1964. It was a light helicopter by Bell whose basic design had been procured by the Army earlier as the HU-1B, in significant numbers. This made possible the timely replacement of the retiring light helicopters and fixed-wing aircraft then in use by the Marine Corps for observation.

Thus, by the end of this period in 1965, an extraordinary advance in rotary-wing lift had been achieved for the Marine Corps through its efforts with the Navy, in just nine years from redeployment out of Korea.

To ensure that the development of rotary-wing aircraft did not outstrip the design of amphibious ships to carry them and move the troops, the Marine Corps moved into action early. In July



In 1959, VMA-331 was the last Marine Corps AD-equipped squadron to deploy overseas.

1951, General Clifton B. Cates, Commandant of the Marine Corps, stated in a letter to the Chief of Naval Operations:

"Studies and past experience indicate that the most desirable type of assault shipping for such a helicopter-borne force will be ships which can accommodate the necessary embarked troops, the helicopters to land them and the crews to operate and maintain the helicopters. It is becoming increasingly urgent to commence a ship conversion or building program that will parallel the availability of the 36-man helicopter."

This resulted in an active program beginning with the conversion of light carriers to amphibious assault ships (LPHs), and then the development of designs for LPHs from the keel up. The first of the latter, USS *Iwo Jima*, was at sea for trials on September 5, 1961. She was followed by a succession of similar vessels through the sixties, which led to further design developments and improvements.

The transition of attack aircraft to jet propulsion had begun in 1952. Douglas aircraft designed a concept for a new attack machine to perform the types of missions being carried out in the Korean War. The result was the A4D series, an aircraft that developed into the attack stalwart of the Navy and the Marine Corps for all of this period and much of the Vietnam conflict. Various versions of the series were the attack standard aircraft from the mid-fifties on. One of the last versions, the A-4M, was all-weather with the latest systems. It had over twice the gross weight of the original design and carried almost twice the ordnance load.

In late August of 1958, MAG-11 of the 1st MAW, received orders to deploy

immediately from Atsugi, Japan, to Taiwan to augment the air defense of that portion of the 7th Fleet operating in the Formosa Strait. There, a crisis between the Nationalist and Communist Chinese had begun to threaten what peace there was in region. MAG-11 consisted of three combat squadrons, two with F4Ds and one flying FJ-4s. Their principal duties were to fly cover over the night air drop and surface resupply runs to the offshore islands, and augment the air defenses of Taiwan and the 7th Fleet. Although the responsibility for Taiwan air operations was an Air Force function, MAG-11 supplied over 50 percent of both the force on hand and the sorties flown. A cease-fire was declared in October, and MAG-11 returned to Atsugi in early December.

The year 1958 turned out to be a time of deployment when trouble broke out in Lebanon as well. The 2nd Provisional Marine Force landed at Beirut on July 15, 1958, augmented by the reinforced 2nd Battalion, 8th Marines, but it had no Marine Aviation component other than Sub Unit 1 of HMR(L)-262 providing helicopter support. Tactical air support came from the carriers of the 6th Fleet; logistic air support was provided by the Air Force and by four transport squadrons of MAG-35 from Cherry Point, operating through NAS Port Lyautey, Morocco.

On May 27, 1958, one of the finest air weapons ever used by the Navy and Marine Corps had its first flight, the McDonnell Douglas F-4 *Phantom II*. It became operational in late 1960 and early 1961 and, by the end of 1965, 29 Navy and Marine squadrons were flying the *Phantom II*. The primary role of the F-4 was as an interceptor, but it was given the secondary job of



Bell HU-1 helicopters provided assault support.



The Vought F8U-2N was an all-weather fighter.

providing close support and it carried a wide range of external ordnance by the start of Vietnam. This two-man, interceptor-attack aircraft, with its pilot and airborne radar intercept operator and its multiple systems and sub-systems, ushered Marine Aviation into a new and advanced realm of military aviation.

In October 1962, Fleet Marine Force, Atlantic was ordered to assume a posture of increased readiness because of the introduction of nuclear weapons into Cuba by the Soviets. In the ensuing

weeks, nearly all 2nd MarDiv and 2nd MAW units were either deployed to Florida or the Caribbean area, or were aboard ships of the Amphibious Force or carriers of the Atlantic Fleet. While no actual combat took place, the confrontation involved a limited blockade of Cuban waters and continuous high-altitude photoreconnaissance of suspected Cuban missile sites. Much of this photography was accomplished by F8U-2Ps of the 2nd MAW, operating from bases in Florida.

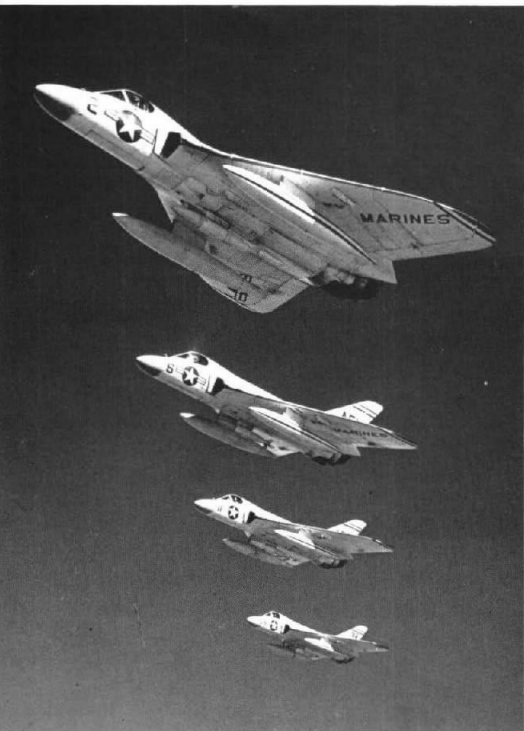
In April 1965, an attempted coup by leftist forces in Santo Domingo threatened the safety of U.S. nationals and the U.S. Embassy requested their evacuation. This was followed by a request for intervention by the existing government. Marine forces were organized into the 4th Marine Expeditionary Brigade and included a Provisional MAG. By the end of May and early in June, Marines were being withdrawn.

In late 1960 and early 1961, one of the most significant acquisitions for Marine Aviation began to come into the inventory, the Lockheed GV-1 *Hercules* transport, which was later given the unified designation of C-130. This was a four-engined turboprop transport with many improvements in speed, range and small field capabilities over anything the Marine Corps had previously operated. The C-130 was extremely flexible and could be quickly reconfigured to carry troops, maximum cargo, casualties, airborne command posts, or to perform one of its prime missions, aerial refueling of the wing jets on long flights.

situation faced by South Vietnam in attempting to counter the determined communist guerrilla moment within its boundaries was deteriorating. Within this scenario, a requirement evolved for an increased commitment of U.S. helicopter capability in country, in order to improve the mobility and responsiveness of Republic of South Vietnam Army (ARVN) troop in executing counteractions against guerrilla attacks. It was decided to deploy a 1st MAW helicopter squadron into the Delta area.

A task unit was quickly formed by the 1st MAW while participating in an exercise in the Philippines, including Medium Transport Helicopter Squadron (HMM) 362, a squadron with 24 UH-34s, augmented by three light observation aircraft, one R4D transport and 50 additional helicopter maintenance personnel; and a sub-unit of Marine Air Base Squadron 16, reinforced. The task unit was code-named "Shuffly" and operated in Vietnam with different components and in different Corps areas for the next several years. The force-in-readiness posture and responsiveness of Marine Aviation was again demonstrated, as the task unit was in place at Soc Trang less than two weeks from the date of approval of the deployment.

It was an interesting operation in the light of what was to follow. The entire sub-unit for the operation of the base at Soc Trang was flown from Okinawa by C-130s in less than five days into a field 3,000 feet long with jury-rigged navigational aids. The next day HMM-362 arrived from USS *Princeton*, during an all day procession of lifts, with all its equipment and personnel from about 20 miles off the coast. In the lift from the ship, 362 were assisted by HMM-261, the squadron regularly assigned to *Princeton* as part of the Special Landing Force, 7th Fleet.



Several squadrons were equipped with the Douglas F4D to provide an interceptor capability.

VI. Southeast Asia Involvement

By 1961, the military advisory group in South Vietnam was being built up. The

By the latter half of 1964, the Military Assistance and Advisory Group in Vietnam had grown to about 20,000 U.S. personnel and had a new name, the U.S. Military Assistance Command, Vietnam (USMACV). Marine Aviation was continuously represented in country from 1962 by the helicopter squadron of Task Unit Shufly. Up to 1964, helicopter squadrons of the 1st MAW had been rotated to Shufly about every four or five months. Thus, by the time the escalation of U.S. forces began in early 1965, the 1st MAW had considerable experience in the tactics and operation of helo troop lifts in Vietnam combat.

The commitment of U.S. forces had its beginning in early August 1964. Ships of the 7th Fleet on surveillance missions off the North Vietnam coast were attacked by North Vietnamese torpedo boats on the night of August 2.

With growing harassment of American compounds in Vietnam in the latter months of 1964, retaliatory strikes were



The McDonnell FH Phantom was a fighter-attack aircraft with photoreconnaissance capabilities.

ordered against the North. On February 7, carrier strikes from Task Force 77 hit enemy barracks at Dong Hoi and, on the 11th, 99 aircraft from *Ranger*, *Hancock* and *Coral Sea* bombed and strafed the North Vietnamese barracks at Chanhua. On the same day, South Vietnam and U.S. Air Force aircraft also struck Vu Con. These strikes were the start of a bombing operation against North Vietnam called *Rolling Thunder*, designed to increase both in intensity and depth of penetration. *Rolling Thunder* was conducted in conjunction with a similar operation against the panhandle of Laos, in an attempt to inhibit the passage of troops and supplies from North Vietnam to the south. The Laos operation was called *Barrel Roll*. Both of these strike programs against the North marked the

beginning of the Vietnam conflict, although a considerable number of actions against the Viet Cong preceded them in the south.

On March 8, 1965, in response to a decision of President Lyndon Johnson, the 9th Marine Expeditionary Brigade (MEB) landed at Danang to protect the airfield from possible communist attack. By mid-March, the air component of the brigade consisted of two medium transport helicopter squadrons, one light anti-aircraft missile battalion, and a group headquarters, MAG-16. All the aviation units were attached to MAG-16 under Colonel John H. King, Jr. On April 10, additional tactical aircraft arrived at Danang when Marine Fighter-Attack Squadron 531 landed after a nonstop, aerial refueling flight from Atsugi. Ground personnel and equipment were flown in by the KC-130s of the 1st MAW. Also during April, the need arose for electronic warfare aircraft to counter the growing use of surface-to-air missiles. Marine Composite Squadron (VMCJ) 1 at Iwakuni, Japan, has the best aircraft for this mission. The EF-10Bs were soon effectively supporting USAF, Navy and Marine strike groups on their missions. Fortunately, 1st MAW was able to support MAG-16 with a detachment of KC-130s based in Japan.

In May, the 3rd MEB, under Brigadier General Marion E. Carl, landed at Chu Lai about 50 miles south of Danang. The brigade was composed of the 4th Marines and MAG-12, plus Naval Mobile Construction Battalion 10. One of its principal objectives was to select a site and construct a second major jet-capable airfield.

The first step was the installation of a short airfield for tactical support (SATS), a Marine Aviation concept which provided a field complete with carrier deck-type arresting gear, catapult and an aluminum surface of interlocking lightweight metal alloy planking. The concept also included a tactical airfield fuel dispensing system. Much difficulty was encountered with the base of soft sand at Chu Lai in the installation of the SATS but, by the end of the month, 4,000 feet of usable surface was down and the first landing of an A-4 into the gear was made on June 1, by Colonel John D. Noble, C.O. of MAG-12. By mid-afternoon, with the use of jet-assisted takeoff bottles, the first combat mission was launched from Chu Lai, led by Lieutenant Colonel R. W. Baker, C.O. of VMA-225. On May 11, Major General Paul J. Fontana opened 1st MAW headquarters at Danang and the Marine air-ground team was beginning to function in all respects.

By September, more changes had occurred. MAG-36 had deployed from Santa Ana to Chu Lai and was ensconced in a new helicopter field called Ky Ha.

MAG-16 had been relieved of its jet squadrons by the arrival of MAG-11 from Atsugi, and was operating its helicopters from a new base in the immediate area of Danang called Marble Mountain. In the north at Phu Bai, one helo squadron operated in support of the ground units deployed in the vicinity.

After the helicopters moved to Marble Mountain, new construction began on a parallel runway at Danang. The shifting, while building and operating, continued through the year and well into 1966 before the new 10,000-foot runway and taxiway systems were completed.

At Chu Lai, a similar plan of expansion was laid down in mid-1965 which was realized in the fall of 1966 with a 10,000-foot runway just west of the SATS strip. At that time, MAG-13 came in from Iwakuni and occupied a new area on the west side of the field.

Although there were many helicopter bases of varying capacities, as well as some fixed-wing strips, built in the northern part of I Corps Tactical Zone (ICTZ) in the ensuing years, the foregoing represent the main bases of the 1st MAW units from 1965 to 1970.

In mid-1965, there were nine fixed-wing and five helo squadrons deployed in the 1st MAW. In 1968, there were 14 and 14, or half the deployable squadrons of Marine Aviation. It is also significant that no more squadrons of the Marine Corps could be deployed since all the remainder in the U.S. were required to train either individual replacements or were squadrons participating in the unit rotation program for introduction of new aircraft.

During the Korean War, there was a strong element of dissatisfaction at certain times with the idea of all Marine Aviation tactical units being under the operational control of the 5th Air Force. Several years prior to 1965, CinCPac had convened a special board to examine the employment of tactical air and the lessons to be learned from the Korean War. The board was composed of members of the CinCPac staff and each of the component commands, Army, Navy and Air Force, and was headed by Brigadier General McCutcheon, then-Assistant Chief of Staff for Operations, CinCPac.

The board met and drew up guidelines for CinCPac directives promulgated in the Vietnam war years. As a result, an agreement was reached between Commander 7th AF (formerly 2nd Air Division) and Commanding General 1st MAW in August 1965, delineating the levels of control. Essentially, this left operational control of Marine Air under the 3rd Marine Amphibious Force, except that single control authority for purposes of air defense was given to the 7th AF. This remained the basic policy for

command and control of Marine Aviation in Vietnam until 1968 when the subject arose again.

At the start of the escalation of U.S. deployments to Vietnam, the Marine air control system (MACS) was basically composed of the same elements as in Korea.

In June 1967, MACS-4 arrived in Vietnam, bringing with it a modern semi-automated, computer-oriented TADC which had been developed as a component of the Marine tactical data system (MTDS). MACS-4 was sited on Monkey Mountain, near Danang, a high promontory overlooking the South China Sea. More construction at the site was needed because, in addition to the radars and their antennae, room had to be made in the thick jungle for 16 helicopter-transportable huts for the TADC and for four others that comprised the tactical data communications central (TDCC). It was worth the effort, however, as the TADC gave the wing the ability to handle 250 aircraft tracks, friendly and hostile, simultaneously.

It was recommended that the various service air control systems talk to each other. The TDCC turned out to be the logical link. From the time it was in place, the TADC was operating with the naval tactical data system and the airborne tactical data system units of the 7th Fleet in the Tonkin Gulf, both of which were compatible with MTDS from the development period on. The loop was closed with the Air Force system. Essentially, this allowed the receipt of messages from either Navy, Marine or Air Force systems, the translation of the one received into the other two, and the transmission of the translations to the respective centers where they could be displayed. The net result was that air defense and air control data could be passed from Thailand to Danang to 7th Fleet ships in the Tonkin Gulf, and vice versa.

Much like Korea, Vietnam for Marine Aviation was not an air-to-air show. North Vietnamese aircraft were employed mainly in the Hanoi-Haiphong area and the 1st MAW concentrated on support of the Marine divisions operating in the I Corps. Three kills of MiGs were credited to Marine pilots, two of whom were on exchange tours of duty with the Air Force, and the third with a Marine F-4 squadron operating aboard *America*.

In direct air support missions, including close air support, there were some notable differences in Vietnam from previous operations. With few exceptions, air strikes had to be controlled by an airborne controller, and there had to be a political clearance in addition to the tactical go-ahead to hit the target. Not only was it necessary to know the exact position of the requesting unit



In-flight refueling and transportation of cargo and personnel is provided by the Lockheed C-130 of the VMGR squadrons.

and the target area of the village, but it also was essential to know the location of any friendly villagers or district militia who might be in the environs of the village. This additional clearance requirement sometimes came through the Province Chief, through ARVN channels, or was included in the mission. Needless to say, it was a complicating factor, although essential and understandable. What it did was to minimize the roles of the FAC on the ground and increase the activities of the Forward Air Controllers Airborne.

When the A-6A deployed to Vietnam, all-weather air support capability was measurably improved. The A-6 could deliver weapons at night or in bad

weather with accuracy approaching that achieved by the A-4 in clear weather. Carrying a normal load of 14,000 pounds of ordnance, this A-6 capability was extremely useful in the monsoon season.

Both the F-4 and A-4 were used primarily in direct air support, most of the time in daylight clear weather. The average ordnance loads were 3,000 pounds for the A-4 and 5,000 for the F-4. The F-8 was similarly used from December 1965 to May 1968. VMF-212 embarked on *Oriskany* in 1965 and flew strikes in both North and South Vietnam.

On April 1, 1966, the USMACV was authorized by CinCPac to conduct air strikes in the demilitarized zone (DMZ) and north of it in a strike zone known as



First used in WW II, the Douglas R5D continued its mission of logistic support into the 1960s.



All-weather bombing became a reality with the introduction of the Grumman A-6.

Route Package One. By midsummer, 1st MAW aircraft were assigned to hit targets in this package, most of them artillery and rocket sites. Late in 1966, Marine A-6s began striking targets as far north as Hanoi and Haiphong, and continued until the bombing halt in 1968. Most of this work was done at night and EA-6As provided electronic jamming, with F-4Bs flying escort.

The EA-6A was indeed a welcome arrival at the 1st MAW late in 1966. By that time, the surface-to-air missile strikes had reached serious proportions and it was only a matter of time before Marine aircraft were frequently encountering the threat. Again VM CJ-1 carried out a major portion of the area reconnaissance and electronic warfare mission for USMACV, just as it did for 5th AF in the Korean War with its photographic reconnaissance. VM CJ-1 provided escort for B-52s, support for tactical air strikes, and collection of all forms of electronic intelligence. On the photorecon side, VM CJ-1 was operating in a science which had become much more sophisticated and was now called "imagery intelligence."

Employment of transports was essentially a story of two aircraft, the KC-130 and the ancient and honorable C-117, the old R4D-8. Normally the C-117 was organic to each MAG and only assigned at a level of one per group. The old *Skytrain* was certainly the queen of the three-war group, serving in WW II, Korea and Vietnam. VMGR-152, the 1st MAW's KC-130 squadron kept a four-plane detachment at Danang. It did everything in the air transport line that could be done.

If one had to hang only one characteristic on the Vietnam war to describe it in the Marine Corps experience, it would have to be named a "helicopter war." Marine Aviation deployed seven medium transport

helicopter squadrons and three heavy squadrons out of a total of 12 mediums and six heavies before the war was over. In addition, gunship versions of the UH-1E were introduced and deployed in the VMO squadrons. In 1969, the AH-1G *Sea Cobra* arrived and operated first in the HML units which had come into being during the war to handle the increased number of UH-1Es.

With regard to the transport helos, the UH-34 was the prime vehicle in the 1st MAW at the start of the war and through most of the following year. In midsummer 1965, a detachment of CH-37s was deployed to give a heavy-lift capability to the wing. The obsolescent CH-37 was a valuable addition and stayed in Vietnam until early 1967 when the first echelon of CH-53s arrived. The CH-46 made its first appearance when HMM-164, landed at Marble Mountain from USS *Valley Forge* in March 1966.

There were several technical problems that had an impact on helo employment in Vietnam. First, the high temperature and high humidity reduced payload; second, the sandy and dusty landing zones created engine maintenance problems; and, third, installation of additional armor to protect their vital parts became a requirement in all helos as enemy AA effectiveness increased. Another need was the mounting of door guns and at least one gunner (the crew chief manned a second gun) in the transport helos, further adding to the weight of the machine and reducing its payload.

By the end of 1965, the transport helos were lifting an average of 40,000 passengers and over 2,000 tons of cargo per month, mainly out of the two principal bases at Ky Ha and Marble Mountain. By 1968, this had steadily increased to better than 50,000 passengers and over 6,000 tons per month, the increase in capability coming largely from the

introduction of the CH-46. In the first half of 1970, even though the phase-down of Marine forces had already begun, they were lifting more than 70,000 passengers and 5,000 tons in a single month, thanks to the increasing numbers of CH-53s in the wing.

One of the most hazardous missions was the evacuation of casualties at night or in bad weather. Most of these types of medevacs were requested by troops in close contact with the enemy and there were no aids to help the pilot in finding the zone and landing in it. Flare aircraft were often used to illuminate the zone for night pickups, and gunships or jets provided fire suppression.

It is interesting to compare the Vietnam figures on medevacs with those in the Korean War. Where the latter were measured in the low thousands, including the fixed-wing evacs, in 1968, a peak year in Vietnam, the helos evacuated 67,000 casualties during 42,000-plus sorties. On these evacs, a very large number of the helos received battle damage and crew casualties, with a high percentage of the crews earning the Purple Heart. The double-barreled conclusion adds up to the fact that the helo was one great innovation, and it required lots of staunch pilots to realize its full potential.

At the start of Vietnam, there were only 12 light helos in each VMO squadron of the 1st MAW. Two additional VMOs were soon authorized and, in 1968, a further reorganization established three VMOs and three HMLs. The VMO complement was set at 18 OV-10As and 12 light helos, and the HML complement at 24 light helos. By the latter part of 1968, two of each type of squadron were in the 1st MAW, giving the wing a total of 72 light helicopters, including gunships.

In a war of the complexity reached in Vietnam, an appreciation of the part played by Marine Aviation is achieved through a year-by-year summation of operational statistics. It is important to keep in mind that few movements of troops of III Marine Amphibious Force (MAF) were by ground vehicle. It was truly a helicopter war. All the other elements of the air-ground team were present and fully functional, but the vehicle that characterizes the war for most Marines is unquestionably the helicopter.

For each of the regimental or battalion-size operations, the troops were put in initial position by escorted helolift. Also, fire suppression fighters and attack aircraft kept the landing zone sanitized as much as possible during the landings, and aided in preparation of the landing zone. In addition, close air support aircraft were either on station overhead or were on call when requested. Once the unit landed, of course, casualty evacuation and resupply were both a part

of the operation plan. When the operation was concluded, the helos and their friends were again on hand to extract them.

In 20 months, III MAF had grown from the initial brigade landing at Danang to a two division, reinforced wing air-ground team, totaling almost 60,000 Marines.

During this first 18 months of the war, operations or operation "code names" familiar to many Marines include the following: Starlite, Piranha, Blue Marlin, Hiep Duc, Thach Tru, Golden Fleece, Harvest Moon, Double Eagle, New York, Texas, Indiana, and Ky Lam.

1st MAW sorties during the 18 to 20-month period through December 1966, totaled the following: 61,457 fixed-wing

fighter/attack sorties, with 79 percent in direct support of III MAF, 15 percent against targets in North Vietnam, and the balance of six percent in support of South Vietnamese units; 436,267 helicopter sorties, with 88 percent in support of III MAF, seven percent for South Vietnamese units and five percent for Korean Marine battalions.

At the end of 1967, III MAF had reached a strength of 81,115. This was an increase for the year of 10,737. The statistics for the year were astounding. In 1967, III MAF conducted over 110 major operations of battalion size or larger. There were 356,000 small unit operations. These two types of operations resulted in 17,876 enemy

killed during the year.

Supporting the III MAF ground operations, the 1st MAW flew 63,000 fighter/attack sorties in direct support, and 10,000 more in support of other ground units in country. In addition, there were 11,000 1st MAW strike sorties over North Vietnam. Total ordnance expended by the fighter/attack sorties for the year included 134,000 tons of bombs, 166,000 rockets and 2,100,000 rounds of 20 mm ammunition.

1st MAW helicopters flew a total of 490,000 sorties and lifted a total of 732,000 troops, besides performing evacuation, resupply and a host of other support missions for units in and out of combat.



HMR-161 continued in Vietnam its helo support role which it began in Korea with the CH-46.

1968 was a divided year in the I Corps. The first half was characterized by the greatest combat activity of the war. III MAF, working primarily with South Vietnamese Army units, defeated the North Vietnamese forces as they came across the DMZ, expelled them from Hue, and punished them severely at Khe Sanh. Beginning with the Tet offensive in and around Hue at the end of January, the intensity was maintained into the late spring. At that point, the North Vietnamese effort shifted south against Danang.

Fixed-winged combat sorties by the 1st MAW for the year came to a total of 90,786 and helo sorties reached better than 632,000. Of the fixed-wing sorties, 14,843 were against targets in North Vietnam and the balance of 75,943 were on in-country missions with the great majority being in direct support of III MAF units. The helo sorties equated to a total lift of 939,999 troops and a total cargo lift of 109,621 tons. Total sorties for both fixed-wing and helos approached twice the numbers for 1967. The year had been a loser for the North Vietnamese/Viet Cong generally, and it marked a general shift in strategy back to the guerrilla, small Viet Cong detachment type of harassment of the countryside and the allied base establishments.

The year 1969 marked the start of the withdrawal of III MAF units from the Vietnam war. For the 1st MAW, this began in August with the redeployment of an F-4 squadron to Iwakuni and a CH-46 squadron to Futenma on Okinawa and a *Hawk* anti-aircraft missile battalion which had been in country since February 1965. August also saw the last of the UH-34 squadrons depart Vietnam. It was not a withdrawal as such but was a rotational relief by a CH-53 squadron. These August examples show the pattern for the months to follow as the overall reduction slowly went into gear through 1970.

In 1969, the 1st MAW flew a total of 57,677 fighter/attack, plus other fixed-wing sorties, in direct support of III MAF units in country, and 26,157 on missions against North Vietnamese targets and other out of country objectives. A total of 514,383 helo sorties were logged for the year, lifting 103,747 tons of cargo of all kinds and carrying 788,951 troops.

With the continued unit withdrawals during 1970, the 1st MAW sortie statistics show a marked drop as predicted above. Fixed-wing sorties dropped to 24,353 in country and to 8,083 out of country, almost a two-thirds drop in both cases from the previous year. Helo sorties dropped to 381,712 with the cargo showing an expected drop but the passenger figure actually showing a substantial increase over 1969. These differences undoubtedly reflected the

greatly increased capabilities in country of the added CH-53 units. Cargo for the year hit a total of 64,035 tons and the passenger figure totaled 824,868 troops lifted.

On April 14, Lieutenant General Donn J. Robertson, then Commanding General, III MAF, moved the headquarters to Okinawa. It had been just short of six years in Vietnam. The 1st MarDiv headed for Camp Pendleton and 1st MAW Headquarters for Iwakuni. The latter, however, was without its commanding general, Major General Alan Armstrong, who was staying behind as Commanding General, 3rd Marine Amphibious Brigade, the "clean-up" unit. This brigade was made up of the air, ground and logistic units that were to stay behind as the final phase-down was completed. It totaled 13,600 Marines, with the principal units being the 1st Marines, reinforced, with MAG's 11 and 16 in support. On June 1, Marble Mountain Air Facility was turned over to the U. S. Army, as Danang Air Base MAG-11 facilities had been to the U. S. Air Force the week before. Finally, on June 26, General Armstrong put the last 10 members of the brigade headquarters aboard a C-130 and departed for Okinawa, closing the book on this phase of the Vietnam war. A second phase, however, was in the making in the form of a North Vietnam "Easter Offensive" to come in 1972. Some of the 7th Fleet Marines would be back within a year.

It is important to mention once more the great value of the close relationship between the Navy and the Marine Corps, both air and ground. For example, the 7th Fleet battalion landing team, known as the "BLT afloat," was maintained all during the period of the Vietnam war with its helo lift of one HMM squadron. When the "crunch" was really on any aspect of III MAF operations, both the BLT and its HMM could also be temporarily deployed ashore to reinforce units that were under particular pressure. Another aspect of the benefits of the relationship was the high order commonality between Marine and Naval Aviation. This was exemplified through uncomplicated support rendered by TF-77 carriers to III MAF operations from time to time. It worked in the other direction as well through the flying of a protective barrier combat air patrol by 1st MAW fighters, particularly when TF-77 was striking the Hanoi/Haiphong targets from the extreme northern reaches of the Tonkin Gulf.

It did not take the North Vietnam government long to test the South Vietnamese forces after the departure of

their friends. On March 30, 1972, a major three-pronged attack was launched against the northern tactical zone, against the highlands toward Kontum out of Laos, and against An Loc in the south out of Cambodia.

At sea, by the end of the first week in April, the 9th Marine Amphibious Brigade, under Brigadier General E. J. Miller, was a part of the amphibious force of the 7th Fleet. This time it was composed of four BLTs and two composite helicopter squadrons, and its mission was limited to the provision of helicopter and amphibian tractor support to the embattled Vietnamese Marines.

On April 6, MAG-15, moved into Danang with two F-4J squadrons, VMFA-115 and VMFA-232. A third squadron, VMFA-212, flew in from Kaneohe on the 14th. MAG-15 was to concentrate its efforts in the northern half of South Vietnam and along the Laotian border. A fourth squadron, VMA(AW)-224, was aboard USS *Coral Sea* but most of its work would be against targets in North Vietnam and in Laos.

On May 16, MAG-12, with VMAs 211 and 311, began operations from Bien Hoa near Saigon. MAG-12 efforts were to be concentrated in the southern half of South Vietnam and along the Cambodian border. The strikes of both MAGs in direct support of South Vietnamese troops were invariably under the direction of an airborne controller. Estimates of effectiveness of their support showed that half the enemy tanks destroyed and half of the casualties inflicted on the



A CH-53 provides helo support in Vietnam.

North Vietnamese forces were attributed to tactical air.

By late fall, the situation was somewhat restored. It was a state of equilibrium rather than a successful conclusion that had been achieved. Meanwhile in Paris, the peace talks which had been in progress off-and-on for some years were continuing.

Just before the South Vietnamese counteroffensive began at the end of June, Task Force Delta was reactivated by the Assistant Wing Commander of the 1st MAW. It was sent to Thailand to an air base called Nam Phong in mid-May and, by the middle of June, the camp was ready, the squadrons arrived, and operations began immediately. Although at first the field was completed, nothing else had been finished and the Marines promptly dubbed the place the "Rose Garden." MAG-15 redeployed to Nam Phong from Danang during June.

On January 27, 1973, after four years of "off-and-on" negotiations, the so-called Peace Accords were signed by South Vietnam, North Vietnam, the Viet Cong and the United States. It was to go into effect at midnight on the signing date. The only aspect that meant anything in the way of a gain to the United States was the return of 649 American POWs, 26 of whom were Marines.

Marine Aviation participated in the minesweeping chore with squadrons assigned to 7th Fleet carriers and amphibious shipping, both with fixed-wing fighters and electronic warfare



The OV-10 Bronco took over the observation and light-attack missions.

aircraft, and with many helicopter sorties as well.

April 1975 turned out to be a very big month in the U. S. "retreat" from Southeast Asia, as the situation in Cambodia was on just as steep a deterioration curve as that in South Vietnam. On April 1, the government of President Lon Nol collapsed when he left the country on an "official visit" to Indonesia. On April 12, President Ford gave the order to execute an evacuation plan from the U. S. Embassy in Phnom Penh for U. S. nationals and those foreign nationals who chose to leave. The operation was called *Eagle Pull* and brought 300 Marines into the compound from the 31st Marine Amphibious Unit (MAU) off the coast in 7th Fleet shipping. The Marines came in by CH-53 helos and within two hours had lifted 276 Americans and other nationals to safety aboard ship. The last trip took the embassy guard Marines and the U. S. flag out just as the first Khmer Rouge artillery rounds impacted on the soccer field being used as the evacuation point.

On April 21, the collapse of the South Vietnamese government was imminent with the resignation of President Thieu. Planning for the evacuation of the U.S. Embassy and American nationals began with the visit of an advance party from the 9th Marine Amphibious Brigade on April 20. The 9th MAB was composed of Regimental Landing Team 4, Provisional MAG-39, plus a logistical support group and an amphibious evacuation security force. On April 28, President Ford finally gave the order to execute the plan. The two helo squadrons, HMH-462 and HMH-463, began bringing in BLT 2/4. Three platoons were lifted into the embassy to reinforce the guard there. From Tan Son Nhut, the evacuation proceeded with the

dispatch of 395 Americans and 4,475 Vietnamese to the ships by midnight in CH-53s.

At the embassy in Saigon, things had not been as smooth. The refugees had turned into a mob. The evacuation went on all night, and while plans had called for only 100 Americans to be taken out from that point, before it was ended, 978 Americans had been lifted out and 1,120 foreign nationals and Vietnamese as well. The last 11 Marines were lifted off the roof just before 0800 with the North Vietnamese troops already well into the city.

The Vietnam war was the longest and, in some respects, the biggest war in the history of the Marine Corps. III MAF, including the 1st MAW, at its peak strength in 1968 of 85,755 Marines, represented roughly 16.3 percent of the set troop ceiling in Vietnam. From January 1, 1961, through December 9, 1972, 28.2 percent of the U.S. KIA, 33.5 percent of the U.S. wounded who required hospitalization, 4.7 percent of the U.S. prisoners and 8.0 percent of the U.S. MIA were Marines.

In WW II, 19,733 Marines were killed as compared to the 12,936 in Vietnam, but the wounded total came to 67,207 for WW II compared to the higher total for Vietnam of 88,589. Included among the many explanations for this difference could be such factors as the different general characteristics of the two wars; medical evacuation techniques, the different levels of usage of land mines, booby traps, and trip wires, and a host of other explanatory factors. However, evidence does point strongly to the medical evacuation time difference as one of the most plausible explanations.

Many of the specific lessons derived from the Vietnam conflict for the Marine





AV-8s brought one of the newest techniques for close air support to the Marine Corps.



The F/A-18 Hornet gives the Marine Corps the latest in jet fighter technology.

Corps air-ground team and its combat systems have become doctrine, and have received steady updating since.

With the Vietnam war a matter of history, the Marine Corps turned to the future. General Robert E. Cushman, the twenty-fifth Commandant of the Marine Corps, said: "...we are pulling our heads out of the jungle and getting back into the amphibious business...we are redirecting our attention seaward and re-emphasizing our partnership with the Navy...." In 1972, when Gen. Cushman summarized the direction the Marine Corps would take, the disposition of major units was essentially back to where it was at the start of the war. Reevaluations of old methods and tests of new approaches were part of every maneuver and exercise that could be scheduled, from small unit evolutions to division/wing size and larger.

VII. Pressing on Toward the 1980s

In 1978, to further augment the wholesale test and evaluation effort, Marine Corps Base, Twentynine Palms, Calif., was redesignated as an air-ground combat center. This provided test and evaluation of control systems and methods for all firings of combined arms and direct air support. A major effort was made to schedule both ground and air units through the center as a priority item in their training cycles.

An important development of this period was the establishment of the Marine Air-Ground Task Force (MAGTF) organization structure. There are four major elements which are assigned: the command, ground combat, aviation combat and combat service support. The aviation combat element may range in size from a reinforced helicopter squadron to one or more aircraft wings.

A complementary concept to the MAGTF organizational structure is a prepositioning idea which places equipment and supplies, in ships, in a forward area for future link-up with

MAGTF personnel. It is called the maritime prepositioning ships (MPS) program, and is usually included in planning considerations at the MAB level only. For the marriage of the MAB personnel with the supplies and equipment, a benign area in the crisis region, with a suitable airfield, is a requirement. MPS units have no forcible entry capability whatsoever.

The malaise so prevalent and of such great concern on the campuses of the sixties was gone with the war. In its place, as far as the armed services of the country were concerned, was a refreshing response. A new pride in service in the armed forces had taken control in the early eighties.

From 1975 onward, Marine Aviation buckled down to a more encompassing realization than ever that the next performance improvements were going to be more costly in budget dollars than ever before imagined. One of the first of the "new looks" greeted some of the first Marine units to return from the war in the late spring of 1971. It was the AV-8A, the British-built Hawker-Siddeley *Harrier*, with its vertical take-off and landing capability. The second version, produced largely in the U.S. by McDonnell Douglas, the AV-8B, began to come into the inventory in the mid-eighties. With its advanced capabilities, it could open a whole new approach to operation of higher-powered tactical aircraft from not only small ships in the amphibious force, but also from relatively unprepared and dispersed sites ashore. The AV-8B has twice the range or payload of its predecessor.

One of the upgrade programs eagerly anticipated for the latter eighties is directed toward enhancement of the night attack capabilities of both the AV-8B and A-6E. The AV-8B will be the first to be configured. The A-6E will be upgraded to the A-6F, which will bring to this valuable all-weather attack aircraft increased capability, survivability and extended life.

In the mid-eighties, Marine Aviation began to receive its replacement for the

F-4 series fighter/attack aircraft. It is the reliable and effective F/A-18. This responsive, agile fighter and solid accurate attack weapons platform is currently planned for 12 squadrons. Two of these units will deploy to fleet aircraft carriers in continuance of the interoperability program of the Secretary of the Navy.

Also coming into the Marine Aviation inventory in the mid-eighties is the beginning of a two-year buy of 44 AH-1T attack helicopters. The receipt of this aircraft fills in some long-standing inventory blanks in this category.

In transport helos, the upgrade programs for the CH-46 and CH-53 have extended their capabilities and their inventory lives well into the next century. The CH-53E *Super Stallion*, now in the inventory, is the free world's most capable heavy-lift helicopter. Down the road is the MV-22A *Osprey* tilt-rotor aircraft which promises to exceed by a wide margin the best performance figures of any of the current helicopters. Its predicted speed and range are so improved that it is an advance of technology comparable to the introduction of the jet engine.

All of the planned programs, when added to the superior capability of the already developed upgrades and extended life programs, give Marine Aviation a sound basis indeed as the turn of the century draws closer. That it is sound in training, procedures, tactics and general employment is reflected in the fact that in the mid-eighties Marine Aviation does more, far better, than ever before. It does all this with a continuing, ever-improving safety record and day-in, day-out systems availability that represent the best it has ever achieved in its 75-year history.

Various stages of the programs briefly referred to above were realized by the early eighties when the MAU deployments to Lebanon and Grenada took place. For this depiction of Marine Aviation, it will suffice to say that, in those two operations, the aviation combat element of the MAU performed, with readiness, whatever the combat element of the MAGTF directed. Neither operation could be readily compared with the mount-out and support of the 1st Marine Brigade in the Pusan perimeter in 1950, nor to the birth of III MAF at Danang following the landing of the 9th MAB there in 1965.

The common factor in all of these post-WW II Marine Corps events and the most important one over the years is that, in each case, it was aviation Marines supporting ground Marines. This is the way the founding fathers of Marine Aviation wanted it to turn out. May it never change — in space, or wherever else the Corps is bound. ■

