



Pearl Harbor, December 7, 1941.

Ready to Mobilize – Part 2 of 2

Victory Winning Team

By Capt. Steven U. Ramsdell

By 10 a.m. on December 7, 1941, the battle line of the United States Fleet lay shattered under the towering clouds of black smoke rising above Pearl Harbor. With six battleships sunk or sinking and two others damaged, the big-gun power of the American Navy had been destroyed by the Japanese in two hours. Yet, the Pacific Fleet began offensive strikes against Japanese territory less than

two months later. Within six months the heart of Japan's carrier force was on the bottom of the Pacific Ocean, and within a year its Pacific offensive was permanently stopped in the Solomons. Naval Aviation was the critical constant in that remarkable history.

Although unprepared for war in every category when war broke out in Europe more than two years before Pearl Harbor, Naval Aviation had built

a respectable foundation for mobilization by 1939. Much of the equipment and many of the programs which made mobilization possible were in place, on the way or on the drawing board, but the full effects of mobilization were still far in the future in December 1941. However, a much more important development had occurred, the integration of Naval Aviation into the Navy and Marine

Corps. That development was the key to the Navy's offensive punch after established tactical concepts were rendered obsolete at Pearl Harbor; it provided the air-ground teamwork which made the Marines unbeatable across the Pacific, and it allowed the aviators to concentrate their energy on fighting the Japanese and Germans from the moment the war began.

While many details of the relationship between aviation and the rest of the Navy and Marine Corps remained to be worked out when the war began, the integration was permanent. Instructively, the United States Fleet was under the command of a Naval Aviator, the Pacific theater was commanded by a submariner, and the Pacific Fleet was alternately commanded by an aviator and a surface warfare officer. Marines in the field were directed with distinction by both aviators and ground officers.

The most important single event in the integration of aviation into the Navy was the establishment of the Bureau of Aeronautics (BuAer) in July 1921. In a single stroke, aviation acquired institutional parity with the rest of the Navy. At that time almost all of the real power and authority in the Navy, except for command of the fleet itself, was vested in semi-autonomous bureaus. Before BuAer was created, Naval Aviation was only loosely coordinated by the Director of Naval Aviation – under the Chief of Naval Operations – who had little power. After July 1921, the Navy's aviation program was centrally directed by an organization with real clout. Naval Aviation's steadily increasing share of the Navy's budget during the 1920s, a period of exceptional austerity, demonstrated the significance of the change.

BuAer played the vital role of steering the Navy through the tangle of the technical and nontechnical innovations required to successfully adapt airplanes for combat at sea and develop the know-how to use them. As one senior officer described the dilemma of aircraft carrier development in 1920, "You won't be able to get a plane until you get a ship, and we cannot design a ship without the plane." Most of the other problems associated with creating seaworthy aviation were no less thorny. But before BuAer was formed,

responsibility for the design and manufacture of airframes rested with the Bureau of Construction and Repair; engine design and procurement were handled by the Bureau of Engineering; the Bureau of Ordnance controlled aircraft weapons; and so on. That system proved to be satisfactory for ships, but it was unsuited to aircraft.

BuAer brought a sense of order to this confusion and made aviation work in the Navy. Remarkable achievements were made over the next two decades. Aircraft were developed for specialized missions, and the missions were more sharply defined. Radial air-cooled engines, self-sealing fuel tanks, protective armor, radios and navigational aids were introduced which made aircraft far more effective. The development and refinement of catapults and arresting gear made their operation from ships practical. And, despite the 1920 dilemma, aircraft carriers were developed and given the power which revolutionized naval warfare.

BuAer had more than material responsibilities. Under its charter, its chief could make recommendations to the Chief of the Bureau of Navigation regarding the selection, assignment, training, qualification and promotion of aviation personnel. The aggressive discharge of this prerogative by the bureau's first chief, William A. Moffett, made BuAer a dynamic force in the development of a professional aviation community within the Navy.

Perhaps most importantly for the integration of aviation into the Navy, BuAer's establishment was an expression of the importance the Navy placed on aviation. As such it was the alternative to a separate air corps – either within the Department of the Navy similar to the Marine Corps or in a separate Department of Aeronautics, a concept which gained widespread support after WW I. While the issue of a separate air corps did not die in 1921, the creation of this powerful institution forestalled such a movement from gaining momentum by placing aviation on an equal footing with older centers of power in the Navy and eliminating the one serious rationale for its existence: organizational neglect. Interest in a separate aviation corps among Naval Aviators was never a passion based

on theoretical and tactical grounds – the conviction that aircraft had to be commanded and operated independently to be effective – as it was in the Army.

Many factors contributed to the success of the Bureau of Aeronautics but none was as important as the careful direction it received from Rear Admiral William A. Moffett. As BuAer made aviation work, Moffett made BuAer work.

He was appointed the Director of Naval Aviation from command of the battleship *Mississippi* while the legislation creating BuAer was passing through Congress and became the new bureau's first chief. As a Medal of Honor winner he was widely respected when he arrived, and he quickly gained the trust and loyalty of the young aviators with whom he surrounded himself: men like John Towers, Kenneth Whiting, Henry Mustin and B. G. Leighton. Among the many reasons for his success was his ability to tap the enthusiasm, energy and expertise of these officers. They were given the freedom to pursue the details of the bureau's work while Moffett concerned himself with the broader issues of the bureau's administration and authority. His vigorous promotion of aviation interests provided a significant check to the separate corps agitation which was occasionally visible among his subordinates.

Moffett was a consummate operator in the bureaucratic and political campaigns required to win and advance the status of Naval Aviation. He was a master of persuasion and a skillful publicist. He cultivated influential friends in business and industry and successfully enlisted powerful allies within the Navy, Congress and the private sector to secure aviation's position within the Navy and to maintain his BuAer position.

Moffett's position was enhanced by the Budget and Accounting Act of 1921 which created the requirement for a Presidential budget, the Office of Management and Budget, and the budget committees within both houses of Congress. By making the budget process far more complex than it had been before, the act placed a premium on precisely the skills Moffett had in abundance. A gag rule imposed by

Naval Aviation in WW II



RAdm. W. A. Moffett (right) with Cdr. J. M. Reeves (far left) aboard Langley circa 1924-25.

President Harding required Executive Department officials testifying before Congress, including the representatives of the Navy, to support the President's budget, and had the effect of increasing the value of Moffett's political acumen. BuAer's successful competition for Navy appropriations during Moffett's tenure was attributable to his resourcefulness in high-stakes politics.

The qualities and skills which served Moffett and Naval Aviation so well within the Navy also served well in his defense against assaults on Naval Aviation from outside the Navy, most notably those led by Billy Mitchell.

Brigadier General Billy Mitchell, who commanded the Army's air forces in Europe during WW I, played several important, though unintended, roles in the integration of aviation into the Navy. Returning from Europe in 1919, he embarked on an increasingly sensational crusade for a unified and autonomous air force which would include Naval Aviation. This proved to be a catalyst in the process leading to BuAer's formation. A 1919 reorganization had actually reduced the power of the Director of Naval Aviation. But alarmed by the prospects of Mitchell's proposal and the

receptivity it received from some members of Congress, the Navy moved to strengthen the position of aviation within its organization. By 1921 the establishment of a new bureau for aviation had broad support within the service. Without Mitchell's crusade, the Navy was unlikely to have reversed its position so fast and so completely.

The friction between Mitchell and Naval Aviation reached a climax in September 1925 when he charged that the crash of the Navy's airship *Shenandoah* was caused by "incompetency, criminal negligence and almost treasonable administration of the national defense by the war and navy departments." That intemperance led to the end of his Army career, but more importantly for Naval Aviation and its integration into the Navy, it led President Coolidge to appoint a board headed by Dwight Morrow to examine military aviation in the United States.

The most influential of some fifteen separate official boards and committees which addressed the subject of military aviation between 1919 and 1935, the Morrow Board came down solidly on the side of Naval Aviation and the program Moffett was pursuing. It recommended against a separate air force and supported a five-year, thousand-plane program for the Navy. It concluded that Assistant Secretaries for Aeronautics should be added to both the War and Navy Departments. The board's prestige was such that these measures passed Congress in the next session and became law.

Another contribution of Mitchell to the integration of Naval Aviation involved his action to exclude nonaviators from its leadership. Through supporters in Congress, he succeeded in requiring the Chief of BuAer to be an aviator. Intended to disqualify Moffett, that requirement led instead to the creation of the Naval Aviation Observer program through which Moffett promptly got his wings. A less direct influence was the Morrow Board's recommendation to require the commanding officers of aviation ships – carriers and tenders – to be qualified aviators. After that proposal became law, senior officers like William Halsey and Ernest King chose to go through flight school to become

Naval Aviators. Thus, measures intended to ensure that aviators controlled Naval Aviation were implemented by the Navy to make certain that the leadership of Naval Aviation remained firmly in the hands of orthodox line officers. Mitchell succeeded only in driving the Navy's aviators and nonaviators closer together.

The integration of aviation into the Navy was also a beneficiary of the Washington Treaty of 1922 limiting naval armaments. First, it brought to a halt the massive capital shipbuilding program of 1916. This did not produce a windfall in funding for Naval Aviation, as Moffett hoped it might, but it did eliminate a major competitor for the Navy's limited dollars. Second, because the treaty allowed two battle cruisers then under construction to be completed as aircraft carriers, the Navy's first two fleet carriers – *Lexington* and *Saratoga* – were first-class, large-decked warships, and their size and performance helped resolve the debate regarding carrier size. The next carrier constructed, *Ranger*, conformed to the small carrier school of thought. But even before she was commissioned, the two ex-battle cruisers had conclusively demonstrated the advantages of larger ships and the aircraft carrier's true significance to the fleet.

In the years after Moffett's death, his successors continued the energetic leadership of BuAer, but the institutional position of Naval Aviation within the Navy was largely secure by the time of his death in 1933. The work of integrating aviation into the fleet, however, which had been under way since Naval Aviation's beginning, continued and gained momentum during the remaining years before the beginning of the war.

By the early 1920s, battleship sailors recognized that effective use of their long-range guns would likely depend on the information available from airborne spotters. Equally clear was the value of denying that same kind of intelligence to an opposing battle line. Gunfire spotting, therefore, provided one of the early rationales for aircraft carriers.

Flying boats and planes burdened with floats could not hope to out maneuver landplanes. If landplanes could be flown over the battle line, they could clear the sky of enemy spotters and ensure spotting for

friendly hits; and carriers appeared to be the only way to operate landplanes at sea.

The usefulness of aircraft scouting for enemy ships and submarines was one of the first reasons the Navy was attracted to aviation. The offensive potential of airplanes at sea was also recognized by many visionaries. Indeed, the bombing of the German battleship *Ostfriesland* and the other ships off the Virginia Capes in 1921, over which Mitchell made so much trouble, was intended by the Navy to learn about the effects of bombs on ships – not to determine if bombs could sink them. And Whiting, Mustin and others argued from the beginning that carriers had to be fast to take advantage of their offensive potential.

By 1924 dive-bombing had become a regular routine for the Navy, and by the mid-1930s, the near-vertical dive-bombing techniques which proved devastating during WW II had been perfected. The steep dive not only provided the accuracy required to hit moving ships but minimized the risk to the attacking plane as well. Marines used the same techniques to achieve the precision required for the close support of ground troops by aircraft. During this period, the tactics for airborne torpedo attacks were also worked out.

Aircraft had participated in the annual fleet exercises since before

WW I. These were the crucibles from which the doctrine integrating aviation into the fleet emerged. *Langley*, the Navy's first carrier, participated successfully in her initial Fleet Problem in 1925, but her operations were largely experimental in nature until she felt the hand of Rear Admiral Joseph M. Reeves. Fresh from the Naval War College and the influence of Moffett's ally, Admiral W. S. Sims, he was convinced that carriers were the answer to the Navy's deficiency in battleships, but they needed to carry more aircraft to deliver on that promise. By the summer of 1926, he had increased the number of planes on *Langley* from 8 to 42. He slashed the ship's takeoff and landing intervals, which shortly fell to 30 seconds, and set her focus squarely on tactical employment rather than material development. In short, Reeves made carrier aviation work in the fleet.

Saratoga and *Lexington* debuted in the Fleet Problem for 1929. Admiral W. V. Pratt, acting on a proposal by Reeves, sent *Saratoga* and a single escort on an electrifying sweep around the defenders to launch a successful attack against the Panama Canal. Over the years these exercises became increasingly inventive. Surprise attacks were launched against Pearl Harbor by *Langley* in 1928 and again in 1938 by *Saratoga*, which concealed her approach to the islands behind an advancing weather front.

Fleet Problem XX in February 1939 illustrates the degree to which air power had become an integral part of fleet operations before WW II began. The majority of Naval Aviation deployed to the Caribbean to participate, including the new carriers *Yorktown* and *Enterprise*. Of five CVs only *Saratoga*, undergoing an overhaul, was absent. Three of the five patrol wings, plus supporting tenders, were involved; and Aircraft One, the Marine Corp's east coast air group, deployed en masse to San Juan, P.R., and St. Thomas, V.I., to participate.

Much of the problem's activity involved or centered on aviation. The search for the enemy carriers and their earliest destruction were the highest priorities for both the defending and

Before the war, Navy pilots perfected the dive-bombing tactics used to devastating effect by SBDs at Coral Sea and Midway.

attacking fleets. The exceptional value of the intelligence provided by patrol aircraft was reinforced. Carriers, with their own escorts, routinely operated independently of the battle line. And the offensive punch of carrier dive-bombers was demonstrated again.

Yet, several important lessons remained to be learned. Multiple-carrier operations were rare. Each carrier-escort group operated alone. Carrier task groups and task forces, which later led the Central Pacific campaign, were innovations which did not appear until the middle of 1943. Almost all of the carrier flying was done during daylight; little effort had been made to develop effective night-carrier tactics. Fleet Problem XX, like those before it, also demonstrated the absence of an effective air defense doctrine. While bombing attacks against ships by patrol planes were often judged failures, the carrier-based dive-bombing attacks were rarely resisted with success. That capability awaited the development of radar and combat information centers during the war.

A fully effective doctrine for the incorporation of air power into operations came only under the pressure of combat. However, aviation had become a truly indispensable component of the fleet by 1939. Thanks to the masterful touch of William A. Moffett, Naval Aviation endured the turbulence in military aviation and the financially lean years after WW I to become an inseparable part of the Navy. The product of his labors was the organization which played an ever more aggressive role in the fleet's operations during the 1930s. Carriers and their airplanes did not replace battleships and their big guns in the Navy's view of war. But an integrated fleet had been forged which enabled the Navy and Marine Corps to respond to the shock of Pearl Harbor with offensive operations almost immediately and to throw the full weight of their energy into battle as a victory winning team. ■

50 Years Ago – WW II

December 20: A contract was issued to Consolidated for 200 PBV-1 type aircraft to support an increase in patrol plane squadrons growing out of Neutrality Patrol requirements. This was the largest single order for naval aircraft since the end of WW I.

