Vought F4U Corsair : A storyboard

The Vought F4U Corsair is an American fighter aircraft that saw service primarily in World War II and the Korean War. Demand for the aircraft soon overwhelmed Vought's manufacturing capability, resulting in production by Goodyear and Brewster.

Goodyear-built Corsairs were designated FG and Brewster-built aircraft F3A. From the first prototype delivery to the U.S. Navy in 1940, to final delivery in 1953 to the French, 12,571 F4U Corsairs were manufactured by Vought, in 16 separate models, in the longest production run of any piston-engined fighter in U.S. history (1942–53).

The Corsair was designed as a carrier-based aircraft but its difficult carrier landing performance rendered it unsuitable for Navy use until the carrier landing issues were overcome by the British Fleet Air Arm. The Corsair thus came to and retained prominence in its area of greatest deployment land based use by the U.S. Marines.

The role of the dominant U.S. carrier based fighter in the second part of the war was thus filled by the Grumman F6F Hellcat, powered by the same Double Wasp engine first flown on the Corsair's first prototype in 1940. The Corsair served to a lesser degree in the U.S. Navy. As well as the U.S. and British use the Corsair was also used by the Royal New Zealand Air Force, the French Navy Aéronavale and other, smaller, air forces until the 1960s.

 Some Japanese pilots regarded it as the most formidable American fighter of World War II, and the U.S. Navy counted an 11:1 kill ratio with the F4U Corsair.

After the carrier landing issues had been tackled, it quickly became the most capable carrier-based fighter-bomber of World War II. The Corsair served almost exclusively as a fighter-bomber throughout the Korean War and during the French colonial wars in Indochina and Algeria.

Development

In February 1938 the U.S. Navy Bureau of Aeronautics published two requests for proposal for twin-engined and single-engined fighters. For the single-engined fighter the Navy requested the maximum obtainable speed, and a stalling speed not higher than 70 miles per hour (110 km/h). A range of 1,000 miles (1,600 km) was specified. The fighter had to carry four guns, or three with increased ammunition. Provision had to be made for anti-aircraft bombs to be carried in the wing. These small bombs would, according to thinking in the 1930s, be dropped on enemy aircraft formations.

In June 1938, the U.S. Navy signed a contract with Vought for a prototype bearing the factory designation V-166B,[13] the XF4U-1, BuNo 1443. The Corsair design team was headed up by Rex Beisel. After mock-up inspection in February 1939, construction of the XF4U-1 powered by an XR-2800-4 prototype of the Pratt & Whitney Double Wasp twin-row, 18-cylinder radial engine, rated at 1,805 hp (1,346 kW) went ahead quickly, as the very first airframe ever designed from the start to have a Double Wasp engine fitted for flight. When the prototype was completed it had the biggest and most powerful engine, largest propeller and probably the largest wing on any naval fighter to date.] The first flight of the XF4U-1 was made on 29 May 1940, with Lyman A. Bullard, Jr. at the controls. The maiden flight proceeded normally until a hurried landing was made when the elevator trim tabs failed because of flutter.

On 1 October 1940, the XF4U-1 became the first single-engine U.S. fighter to fly faster than 400 mph (640 km/h) by setting an average ground speed of 405 miles per hour (652 km/h) during a northeastwards flight from Stratford to Hartford. The USAAC's twin-engine Lockheed P-38 Lightning had flown over 400 mph in January–February 1939. The XF4U-1 also had an excellent rate of climb but testing revealed that some requirements would have to be rewritten. In full-power dive tests, speeds of up to 550 miles per hour (890 km/h) were achieved but not without damage to the control surfaces and access panels and, in one case, an engine failure.The spin recovery standards also had to be relaxed as recovery from the required two-turn spin proved impossible without resorting to an anti-spin chute.The problems clearly meant delays in getting the design into production.

Reports coming back from the war in Europe indicated that an armament of two .30 in (7.62 mm) synchronized engine cowling-mount machine guns, and two .50 in (12.7 mm) machine guns (one in each outer wing panel) was insufficient. The U.S. Navy's November 1940 production proposals specified heavier armament. The increased armament consisted of three .50 caliber machine guns mounted in each wing panel. This improvement greatly increased the ability of the Corsair to effectively shoot down enemy aircraft.

Formal U.S. Navy acceptance trials for the XF4U-1 began in February 1941. The Navy entered into a letter of intent on 3 March 1941, received Vought's production proposal on 2 April and awarded Vought a contract for 584 F4U-1 fighters, which were given the name "Corsair" — inherited from the firm's late-1920s Vought O2U naval biplane scout which first bore the name — on 30 June of the same year. The first production F4U-1 performed its initial flight a year later, on 24 June 1942. It was a remarkable achievement for Vought; compared to land-based counterparts, carrier aircraft are "overbuilt" and heavier, to withstand the extreme stress of deck landings.

Design

Engine considerations

The F4U incorporated the largest engine available at the time: the 2,000 hp (1,500 kW) 18-cylinder Pratt & Whitney R-2800 Double Wasp radial. To extract as much power as possible, a relatively large Hamilton Standard Hydromatic three-blade propeller of 13 feet 4 inches (4.06 m) was used.

Landing gear and wings

To accommodate a folding wing the designers considered retracting the main landing gear rearward but, for the chord of wing that was chosen, it was difficult to make the landing gear struts long enough to provide ground clearance for the large propeller. Their solution was an inverted gull wing, which considerably shortened the required length of the main gear legs. The dihedral of the wing's center-section also permitted the wing and fuselage to meet at the optimum angle for minimizing drag, without using wing root fairings.

The bent wing was heavier and more difficult to construct, offsetting these benefits. The Corsair's aerodynamics were an advance over those of contemporary naval fighters. The F4U was the first U.S. Navy aircraft to feature landing gear that retracted into a fully enclosed wheel well. The landing gear oleo struts — each with their own strut door enclosing them when retracted — rotated through 90° during retraction, with the wheel atop the lower end of the strut when retracted; a pair of rectangular doors enclosed each wheel well, leaving a streamlined wing.

 This swiveling, aft-retracting landing gear design was common to the Curtiss P-40 (and its predecessor, the Curtiss P-36), as adopted for the F4U Corsair's main gear and its erstwhile Pacific War counterpart, the Grumman F6F Hellcat. The oil coolers were mounted in the heavily inhedraled center-section of the wings, alongside the supercharger air intakes, and used openings in the leading edges of the wings, rather than protruding scoops.

The large fuselage panels were made of aluminum and were attached to the frames with the newly developed technique of spot welding, thus mostly eliminating the use of rivets. While employing this new technology, the Corsair was also the last American-produced fighter aircraft to feature fabric as the skinning for the top and bottom of each outer wing, aft of the main spar and armament bays, and for the ailerons, elevators and rudder. The elevators were also constructed from plywood. The Corsair, even with its streamlining and high speed abilities, could fly slowly enough for carrier landings with full flap deployment of 60°.

Technical issues

In part because of its advances in technology and a top speed greater than existing Navy aircraft, numerous technical problems had to be solved before the Corsair would enter service. Carrier suitability was a major development issue, prompting changes to the main landing gear, tail wheel and tailhook.

Early F4U-1s had difficulty recovering from developed spins, since the inverted gull wing's shape interfered with elevator authority. It was also found that the Corsair's starboard wing could stall and drop rapidly and without warning during slow carrier landings. In addition, if the throttle were suddenly advanced (for example, during an aborted landing) the port wing could stall and drop so quickly that the fighter could flip over with the rapid increase in power. These potentially lethal characteristics were later solved through the addition of a small, 6 in (150 mm)-long stall strip to the leading edge of the outer starboard wing, just inboard of the gun ports. This allowed the starboard wing to stall at the same time as the port.

Other problems were encountered during early carrier trials. The combination of an aft cockpit and the Corsair's long nose made landings hazardous for newly trained pilots. During landing approaches it was found that oil from the hydraulic cowl flaps could spatter onto the windscreen, badly reducing visibility, and the undercarriage oleo struts had bad rebound characteristics on landing, allowing the aircraft to bounce out of control down the carrier deck. The first problem was solved by locking the top cowl flap down permanently, then replacing it with a fixed panel. The undercarriage bounce took more time to solve but eventually a "bleed valve" incorporated in the legs allowed the hydraulic pressure to be released gradually as the aircraft landed. The Corsair was not considered fit for carrier use until the wing stall problems and the deck bounce could be solved.

Meanwhile, the more docile and simpler-to-build F6F Hellcat had begun entering service in its intended carrier-based use. Compared to the Hellcat, the Navy regarded the Corsair as fundamentally flawed for their requirements. While slower than the Corsair, the Hellcat was much preferred by the Navy since the Hellcat was much simpler to land on a carrier. The Hellcat's great success combined with the Corsair's carrier landing issues meant the Navy released the Corsair to the U.S. Marine Corps. With no requirement for carrier landings, the Marine Corps deployed the Corsair to widespread and devastating effect from land bases.

Corsair deployment aboard U.S. carriers was delayed until late 1944, by which time the carrier landing problems had been tackled by the British.

Design modifications

Production F4U-1s featured several major modifications compared with the XF4U-1. A change of armament to six wing-mounted .50 in (12.7 mm) M2 Browning machine guns (three in each outer wing panel) and their ammunition (400 rounds for the inner pair, 375 rounds for the outer) meant that the location of the wing fuel tanks had to be changed. In order to keep the fuel tank close to the center of gravity, the only available position was in the forward fuselage, ahead of the cockpit. Accordingly, as a 237 gal (897 l) self-sealing fuel tank replaced the fuselage mounted armament, the cockpit had to be moved back by 32 in (810 mm) and the fuselage lengthened. In addition, 150 lb of armor plate was installed, along with a 1.5 in (38 mm) bullet-proof windscreen which was set internally, behind the curved Plexiglas windscreen.

 The canopy could be jettisoned in an emergency, and half-elliptical planform transparent panels, much like those of certain models of the Curtiss P-40, were inset into the sides of the fuselage's turtle deck structure behind the pilot's headrest, providing the pilot with a limited rear view over his shoulders. A rectangular Plexiglas panel was inset into the lower center section to allow the pilot to see directly beneath the aircraft and assist with deck landings. The engine used was the more powerful R-2800-8 (B series) Double Wasp which produced 2,000 hp (1,491 kW). On the wings the flaps were changed to a NACA slotted type and the ailerons were increased in span to increase the roll rate, with a consequent reduction in flap span. IFF transponder equipment was fitted in the rear fuselage. These changes increased the Corsair's weight by several hundred pounds.

Performance

The performance of the Corsair was impressive. The F4U-1 was considerably faster than the Grumman F6F Hellcat and only 13 mph (21 km/h) slower than the Republic P-47 Thunderbolt, all three were powered by the R-2800. But while the P-47 achieved its highest speed at 30,020 feet (9,150 m) with the help of an intercooled turbocharger,[37] the F4U-1 reached its maximum speed at 19,900 ft (6,100 m), and used a mechanically supercharged engine.

Operational history

World War II

U.S. Service

Carrier landing issues and release to the U.S. Marine Corps

The U.S. Navy received its first production F4U-1 on 31 July 1942, but getting it into service proved difficult. The framed "birdcage" style canopy provided inadequate visibility for deck taxiing. Even more seriously, the machine had a nasty tendency to "bounce" on touchdown, which could cause it to miss the arresting hook and slam into the crash barrier, or even go out of control. The long "hose nose" visibility problem and the enormous torque of the Double Wasp engine also created operational problems.

Carrier qualification trials on the escort carrier USS Sangamon, on 25 September 1942, caused the U.S. Navy to release the type to the United States Marine Corps.[40] Early Navy pilots spoke disparagingly of the F4U as the "hog", "hosenose" or "bent-wing widow maker". After all, the U.S. Navy still had the Grumman F6F Hellcat, which did not have the performance of the F4U but was a far better deck landing aircraft. The Marines needed a better fighter than the F4F Wildcat. For them, it was not as important that the F4U could be recovered aboard a carrier, as they usually flew from land bases. Growing pains aside, Marine Corps squadrons readily took to the radical new fighter. The type was declared "ready for combat" at the end of 1942, though only qualified to operate from land bases until carrier qualification issues were worked out.

Marine Corps combat

From February 1943 onward, the F4U operated from Guadalcanal and ultimately other bases in the Solomon Islands. A dozen USMC F4U-1s of VMF-124, commanded by Major William E. Gise, arrived at Henderson Field (code name "Cactus") on 12 February. The first recorded combat engagement was on 14 February 1943, when Corsairs of VMF-124 under Major Gise assisted P-40s and P-38s in escorting a formation of Consolidated B-24 Liberators on a raid against a Japanese aerodrome at Kahili.

Japanese fighters contested the raid and the Americans got the worst of it, with four P-38s, two P-40s, two Corsairs and two Liberators lost. No more than four Japanese Zeros were destroyed. A Corsair was responsible for one of the kills, although this was due to a midair collision. The fiasco was referred to as the "Saint Valentine's Day Massacre". Although the Corsair's combat debut was not impressive, the Marines quickly learned how to make better use of the aircraft and started demonstrating its superiority over Japanese fighters. By May, the Corsair units were getting the upper hand, and VMF-124 had produced the first Corsair ace, Second Lieutenant Kenneth A. Walsh, who would rack up a total of 21 kills during the war.

I learned quickly that altitude was paramount. Whoever had altitude dictated the terms of the battle, and there was nothing a Zero pilot could do to change that — we had him. The F4U could outperform a Zero in every aspect except slow speed maneuverability and slow speed rate of climb. Therefore you avoided getting slow when combating a Zero. It took time but eventually we developed tactics and deployed them very effectively... There were times, however, that I tangled with a Zero at slow speed, one on one. In these instances I considered myself fortunate to survive a battle. Of my 21 victories, 17 were against Zeros, and I lost five aircraft in combat. I was shot down three times and I crashed one that ploughed into the line back at base and wiped out another F4U.

VMF-113 was activated on 1 January 1943 at Marine Corps Air Station El Toro as part of Marine Base Defense Air Group 41. They were soon given their full complement of 24 F4U Corsairs. On 26 March 1944, while escorting four B-25 bombers on a raid over Ponape, they recorded their first enemy kills, downing eight Japanese aircraft. In April of that year, VMF-113 was tasked with providing air support for the landings at Ujelang. Since the assault was unopposed, the squadron quickly returned to striking Japanese targets in the Marshall Islands for the remainder of 1944.

Corsairs were flown by the "Black Sheep" Squadron (VMF-214, led by Marine Major Gregory "Pappy" Boyington) in an area of the Solomon Islands called "The Slot".

Boyington was credited with 22 kills in F4Us (of 28 total, including six in an AVG P-40, although his score with the AVG has been disputed).[47] Other noted Corsair pilots of the period included VMF-124's Kenneth Walsh, James E. Swett, and Archie Donohue, VMF-215's Robert M. Hanson and Don Aldrich, and VF-17's Tommy Blackburn, Roger Hedrick, and Ira Kepford. Nightfighter versions equipped Navy and Marine units afloat and ashore.

One particularly unusual kill was scored by Marine Lieutenant R. R. Klingman of VMF-312 (the "Checkerboards"), over Okinawa.

Klingman was in pursuit of a Kawasaki Ki-45 Toryu ("Nick") twin-engine fighter at extremely high altitude when his guns jammed due to the gun lubrication thickening from the extreme cold. He flew up and chopped off the Ki-45's tail with the big propeller of the Corsair. Despite missing five inches (127 mm) off the end of his propeller blades, he managed to land safely after this aerial ramming attack. He was awarded the Navy Cross.

At war's end, Corsairs were ashore on Okinawa, combating the kamikaze, and also were flying from fleet and escort carriers. VMF-312, VMF-323, VMF-224, and a handful of others met with success in the Battle of Okinawa.[49]

Fighter-bomber

Corsairs also served well as fighter-bombers in the Central Pacific and the Philippines.

 By early 1944, Marine pilots were beginning to exploit the type's considerable capabilities in the close-support role during amphibious landings. Charles Lindbergh flew Corsairs with the Marines as a civilian technical advisor for United Aircraft Corporation in order to determine how best to increase the Corsair's payload and range in the attack role and to help evaluate future viability of single- versus twin-engine fighter design for Vought. Lindbergh managed to get the F4U into the air with 4,000 pounds (1,800 kg) of bombs, with a 2,000 pounds (910 kg) bomb on the centerline and a 1,000 pounds (450 kg) bomb under each wing. In the course of such experiments, he performed strikes on Japanese positions during the battle for the Marshall Islands.

By the beginning of 1945, the Corsair was a full-blown "mudfighter", performing strikes with high-explosive bombs, napalm tanks, and HVARs. It proved surprisingly versatile, able to operate everything from Bat glide bombs to 11.75 in (300 mm) Tiny Tim rockets. The aircraft was a prominent participant in the fighting for the Palaus, Iwo Jima and Okinawa.

Navy service

Despite the decision to issue the F4U to Marine Corps units, two Navy units, VF-12 (October 1942) and later VF-17 (April 1943) were equipped with the F4U. By April 1943, VF-12 had successfully completed deck landing qualification.VF-12 soon abandoned its aircraft to the Marines. VF-17 kept its Corsairs, but was removed from its carrier, USS Bunker Hill, due to perceived difficulties in supplying parts at sea.

 In November 1943, while operating as a shore-based unit in the Solomon Islands, VF-17 reinstalled the tail hooks so its F4Us could land and refuel while providing top cover over the task force participating in the carrier raid on Rabaul. The squadron's pilots landed, refueled, and took off from their former home, Bunker Hill and the USS Essex on 11 November 1943.

Twelve USMC F4U-1s arrived at Henderson Field (Guadalcanal) on 12 February 1943. The U.S. Navy did not get into combat with the type until September 1943. The work done by the Royal Navy's FAA meant those models qualified the type for U.S. carrier operations first. The U.S. Navy finally accepted the F4U for shipboard operations in April 1944, after the longer oleo strut was fitted, which eliminated the tendency to bounce.The first US Corsair unit to be based effectively on a carrier was the pioneer USMC squadron VMF-124, which joined Essex. They were accompanied by VMF-213. The increasing need for fighter protection against kamikaze attacks resulted in more Corsair units being moved to carriers.

Sortie, kill and loss figures

U.S. figures compiled at the end of the war indicate that the F4U and FG flew 64,051 operational sorties for the U.S. Marines and U.S. Navy through the conflict (44% of total fighter sorties), with only 9,581 sorties (15%) flown from carrier decks.[58] F4U and FG pilots claimed 2,140 air combat victories against 189 losses to enemy aircraft, for an overall kill ratio of over 11:1.

 The aircraft performed well against the best Japanese opponents with a claimed 12:1 kill ratio against Mitsubishi A6M and 6:1 against the Nakajima Ki-84, Kawanishi N1K-J and Mitsubishi J2M combined during the last year of the war.[60] The Corsair bore the brunt of U.S. fighter-bomber missions, delivering 15,621 tons (14,171 tons) of bombs during the war (70% of total bombs dropped by U.S. fighters during the war).

Corsair losses in World War II were as follows:

* By aerial combat: 189
* By enemy ground and ship-board anti-aircraft fire: 349
* Operational losses during combat missions: 230
* Operational losses during non-combat flights: 692
* Destroyed aboard ships or on the ground: 164

Royal Navy

Enhancement for carrier suitability

In the early days of the World War II, Royal Navy fighter requirements had been based on cumbersome two-seat designs, such as the Blackburn Skua (and its turreted derivative the Blackburn Roc) and the Fairey Fulmar, since it was expected that they would encounter only long-range bombers or flying boats and that navigation over featureless seas required the assistance of a radio operator/navigator. The Royal Navy hurriedly adopted higher-performance single-seater aircraft such as the Hawker Sea Hurricane and the less robust Supermarine Seafire, but neither of these aircraft had sufficient range to operate at a distance from a carrier task force. The Corsair was welcomed as a much more robust and versatile alternative.

In November 1943, the Royal Navy received the first batch of 95 Vought F4U-1s, which were given the designation of "Corsair I". The first squadrons were assembled and trained on the U.S. East coast and then shipped across the Atlantic. The Royal Navy put the Corsair into carrier operations immediately. They found its landing characteristics dangerous, suffering a number of fatal crashes, but considered it as the best option they had.

In Royal Navy service, because of the limited hangar deck height in several classes of British carrier, many Corsairs had their outer wings "clipped" by 8 in (200 mm) to clear the deckhead. The change in span brought about the added benefit of improving the sink rate, reducing the F4U's propensity to "float" in the final stages of landing.Despite the clipped wings and the shorter decks of British carriers, Royal Navy aviators found landing accidents less of a problem than they had been to U.S. Navy aviators, thanks to the curved approach they used: British units solved the landing visibility problem by approaching the carrier in a medium left-hand turn, which allowed the pilot to keep the carrier's deck in view over the dip in the port wing. This technique was later adopted by U.S. Navy and Marine fliers for carrier use of the Corsair.

The Royal Navy developed a number of modifications to the Corsair that made carrier landings more practical. Among these are a bulged canopy (similar to the Malcolm Hood), raising the pilot's seat 7 in (180 mm) and wiring shut the cowl flaps across the top of the engine compartment, diverting the oil and hydraulic fluid around the sides of the fuselage".

Deployment

The Royal Navy received 95 Corsair Mk Is and 510 Mk IIs, these being equivalent to the F4U-1 and -1A. Brewster-built aircraft were known as Mk IIIs (equivalent to F3A-1D), and Goodyear-built aircraft were known as Mk IVs (equivalent to FG-1D). The Mk IIs and Mk IVs were the only versions to be used in combat.

The Royal Navy cleared the F4U for carrier operations well before the U.S. Navy and showed that the Corsair Mk II could be operated with reasonable success even from escort carriers. It was not without problems; one was excessive wear of the arrester wires, due both to the weight of the Corsair and the understandable tendency of the pilots to stay well above the stalling speed. A total of 2,012 Corsairs were supplied to the United Kingdom.

Fleet Air Arm (FAA) units were created and equipped in the United States, at Quonset Point or Brunswick and then shipped to war theaters aboard escort carriers. The first FAA Corsair unit was 1830 NAS, created on the first of June 1943, and soon operating from HMS Illustrious. At the end of the war, 18 FAA squadrons were operating the Corsair. British Corsairs served both in Europe and in the Pacific. The first, and also most important, European operations were the series of attacks (Operation Tungsten) in April, July and August 1944 on the German battleship Tirpitz, for which Corsairs from HMS Victorious and HMS Formidable provided fighter cover.[66] It appears the Corsairs did not encounter aerial opposition on these raids.

From April 1944, Corsairs from the British Pacific Fleet took part in a several major air raids in South East Asia beginning with Operation Cockpit, an attack on Japanese targets at Sabang island, in the Dutch East Indies.

In July and August 1945, Corsair naval squadrons 1834, 1836, 1841 and 1842 took part in a series of strikes on the Japanese mainland, near Tokyo. These squadrons operated from Victorious and Formidable.

 On 9 August 1945, days before the end of the war, Corsairs from Formidable attacked Shiogama harbor on the northeast coast of Japan. Royal Canadian Navy Volunteer Reserve pilot, Lieutenant Robert Hampton Gray, of 1841 Squadron was hit by flak but pressed home his attack on a Japanese destroyer, sinking it with a 1,000 lb (450 kg) bomb but crashing into the sea. He was posthumously awarded Canada's last Victoria Cross, becoming the second fighter pilot of the war to earn a Victoria Cross as well as the final Canadian casualty of World War II.

FAA Corsairs originally fought in a camouflage scheme with a Dark Slate Grey/Extra Dark Sea Grey disruptive pattern on top and Sky undersides, but were later painted overall dark blue. Those operating in the Pacific theater acquired a specialized British insignia — a modified blue-white roundel with white "bars" to make it look more like a U.S. than a Japanese Hinomaru insignia to prevent friendly fire incidents.

In all, out of 18 carrier-based squadrons, eight saw combat, flying intensive ground attack/interdiction operations and claiming 47.5 aircraft shot down.

At the end of World War II, under the terms of the Lend-Lease agreement, the aircraft had either to be paid for or to be returned to the U.S. As the UK did not have the means to pay for them, the Royal Navy Corsairs were pushed overboard into the sea in Moreton Bay off Brisbane, Australia.

Royal New Zealand Air Force

Equipped with obsolete Curtiss P-40s, Royal New Zealand Air Force (RNZAF) squadrons in the South Pacific performed impressively compared to the American units they operated alongside, in particular in the air-to-air role. The American government accordingly decided to give New Zealand early access to the Corsair, especially as it was not initially being used from carriers. Some 424 Corsairs equipped 13 RNZAF squadrons, including No. 14 Squadron RNZAF and No. 15 Squadron RNZAF, replacing SBD Dauntless as well as P-40s.Most of the F4U-1s[N 4] were assembled by Unit 60 with a further batch were assembled and flown at RNZAF Hobsonville. In total there were 237 F4U-1s and 127 F4U-1Ds used by the RNZAF during the Second World War. 60 FG-1Ds which arrived post war were given serial numbers prefixed NZ5600 to NZ5660.[72]

The first deliveries of lend-lease Corsairs began in March 1944 with the arrival of 30 F4U-1s at the RNZAF Base Depot Workshops (Unit 60) at Espiritu Santo in the New Hebrides. From April, these workshops became responsible for assembling all Corsairs for the RNZAF units operating the aircraft in the South West Pacific and a Test and Despatch flight was set up to test the aircraft after assembly.

By June 1944, 100 Corsairs had been assembled and test flown. The first squadrons to use the Corsair were 20 and 21 Squadrons on Espiritu Santo island, operational in May 1944. The organization of the RNZAF in the Pacific and New Zealand meant that only the pilots and a small staff belonged to the Squadron (the maximum strength on a squadron was 27 pilots): Squadrons were assigned to several Servicing Units (SUs five-six officers, 57 NCOs, 212 airmen) which carried out aircraft maintenance and operated from fixed locations:[73] hence F4U-1 NZ5313 was first used by 20 Squadron/1 SU on Guadalcanal in May 1944.

20 Squadron was then relocated to 2 SU on Bougainville in November. In all there were 10 front line SUs plus another three based in New Zealand. Because each of the SUs painted its aircraft with distinctive markings and the aircraft themselves could be repainted in several different colour schemes the RNZAF Corsairs were far less uniform in appearance compared with their American and FAA contemporaries. By late 1944, the F4U had equipped all 10 Pacific-based fighter squadrons of the RNZAF.

By the time the Corsairs arrived, there were virtually no Japanese aircraft left in New Zealand's allocated sectors of the Southern Pacific, and despite the RNZAF Squadrons extending their operations to more northern islands, they were primarily used for close support of American, Australian and New Zealand soldiers fighting the Japanese.

New Zealand pilots were aware of the Corsair's poor forward view and tendency to ground loop, but found these drawbacks could be solved by pilot training in curved approaches before use from rough forward airbases. At the end of 1945, all Corsair squadrons but one (No. 14) were disbanded. That last squadron was based in Japan, until the Corsair was retired from service in 1947.

No. 14 Squadron was given new FG-1Ds and, in March 1946 transferred to Iwakuni, Japan as part of the British Commonwealth Occupation Force. Only one airworthy example of the 424 aircraft procured survives: NZ5648/ZK-COR, owned by the Old Stick and Rudder Company at Masterton, NZ. One other mostly complete aircraft and the remains of two others were known to be held by a private collector at Ardmore, NZ, in 1996. Their current whereabouts are unknown.

Luftwaffe and Japanese Corsairs

On 18 July 1944, a British Corsair F4U-1A, JT404 of 1841 Naval Air Squadron, was involved in anti-submarine patrol from HMS Formidable en route to Scapa after Operation Mascot (an attack on the German battleship Tirpitz). It flew in company with a Fairey Barracuda. Due to technical problems the Corsair made an emergency landing in a field on Hamarøy north of Bodø, Norway.

The pilot, Lt Mattholie, was taken prisoner and the aircraft captured undamaged. Luftwaffe interrogators failed to get the pilot to explain how to fold the wings so as to transport the aircraft to Narvik. The Corsair was ferried by boat for further investigation. Later the Corsair was taken to Germany and listed as one of the captured enemy aircraft (Beuteflugzeug) based at Erprobungsstelle Rechlin, the central German military aviation test facility and the equivalent of the Royal Aircraft Establishment, for 1944 under repair. This was probably the only Corsair captured by the Germans.

In 1945, U.S. forces captured an F4U Corsair near the Kasumigaura flight school. The Japanese had repaired it, covering damaged parts on the wing with fabric and using spare parts from crashed F4Us. It seems Japan captured two force-landed Corsairs fairly late in the war and may have even tested one in flight.

Korean War

A United States Navy F4U-5NL Corsair equipped with the air intercept radar (right wing) and a 154 gallon drop tank in the Geneseo Airshow, in July 9, 2006.

During the Korean War, the Corsair was used mostly in the close-support role. The AU-1 Corsair was developed from the F4U-5 and was a ground-attack version which normally operated at low altitudes: as a consequence the Pratt & Whitney R-2800-83W engine used a single-stage, manually controlled supercharger, rather than the two-stage automatic supercharger of the -5.

The versions of the Corsair used in Korea from 1950 to 1953 were the AU-1, F4U-4B, -4C, -4P and -5N and 5-NL. There were dogfights between F4Us and Soviet-built Yakovlev Yak-9 fighters early in the war, but when the enemy introduced the Mikoyan-Gurevich MiG-15, the Corsair was outmatched, on 10 September 1952, a MiG-15 made the mistake of getting into a turning contest with a Corsair piloted by Marine pilot Captain Jesse G. Folmar, with Folmar shooting the MiG down with his four 20 mm cannon. In turn, four MiG-15s shot down Folmar minutes later; Folmar bailed out and was quickly rescued with little injury.

F4U-5N and -5NL Corsair night fighters were used to attack enemy supply lines, including truck convoys and trains, as well as interdicting night attack aircraft (such as the Polikarpov Po-2 "Bedcheck Charlies", which were used to harass United Nations forces at night).

The F4Us often operated with the help of C-47 'flare ships' which dropped hundreds of 1,000,000 candlepower magnesium flares to illuminate the targets. For many operations detachments of U.S. Navy F4U-5Ns were posted to shore bases. The leader of one such unit, Lieutenant Guy Bordelon of VC-3 Det D (Detachment D), off USS Princeton (CV-37), become the Navy's only ace in the war, in addition to being the only American ace in Korea that used a piston engined aircraft.[85] Bordelon, nicknamed "Lucky Pierre", was credited with three Lavochkin La-9s or La-11s and two Yakovlev Yak-18s between 29 June and 16/17 July 1952. Navy and Marine Corsairs were credited with a total of 12 enemy aircraft.

More generally, Corsairs performed attacks with cannons, napalm tanks, various iron bombs and unguided rockets. The 5 inch HVAR was a reliable standby; sturdy Soviet-built armor proved resistant to the HVAR's punch, which led to a new 6.5 in (16.5 cm) shaped charge antitank warhead being developed. The result was called the "Anti-Tank Aircraft Rocket (ATAR)." The 11 inch (29.85 cm) "Tiny Tim" was also used in combat, with two under the belly.

Lieutenant Thomas J. Hudner, Jr., flying an F4U-4 of VF-32 off the USS Leyte, was awarded the Medal of Honor for crash landing his Corsair in an attempt to rescue his squadron mate, Ensign Jesse L. Brown, whose aircraft had been forced down by antiaircraft fire near Changjin. Brown, who did not survive the incident, was the U.S. Navy's first African American naval aviator.

Aéronavale

After the war, the French Navy had an urgent requirement for a powerful carrier-born close-air support aircraft to operate from the French Navy's four aircraft carriers that it acquired in the late 1940s (Two former U.S. Navy and two Royal Navy carriers were transferred).

Secondhand US Navy Douglas SBD Dauntless dive-bombers of Flotille 3F and 4F were used to attack enemy targets and support ground forces in the north of Indo-China. Former US Grumman F6F-5 Hellcats and Curtiss SB2C Helldivers replaced the Dauntless in attacking roads, bridges and providing close air support. A new and more capable aircraft was needed.

First Indochina War

The last production Corsair was the "F4U-7", which was built specifically for the French naval air arm, the Aéronavale. The XF4U-7 prototype did its test flight on 2 July 1952 with a total of 94 F4U-7s built for the French Navy's Aéronavale (79 in 1952, 15 in 1953), with the last of the batch, the final Corsair built, rolled out on 31 January 1953.[1] The F4U-7s were actually purchased by the U.S. Navy and passed on to the Aéronavale through the U.S. Military Assistance Program (MAP). The French Navy used its F4U-7s during the second half of the First Indochina War in the 1950s (12.F, 14.F, 15.F Flotillas), where they were supplemented by at least 25 ex-USMC AU-1s passed on to the French in 1954, after the end of the Korean War.

On 15 January 1953, Flotille 14F, based at Karouba Air Base near Bizerte in Tunisia, became the first Aéronavale unit to receive the F4U-7 Corsair. Flotille 14F pilots arrived at Da Nang on 17 April 1954, but without their aircraft. The next day, the carrier USS Saipan delivered 25 war-weary ground attack Ex-USMC AU-1 Corsairs (flown by VMA-212 at the end of the Korean War). During three months operating over Dien Bien Phu and Viêt-Nam, the Corsairs flew 959 combat sorties totaling 1,335 flight hours. They dropped some 700 tons of bombs and fired more than 300 rockets and 70.000 20mm rounds. Six aircraft were damaged and two shot down by Viet Minh.

In September 1954, F4U-7 Corsairs were loaded aboard the Dixmude and brought back to France in November. The surviving Ex-USMC AU-1s were taken to the Philippines and returned to the U.S. Navy. In 1956, Flotille 15F returned to South Vietnam, equipped with F4U-7 Corsairs.[92]

Suez Crisis

The 14.F and 15.F Flotillas also took part in the Anglo-French-Israeli seizure of the Suez Canal in October 1956, code-named Operation Musketeer. The Corsairs were painted with yellow and black recognition stripes for this operation. They were tasked with destroying Egyptian Navy ships at Alexandria but the presence of U.S. Navy ships prevented the successful completion of the mission. On 3 November, 16 F4U-7s attacked airfields in the Delta, with one corsair shot down by anti-aircraft fire. Two more Corsairs were damaged when landing back on the carriers. The Corsairs engaged in Operation Musketeer dropped a total of 25 tons of bombs, fired more than 500 rockets and 16,000 20mm rounds.

Algerian War

As soon as they disembarked from the carriers that took part in Operation Musketeer, at the end of 1956, all three Corsair Flotillas, moved to Telergma and Oran airfields in Algeria from where they provided CAS and helicopter escort. They were joined by the new "Flottille 17F", established at Hyères in April 1958.

French F4U-7 Corsairs (with some loaned AU-1s) of the 12F, 14F, 15F and 17F Flotillas conducted missions during the Algerian War between 1955 and 1962. Between February and March 1958, several strikes and CAS missions were launched from the Bois-Belleau, the only carrier involved in the Algeria War.

Tunisia

France recognized Tunisian independence and sovereignty in 1956 but continued to station military forces at Bizerte and planned to extend the airbase. In 1961, Tunisia asked France to evacuate the base. Tunisia imposed a blockade on the base on 17 July, hoping to force its evacuation. This resulted in a battle between militiamen and the French military which lasted three days.

French paratroopers, escorted by Corsairs of the 12F and 17F Flotillas, were dropped to reinforce the base and the Aéronavale launched air strikes on Tunisian troops and vehicles between 19–21 July, carrying out more than 150 sorties. Three Corsairs were damaged by ground fire.

French experiments

In early 1959, the Aéronavale experimented with the Vietnam War-era SS.11 wire-guided anti-tank missile on F4U-7 Corsairs. The 12.F pilots trained for this experimental program were required to "fly" the missile at approximatively two kilometers from the target on low altitude with a joystick using the right hand while keeping track of a flare on its tail, and piloting the aircraft using the left hand;[93] an exercise that could be very tricky in a single-seat aircraft under combat conditions. Despite reportedly effective results during the tests, this armament was not used with Corsairs during the ongoing Algerian War.

The Aéronavale used 163 Corsairs (94 F4U-7s and 69 AU-1s), the last of them used by the Cuers-based 14.F Flotilla were out of service by September 1964,[1] with some surviving for museum display or as civilian warbirds. By the early 1960s, two new modern aircraft carriers, the Clemenceau and the Foch, had entered service with the French Navy and with them a new generation of jet-powered combat aircraft.

"Football War"

Corsairs flew their final combat missions in 1969 during the so-called "Football War" between Honduras and El Salvador, in service with both air forces.

The conflict was famously triggered, though not really caused, by a disagreement over a football (soccer) match. Cap. Fernando Soto of the Honduran Air Force shot down three Salvadoran Air Force aircraft on 17 July 1969. In the morning he shot down a Cavalier Mustang, killing the pilot. In the afternoon, he shot down two FG-1s; the pilot of the second aircraft may have bailed out, but the third exploded in the air, killing the pilot.

These combats were the last ones among propeller-driven aircraft in the world and also making Cap. Soto the only one credited with three kills in an American continental war. El Salvador did not shoot down any Honduran aircraft. At the outset of the Football War, El Salvador enlisted the assistance of several American pilots with P-51 and F4U experience. Bob Love, a Korean war ace, Chuck Lyford, Ben Hall and Lynn Garrison are believed to have flown combat missions, but it has never been confirmed. Lynn Garrison had purchased F4U-7 133693 from the French MAAG office when he retired from French naval service in 1964. It was registered N693M and was later destroyed in a 1987 crash in San Diego, California.

Legacy

The Corsair entered service in 1942. Although designed as a carrier fighter, initial operation from carrier decks proved to be troublesome. Its low-speed handling was tricky due to the port wing stalling before the starboard wing. This factor, together with poor visibility over the long nose (leading to one of its nicknames, "The Hose Nose"), made landing a Corsair on a carrier a difficult task. For these reasons, most Corsairs initially went to Marine Corps squadrons who operated off land-based runways, with some early Goodyear-built examples (designated FG-1A) being built with fixed wings.[40] The USMC aviators welcomed the Corsair with open arms as its performance was far superior to the contemporary Brewster Buffalo and Grumman F4F-3 and -4 Wildcat.

Moreover, the Corsair was able to outperform the primary Japanese fighter, the A6M Zero. While the Zero could outturn the F4U at low speed, the Corsair was faster and could outclimb and outdive the A6M.

This performance advantage, combined with the ability to take severe punishment, meant a pilot could place an enemy aircraft in the killing zone of the F4U's six .50 (12.7 mm) M2 Browning machine guns and keep him there long enough to inflict major damage. The 2,300 rounds carried by the Corsair gave just under 30 seconds of fire from each gun, which, fired in three to six-second bursts, made the F4U a devastating weapon against aircraft, ground targets, and even ships.

Beginning in 1943, the Fleet Air Arm (FAA) also received Corsairs and flew them successfully from Royal Navy carriers in combat with the British Pacific Fleet and in Norway.[98] These were clipped-wing Corsairs, the wingtips shortened 8 in (20 cm) to clear the lower overhead height of RN carriers. FAA also developed a curving landing approach to overcome the F4U's deficiencies.

Infantrymen nicknamed the Corsair "The Sweetheart of the Marianas" and "The Angel of Okinawa" for its roles in these campaigns. Among Navy and Marine aviators, the aircraft was nicknamed "Ensign Eliminator" and "Bent-Wing Eliminator" because it required many more hours of flight training to master than other Navy carrier-borne aircraft. It was also called simply "U-bird" or "Bent Wing Bird".

Although Allied World War II sources frequently make the claim that the Japanese called the Corsair the "Whistling Death", one

Variants

During World War II, Corsair production expanded beyond Vought to include Brewster and Goodyear models. Allied forces flying the aircraft in World War II included FAA and RNZAF. Eventually, more than 12,500 F4Us would be built, comprising 16 separate variants.

F4U-1 (Corsair Mk I Fleet Air Arm): The first production version of the Corsair with the distinctive "bird cage" canopy and low seating position. The differences over the XF4U-1 were as follows:

* Six .50 in (12.7 mm) Browning AN/M2 machine guns were fitted in the outer wing panels, displacing fuel tanks.
* An enlarged 237 gal (897 l) fuel tank was fitted ahead of the cockpit, in place of the fuselage armament. The cockpit was moved back by 32 in (810 mm).
* The fuselage was lengthened by 1 ft 5 in (0.43 m).
* The more powerful R-2800-8 Double Wasp was fitted.
* 150 pounds (68 kg) of armor plate was fitted to the cockpit and a 1.5 in (38 mm) bullet-resistant glass screen was fitted behind the curved windscreen.
* FF transponder equipment was fitted.
* Curved transparent panels were incorporated into the fuselage behind the pilot's headrest.
* The flaps were changed from deflector type to NACA slotted.
* The span of the ailerons was increased while that of the flaps was decreased.
* One 62 gal (234 l) auxiliary fuel cell (not a self-sealing type) was installed in each wing leading edge, just outboard of the guns.

A land-based version for the USMC, without the folding wing capability, was built by Goodyear under the designation FG-1. In Fleet Air Arm service the F4U-1 was given the service name Corsair Mk I. Vought also built a single F4U-1 two-seat trainer, the Navy showed no interest.

F4U-1A (Corsair Mk II): The designation F4U-1A does not appear in lists of Corsair Bureau Numbers and was not officially used, being applied post-war to differentiate mid-to-late production F4U-1s from the early production variant.[33][104] Mid-to-late production Corsairs incorporated a new, taller and wider clear-view canopy with only two frames, along with a simplified clear view windscreen; the new canopy design meant that the Plexiglas rear-view windows could be omitted. The pilot's seat was raised 7 in (180 mm) which, combined with the new canopy and a lengthened tailwheel strut, allowed the pilot better visibility over the long nose.

In addition to these changes the clear view panels under the cockpit were also omitted. These Corsairs introduced a 6 in (150 mm)-long stall strip just outboard of the gun ports on the starboard wing leading edge and improved undercarriage oleo struts which eliminated bouncing on landing, making these the first "carrier capable" F4Us. F4U-1s supplied to the USMC lacked arrester hooks and had a pneumatic tail wheel, instead of the smaller diameter solid rubber type used for carrier operations.

Additionally, an experimental R-2800-8W engine with water injection was fitted on one of the late F4U-1As. After satisfactory results, many F4U-1As were fitted with the new powerplant. The aircraft carried 237 gal (897 l) in the main fuel tank, located in front of the cockpit, as well as an unarmored, non-self-sealing 62 gal (235 l) fuel tank in each wing. This version of the Corsair was the first to be able to carry a drop tank under the center-section. With drop tanks fitted, the fighter had a maximum ferry range of just over 1,500 mi (2,400 km).

A land-based version, without the folding wing capability, was built by Goodyear as the FG-1A. In British service, the aircraft type was modified with "clipped" wings (8 in (200 mm) was cut off each wingtip) for use on British aircraft carriers, under the designation Corsair Mk II.

F3A-1 (Corsair Mk. III): This was the designation for the Brewster-built F4U-1. Just over 700 were built before Brewster was forced out of business. Poor production techniques and shabby quality control meant that these aircraft were red-lined for speed and prohibited from aerobatics after several lost their wings. This was later traced to poor quality wing fittings. None of the Brewster-built Corsairs reached front line units.

F4U-1C: The prototype F4U-1C, BuNo50277, appeared in August 1943 and was based on an F4U-1.

A total of 200 of this variant were built July–November 1944; all were based on the F4U-1D and were built in parallel with that variant.[71] Intended for ground-attack as well as fighter missions, the F4U-1C was similar to the F4U-1D but its six machine guns were replaced by four 20 millimeter (0.79 in) AN/M2 cannons with 231 rounds of ammunition per gun.

The F4U-1C was introduced to combat during 1945, most notably in the Okinawa campaign. Aviators preferred the standard armament of six .50 in (12.7 mm) machine guns since they were already more than powerful enough to destroy most Japanese aircraft, and had more ammunition and a higher rate of fire.

The weight of the Hispano cannon and their ammunition affected the flight performance, especially its agility, but the aircraft was found to be especially potent in the ground attack role.

F4U-1D (Corsair Mk IV): Built in parallel with the F4U-1C, but was introduced in April 1944. It had the new -8W water-injection engine. This change gave the aircraft up to 250 hp (190 kW) more power, which, in turn, increased performance. Speed was increased from 417 mph (671 km/h) to 425 mph (684 km/h). Due to the U.S. Navy's need for fighter-bombers, it had a payload of rockets double the -1A's, as well as twin-rack plumbing for an additional belly drop tank.

 These modifications necessitated the need for rocket tabs (attached to fully metal-plated underwing surfaces) and bomb pylons to be bolted onto the fighter, causing extra drag. The extra fuel carried by the two drop tanks would still allow the aircraft to fly relatively long missions despite the heavy, un-aerodynamic loads. A single piece "blown" clear-view canopy was adopted as standard equipment for the -1D model, and all later F4U production aircraft. Additional production was carried out by Goodyear (FG-1D) and Brewster (F3A-1D). In Fleet Air Arm service, the latter was known as the Corsair III, and both had their wingtips clipped – 8 inches (203 mm) per wing – to allow storage in the lower hangars of British carriers.

F4U-2: Experimental conversion of the F4U-1 Corsair into a carrier-borne night fighter, armed with five .50 in (12.7 mm) machine guns (the outboard, starboard gun was deleted), and fitted with Airborne Intercept (AI) radar set in a radome placed outboard on the starboard wing. Since Vought was preoccupied with more important projects, only 32 were converted from existing F4U-1s by the Naval Aircraft Factory and another two by front line units.

The type saw combat with VF(N)-101 aboard USS Enterprise and USS Intrepid in early 1944, VF(N)-75 in the Solomon Islands and VMF(N)-532 on Tarawa.

XF4U-3: Experimental aircraft built to hold different engines in order to test the Corsair's performance with a variety of power plants. This variant never entered service. Goodyear also contributed a number of airframes, designated FG-3, to the project. A single sub-variant XF4U-3B with minor modifications was also produced. XF4U-3B, planned procurement for the FAA.

F4U-4: The last variant to see action during World War II, deliveries to the U.S. Navy of the F4U-4 began late in 1944, and this version fully equipped naval squadrons four months before the end of hostilities. It had the 2,100 hp (1,600 kW) dual-stage-supercharged -18W engine. When the cylinders were injected with the water/alcohol mixture, power was boosted to 2,450 hp (1,830 kW).

The aircraft required an air scoop under the nose and the unarmored wing fuel tanks of 62 gal (234 l) capacities were removed for better maneuverability at the expense of maximum range. The propeller was changed to a four blade type. Maximum speed was increased to 448 miles per hour (721 km/h) and climb rate to over 4,500 ft/min (1,180 m/min) as opposed to the 2,900 ft/min (884 m/min) of the F4U-1A.The "4-Hog" retained the original armament and had all the external load (i.e., drop tanks, bombs) capabilities of the F4U-1D.

The windscreen was now flat bullet-resistant glass to avoid optical distortion, a change from the curved Plexiglas windscreens with the internal plate glass of the earlier Corsairs. Vought also tested the two F4U-4Xs (BuNos 49763 and 50301, prototypes for the new R2800) with fixed wing-tip tanks (the Navy showed no interest) and an Aeroproducts six-blade contraprop (not accepted for production).

F4U-4B: Designation for F4U-4s to be delivered to the British Fleet Air Arm, but were retained by the U.S. for its own use. The Fleet Air Arm received no F4U-4s.

F4U-4C: 300 F4U-4s ordered with alternate gun armament of four 20 millimetres (0.79 in) AN/M2 cannon.

F4U-4E and F4U-4N: Developed late in WWII, these night fighters featured radar radomes projecting from the starboard wingtip. The -4E was fitted with the APS-4 search radar, while the -4N was fitted with the APS-6 type. In addition, these aircraft were often refitted with four 20mm M2 cannons similar to the F4U-1C. Though these variants would not see combat during WWII, the night fighter variants would see great use during the Korean war.

F4U-4K: Experimental drone.

F4U-4P: As with the -1P, a rare photo reconnaissance variant.

XF4U-5: New engine cowling, other extensive changes.

F4U-5: A 1945 design modification of the F4U-4, first flown on 21 December 1945, was intended to increase the F4U-4 Corsair's overall performance and incorporate many Corsair pilots' suggestions. It featured a more powerful Pratt and Whitney R-2800-32(E) engine with a two-stage supercharger, rated at a maximum of 2,850 hp (2,130 kW).

 Other improvements included automatic blower controls, cowl flaps, intercooler doors and oil cooler for the engine, spring tabs for the elevators and rudder, a completely modernized cockpit, a completely retractable tail wheel, and heated cannon bays and pitot head. The cowling was lowered two degrees to help with forward visibility, but perhaps most striking as the first variant to feature all-metal wings (223 units produced).

F4U-5N: Radar equipped version (214 units produced).

F4U-5NL: Winterized version (72 units produced, 29 modified from F4U-5Ns (101 total)). Fitted with rubber de-icing boots on the leading edge of the wings and tail.

F4U-6: Redesignated AU-1, this was a ground-attack version produced for the U.S. Marine Corps.

F4U-7 : AU-1 developed for the French Navy.

FG-1E: Goodyear FG-1 with radar equipment.[109]

FG-1K: Goodyear FG-1 as drone.[109]

FG-3: Turbosupercharger version converted from FG-1D.

FG-4:Goodyear F4U-4, never delivered.

AU-1:U.S. Marines attack variant with extra armor to protect the pilot and fuel tank, and the oil coolers relocated inboard to reduce vulnerability to ground fire. The supercharger was simplified as the design was intended for low-altitude operation. Extra racks were also fitted. Fully loaded for combat the AU-1 weighed 20% more than a fully loaded F4U-4, and was capable of carrying 8,200 lb of bombs. The AU-1 had a maximum speed of 238 miles per hour at 9,500 ft, when loaded with 4,600 lb of bombs and a 150-gallon drop-tank. When loaded with eight rockets and two 150-gallon drop-tanks, maximum speed was 298 mph at 19,700 ft.

When not carrying external loads, maximum speed was 389 mph at 14,000 ft. First produced in 1952 and used in Korea, and retired in 1957. Re-designated from F4U-6.

Super Corsair variants

The F2G-1 and F2G-2 were significantly different aircraft, fitted with the Pratt & Whitney R-4360 Wasp Major 4-row 28-cylinder "corncob" radial engine and teardrop (bubble) canopy. The difference between the -1 and -2 variants was that the -1 featured a manual folding wing and 14 ft (4.3 m) propellers, while the F2G-2 aircraft had hydraulic operated folding wings, 13 ft (4.0 m) propellers and carrier arresting hooks for carrier use.

 As World War II was drawing to a close, development problems emerged that led to the abandonment of further work on the F2G series.[125] While only 10 were built, several F2Gs went on to racing success after the war, winning the Thompson trophy races in 1947 and 1949.

Operators

Argentina

Argentine Navy ◾Argentine Naval Aviation operated 26 F4U-5/5N/5NL Corsairs from 1956 to 1968 from ARA Independencia.

 El Salvador

Air Force of El Salvador operated 25 F4U/FG-1D from 1957 to 1976.

 France

French Navy operated 25 AU-1 and 94 F4U-7 from 1954 to 1964 ◾Aeronavale ◾French Aéronavale 12.F Flotilla

* French Aéronavale 14.F Flotilla[93]
* French Aéronavale 15.F Flotilla[93]
* French Aéronavale 17.F Flotilla

 Honduras

Honduran Air Force operated 19 from 1956 to 1979

New Zealand

Royal New Zealand Air Force operated 368 F4U-1 and 60 FG-1D from 1944 to 1949 ◾No. 14 Squadron RNZAF

* No. 15 Squadron RNZAF
* No. 16 Squadron RNZAF
* No. 17 Squadron RNZAF
* No. 18 Squadron RNZAF
* No. 19 Squadron RNZAF
* No. 20 Squadron RNZAF
* No. 21 Squadron RNZAF
* No. 22 Squadron RNZAF
* No. 23 Squadron RNZAF
* No. 24 Squadron RNZAF
* No. 25 Squadron RNZAF
* No. 26 Squadron RNZAF

 United Kingdom

◾Royal Navy Fleet Air Arm operated 2,012 Corsairs of all types during World War 2, including 95 Corsair I (F4U-1), 510 Corsair II (F4U-1A), 430 Corsair III (F3A-1D) and 977 (Corsair IV (FG-1D)

Fleet Air Arm

United States

United States Navy

United States Marine Corps

Survivors

According to the FAA there are 45 privately owned F4Us in the U.S.

Survivor links

* AeroWeb: List of survivor F4Us on display (http://www.aero-web.org/locator/manufact/vought/f4u.htm)
* AeroWeb: List of survivor FG1s on display (http://www.aero-web.org/locator/manufact/goodyear/fg.htm)
* Brewster F3A Corsair on display (http://brewstercorsair.com)
* Warbird Registry — listings of existing Corsairs (http://warbirdregistry.org/corsairregistry/corsairregistry.html)
* Hi-res spherical panoramas inside the cockpit, access panels, tail wheel and arrestor hook bays of the Collings Foundation's F4U-5NL (http://i-ota.net/F4UCorsair/)

Specifications

F4U-1A

Data from WWII Aircraft Performance The Aviation History Online Museum

* General characteristics
* Crew: 1 pilot
* Length: 33 ft 4 in (10.1 m)
* Wingspan: 41 ft 0 in (12.5 m)
* Height: 16 ft 1 in (4.90 m)
* Wing area: 314 ft2 (29.17 m2)
* Empty weight: 8,982 lb (4,073 kg)
* Loaded weight: 11,432 lb (5,185 kg)
* Powerplant: 1 × Pratt & Whitney R-2800-8 radial engine, 2,000 hp (1,491 kW)
* Performance
* Maximum speed: 417 mph (362 kn, 671 km/h)
* Range: 1,015 mi (882 nmi (1,633 km))
* Service ceiling: 36,900 ft (11,247 m)
* Rate of climb: 2,890 ft/min (15.2 m/s)
* Armament
* Guns:
* 6 × 0.50 in (12.7 mm) M2 Browning machine guns, 400 rounds per gun
* 4 × 20 mm AN/M2 cannons, 375 rounds per gun
* Rockets: 4 × 5 in (12.7 cm) High Velocity Aircraft Rockets and/or
* Bombs: 2,000 pounds (910 kg)

F4U-4

Data from F4U-4 Detail Specification, F4U-4 Airplane Characteristics and Performance.

* General characteristics
* Crew: 1 pilot
* Length: 33 ft 8 in (10.2 m)
* Wingspan: 41 ft 0 in (12.5 m)
* WS Folded: 17 ft 0.5 in (5.2 m)
* Height: 14 ft 9 in (4.50 m)
* Empty weight: 9,205 lb (4,174 kg)
* Loaded weight: 12,405 lb (5,626 kg)
* Powerplant: 1 × Pratt & Whitney R-2800-18W radial engine, 2,380 hp (1,775 kW)
* Performance
* Maximum speed: 446 mph (717 km/h) at 26.200 ft (using emergency power)
* Stall speed: 89 mph (143 km/h) clean
* Range: 1005 mi (1617 km) on internal fuel
* ◾ombat radius: 285 nmi (328 mi, 527 km) with one external 150gal tank
* Service ceiling: 41,500ft (12,649 m)
* Rate of climb: 4,360ft/min (22.1 m/s) at sea-level (using emergency power)
* Armament
* Guns:
* 6 × 0.50 in (12.7 mm) M2 Browning machine guns, 400 rounds per gun or
* 4 × 0.79 in (20 mm) AN/M2 cannon
* Rockets: 8 × 5 in (12.7 cm) high velocity aircraft rockets and/or
* Bombs: 4,000 pounds (1,800 kg)

Notable appearances in media

* Flying Leathernecks (1951) starring John Wayne, was about a Marine Corps squadron flying Corsairs while developing close-support tactics.
* The exploits of Marine Corps squadron VMF-214, which flew the Corsair in the Pacific during the war, were depicted in the popular 1976 made-for-television movie Baa Baa Black Sheep (also released as Flying Misfits) and the follow-up television series Baa Baa Black Sheep, also called Black Sheep Squadron, which aired from 1976 to 1978. The television series featured six genuine flying Corsairs, but the storylines were fictional. See also Pappy Boyington.
* The Corsair plays a prominent role in W.E.B. Griffin's book series, The Corps (1986–present).
* Ted Williams served as a flight instructor training young Marines to fly Corsairs while away from major league baseball during his years of military service in World War II.
* The Disney movie Planes (2013), features a F4U Corsair named "Skipper". Skipper is voiced by Stacey Keach.

Aircraft of comparable role, configuration and era

* Focke-Wulf Fw 190
* Grumman F6F Hellcat
* Grumman F8F Bearcat
* Republic P-47 Thunderbolt
* Hawker Sea Fury
* Kawanishi N1K
* Nakajima Ki-84

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