

CARDBOARD MODEL

SCALE
1:33

MODELS BY MAREK

Chance Vought F4U-1A "Corsair"



F4U-1 „Corsair”
flown by Lt. Cmdr. John T. Blackburn,
USN (11 kils) VF-17 Ondonga
New Georgia Island
November 1943

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Vought F4U-1 Corsair

At the end of June 1941 the US Navy ordered 584 F4U-1 fighters. The first of these would appear a year later, in June 1942. At that time Brewster and Goodyear were already tooling up to join the Corsair production program.

For the production F4U, the US Navy required some changes, which were logical in itself but had unfortunate side effects. More armour was carried for the pilot and oil tank, which added 68kg to the weight. The armament was changed to six .50 machine guns, three in each wing. The wing bomb bays were deleted. This increase in firepower was needed, but the wing guns displaced the leading edge fuel tanks. To restore an adequate fuel capacity, an additional fuel tank had to be installed in the fuselage. Because it had to be near the center of gravity, there was no other option than moving the cockpit to the rear. The 897 liter self-sealing fuel tank pushed to cockpit 0.91 meter closer to the tail. Forward view over the engine cowling, already poor in the prototype, was now decidedly bad. This was especially a problem during take-off and landing, because the F4U, like most fighters of its generation, was a tail-dragger. On the other hand, rearward vision was improved a bit by making cutouts in the rear fuselage decking. Vision to the sides and downwards was excellent.

The ailerons were enlarged, the cockpit canopy was made jettisonable, an IFF transponder was fitted, and the tailwheel design changed. The engine of production aircraft was the R-2800-8, rated for 2000 hp (1491 kw) at an rpm of 2700 for take-off. It had a mechanical two-stage, two-speed supercharger. When all changes were incorporated, the gross weight had increased considerably. The XF4U-1 had weighed 9358 lbs (4244 kg), but the F4U-1 12,696 lbs (5758 kg).

The performance of the F4U was impressive. Below is a comparison with the two other fighters which were powered by the R-2800. The F4U was considerably faster than the competing F6F Hellcat. It was slower than the P-47 Thunderbolt, but the latter achieved its highest speed at 30,020 ft (9150 m) with the help of a turbocharger. The F4U had a mechanically supercharged engine. The first production F4U-1 made its first flight on 25 June 1942. The USN received its first aircraft on 31 July.

Overall handling of the F4U-1 was acceptable, but not very good. In level flight the Corsair was stable enough to be flown hands-off. The ailerons were light and effective, and the high roll rate was used with good effect in combat with the A6M, which suffered from bad aileron response at high speeds. The elevators were heavy, but effective. Only the rudder really stiffened with increasing speed. For combat maneuvering, the flaps could be deployed 20 degrees.

After the first delivery of an F4U-1 on 31 July 1942, more than two years passed before the US Navy cleared the type for shipboard operations. The Corsair was found to be much too difficult to land on a carrier deck. First of all, the pilot could hardly see the deck, because he sat so far aft of the bulky engine. The F4U tended to stall without warning, and was then certain to drop the starboard wing. Quick action had to be taken to prevent a spin. Spin recovery was difficult. In landing configuration, the F4U-1 would stall at 87 mph (141 km/h). A warning light would light at 92 mph (148 km/h). On touchdown, the F4U-1 had sluggish controls and insufficient directional stability. It also was prone to "bounce" because of overly stiff landing gear oleo legs.

These characteristics had already been there on the XF4U-1, and if anything they were worse on the production type. Carrier qualification trials on the escort carrier USS Sangamon Bay, on 25 September 1942, caused the US Navy to release the type to the US Marine Corps. After all, the US 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 important that the F4U could be put on a carrier, but they usually flew from land bases.

The Marines

During the Pacific war, the strategy of "island hopping" turned islands into forward operating bases for the aircraft of the US Marine Corps, the US Navy and the Army Air Force. Essential to this strategy was that no attempt was made to conquer all Japanese strongholds in the Pacific. Instead, they were neutralized by attacks, cut off from the main Japanese forces, and left behind.

The islands from which the advanced units operated were often very small. If they were larger, they were often covered with a dense jungle, and only a small part of the island was used by the combattants. The climate was

often unhealthy, both for people and aircraft, and standards of living were primitive. Missions often involved long overwater flights. The island group of the Eastern Solomons, for example, extends over more than 621 miles (1000 km).

The first USMC unit to equip with the F4U was VMF-124, which was declared operational on 28 December 1942. VMF-124 was quickly deployed to Guadalcanal, where it flew its first combat mission, also the first of the F4U, on 11 February 1943. Fighting over Guadalcanal was intense. The first air-to-air combat took place on the 14th, when a mixed force of P-38s, P-40s, PB4Ys and F4Us lost ten aircraft to the Japanese, and claimed four A6M "Zero" fighters.

As on this first mission, the aircraft involved in an operation were often of different types, belonged to different services, and belonged to different bases. The coordination between them was not always what it should have been.

Within six months, all USMC units in the Pacific were equipped with the F4U. The production was extremely rapid, and by August 1934 a thousand aircraft had been delivered. Final production of the F4U-1 was 5559, including the 2010 FG-1s built by Goodyear and 735 F3A-1s built by Brewster.

US Navy

Despite the decision to issue the F4U to Marine Corps 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. However, VF-12 soon abandoned its aircraft to the USMC, while VF-17 operated as a shore-based unit in New Georgia. In November 1943 the land-based VF-17 ran out of fuel while giving top cover to the carriers USS Essex and USS Bunker Hill. The aircraft then landed on the carriers, without incidents.

The US Navy finally accepted the F4U for shipboard operations in April 1944, after the longer oleo leg was fitted, which finally eliminated the tendency to bounce. The first Corsair unit to be based effectively on a carrier was the pioneer USMC squadron, VMF-124, which joined the USS Essex. They were accompanied by VMF-213. The increasing need for fighters, as a protection against Kamikaze attacks, resulted in more Corsair units being moved to the carriers. The Navy squadrons VF-12, VF-17 and VF-301 also soon operated from carriers.

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| Engine | Pratt & Whitney |
| R-2800-8 | |
| 2000hp | |
| Wing Span..... | 12.49m |
| Wing Area | 29.17m ² |
| Length | 9.99m |
| Height..... | 4.58m |
| Weights:..... | |
| Empty | 4025kg |
| Loaded..... | 5388kg |
| Max | 6280kg |
| Speed | 631km/h at 7315m |
| | 515km/h at S/L |
| Climb..... | 3050m in 5.1min |
| | 6100m in 10.7min |
| Ceiling | 11310m |
| Range..... | 1722km |
| Armament..... | Four .50 M2 with 400 |
| rpg | |
| Two .50 M2 with 375 rpg | |
| Two 454kg bombs | |





















