



F4U Corsair

No single-engined American fighter aircraft is as instantly recognizable as the Vought F4U Corsair

To allied ground forces in the Pacific, this mighty warrior was known affectionately as the "Sweetheart of Okinawa."

This inverted gull-winged, long-nosed, five-ton warplane carried United States Navy and Marine Corps pilots on 64,051 missions between February 1943 and the end of World War II, 9,581 from aircraft carriers.

Corsair pilots destroyed 2,140 Japanese planes over the Pacific at a kill ratio of nearly 11:1, a record unmatched by any other American aircraft.

The F4U Corsair earned a reputation unmatched in the annals of aviation history. Even today, this venerable warbird is regarded by many as one of the greatest combat aircraft ever built.

In February 1938, the United States Navy published a requirement for a new, high-performance, carrier-based fighter. They were looking for a new carrier-based fighter with significant increases in performance over the Grumman F4F Wildcat and Brewster F2A Buffalo, then in the test and development stage.

Chief Engineer Rex Beisel's team of talented Vought engineers decided on a fighter that would carry the most powerful engine and the largest diameter propeller ever built. They submitted two design proposals: the V-166A, based on Pratt & Whitney's 14-cylinder R-1830 radial engine, and the V-166B, based on Pratt & Whitney's latest engine, the 2,000 hp, 18-cylinder R-2800 Double Wasp, then the largest engine available for a fighter airplane.

The massive R-2800 engine powered a huge, 13' 4" diameter Hamilton Standard 3-bladed propeller. To avoid using long landing gear struts to provide ground clearance for this gigantic prop, the ingenious design had an inverted gull wing with shorter, lighter landing gear struts mounted at the low point, or "knuckle" of the wing. The large prop gave the plane a very nose high attitude while sitting on the ground.

The inverted gull wing was not a unique design feature. The German Junkers Ju-87 "Stuka" dive bomber had a similar wing design, but it used fixed landing gear. The F4U Corsair was the first production fighter to use the inverted gull wing with retractable landing gear.

Vought Aircraft won the competition and the experimental prototype contract. On June 11, 1938, the Navy ordered a prototype based on Rex Beisel's V-166B design. The following year, Vought production moved to Stratford, Connecticut, and merged with Sikorsky's facility. It was there that the new XF4U-1 Corsair was born.

Vought's chief test pilot Lyman A. Bullard Jr. took the prototype XF4U-1 on its maiden flight on May 29, 1940. On October 1, he piloted the XF4U-1 to a level speed of over 404 mph, making it the first single-engine U.S. fighter to ever exceed the magic 400 mph with a full military load in level flight.

This convincing performance and further flight tests convinced the United States Navy to place an order for 585 production F4U-1 Corsairs on June 30, 1941. Although Vought retained the overall design responsibility for the plane, the Navy also awarded production contracts to Goodyear Aircraft Corporation and the Brewster Aeronautical Corporation.

Although the Marine Corps placed orders with Goodyear for a land-based version of the Corsair in December 1941, the Goodyear Corsair, designated the FG-1, did not make its first flight until February 1943.

Meanwhile, America's air combat experience in the European Theater led to a number of significant modifications in production Corsairs at all three production plants. Six .50 caliber machine guns were mounted in the wings; three per wing outside the propeller arc. To make room for the guns and ammunition, the wing fuel tanks were removed and replaced with a 237 gallon self-sealing fuel tank mounted in the fuselage over the wing near the aircraft's center of gravity.

The new fuel tank pushed the cockpit three feet further aft. The 12 feet of nose, blocking the pilot's forward visibility on the ground and during landing gave the Corsair its characteristic "long nose" look. Other changes included 150 pounds of armor plating to protect the pilot and oil tank and clear panels behind the canopy to improve rearward vision.

The first production F4U-1, powered by a 2,000 horsepower R-2800-8 radial engine, flew on June 25, 1942. By October the Navy formed its first Corsair Fighter Squadron to begin carrier trials with the new airplane. The United States Marine Corps was due to receive the new planes after Navy carrier squadrons, but when problems developed during carrier tests, the Marines quickly moved to the head of the list.

Marine Fighter Squadron VMF-124, formed in September 1942, became the first squadron to take the newly minted F4U-1 Corsairs into combat, flying their first mission off Guadalcanal on February 11, 1943. Within six months, every Marine Corps fighter squadron in the South Pacific was flying the Corsair.

Marine units such as VMF-214, Colonel "Pappy" Boyington's famed "Black Sheep" squadron, demonstrated the Corsair's air superiority by effectively hunting down and intercepting most Japanese aircraft flying anywhere near Allied forces.

In May 1943, just four months after the first Corsairs entered the Pacific Theater, Admiral Chester Nimitz boasted that, "... the Corsair is a better plane than any version of the Japanese Zero."

Numerous variants of this venerable fighter took to the air over the years, from the F4U-1A with its clear Plexiglas canopy through the F4U-4, powered by the "C" series Double Wasp engine at the end of World War II.

Rex Beisel's years of experience in the aircraft industry, his natural ability for leadership, and his adherence to the Vought tradition "nothing but the best," earned him promotion to General Manager in 1943, and enabled him to steer the Vought through the tough war years and the hazardous reconversion period that followed.

By war's end, Vought Aircraft was outgrowing its plant in Stratford, Connecticut, which was beginning to show its age. For reasons of national security, the Navy wanted to disperse essential military manufacturers across the country. It proposed that Vought take over the modern facilities recently vacated by North American Aviation near Dallas, Texas.

Rex Beisel and Vought met this gigantic challenge. Within fourteen months of the announcement in April 1948 that Vought would move its facilities to Texas, Rex Beisel managed the largest overland industrial relocation of its kind up to that time.

The company moved 1,300 key personnel and their families together with 27 million pounds of equipment the 1,700 miles from Stratford to Dallas, all the while trying to produce the new F6U-1 and F5U-1, the first "all-metal" Corsair. Hollywood even had plans to make a movie of the episode starring Spencer Tracy.

The outbreak of war in Korea in 1950 brought the rugged fighter out of retirement. F4U-4's returned to the fleet in numbers and winterized versions were built to operate in the harsh, frigid weather conditions of Korea, where it distinguished itself as a fighter-bomber and a close air support aircraft.

Production of F4U-4s and later Corsairs continued at Vought until December 1952, when the F4U-7, built for the French, became the last of the famous fighter-bombers to roll off the assembly line. With the end of the Korean War in 1953, the Corsairs were rapidly released from operational squadrons as new jet aircraft began making their way into the fleet.

Though they continued to serve as front line aircraft with various countries into the 1960s, the aging fighter slowly faded into history, having outlived every other propeller-driven fighter built in the United States.

Its thirty-year production run of 12,571 aircraft, including 4,017 by Goodyear and 735 by Brewster, lasted longer than that of any American made fighter except the F4 Phantom.

Whether an integral member of an engineering team or the team's leader; whether creating new aircraft designs or updating previous ones, Rex Beisel had a hand in the design of many ground-breaking and record-breaking aircraft. Promoted to Vice President of United Aircraft Corporation in 1946, Rex kept his hand in the design of new aircraft right up to his retirement in December 1949.

Rex Beisel always always believed in people. ...

"Give me the right people, put them on the right jobs, pay them fair wages, and we will build a team that will lick any problem."

Throughout a remarkable career that spanned almost 30 years, Rex Beisel exemplified many of America's early aeronautical engineers, men who dedicated their efforts to constantly improve the state-of-the-art. Many were not celebrated for their efforts then and, sadly, even fewer are recognized today, yet their pioneering designs and new concepts built the foundation under modern Naval Aviation.

Despite his many other accomplishments, Rex Beisel will always be remembered as the creator of the never-to-be forgotten "bent-wing" Corsair.