

Overview (Review X-Model and V-Model)

The O3U Corsair was the first new aircraft produced at the East Hartford plant, and the first complete aircraft to be tested “full-scale” in a wind tunnel at Langley Field. It also was the first float aircraft to be equipped for the cast-type recovery system. This recovery system required the aircraft to taxi in the “slick” made for them by having the ship execute a tight 90-degree turn. The plane would land and “taxi hell-bent” for a rope sled towed by the ship from the aircraft boom. The plane’s main float had a hook or toe under the nose and the job of the pilot was to engage the rope sled with this hook at 12 knots. It was a bit hairy and rough on the aircraft as the pilots described it. Once the hook was engaged, the pilot or the gunner, if he had one, would attach a hook lowered to the aircraft by the ship to a sling on the aircraft, and it was hoisted aboard. In rough seas the “hook man” or pilot often fell overboard into the ocean when attempting to attach the hook to the sling. This technique continued throughout World War II when OS2U Kingfishers and other types of aircraft scouted for the fleets in the Pacific.

Model Number : O3U-1

Model Name : Corsair

Model Type: Scout, Observation, Bomber, Fighter

The O3U-1, a two-seat scout/bomber, and observation bi-plane, was the first new aircraft produced in Vought’s East Hartford plant.. Both landplane and seaplane models were purchased by the Navy. They were used for every type of flight for which the Navy had letter designations except training. The airplane was usually delivered as a land plane with pontoon and floats provided as spare equipment.



By late 1929 the Navy began to look for a replacement for its



aging Corsair I (O2U) fleet. In 1930 Vought submitted a proposal for an O3U-1 aircraft. By incorporating many of the O2U features with improved engine and equipment performance and improved aerodynamics, the Vought proposal represented a minimum cost approach which impressed the Navy. An initial order for thirty-six O3U-1’s was placed in 1930. When the trials of the aircraft were completed in February 1931 at NAS Anacostia, the O3U-1 had demonstrated the capability to fly 190 mph. The Navy dubbed the O3U-1, “Corsair II”, and placed follow-on orders for 51 more.

by BuNo 8822 which left the East Hartford plant in 1931. It was delivered to the heavy cruiser USS and from that platform saw the world. It the heat of tropical Panama, the San Diego fogs, Northwest forest fire smoke, China Seas Pacific Ocean typhoons, Hawaiian “Kona” winds, River muck and Philippine humidity. By rough four years she visited fifty different countries and

The service life and itinerary of a typical Corsair II is exemplified



January August, underwent Pacific monsoons, Yangtze estimate, in dipped her

wings at sister "Corsairs" in the armed forces of Siam, Cuba and China. She flew on both sides of the international dateline, crossed the equator four times, landed in the Atlantic, Pacific and Indian Oceans, and performed every type of flight for which the Navy had letter designations, except those

	Landplane	Seaplane
Dimensions		
Wingspan	36.00 ft	36.00 ft
Overall Length	26.08 ft	27.25 ft
Height	10.65 ft	10.67 ft
Weights and Capacities		
Empty Weight		
Gross Weight		
Useful Load		
Fuel Capacity	110.0 gal	110.0 gal
Oil Capacity	8.0 gal	8.0 gal
Powerplant Characteristics		
Type: P & W "Wasp" 9-cylinder radial engine R-1340C		
Rating	450 hp @ 2100 rpm @ Sea Level	
Displacement	1340 in ³	1340 in ³
Weight	715 lb	715 lb
Size (length X diameter)	42 in X 51 in	42 in X 51 in
Performance		
Maximum Speed, Sea Level	138 mph	
Landing Speed, Sea Level		
Stall Speed, Sea Level	59 mph	
Initial Rate-of-Climb	810 ft/min	
Climb in 10 minutes		
Range at Cruise Speed		
Service Ceiling	16200 ft	
Absolute Ceiling		
Crew: 2 (Pilot & Observer)		
Armament: 1 flex 30-caliber machine gun in rear cockpit 1 fixed forward-firing 30-caliber machine gun Provisions for bomb racks on lower wing		

Model Number : O3U-3
Model Name : Corsair
Model Type: Scout, Bomber



This seaplane version of the O3U-3 was identical to the landplane version except for installation of pontoons and a float. This model was an upgraded O3U-2, the major change being use of the latest Pratt & Whitney R-1340-12 engine. The first 28 of these aircraft were convertible types for land and sea operation. This was the first Vought aircraft to utilize Vought-designed

pontoon and floats. Prior to this time the Navy purchased them from other sources and attached them to the aircraft themselves. This was also the first aircraft to be equipped for cast-type recovery by the ships.



Their service itinerary was similar to that described for the O3U-1. Some were still stationed at various Naval Air Stations as late as 1941.

	Landplane	Seaplane
Dimensions		
Wingspan	36.00 ft	36.00 ft
Overall Length	27.25 ft	
Height	11.50 ft	
Weights and Capacities		
Empty Weight	2938.00 lb	
Gross Weight	4451.00 lb	
Useful Load		
Fuel Capacity		
Oil Capacity		
Powerplant Characteristics		
Type: P & W radial air-cooled R-1340-12		
Rating	550 hp @ 2100 rpm @ SL	550 hp @ 2100 rpm @ SL
Displacement	1344.00 in ³	1344.00 in ³
Weight	930.00 lb	930.00 lb

Size (length X diameter)	42.56 in X 51.50 in	42.56 in X 51.50 in
Performance		
Maximum Speed, Sea Level	164.00 mph	164.00 mph
Landing Speed, Sea Level		
Stall Speed, Sea Level		
Initial Rate-of-Climb	1190.00 ft/min	
Climb in 10 minutes		
Range at Cruise Speed	650.00 miles	
Service Ceiling	18000.00 ft	
Absolute Ceiling		
Crew: 2 (pilot and Observer)		
Armament: 1 flex .30 caliber machine gun in rear cockpit 1 fixed forward-firing .30 caliber machine gun Provisions for bomb racks on lower wings		

Model Number : O3U-4(SU-2, -3)

Model Name : Corsair

Model Type: Scout, Observation, Bomber

At the same time the O3U-3's were ordered, 65 O3U-4's were ordered to be powered by the larger hornet engine. All of these aircraft were designated SU-2 or SU-3 since they were delivered to the Marines. Forty-three became SU-2's and 20 became SU-3's. The suffix number change indicated minor equipment changes. One became the XSU-4, which differed from the others in cowling, cockpit and fin. The SU-2's and SU-3's replaced the SU-1's aboard the *USS Lexington* and *USS Saratoga*. They served in various utility roles with Navy units. Some were later made into SU-4's. As late as 1941 some of these aircraft were still stationed at various Navy Air Stations.



Dimensions	
Wingspan	36.00 ft
Overall Length	27.25 ft
Height	10.70 ft
Weights and Capacities	
Empty Weight	4522.00 lb
Gross Weight	
Useful Load	
Fuel Capacity	130.00 gal
Oil Capacity	12.00 gal
Powerplant Characteristics	
Type: P & W "Hornet" air-cooled radial R-1690C	
Rating	750 hp @ 7000 rpm @ S/L
Displacement	1690. in ³
Weight	1087. lb
Size (length X diameter)	44.3 in X 56.0 in
Performance	
Maximum Speed, Sea Level	170.50 mph
Landing Speed, Sea Level	
Stall Speed, Sea Level	60.00 mph
Initial Rate-of-Climb	
Cruise Speed, Sea Level	
Range at Cruise Speed	
Service Ceiling	20500.00 ft
Absolute Ceiling	
Crew: 2	
Armament: 1 fixed forward-firing .30 caliber machine gun 1 fixed .30 caliber machine gun in rear cockpit Provisions for bomb racks on lower wing	

Model Number : XSU-4

Model Name : Corsair

Model Type: Scout, Observation



Originally ordered as an O3U-4 and redesignated an SU-2, it was again redesignated the XSU-4 and became the prototype for subsequent SU-4 orders. Its first flight was in 1933. The performance and weights shown are for the aircraft configured as SU-4

Dimensions	
Wingspan	36.00 ft
Overall Length	27.42 ft
Height	11.33 ft
Weights and Capacities	
Empty Weight	3203.00 lb
Gross Weight	4756.00 lb
Useful Load	
Fuel Capacity	80.00 gal
Oil Capacity	6.50 gal
Powerplant Characteristics	
Type: P & W 14-cylinder "Twin Wasp Jr."	
Rating	672 hp @ 2100 rpm @ S/L
Displacement	1690 in ³
Weight	855 lb
Size (length X diameter)	
Performance	
Maximum Speed, Sea Level	170 mph
Landing Speed, Sea Level	
Stall Speed, Sea Level	61 mph
Initial Rate-of-Climb	1250 ft/min
Cruise Speed, Sea Level	
Range at Cruise Speed	680 miles
Service Ceiling	18700 ft
Absolute Ceiling	

Crew: 2	
Armament: 1 fixed forward firing .30 caliber machine gun 1 flex .30 caliber machine gun in rear cockpit	

Model Number : SU-4

Model Name : Corsair

Model Type: Scout, Observation, Bomber



During the manufacture of the SU-2's and SU-3's, Vought had produced an improved model designated the O3U-6, incorporating an improved P&W Wasp engine. Although the Navy approved of the design the initial order was placed for 20, which were designated SU-4's since

they were delivered to Marines to replace their SU-1's aboard the USS Lexington and USS Saratoga.



An updated O3U-6, the main changes being the use of the latest P&W R-1690-42 engine. These were the latest Corsair II's ordered by the Navy, and utilized the same SU-4 designation as the prior model Corsair aircraft. In 1941, the Naval Aircraft Factory converted some of these aircraft into target drones and radio-controlled drones for flight testing under hazardous conditions. Some flew as late as 1942 at various Navy training facilities.

Dimensions	
Wingspan	36.00 ft
Overall Length	27.42 ft
Height	11.25 ft
Weights and Capacities	
Empty Weight	3375 lb
Gross Weight	4765 lb
Useful Load	
Fuel Capacity	130 gal
Oil Capacity	8 gal
Powerplant Characteristics	

Type: P & W "Hornet" R-1690-42	
Rating	650 hp @ 7000 @ S/L
Displacement	1690 in ³
Weight	1087 lb
Size (length X diameter)	44.63 in X 56.75 in
Performance	
Maximum Speed, Sea Level	170 mph
Landing Speed, Sea Level	
Stall Speed, Sea Level	61 mph
Initial Rate-of-Climb	1136 ft/min
Cruise Speed, Sea Level	
Range at Cruise Speed	680 miles
Service Ceiling	18700 ft
Absolute Ceiling	
Crew: 2	
Armament: 1 fixed .30 caliber forward cockpit 2 .30 caliber on turntable in rear cockpit	

Model Number : XO3U-6

Model Name : Corsair

Model Type: Observation



An O3U-3 aircraft was updated for the Navy to increase performance. After flight test, this XO3U-6 was delivered as one of 32 O3U-6's purchased by the Navy

Dimensions	
Wingspan	36.00 ft
Overall Length	27.25 ft
Height	10.70 ft

Weights and Capacities	
Empty Weight	3315 lb
Gross Weight	4756 lb
Useful Load	
Fuel Capacity	130 gal
Oil Capacity	8 gal
Powerplant Characteristics	
Type: P & W "Hornet" air-cooled R-1690D	
Rating	600 hp @ S/L
Displacement	
Weight	
Size (length X diameter)	
Performance	
Maximum Speed, Sea Level	
Landing Speed, Sea Level	
Stall Speed, Sea Level	
Initial Rate-of-Climb	
Cruise Speed, Sea Level	
Range at Cruise Speed	
Service Ceiling	
Absolute Ceiling	
Crew: 2	
Armament: 1 fixed forward-firing .30 caliber machine gun 1 flex .30 caliber machine gun in rear cockpit	

Model Number : XO5U-1

Model Name : Corsair

Model Type: Observation

Only one airplane was built for the Navy and the first flight was in 1934. This plane was a reworked O3U-6 that could be configured as amphibian with folding wings. The Navy tested it for 3 years, while wrestling with the single wing/dual wing requirement for carrier aircraft, before rejecting it.



Dimensions	
Wingspan	36.00 ft
Overall Length	32.50 ft
Height	
Weights and Capacities	
Empty Weight	
Gross Weight	
Useful Load	
Fuel Capacity	
Oil Capacity	
Powerplant Characteristics	
Type: P & W "Wasp" radial R-1340-12	
Rating	550 hp@ 2100 @ S/L
Displacement (cubic	1344 in ³
Weight	930 lb
Size (length X diameter)	42.56 in X 51.50 in
Performance	
Maximum Speed, Sea Level	155 mph
Landing Speed, Sea Level	
Stall Speed, Sea Level	
Initial Rate-of-Climb	
Cruise Speed, Sea Level	
Range at Cruise Speed	
Service Ceiling	
Absolute Ceiling	
Crew: 1	
Armament: 1 fixed forward firing .30 caliber machine gun 1 flex .30 caliber machine gun in rear cockpit	

Model Number : O3U-6

Model Name : Corsair

Model Type: Scout, Observation, Bomber

An upgraded O3U-4, the major change being the use of the latest P&W “Hornet” R-1690D engine and the incorporation of an enclosed cockpit.

The seaplane version contains the same equipment and engine as the landplane. Some of the O3U-6’s were delivered as float planes and others were converted to float planes by the Naval Aircraft Factory. Records are unclear as to the final quantities.



An order for 32 O3U-6’s was placed soon after the SU4 order. The XO3U-6, used for flight testing to convince the Navy to order more Corsairs, was included in this order. These aircraft were flown by both Navy and Marine pilots since most were used to replace the older O3U or SU aircraft still in service. Some of these aircraft served as late as 1941 when several were converted into target drones or radio controlled drones by the Naval Air Factory. The



latter were used for flight testing under hazardous conditions. One O3U-6 used dual-position flaps and full-length ailerons across the entire wing. It was designated XOSU-2

	Landplane	Seaplane
Dimensions		
Wingspan	36.00 ft	36.00 ft
Overall Length	27.25 ft	
Height	10.70 ft	
Weights and Capacities		
Empty Weight	3307 lb	3467 lb
Gross Weight	4748 lb	4938 lb
Useful Load		
Fuel Capacity	130 gal	80 gal
Oil Capacity	8 gal	5 gal
Powerplant Characteristics		
Type: P & W “Hornet” air-cooled radial R-1690D		
Rating	600 hp @ S/L	600 hp @ S/L
Displacement		
Weight		
Size (length X diameter)		

Performance		
Maximum Speed, Sea Level	164 mph	159 mph
Landing Speed, Sea Level		
Stall Speed, Sea Level	58 mph	59 mph
Initial Rate-of-Climb		
Climb in 10 minutes		
Range at Cruise Speed		
Service Ceiling	16700 ft	15200 ft
Absolute Ceiling		
Crew: 2		
Armament: 1 fixed machine gun forward wing center section 1 flex machine gun in rear cockpit Provisions for bomb racks on lower wings		

Only one airplane was built and the first flight was in 1936. It was essentially an O3U-6 redesignated with a larger fin and full-span ailerons added.



Dimensions	
Wingspan	36.00 ft
Overall Length	33.17 ft
Height	12.59 ft
Weights and Capacities	
Empty Weight	
Gross Weight	
Useful Load	
Fuel Capacity	

Oil Capacity	
Powerplant Characteristics	
Type: P & W "Wasp" R-1340	
Rating	550 hp @ 2200 @ 8900 ft
Displacement	1344 in ³
Weight	930 lb
Size (length X diameter)	
Performance	
Maximum Speed, Sea Level	149 mph
Landing Speed, Sea Level	
Stall Speed, Sea Level	
Initial Rate-of-Climb	
Cruise Speed, Sea Level	
Range at Cruise Speed	
Service Ceiling	
Absolute Ceiling	
Crew: 2	
Armament:	