

= Vought XSO2U =

The Vought XSO2U was an American observation floatplane developed by Vought & Sikorsky for the United States Navy during the late 1930s . Intended to replace the Curtiss SOC Seagull in service as a scout aboard cruisers , it proved superior to the Curtiss SO3C in evaluation , but failed to win a production contract due to Vought 's lack of manufacturing capacity .

= = Design and development = =

In the late 1930s the United States Navy developed a set of specifications for a new scout & observation aircraft to operate from its cruisers in the reconnaissance and gunnery spotting roles . Intended to replace the Curtiss SOC biplane , the requirements included that the aircraft should have folding wings , have a superior range and speed to that of the SOC , and that the new type should be powered by the Ranger V & 770 inline engine .

Designs were submitted in response to the Navy 's specifications by Vought & Sikorsky and Curtiss & Wright . The Vought design , designated Model 403 by the company , was similar to the company 's OS2U Kingfisher , which was then under development to replace the SOC aboard U.S. Navy battleships , but had its monoplane wing moved higher on the fuselage than that of the Kingfisher , and differed in the attachment method used by its single & float landing gear . In addition , the radial engine of the OS2U was replaced by an inline Ranger V & 770 in a squared & off cowling .

Capable of being operated with either the float as a seaplane or with a conventional taildragger undercarriage as a landplane , the XSO2U utilised all & metal construction , with the exception of its control surfaces which were fabric & covered . The wings folded to the rear for storage in a manner similar to that of the Grumman TBF Avenger torpedo bomber , .

The aircraft was capable of performing dive bombing , and could be fitted with a single bomb or depth charge on a hardpoint under each wing for the mission , or for anti & submarine warfare . Gun armament consisted of two M2 Browning machine guns , one mounted in a fixed position firing forwards through the propeller using synchronizer gear , while the other was in a flexible position in the observer 's cockpit for rear defense .

= = Operational history = =

Assigned the serial number 1440 , the XSO2U & 1 flew for the first time , as a landplane , in July 1939 ; its first flight as a seaplane took place that December . Flight testing of the SO2U showed that the aircraft lacked directional stability ; the addition of a large ventral fin , connecting the rear of the float to the tail , helped to cure the problem .

The aircraft also suffered from engine problems , however , that were not so easily cured ; the Ranger engine was well known for unreliability , and was particularly prone to overheating problems that were never satisfactorily solved . The aircraft 's original XV & & 4 engine was replaced by a XV & & 6 , with a repositioned oil cooler , during flight testing ; despite this , the problems continued .

Despite the engine issues , the SO2U & 1 was considered overall to be superior to the competing Curtiss XSO3C & 1 ; however , Vought 's production capacity was already taken up by manufacture of the OS2U Kingfisher scout and F4U Corsair fighter . As a result , the XSO3C was declared the winner of the contract , and was ordered into production . Named Seagull by the U.S. Navy , and Seamew by the Royal Navy , the SO3C developed a disastrous reputation in service , and was retired before the SOC biplane which it was intended to replace .

Following the end of the flyoff competition , the XSO2U & 1 was used as a general utility aircraft and hack by the Navy , before being supplied to the Ranger Engine Corporation in July 1942 for use in tests of the V & 770 engine . These tests were intended to assist in debugging the engine for the Bell XP & 77 lightweight fighter and Edo XOSE floatplane , but the V & 770 remained troublesome , and after two years of testing the XSO2U was returned to the Navy . Having no

further use for the aircraft , the XSO2U @-@ 1 was removed from the Navy 's rolls on 6 July 1944 , being subsequently scrapped .

= = Operators = =

United States
United States Navy

= = Specifications (XSO2U @-@ 1) = =

Data from OS2U Kingfisher in action

General characteristics

Crew : 2 (pilot and observer)

Length : 36 ft 1 in (11 @. @ 00 m)

Wingspan : 38 ft 2 in (11 @. @ 63 m)

Height : 15 ft 11 in (4 @. @ 85 m)

Wing area : 300 sq ft (28 m²)

Empty weight : 4 @, @ 016 lb (1 @, @ 822 kg)

Max takeoff weight : 5 @, @ 624 lb (2 @, @ 551 kg)

Fuel capacity : 128 US gallons (480 l ; 107 imp gal)

Powerplant : 1 x Ranger XV @-@ 770 inline engine , 450 hp (340 kW)

Propellers : 2 @-@ bladed Hamilton Standard constant @-@ speed

Performance

Maximum speed : 190 mph (306 km / h ; 165 kn) at 9 @, @ 000 feet (2 @, @ 700 m)

Service ceiling : 22 @, @ 200 ft (6 @, @ 767 m)

Armament

Guns : 2 x M2 Browning machine guns , one fixed forwards @-@ firing , one flexible rear @-@ firing .

Bombs : Two light bombs or depth charges on underwing racks .