



The remarkably neat wing folding arrangement of the Sturgeon can be appreciated here together with the close spacing of the nacelles and the necessity to swing the inner airscrew blades horizontal in order not to exceed a width of 20ft.

# Short Sturgeon

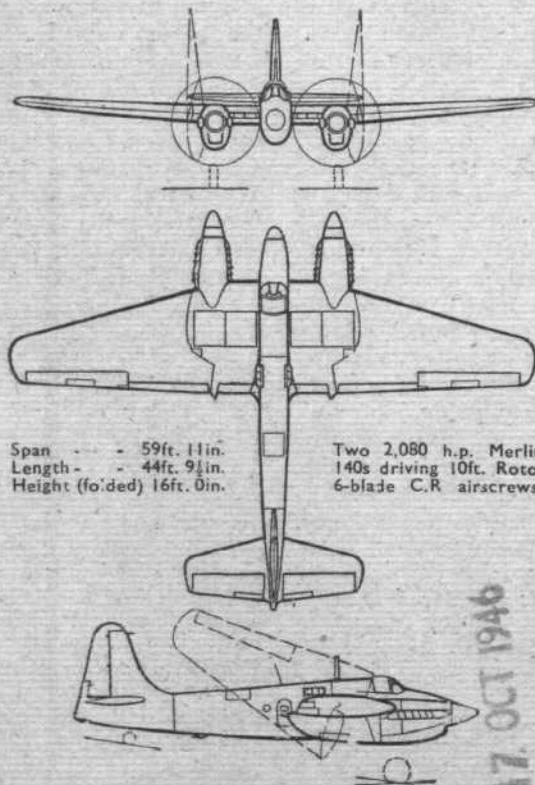
## Structural and Design Features of New Naval Aviation Twin Reviewed

A NEW naval aircraft is always interesting—if only in affording an example of how to pack a great deal into a limited space. The Short Sturgeon, a machine designed specifically for operation from carriers, naturally reflects the peculiar qualities necessary for such operation. The pilot is given an exceedingly good field of view forward and downward, accelerator and arresting gear is embodied and, in addition, provision is made for R.A.T.O.G. Further, the uni-directional initial shock absorption characteristic built in to the main undercarriage legs enables "drop" landings to be made without sustaining damage.

Regarding the Sturgeon from the viewpoint of design analysis, it is at once apparent that the imposed stricture of a 20ft folded width has had its effect in colouring the whole layout concept of the machine. To achieve a folded width of but one-third the normal span would be no mean task even with a single-engined aircraft, but to do this with a

twin-engined three-seater is a job of more than ordinary magnitude. Shorts are indeed to be congratulated on the extremely neat solution they have made to a very thorny problem.

To fold a 60ft wing down to 20ft meant that only an oblique hinge-type fold could be used—other types would incur unacceptable penalties. It also meant that the nacelle centres must be as close together as airscrew/fuselage physical and aerodynamic interaction would allow; this in turn called for contra-rotating airscrews as being the only way in which the required solidity factor and thrust area could be obtained within a small disc diameter. It is true that contra-props have the additional advantage of eliminating any tendency to swing—and this is particularly valuable for a carrier aircraft—but, in point of fact, it was chiefly for folded



Span - - - 59ft. 11in.  
Length - - - 44ft. 9½in.  
Height (folded) 16ft. 0in.

Two 2,080 h.p. Merlin  
140s driving 10ft. Rotal  
6-blade C.R. airscrews.

The structural analysis of the Sturgeon continued on page 423, is here interrupted for a brief discussion—accompanied by illustrations—of operational aspects and Service equipment.