



Photo: "Flight"

**H. G. Moore**  
has designed a  
Mills .75 powered flying  
scale model of the "Stringbag"

*The Fairey*

# Swordfish

**S**TART on the fuselage by building up the  $\frac{1}{8}$  in.  $\times$   $\frac{1}{8}$  in. hard balsa frames over the plan one on top of the other; remove and bend to top view of plan, and add all cross bracings working from nose to tail.

## *Lower Centre Section*

First cement  $\frac{3}{8}$  in. sheet across fuselage with grooves to take  $\frac{1}{8}$  in. diameter dowels, then add the two  $\frac{1}{8}$  in. sheet ribs; cement to fuselage sides at correct incidence, fit  $\frac{1}{8}$  in. dowels, carry on building up centre-section as shown on plan, and sheet under-surface; do not sheet the top until you have made up the 16-g. wire struts. Fit and well cement them in place, solder on brass tube to carry upper mainplane, then sheet top of centre-section with  $\frac{1}{16}$  in. sheet. Make up the pivot points for the undercarriage with 16-g. inside diameter tube soldered to thin tin, drill and bolt in place on fuselage and c/s with 10-B.A. bolts. Cut out formers and cement in place on top of fuselage, make up the 18-g. wire c/s struts, and bind and cement in position shown on the plan. Add all stringers and sheet fuselage where shown on plan with 1/30th sheet, carve the two blocks of balsa to shape at the nose, making the top one detachable. Now make up cowling ring, cut out motor mount from  $\frac{1}{8}$  in. ply and cement the whole lot in place; carve to shape and sandpaper, solder wire bracings to struts and fair with balsa, add V stress struts from fuselage to c/s, and fair into fuselage with plastic wood.

## *Undercarriage*

Make from 16-g. steel wire bent to shape as shown on plan. Well solder and bind with wire; fit axle wire in the V, and push into pivots; fair with balsa and make axle fairing with plastic wood.

## *Lower Mainplanes*

Pin down all  $\frac{1}{16}$  in. square rib bases over plan, then cement in place the mainspar of  $\frac{1}{4}$  in.  $\times$   $\frac{1}{8}$  in. spruce, t.e. and l.e. Add all  $\frac{1}{16}$  in. square and  $\frac{1}{16}$  in.  $\times$   $\frac{1}{4}$  in. strips by cementing them from l.e. to t.e. Lift off plan, add tips and  $\frac{1}{16}$  in. ply root ribs (see side view of drawing for outline). If preferred, the ribs can be cut from 1/32 sheet.

## *Upper Mainplane*

The ribs can be made as for the lower wing, but the hardest part is the centre section, as the whole wing is made in one piece and must be strong enough to carry the lower wings and support model in flight, so it is the spars that are the main worry. They can be made in two ways: the one I chose is to cut them from  $\frac{1}{4}$  in. birch ply, the other is to make them from  $\frac{1}{8}$  in.  $\times$   $\frac{1}{8}$  in. spruce strips, steamed to shape and cemented together so that you have a  $\frac{1}{8}$  in.  $\times$   $\frac{3}{8}$  in. spar; then thin down c/s as shown in front view of plan. Make one side at a time and sheet centre section last.

## *Interplane Struts*

Make from  $\frac{1}{4}$  in.  $\times$   $\frac{1}{16}$  in. and  $\frac{1}{16}$  in.  $\times$   $\frac{1}{16}$  in. strip leaving a hole down the centre for elastic to pass through; assemble wings on fuselage at correct dihedral and cut struts to length.

## *Covering and Finishing*

Use heavyweight rag tissue for fuselage and tail assembly; wings are covered with medium rag tissues, u/c struts and cowling can either be covered with tissue or treated with sanding sealer. Give the whole model one coat of strong shrinking dope (217 or O-My Glider dope) and treat inside of cowls with fuelproof.

In 1939 *Swordfish* were doped silver all over, with an aircraft carrier identification band aft or forward of roundel on fuselage. This band was either white on blue, or black, green or red on yellow. During the war they were shadow shaded, dark sea grey and dark slate grey on upper-surfaces, undersurfaces either black, duck-egg blue or white, and on all types the underside of the top centre section was matt-black. Exhaust ring pipe and oil cooler were matt-black.

## *Assembly*

Fit u/c into pivot, and attach with strong elastic band to front legs through fuselage. Fit upper mainplane to struts with elastic bands, and lower mainplanes on to  $\frac{1}{8}$  in. dowels held in place by elastic over pins in the root ribs, and passing under c/s to opposite wing. Push  $\frac{1}{16}$  in. diameter hat elastic through hole in lower wing up through strut and upper mainplane over wing and down through rear

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strut; tie elastic under lower wing.

Add flying and landing wires of  $1/32$  in. diameter elastic; attach tail assembly with a strong band around fuselage and over tailplane, fit tailplane struts as shown. Fit motor on mounting with right-hand sidethrust and  $1/8$  in. downthrust, and attach cowling ring—it can be fitted any way you like as it has got to be removable for flying, the only other part removable is the small part of the fuselage decking behind cowling.

### *Flying*

Balance model at 50 per cent of upper mainplane chord, choose a big field with long grass and *still* air, glide test to see that everything is O.K., then start powered tests.

If you have built the model to the plan and are using the three-bladed dural prop, you should have the same luck as I had, and that is that it flew straight off the drawing board and out of sight, so a word of warning—trim it for large left hand turns.