

S.E.5a

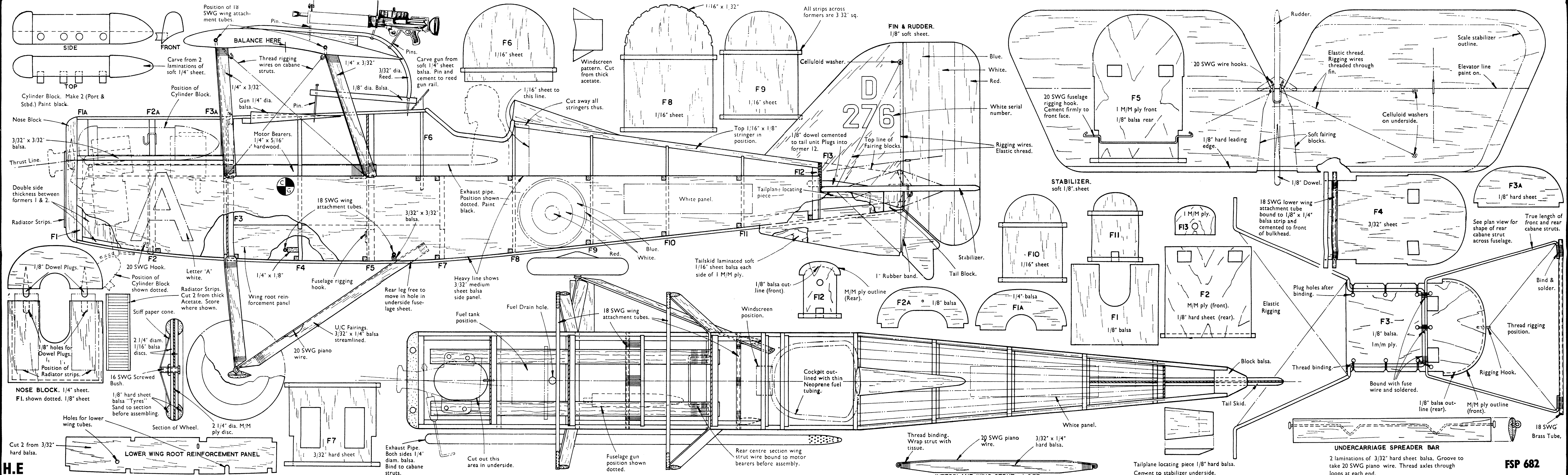
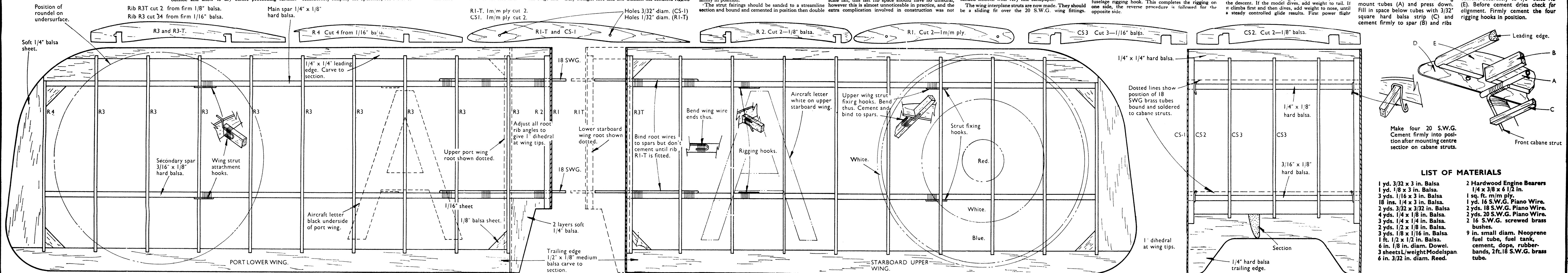
PRICE 50P

4 1/2 inch to 1 foot free flight scale model of Major "Mick" Mannock's machine D.276 as flown in No. 74 Squadron R.F.C.

Designed by J. D. McHARD for .5 c.c. to .8 c.c. engines

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COLOUR SCHEME.
 All upper surfaces—Olive drab.
 Under side of wings and stabilizer—cream.
 Struts—varnished wood.
 Interplane struts have black end fittings top and bottom.
 Cylinder blocks, exhausts, gun—Black.
 Aircraft insignia as shown on plan.



H.E

FSP 682

BEFORE STARTING any assembly, carefully mark and cut out all fuselage parts. Cement wire fittings and 2 x 2 cross pieces to formers where indicated on plan. Bend wire for struts and undercarriage. Start assembly of fuselage by binding with fuse wire and soldering together the undercarriage and front cabane struts. This unit is now bound securely to the front (top) face of bulkhead 3. Coat with cement and block up with 1/8 in. diameter binding holes to prevent fuel leakage from the engine bearers, align carefully and cement firmly. Bind rear cabane struts to engine bearers (see plan view) then cement bulkhead 4 in position. This stage of assembly is shown in Photo 1. The 1/8 in. medium grade sheet balsa fuselage sides should be carefully scored at bulkhead station 8 and bent slightly inward at this point (see plan view). Coat the crack thoroughly with cement inside and outside and allow to dry before proceeding further.

Cover underside of fuselage with 1/8-in. soft sheet balsa with grain running across the fuselage, Photo 6. The removable top engine cowling is next built. Using the two 1/2-in. dowels in the top nose block plug this into the lower nose block cement the 1/2-in. balsa bulkhead 1A and to these struts attach bulkheads 2A and 3A. Bulkhead 2A should have the 20 S.W.G. retaining hook already fitted and cemented in place. Now cover the top of the cowling with 1/8-in. medium sheet balsa, pre-bending as previously described for the cockpit decking. When dry, remove the top covering which should now appear as in Photo 7. This photograph also shows the engine in position, in this case an Albin Merlin. Note the needle valve hole which must be cut to suit the particular engine chosen. The engine thrust-line should be corrected for side thrust at this stage and

the mounting bolt holes drilled in the bearers. After checking remove motor until model is complete and fuel proofed.

Tailplane
 Cut out the tailplane, fin and rudder to standard size. The stabilizer is too broad to be cut from the standard 3-in. wide sheet and the joint should be made along the leading edge using a strip of hard balsa ahead of the joint. Cement former 13 (1mm ply) to the recess in the tailplane leading edge and cement the 1/2-in. hardwood leading dowel in place. Cement the 20 S.W.G. tail unit fixing hooks to the upper surface of the stabilizer trailing edge (see side view). Cement fin and rudder to stabilizer upper surface and square up with the soft balsa fairing blocks at each side. Make certain the rudder is upright. To the underside of the stabilizer cement the 1/2-in. sheet balsa locating piece making certain that the rudder is truly straight fore and aft. Cement the celluloid rigging

covered with lightweight Modelspan cemented on, Photo 8.

Undercarriage
 The main undercarriage leg fairings are bound to the leg from top to bottom with strong thread and then covered with Modelspan. They are not cemented to the fuselage at the top end. The rear undercarriage struts are made up, the lower ends threaded over the axle and the top ends allowed to travel freely back and forth in the slots cut in the 1/2-in. sheet under-fuselage covering. Spring the spreader bar into place.

Top Wing Centre Section
 Next bind with fuse wire and solder, the 18 S.W.G. leg from top to bottom with strong thread and then covered with Modelspan. They are not cemented to the fuselage at the top end. The rear undercarriage struts are made up, the lower ends threaded over the axle and the top ends allowed to travel freely back and forth in the slots cut in the 1/2-in. sheet under-fuselage covering. Spring the spreader bar into place.

Wings
 The upper and lower wings are identical except for the roots of the lower panels which have an extra rib and are set away at the trailing edge, this is clearly shown on the plan. Incidentally, if you are a very strict scale fan, this last rib space should have no dihedral, however this is almost unnoticeable in practice, and the extra complication involved in construction was not considered worthwhile on this essentially straightforward model. The only other difference between the upper and lower wing panels lies in the 20 S.W.G. strut fittings and rigging hooks. The positioning of these is clearly shown on the plan.

Before commencing wing construction cut all spars to correct size and bind the 18 S.W.G. wing attachment wires in position. Shape the leading and trailing edges as shown, before proceeding further. Make adjustments where indicated.

Pin down the trailing edges and hold the spars in correct position with pins on either side. Now cement the ribs in place and then attach the leading edge. The soft balsa 1-in. sheet tips should be fitted but the necessary carving to section should be left until the structure is lifted from the plan. When dry the remaining wire fittings should be bound in place and the wings sanded smooth with very fine sandpaper.

The wing interplane struts are now made. They should be a sliding fit over the 20 S.W.G. wing fittings.

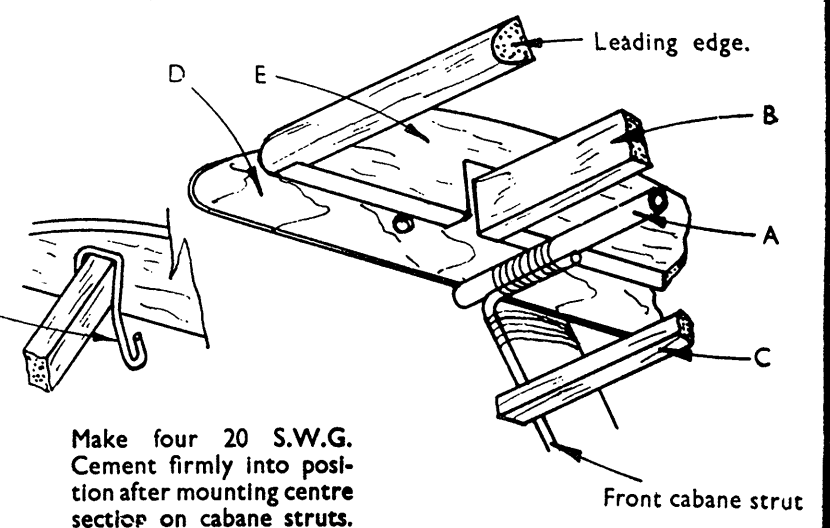
Assemble the wings and struts. The wing root attachment wires should be a smooth sliding fit in their tubes and they should be adjusted to give 1-in. dihedral under each wingtip. The rigging "wires" are reproduced with grey, shirring elastic thread and four pieces are required each 14 in. long and fitted with small 20 S.W.G. rings at each end. One length of elastic thread is taken from the front rigging hook 3 in. out from the root of the upper wing, down and around the top of the main undercarriage leg and up to the top of the front interplane strut. The elastic is taken outside the struts and thus prevents them from falling off. From the top of the front strut the rigging goes down to the bottom end of the rear strut and terminates at the rigging hook near the rear cabane strut. The second rigging thread starts at the front cabane strut hook and terminates at the rear rigging hook on the top wing underside after passing around the interplane struts and over the fuselage rigging hook. This completes the rigging on one side, the reverse procedure is followed for the opposite side.

Pin down the trailing edges and hold the spars in correct position with pins on either side. Now cement the ribs in place and then attach the leading edge. The soft balsa 1-in. sheet tips should be fitted but the necessary carving to section should be left until the structure is lifted from the plan. When dry the remaining wire fittings should be bound in place and the wings sanded smooth with very fine sandpaper.

The wing interplane struts are now made. They should be a sliding fit over the 20 S.W.G. wing fittings.

READ INSTRUCTIONS CAREFULLY BEFORE BUILDING FUSELAGE

IMPORTANT - READ CAREFULLY
 To mount the upper wing centre section on cabane struts, lower the uncovered centre section over wing mount tubes (A) and press down. Fill in space below tubes with 3/32" square hard balsa strip (C) and cement firmly to spar (B) and ribs



- LIST OF MATERIALS**
- 1 yd. 3/32 x 3 in. Balsa
 - 1 yd. 1/8 x 3 in. Balsa
 - 1 sq. ft. m/m ply.
 - 1 yd. 16 S.W.G. Piano Wire.
 - 2 yds. 3/32 x 3/32 in. Balsa
 - 4 yds. 1/4 x 1/8 in. Balsa
 - 3 yds. 1/4 x 1/4 in. Balsa
 - 2 yds. 1/2 x 1/8 in. Balsa
 - 3 yds. 1/8 x 1/16 in. Balsa
 - 1 ft. 1/2 x 1/2 in. Balsa
 - 6 in. 1/8 in. diam. Dowel.
 - 3 sheets 1/weight Modelspan
 - 6 in. 3/32 in. diam. Reed.
 - 2 Hardwood Engine Bearers 1/4 x 3/8 x 6 1/2 in.
 - 1 sq. ft. m/m ply.
 - 1 yd. 16 S.W.G. Piano Wire.
 - 2 yds. 18 S.W.G. Piano Wire.
 - 2 yds. 20 S.W.G. Piano Wire.
 - 2 16 S.W.G. screwed brass bushes.
 - 9 in. small diam. Neoprene fuel tube, fuel tank, cement, dops, rubber-bands, 2ft. 18 S.W.G. brass tube.