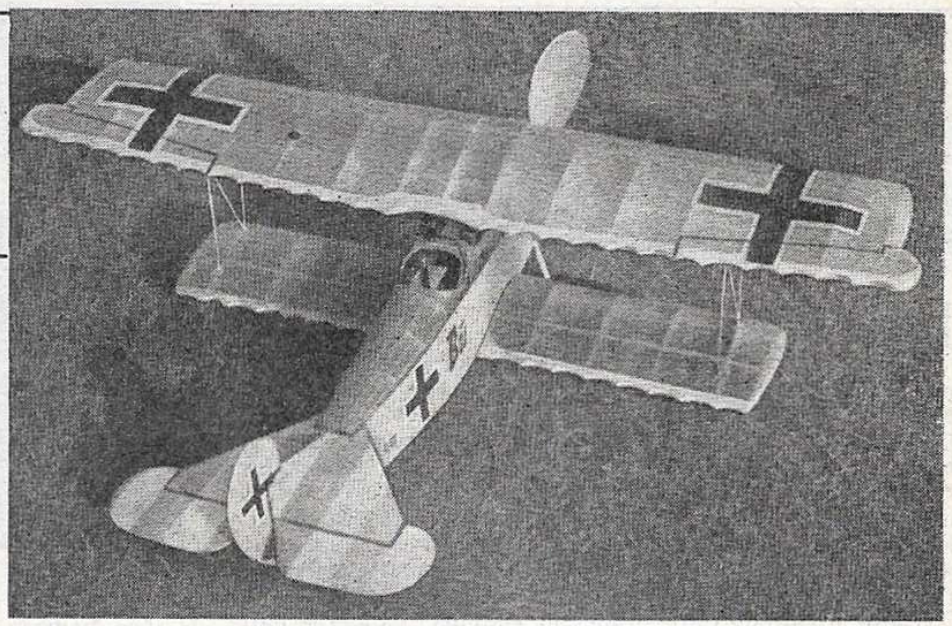
A FLYING SCALE

FOKKER DVII

BY D · R · HUGHES



FUSELAGE. The basic framework, of good ⅛ in. square balsa, is built in the usual manner. Fit the rubber motor-anchorage and lower wing-fixing (1/16 in. sheet) while the sides are on the building board. When the box-structure is complete, fit the formers and commence sheeting the nose. The sheet will have to be cut, at the rear of the cockpit, and re-joined, leaving out about 1/16 in. so as to fit nicely round the cockpit. Rear stringers of hard 1/16 in. square may now be added. All wire parts —undercarriage and centre-section struts— should now be made up and bound and cemented to positions indicated (see separate note, below). Fit the paper tubes for lower wing-dowels and cement securely in position. Dope on the coloured tissue to the sheeted portion of the fuselage, before adding details—machine-guns, exhaust ring, cylinder heads and windshield.

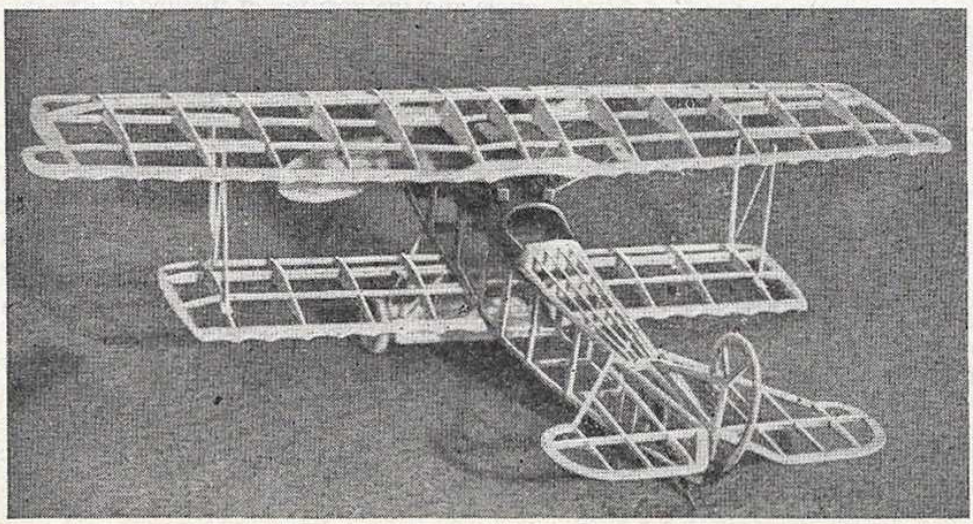
Undercarriage. Make up from 18g. wire to exact shape and size shown, and bind and cement to fuselage, together with forward (18g.) centre-section strut. Now solder the " spreader-bar " to the " V " legs. Bind and solder the axle to the spreader-bar, by its centre only, so as to let the ends spring freely up and down. The Axle-fairing is simply a balsa structure covered with stiff paper. Make slots for the U/c legs, and slide into place; squeezing cement into the slots to fill them up. The wheels may now be added, after painting.

Centre-Section Struts. The front strut is already in place, so it only remains to make up the " V " struts from 20g. wire. Bind and cement each pair to the upright indicated on plan, making sure that they are of adequate length. Now solder the front strut to the top of the first 20g. strut, on each side, making the " N " shaped struts. File off surplus solder and smooth off so as to slide freely into the 16g. ali tube in top plane. Another " spreader-bar " may be made to join the two rear 20g. struts and keep them in alignment. This should be made from 20g. wire and bent to follow the curve or hollow of the centre-section at this point. Make sure that the wing will be absolutely at right-angles to the fuselage as it is rather difficult to make adjustments afterwards.

Wings. The lower wings are very simple and need no special mention—the only fittings being the paper tubes for the fixing dowels, and the ali tubes for the interplane struts. Now the top wing is rather more complicated. Pin the lower mainspars in position, and cement the ribs in place, with the exception of the centre-rib, which is not fixed to lower spar until this is cracked (see note below). Now fit tips, leading and trailing edges in the usual manner. When dry, remove from board and fracture the lower spar in the centre. This break allows for the undersurface of the centre-section to be rounded (see front view). Now prop up the tips to ½ in. at the trailing edge only and fit centre-rib and top spar in position. Cement well and allow to dry out. When completed in this way the wings will be seen to have the required " washout " necessary for stability—since the model has no dihedral. Now, the 1/16 in. sheet gussets and strut fixing tubes are cemented in place. The scalloping on the T.E. should be " roughed out " with a razor blade : finish by wrapping some fine grade glasspaper into a scroll of about 1¼ in. diameter, and use it to carefully trim each serration.

Noseblock and Gears. Shape the noseblock from balsa and cement the ply former to the back. Face the front also with thin ply. Now fit the ⅛ in. sheet spigot (to fit nose former) in position, pre-coating for extra strength. When dry, mark positions of gears and shafts, and drill to take the 16g. brass bushes. Screw these into position, but do not glue yet. Now make up the two shafts and fit the gears loosely in position ; slide into the bushes to make sure that the gears are a snug working fit into each other. When satisfied, remove assembly and re-fit bushes, this time cementing in place. Make the usual card washers for soldering (to stop the flux spreading into the bushes). Solder the gears in place.

Covering and Finishing. Fuselage is covered in a medium-heavy grade of tissue, water-doped and given two coats of clear dope. Wings and tail are covered with light-weight tissue and given one coat of dope. Use very thin dope for tail surfaces if dope must be used, but it would be better not to dope the tail at all, as it rather prone to warp.



Flying. Power, with 4–6 strands of ¼ in. × 1/30 in. rubber, 30 ins. long. Balance model by adding weight to the noseblock which may be hollowed out for this purpose. Motor will have to be wound anti-clockwise unless noseblock is removed which is, incidentally, the best method. Start with about 50 turns and work up until model will R.O.G. and climb in a wide left-hand circle. Up to three degrees of downthrust may be needed for correct flying under full turns.