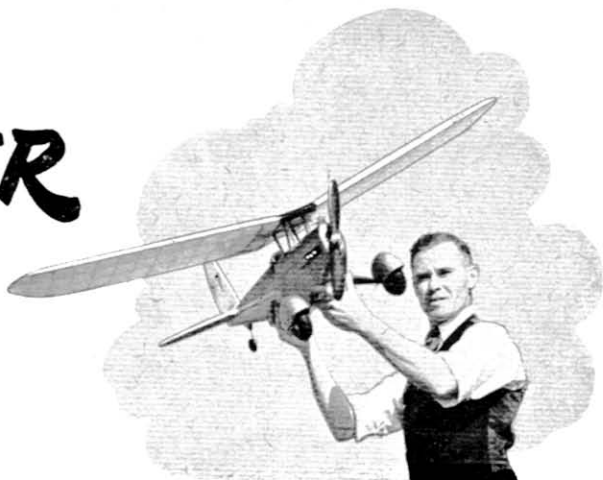


CHALLENGER

AN ATTRACTIVE SEMI-SCALE
POWER MODEL

By J. A. Newton



"CHALLENGER" will appeal to those who like their models to look something like the real thing and yet have a good flight performance. It is a good all-the-year-round model and will stand up well to the inevitable hard knocks from all-weather flying. The construction is quite straightforward and is unlikely to present any difficulties to the average aeromodeller.

The Fuselage. Build two sides on the plan in the usual manner. When dry remove and cover with $\frac{1}{16}$ in. sheet. Remember to make a right and left side—it is easy to boob here, I know, I've done it! Join the two sides by means of the cross pieces. The next job is to fix the centre-section struts in place, this must be done securely—using plenty of cement and plastic wood. Add the semi-circular top decking formers and sheet the top and bottom. Now cement the undercarriage tubes in place, again using plastic wood for strengthening purposes. Cement a piece of $\frac{3}{16}$ in. balsa sheet between the tubes and face with $\frac{1}{16}$ in. ply to provide a secure fixing for the bolt which holds the undercarriage springs. The knock-off engine mounting is of the usual type and requires no explanation here.

A 2 c.c. E.D. Competition Special was used on the original model and it provided ample power. Any other motor of similar capacity could be used instead and the design permits of either upright or inverted mounting. The sides and bottom of the engine cowling are shaped from $\frac{1}{2}$ in. sheet and rounded to

shape after assembly. The top cowling is carved from soft block, hollowed out to suit engine and fixed with dress snap fasteners. The centre-section should now be completed, making sure to get the angle of incidence correct. The wheel spats are an optional fitting.

The Wing. The construction of the two wing halves is quite straightforward. Before cementing the tongue into position, incline the first rib to give 3 in. dihedral at the wing tips. Be sure to select hard balsa for the leading and trailing edges and the spars. The tailplane and fin require no special mention.

Finish. Sand the fuselage smooth, rounding the corners and applying two coats of dope or banana oil between sanding. The fuselage on the original model was finished in blue translucent paint, applied over an undercoat. This increased the weight quite a bit, but made no apparent difference to the flight performance. A saving in weight could be effected by covering the fuselage with Modelspan or heavy rag tissue instead of balsa sheet, but this is not recommended.

The wing halves, tailplane, and fin, are covered with Modelspan or heavy rag tissue and given two coats of dope. Weight the wing and tailplane down whilst drying to avoid warps.

Flying

The prototype "Challenger" flew "straight off the board," it proved to have no vices and was easy to trim. To obtain the best glide before attempting a power flight, it may be necessary to pack up the trailing edge of the tailplane with a piece of $\frac{3}{32}$ in. balsa. The all-up weight of the original model was 2 lb., but nevertheless it had a very satisfactory performance—climbing in wide left-hand circles and gliding far flatter than many contest gliders!



"Challenger" is an interesting out-of-the-rut design with very attractive semi-scale lines

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