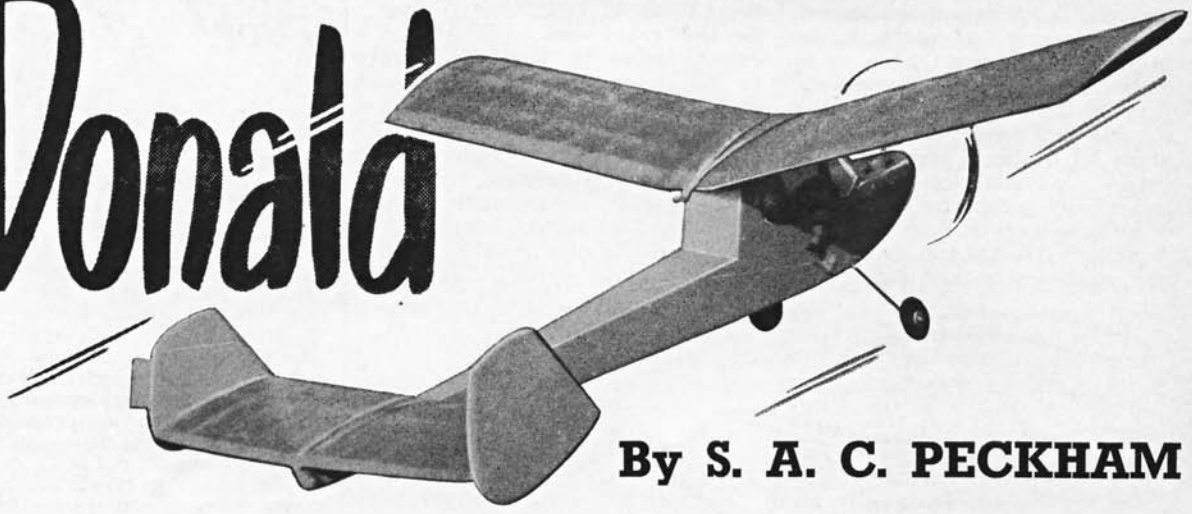
A SPORTS MODEL FOR ·75 c.c. ENGINES

Donald



By S. A. C. PECKHAM

THIS sports job is the ideal transition model for anyone progressing from rubber or glider designs to their first power model.

Fuselage

Cut the fuselage sides from medium hard $\frac{1}{16}$ sheet; former 1, from $\frac{3}{16}$ hard balsa, formers F2, F3, F4, from medium hard $\frac{1}{8}$ sheet, and F5, F6, F7 and F8 from medium 3/32 sheet. Join the fuselage sides with F3 and F4, and when dry add rest of formers, working towards rear, leaving F1 until last.

Bend undercarriage from 14 g. piano wire and bind to $\frac{1}{16}$ ply former F3B, then sandwich between F3 and the $\frac{1}{8}$ balsa former F3A. Cement engine bearers in position.

Cut out $\frac{1}{8}$ sheet wing platform and cement in position. Now add rear fuselage decking, making sure that it extends up to F4. Trim surplus and add rear of cabin. Cement bottom sheet from F1 to F4 with grain running crosswise, and from F4 to rear, grain lengthwise.

Plank between F1 and F2 with $\frac{1}{16}$ sheet, then cut and fit from $\frac{3}{16}$ sheet the cowl sides and front. Add top and bottom of cowl built up from layers of $\frac{3}{16}$ soft sheet. When dry sand fuselage, rounding off all corners and shaping cowl. Then remove cowl top and bottom and hollow out. Drill engine bearers, bolt engine in position, and drill hole for needle valve. Thoroughly fuel proof inside of cowl and add tank.

Cover complete fuselage with tissue doped on, then apply two coats of sanding sealer.

Finally, add wing and tailplane dowels, and also windscreen. Sorbo wheels of 1½ in. dia. are recommended and are kept in place by soldering a washer either side of wheel.

Wings

The wings are perfectly straightforward. Trailing edge and rear spar ($\frac{1}{8} \times \frac{1}{4}$ hard) are pinned to plan and ribs added. Main spar is now cemented in position, trim end for tip, and allow at least 1½ in. overlap at root end. Add leading edge and when whole is dry remove from plan and build the opposite wing panel—don't build two the same! When the other panel is dry, remove and pin both root ribs to plan at correct distance apart. The main spar will need trimming to allow tips to be packed up for correct dihedral. Now add $\frac{1}{2} \times \frac{1}{8}$ in. braces either side of main spar, and leading and trailing edge to centre section. Fit all gussets, and when dry remove from board, add tips, and finally sand smooth. Cover with lightweight Modelspan, colour to choice, and give three coats of dope.

Tailplane and Fins

The tailplane should not need any instructions, but for the sake of beginners, pin leading edge ($\frac{1}{4} \times \frac{1}{4}$ in.) to plan also trailing edge ($\frac{1}{8} \times \frac{1}{2}$ in.) and spar ($\frac{1}{8} \times \frac{1}{4}$ in.); add all ribs, the tip ribs being of $\frac{1}{8}$ sheet. Sand smooth, cover with lightweight Modelspan and apply two coats of dope.

The fins, each two pieces of 3/32 medium sheet (note grain), are sanded to streamline shape, covered with tissue, and cemented to tailplane after it has been covered and doped. Add trim tabs made from thin sheet aluminium.

Flying

The model should balance at a point $\frac{5}{8}$ in. forward of rear spar. Test glide: this should be slow and flat; if not, add packing as necessary but not ballast.

The prop I recommend is a Frog 6 × 4 nylon. With power at about half revs, and trim tab 5-6 deg. to port, launch gently into wind, not fast as it is fairly slow flying. This trim should produce a gentle left turn under power and glide.