A 62 inch

Radio Control

design for 2·5 to 3·5 cc

WAVEGUIDE

by Flt. Lt. F. BURTON AND S. A. C. WOODS

WE HAVE HAD many requests for Radio Control designs specifically created for contest purposes and penetration into wind. The enormous success of our plan for R.6.B indicates the appeal such specialized designs have among the Radio Control fraternity and in Waveguide we have another quite different approach. The prototype was built by Flt. Lt. Burton and S.A.C. Woods of the R.A.F. Station at Mafraq in Jordan, Middle East. They have closely followed the layout developed in the U.S.A. by Harold De Bolt for aerobatic work, and the result is a burly, tough design for all-weather flying and with relatively simple structure. Over to Flt. Lt. Burton and S.A.C. Woods for their description:—

"After a series of semi-scale cabin type of sports models had been built and tried under radio-control we decided to branch out and design a model that was both pleasing on the eye and capable of good wind penetration. Reading the article on Radio Control design in the 1954 "AEROMODELLER ANNUAL" we decided to base our design on "Live-wire" set up. We drew up the plans in one evening, and inside a week, were already to test glide.

"Take-offs are a pleasure to watch, a run of 30-40 yards until speed is built up, then the model fairly leaps into the air going into a fast climb. Response to rudder is very snappy and we are convinced that it will fulfil all the requirements of a stunt model."

Fuselage. Build two basic frames over the plan from $\frac{3}{16}$ sq. and $\frac{3}{16}$ sheet. When dry, remove from the board and join at tail end. Add all cross pieces, top stringer and gussets. Make false top half-formers from scrap $\frac{1}{8}$ sheet and cement either side of top stringer.

Make up nose-wheel assembly and sew to F1. Cement to fuselage. Add engine bearers. Assemble main undercart and cement in place. Add tail-skid. Cut cabin sides from 1 mm. ply and fix celluloid windows to the inside. Fix in place. Cover fuselage sides with $\frac{1}{16}$ sheet. Add all dowels, receiver hooks, etc. Complete all wiring, fix switches, etc. Sheet top of nose with $\frac{1}{16}$ sheet and add windscreen.

Wings. Pin lower T.E. lower spar, and lower L.E. strip over plan. Add all ribs, top spar, top T.E. and $\frac{1}{4} \times \frac{1}{2}$ L.E. strip. Cement dihedral keepers in place, wing tips, and top $\frac{1}{16}$ in. sheeting.

Tailplane. Mark rib positions on main spar, then cement all ribs in place. Place over plan and pack up front and rear to allow for the symetrical section. Add L.E. and T.E. ensuring correct alignment. Cement tip blocks in place. Sand to shape.

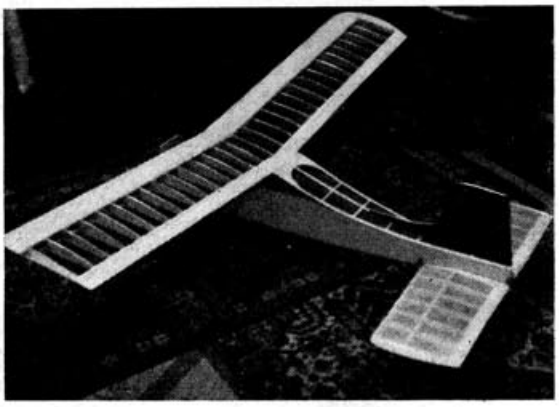
Fin/Rudder. Build outline over plan, remove and add $\frac{1}{4} \times \frac{1}{16}$ strips for ribs. Attach rudder, dorsal fin, and cement to fuselage.

Cover fuselage and fin with heavyweight Modelspan and give 4 coats of clear dope. The wings, tailplane have light-weight Modelspan and 3 coats of clear dope.

Radio Installation of the original, was an E.C.C. 951.A receiver and E.D. Compact Escapement as shown on the plan.

Flying. The original, apart from a little positive packing on the tailplane, flew straight off the board and no side thrust or downthrust was found necessary using the Oliver Tiger 2.5 c.c. diesel which incidentally, provides ample power.

Power on/power off characteristics are very good, flying speed both under power and on the glide being quite fast. This produces a snappy response to rudder which is best limited to small movement until fully conversant with the response obtained.



Full-size copies of the 1/5th scale reproduction opposite can be obtained price 6/- post free from Aeromodeller Plans Service