Scale enthusiasts—build a replica of

Superb C/L TWIN

44 in. Span for engines 2·5-3·5 c.c.

WE have pleasure in presenting here the details of J. E. D. Mackie's fine model, which greatly impressed us when we saw it at the R.A.F.M.A.A. Championships. The original was profusely detailed, but the degree to which this is carried is, we feel, best left to the individual modeller. We include some of his hints on materials to use for various details, however, after the building notes.

Fuselage

The model is of basically simple construction, the fuselage being built up from $\frac{1}{4}$ in. sheet sides and bottom and $\frac{3}{8}$ in. sheet top-decking, rounded to oval the section shown. First laminate the nose from $\frac{1}{2}$ in. and $\frac{1}{8}$ in. sheet; this has to be hollowed out later—or may be pre-hollowed, " bread-and-butter " fashion. Cement the $\frac{1}{4}$ in. sheet sides to the nose unit and fit former F1. When this assembly is set, the remaining formers can be added, followed by the fuselage top (pre-slotted for fin) and bottom, the latter as far as F2 only. Bind and cement the tailwheel assembly to its block which, in turn, should be very securely cemented in place, as it comes in for a lot of stress with " circuits and bumps."

Wing

The ribs are made by the sandwich method shown on the plan. Build the wing flat on the plan, first having cut the mainspar slots right through to the bottom edges of W1-W4, so as to be able to position the mainspar from underneath when the assembly is lifted from the board. After cementing the mainspar in place these slots are filled in again. The lower surface of the wing is now sheeted except for around the engine bearers and the fuselage position (between ribs W1). Now fit the bearers and nacelle formers, make and fit the throttle controls, leadouts and throttle push-rods. Sheet the top surface of the wing. Bind and cement the undercarriage legs to the bearers before building up the nacelles. Slot the fuselage sides to take the mainspar, cut away L.E. and T.E. of wing between ribs W1 and fit wing to fuselage.

The empennage parts are now made, tissue covered, hinged and fixed into position. Note offset of rudder.

Finishing

The rest of the model should now be tissue covered, and then sprayed with filler (suitably masking the cabin window panels). Sand down and repeat the filler coat if desired. The undersurfaces are light grey and the upper surfaces a dark grey with green mottled effect. The original model had fuel-proofer mixed with the colour-dope. Transfer letters were motorcycle registration transfers.

Flying

The operation of the throttle control via the third line requires careful adjustment to ensure that the spring is not strong enough to slacken the flying lines and yet not so weak as to allow the line to drag and close the throttle accidentally. (Operation is: pull to close, release to open.)

Arrange tanks so that the outboard engine cuts first. The throttle may then be used for controlling the landing on inboard engine only.

Detail tips

Brake-pipe line from plastic-sleeved wire. Paint in " creep " marks. Use 6 B.A. nut instead of usual washer to retain wheel. Rear fuselage aerial is from 22 S.W.G. wire and front aerials from 18 S.W.G. with 22 S.W.G. blades soldered on and bent sideways. These are removable for starting motors (otherwise they get in the way of one's fingers !) and slip into brass tubes in the nose. Seats are from postcard. 'Chutes from block covered with silk and coloured buff. Straps from white tape with metal or paper clips as fasteners. Control-column is built up from 14 S.W.G. wire with 16 S.W.G. horn type handles bound with fusewire and soldered to look like finger grips. Paint matt black. Rudder pedals are from 18 g. tubing, pins and card—don't forget to offset the rudder pedals to tie up with the offset rudder ! Instrument panel has strip of celluloid sandwiched between the two layers of mm. ply. This is fitted in curved position, so allowance will have to be made when marking instruments so they coincide with the holes in the ply. Calibrations in *white* on black, please ! Build guns from brass tubing and scrap balsa, ammo. boxes from card and block—or built up from card with strip belts using pin ends for 7.2 mm. shells and gramophone needle ends for 20 mm. shells. . . .