AERONCA C-3

A dandy little F/F model by P. M. H. Lewis's

Cheap and safe flying for all has long been the aim of the enthusiast, and one of the most successful approaches towards this ideal was the little " Razor-back "Aeronca of the 1930s. Yearly improvements to the original design culminated in the Master C-3 of 1935 which forms this flying-scale model. The refinements of formers and stringers added to comprise the cabin on this final version of the two-seater resulted in the elimination of the sharp edge of the fuselage decking from which the machine earned its nickname.

Side mounting of a 0.5 to 0.8 c.c. engine, together with a dummy cylinder, makes an excellent substitute for the full-size power plant, and the aircraft's unusual lines and light-plane proportions contribute towards an eye-catching model with a fine, stable performance.

Fuselage: Two 3/16 x 1/8 in. hard strips of balsa are pinned down on to the plan to form the upper and lower longerons, the latter one having the 20 G. wire tailskid bound and glued to it before being placed in position on the board. Formers F2 10 F5 arc cut from 3/32 in. sheet and their left halves are cemented in place, together with the rudder post at the rear end. Sheet, 1/16 in. thick, forms the sides of the fuselage and these are cemented in separate pieces across the edges of the formers to give the poly-sided effect to the structure. The lower sides are continued just forward of F1's position, for trimming to length when this former is added later. The top and bottom of the fuselage are left open and the left half is now removed from the plan, ready to receive the right-hand sections of F2 to F5. When these are firm, the remaining sides are added. Former F1 is made from 1/8 in. sheet and acts as the mount for the 16 G. wire undercarriage which is sewn and glued to it. F1 then takes its place on the lower longeron and the sides are bent in and cemented to it. The fuselage top and bottom follow' and the platform for the tailplane on each side of the upper longeron completes the rear end. Hardwood engine bearers are glued firmly into F1 and may need to have their spacing adjusted according to the engine used. Rigid support on the center line is provided by 1/4 in. sheet filling to the outline of the cowling and the latter is built up on each side with either block or sheet laminations. Space for the cylinder and tank is left on the right side and the whole nose is carved to shape. The center-section platform, upon which the wing rests, is cut from 3/32 in. sheet, and the edges of the cabin sheet sides are strengthened by strips of 1/8 x 1/8in. The platform front supports arc of 1/4 x 3/32 in. and the rest of the window framing is made from 1/8 x 3/32 in.

Wings: These are quite simply built up direct on the plan by pinning down 3/16 x 3/16 in. leading and 1/2 x 1/8 in. trailing edges together with the 1/4 x 1/8 in. main spar. Ribs R2 to R9 are cut from 1/16 in. sheet while 1/8 in. sheet is used for R1 3/32 in. sheet forms the wingtips. When all is set, crack on each side of the center-section and raise the tips to 1 1/2in. for dihedral, which is retained by in. sheet filling in between R1 and R2 1/4 in. sheet between R5, and R6 provides support for the bracing. The tail unit is cut to shape from 1/8 in. sheet and sanded to section. Cement the tailplane firmly onto its platform and then add the fin, to which the rudder is attached with an aluminum hinge.

Covering: The whole model is now' given a covering of tissue and the wings are water sprayed to tauten. Two coats of clear dope are followed by another two of color. The original NC14549 was yellow overall with a pair of tapering black lines on each side of the fuselage and with black lettering on upper starboard and lower port wings and on each side of the rudder.

AERONCA C-3

Detail: The undercarriage leg fairings arc cemented and bound to the wire, and the 1 1/2 in. wheels are retained by washers soldered on. The dummy engine cylinder and the exhaust are made up from scrap balsa and hardwood dowelling. The latter wood is used also for anchoring the wings' retaining rubber bands 18 G. wire, faired with balsa, forms the bracing kingpost above the wings and the wires are simulated by rubber shirring thread, connected to the fuselage with thin wire staples. Celluloid covers the cabin and the center-section of the wings.

Flying: Add weight as necessary to the nose or tail until the glide is satisfactory, then trim under power with side thrust and the rudder so that the model performs as required.

Model Aircraft Magazine July 1958