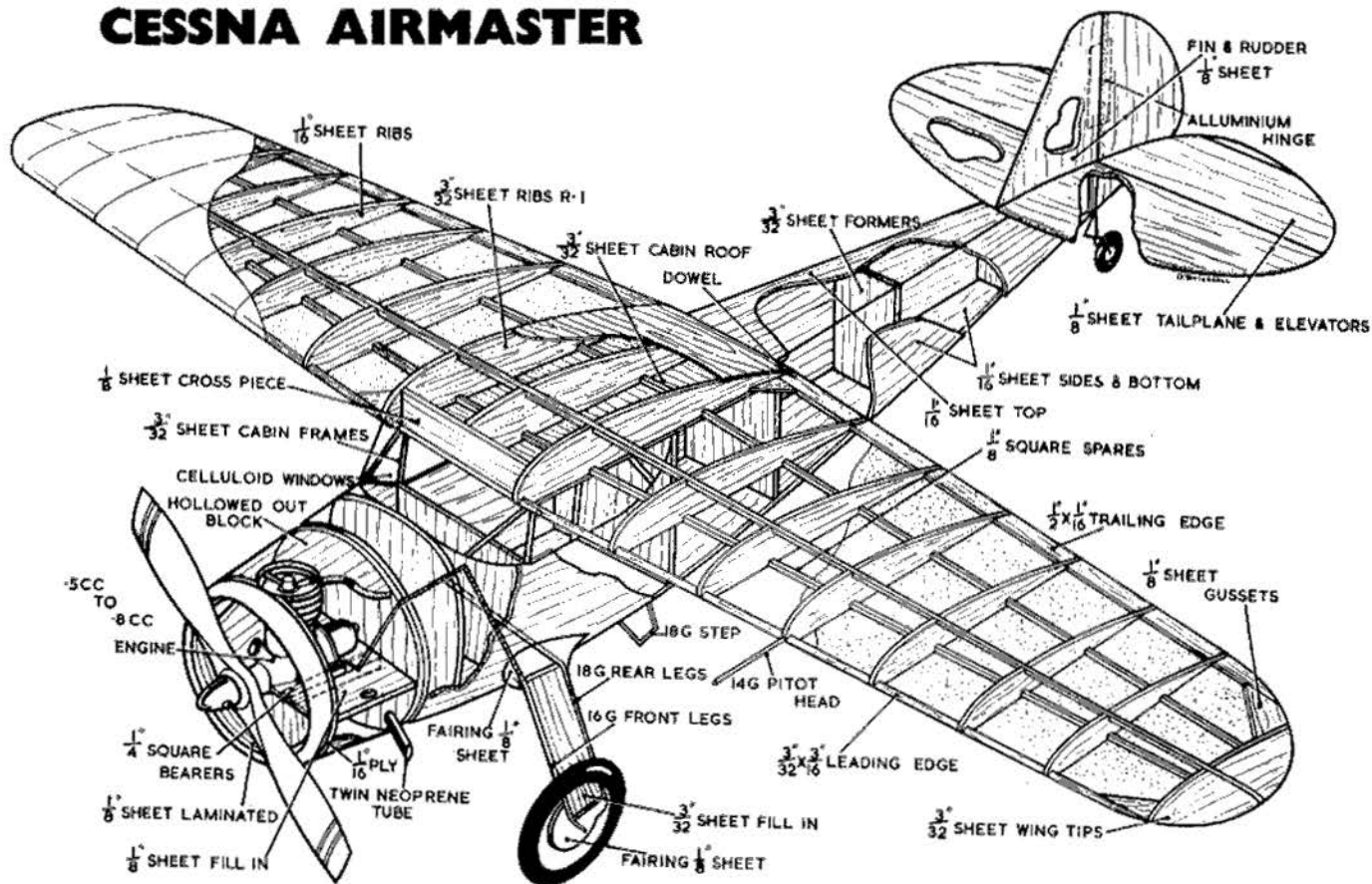


CESSNA AIRMASTER



A 24 x 17 in. copy of this perspective drawing is supplied with each plan of the Cessna AIRMASTER (M.A. 308)

Using these methods of construction, this

CESSNA AIRMASTER

is a typical example of the ideal prototype for free-flight scale



FOR the past thirty years the Cessna company has produced its range of well-known cabin monoplanes for the private owner. One of the sleekest of the designs was the very successful *Airmaster* of 1934, which remained in production for several years, culminating in the C-165 model powered by the 165 h.p. Warner Super Scarab.

The machine was a four-seater, with cantilever wing, tail surfaces and under-

carriage, all features contributing to a neat, strong and easily-built model possessing a good flying performance. The radial cowling encloses adequately a 0.5 c.c. to 0.8 c.c. motor.

Fuselage

One-sixteenth sheet is used for the sides, two of which are traced from the plan and then cut out from medium weight stock. At the same time the



Rugged lines coupled with well-ried construction methods ensure success with this F/F scale Airmaster

positions of formers F1 to F9 are marked on the inner surfaces. The $\frac{1}{8}$ in. hardwood or celluloid tailwheel is mounted on its 20 G. wire axle which, in turn, is bound and glued to the $\frac{1}{8} \times \frac{1}{8}$ in. sternpost. Both sides of the fuselage are next brought together at the rear and cemented on either side of the sternpost. Rubber bands serve to hold them in contact while setting.

The formers are cut from $\frac{3}{32}$ in. sheet and inserted one at a time from the rear, working forward to the nose. Before F5 is fitted, the main undercarriage leg is shaped from 16 G. wire and sewn and glued to the face of the former. The sides at the nose will need dampening or steaming to follow the curvature of F2. The rear undercarriage leg is made from 18 G. wire and is bound to a $1 \times \frac{1}{8}$ in. crosspiece which then takes its place in the fuselage. One-sixteenth in. sheet top and bottom are added together with the nose upper and lower panels; $\frac{3}{32}$ in. sheet comprises the cabin roof and is used also for the framing of the windows.

When the undercarriage legs have been faired with $\frac{3}{32}$ in. sheet, the pair of $\frac{1}{8} \times \frac{1}{8}$ in. hardwood engine bearers are cemented firmly into $\frac{1}{8}$ in. sheet F1, which is then fitted to the nose. Note that the bearers may need spacing to accommodate the particular engine selected for the model. One-sixteenth in. ply, F1, forms the front of the cowling and it is pinned and glued on to the bearers. Once it is set, $\frac{3}{32}$ in. sheet strips are used to fill in the lower half, while some block balsa is shaped for the removable upper section. Press fasteners hold the latter in place. The front ring is laminated from $\frac{1}{8}$ in. sheet; $\frac{3}{32}$ in. hardwood dowels pass through the fuselage to anchor the wing retaining bands. The fuselage structure is now complete and ready for sandpapering all over to remove the rough edges.

Tail unit

This is a straightforward structure of $\frac{1}{8}$ in. sheet, cut to outline and sanded to section. The tailplane and elevators are made in one piece which is cemented to

the $\frac{3}{32}$ in. sheet platform insert at the rear of the fuselage. The fin is mounted firmly above, the rudder being joined to it by an inset hinge of thin aluminium.

Wings

These are constructed direct on the plan. The first step is to pin down the $\frac{3}{16} \times \frac{3}{16}$ in. leading edge and the $\frac{1}{2} \times \frac{1}{16}$ in. trailing edge, together with both $\frac{1}{8} \times \frac{1}{8}$ in. lower spars. The three ribs, R1, are cut from $\frac{3}{32}$ in. sheet, that in the centre having its nose cut to take the $\frac{1}{8}$ in. sheet crosspiece. The remaining ribs R2 to R8 use $\frac{1}{16}$ in. sheet, and all of them are cemented in place followed by $\frac{3}{32}$ in. sheet wing tips. When these are set, the $\frac{1}{8} \times \frac{1}{8}$ in. upper spar is added; $\frac{1}{8}$ in. sheet corner gussets strengthen the corners of the centre section. Dihedral is incorporated on the undersurface of the wing by cranking at the four points of the outer ribs, R1, and by blocking up the tips on

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the board until the upper surface of the entire wing is level; $\frac{1}{16}$ in. sheet is then cemented to the upper portion of the centre section, while the underside receives $\frac{1}{32}$ in. sheet.

Covering and finishing

Sand away any rough edges and apply sanding sealer where necessary. Medium weight tissue is used for covering the whole structure. The wings are water-sprayed and, when quite dry, receive two coats of clear dope in company with the fuselage and tail unit. Coloured dope as required is sprayed on as a final finish, two coats normally being sufficient.

The cabin window area is covered with thin celluloid and the aileron, flap, elevator and trim tab outlines are ruled on with Indian ink. The mounting step on the starboard side of the cabin and the pitot head on the port wing are made from wire. Finally, the motor is bolted in place and the Airmaster is ready for flying.

