



PEREGRINE

BY
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A Concours d'Elegance class model for the point-fives

TOO much dihedral spoils many semi-scale models, but one way to overcome the need for it is to install a pendulum rudder. If you have never tried one, don't worry—nor had Dick Twomey till he built the original "Peregrine," and now he is a complete convert, with ideas of fitting pendulums to all types of models! If you don't fancy putting one in, build the model with increased dihedral ($2\frac{1}{2}$ in. under each tip) by lengthening the wing struts. You have, too, the alternatives of a tricycle gear or a conventional undercarriage, with or without spats.

Though not a beginner's model, the trim lines, all-sheeted fuselage, and concealed wing fixing, etc., make this an excellent choice for builders who prefer a realistic model lending itself to a high finish or those looking for a rugged, all-weather sports flier.

Construction

The basic fuselage sides are first joined at tail and F7, 8, 9 and 10 inserted. Assemble the bearers and F1-6, placing F3 and 4 tight together but not cementing them. Carve and hollow nose-block and plank nose with $\frac{1}{16}$ in. strips, after checking the engine for fit. Shape the undercarriage and install the nosewheel (if used).

This is hinged as shown, between the bearers, F7, and block then sprung by means of rubber bands extending to F4. Add remainder of formers and spacers and construct the centre-section, checking carefully that F16 is set on F7, 8 and 9 at the correct incidence. Fit wing locating dowels, and box for strut.

Build the tailplane before planking the fuselage top and note that the $\frac{3}{32}$ in. sheeting on top of the centre-section extends $\frac{1}{8}$ in. over the ribs to facilitate covering. Fit small tongues to lock the tail in positive alignment.

F15 can be cemented to the tailplane i.e. and the fuselage planking extended right over to the t.e. after cementing the fin onto tailplane. The rudder

is lightened and must move freely; the partial aerodynamic balance plus the lightweight means that very little pendulum weight is required. Full movement is $\frac{3}{16}$ in. each side of neutral.

Fuselage cockpit details can now be added, a dashboard and dummy controls, etc. The whole of the under-side is covered with soft $\frac{1}{16}$ in. leaving a nosewheel movement slot (if necessary) and providing drainholes in the engine bay. Complete gill slots, etc.

The wings are straightforward and each is fitted with a small hatch to ease attachment. Rubber bands, passed through the centre section tube and root ribs by means of a 16 s.w.g. hook, loop over pins embedded in the l.e. making the wings virtually crash-proof and easily dismantled for transport. The wing struts must be accurate, and are built up from two strips of $\frac{1}{16}$ in. \times $\frac{1}{2}$ in. grooved inside to take 22 s.w.g. wire. The wire is looped at each end and bound at the top to the lower mainspar at inner rib W5; the lower loop fits in the strut box and is linked to its opposite number with rubber bands.

Cabin covering at the sides is simple but the windscreen shown is duo-curved and must be moulded. A straight screen can be substituted with a slight loss of appearance if desired. The entire model should be covered with lightweight Modelspan and suitably doped.

The important points in flying are (a) check that the c.g. is as shown (b) check that there are no warps, that fin is neutral and secure, and that pendulum operates freely. Tailplane packing may be used if necessary, although the prototype flew as drawn. With neither down or side thrust a wide left climbing turn is to be expected with a fairly straight glide. Gusts, bad launches, etc., are all magically ironed out by the pendulum, so if you've never tried a pendulum, "Peregrine" can teach you something!