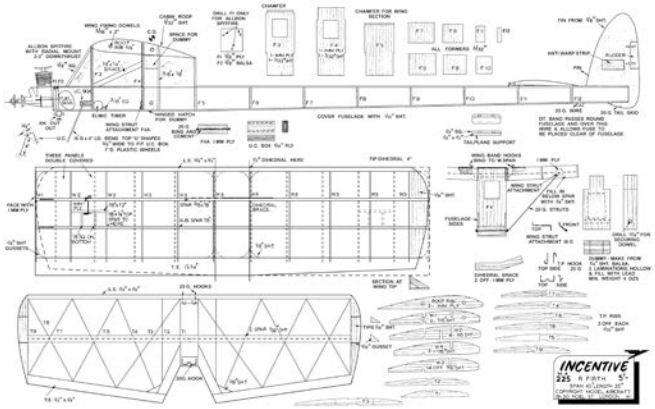
Incentive





Ronald Firth describes his 1 c.c. PAA-Load model which has taken several places in national competitions.

After designing a model for the Elfin 1.49 to the S.M.A.E. PAA-Load specification for models up to 1.5 c.c. power, the contest at the All Britain Rally for 1 c.c. PAA-Load models spurred me to design a further model for an Allbon Spitfire. The excellent radial mount available for this engine was utilised, thus saving the weight of engine bearers.

Fuselage: Formers F1 to F12 are cut out and the 1 mm. ply formers F3 and F4 well cemented to their 3/32 in. sheet balsa counterparts. Cut the two fuselage sides from 1/16 in. sheet and cement in place formers F3, F4 and F5. When dry join at the tail and add formers F6 to F12. Cut the two root ribs from hard 1/16 in. sheet making sure that the 3/16 in. dia. holes for the wing dowels are in identical positions in each rib. This is important as the wing incidences depend upon it. Cement each root rib to formers F3, F4 and F5. When dry cement in the 2 in. long wing dowels. Cement F2 in place. Make up the undercarriage box from 1/16 in. ply and after cutting slots in the fuselage side cement firmly in place. Cut the hole in the port side of the fuselage for the Elmic diesel timer and reinforce the starboard side with 1 mm. ply to which the timer is bolted.

Cut a piece3/16 in. square 1 1/2 in. long and cement across fuselage at the position shown. Make former F4A from a piece of 1 mm. ply and bind 20 S.W.G. wire to it as shown and then cement firmly to former F4 after cutting slots in the fuselage sides. Cover fuselage top and bottom with 1/16 in. sheet. Add the two 1/8 in. X 3/8 in. pieces behind the dummy position, the two 1/4 in. X 1/8 in. dummy braces, and also the two pieces of 1/8 in. square which form the cabin front. Add the 1/8 in. sheet fin (the anti-warp piece is important) and hinge the rudder with aluminium strip. The tailplane support is then made up and inset into the fuselage top as shown. The cabin roof is covered with 1/32 in. sheet. Make a hatch below the dummy position and hinge with bandage.

Drill former F1 to take the three 8 B.A. bolts. Screw the bolts in place and solder wire between to lock them. Glue former Fi in place with Durofix and for additional strength cement bandage over the former and on to each fuselage side.

Sand the fuselage frame and cover using lightweight Model span doped on. Fuel proof overall. Add the celluloid windows, the celluloid extending over the root ribs, this strengthens the center section considerably. Add the D/T band wire fixing and tailskid below fin. Form the U/C legs from 16 S.W.G. wire. Fit the 4 oz. dummy in the fuselage. A pin can be used to keep the dummy door closed when the dummy is in position. Make up the fuel tank from celluloid and cement on the fuselage side. Fix the Keil kraft or Mercury fuel cut-off valve in the position shown and connect to the Elmic Timer with 20 S.W.G. wire.

Wings: The trailing edge is 1 in. X 1/4 in. T.E. stock and the leading edge is from 3/8 in. X 1/4 in. sanded to section.

Pin T.E. to plan and also the L.E. which is blocked up 1/16 in. Add all ribs except W4, and cement mainspar in place. When dry remove from board and cement

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subspar in place. Divide wing at rib W4 position and fit a dihedral brace. Add wing tip sheet and 1/8 in. sheet gussets as shown. Add 1/8 in. X 1/4 in. top spar to ribs W1 and the two ribs W2. Fill in between ribs W2 with 1/8 in. sheet below mainspar. Add the 1/8 in. X 1/2 in. piece between ribs W2 and the two pieces of 1 mm. ply 3/8 in. square drilled centrally. When dry, insert the 18 S.W.G. wire attachment pieces and fix permanently by a right angle bend at front. Bind the wing band hooks to the spars as shown and cement well. Add the two 1/8 in. square pieces between the 1/8in. X 1/2 in. piece and the subspar. Face the root rib with 1 mm. ply.

Tailplane: Pin the L.E., the bottom of the 1 section spar and the T.E. to the plan. Cement ribs in place except T3, T5 and T7 which are divided at the dotted lines and trimmed to fit. The web pieces of the 1 spar should have vertical grain. Strengthen tips with the 1/16 in. sheet gussets.

Final Details: Cover with lightweight Modelspan and give two coats of dope. Double cover first two panels of each wing. Fuel-proof the wing undersurfaces.

Rigging: Make up two 20 S.W.G. wing struts, which are permanently fastened to the wing attachment pieces. The length of the wing strut is adjusted until the dihedral angle at W4 is 1/2 in. The tailplane is tilted until it is parallel to the inboard panel of the starboard wing.

The engine should have 2 deg.- 3 deg. downthrust and 3 deg. left sidethrust when a 7 X 4 in. pitch Stant propeller is used. The starboard wing panel (inboard) is given 1 deg. " wash in " at W4. Centre of gravity is the center line of the dummy. The flight pattern is right- hand climb and glide.

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