ALIEN

by

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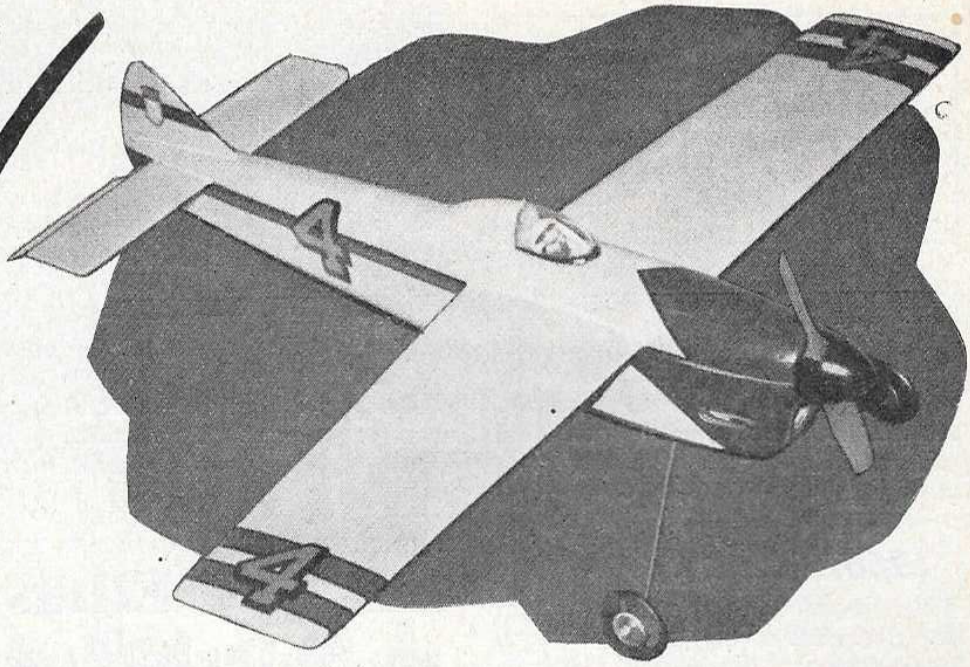

DESIGNED to conform with latest practice by using the " split " fuselage type of construction, the *Alien* is a good looking and eminently practical Class A team racer which, because of its design features, has all the " works " readily accessible for running repairs or adjustments.

Wing

Make the wing from $\frac{1}{4}$ in. hard sheet and shape to the section shown. Let the line guide into the port tip and the $\frac{1}{2}$ oz. lead weight into the starboard tip. Do not omit this weight. Recess into the top upper surface of the wing the $\frac{1}{16}$ in. ply bellcrank mount, and cement the $\frac{1}{8}$ in. ply mount to the under-surface.

Fuselage

Make the tank as shown, using 12 S.W.G. bore brass tubing, bending the tubing by heating to a cherry red in a gas jet and bending to the required shape whilst still in the jet. Cut out the two fuselage sides, but at this stage do not cut out the exhaust ports or the needle valve hole. Now fit the tank to the port side, sandwiching the soft block between the tank and the side. Finally, box the tank in with $\frac{1}{8}$ in. sheet. Form the undercarriage from 12 S.W.G. piano wire; cut F2 from $\frac{1}{8}$ in. ply, and bind the undercarriage to it with strong thread then cement well. Cut the nose block from hard balsa and also the $\frac{1}{8}$ in. sheet spacer at the tail. Now cement the sides to F2 and add the nose block and spacer and allow to dry. It is advisable to ensure that the top edges of the sides are absolutely in line with each other, then the whole assembly should be fixed down to the building board until set.

Cut out the $\frac{1}{2}$ in. hard sheet crutch and rebate to accommodate the bearers, insert the 6 B.A. engine mounting screws, and solder wire across the screw head slots to prevent them from turning. Cut the slots in the bearers to take the anchor nut mount. Now glue the bearers to the $\frac{1}{2}$ in. sheet and make up the anchor nut mount and cement in position. Cement the $\frac{3}{8}$ in. sheet on top of this assembly and allow to dry. By this time the lower assembly should be set, so cement into place the base and attach the skid, which is mounted in a $\frac{5}{16}$ in. hardwood mount. Fit formers F3 and F4.

Mark out the position of the wing on the top section and carve out to suit. Also slot tail end to take the tailplane, and recess the top to receive the pilot. Drill the dowel locating holes in the top section and then cement $\frac{1}{8}$ in. dowels to the lower section in the corresponding position. In the top section at the tail end, use brass tube for the dowel location. It should be noted that one of the locating points is the spigot formed by the top of F2 sliding between the front anchor nut mount and the $\frac{1}{8}$ in. sheet.

It can now be seen that we have four positive locating points, all making for a strong but light alignment. Now mate the two halves together, sand to the shape shown in the various sections, and cut out the exhaust ports and the needle valve hole in the port side only. Cut the cylinder head hole in the underside of the nose. Make up F1 and cement into place. Cement celluloid over the line outlets. Separate the two halves, screw the 6 B.A. bellcrank pivot into the wing and cement the wing into place.

Tailplane

Make up the tailplane from $\frac{1}{8}$ in. hard sheet, shape the elevator to the section shown, and join by tape hinges. Make up the elevator hinge from 18 S.W.G. piano wire and the horn from 20 S.W.G. piano wire and solder the horn to the hinge. Cement and tape the assembly to the elevators. Cut out the indicated portion in the tailplane and let in a piece of $\frac{1}{8}$ in. ply for mounting the anchor nut.

Final Assembly

Make up the bellcrank from 18 S.W.G. dural and attach the push rod and lead outs in the usual manner. Attach to the wing, and solder the retaining nut in place. Hold the tailplane and elevators in the neutral position with bulldog clips and with the bellcrank in the neutral position also, bend the end of the push rod to locate into the elevator horn, and secure with a cup washer, soldered into position. Relieve the tail end of the lower section of the fuselage to allow free movement of the elevator horn.

Drill the base of the fuselage to allow the 6 B.A. securing bolts to go through and align with the anchor nuts. Slightly relieve the underside at these points and cement into place the $\frac{1}{16}$ in. ply washers. Assemble the complete model and check for alignment, freedom of controls, and also the c.g.

Finishing

Cover the whole model with lightweight Modelspan and give the cowling three coverings of tissue. Two coats of sanding sealer should be applied and sanded smooth. Now colour and finish the model as required. It should be noted that the model is separated whilst the finishing process is going on. Give the model a coating of fuelproofer, both inside and out.