

## A LOW-WING SPORTSTER FOR .75 to 1.5 c.c. ENGINES

Bob Woollett's

# LINNET

About the designer . . . well-known free-lance modeller, designed "Phoenix" . . . aged 34 . . . married, with one child . . . has a variety of other hobbies, headed by woodwork and concluded with cricket . . . employed as a clerk to Kent County Council Fire Dept.



**L**OW-WING models are a definite minority on any flying field, yet just as much fun can be gleaned from a realistic low-wing sportster like the Linnet as with any of the traditionally conservative high-wing cabin designs. This is a relatively lightweight model, with low loading, and very good stability. It can accommodate any power unit from the .75 Mills to the Javelin, which all will agree is a wide power range, and, moreover, it is extremely easy to build.

### Materials Required

2,  $\frac{1}{8}$ " $\times$ 3" $\times$ 36"; 1,  $\frac{1}{8}$ " $\times$ 3" $\times$ 36"; 1,  $\frac{3}{16}$ " $\times$ 3" $\times$ 18"; 1,  $\frac{1}{4}$ " $\times$ 3" $\times$ 18"; 10,  $\frac{3}{16}$ " $\times$  $\frac{3}{16}$ " $\times$ 36"; 2,  $\frac{3}{16}$ " $\times$  $\frac{1}{2}$ " $\times$ 30"; 2,  $\frac{3}{16}$ " $\times$  $\frac{1}{4}$ " $\times$ 36"; 2,  $\frac{3}{16}$ " $\times$ 36"; 2,  $\frac{1}{8}$ " $\times$  $\frac{1}{4}$ " $\times$ 36"; 12" $\times$ 3" celluloid; 12 and 14 s.w.g. wire. Bearers, cement, wheels, tissue.

**Wing.** Cut out 19 ribs from 1/16 in. and 4 of  $\frac{1}{8}$  in., with amendments for the centre section. Assemble the  $\frac{1}{2}$ " $\times$  $\frac{1}{8}$ " main spar over the plan, adding 1/16 in. ply brace. Build the C/S first by pinning the completed spar in place on the plan together with the slotted trailing edge. Cement ribs in position, add the leading edge and gussets.

Next build the port half wing over the chain-dotted line on plan in the same manner, after pinning the spar and trailing edge over the plan. When dry, lift off and pin down starboard side. Complete the wing, first supporting the completed wing panel with a block of wood. The small top anti-warp spar is cemented in position after cracking for the dihedral angle. When dry, cement C/S sheeting with the centre section pinned onto the building board. Leave until set. Cement and shape leading edge fairing block and a celluloid strip under the long T.E. up the centre section.

**Fuselage.** Cut out all formers and sheet components. Glue the U/C box onto F.4 and bend the two undercarriage units to shape. Complete by adding the wheels. Build two side frames over the plan from 3/16 in. sq. hard strips and sheet. Note that the rear fuselage sides on which the tailplane platform is cemented are of  $\frac{1}{8}$  in. sheet. Ensure that this sheet is flush with the *outsides* of both side frames by packing when building over the plan. The resulting gap of  $\frac{1}{8}$  in. formed when the

two side frames are cemented together at the rear, is to house the fin trailing edge strip.

Join sides with F.1, F.2 and F.4 complete with U/C box in position and ensure that the assembly is square. Allow to dry, then join the side frames at the tail. When doing this, place a scrap of  $\frac{1}{8}$  in. sheet between rear fuselage sides and pin temporarily until fin is cemented in place. Add all cross struts and members, gussets and reinforcing of cabin top. Bind and cement the nosewheel assembly to F.1. Drill the engine bearers to suit the engine used and glue in position, using Durofix. When dry, glue the appropriate size balsa packing to the outside of the bearers and add the nose side panels of  $\frac{1}{4}$  in. soft sheet. If covering the underside of nose, insert bearer bolts and connect each pair with a short length of wire soldered to the heads and fitted to the screwdriver slots. Finally, cement the 1/16 in. sheet covering to the under-surface of the wing housing. F.3 can now be cemented to the fuselage and the  $\frac{1}{8}$  in. strips forming the planking of the decking added. Cement the  $\frac{1}{8}$  in. sq. windscreen struts in place, the underfin and the tailplane platform.

**Tailplane and Fin.** Construction is very simple. Both are built over the plan. The fin trailing edge is in one piece, but is cut to allow the trim tab to function when the unit is removed from the plan.

**Covering and Finish.** Sand all components and coat the interior of the engine bay with Banana oil. Cover the fuselage with heavyweight Modelspan and the flying surfaces with lightweight.

Before colouring, cement in the celluloid for cabin windows. Complete the model with one coat Banana oil or fuel proofer overall.

**Flying.** Check that the C.G. is approximately as shown on the plan. Use ballast if not so.

Before the first powered flight, offset the trim tab 15 to 20 degrees to starboard. Reduce revs and launch into wind. On the Mills .75 versions a powered glide will result. Increase revs and a steady climbing turn should occur. A wide circuit to left is the best, followed by a glide to the right.