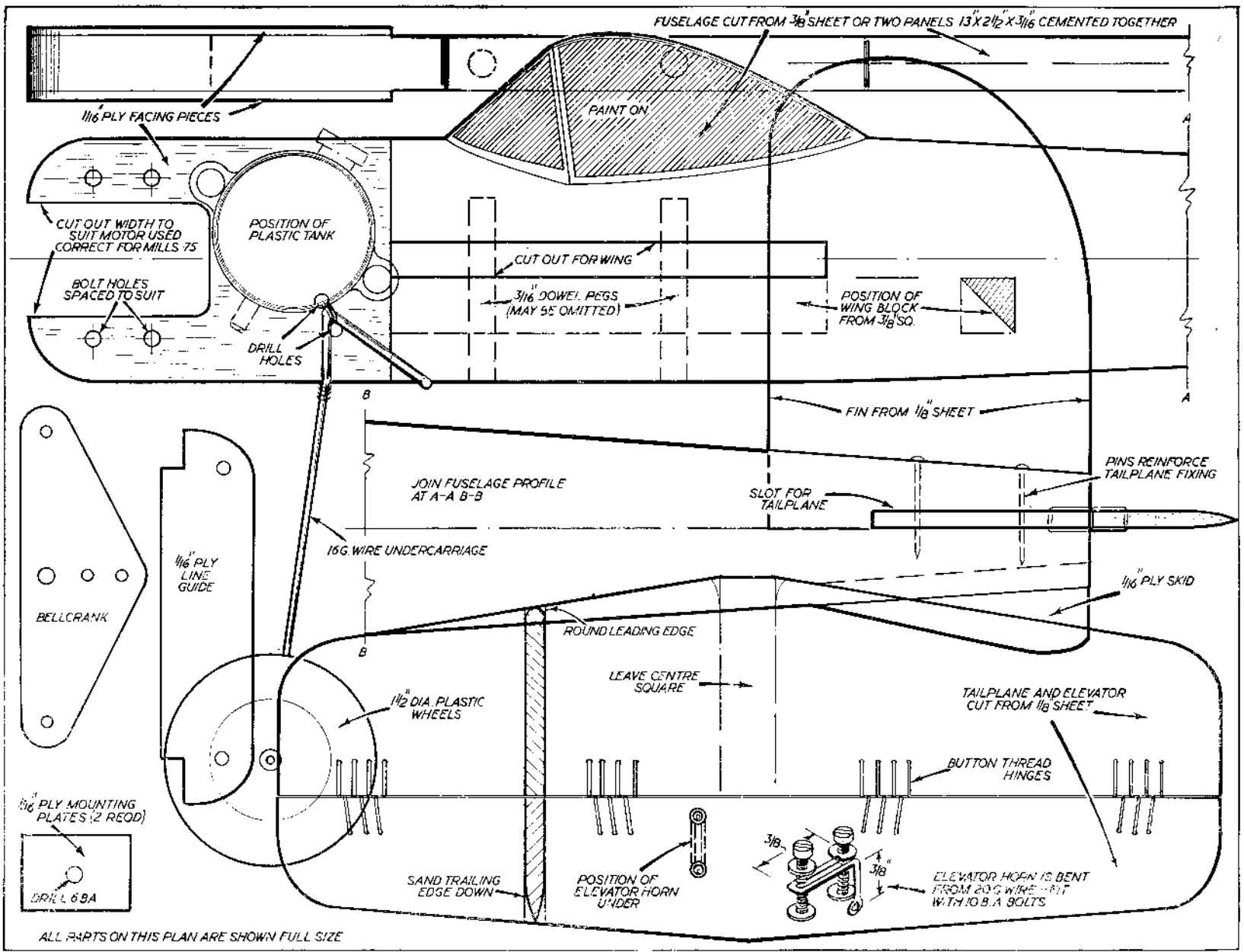

ALL PARTS ON THIS PLAN ARE SHOWN FULL SIZE

Scoot

The perfect C/L model for beginners

0.5-1 c.c. Engines

FULL SIZE PLANS

IF you have never flown C/L before, here is just the model to start with. You can knock it up in about two to three hours—certainly in an evening—and it will last right through your flight training. All the weak points on a simple model have been eliminated and the original has put in hundreds of flights in the hands of various novices, has been crashed dozens of times and has still suffered no real damage.

Scoot is just the job, too, for flying on your front lawn, or in any space which will give you 15 to 30 ft. lines. With a Mills 0.75 for power and a fairly large prop, nobody can complain about the noise! Take-offs are possible from any reasonably smooth surface, including mown grass, and if you adjust the engine to run undercompressed, touch-and-go landings can be made, using the elevators to change the flying speed (full up and the model loses flying speed and sinks with low power). On an Allbon Merlin with a 7 × 4 in. plastic prop you can get single loops, and wingovers on 25 ft. lines. To practice inverted, fit a stunt tank and hand launch the model upside down!

Choose medium light balsa throughout for all the wood parts (except the ply pieces shown full size on the drawing). Trace the full size fuselage profile and transfer onto a sheet of $\frac{3}{8}$ in. balsa (or you can cement two $\frac{3}{16}$ in. sheet panels together). Cut out the wing and tailplane slots carefully and accurately and then shape the rear of the fuselage to the correct taper. Leave the front end square.

Check that the motor you are going to use fits the cut out in the ply facing pieces. If not, adjust this width. Then cut out these two $\frac{1}{16}$ in. ply pieces and cement well to the front of the fuselage. When set, trim the balsa fuselage to match, including the cut out. Whilst the fuselage is still in an easily handled state, give a coat or two of dope to "proof" and paint or draw on the canopy.

Designed by RON WARRING

The wing is simply a panel of $\frac{1}{4}$ in. balsa. See the perspective drawing on page 381. Mark the centre of the wing (where it fits in the fuselage). Leave this centre piece square but carve and sand the rest of the wing down to a smooth aerofoil section and taper off the tips. The actual section does not really matter. Just rounding off the edges will do, but a proper aerofoil section looks much better.

The wing can now be cemented in the fuselage slot. Add the triangular blocks underneath to strengthen the joint. Then stand the fuselage vertical and drill two $\frac{3}{16}$ in. dia. holes up through the wing. Fill with cement and push in $\frac{3}{16}$ in. hardwood dowels. You will then have a wing joint which will never break loose.

A full size pattern for the tailplane and elevator is given. Simply trace this onto $\frac{1}{8}$ in. medium light sheet balsa (preferably quarter grain) and cut out. The hinges are sewn in place, using button thread. These are simply "figure eight" loops of thread which give a very strong, but perfectly free hinge. The tailplane can then be cemented in the fuselage slot. Two pins pushed through the fuselage will reinforce this fixing.

The fin is cut from $\frac{1}{8}$ in. fairly hard sheet and cements on the right-hand side of the fuselage. Double-cementing is advised as this part of the model gets a lot of hard knocks in bad landings. Note that there is a slight step in the bottom of the fin where it fits over the tailplane.

The undercarriage is bent from 16 S.W.G. wire and clips over the bottom of the fuselage. Drilled holes through the fuselage enable it to be sewn in place. A further binding of thread around the top of the legs gives a perfectly solid fixing with the minimum amount of trouble in installing it.

The bellcrank can be a commercial item, provided it approximates to the size given on the plan. Alternatively, you can cut this from $\frac{1}{16}$ in. ply, or 16 S.W.G. aluminium or $\frac{1}{16}$ in. Paxolin. The pivot for mounting the bellcrank is a 6 B.A. screw located 1 in. out from the fuselage on the left-hand wing, and $1\frac{1}{4}$ in. back from the leading edge. Bore a hole through the wing at this point and assemble the screw through the wing with the small ply plates each side. Secure with a nut under the wing. Then put on the bellcrank and add another nut to hold this in place.

The elevator horn is bent from 20 S.W.G. wire, as shown, and bolted to the elevator with two 10 B.A. bolts and a washer each side. The push rod, connecting the bellcrank to the elevator horn, is 18 S.W.G. wire. Bend to length by trial and error. Any final adjustment can be made by bending the elevator horn backwards or forwards to give "neutral" elevator position with the bellcrank parallel to the fuselage.

The lead-out wires attaching to the bellcrank can be 20 or 22 S.W.G. wire. These pass through the ply wing guide before being cut to length and made off in the form of loops. The line guide cements into a slot scored into the undersurface of the left wing 2 in. in from the tip.

The motor is mounted with the cylinder to the right. Slip a washer between the engine lugs and the fuselage on the *front* bolts so that when tightened up the engine is offset slightly to the right. In the case of engines with single hole mounting, trap a washer under the front of the lug, each side.

A F/F type plastic tank is the most convenient to fit, screwing this to the

Continued on page 381

SCOOT

Continued from page 362

left-hand side of the fuselage. Only a short length of fuel line should then be necessary to connect to the engine. Do not position the tank too high as it will tend to flood the engine before you have started it.

For the flying lines button thread is quite adequate. You want a minimum line length of about 15 ft. The maximum line length which can be used with safety is about 30 ft.—more if you like on calm days.

Flying speed with a Mills 0.75 "tamed" with a fairly large propeller is about 30 m.p.h. Most of the flying on the original has been done on an 8 × 4 flexible plastic prop trimmed to 7 in. diameter, which is about right for general flying.

If you want to try "overhead" flying with *Scoot*, i.e. high circles, wingovers, etc., then it is advisable to fit a counterweight to the right wing tip. A couple of fairly large washers cemented or bolted on will do. This will reduce the tendency for the inner wing to drop should the lines slacken off.