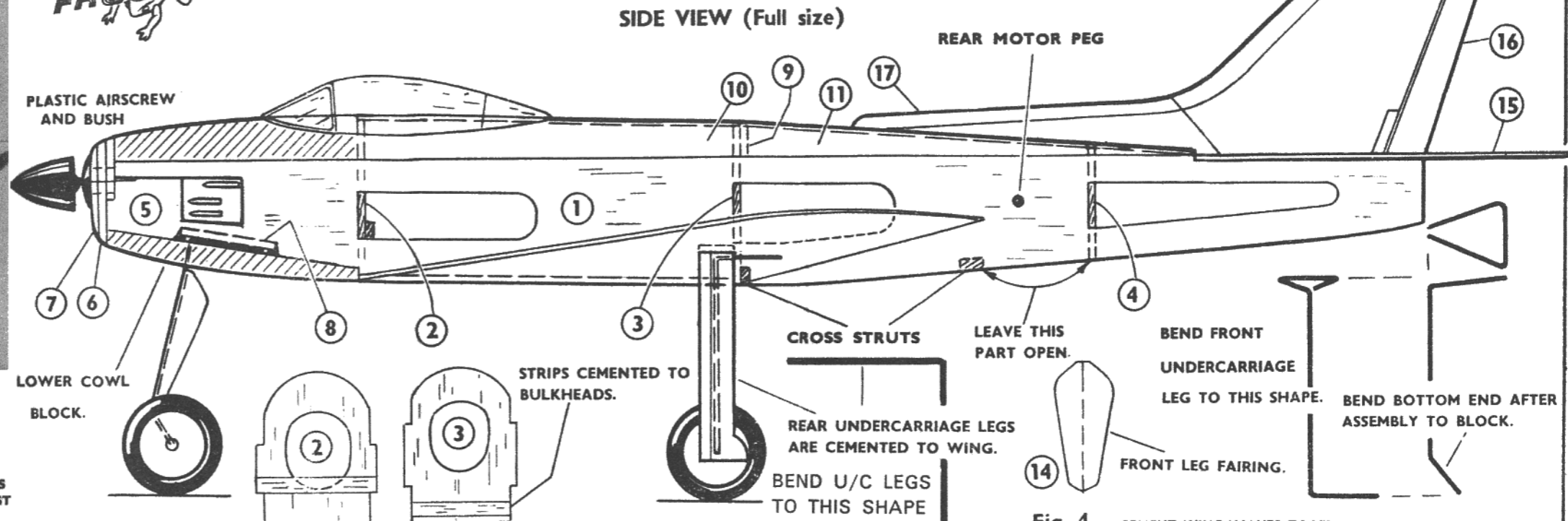


HALES  
FROGLITE

# 'MINI' SERIES

# "SABRE"



## BUILDING INSTRUCTIONS

### FUSELAGE ASSEMBLY.

Carefully remove all parts from the balsa sheet using a balsa knife or a piece of razor blade to separate them with a clean edge. Start by cementing pieces of balsa strip cut from scrap to bulkheads 2 and 3, and cement these to one of the side panels 1, as shown in fig. 1. Make sure they are upright, and allow to dry. Then cement the other side in place as in fig. 2. When these are set, assemble the other bulkhead 4, and the front piece 5.

### UNDERCARRIAGE.

Trim the ends of the lower cowl block and cement this into place.

Bend the front leg to shape first from the piece of wire supplied. Form a triangle at one end, as shown on the plan. Bend it at right angles, then push the other end through a hole in the lower block, and cement the wire to the inside. This is held in place by piece 8, well cemented over the wire. When it has set, bend the lower part of the wire to shape.

Bend two main undercarriage legs to the shape shown then bend again at the top of each leg as shown in Fig. 3.

These legs should be fitted after the wing is in place.

### FUSELAGE AND TAIL ASSEMBLY.

Cement the nose-rings 6 and 7 to the front of the fuselage, together with the shaped upper cowl block, see fig. 3. The underside of this should be cut away at the front, to allow more freedom for the rubber motor.

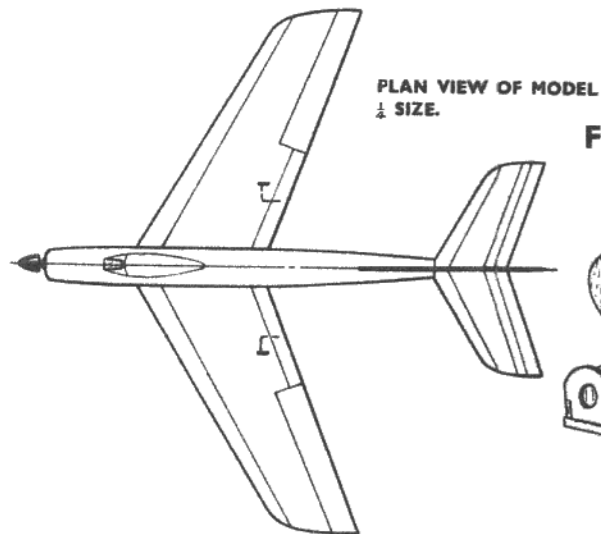


Fig. 1 CEMENT BULKHEADS 2 & 3 IN PLACE FIRST

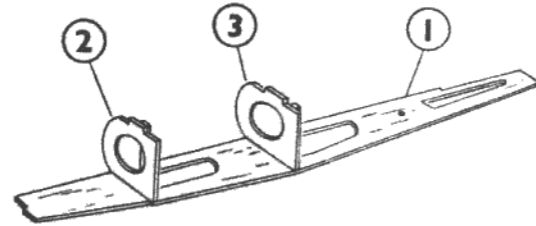


Fig. 2 FUSELAGE SIDES ASSEMBLED TOGETHER.

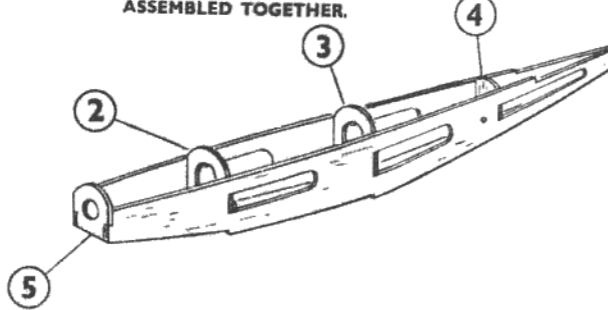
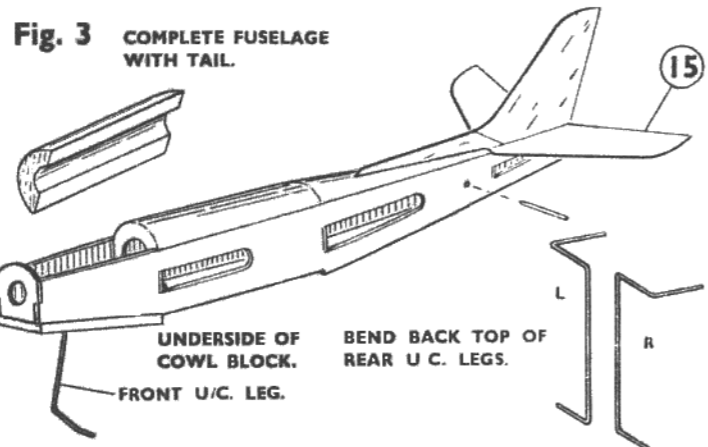


Fig. 3 COMPLETE FUSELAGE WITH TAIL.



Cement part 9 in place against bulkhead 3, also a small strip cut from scrap for the cross-strut between bulkheads 3 and 4.

Remove the decking pieces 10 and 11 from the balsa sheet, damp them on the outside with water to help bend them into shape, and cement them in place over bulkheads 2, 3 and 4.

Remove the Tailplane and Fin parts 15 and 16 from the balsa sheet, and sandpaper the edges to obtain a smooth finish. Cement the tailplane in place on the fuselage, followed by the fin and fairing 17.

### WING.

Remove the cut-out wing pieces 12 and 13 from the balsa sheet, and lightly sandpaper the edges smooth. Make score-lines at the centre, as shown in fig. 4, to help bend the wing to the required angle.

Place the wing on a flat board or table, fix down the centre as indicated with pins, and raise each end  $\frac{3}{8}$  in. with a match box or similar article.

Apply cement along the score-lines and allow to dry. When it is quite set, remove the wing from the board and fix it to the fuselage between bulkheads 2 and 3. Make sure that both sides of the wing are level and free from warps.

Cement the rear undercarriage wires into place, together with the balsa fairings 14. Small tabs of paper can be cemented over the wires to secure them. Fit the wheels in place and bend over the ends of the wires, or glue small paper washers to the axles, to hold them on. Shape the front cowl blocks with a sharp knife and sandpaper, and smooth down the whole model to obtain a good finish.

Trim the surplus material from the cockpit cover, and cement it in place on the cowl, holding it in position until it has set.

### COVERING.

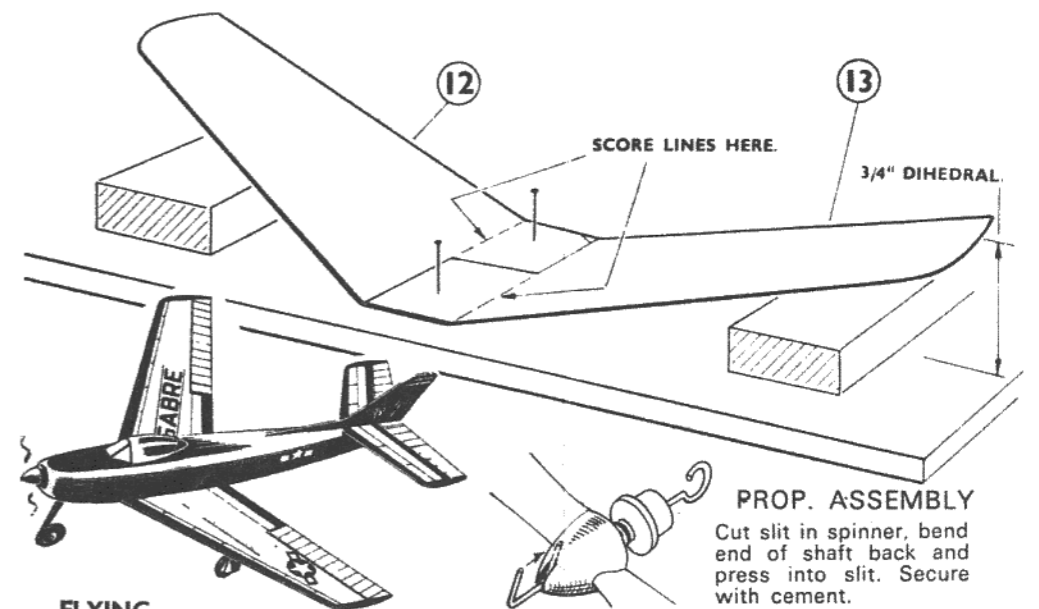
Only the fuselage, sides and bottom need covering. Cut strips of the tissue supplied, to cover each side separately. Use paste or dope for sticking it to the framework.

Apply some to one side of the fuselage, stretch a strip of the tissue over it, and smooth out any wrinkles. When all the sides are covered and set, apply a coat of dope or lacquer to the whole fuselage, to "proof" and strengthen it.

### MOTOR

This is an elastic band 6" long. Lubricate it well with Rubber Lubricant, or Castor Oil, and insert it with the help of a length of wire or thread. Bend a hook at one end of the wire and insert it into the front end of the fuselage. Hook the band on to it through the opening at the rear, and insert the rear motor pin (cane) through the holes in the fuselage and through the loop of elastic. Pull the band out through the front and hook it on to the Airscrew shaft (complete with airscrew). The model is now complete and ready for flying. A drop of thin oil on the air-screw shaft will improve the running.

Fig. 4 CEMENT WING-HALVES TOGETHER, WITH TIPS RAISED TO FORM DIHEDRAL.



### FLYING.

This model can be flown indoors or out, but it should only be used out-doors on a calm day, owing to its size.

A slight difference in balance may be shown with each individual model, owing to the varied density and weight of balsa wood.

Test-glide the model first to check the balance. Hand-launch it in a slight downward direction. If it dives to the ground, add a small weight such as a small nail or pin to the rear end of the fuselage. If the model climbs steeply and stalls, add a small weight to the nose of the fuselage. A small nail or drawing pin can be pushed into the cowl block for this.

When the glide seems satisfactory, put a few turns on the motor and launch the model into wind (if any). The turn can be adjusted by bending the fin, or by twisting the wing slightly.

Increase the turns on the motor gradually, up to a maximum of approximately 300; if the motor is not lubricated, the turns must be limited to approximately 150.