

SIDE VIEW (Full size)

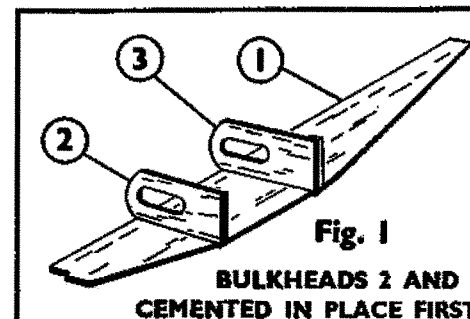
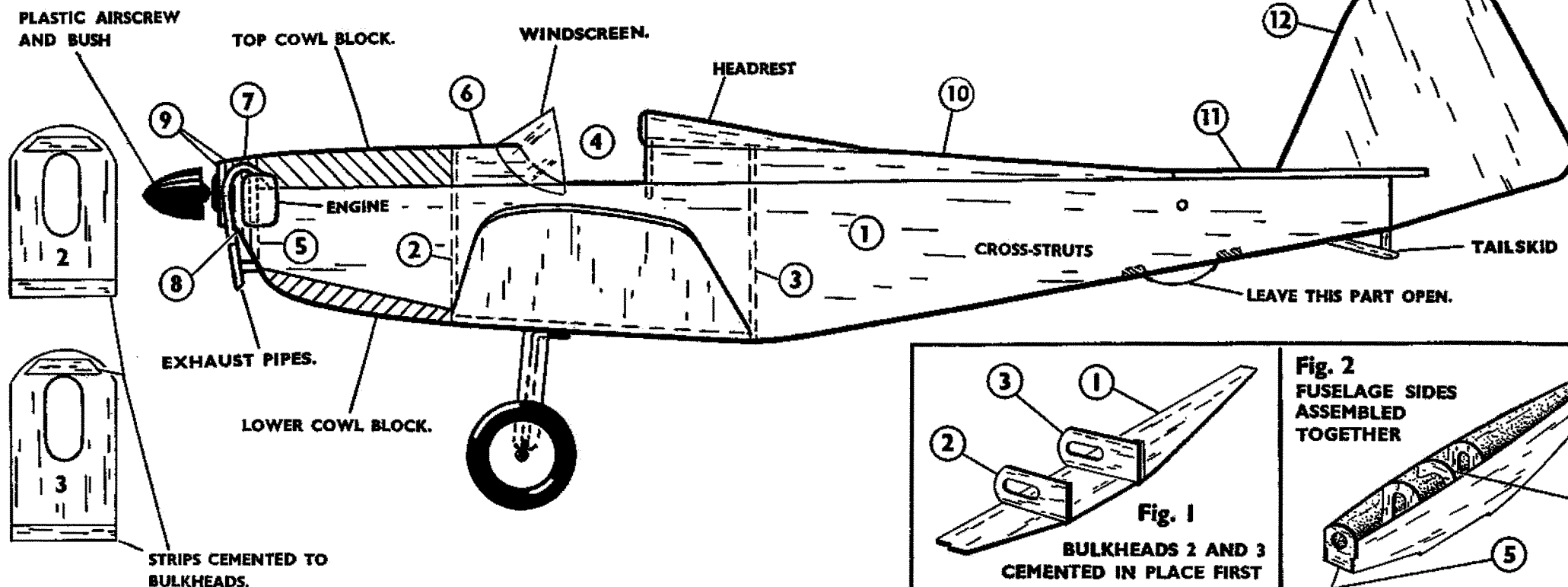


Fig. 2
FUSELAGE SIDES
ASSEMBLED
TOGETHER

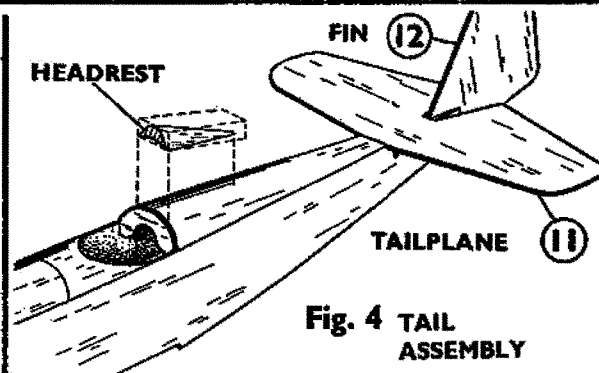
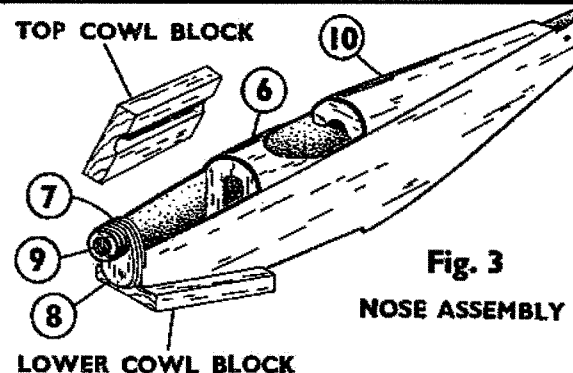
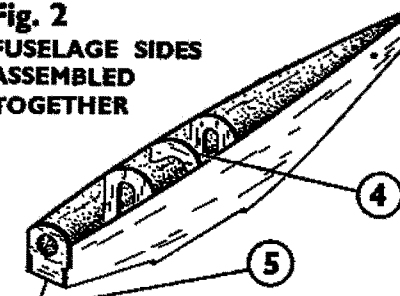
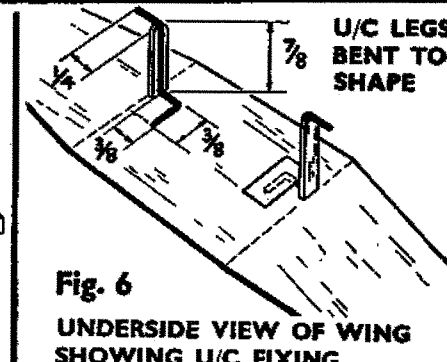
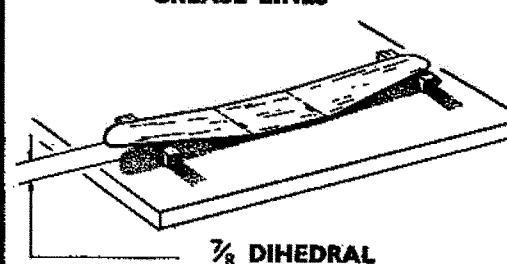


Fig. 5 RAISE WING TIPS
AND CEMENT ALONG
CREASE LINES



INTRODUCTION.

THE FROG JUNIOR SCALE SERIES covers a range of models which are based on the designs of service and light aircraft.

In common with other Frog models, they embody very simple construction methods having all the parts cut to shape, which only require cementing together.

To ensure a satisfactory job, study the plan and check the parts with it before commencing. Assemble the model step by step as shown.

Cement and "dope" are not included in this kit, but they can be bought at any model shop. Use quick-drying balsa-cement (glue) such as Frog Universal. You will also need a balsa knife or razor blade and a few pins.

If you enjoy building this model, remember there are many others in this series equally attractive.

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 with bulkheads 4 and 5, as in fig. 2.

COWLING.

Sandpaper the ends of the lower block to the angle shown in Side View and cement it into place. Damp the outside face of part 6 to enable it to bend easily, then bend and cement it in place over bulkhead 2. Then cement parts 7, 8 and 9 to the front of the fuselage. See fig. 3. Fit the top cowl block in

place between bulkheads 2 and 5. The underside should be cut away to allow more freedom for the elastic motor. Shape the blocks with a sharp knife or razor blade, and sandpaper them smooth. Damp and bend part 10 and cement it over bulkheads 3 and 4. Cut cross-struts from spare balsa sheet and cement them in place, at the end of the fuselage. See Side View.

TAIL ASSEMBLY.

Lightly sandpaper the edges of the Tailplane 11 and Fin 12, cement them in place on the fuselage, making sure they are quite "square" with it when viewed from either end.

Cut from the length of $\frac{3}{4}$ " x $\frac{1}{4}$ " balsa wood supplied, a piece $1\frac{1}{2}$ " long for the headrest. Shape it as shown in fig. 4, and cement it in place on the fuselage. The small piece of wood pressed out from one of the nose bulkheads is fixed to the front of the headrest and sandpapered to shape.

INSTRUCTIONS (Continued)

WING.

Remove the cut-out wing from the panel, and sandpaper the edges smooth. Place it on a flat board or table, hold down the centre part with weights or pins and raise the tips approx. $\frac{7}{8}$ in. as in fig. 5. Apply cement along crease lines and allow to dry. When this has set, cement it into place on the bottom of the fuselage.

UNDERCARRIAGE.

Bend undercarriage legs to the shape shown in fig. 6. Cut the two undercarriage fairings to shape and cement them into the slots in the wing, making sure they are "square" with it. When they have set, fix the undercarriage legs in place. 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.

WINDSCREEN.

Hold the Cellastoid windscreen between the thumb and forefinger. Run cement along the bottom edge and hold it in place on the fuselage until it has set.

COVERING.

Cut out the bottom fuselage covering pieces from the plan and cement it in place between bulkhead 3 and cross-strut, and from the cross-strut to the end of the fuselage.

ENGINES AND EXHAUST PIPES.

Cut the two engine pieces to length from the $\frac{3}{8}$ in. x $\frac{1}{4}$ in. strip supplied and shape as shown in fig. 7. Sandpaper them smooth and cement them in place on the nose of the fuselage. The exhaust pipes are made of string the approximate thickness of that shown on the drawing. (A coat of cement on the string will enable you to keep it bent to the desired shape). Cut two pieces of string to length, 1 in. and $\frac{3}{4}$ in. long approximately. Bend them to shape and cement them to the engines. A small piece of scrap balsa holds the exhaust pipes in their correct position to the fuselage: see Side View Drawing.

TAILSKID.

Cut the two skid pieces to shape, cement them together and fix them to the rear of the fuselage.

DECORATING.

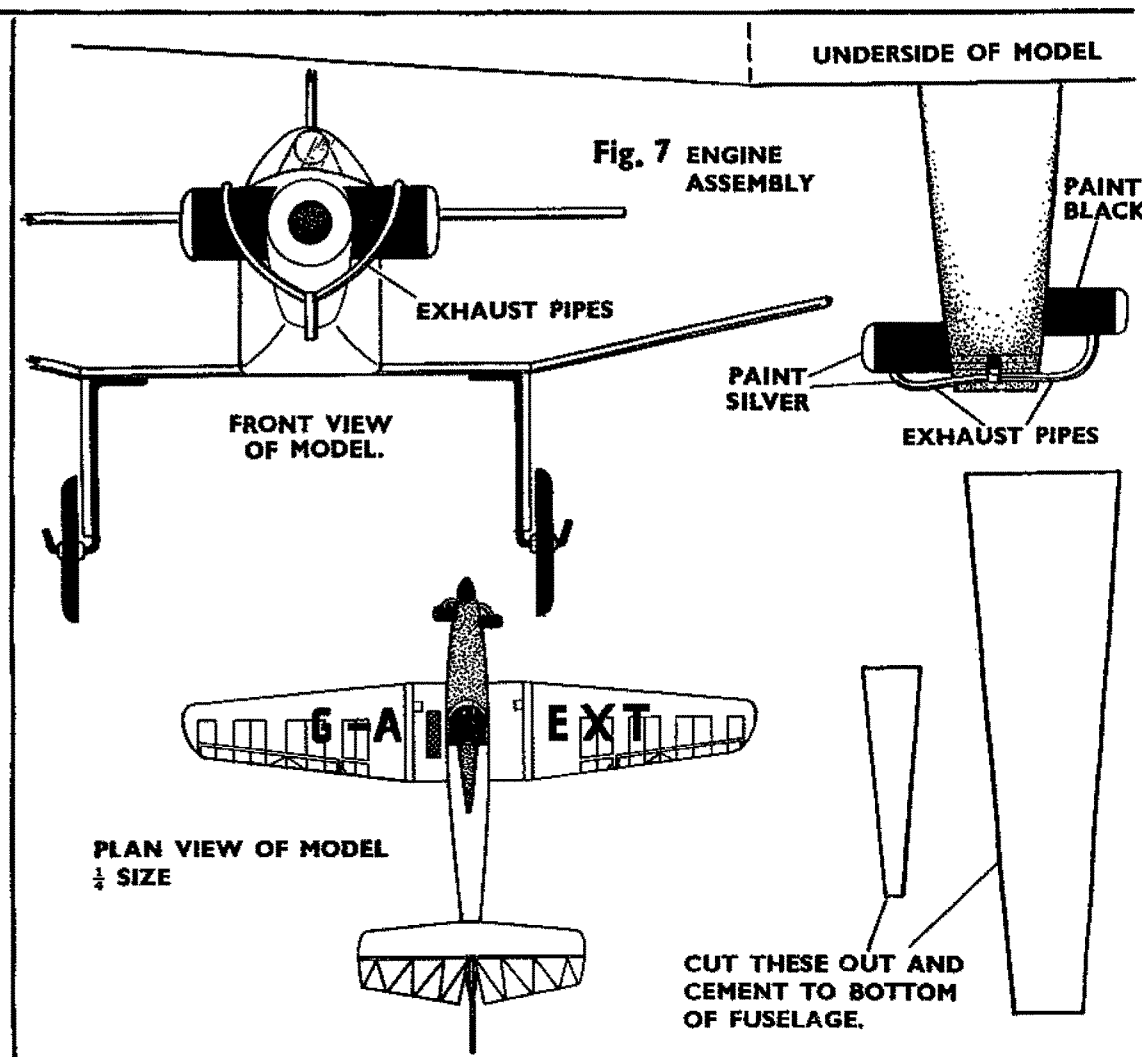
The balsa wood parts being ready-printed, very little painting is necessary, and should be restricted to the top part of the fuselage, engines and exhaust pipes. Use Cellulose Lacquer, and apply it quickly and evenly with a soft brush. Do not put it on heavily, or the model will not fly well.

MOTOR.

This is an elastic band 6 in. long. Lubricate it with Frog 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 airscrew shaft will improve the running.

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 wings 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.

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