**Frog Junior Scale Series**

**Dart Kitten**

**Side View (Full size)**

- Plastic airscrew and bush
- Top cowl block
- Windscreen
- Headrest
- Engine
- Exhaust pipes
- Lower cowl block

**Building Instructions**

**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 “drop” are not included in this kit, but they can be bought at any model shop. Use quick-drying thin cement (glue) such as Frog Ultrabond. You will also need a small tube of sanded wood and a few pieces.

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

**Fuselage Assembly:**

Carefully remove all parts from the balsa sheet using a flat blade and a pair of scissors. Most of them will be cut to shape, but a few files may be needed. Then cement the other side in place with the parts in their correct positions. See Side View.

**Cowling:**

Sandpaper the edges of the lower block to the angle shown in Side View and cement it into place. Cover the outside face of the lower block and cement it into place over the fuselage. Then cement parts 7, 8, and 9 into position. See Fig. 3. Fit the top cowling block in place between bulkeheads 2 and 3. The underside should be cut away to allow more freedom for the plastic motor. Shape the block with a sharp knife or razor blade and sandpaper them smooth. Dampen and bend part 10 and cement it over bulkeads 3 and 4. Cut cross-ribs 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 1/16” balsa wood supplied, a piece 1” 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 bulkeads is fixed to the front of the headrest and sandpapered to shape.
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. 1in. 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 undercarrige legs to the shape shown in fig. 6. Cut the two undercarrige 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 undercarrige 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 Collastoid windscreen between the thumb and forefinger. Run cement along the bottom edge and hold 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 1in. x 1in. 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, 1in. and 2in. long approximately. Bend them to shape and cement them to the engine. 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 parts to shape, cement them together and fix them to the rear of the fuselage.

DECORATING.
The balsa wood pieces being ready-painted, very little painting is necessary, and should be restricted to the top part of the fuselage, engine and exhaust pipes. Use Collusce 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 6in. 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 Aircruck shaft (complete with aircruck). The model is now complete and ready for flying. A drop of thin oil on the aircruck shaft will improve the running.

FLYING.
This model can be flown indoors or out, but it should only be used outdoors 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 packed into the cowling block for this.

When the glide seems satisfactory, put a few turns on the motor and launch the model into wind. (If you have a wind tunnel.) The tail 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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