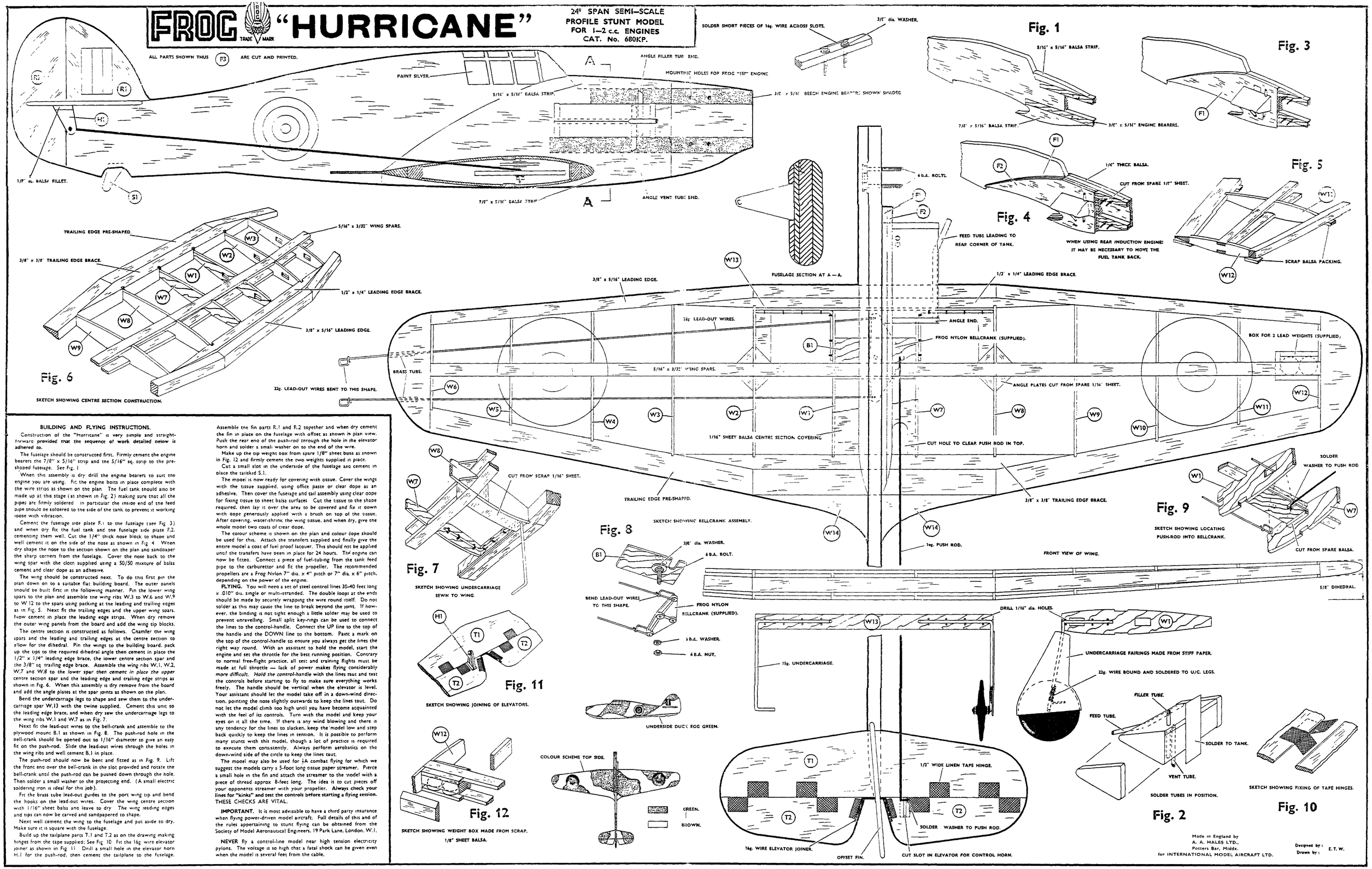
FROG "HURRICANE"

24" SPAN SEMI-SCALE PROFILE STUNT MODEL FOR 1–2 c.c. ENGINES CAT. No. 680KP.



BUILDING AND FLYING INSTRUCTIONS.

Construction of the "Hurricane" is very simple and straightforward **provided that the sequence of work detailed below is adhered to.**

The fuselage should be constructed first. Firmly cement the engine bearers the 7/8" x 5/16" strip and the 5/16" sq. strip to the pre-shaped fuselage. See Fig. 1

When this assembly is dry drill the engine bearers to suit the engine you are using. Fit the engine bolts in place complete with the wire strips as shown on the plan The fuel tank should also be made up at this stage (as shown in Fig. 2) making sure that all the pipes are firmly soldered in particular the inside end of the feed pipe should be soldered to the side of the tank to prevent it working loose with vibration.

Cement the fuselage side plate F.1 to the fuselage (see Fig 3) and when dry fix the fuel tank and the fuselage side plate F.2. cementing them well. Cut the 1/4" thick nose block to shape and well cement it on the side of the nose as shown in Fig 4 When dry shape the nose to the section shown on the plan and sandpaper the sharp corners from the fuselage. Cover the nose back to the wing spar with the cloth supplied using a 50/50 mixture of balsa cement and clear dope as an adhesive.

The wing should be constructed next. To do this first pin the plan down on to a suitable flat building board. The outer panels should be built first in the following manner. Pin the lower wing spars to the plan and assemble the wing ribs W.3 to W.6 and W.9 to W.12 to the spars using packing at the leading and trailing edges as in Fig. 5. Next fit the trailing edges and the upper wing spars. Now cement in place the leading edge strips. When dry remove the outer wing panels from the board and add the wing tip blocks.

The centre section is constructed as follows. Chamfer the wing spars and the leading and trailing edges at the centre section to allow for the dihedral. Pin the wings to the building board, pack up the tips to the required dihedral angle then cement in place the 1/2" x 1/4" leading edge brace, the lower centre section spar and the 3/8" sq trailing edge brace. Assemble the wing ribs W.1, W.2, W.7 and W.8 to the lower spar *then cement in place the upper* centre section spar and the leading edge and trailing edge strips as shown in Fig. 6. When this assembly is dry remove from the board and add the angle plates at the spar joints as shown on the plan.

Bend the undercarriage legs to shape and sew them to the undercarriage spar W.13 with the twine supplied. Cement this unit to the leading edge brace, and when dry sew the undercarriage legs to the wing ribs W.1 and W.7 as in Fig. 7.

Next fit the lead-out wires to the bell-crank and assemble to the plywood mount B.1 as shown in Fig. 8. The push-rod hole in the bell-crank should be opened out to 1/16" diameter to give an easy fit on the push-rod. Slide the lead-out wires through the holes in the wing ribs and well cement B.1 in place.

The push-rod should now be bent and fitted as in Fig. 9. Lift the front end over the bell-crank in the slot provided and rotate the bell-crank until the push-rod can be pushed down through the hole. Then solder a small washer to the projecting end. (A small electric soldering iron is ideal for this job).

Fit the brass tube lead-out guides to the port wing tip and bend the hooks on the lead-out wires. Cover the wing centre section with 1/16" sheet balsa and leave to dry The wing leading edges and tips can now be carved and sandpapered to shape.

Next well cement the wing to the fuselage and put aside to dry. Make sure it is square with the fuselage.

Build up the tailplane parts T.1 and T.2 as on the drawing making hinges from the tape supplied; See Fig 10 Fit the 16g wire elevator joiner as shown in Fig 11 Drill a small hole in the elevator horn H.1 for the push-rod, then cement the tailplane to the fuselage. Assemble the fin parts R.1 and R.2 together and when dry cement the fin in place on the fuselage with offset as shown in plan view. Push the rear end of the push-rod through the hole in the elevator horn and solder a small washer on to the end of the wire.

Make up the tip weight box from spare 1/8" sheet balsa as shown in Fig. 12 and firmly cement the two weights supplied in place.

Cut a small slot in the underside of the fuselage and cement in place the tailskid S.1.

The model is now ready for covering with tissue. Cover the wings with the tissue supplied, using office paste or clear dope as an adhesive. Then cover the fuselage and tail assembly using clear dope for fixing tissue to sheet balsa surfaces Cut the tissue to the shape required, then lay it over the area to be covered and fix it down with dope generously applied with a brush on top of the tissue. After covering, water-shrink the wing tissue, and when dry, give the whole model two coats of clear dope.

The colour scheme is shown on the plan and colour dope should be used for this. Attach the transfers supplied and finally give the entire model a coat of fuel proof lacquer. This should not be applied until the transfers have been in place for 24 hours. The engine can now be fitted. Connect a piece of fuel-tubing from the tank feed pipe to the carburettor and fit the propeller. The recommended propellers are a Frog Nylon 7" dia. x 4" pitch or 7" dia. x 6" pitch, depending on the power of the engine.

FLYING. You will need a set of steel control lines 30–40 feet long x .010" dia. single or multi-stranded. The double loops at the ends should be made by securely wrapping the wire round itself. Do not solder as this may cause the line to break beyond the joint. If however, the binding is not tight enough a little solder may be used to prevent unravelling. Small split key-rings can be used to connect the lines to the control-handle. Connect the UP line to the top of the handle and the DOWN line to the bottom. Paint a mark on the top of the control-handle to ensure you always get the lines the right way round. With an assistant to hold the model, start the engine and set the throttle for the best running position. Contrary to normal free-flight practice, all test and training flights must be made at full throttle — lack of power makes flying considerably *more difficult. Hold the control*-handle with the lines taut and test the controls before starting to fly to make sure everything works freely. The handle should be vertical when the elevator is level. Your assistant should let the model take off in a down-wind direction, pointing the nose slightly outwards to keep the lines taut. Do not let the model climb too high until you have become acquainted with the feel of its controls. Turn with the model and keep your eyes on it all the time. If there is any wind blowing and there is any tendency for the lines to slacken, keep the model low and step back quickly to keep the lines in tension. It is possible to perform many stunts with this model, though a lot of practice is required to execute them consistently. Always perform aerobatics on the down-wind side of the circle to keep the lines taut.

The model may also be used for ½A combat flying for which we suggest the models carry a 5-foot long tissue paper streamer. Pierce a small hole in the fin and attach the streamer to the model with a piece of thread approx 8-feet long. The idea is to cut pieces off your opponents streamer with your propeller. **Always check your lines for "kinks" and test the controls before starting a flying session.** THESE CHECKS ARE VITAL.

IMPORTANT. It is most advisable to have a third party insurance when flying power-driven model aircraft. Full details of this and of the rules appertaining to stunt flying can be obtained from the Society of Model Aeronautical Engineers, 19 Park Lane, London, W.1.

NEVER fly a control-line model near high tension electricity pylons. The voltage is so high that a fatal shock can be given even when the model is several feet from the cable.

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