SPECIFICATION :

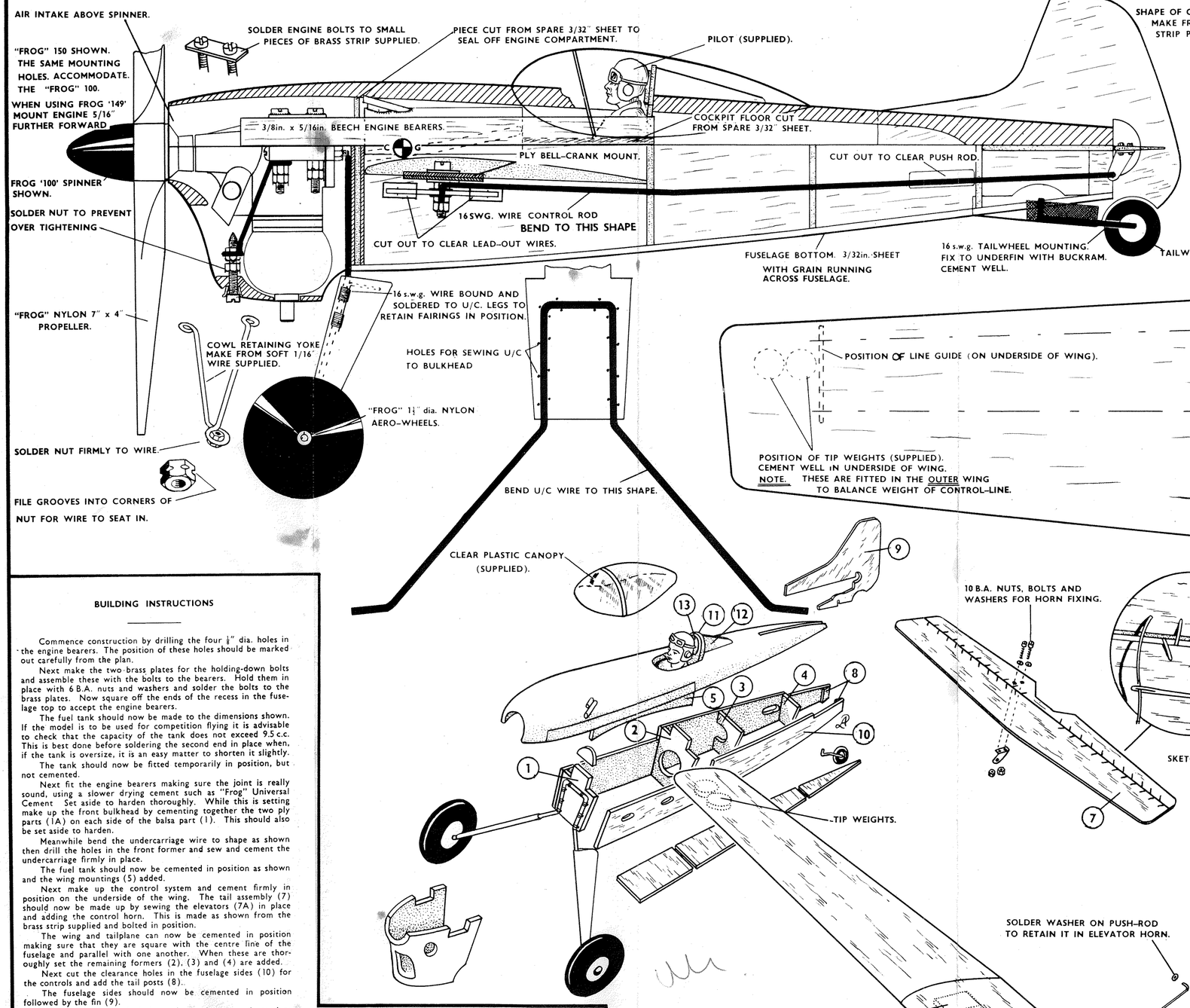
SPAN	... ...	21ins.
LENGTH	... ...	13¾ins.
WEIGHT (with Frog '150')	...	9 ozs.
WING AREA (projected)	...	57.5 sq. ins.

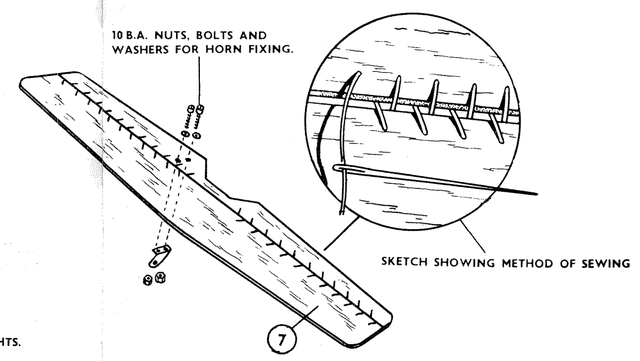
FULL SIZE DRAWING OF THE FROG TRADE MARK "HORNET"

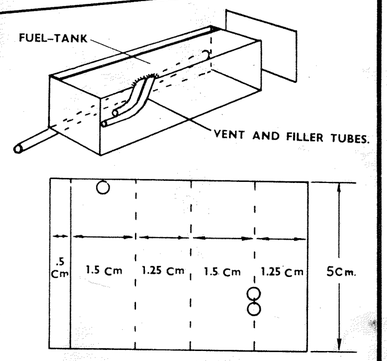
21" SPAN TEAM RACER

CAT. No. 692 KP.

DESIGNED BY







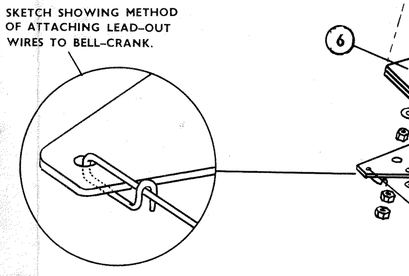
CUT TINPLATE TO THESE DIMENSIONS, BEND ALONG DOTTED LINES. CUT ENDS OF TANK ROUGHLY TO SHAPE, SOLDER IN POSITION THEN TRIM TO SHAPE. SOLDER TUBES IN POSITION.

NO OFFSET ON FIN.

SOLDER WASHER ON PUSH-ROD TO RETAIN IT IN ELEVATOR HORN.

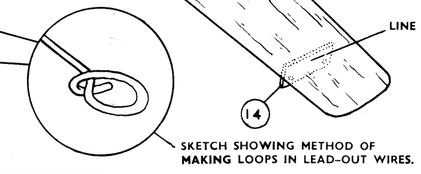
DRILL SMALL HOLES FOR HINGE THREAD.

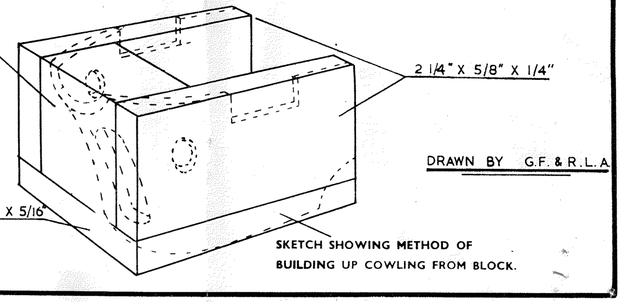
UNDERSIDE OF WING RECESSED TO FIT PLY BELL-CRANK MOUNT.



LINE GUIDE (PLY).

14





DRAWN BY G.F. & R.L.A.

BUILDING INSTRUCTIONS

Commence construction by drilling the four ⅛" dia. holes in the engine bearers. The position of these holes should be marked out carefully from the plan.

Next make the two brass plates for the holding-down bolts and assemble these with the bolts to the bearers. Hold them in place with 6 B.A. nuts and washers and solder the bolts to the brass plates. Now square off the ends of the recess in the fuselage top to accept the engine bearers.

The fuel tank should now be made to the dimensions shown. If the model is to be used for competition flying it is advisable to check that the capacity of the tank does not exceed 9.5 c.c. This is best done before soldering the second end in place when, if the tank is oversize, it is an easy matter to shorten it slightly.

The tank should now be fitted temporarily in position, but not cemented.

Next fit the engine bearers making sure the joint is really sound, using a slower drying cement such as "Frog" Universal Cement Set aside to harden thoroughly. While this is setting make up the front bulkhead by cementing together the two ply parts (1A) on each side of the balsa part (1). This should also be set aside to harden.

Meanwhile bend the undercarriage wire to shape as shown then drill the holes in the front former and sew and cement the undercarriage firmly in place.

The fuel tank should now be cemented in position as shown and the wing mountings (5) added.

Next make up the control system and cement firmly in position on the underside of the wing. The tail assembly (7) should now be made up by sewing the elevators (7A) in place and adding the control horn. This is made as shown from the brass strip supplied and bolted in position.

The wing and tailplane can now be cemented in position making sure that they are square with the centre line of the fuselage and parallel with one another. When these are thoroughly set the remaining formers (2), (3) and (4) are added.

Next cut the clearance holes in the fuselage sides (10) for the controls and add the tail posts (8).

The fuselage sides should now be cemented in position followed by the fin (9).

While this assembly is drying make up the two undercarriage fairings from the aluminium sheet supplied.

Now cover the bottom of the fuselage with 3/32" sheet balsa as shown and cut out the cockpit in the fuselage top. Fit the 3/32" sheet fuselage floor and headrest parts (11), (12) and (13). The engine can now be temporarily fitted in place.

The engine cowling can now be built as shown on the plan. It will be found easiest to build this round the engine by cementing it lightly in position on the fuselage for final shaping, after which it is removed. The outside of the cowling should be covered with the buckram supplied to strengthen it, and the small eyelet cemented in place where the retaining bolt passes through.

Next add the tailwheel as shown and solder the retaining washer to the pushrod. Fit the wheels and U/C. fairings.

The entire model should now be sanded smooth and the pilot and cockpit cover added.

Then fit the line guide (14) to the inner wing and the tip weights to the outer wing.

Make up the cowl fixing yoke as shown.

Remove the engine and fit the 3/32" balsa piece to seal off the engine compartment. Shape the air intake above the spinner.

The model can now be covered in the normal manner using the tissue supplied.

Clear dope is the best adhesive for tissue covering on a balsa surface. 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. Give the whole model two or three coats of clear shrinking dope.

If a very high finish is required one or two coats of sanding sealer should be applied all over the model. The entire model should be lightly sandpapered and then the colour dope applied, preferably with a spray such as are obtainable in most good model shops.

It is necessary when using castor base diesel or glo-plug fuels to give the finished model a coat of fuel-proof lacquer as castor oil rapidly ruins a cellulose finish.

With the recommended "Frog" engine a "Frog" Nylon 7" dia. x 4" pitch propeller has been found most suitable.

FLYING.

You will need a set of steel control lines 40' long x .010" dia. sing strand for test flying. For contest flying they should be 38' 2" long from the centre of the model to the control handle and .008" dia. Longer or thicker lines will slow the model down appreciably.

Remember this is a high speed machine and as such it is very sensitive to control. Choose a calm day and if possible a "tarmac" or other smooth surface.

HINTS ON TEAM RACING.

It is not necessarily the fastest model that wins races but the one with the best crew and the fewest pit stops. The "Hornet" using any of the three engines recommended will complete a five mile race with only one pit stop. Maximum speed using the "Frog" 150 Mk. II 'R' engine fitted with a "Frog" nylon 7" x 4" propeller is 76 m.p.h. with fuel consumption of 56–57 laps/tank on Shell "Powa-Mix" fuel.

MADE IN ENGLAND BY
INTERNATIONAL MODEL AIRCRAFT LTD.
MORDEN RD, MERTON, LONDON, S.W. 19.