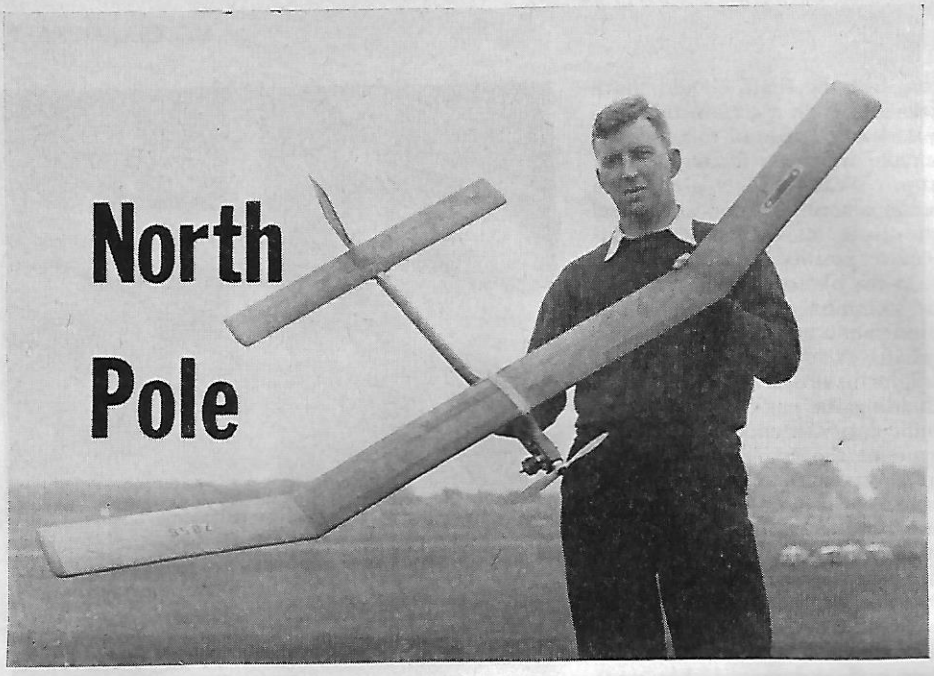
North Pole



An F.A.I. Power design by R. J. NORTH

Photographs by Martin Dilly

WORKING on the well established principle of "its simple its strong and it does the job," *North Pole* is a practical, if by no means a pretty model, although its lines have a certain angular elegance, which is far from out of place in a model designed for active contest flying. Constructionally it is as strong as possible and more than capable of withstanding many contest seasons of hard flying.

Wing Construction

Build as four separate panels. Pin down leading and trailing edges, add $\frac{1}{8}$ in. ribs and $\frac{1}{4}$ in. root and dihedral ribs, not forgetting to check the angle of the latter to accurately allow for the dihedral. The trailing edge will have to be blocked up $\frac{1}{16}$ in. at its front and the ribs $\frac{1}{8}$ in. at their rear, to allow for the lower sheeting which is butted on to the trailing edge later.

The holes for the joining tubes should be drilled in the centre ribs "en bloc," not forgetting to add the ply facing to the centre and internal ones. After plugging the inside ends of the tubes to prevent the alloy dowels from sliding into the wing, fit the tubes on to the dowels, thread the lot into the ribs and cement well. Using the dowels at this stage will ensure that everything lines up later. Do not forget the $\frac{1}{16}$ in. sheet load spreaders.

Now carve and sand the leading edge to shape; then, still on the board, add the $\frac{1}{16}$ in. medium top skinning, having previously butt jointed two or more sheets, if necessary, to obtain a sheet of sufficient width. Contact cement or P.V.A. should be used here.

When all is dry, remove from the board and add gussets and lower sheeting, pinning securely to the under camber.

The construction of the tailplane is basically identical with the wing, so no separate notes are necessary.

Fuselage

The fuselage construction is self-explanatory and bearer spacings are given for most popular 2.5's. Tank and timer arrangements have not been detailed, as these vary with the system used, but the original model had a Keilkraft cut-out mounted with its arm on the port side and lightly tensioned to the open position with a rubber band. A slightly modified Autoknips timer was used to actuate this and was, in fact, arranged to be easily removable for attention. A Tatone D/T timer saves a lot of bother with fuses and operates the pop-up tail via a flax or nylon line, with a light coil spring for tension.

Finally, do not forget the nylon patches; none are there just for fun and they contribute a good deal to the strength of the model.

Finishing

The usual remarks about covering and doping apply; jap-tissue is used on the flying surfaces and liberal amounts of fuel proofer should be used on parts likely to become oily.

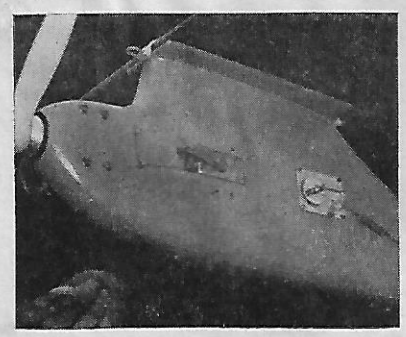
Trimming

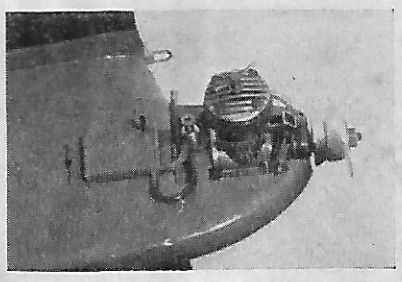
With the c.g. as shown, test glide until the model is, if anything, slightly under-elevated and a just detectable turn to the right is apparent; on no account should there be any suggestion of a stall present. For early trimming this is far safer and the final glide trim can be adjusted by weight in the tail, when the first stages, with a possibility of the motor cutting in an awkward position near the ground, have been passed.

As regards wing warps, about $\frac{1}{4}$ in. wash-in on the starboard inner panel is permissible.

First power flights should be made in calm weather with the motor running slowly and a four to five second run only. The model should show a shallow climb to the right and turn adjustment by vertical strips of $\frac{1}{4} \times \frac{1}{16}$ in. on the appropriate side of the fin trailing edge, stuck flat side to the fin, should be made until this is so. Vary the power turn by altering the length, not the thickness, of the strips.

The power can be gently increased and if all is still well, the engine run lengthened to the full ten seconds. The glide can then be finally adjusted by means of tilt and weight; variations in tailplane incidence being used only for controlling looping or diving tendencies under power.





Left: engine at D/T timer installation.

Right: engine, tank and cut-off.