GO-JET

BY

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(Luton D.M.A.S.)

BEING a firm believer in the small, simple, all sheet (and cheap) R/C model and having had lots of fun with the Aeromodeller *Simplex* and A.P.S. *Sharkface* (with polystyrene wings) designs I thought that a semi-scale swept wing layout would look that much better tearing about the sky. High mounted vee tailplanes seem to be in fashion—hence Go-Jet.

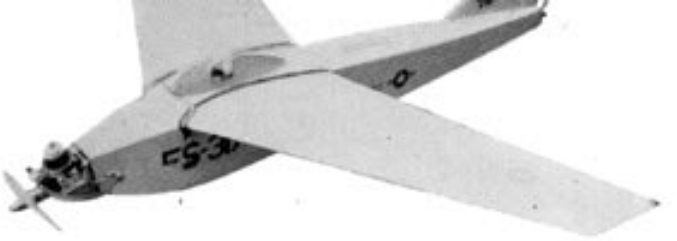
Not knowing what stability would be like I played safe and kept away from a low wing set-up. The high mounted wing makes a one-handed launching possible and these fast flying models you need the transmitter in your other hand.

The fuselage and engine mounting is a la Sharkface (thank you Mr. Clutton), the wings are well sanded $\frac{3}{16}$ in. balsa covered polystyrene but alternative conventional construction is shown on plan.

Construction

On the original, the polystyrene cores were cut by the hot wire method using $\frac{1}{8}$ in. ply rib templates. The $\frac{3}{16}$ in. sheet is cut to exact size remembering to allow for the camber and angled tip on the top sheet. After pre-cementing and butt joining, well sand both

A 29 in. span sport single channel aircraft for 0.75-1.5cc. motors



sides of the sheet. The leading edge is roughly tapered and chamfered, then, held against the wing core and shaped to the correct section using a sanding block.

Perhaps the assembly procedure would be of interest. The bottom sheet is positioned with its trailing edge flush with the edge of the building board then the leading edge is cemented and pinned into position, angling the pins to clear the top sheet when applied. Hold the polystyrene core in position and chamfer the bottom sheet trailing edge using sanding block (that's why we positioned the trailing edge flush with the edge of the board). The core is then glued in place. I have used white *P.V.A.* but drying time is longer and the small amount of shrinkage can put an alarming amount of undercamber in a wide chord. Consequently I now prefer *Copydex*.

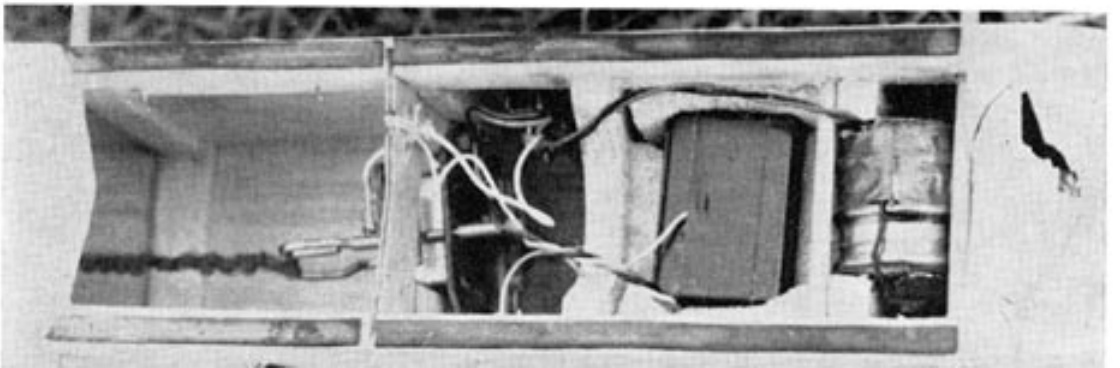
Adhesive can now be applied to the core top surface and top sheeting leaving the leading and trailing edge areas clear. These joints are best made with balsa cement which makes sanding a lot easier since most contact glues tend to pull and tear. Construction of the separate wing halves can be organised so that time wasted waiting for the adhesive to dry is kept to a minimum. The angled tips are best cut with a junior hacksaw or similar, sanding flat and the closing 3/32 in. sheet cemented on.

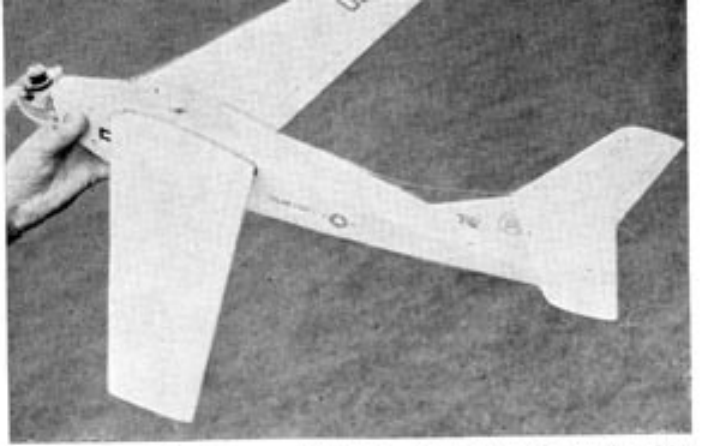
Sand the wing halves to a fine finish before attempting to sand in the dihedral joint angle. For this joint I did use P.V.A. When thoroughly set apply the wide strengthening strips top and bottom over centre joint again using P.V.A. The wings of the prototype used muslin reinforcement, giving a much cleaner edge without fraying. The extra width prevents rubberbands cutting into the trailing edge. Do not forget to add the retaining pegs, necessary because of the angled leading edge.

Many of these construction notes apply to the built-up wing. The ribs can be cut using the sandwich method.

Little explanation is needed for the fuselage construction, except that scoring the inside of the 3/32 in. sheet sides will be a help when drawing the sides together at the nose block. Nylon, bandage or muslin can be applied to the area at the nose which takes the knocks when landing. The ¼ in. square strip at the rear end increases the gluing area between sides and top sheeting, giving more support for the fin. If F3 is cut as shown, a DEAC pack can be accommodated as well as pencells without changing the design. Also, shaping F4 allows the torque rod to be inserted after the model is completed. Needless to say the tank can be omitted if a *Cox Babe Bee* or similar engine with integral fuel tank is used and power run considered long enough.

Below: view of the Go-Jet radio compartment showing R.C.S. Guidance System receiver and Elmic Conquest escapement. 3.6 volt DEAC power pack placed ahead of receiver.





Above: close-up of Cox TD049 power plant on knock-off dural mount. Correct thrust line obtained by packing out with washers. Right: Go-Jet from the rear. Fast model requires quick reactions.

Tailplane and fin are very simple, but remember to pre-cement areas where necessary.

The radio compartment was designed identical to my *Sharkface*, enabling the complete radio gear to be changed from one model to another in five minutes. This is accomplished by loosening and swinging up the rudder yoke, sliding back the torque rod, undoing the switch retaining bolts (nuts soldered to back of switch) and nut holding the charging socket. I should mention that no plug or battery connections are used and each model has it's own torque rod and escapement rubber.

Finish

Finish applied was lightweight tissue doped on, followed by two coats of white *Brushing Belco* and one coat of *Kingston Diamond*.

Weight for the 1 sq. ft. wing area was 13½ ozs.

This is the second wing tried. The first of 110 sq. ins. did not look right and the model had a distinct 'wobble' in flight but the bigger wing has cured this.

When trimming, go easy on the power and rudder movement to start with. A gentle left turn is an advantage if radio response is lacking once in the air. When the correct trim and thrust line are achieved, open up the power (maximum 1.5 c.c.) and let her go—the sky's the limit.

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