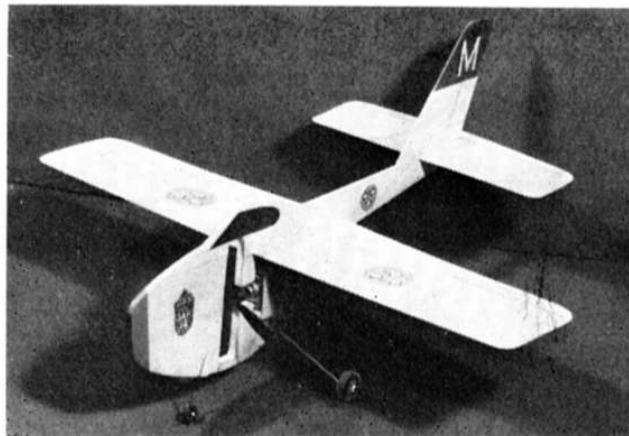


A simple semi-scale SAAB J29F

for electric R.T.P. flying

By

RAY MALMSTROM



A FLYING model that is different and out-of-the-rut, as it were, always has an excitement all its own. The idea of flying a *jet*-type model round-the-pole (R.T.P.) indoors seemed to offer just such a different flying thrill. Unfortunately the excellent Jetex jet-type motors have a limited power duration that makes them impractical for flights of any considerable length, time-wise. After a lot of hard thinking and 'sweat-of-the-brow' we came up with the idea of this little easy-to-build, electric powered model based on Sweden's formidable SAAB J29F fighter of the 1950's. We located the propeller in a slot cut in the conveniently "barrel like" fuselage, so that in flight the 'prop' is lost and the model has all the appearance of a jet job. The model features simple all-sheet construction and is designed for flying in a relatively small space. (No hangars or halls needed for this job!). It flies fast and steady on lines from 6-12 ft. in length, so your youth hut, clubroom, classroom or even a fairly large lounge (move those chairs, and mind the telly, chaps!) can be your aerodrome.

Details of the electric wiring and pylon used for flying this exciting type of model appeared in "Meccano Magazine" June 1971.

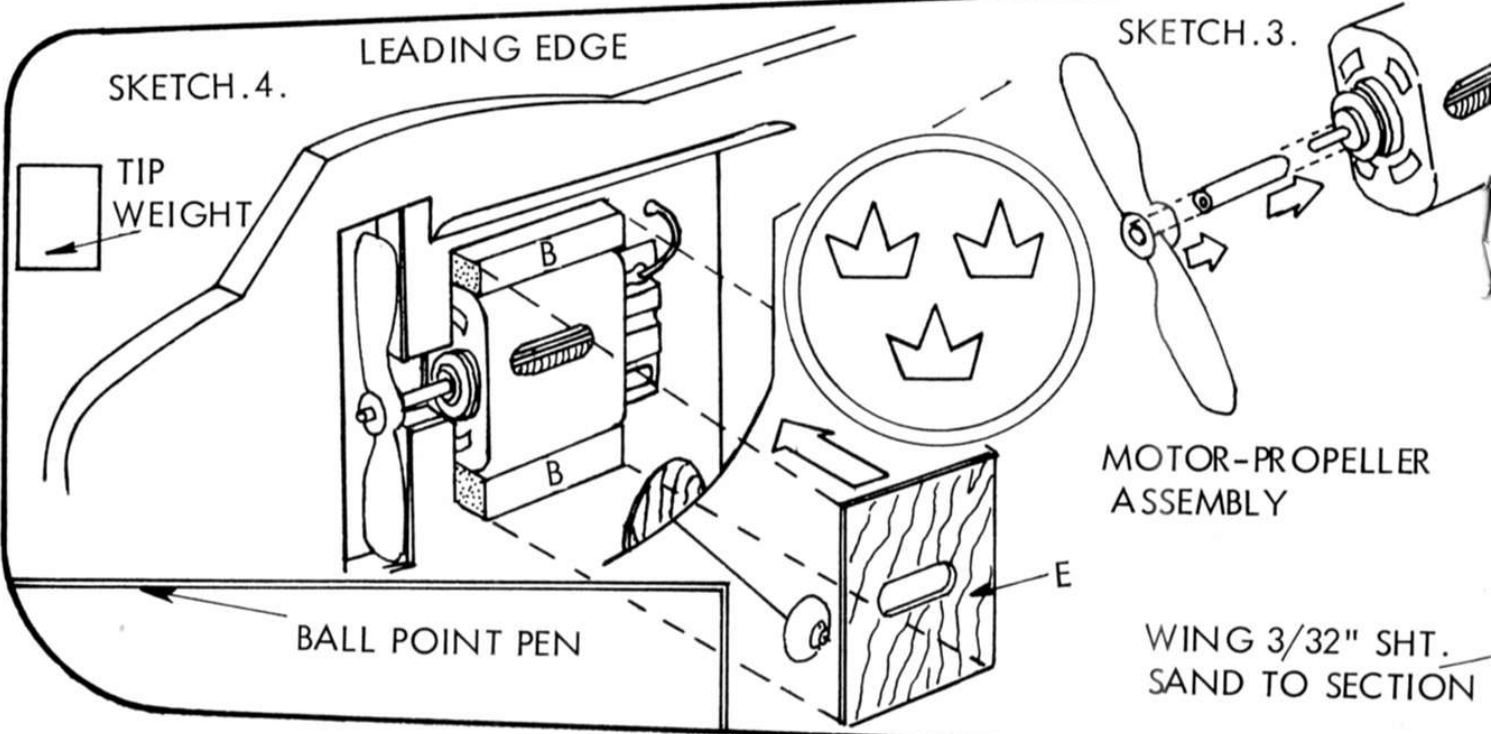
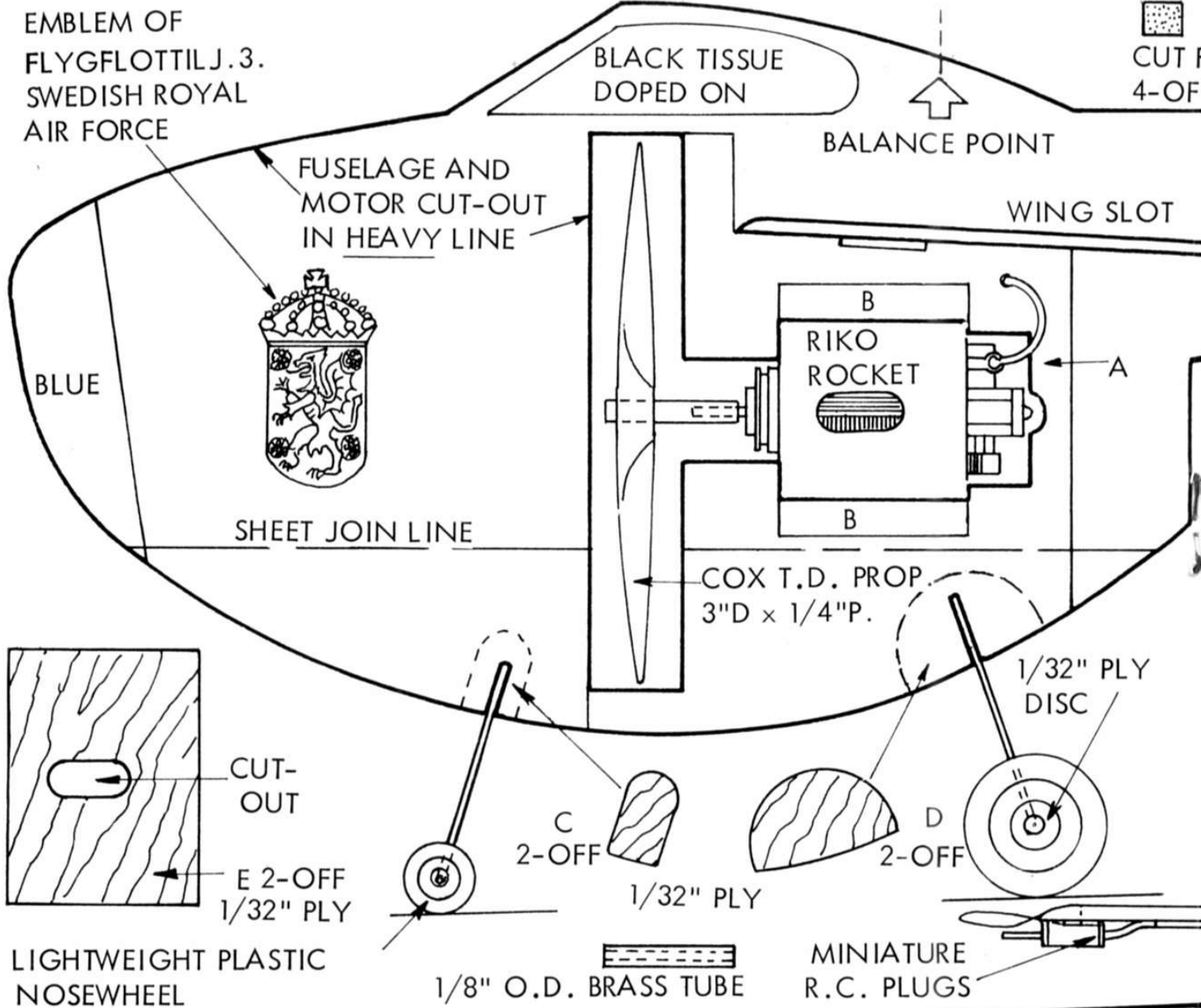
So what is stopping us cutting up some sheet balsa and joining the "jet-set"?

Commence construction by joining a length of *medium* grade balsa sheet $\frac{1}{16} \times 13 \times 3$ in. to a piece $\frac{1}{16} \times 13 \times 1\frac{1}{4}$ in. When dry trace the fuselage shape on to the sheet. Sketch 1. Using a sharp pointed balsa knife or razor blade, cut out the fuselage shape and the propeller and motor opening. Trace piece A on to $\frac{1}{32}$ in. plywood and cut out. Cement ply piece A in position on left (port) side of fuselage shape. Drill a $\frac{1}{16}$ in. diam. hole through which will pass one of the leads from the electric motor. Sketch 1. Cut four pieces B from $\frac{1}{16}$ in. sheet and firmly cement in position top and bottom of the motor cut-out, and on both sides of the fuselage. Sketch 2. Bend the nose wheel leg wire from 20 s.w.g. wire and cement into the nose slot. Lock in position with pieces C cut from $\frac{1}{32}$ in. ply. Put a small plastic wheel on to the axle and retain with a small soldered washer. Bend the main undercarriage wire from 18 s.w.g. wire and cement into rear slot, locking with $\frac{1}{32}$ in. ply pieces D. Cut two wheels from $\frac{1}{4}$ in. thick balsa sheet, and sandpaper to shape. Reinforce the centre holes with small discs of $\frac{1}{32}$ in. ply. To prevent the wheels from sliding up the undercarriage legs push on small pieces of plastic electrical tubing from which the inner wire has been removed. See front view drawing. Slip wheels on axles and retain with small washers soldered on. Cut the tailplane and fin from $\frac{1}{16}$ in. sheet. Sandpaper the tailplane to the section shown on the plan side view, and round-off the edges

of the fin, using very fine grade sandpaper. Cement the fin to the tailplane, (noting the fin slot) after you have cemented the tailplane to the rear end of the fuselage. Sketch 2. Check that the tailplane is at right angles to the fuselage and that the fin is vertical.

The power for your SAAB J29F comes from a Riko "Rocket" electric motor (obtainable from your model shop at £1.55). The best propeller for this motor is a Cox 0.010 3 in dia. $\times 1\frac{1}{4}$ in. pitch plastic propeller (also obtainable from your model shop price 25p.) Incidentally if your local dealer cannot supply you, contact Henry J. Nicholls and Son Ltd., 308 Holloway Road, London N.7. The propeller is fitted to the driving shaft of your motor by means of a short length of $\frac{1}{8}$ in. outside diameter brass tubing, as shown in Sketch 3. The brass tubing is fastened to the motor driving shaft with Araldite or Britfix epoxy adhesive. Do not use balsa cement. The propeller is then pushed on to the other end of the tubing, again using epoxy adhesive to lock it to the brass tubing. Check that it is not out-of-true when the motor turns over. By the way, epoxy adhesives usually take about 2-3 days to really harden, unless you use one of the special fast-setting types. The motor propeller unit can now be slipped into position in the motor cut-out. Check that it is accurately lined up and is a tight fit. The motor is now locked in position by cementing $\frac{1}{32}$ in. ply pieces E to either side. Thread one of the motor leads through the hole already drilled for it, as shown in the front and side views, and in sketch 4. You can now round-off all the square edges of the fuselage using fine grade sandpaper.

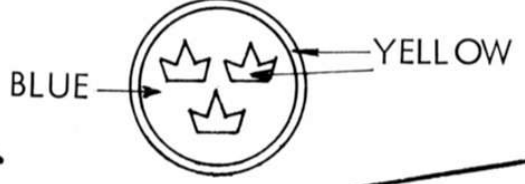
Take a tracing of the left-hand (port) wing panel direct from the plan and trace on to $\frac{3}{32}$ in. sheet. Reverse your tracing on the centre line for the right-hand (starboard) panel. Cut the wing out and sand to the correct section. The wing is simply pushed through the wing slot, checking that it is at right angles to the fuselage, and well cemented in place. The leads already on your Riko Rocket will need to be lengthened with wire of the same gauge soldered to them. (Plastic covered wire of the required gauge is easily and cheaply obtainable from a radio dealer). The leads are then taken along the right-hand under-surface of the wing and two miniature radio plugs are soldered to the ends. Check that the miniature radio plugs you use fit the ones at the end of the leads from your pylon. The plugs are held in place at the wing-tip by Evo-Stik, or a small piece of thin silk well cemented. The leads are held to the undersurface of the wing with either small patches of silk or nylon, or even Sellotape, which proves quite satisfactory. Drill a small hole at the wing tip (check the plan and make sure it is in the exact position shown)



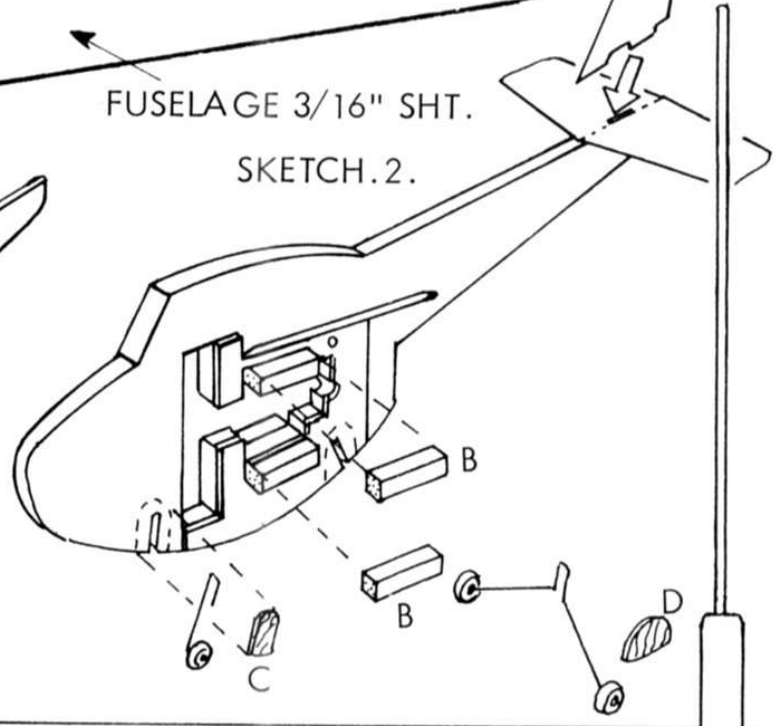
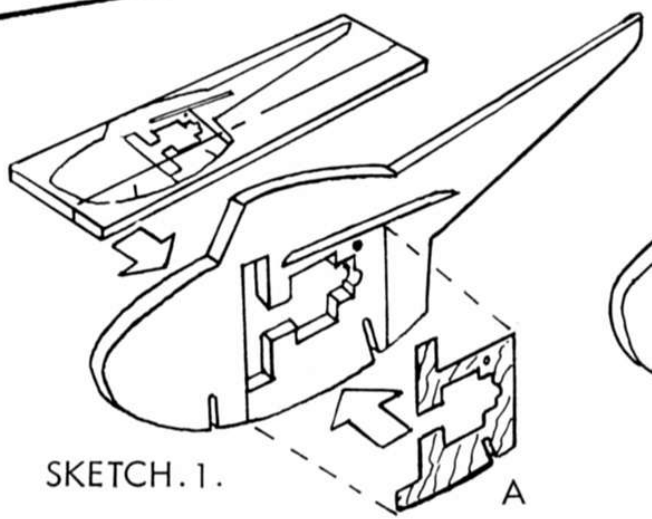
D
FROM 3/16" SHT.
FF

N.B. USE MEDIUM
GRADE Balsa
THROUGHOUT

TAILPLANE (SECTION)



FUSELAGE 3/16" SHT.
SKETCH.2.



SEMI-SCALE SAAB J.29.F.

FRONT VIEW

CENTRE LINE

PIECES OF THIN SILK OR NYLON

STRONG THREAD
R.T.P. LOOP

LEADS
FROM MOTOR

1/32" PLY

20 S.W.G.
WIRE

N.B.
THIS MODEL
DOES NOT REQUIRE
DOPING

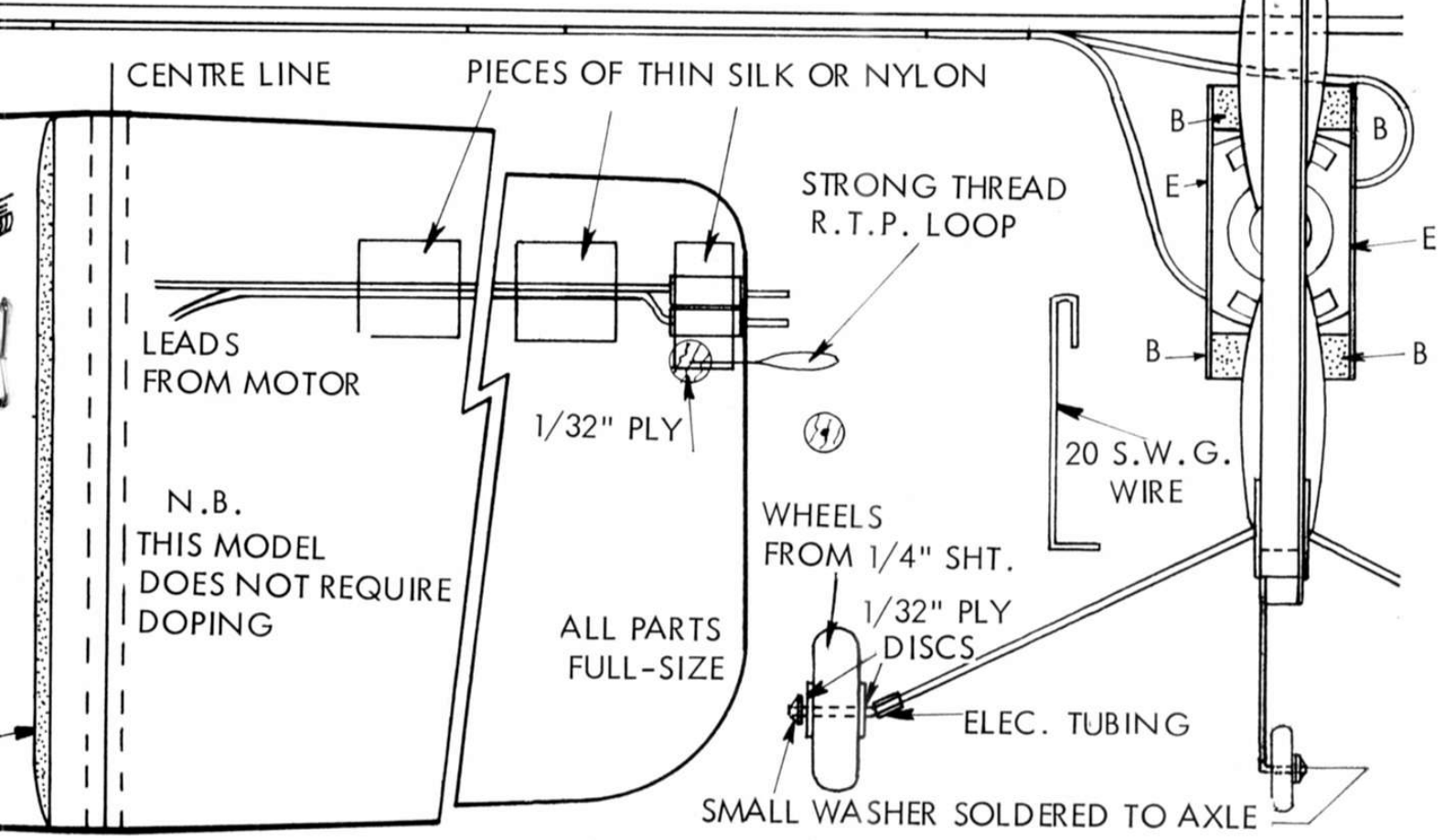
ALL PARTS
FULL-SIZE

WHEELS
FROM 1/4" SHT.

1/32" PLY
DISCS

ELEC. TUBING

SMALL WASHER SOLDERED TO AXLE

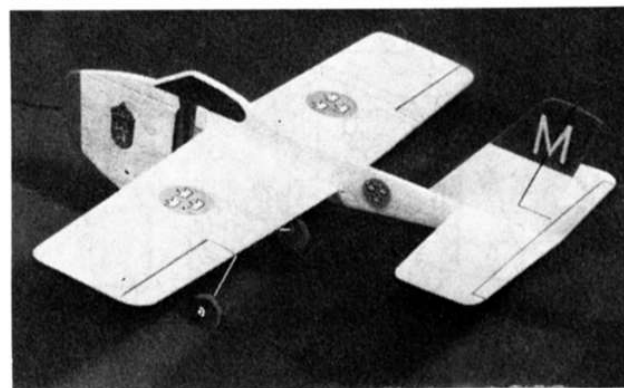
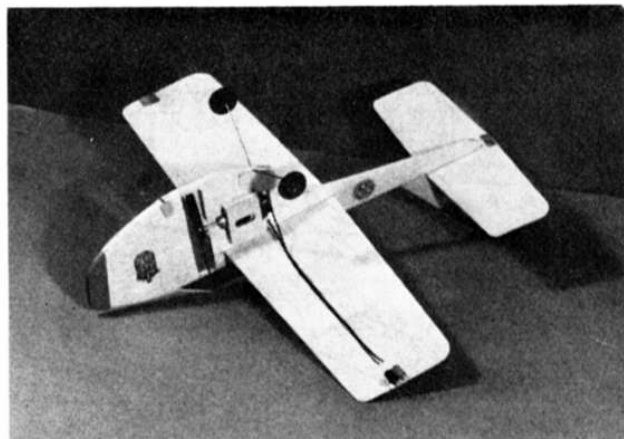


Simple, but very effective and safe in flight is Ray's cute Saab. Such electric models can be flown outdoors in calm weather, given a reasonable surface for take-off.

and reinforce the hole with a small piece of $\frac{1}{32}$ in. ply. Pass a piece of strong thin thread through the hole and tie a loop as shown. Sketch 5. Cut a small piece of sheet lead or neatly folded piece of empty cement tube and Evo-stik this weight to the opposite wing tip. Sketch 5.

As your SAAB J29F is to be flown indoors there is no need to dope it. The Swedish Royal Air Force insignia on our own model was painted on thin paper, with poster paints, cut out and cemented in position. The colour bands at the nose and the top of the fin can be put on using thick poster colour or with oil-pastels (a small box from any art shop). If you use the oil pastels just put them on thickly, then rub off the excess pastel with a soft rag and there you are. They are a very efficient and colourful way of decorating balsa models. Use Sellotape for masking to give neat lines. The squadron letter M on the fin was painted in thick poster colour. Elevator, aileron lines etc. were added using a ruler and a black ball point pen. The cabin is two pieces of black tissue doped in position. Incidentally, if you really fancy your artistic ability with a paint brush and would like to add the squadron symbol on the nose, shown on the plan, and on our original SAAB J29F featured in the photos, here are the colours. The shield is blue, the winged heraldic beast is yellow. The four Tudor-type roses white, the interior of the crown red, with yellow base and cross. This emblem was worn on the SAAB J29F's of Flygflottily (Sqdn) 3 of the Swedish Royal Air Force, when these fighters were based at Malmen, Linkoping, Sweden. (No extra charge for all this info!).

All that remains to be done is to carefully balance your model. Sketch G. Do this by pushing a pin into the balance point, as indicated on the plan. Tie a thread to the pin and see that your model hangs level. Ours needed a tiny piece of lead fastened with Evo-stik to the extreme rear edge of the tailplane. However, as balsa wood varies in density (and weight) your SAAB J29F may not need any weight. Also we had to



carefully warp up the rear edge of the tailplane in order to obtain extra height when flying. Your first test flight will reveal if this will be necessary.

Well, that's it! Runway clear? Then let's roll. We know you are going to get a real thrill when you open up the motor and your SAAB J29F gathers speed for take-off. Airborne she looks great, and landings are safe and sure on the tricycle undercarriage. Lots of good flying to you.

CHAIRLIFT (Contd. from page 345)

$1 \times \frac{1}{2}$ Reversed Angle Bracket is secured. A $2\frac{1}{2}$ in. Strip 59 is bolted to the spare lug of this Bracket, a 1×1 in. Angle Bracket 60 being secured in turn to the upper end of this Strip. Note that the lower fixture in the last case is made, not by a Bolt, but by a Long Threaded Pin, on the shank of which are mounted an electrical 1 in. Bush Wheel 61, a free-running $\frac{1}{2}$ in. Pulley without boss and an 8-hole Bush Wheel 62. The cupola is mounted in position with the $\frac{1}{2}$ in. Pulley running on the rail provided by the earlier-mentioned Flat Girders. Angle Bracket 60 is then connected by a short length of Cord to the cord running around 6 in. Pulleys 18 and 19.

Last of all, we have the cupola loading platform which is built up from a $4\frac{1}{2} \times 2\frac{1}{2}$ in. Flat Plate 63 secured by Rod Sockets at the corners to four $1\frac{1}{2} \times \frac{1}{2}$ in. Double

Angle Strips 64. The inner Double Angle Strips are bolted, along with two $2\frac{1}{2}$ in. Strips 65, to appropriate compound girder 1, the free ends of Strips 65 being fixed to the spare lugs of the outer Double Angle Strips. The securing Bolts in the latter case also fix a $4\frac{1}{2}$ in. Angle Girder 66 between the Double Angle Strips. Another Rod Socket 67 is secured to Plate 63 in the position shown, then suitable short Rods are fixed in all the Rod Sockets, Handrail Couplings or Short Couplings being fixed on the top of these to carry the horizontal handrails. The outer rail is supplied by a 5 in. Rod 68 and the end rail by a 2 in. Screwed Rod, with a short rail on the loading side coming from a $1\frac{1}{2}$ in. Rod. A set of access steps is provided by two $1\frac{1}{2} \times \frac{1}{2}$ in. Double Angle Strips, bolted between two 3 in. Narrow Strips 69 which are attached to Plate 63 by Angle Brackets.

Finally, handrails for these steps are supplied by two further 3 in. Narrow Strips connected to Strips 69 by two $2\frac{1}{2}$ in. Narrow Strips 70. And that's it!

PARTS REQUIRED

7-1a	2-16	1-50	4-103g
2-2	1-16a	2-51	8-111c
14-3	1-17	1-52a	1-111d
16-5	5-18a	4-53	6-115a
6-6	2-18b	17-59	1-120b
15-6a	2-19c	1-62	7-124
8-7	2-21	1-62b	2-133
4-7a	4-22	3-63d	2-133a
6-8	6-23	4-72	2-136
10-8a	6-24	2-73	2-136a
2-8b	5-26	6-80a	1-155
5-9	1-26b	1-81	6-162a
2-9a	2-27a	1-89a	5-179
3-9b	1-29	1-94	1-186b
2-9d	2-31	1-95	1-186e
2-9f	2-32	1-96a	6-187d
11-12	320-37a	3-99a	2-188
6-12b	288-37b	2-103	6-196
1-15	80-38	6-103b	2-197
4-15a	13-48	2-103d	2-235
2-15b	2-48b	1-103f	2-235a
6-518	1-6-ratio Motor with Gearbox		