

## Saab 18A



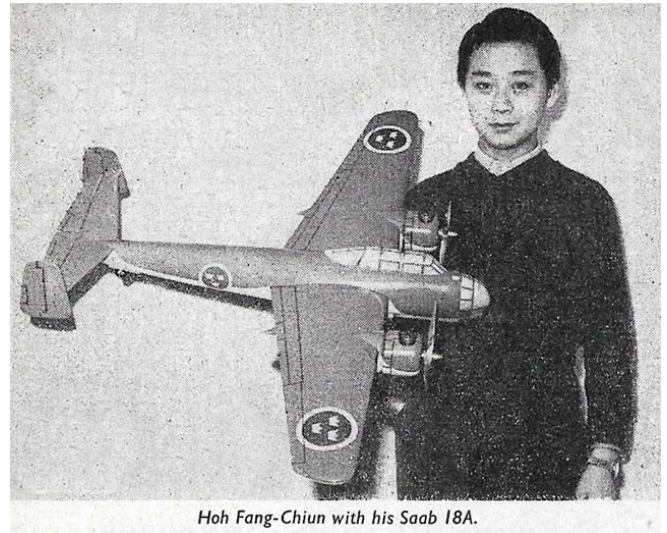
**A scale twin control-line model of a Swedish Bomber, suitable for two 1-2 c.c. motors.**

**Although** twin-engined control-line scale models have gained an ever increasing popularity in recent years, to consider building a model of this type may still give rise to misgivings for the average modeller. This may be due to a number of factors. The design of the model is perhaps unnecessarily intricate; the chosen subject may not be very suitable; or the designer endeavours to copy the full-size machine right down to the last rivet, with complete disregard for practicable construction.

With these points in mind, I have tried to make the construction of this scale model of Sweden's Saab-18 A medium bomber, so simple that every modeller with a little experience should be able to build it. The construction is of balsa, which gives a good weight/strength ratio. The sheet covering should not offer any difficulty, as the wing is planked entirely separately, with the fuselage and nacelles then built on to it. To further simplify the building, soft balsa blocks, carved to scale shape and finished in scale outlines, were used for canopies instead of moulded ones, though you may, of course, make these latter up if you prefer.

The model spans 40 in. and my prototype Saab-18A, with two Taifun Hurrikan 1.5 c.c. motors for power, weighs about 48 oz. and has an air speed of around 55 m.p.h. A pair of 1.5 c.c. engines are recommended, but any pair of motors up to 2.5 c.c. can be used. Even good 1.0 c.c. diesel engines would be suitable if the model is kept light during building.

**Construction:** Start with the wing. First, join the spars with their respective 1/16 in. plywood dihedral



braces, and cut all the ribs, except for the center one, from 1/8 in. sheet. Don't forget to cut the slots for the lead-out wires in the port ribs. Next, slide and cement the ribs onto the spars from the center outward, and frequently check over the plan that they line up correctly. Note that the hardwood bellcrank mount has to be cemented in place before ribs WC, etc., are added. Cement the leading edge in place and install the complete bellcrank assembly.

Before sheet covering the wing— preferably with hard 1/16 in. sheet— securely cement a piece of lead, weighing about 1 1/2 oz., in the starboard tip, between the mainspar and leading edge. Add block tips and sand entire wing.

Start the fuselage by cementing the 1/8 in. sheet keel onto the center of the wing. Be sure that the wing slot in the keel is just big enough so that it fits tightly onto the wing center, and check carefully that the keel is absolutely straight in relation to the wing. Cut out all the formers and cement them in place. Note that the lower part of the keel is cut off about 3/64 in. in front of former F1's position, and rejoined after the former (F1) is cemented in place as show-ii on the plan. The entire fuselage can be planked now with 1/8 in. sheet strips, but leave an opening in the rear for the stabilizer.

The tailplane is made from 3/8 in. sheet tapered to 1/4 in. thick at the tips. Sand the tailplane to a symmetrical section before cutting off the elevators. Cut and bend the tailplane to the correct dihedral, and cement the 1/8 in. sheet brace in place.

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Insert the wire elevator horns into the elevators using plenty of cement, and join them with linen hinges to the tailplane. Cement the assembly onto the fuselage, and be sure that the elevators take the neutral position simultaneously.

Form the fuselage rear with a soft block, as indicated, and sand the entire fuselage with coarse sandpaper.

Cut the fins from 3/16in. sheet and cement them to the tailplane, at right angles, with plenty of cement.

Start the nacelles by cutting out all the parts. Assemble these by first cementing NB and NC to the engine bearers; note that the U/C components must be bound to the formers before the latter are cemented to the bearers.

Next, cement the fuel tank in place, then join the nacelle nose assembly to the wing, by marking out its position on the underside of the wing, and cutting a slot in the sheeting for the tank.

Cement the nose assembly in place with the bearers at neutral and when dry, add the two 1/8 x 3/16 in. crutches and the remaining formers. After the nacelle is planked with 1/8 in. strips, add former NA and the block at the rear.

The engine cowling is carved from block and then divided into two halves. The lower half is cemented permanently to the bearers and former NA, while the upper half is detachable. To hold it in place, you can either spot-cement or use two dress-snaps placed diagonally, and, to prevent movement, two 1/8 in. hardwood dowels, cemented to the upper half, are inserted into holes in the lower.

Install the engines, don't forget to offset both slightly outward (right), and make an initial balance check.

The model should balance on the leading edge at this stage, but if it doesn't, add lead weight in the fuselage nose block. When this c.g. position is correct, cement the nose block, and the remaining cockpit blocks, in place and give the whole model a final sanding.

Finish the model by first giving all the surfaces several coats of sanding sealer to fill the grain, sanding down the sealer carefully after each coat. When you have a smooth surface, cover the entire model with lightweight tissue and apply another coat of sanding sealer. After a final sanding, the wheel doors and other scale details can be added, and the model is then given several coats of clear dope before coloring.

The colour scheme is blue-grey on the lower surfaces and olive-green on the upper surfaces and fins. Dope the whole model first with the light colour, and then the upper surfaces and fins in dark colour. The cockpit windows and control surface outlines are then masked off by tape and painted with one thick coat of their respective colour. Finally the Swedish national markings, in blue and yellow, are painted directly onto the model with compasses and a fine brush.

Before you go out to fly, be sure that the c.g. is located as shown on the plan, and that the controls move freely. Choose calm weather for the first flight and don't use too long a line length— 40 ft. of heavy Laystrate wire is about right for 1.5 c.c. engines, while 50 ft. or so can be used if there are 2.5 c.c. engines in the nacelles.

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