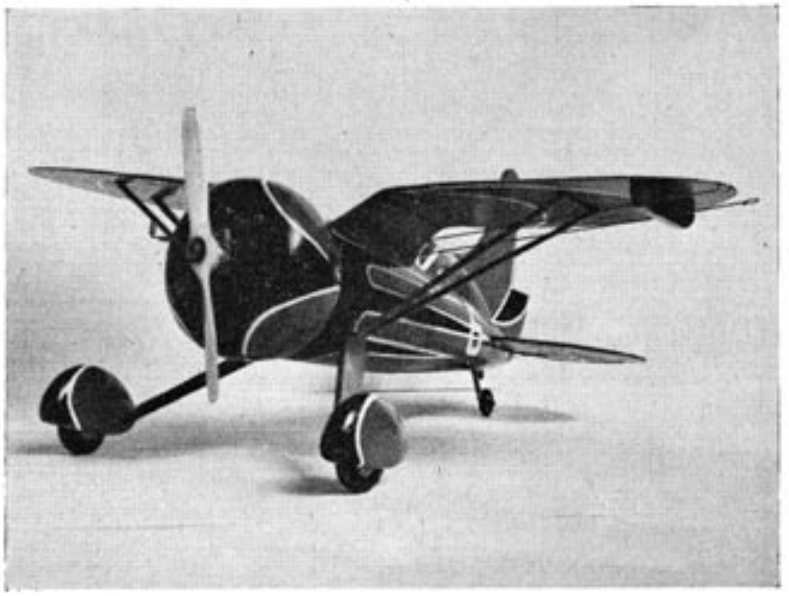
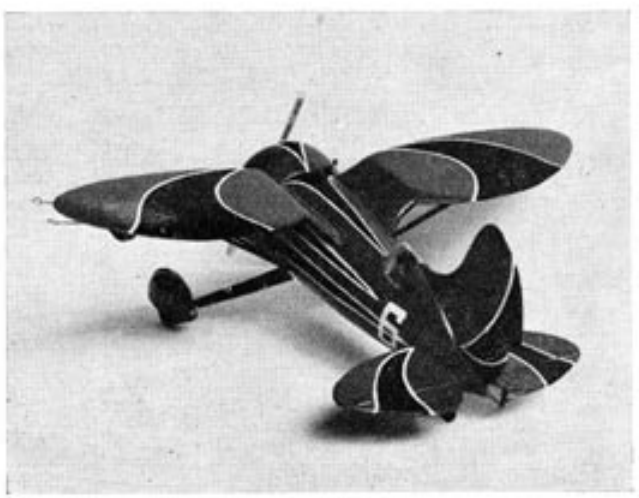


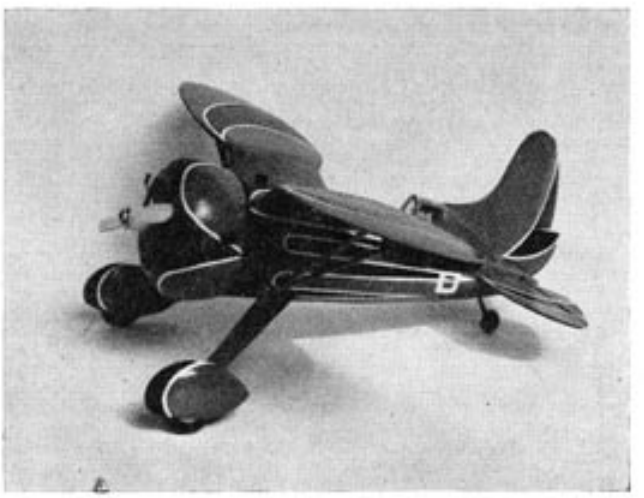
THE HALL RACER

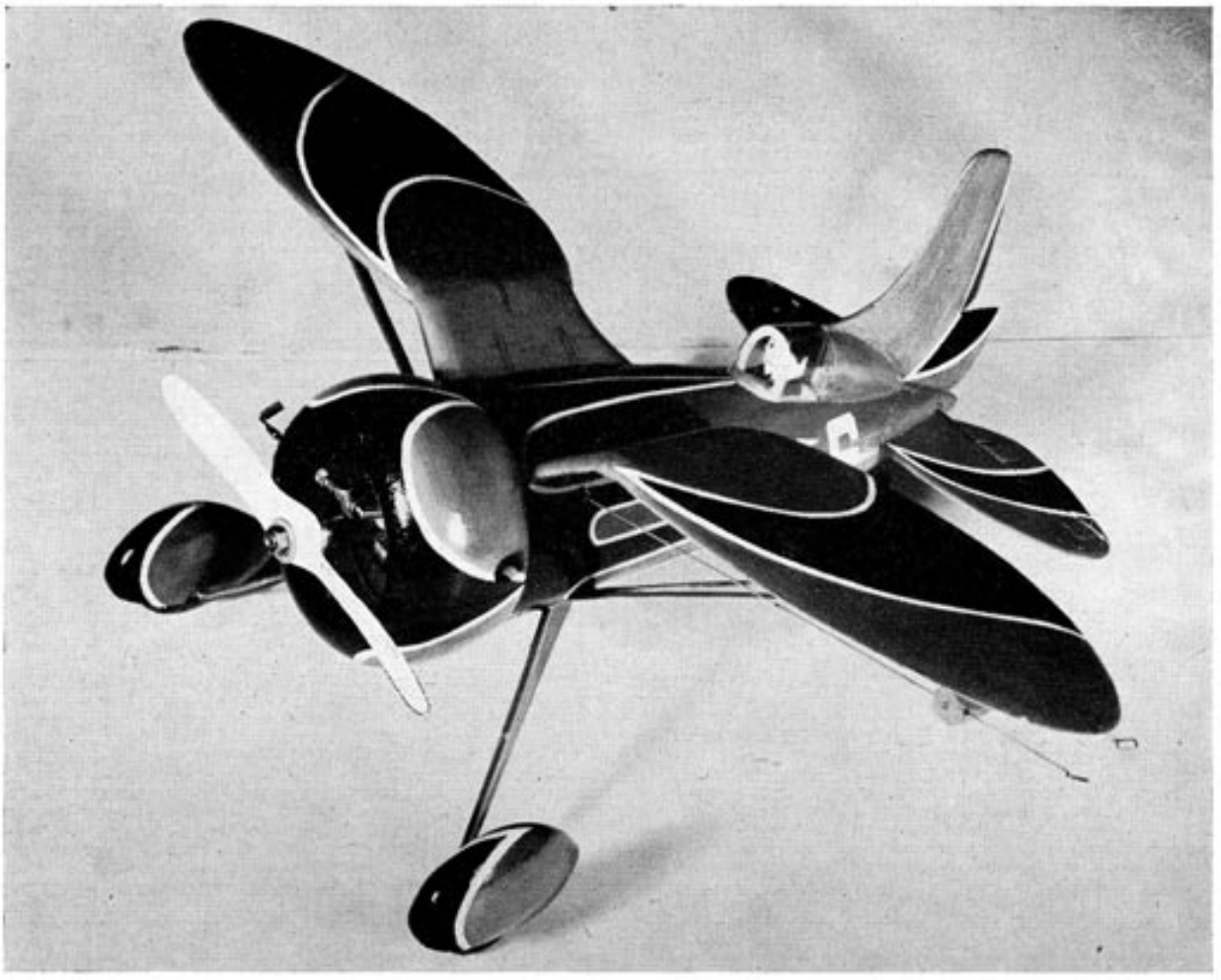
THRILLS A-PLENTY WITH THIS SLEEK RACER

Way back in the 1930's the American National Air Races produced some very fast and very beautiful little racing aircraft. The *HALL RACER* was one of these and our model lives up to the reputation of its big brother, both in good looks and flying performance. When you have flown this model you really will have earned your 'wings' and be all set for a 70-80 m.p.h. team racer.

Construction is shown in the small stage-by-stage sketches but some additional notes will be helpful. Pre-cementing is advised throughout. When bending the 14 S.W.G. wire for the undercarriage, a vice is essential. Bind the undercarriage wire to Former 2 *before* assembling formers 1, 2 and 3 on to the hardwood engine bearers. Check also the cut-outs for the bearers. You may have to alter them slightly to fit your engine. If you are using the Allen Mercury 10 the positions of the bearers on the plan are correct. Line up Formers 1, 2 and 3 carefully on the engine bearers before the cement dries. The accuracy of the whole model depends on the accuracy of this first stage. When fitting the two master sides, moisten the outside of the sheet to assist bending, and use plenty of pins to hold to formers. When installing the bellcrank and control wires, test for easy movement. Moisten all remaining fuselage pieces before cementing in position. Gaps can be filled with plastic wood. After sandpapering fuselage smooth, dope tissue on in overlapping lengthwise strips. Note $\frac{1}{2}$ in. right offset to fin (viewed from rear). The important piece in the wheel





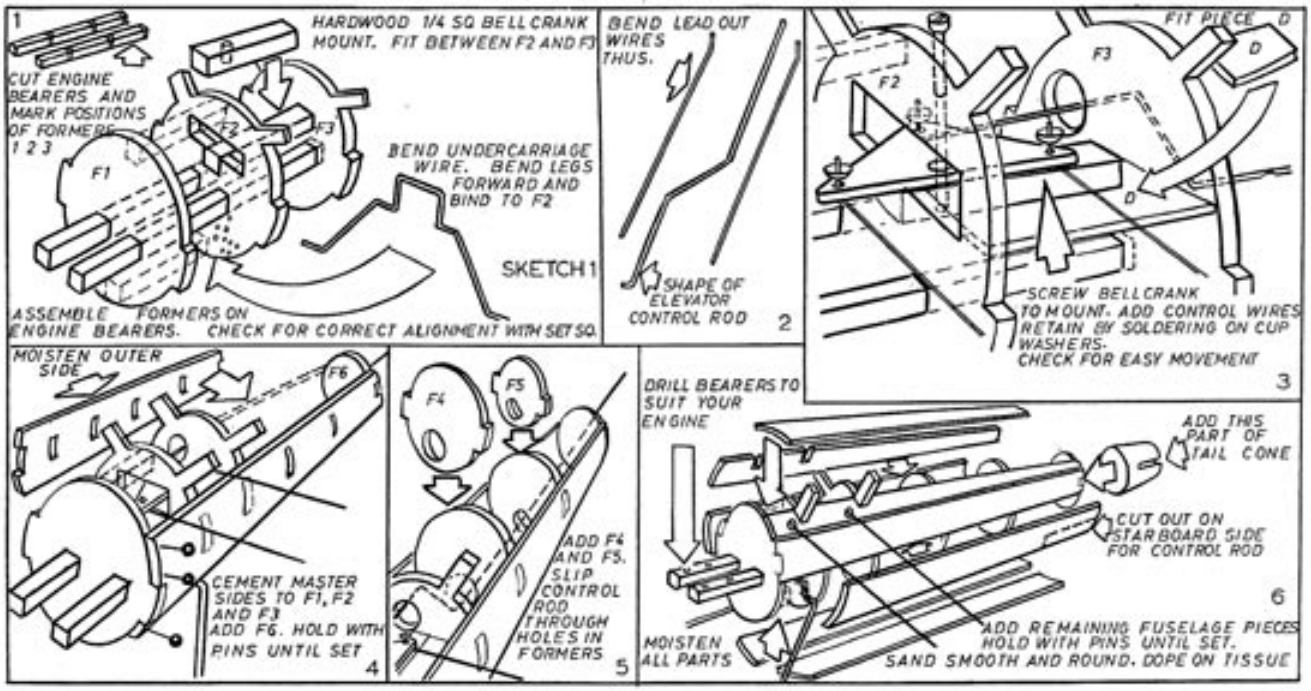


cowlings is the wire bar with the $\frac{1}{4}$ in. square blocks bound to either end. This is soldered to the 14 S.W.G. undercarriage axle. Piece 2 of the wheel cowling is cemented to the $\frac{1}{4}$ in. square blocks. The wheels are put on the axles, and held by soldered-on cup washers. Pieces 1 and 3 are cemented either side of 2. The cowling blocks are then shaped with a razor blade and sandpaper. Check for free running of wheels.

When cementing the winglets on to the projections on Formers 2 and 3, see that the edge AB of the winglet is *parallel* to the engine bearers. It is this edge AB that lines up the outer wing panels.

When installing your engine, it will be necessary to solder an extension wire to the existing needle valve wire, in order to extend it outside the engine cowling. The cowling lock *must* be a tight push fit in the holes drilled for it in Former 1 and cowling ring A. The top part of the cowling lifts off to facilitate engine-starting. Cut cowling in two before cementing lower half in position. The fuel tank can be made from the end of a toothbrush container. Cement a piece of the container over the open end, taking care to roughen with sandpaper the surfaces which are to be joined. Give entire model two coats of dope. The original model is red with black trimming, the black and red being divided by a white line. Complete by giving a coat of fuel-proofer. The model must balance when supported under the FRONT lead out wire, or at a point slightly in front of the wire. The model must not balance at a point BEHIND this front wire, otherwise it will be difficult to control. To achieve correct balance, weight may be added to the engine cowling, or to the tail cone (shaded area on plan).

The *HALL RACER* can be fitted with any engine between 1 and 1.5 c.c. but the powerful, easy-starting Allen Mercury 10 engine (58/10d.) is strongly recommended. Lines should be approximately 30 ft. in length, and of



thin strong fishing twine. The original model was test-flown on 27 ft. lines, using an Allen Mercury 10 fitted with a 7 x 5 nylon flexible propeller. The model proved responsive to the controls and easy to fly, although the landing speed is a good deal higher than your *GEE-BEE* Trainer (Chapter 13).

Obviously this is not a model for the absolute beginner but with the experience you have gained with your *GEE BEE* Trainer you will be able to handle it with confidence. We know you will get a great thrill when you lift this sleek speedster into the air on its first flight!

Believe us, it's a fast, eye-catching little job.