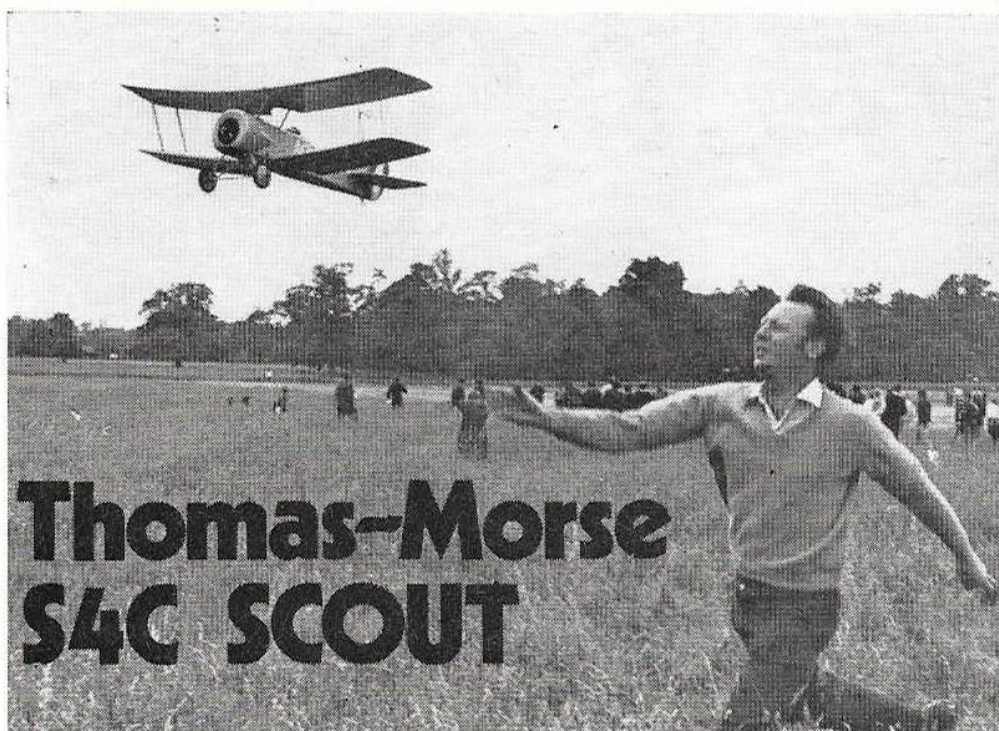




**A 35" span,
1/9th scale replica
of the early
American biplane
using .8 to 1 c.c.
engines**

by J. G. Watkins

The designer launches his model for another perfect flight at Old Warden, but judging by the length of grass, he's taking no chances!

THE FIRST AIRCRAFT designed specifically for fighter training, the Thomas Morse Scout has a particularly 'British' look to it—not surprisingly, as that company's chief designer, B. Douglas Thomas (although no relation) was an Englishman who had previously been employed by both Vickers and Sopwith.

Fortunately, this model does *not* possess all the flying characteristics of the original—many of its peculiarities being caused by the rotary engine—and is a very stable performer. In fact, the fine flying performance prevented us from finding the designer for quite some time when we witnessed its flights at the 1970 Old Warden rally—he was flying it non-stop and was only to be seen constantly trotting down wind retrieving his creation! So successful a performer is it that we are informed that with the exception of a competing flight at the Middle Wallop rally (isn't that always the way?) the model has give over three hours 'air time' without any 'failures'. The quickly detachable wings allow easy transportation, while also affording crash protection if required!

Further scale details may be gleaned from the Aeromodeller Plans Service's pack no. AJ.2887, price 20p. This comprises an article reprint and drawings to 1/72nd and 1/48th scales.

The fuselage is begun by cutting out all the formers, then bending the undercarriage and cabane struts to size. Sew and epoxy these to F1 and F2.

Large radial cowl completely encloses the designers D. C. Merlin .75 c.c. diesel engine. Any beam mounted engine of .75 to 1 c.c. would be suitable for this model.

Build two basic fuselage sides from $\frac{1}{4}$ in. x $\frac{1}{8}$ in. medium hard balsa, and $\frac{1}{8}$ in. balsa wing mount as shown. Glue formers F1, 2 and 3 in place, checking that they are square. When dry, join the fuselage sides at the rear, followed by the $\frac{1}{4}$ in. x $\frac{1}{8}$ in. cross pieces—making sure that the fuselage is not warped. Cement the bearers in place using a P.V.A. or epoxy adhesive, then glue the remaining formers in position—leaving F6 to last. Rear fuselage stringers and top deck sheeting may now be added. Build the cowling ring from cross laminated $\frac{1}{8}$ in. hard sheet, and cover with $\frac{1}{8}$ in. medium hard sheet to F1. Add all undercarriage and cabane fairings then sand to a streamlined section.

The wing structure is very conventional. Cover the plan with thin polythene sheet, then pin the $\frac{1}{8}$ in. x $\frac{1}{4}$ in. T.E. for the lower wing in place. Pin the front spar in position, followed by the rear spar and leading edge—which will need packing with scrap balsa to bring to the correct height. Cut out ribs WB1-3 as well as riblets WB4 and 4a. Cut out the $\frac{1}{8}$ in. sheet trailing edge at the centre section, noting grain direction and glue in place. Add spar doublers at centre section before gluing all the ribs and riblets in position. Sheet in the centre section, add $\frac{1}{8}$ in. x $\frac{3}{8}$ in. tips and gussets, followed by wing strut mountings, then leave to dry thoroughly. This procedure is then repeated for the top wing, which also incorporates the ailerons.

Three-quarter view of the 'Tommy' reveals the well staggered wings and gentle dihedral angle. Tailplane and fin are of ample area to provide stable flight.



Painted in its Navy colour scheme of pale Navy grey overall, with blue, white and red rudder stripes and wing insignia the Scout looks most attractive.

The tailplane is also built in the same way as the wing—again care should be taken to provide a warp-free structure. In the case of the fin, sand the ribs to a streamlined section after building, using the stern post TF2 and edges of fin as a guide.

Before covering, sand the entire structure carefully and give a coat of sanding sealer to all parts in contact with tissue.

Finally lightly sand with flour paper.

Add all dummy control wire attachment points to the fuselage from the tail, then reinforce behind stringers and uprights with hard strip balsa using pins with lines tied on for the wires. *These are added after colouring.*

Cover the entire model with the exception of the tailplane and fin with heavyweight Modelspan. Apply two coats of clear dope and one of sanding sealer to this. Cover tail and struts with lightweight tissue and finish as the rest.

Now is the time to make the wing struts—carefully measuring the exact distance between the wings when rigged. Sand all of the model lightly and dust down with a damp cloth.

Paint inside the cowl with two coats of Humbrol black enamel and inside the cockpit with matt khaki.

Mix equal parts of Humbrol Granite-grey with white paint and apply one coat overall, with two around the cowling.

Paint all the markings, add instrument panel, gun, wheels and all rigging wires—tying the wing wires to the holes in the dress snaps on the wing struts.

Drill engine bearers to suit your engine—the original used a D.C. Merlin with an 8 in. x 4 in.



nylon prop. Screw a small MS freeflight tank to the firewall and connect fuel tubing for gravity feed. To avoid exterior control fittings, extend fuel needle to the bottom of the firewall with a short spring, then secure the control end with a simple 'U' bracket screwed to bottom of F1.

Likewise, lead-out fuel filler tube to the upper inside rim of the cowling ring, again securing with a 'U' bracket.

Flying

Test glide over the traditional long grass on a calm day. All that was needed on the original model was $\frac{1}{2}$ oz. lead in nose. Total weight was 18 oz. Gradually increase short power runs to reach top revs, avoiding right power turns like the plague. Even the full size pilots were instructed never to attempt a right hand turn during a climb out after take-off! Aim for a wide left hand shallow climb and with the dihedral as shown, absolutely no side slipping occurs. Glide should be slow and flat but slightly nose up.

When properly trimmed, the Scout will fly well in wind and recover easily from gusts, but if windy, use full power, to get her up.

FULL SIZE COPIES OF THE 1/8TH SCALE REPRODUCTION ARE AVAILABLE AS PLAN NO. FSP/1102. PRICE 50p (10/-) INCLUDING POSTAGE, FROM AEROMODELLER PLANS SERVICE, 13/35 BRIDGE STREET, HEMEL HEMPSTEAD, HERTS.

