MASTER AIRSCREW

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of this famo

sports/race

.40 cu. in.

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MILES M.2-L HA

THE Miles family of aircraft have always made very good material for scale modellers, their attractive lines coupled with generous flying surface areas make them ideal radio control subjects. It's only a personal view of course but I feel the *"Hawk Speed Six"* was the most desirable machine to be produced by the Miles factory. As the name implies this aircraft was intended for racing purposes, with its snug single seat cockpit and bubble canopy it must have been quite a sensation to pilot an aircraft such as this. In the best Miles tradition the *"Speed Six"* was basically of wooden construction, with aluminium cowling and wheel fairings. The power being provided by an inline aircooled engine.

My model version of the *"Speed Six"* is 49¾" span which makes it about 1/7th scale and is suitable for .29 to .40cu. in., engines and 4 channel radio. The beefy construction which follows conventional methods make it an ideal introduction to the world of scale flying, this model is not only tough but fully aerobatic also. The only areas of construction that make things any more difficult than a normal low wing type aircraft, are the wing root fairings and wheel pants, which do require a bit of care and patience but the final results make it all worthwhile.

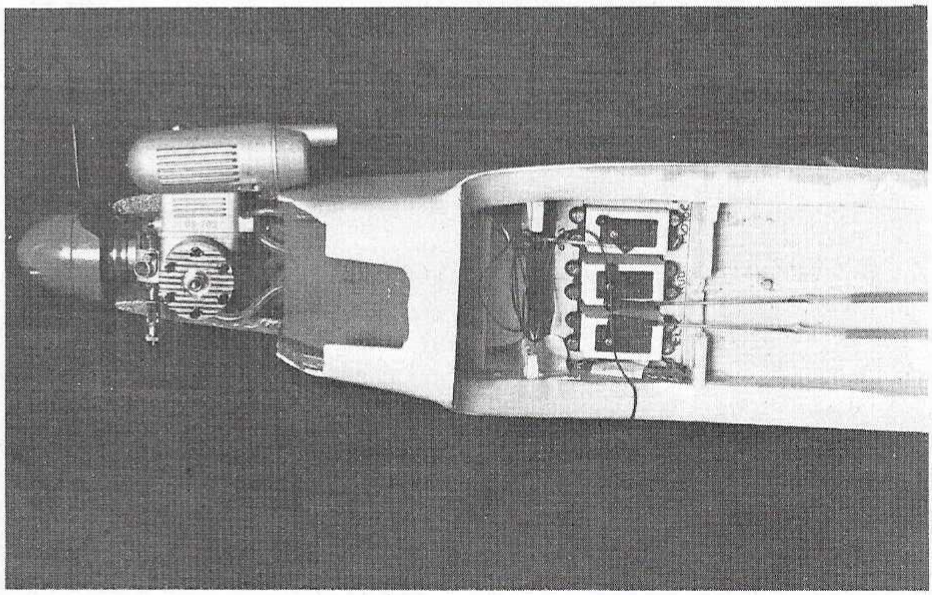
So if you are still interested let's get down to your favourite model shop, buy some wood and get the show on the road (or should it be in the air). Just a word about wood, choose your grades carefully and make every effort to keep the rear end of the model as light as possible to avoid having to weight the nose in order to achieve the C.G. position.

Fuselage construction

We will talk about the fuselage construction first, cut 2 basic sides from 3/16" medium sheet as indicated by arrow heads on the plan, mark the former positions and pin the two sides over the plan. Make up the rear portion of the fuselage frames from medium/hard 3/16"sq. strip and 3/16' sheet for the tailplane support. When dry remove the frames from the plan and seperate, add the 1/32' plywood doublers, using contact cement, to the insides of the frames. Mark and cut out all the fuselage formers, leaving the middle bit in F1 for now and remembering to make cut outs in F4 and F5 as required. It is also a good idea to drill holes in F2 for the radial engine mount. Mark lines on the outside of the basic frames, cut half way through and crack where shown on the plan. Apply plenty of glue into the cracks and pin the frames upside down over the plan with the F2 position over the end of the board.

Position and glue formers F2 to F6 in place and add the 3/16"sq. cross

Right: cockpit of author's model, looks good — see photo and diagram on page 660 for detail of full-size cockpit layout. Below: the Rx and its power pack are sited above the fuselage mounted servos; the aileron servo position is shown in the photograph on page 659. Note that the R/C gear is positioned as far forward as possible in order to obtain the correct C. of G. position.



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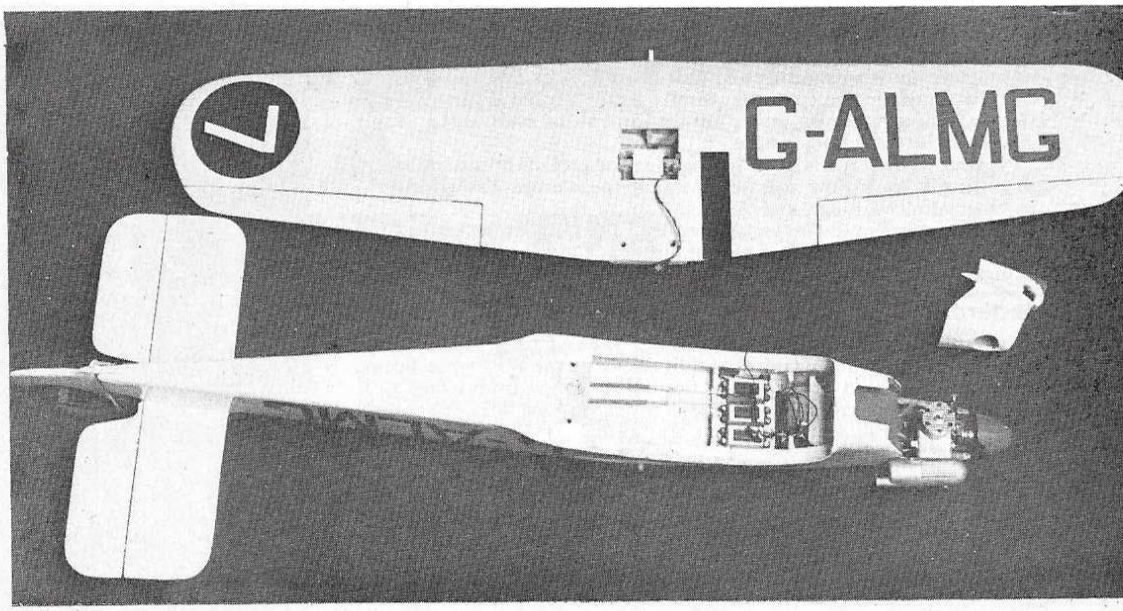

WK SPEED SIX

By John Grewcock

pieces to the rear end, allow to dry and remove from the plan. Add former F1 and the remainder of the top formers along with the 3/16"sq. stringers also add F2A which forms the cooling duct.

Sheet the entire fuselage with medium/soft 3/32" sheet, wetting the top sections to avoid cracking when pinning over the formers. When dry sand flush at former F1, cut out the nose block sections and laminate up to form the nose block. Allow to dry then carve and sand to shape, mark out the cowl separation line and cut away the cowling using a razor saw. Hollow out the cowl and make the cooling cut outs in the front and the bottom of the cowl. Add the cockpit floor and sand up the fuselage to a nice smooth finish, I always use cellulose car body stopper to fill those small imperfections as it sands very easily.

Tailplane and elevators

Cut the tailplane and elevators from soft ½" sheet (the lightest you can get) and sand to sections shown on the plan but leave the centre section of the tailplane square to make for easier alignment. Join the elevators with a horned type joiner and fit the 4 hinges. Make up the elevator pushrod, attach this to the horn, and carefully glue the tailplane to the fuselage checking for squareness, fill the gap between F10 and the leading edge with scrap block. Cut out and sand the fin and rudder in a similar manner to the tailplane and glue to the fuselage assembly ensuring a nice accurate fit.

Wing construction

Commence the wing construction by cutting out 2 sets of wing ribs and gluing the 1/16" plywood doublers to ribs R1, R2 and R3.

Pin the lower ¼" square main spar into position over the plan for one wing panel, glue and pin the ribs into position, tilting R1. Add the top ¼"sq. main spar and the 3/16"sq. rear top spar, cut a piece of 1/16" med. sheet 1½" wide and slip into the slots above the rib tabs and apply glue to the ribs. Glue a piece of hard scrap between the ribs R1 and R2 to take the wing bolts and add 4" wide 1/16" sheet along the trailing edge. Cut the leading edge from ⅜" sheet and glue into position, cut through ribs R1 and R2 and glue the two dihedral braces into position. Add a piece of 4" wide sheet to the leading edge, allow the wing panel to dry, remove from the plan and add the 3/16"sq. rear bottom spar. Build up the opposite wing

panel and join the (2) halves together, install the undercarriage ¾" x ½" hardwood pieces using plenty of glue. Fit the ⅛" ply bellcrank plates, the bellcranks, pushrods and remove the wing rib tabs.

Complete the wing sheeting and glue the soft block tips into position, when dry sand up the structure, carefully mark out and cut away the ailerons using a razor saw, cut ⅜" off the front of the ailerons at an angle and add the ¼" sheet leading edge.

Glue the ⅛" sheet to the wing trailing edge and glue the horn and the end rib to the ailerons. Allow to dry and sand up the ailerons for a good fit to the wing, install the hinges and clevices.

Offer the wing up to the fuselage and trim as required to ensure a good fit, drill and glue the ¼" dia dowel in position. Carve and sand the wing fairings to shape and glue into position.

Undercarriage

Form the undercarriage legs from 8 s.w.g. wire and, using saddle clamps and screws, attach to the hardwood rails. Make up the WF1 wheel fairing blocks and glue into position. Cut the wheel fairings from either .015" thick aluminium or celluloid sheet, bend to shape round WF1 and contact glue down the trailing edge. Attach the fairings to WF1 with blobs of contact glue after covering etc.

Engine installation

Install the engine and make the necessary cut-outs to clear the silencer etc., install the fuel tank and check fit the radio equipment. Remove the engine and radio and finally sand up the entire airframe in preparation for finishing using your own favourite method.

Finishing

My prototype was given two coats of clear dope, sanded and covered in heavyweight tissue, a few more coats of dope and then three coats of cream (white with a dash of yellow) **Humbrol** enamel, sanding between coats. The lettering and numbers were painted in red and black, the whole model then received a coat of **"Tuffcoat"** fuel proofer. I should point out by the way that the registration number is not authentic in fact L.M.G. happens to be my wife's initials. If you do want more details of full size *Speed Sixes,* go to **"Old Warden" Museum** where they have one and **"Aeromodeller" Plan No. A2063** will also help you.

Well there is nothing much more to say except double check the C.G. position and that your radio is 100% perfect before flying and this model will give your hours of fun.

COCKPIT CANOPY & COWL

A clear vac. formed cockpit canopy is available from RCM&E Plans Service price £1.25. Also obtainable is a vacuum formed ABS cowl, price £1.95. Both prices include V.A.T., but please add 60p to cover post and packing. Both will be ready for delivery July 1st.

Below; the full size 'Speed Six' of the 'Old Warden' Museum referred to in the text. Before W.W.2 the colour scheme of the aircraft, G-ADGP, was all-black fuselage with white registration letters and all-white wings with black lettering. In 1946 this was changed to cream all over and maroon lettering. It displayed a No. 12 racing numeral when flown in the 1949 King's Cup race. Above right; this recent shot of the cockpit interior of G-ADGP shows changes in instrumentation from the original. The most obvious modification is the fitting of a 'standard' R.A.F. type instrument flying panel. Right; details of the original instrumentation are shown on this scaled-down copy of the Aeromodeller Scale Drawing No. 2063.

The fuselage of the full size aircraft was built up from four spruce longerons with spruce cross members and plywood covering. The wings, which had spilt trailing edge flaps, were of normal Miles pattern two spar construction with spruce and ply ribs and ply covering. The power plant was a 220 h.p. De Havilland Gipsy VI.R engine driving a fixed pitch metal propeller.