

MORANE SAULNIER

TYPE 'L' PARASOL

A SEMI-SCALE SPORT THREE CHANNEL AIRCRAFT FOR .19-.25 ENGINES

BY MIKE HOLLISON

● This model grew out of a desire to fly a semi-scale WW I plane that was quick to build, easy to fly, and would pass as a 'scale' model at a distance of twenty feet and traveling at a speed of about 15 mph!

The Morane-Saulnier Type 'L' filled the bill perfectly — there is only one wing to build; the fuselage is little more than a box; and, unlike its full-sized counterpart, the model is easy to fly. The full-sized machine, a French observation plane, was tricky on the controls, relatively fast for its time (about 70 mph), and carried no offensive armament, save for a light carbine and whatever other make-shift devices the pilot cared to add.

The fame of this little craft owed much to one such device; six small bombs dropped by Sub-Lieutenant R.A.J. Warneford on the massive German Zeppelin, LZ.37. The Zeppelin crashed in flames, and Warneford was awarded the Victoria Cross for his action.

Construction of the model should present no problem to anyone who has built a couple of R/C planes before. The stab-

ABOUT THE AUTHOR
Mike Hollison, designer of the Type 'L' Parasol Morane Saulnier, began modeling at the age of 26 in 1973. Beginning with control line, he advanced to radio control in 1974. A resident of Canada, his main interests are in Sport RC aircraft. His first magazine article was published in 1974.

lizers have been increased in size, and the all-moving tail surfaces of the full-size aircraft replaced by conventional rudder and elevator. Bracing wires have been omitted and the centersection struts simplified.

Fuselage

Begin by cutting two fuselage sides from 3/32" hard balsa and gluing 1/32" ply doublers fore and aft. Glue the 3/16" square balsa stringers and spacers to the fuselage sides and cut slots for the horizontal stabilizer. Cut the engine bulkhead from 1/8" ply and drill for the

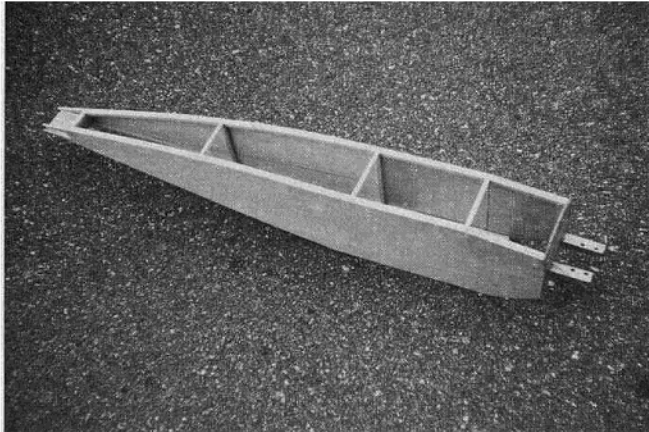
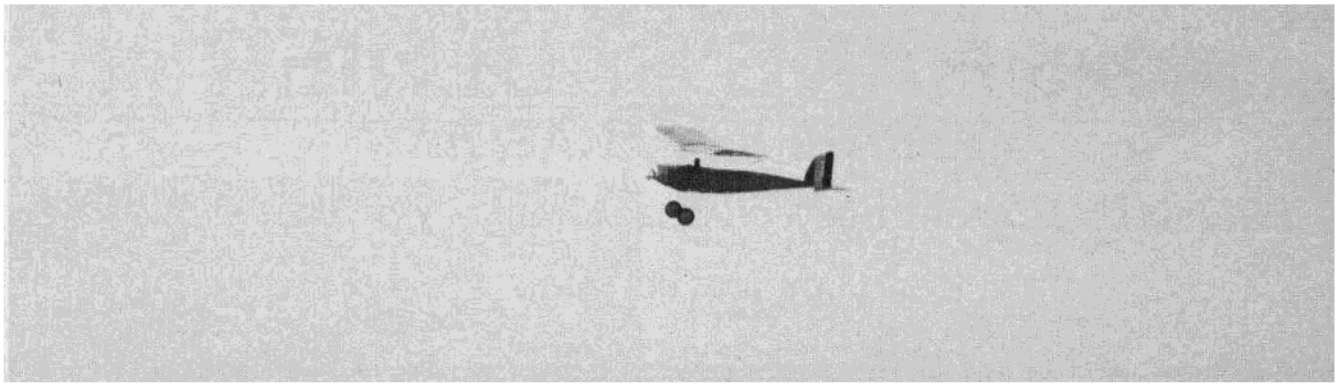
fuel feed outlets and throttle pushrod. If an engine mount is to be used, drill the ply for the mounting bolts; otherwise, cut out the holes for the spruce engine bearers and epoxy these in place.

Epoxy the bulkhead and 3/16" square balsa spacers to the fuselage sides, ensuring that all is square. When dry, epoxy the balsa tail block to the bottom of the fuselage.

Bend the centersection struts from 3/32" diameter wire; then sew and epoxy to the 3/16" sheet panels as shown. Bind and solder the wing support wire to the struts, and epoxy each panel to the inside of the fuselage. The 4 ounce tank should be installed at this point. Carve and sand the top decking forward of the cockpit and glue in place. Add the top and bottom fuselage sheeting from 3/32" soft balsa, and 1/4" sheet immediately ahead of the landing gear area.

Bend the landing gear from 1/8" diameter wire; bind and solder as shown; cut the landing gear mount from 1/4" ply; and epoxy in position.

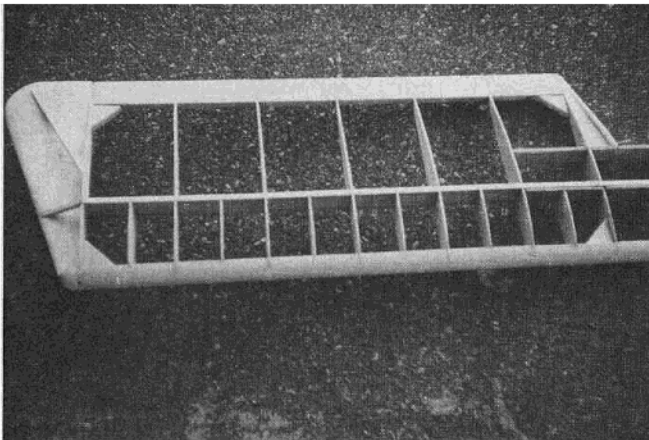




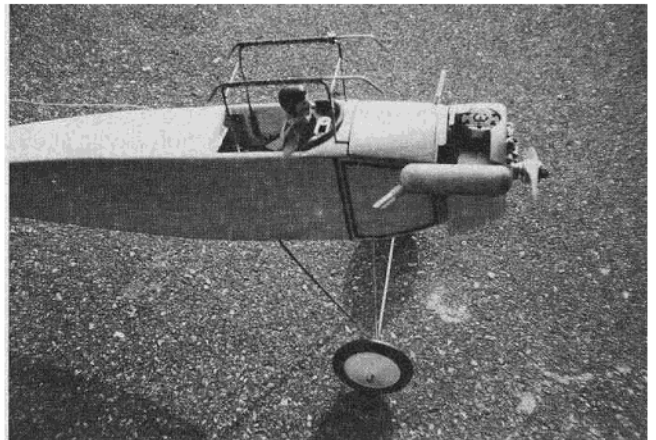
The basic fuselage assembly.



One wing panel, minus tip.



View of wingtip on finished wing.



Cabane, gear, cowl, and muffler details.



The completed aircraft, ready to fly.



Mike Hollison and his Parasol Morane.

TYPE AIRCRAFT

Semi-Scale Sport

WINGSPAN

47 Inches

WING CHORD

9 Inches

TOTAL WING AREA

385 Square Inches

WING LOCATION

Parasol Wing

AIRFOIL

Clark-Y

WING PLANFORM

Constant Chord

DIHEDRAL, EACH TIP

1 3/4 Inch

O.A. FUSELAGE LENGTH

30 3/4 Inches

RADIO COMPARTMENT AREA

(L) 10" X (W) 2 3/4" X (H) 3 1/2"

STABILIZER SPAN

17 Inches

STABILIZER CHORD (incl. elev.)

5 Inches

STABILIZER AREA

73 Square Inches

STAB AIRFOIL SECTION

Flat

STABILIZER LOCATION

Mid-Fuselage

VERTICAL FIN HEIGHT

6 3/4 Inches

VERTICAL FIN WIDTH (incl. rudder)

4" (Avg.)

REC. ENGINE SIZE

.19-.25 Cu. In.

FUEL TANK SIZE

4 Ounce

LANDING GEAR

Conventional

REC. NO. OF CHANNELS

3

CONTROL FUNCTIONS

Rudder, Elevator & Throttle

BASIC MATERIALS USED IN CONSTRUCTION

Fuselage	Balsa and Ply
Wing	Balsa and Ply
Empennage	Balsa and Spruce
Weight Ready-To-Fly	52 Oz.
Wing Loading	19.4 Oz/Sq. Ft.

The cowl can be made from either balsa, plastic or fiberglass, depending on your preference. The original was made from 1/4" balsa half circles, glued together, carved, sanded, and epoxied to a half circle of ply, which was drilled to take the three mounting screws.

Cut the fin, rudder, stab, and elevator from 1/4" soft balsa; hinge and slot and epoxy into the fuselage, adding the top scrap balsa blocks to the tail. Bend the tail skid from 1/16" diameter wire; bind and epoxy to the 1/8" ply mount; and epoxy into position beneath the fuselage.

The cockpit is made from scrap balsa and cemented to a 1/16" ply 'floor', which should be spot glued in place so that it can be removed for access to the radio. The switch harness and battery charge socket are fastened to this 'floor', a length of black rubber tubing glued

around the cockpit, and a small pilot added for effect!

Install the radio, pushrods, rudder and elevator control horns; then solder the 1/16" diameter bracing wire between the wing struts. Attach the landing gear, and bolt the motor in place, remembering to offset the thrust line as shown in the plan. Add the cowl and wheels and set aside.

Wings

Making one wing panel at a time, cut out all ribs and sub-ribs; slot the leading and trailing edges, and glue in position. Add the top and bottom wing spars, plywood braces, and balsa wing tips. Fill in the spaces between the spars with 3/16" scrap balsa, and strengthen the corners with 1/8" balsa triangles. Epoxy the wing panels together, ensuring that there is 1 3/4" dihedral at each tip. Sheet the centersection with 1/16" balsa as far as rib W2, and reinforce the joint with fiberglass tape.

Finishing

The wings, fuselage and horizontal stab were covered with yellow transparent Solarfilm, while the fin and rudder were painted with red, white and blue stripes. The cowl and nose section were painted silver. Red, white and blue roundels were applied to the upper surfaces of the wing, with the blue circle innermost.

Flying

Before taking the 'Parasol' to the field, balance the plane as shown on the plan. With an O.S. .25 up front, the original needed a large nut and bolt secured under the engine mounts to bring the weight forward.

Out at the flying field, there should be no problems. The plane flew straight and level on its very first flight, and handled like a high wing trainer. Throttled back, the Morane-Saulnier cruises lazily around the sky, and is a fun machine for those early morning milk runs and evening 'reconnaissance' flights in the summer sunsets. □

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