



"SKYLINER"

MAURICE FRANKLIN'S MULTI MODEL A "MUST" FOR THE CONTEST MAN

THE primary considerations in mind when designing the *Skyliner* were the need for simplicity of construction and ease of flying. The first design chosen was a parallel cord wing for ease of construction with full span ailerons. I am a lazy builder so construction of the *Skyliner* is quite straightforward with no gimmicks to worry about. Cut out two identical side panels and lay them outside downwards on the building board so that you have a left and right handed pair. Proceed to fit doublers using P.V.A. glue to make a good joint. Fit main $\frac{1}{2}$ in. square and $\frac{1}{4}$ in. square longerons, fuselage cross members and top block, leave to set well overnight. When completely dry remove all pins. Before fitting motor mounts, mark the position of engine bolts with a ball point pen. Cut bearers to shape shown then coat the glueing area liberally with P.V.A. glue. Press motor mounts into position, a heavy weight of some kind can be placed across both motor mounts while the glue sets.

Cut out formers 1, 2 and 3 ready for fuselage assembly. When the motor mounts are dry (not before!) glue these formers in position. Draw the rear end of fuselage sides together and turn the assembly upside down on building board to align them properly.

Cut out cross members and half round top formers ready to glue in position. The next step is the tailplane, construction of which is self explanatory; there should be no problems here, just make sure

it is pinned down well to avoid warps during drying. Add centre spars when removed from the plan; sand to shape as plan, then cover with heavy Modelspan tissue, silk or nylon (depending on the pocket). Give two or three coats of clear dope, pin down to avoid warps during drying. Cut the two elevators from soft sheet, sand to shape and cover. I always use light Modelspan tissue for these; its easier than silk. Make elevator horn, drill holes in elevator to suit the wire size then after doping elevators sew in position ready for fixing to fuselage. I always fit the elevator end of push rod permanently at this point, feeding it down into the fuselage before glueing tailplane in position. Make sure the incidence is correct as per plan, pack up to suit with scrap balsa. The top of the fuselage is now planked with $\frac{3}{8}$ in. sheet strips, start at the centre working out on both sides and finishing off with shims of balsa wood to fill in cracks that remain. Build up the nose block as shown on the plan, fitting motor nuts and plates before putting the $\frac{1}{2}$ in. sheets under motor mounts. Cover the fuselage bottom with $\frac{1}{16}$ in. sheet crossgrained for improved strength.

Mark out front nosewheel platform on plywood, cut across the front of the fuselage to accommodate it then sand to contour of bottom. Now cut out fin sections from sheet balsa and glue together, then sand, cover with tissue and dope well. Make a slot in the fuselage planking to suit, glue fin in position.

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Cover the entire fuselage with silk or nylon, give about three coats of clear dope, sanding between coats.

Build the wing next: Lay mainspar down on plan and pin in position, then use an odd piece of $\frac{1}{2}$ in. square mainspar and pin this at trailing edge point edgewise so that $\frac{1}{2}$ in. is sticking up, then glue ribs in position, pinning the trailing edge ends of the ribs to top of $\frac{1}{2}$ in. spar. This gives good line up of ribs. Glue top spar, leading edge and $\frac{1}{4}$ in. sq. spar in position, then the $\frac{1}{8}$ in. sheet tip. Remove from plan and build the other half of the wing; add the sheet first then $\frac{1}{8}$ in. leading edge and capping strips. Cut off surplus wood in centre of wing and cut out dihedral keepers as shown. Glue them in one half of the wing first then "mate" off the other half to suit. After this is well and truly dry, cut out for wheel platforms in the lower surface and make wheel clips. Fit into position glueing well. Sand the whole wing to a smooth finish.

Cover wing with silk or nylon and glue three or more coats of clear dope, making sure there are no holes left in material, then paint as desired. I use Humbrol enamels on the finish as this covers quicker and leaves no brushmarks, a coat of Humbrol clear varnish finishes the job.

Installation

Proceed to install equipment; motor tank, etc., cut tank hatch as shown this is held in position by a band round the neck of the clunk tank. Re-fuelproof any raw edges!

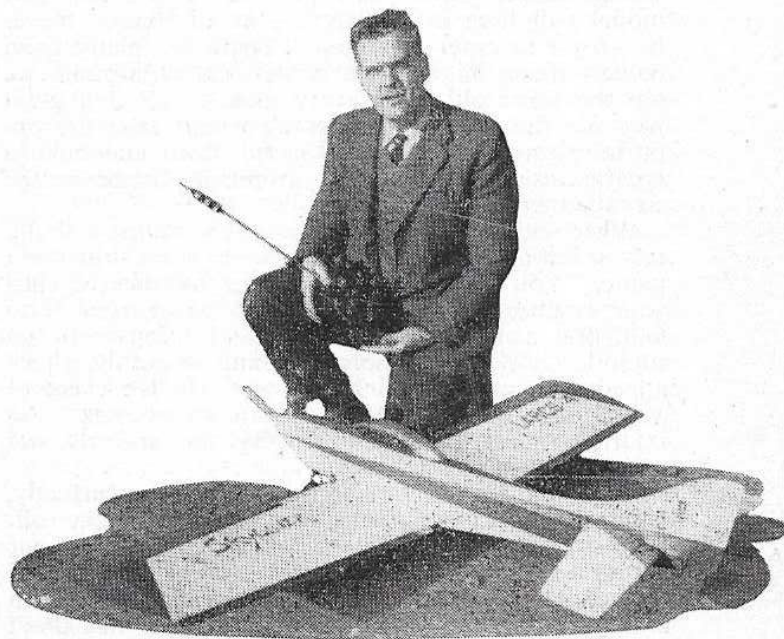
Link up all push rods and check for correct operation, i.e., nosewheel and rudder, aileron, servo, etc.

Tests

Grab your flying box and off to the field. If this is your first multi low wing model bring your praying mat. After you arrive check your gear before fitting the wing just to see that nothing is binding or liable to fall off. Make sure all screws are tight, fastening on with plenty of good rubber bands check that the wing is perpendicular and snug to the fuselage, the aileron horns are sticking up inside and might otherwise foul the side.

Tank up your plane and start the motor, enlist two helpers if possible and get them to hold the plane by its wing tips and lift it clear of the ground. this is a good vibration check. Try all controls several times at different engine speeds just to make sure. If any control seems doubtful, stop and find out what is wrong! Don't say "It will do" IT WON'T it is so easy to write the model off when everything (except the pilot) is working perfectly so what chance have you if there is a fault?

When you are sure all systems are "go" look round for a competent multi flyer and ask him to take it up for you (that is if you haven't flown



multi before). He will save you lots of damage and disappointment.

Golden rules to remember are: KEEP UP WIND for the majority of your flight, most beginners come unstuck when they get down wind so keep it in front of you as much as you can until you are familiar with the controls. The model itself is very docile. Secondly, DON'T OVER CONTROL the plane—a common fault. Do CHECK the inside if you do a heavy landing—it always pays.

