



Conventional, simple construction and capable of using a wide engine range, 'Maelstrom' comes highly recommended!

Maelstrom

Ready for a low-winger?

Build Paul Halton's ideal

aileron trainer

Are you looking for your first low wing aerobatic model or perhaps you are a more experienced modeller after a quick to build and robust weekend sports plane? Well this is your model; 'Maelstrom' is designed with both of you in mind!

I have been a keen modeller for approaching a year and a half now, and have progressed to low wing models and bi-planes. My first low wing model had a sorry existence; I cannot recall how many times it was rebuilt – all part of the fun (I try to convince myself)! Although it was a good aerobatics model, I often felt it was particularly 'twitchy', especially on approaches and had a lack of resilience to my style of landing! 'Maelstrom' is my attempt to put this right and yet produce an attractive and capable model. A couple of weeks is all it will take to see this one leave the building board for the flying field, so waste no more time.

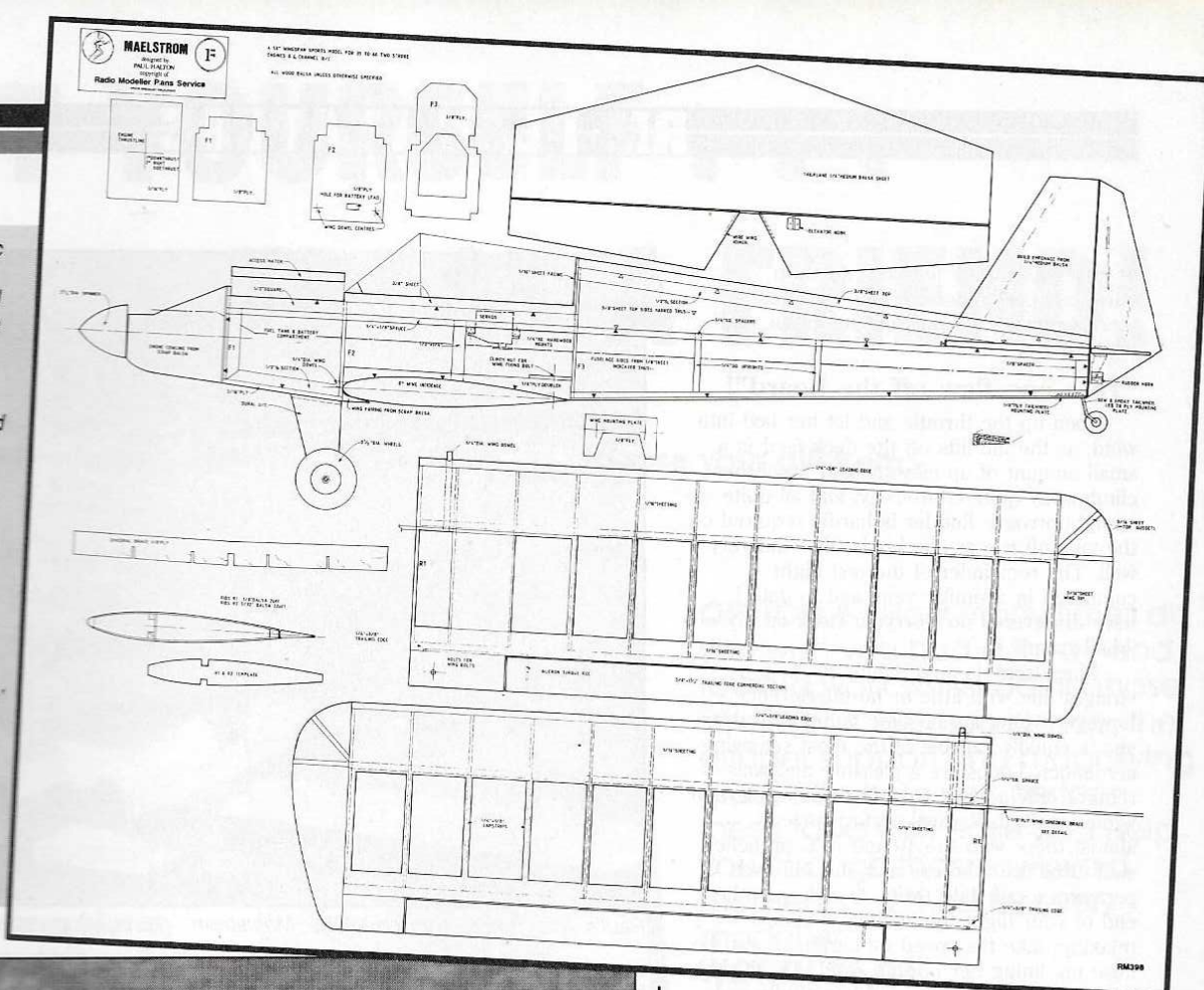
Wings

These are simplicity itself. I chose a symmetrical section, a wing section with



The man and the model; Paul Halton with 58" span prototype.

If you've mastered the basic trainer stage and are looking around for a second model, 'Maelstrom' could be the ideal, inexpensive answer. It's easy to build (even if you're new to constructing from plans) and a proven, predictable flier. Full-size copies of the plan are available as RM 389, price £5.80 including postage and packing, from Radio Modeller Plans Service, Argus House, Boundary Way, Hemel Hempstead, Hertfordshire. HP2 7ST. And if you're a member of the Model Pilots' Association (and many people are these days), it's available at the special Members' Price of £5.20. Please quote your MPA membership number when ordering.



Prototype used an O.S. 40FP but engines from .35 to .60 are suitable.

undercamber would have produced a lower stalling speed but at the expense of aerobatic performance, and this is, after all, primarily a sports plane.

Make a ply template of R1/R2 and go into production - 24 ribs later you're in business. The main spars are made from 1/4 sq spruce. Straight unwarping wood is essential here so choose it carefully and avoid trouble later on. Build the two panels, leaving the centre section sheeting and ailerons until after joining. The dihedral brace will give about 1.1/2in of dihedral under one tip. Trim the inner two ribs on each wing panel as required and then fix the dihedral brace in place, joining the two panels together. Before sheeting the centre section of the wing add the wing dowels, and do not forget to build a mounting for the aileron servo. Fit the aileron torque rods and wing tips, and then, using the wing tips for

alignment, complete the trailing edge. I reinforced the centre of the wing with glass fibre; this is particularly important for strengthening the wing bolt holes.

The wing may be slightly over-built in some areas, but this extra strength does mean that you spend more time flying your model and less time rebuilding it!

Fuselage

As with the wing, the underlying themes in the construction of the fuselage are simplicity and ruggedness. Begin by making all the parts required to complete the fuselage and the tail surfaces; a little care and attention to detail at this stage will save much heartache later on! This said, even the novice will find little to tax his/her abilities, so get cutting... Each of the fuselage sides is designed to be cut from a single piece of 36 x 4 x 1/8in sheet balsa. Note the single

piece of spruce running the full length of the fuselage. Pin both of the fuselage sides down and add the spars and braces to each - leave the 3/8in sheet until later. Next glue F1-F3 in place on one side - I use a set square here to ensure that they are perpendicular to the fuselage side. When dry glue the other side of the fuselage in place, again taking care that all is square. Next glue the end of the fuselage together, ensuring that your 'Maelstrom' ends up looking like a plane and not a banana! After fixing the tail surfaces in place, the 3/8in sheeting can be added, and indeed the remainder of the sheeting completed (leave the 1/8in rear underside sheeting until the elevator pushrod has been put in place). All that remains now is, armed with wood plane and sanding block, to begin a massive sand and carve exercise!

Radio and engine

There is bags of room for the radio gear, and this should present no problems. I used a closed loop system on the rudder and a 'Y' pushrod for the elevator, hence leaving the 1/8in fuselage sheeting to allow this to be set up correctly. Plan ahead for the throttle snake. The control throws were set up as follows: aileron 3/16in up and down at TE, elevator 3/8in up and down at TE; rudder 1.1/2in left and right at widest point.

Now is a good time to instal the engine and fuel tank. With the OS 40 FP that powers my 'Maelstrom', 1 degree downthrust and 2 degrees right sidethrust was found to be just about right. A bit of experimentation will be required with different engines. The 40 two-stroke proved to be more than adequate and a 35 two-stroke should be fine with a 60 being manageable for the more adventurous.

Finishing off

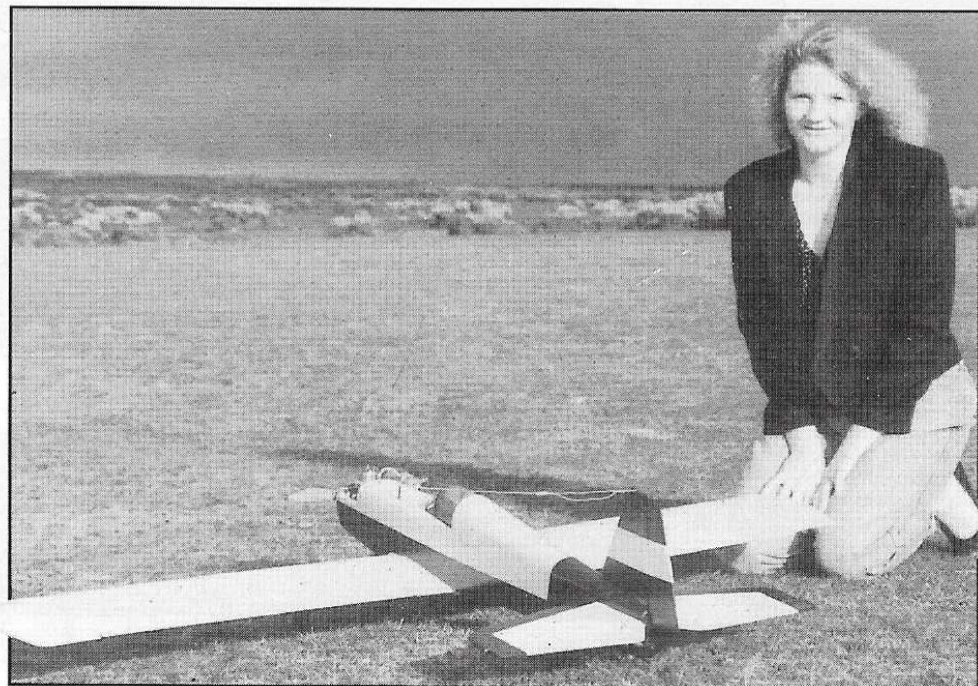
Yellow and green has not been a great success for aesthetics! Try something a little more colourful on your 'Maelstrom'. Choice ▶

of materials can be left very much to individual preferences, I used Solarflex and then car paints to spray on the green, and white stripe.

"This one flew off the board"!

Open up the throttle and let her taxi into wind; as the tail lifts off the deck feed in a small amount of up elevator and watch her climb away quite effortlessly, and all quite straightforward. Rudder is hardly required on the take off run as she holds the wind very well. The remainder of the test flight continued in a similar vein, and to date I have discovered no worrying vices on my 'Maelstrom'.

'Maelstrom' is quite happy to fly in a straight line with little or no interference, however when you become bored with this she is equally capable of the most satisfying aerobatics. Loops are a pleasure and rolls require only a small amount of down elevator while inverted. Vertical performance is almost there with the 40 and APC propeller, stall turns are a breeze and she will even perform a tail slide (MiG 29 style). At the end of your flight the landing is almost relaxing; take the speed off early and get the nose up, lining her up into wind. As with the take off she holds the wind beautifully and very little aileron is required on the approach. Three-pointers are second place once you've got the feel of slowing her



Paul's wife Teresa with prototype 'Maelstrom'; get building yours!

down, and bumps and grinds are just great fun. When you've explored the flight envelope, start again - inverted; it is equally fun, just remember to roll her the right way up prior to landing! As well as exploring

'Maelstrom's' flight envelope I have also had less fun exploring her robustness - fortunately though with great success!

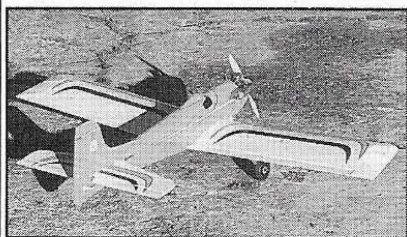
I hope you have as much fun building and flying 'Maelstrom' as I have.



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