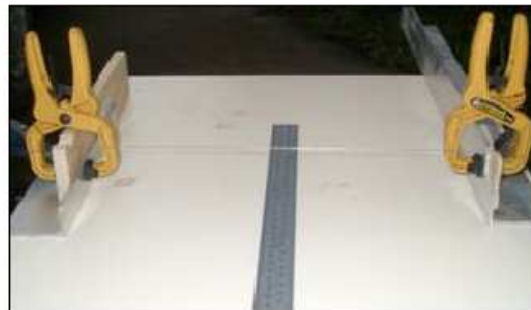


Combat Gremlin

A chunk of foam, a length of square section PVC pipe and you've got a 25 sized lean green fighting machine. Ian Hunter tells us how to build one.

Step 1 - Cut the slot for the spars

They say you can cut the slots for the main spars with a panel saw, but keeping a hand held panel saw at a perfect right angle is going to be somewhat of a challenge, let alone making a groove 3mm wide. If you want your wing spars to be cut perfectly, members are welcome to see me at some stage and we'll use the hot wire cutter. I set the hot wire cutter up on a jig such that the wire was exactly the distance I wanted off a TV table and then used both wings taped together and still in their original foam blocks. Used like a giant cheese slicer, this ensures that they stayed at a perfect right angle while the spar slots were being cut and both wings were identical.



Step 2 - Make & fit the ply spars

No rocket science here other than measuring how deep you need to make them. Both are 400mm long. Test fit the spars and make the cut outs in the main spars match where the fuze fits as required.

Glue the hardwood blocks to the spars with epoxy using clamps of some sort to hold it all snug while the glue sets. I just used 5 minute epoxy, figuring Super Strength epoxy would have been a bit overkill.

Once satisfied it all lines up, glue the spars in with PVA and use masking tape to hold it together while the glue is drying.



Step 3 - Completing the wing

Cut and fit balsa leading and trailing edges with PVA. I made mine from rectangular sections of 10 x 16mm for the LE and 5 x 10 for the TE. Once dried, the LE was shaped with the balsa plane and then sanded to final rounded LE section to match wing profile. The TE required no finishing other than slots for the hinges. Finish off the wing with three side by side full length strips of fibreglass tape over the front main spar and two side by side over the rear spar. And one along the leading edge for good measure. This should be done top and bottom. Also some along the 'belly' of the wing to protect it from 'carpet burn'. I also fitted 1.5mm balsa wing tips as the tips are what usually get bumped/damaged in transit.

Covering can be usual covering or packaging tape. Mine required two rolls of Solarfilm, as one roll was not quite enough.



Step 4 - Fit angled balsa stock to the fins

Cut some tapered aileron stock for the base of the fins with the thin edge of the balsa facing down. This is to give the fins the correct angle away from the fuze at the top of the fins.

Step 5 - Cut PVC conduit to make the fuselage

Follow the dimensions on the plan of where to cut. Where the cuts are about to intersect, I drilled a 3mm hole just inside thus making a small radius where the saw cuts meet. This reduces the chances of the PVC cracking.

Step 6 - Finish and fit engine mount

Profile the plywood engine bearer so it fits nicely in the fuselage. Make a cut out in it to fit your engine. You will need a small cut-out in the fuze for the crank case to fit.

Drill the holes to secure it to the fuze 20mm rearward of the front engine bolts as shown in the pics below.

Seal it with a generous coat of floor varnish and fit engine bolts once dry.

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