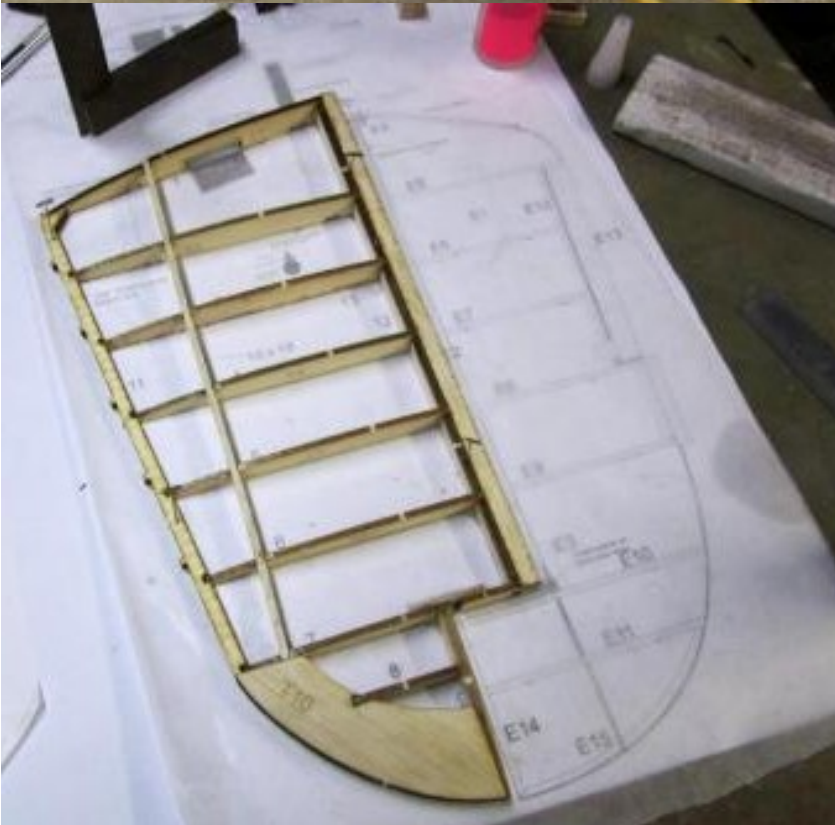


Building a Mick Reeves 1/4.5 scale Hurricane: Instalment 3

Tail feathers, Controls and Tail Wheel



Stabiliser: The Mick Reeves stabiliser is a nice lightweight symmetrical structure made up in four halves. The left top half is pinned to the plan in the time honoured way, lifted off and then the bottom half is made up by gluing the bits to the top half for perfect alignment. The right *bottom* half is then pinned to the plans and the top is then made by gluing the bits to it as per the left side. The top and bottom of the leading edges are then sheeted and the finished stabiliser sanded to shape.



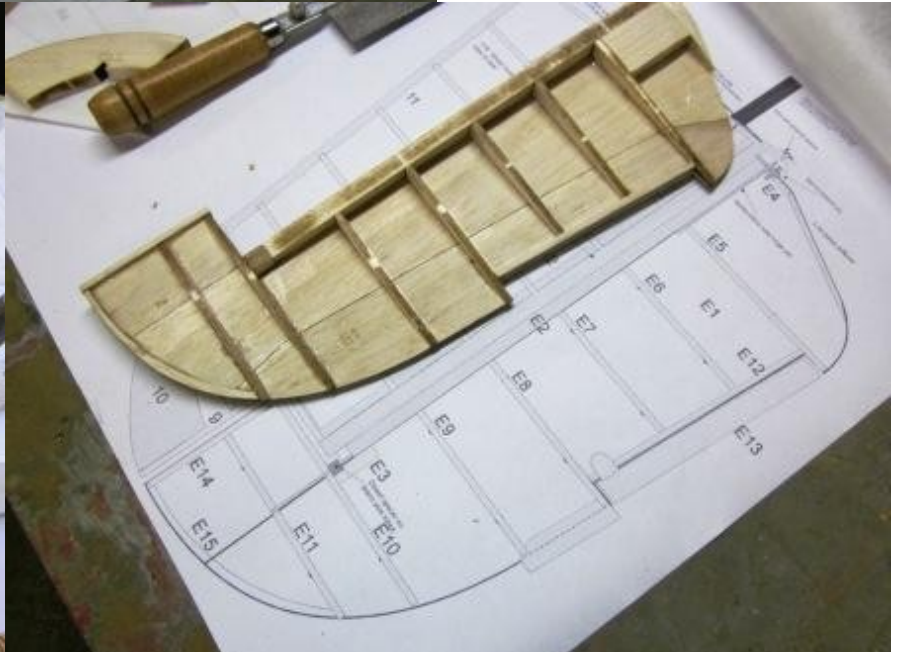
The stabilisers are mounted on the fuselage frame with carbon tubes so they could be detached if required. I don't need to do that so I will be attaching the stabs to my model permanently after covering and fitting the elevators.



Two stabilisers covered in Solartex. The individual stabs weighed 61g after covering.



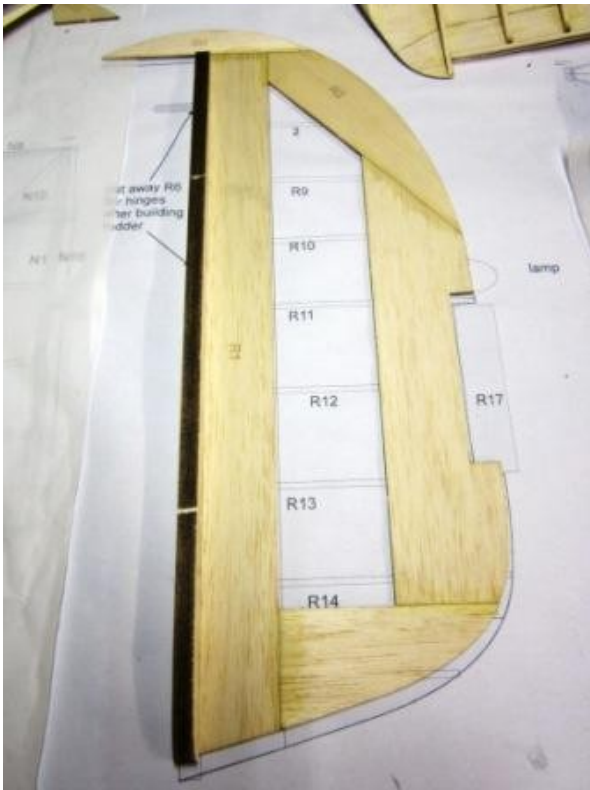
Elevators: The elevators are made similarly to the stabilisers in that they are symmetrical and are made up in halves over a 1/16" profile laid over the plan. They are then lifted from the plans and the reverse side bits are aligned with the top, all pretty straight forward. I will need to reinforce the leading edge for the Robart pin hinges I'm going to use and for the square carbon tube elevator joiner.



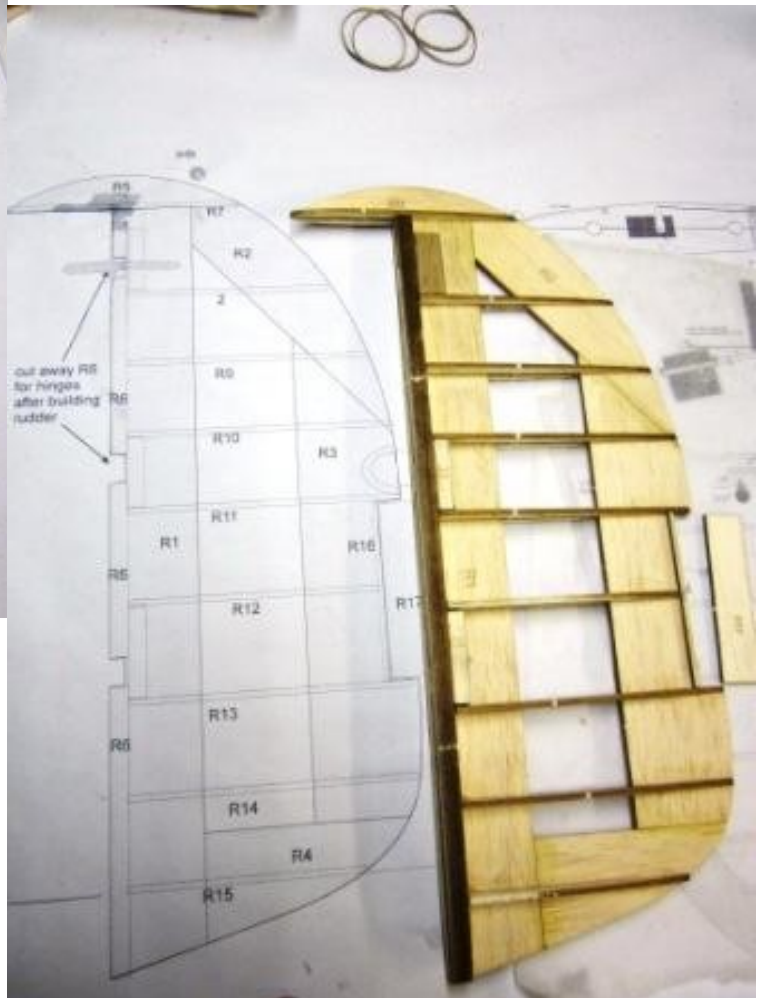
Covered with Solartex, trim tabs to be fitted, each elevator weighed 38g finished. The black piece is a lightweight 10mm square carbon box tube that I will use as a joiner.

Total weight of stabiliser and elevators = $2 \times 61g + 2 \times 38g = 198g$ or 7oz.

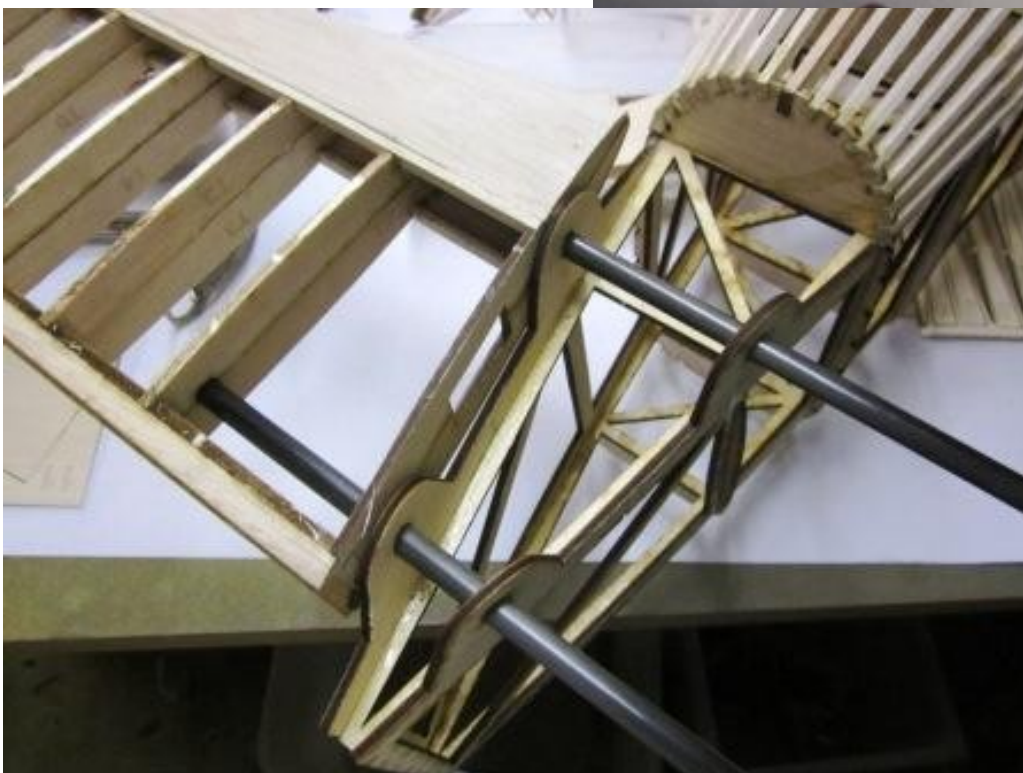




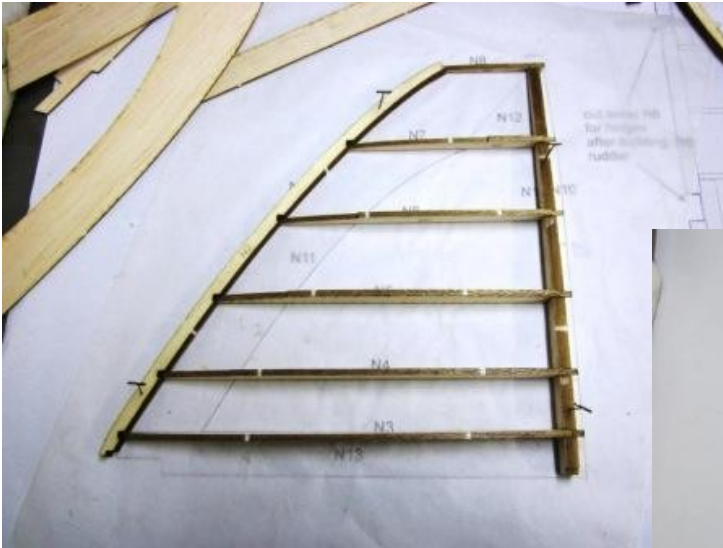
Rudder: The rudder is another light weight construction made similarly to all the other tail feathers.



Fin: Ditto with the making of the fin. Here I have hit another snag, there is nothing in the instructions or on the plans to explain how the fin is attached to the airframe. The usual extended hinge post attached to the rear of the airframe has not been used in the design and I am left with the thing perched in mid air between the stabilisers.



I think I will have to make up a box that I can glue to the base of the fin, drill the sides of the box so I can attach it to the airframe via the carbon stabiliser mounting tubes. We'll see!



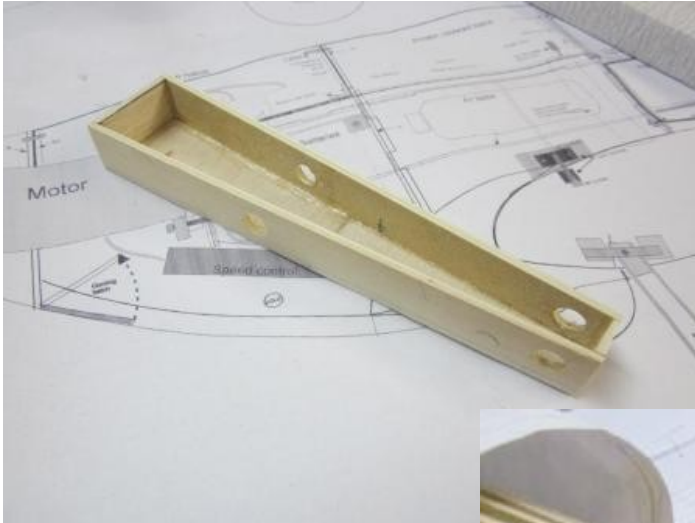
Fin and Rudder framework prior to sanding to shape.



Finished fin and rudder ready for covering.

This picture shows the fin perched over the void at the rear end of the fuselage frame.





I made up a simple tapered box and bored the sides to suit the diameter of the carbon tubes that are used to mount the stabiliser.

After ensuring that all was square and at right angles from the airframe I glued the box onto the base of the fin.



Although the laser cut hinge post supplied for the fin is only the length of the trailing edge of the fin I still need to hinge the rudder below the stabiliser so I have had to extend the hinge post with a bit of 1/4" hard balsa sheet





Controls:

The rudder is a simple pull-pull system and doesn't present any problems, the cables will be connected to the same servo that drives the tail wheel. The servo is in front of the C of G.

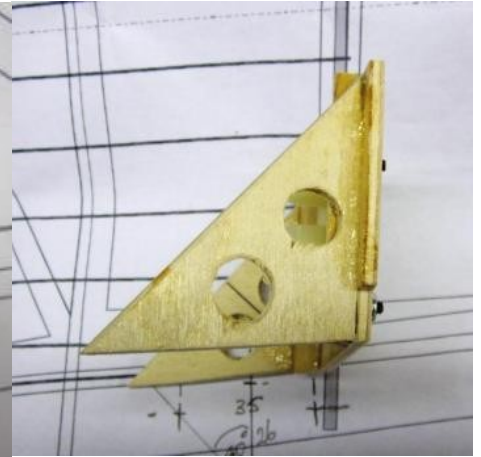
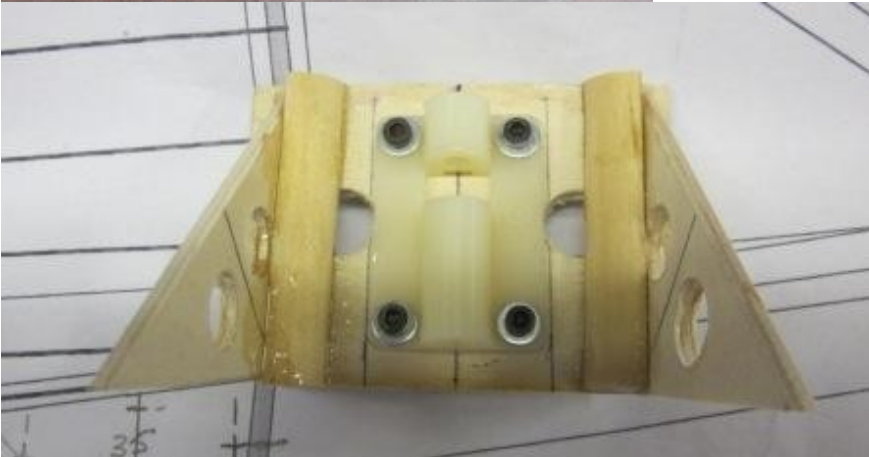
The elevators are a different thing. Mick fitted dual mini servos inside the stabs to drive the elevators which obviously worked OK for him but I am so spooked about weight at the back of this thing that I am going to make a carbon box elevator joiner and use a traditional carbon push-rod to a servo in front of the C of G. The joiner is made up from carbon box, tube and sheet from Hobbyking, is glued with Hysol and weighs 16grams





Tail Wheel: This is a picture of the full size tail wheel that I tried to replicate as per Mick 's instructions but I couldn't get it right. He made his from brass tubing but when I tried the tubing either kinked or cracked so I fell back to a piano wire strut.

I made up this bracket for the strut mount, it is epoxied to the last former and the fuselage frame side members, as you can see it utilises a commercial nose wheel mount for the piano wire strut.





My tail wheel is made up from 1/8" diameter piano wire decorated with plastic Robart strut covers. It's a bit of a cop out scalewise but it's light and strong and won't look too bad when bogged up, shaped and painted.

Next, I'll have a go at the centre wing structure.

Cheers
Stan