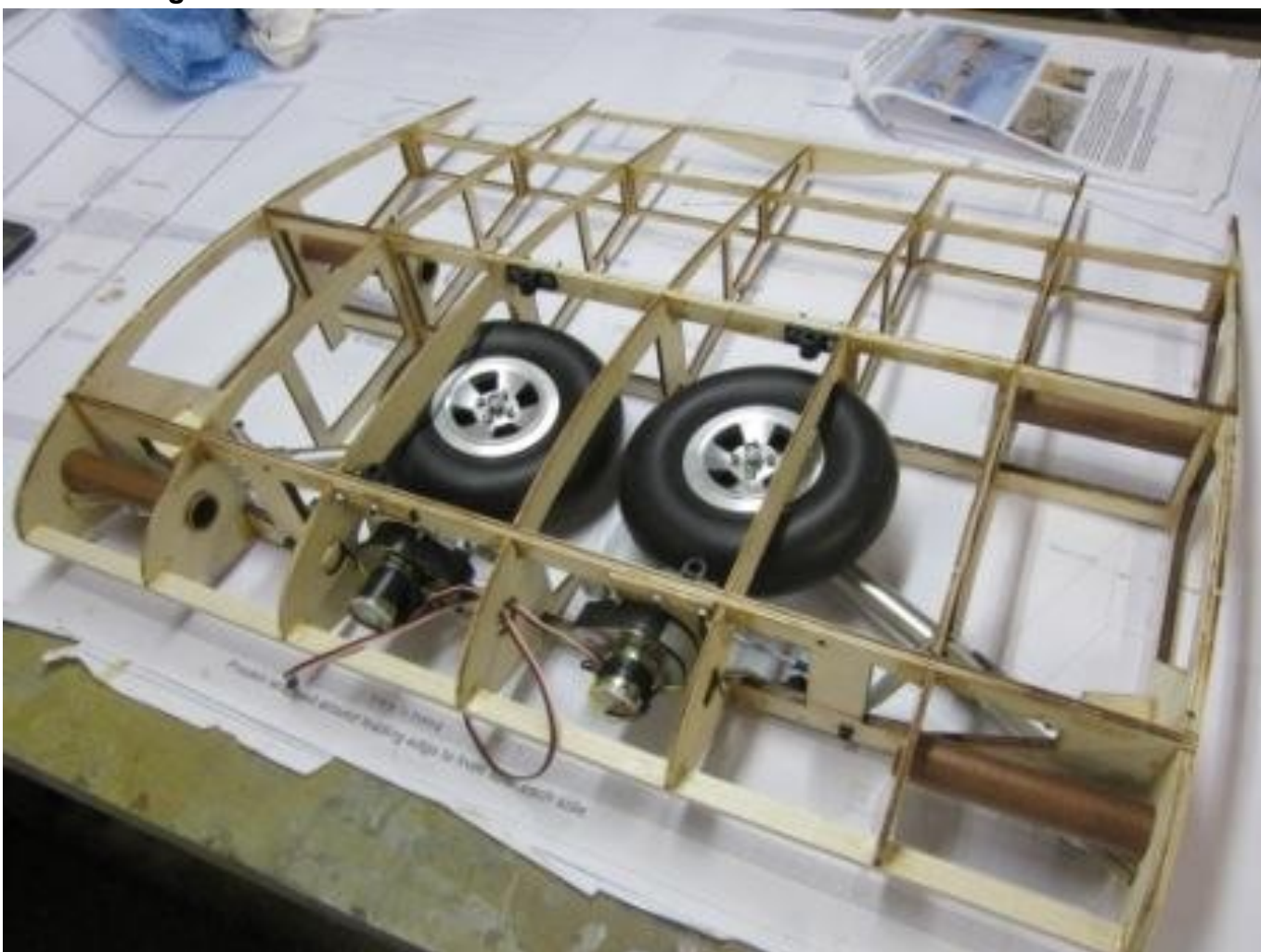


Building a Mick Reeves 1/4.5 scale Hurricane— Instalment 7

Covering the Centre Wing Assembly and Fairings

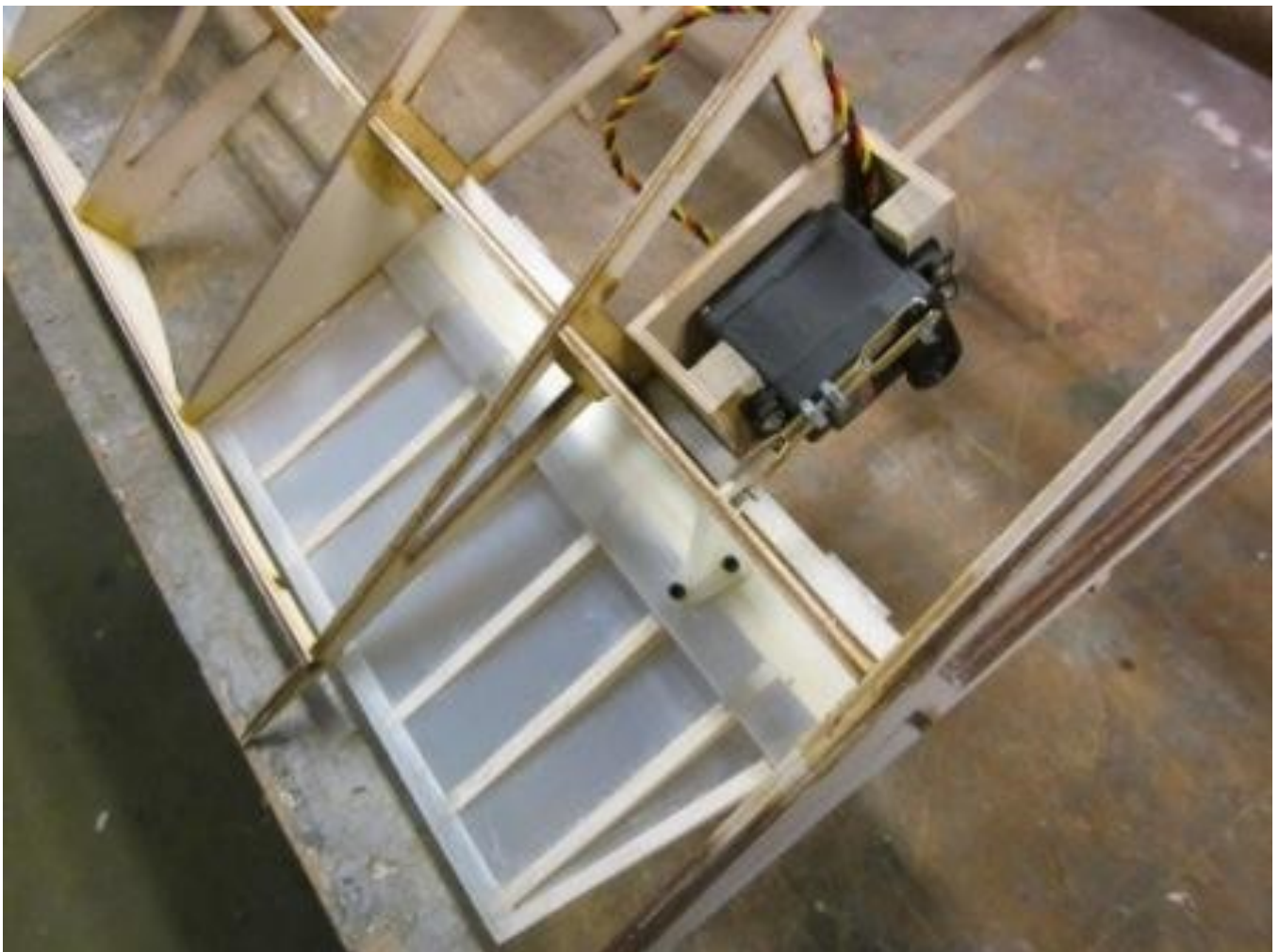


Centre Wing Section:



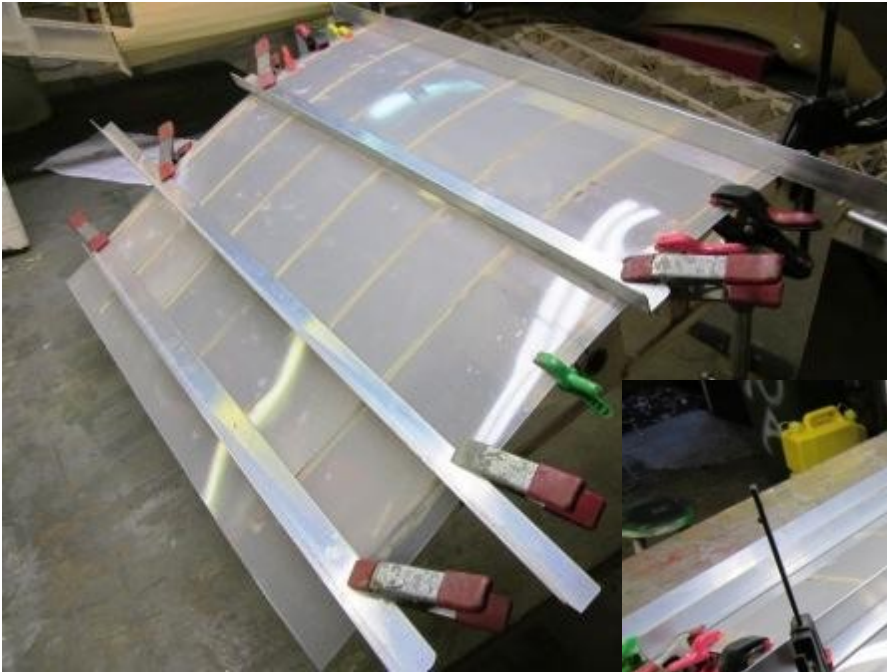
The wing centre section is a major assembly in the full size and my MR Hurricane. In the model it will house retracts, retract control switches, Smart Fly flap servo synchroniser, two inner flaps with servos and a radiator housing. The radiator housing will be open at the rear to assist drawing hot air away from the front of the airframe and motor.

Inner Flaps: Are made up from Proskin with balsa ribs and leading edge, they turned out nice and stiff and straight with a fine trailing edge, horns are bolted to the leading edge and they are driven with a Hitec HS645MG servo on each flap. The flaps are hinged on the rear spar



Covering the centre wing with Proskin: I've not used this stuff before so my technique was a bit experimental. I had done some tests with bonding Proskin to plywood using CA and MR Pro-bond glues and was comfortable with the adhesion but both glues rely on a close fit and that was the challenge over a wide and springy surface.

I first placed a steel ruler across all the ribs to highlight any high spots for removal and then cut lengths of cheap Bunnings 25mm aluminium right angle to go over and across the Proskin sheet to ensure I had equal contact across the section. The aluminium extrusions were clamped to the outer ribs.



I then roughed up the underside of the skin with 80 grit paper and had several dry practice goes at bending the skin around the wing.

The skin goes from the top rear trailing edge to the bottom front spar in one piece and I thought

it would be easier and more accurate if I did it in three stages.



First stage was to glue from trailing edge to top front main spar.

second stage was from top main spar to leading edge.

Note the lead weights clamped to the bottom of the Proskin sheet to help pull the sheet around the LE curve





and the third stage was from the leading edge to bottom main spar.

This was the most difficult as there is quite a bit of resistance to bending around the leading edge curve but was achieved with a lot of clamping and swearing.

The Probond glue gives you a bit of working time so I used it for all but the bottom spar where I used medium CA.



It all went well if a bit slowly as I usually left 24hrs for the glue to achieve maximum adhesion before attacking the next stage.

The final covering is from the trailing edge to the front spar on the underside with cut outs for retracts, wheels and the radiator housing and that will follow on later after I make and fit the strut covers and rear U/C leg struts

Wing and Tail Fillets:



The underside rear fillet base is a bit more complex as a structure has to be made to glue the Proskin to.

In the picture on the left you can see the gap behind the wing that has to be filled.

In the picture below you can see the simple ply and 6mm balsa build up.

I'll glue Proskin to the fuselage centre and then will glue separate plywood fillets from the fuselage to the outer framing. I'll fair the join between the fillets and the fuselage with a micro balloon slurry if it needs it.



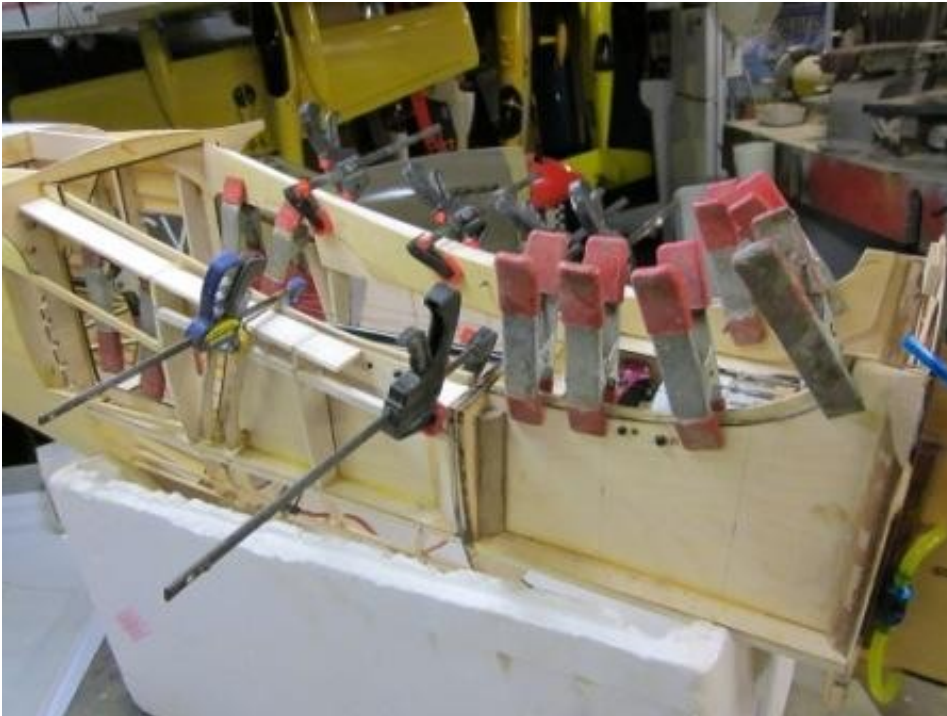


This is a picture of the completed underside infill and ply fillet supports.

Now the fun begins as when I fitted the wing centre section to the fuselage it didn't fit...The wing cut outs in the fuselage longitudinal formers were too big and the wing wouldn't align with the fuselage underside.



Using the wing rib as a pattern I had to make some plywood formers and glue them to the existing fuselage formers after ensuring that I hadn't changed the wing incidence and that I had repositioned the wing to align with the fuselage underside. These formers will have the Proskin fillet base glued to them.



This was a bit of a chore and involved a lot of setting the fuselage on its datum line, assembling and re-assembling, aligning and measuring of wing incidence angle.

Something for Mick to work on in the next batch of kits.

Now that I have lifted the wing off the original

frame it now aligns with the fuselage and the under wing fairings and will give me a base for the wing fillet mouldings. The fillets as supplied are in three pieces per side and are lightweight epoxy mouldings. These will be glued to the side skin of the fuselage and to the Proskin sheet base. The Proskin base is glued to the new wing mount formers and



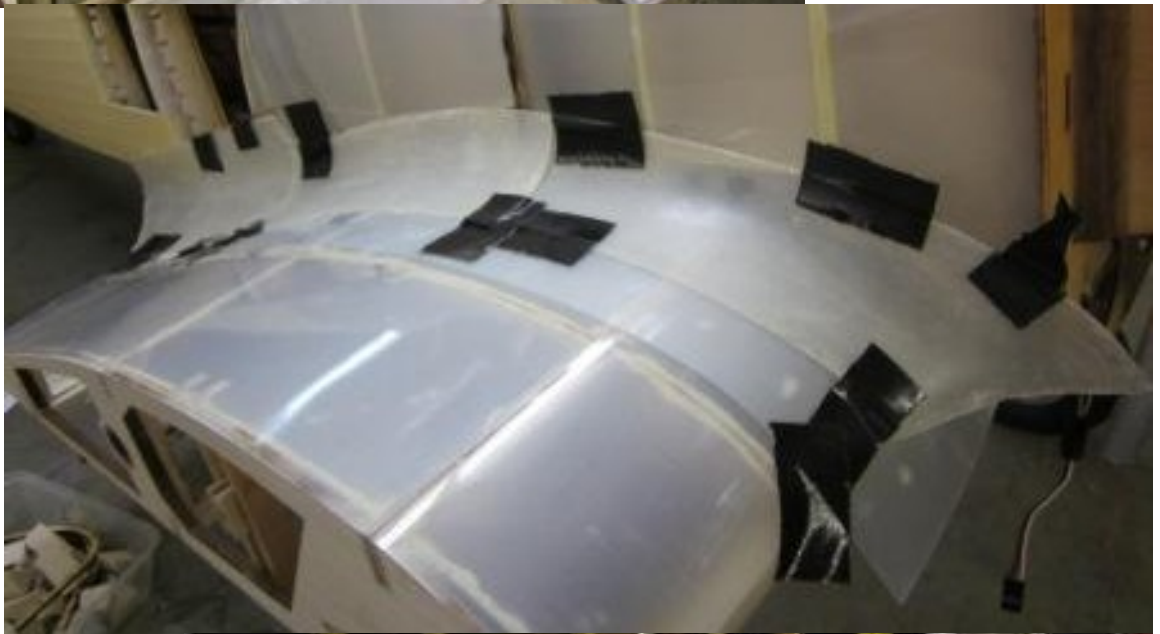
will lie over the top of the wing.

To do this I first taped two over-wide strips of Proskin to the upper surface of the wing in a position that would overhang the fuselage wing mounting formers by about 5mm. I then applied Probond glue to the formers and bolted the wing into place.



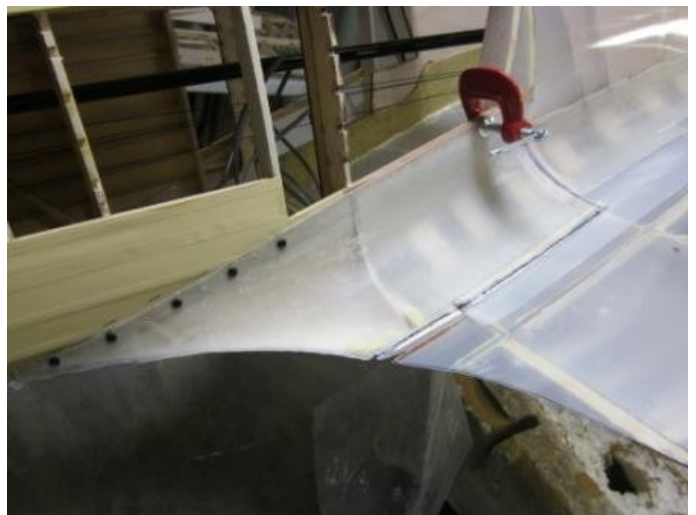
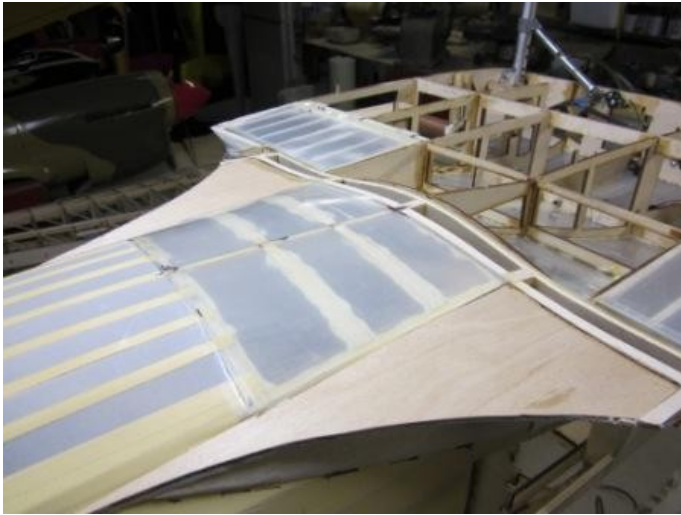
When the Probond was dry I removed the wing and we have a base that the fillet mouldings can be glued to.

I have taped the three epoxy moulding in place and have marked them for trimming to size.



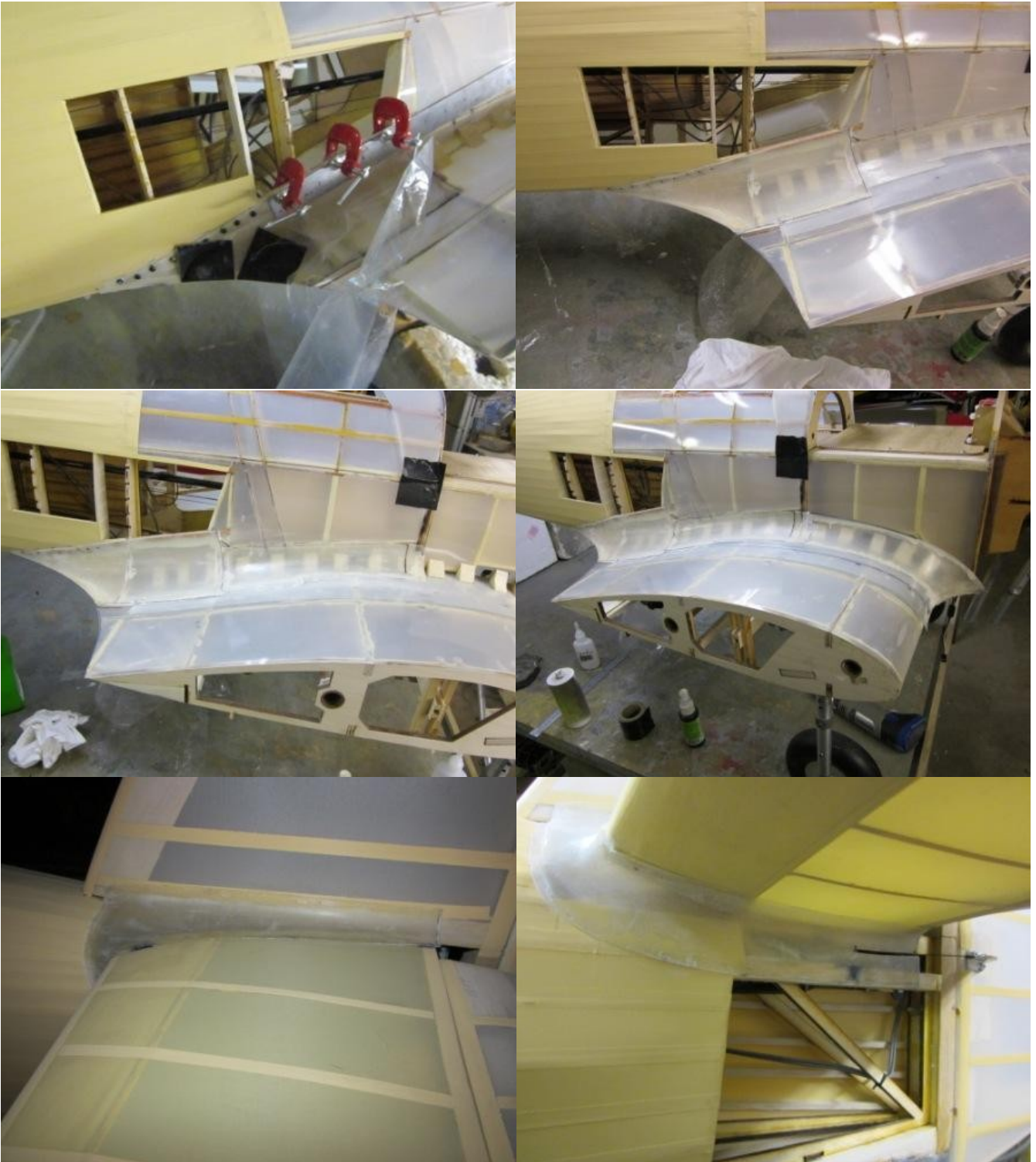
The fillet base is reinforced with triangular stock and a ply fillet is glued to the leading edge of the base.. This will be the join between the lower fillets attached to the wing and the upper fillets attached to the fuselage.





Top left and right shows the 1.5mm ply fillets glued to the support frame and the fuselage stringers. I have glued some balsa reinforcing packing between the stringers and the fillet.

The next two pictures show a balsa build up on the trailing edge of the fillet and on the stringers on the fuselage. I've glued a piece of 1/64" ply along the top of the balsa to temporarily screw the moulded rear fillet to, when the glue is dry I'll remove the screws, fill the holes with bog and sand to a fair shape. All the gluing will be Hysol as it will give me a bit of working time and IMO there is no better fibreglass to fibreglass glue available



The fibreglass mouldings are now attached to the airframe both at the wings and the stabiliser. The forms are OK but a fair bit of body filler will be required to sharpen up the outlines of the scale panels. All that to look forward to....

Next instalment, we're back on the wings making flaps and ailerons and preparing for Proskin sheeting.

See you later
Stan