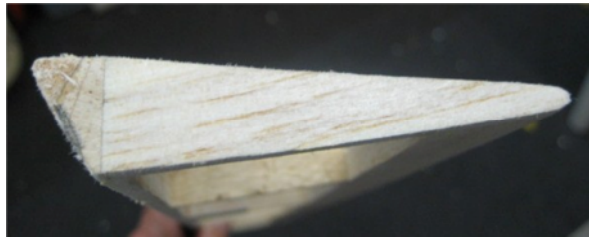


Tiger Moth re-born Part 2

I had to remove all the control surfaces for recovering so I took the chance to put more scale pin hinges in rather than the flat plastic ones already on it. I also made up new control horns from fibreglass circuit board partly because I didn't want screws through the surfaces (very non scale) but also since I was converting all operations to cable like on the real one. When it came to the ailerons I had to do some more mods. They were standard sport model centre hinged and the Moth ones are top hinged so I stuck an extra bit of balsa on the LE and shaped it back to the correct profile. Here's the before and after pictures. As you can see it made them a bit deeper so I had to trim off the TE.

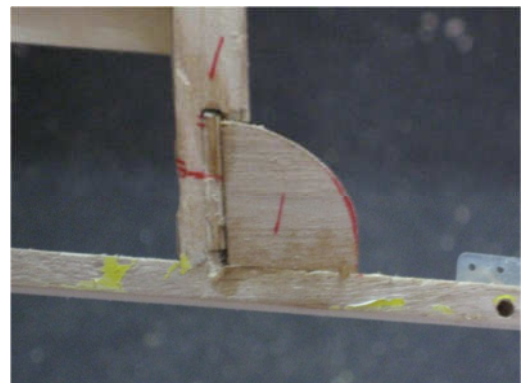


While on the wings I had to decide on the interplane struts.

These were the same aluminium profile as the old cabane struts and about the right scale size but fixed to the wing by going over a ply lug that stuck up from the wing surface. These would make it tricky to cover the wings and didn't allow for the cross bracing between the front and rear so I chopped them off, cut into the wing to re-enforce the wing and fitted a bloc so I could screw a home-made brass lug to it after covering. This bracket has a nyloc nut soldered to it for the wing strut and an extra lug to attach the wing



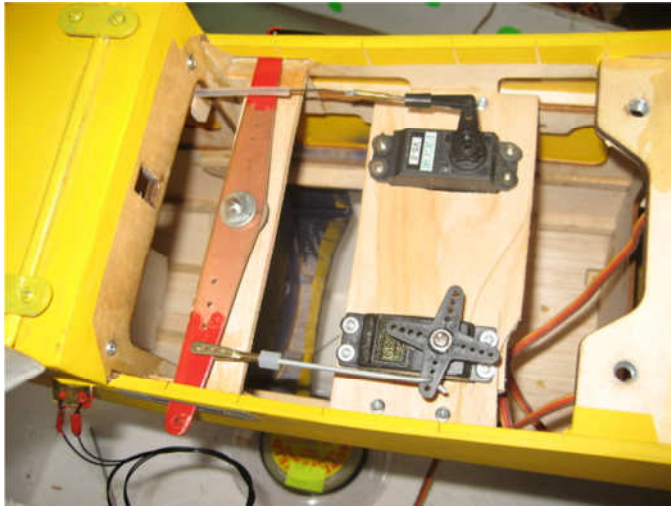
bracing cable - it's tricky to solder them without melting the nylon locking bit! Here's the before, during and after. By the way the silver tape is not just a bodgy gap cover it's



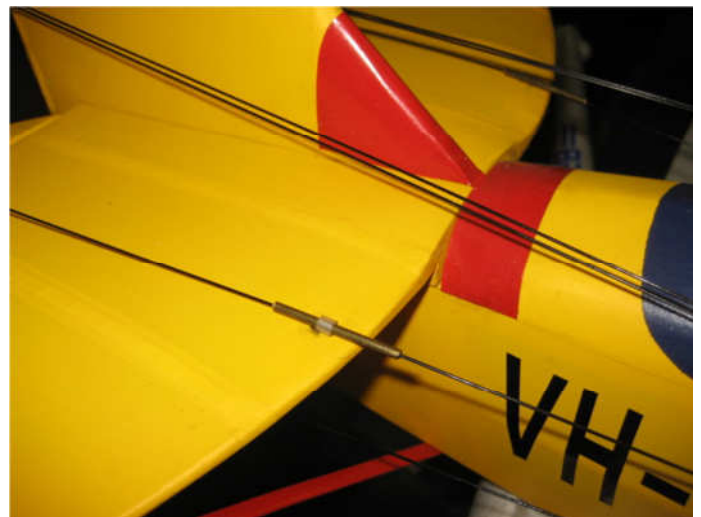
scale! The real one has a strip of 2" wide duct tape stuck all the way along the hinge!

Another obvious feature of the TM wings are the anti-stall slats on the LE of the top wing. They are a bit of a bummer to build in but luckily DHK had them removed. When I asked the pilot why he said "they are bloody useless, if you haven't noticed you're stalled by the time they pop up you are in real trouble!". The hinge covers are still there but easily simulated with small pieces of ply after covering the wings.

Now was the time to think about the control wires. The Moth has double rudder wires running all the way along the *outside* of the fuselage with a small guide block half way along. This meant putting a scaly rudder bar inside the fuselage and extending out each side. So a piece of ply for support, more circuit board and a bit of slot cutting and here is the internal and external view - I reckon it looks pretty good with a little litho plate surround to the slot! The red bracket on the right is another home made one for the flying wires.



The elevators presented another problem - how to get the exits in the right place and lining up with the servos (I decided to put a servo on each half). I used a bit of tubing inside the fuselage set in a balsa support at the right angle. One curious feature of the Moth is that the top cables actually rub on the top of the tailplane so the angle has to be just right. They have a small support where they cross the LE and that section is actually a solid rod not cable - I just put a piece of brass tube over the cable to simulate it.



The ailerons are easy, just servos in the bottom of the wing direct linked to the horn (more circuit board of course).

Time for covering and what better than Solartex in Cub Yellow, an almost perfect match for the original. It's not cheap stuff but goes on a treat and is already fuel proof. Once covered the wings need rib stitches and rib tape. I think a scale fabric covered plane without them looks just bare and wrong and my usual way is good old fashioned blobs of white glue for the stitches and overlay with more covering material (Solartex tears beautifully into 10mm wide strips along the grain) but it's a long and boring job with a glue dispenser or dip-stick. I asked Doug Radford how he had done them on his Moth and he told me about a Canadian who makes them for sale. You buy a sheet of self-adhesive paper that has "stitches" running across it. You slice them into whatever width you want (about 3mm wide for mine), lay them on and cover with the fabric. Again not a cheap option but one that looks good and when you have wings, tailplane, fin and rudder to do a big time saver.

Once more to Doug "how did you simulate the corrugated surface of the fuel tank in the centre of the top wing?" So he told me and very clever too! Stick strips of single core electrical flex around the tank (it has to be good and flexible to go around the LE) and then wipe over with white "No More Gaps". Works a treat, here it is just drying out.



And so to the cowling. Steve had tried more than one motor to get it to fly so it was almost

more holes than cowling so off to talk to my old chum, my buddy, my mate, my pal (how did he know there was a request for a favour coming?) Grant Furzer and before you could say ethyl methyl ketone I had this in my hand!



I was tempted to make opening panels and all that stuff but contented myself with fitting a dummy air filter (piece of balsa sanded to shape, covered in litho plate with 22swg wire "stiffener" creases and fixed to the side) and a dummy hinge (brass tubing with notches filed in it) which worked out pretty well.



Inside the cowling would be my old Saito 120 last used 10 years ago in my ill-fated Ultimate biplane (see Geri-shed wall for the remains!). Brian Winch said it would work fine inverted especially if I could tilt it a bit to avoid oil draining directly into the plug. I didn't want a big silencer poking out and luckily had a short steel exhaust manifold that would fit. I did a bit of volume and gas flow calculating, cut up a few bits of copper tube and a visit to Tom Sparkes and his brazing torch soon had it assembled. If you've heard it you know it does a great job! I also cut a panel out of the bottom of the firewall just to make sure of enough air flow.



OK, next time we get to finishing!