

This Document is a series of pictures and comments as I worked through the Modification to change a Williy Nillies 250 Cub into a 250 Class Citabria.

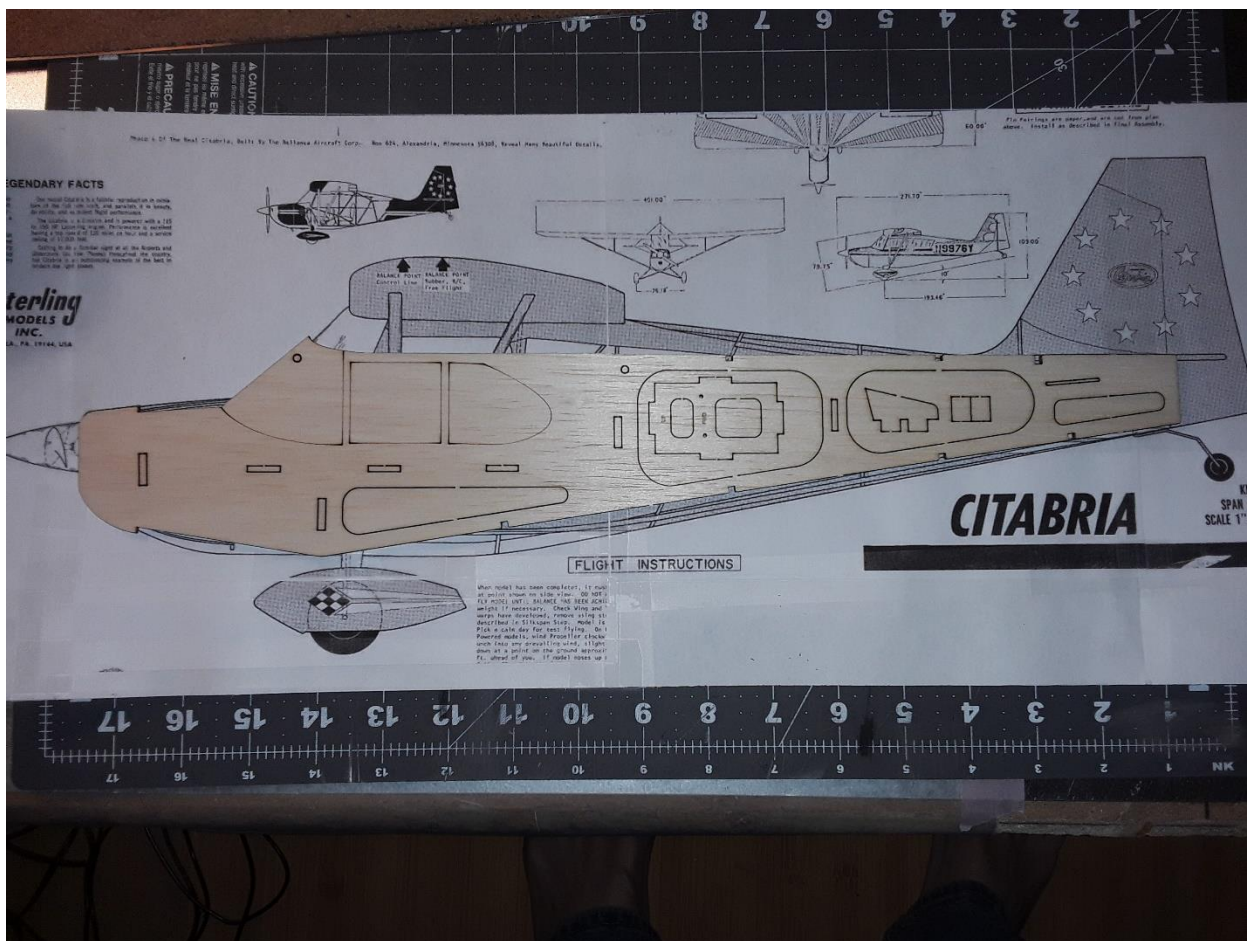
It started out that I was going to scratch build from a re-sized set of Sterling plans I downloaded from Out Zone and I happened to get my Cub delivered the same day.

Interesting enough, When I laid the Fuselage over the plans....well, there I went!

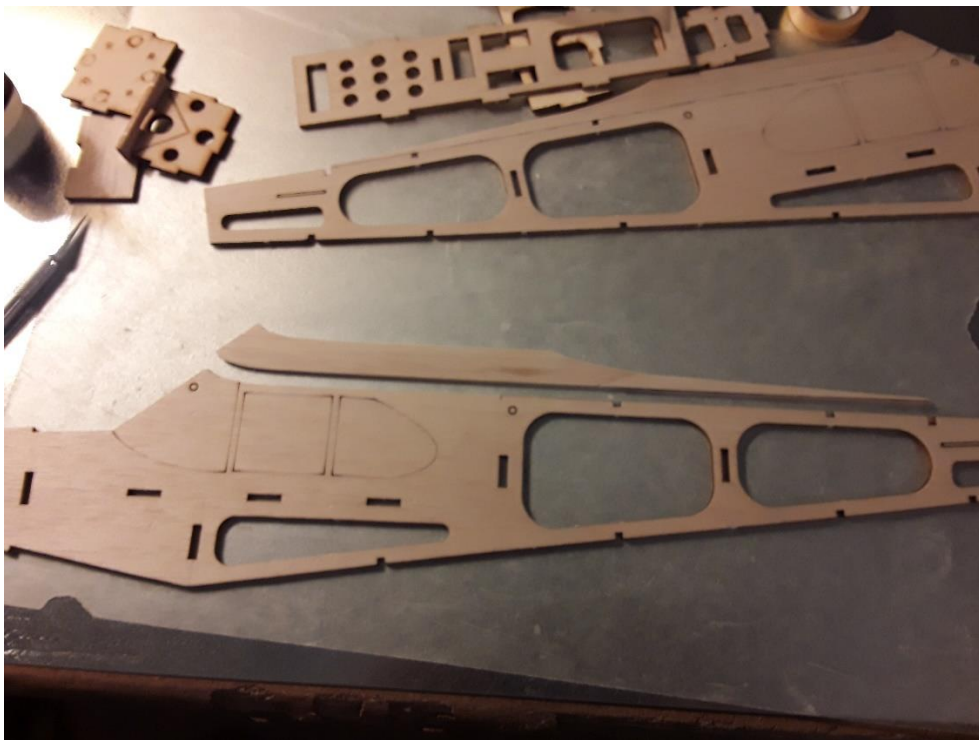
The finished plane will be entered in the Willy Nillies build contest as it uses the Wing and except for a couple minor additions, everything that was included in the Kit.

If you'd like to build your own, this series document can get you there. Enjoy!

11/26/2020 Edward Larsen, excerpts from my photos and comments posted in the Willy Nillies Forum.



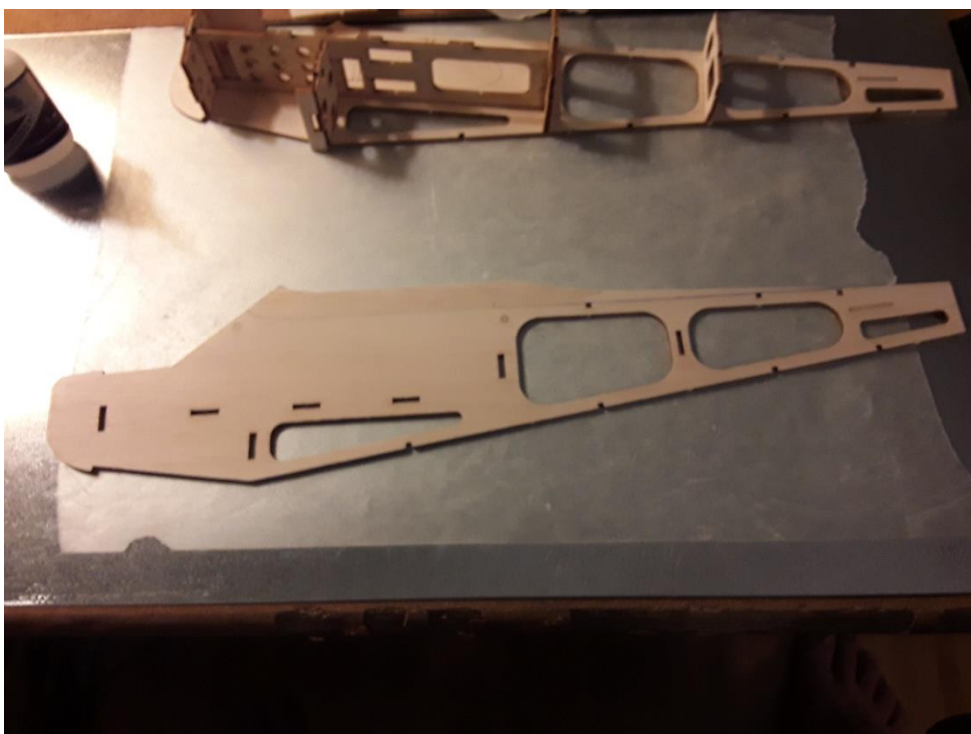
The Sterling plan for the 33-inch wingspan Citabria was adjusted to the size of the Cub and Wow! Look at that! How can I NOT do this?!?



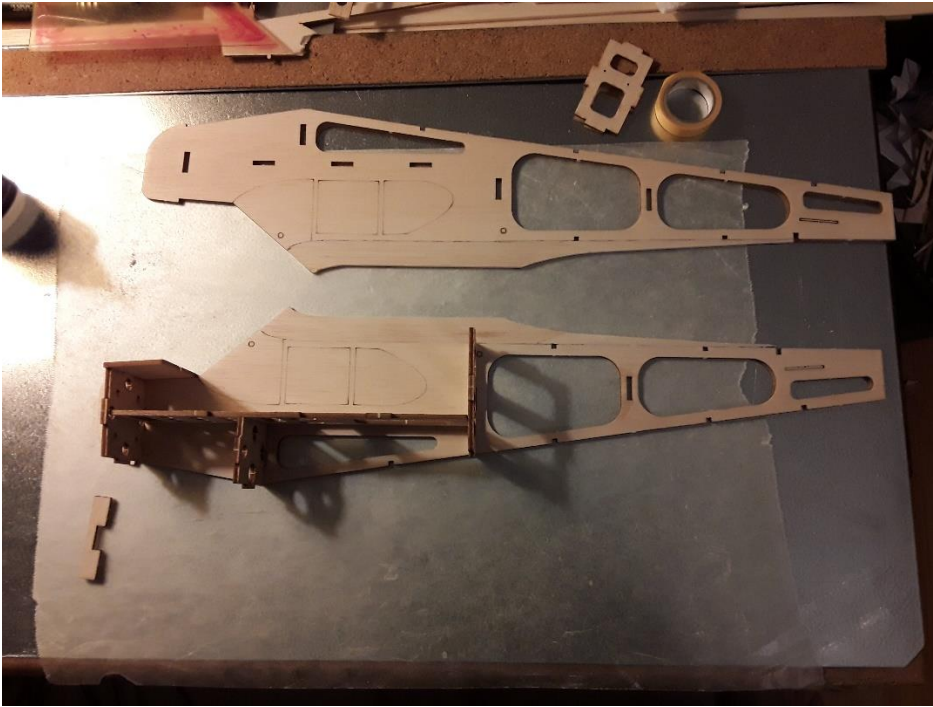
First step of course was to make the addition to the fuselage top. These parts were not made by scraps from the kit.

If you wanted to build yourself a Citabria, you could omit this and just build the fuselage as it came from the kit and reshape the Tail feathers and wingtips. Those steps will make it a nice stand off look alike.

Me? Well I want to go a little further and make the lines more match the actual plane. I take full responsibility for any change in flight characteristics.



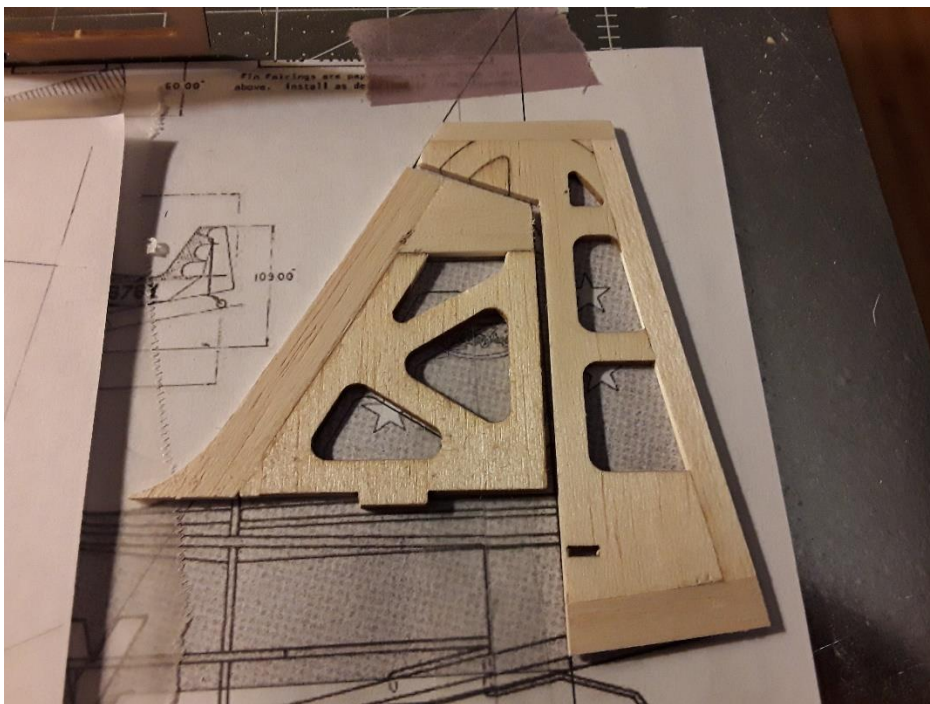
Glued up and sanded



For the most part, it will build just like the Cub, I will need to do a little work on the top Fuselage formers for the added height and the movement of the wing. The change in moment is right with the Sterling plan moment arms, so we'll see that result when it flies



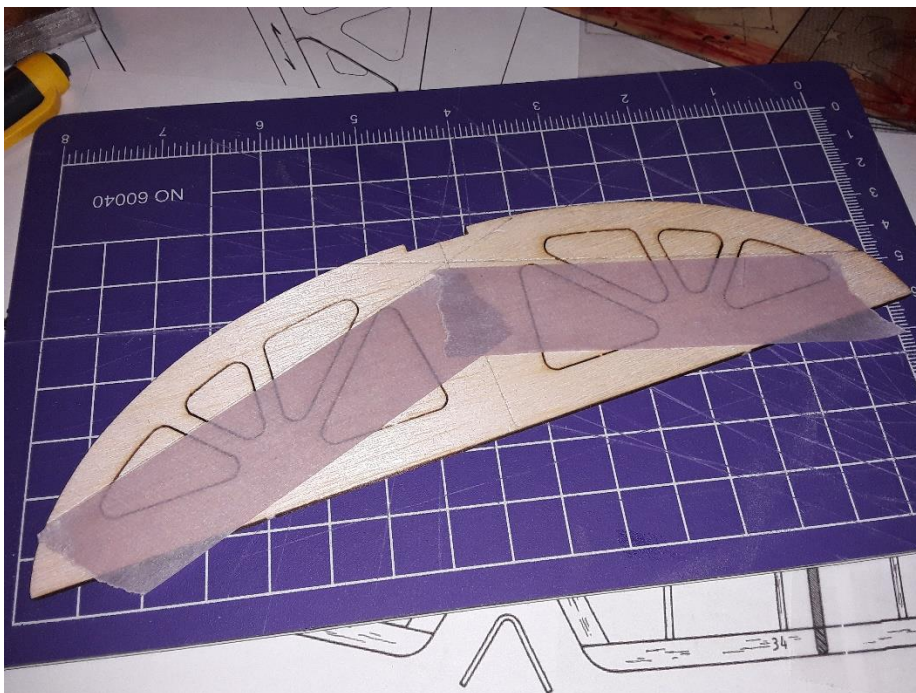
Gluing this piece of scrap back on, going to use everything in the kit, even the scrap.



A little final sanding and covering, work just fine. You can see the kit parts in there. the grain directions of the add-ins give a bit of stiffness to keep it from warping with heat shrink covering. Ta-Da! Rudder and Vert Fin.

And YES! All those pieces were scrounged from scrap in the kit.

BTW, this series of mods could also be used to create a Champ, after all, that's what the Citabria was based on. Change the shape of the Vertical and Rudder, Voila



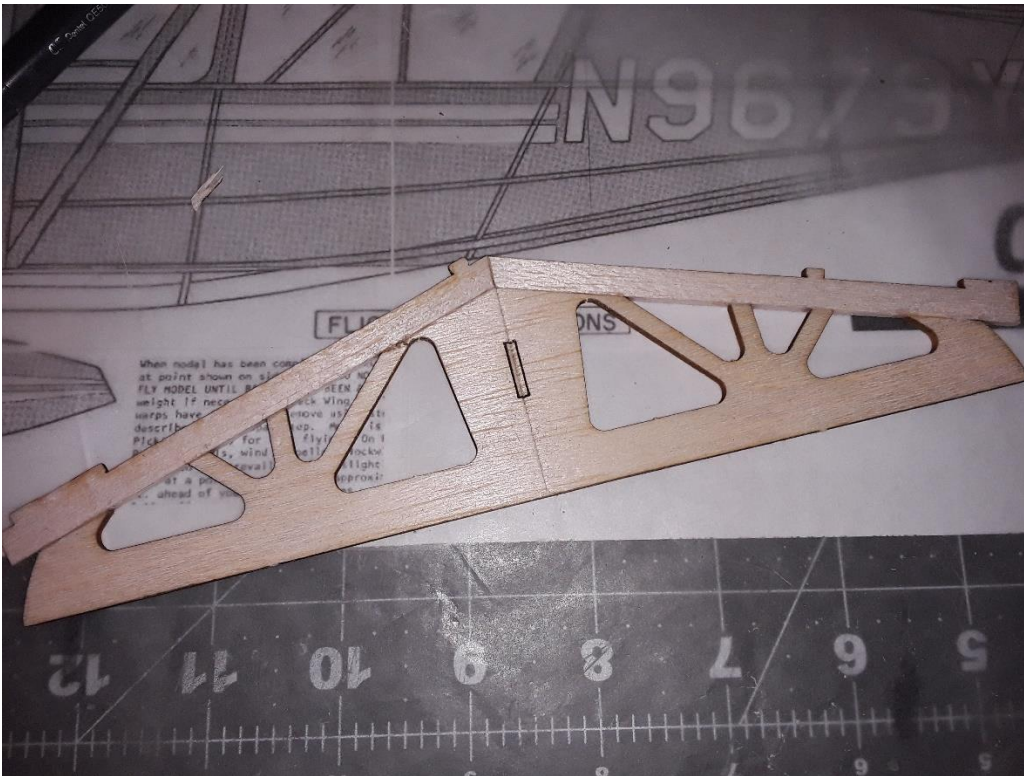
Marked out for cuts, taped up to keep the cutouts in to minimize the chance of breaking a stiffener.



Ta-Da, cuts made.



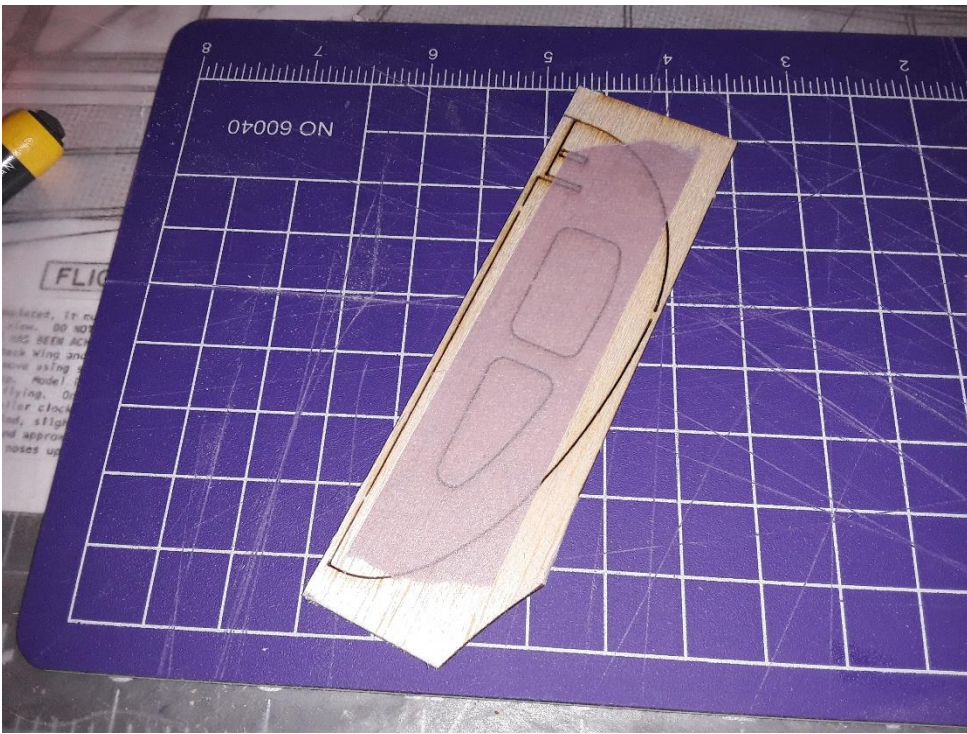
A scrap edge from the kit, I left the nubs on until it was glued in place and then trimmed to size.



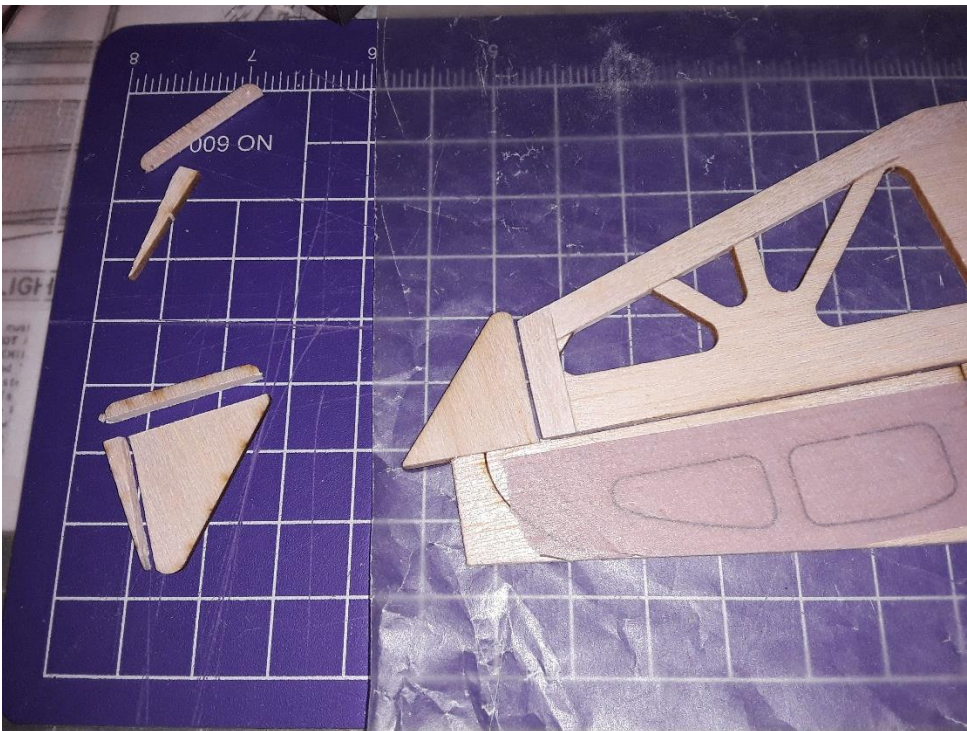
Leading edge strips before trim



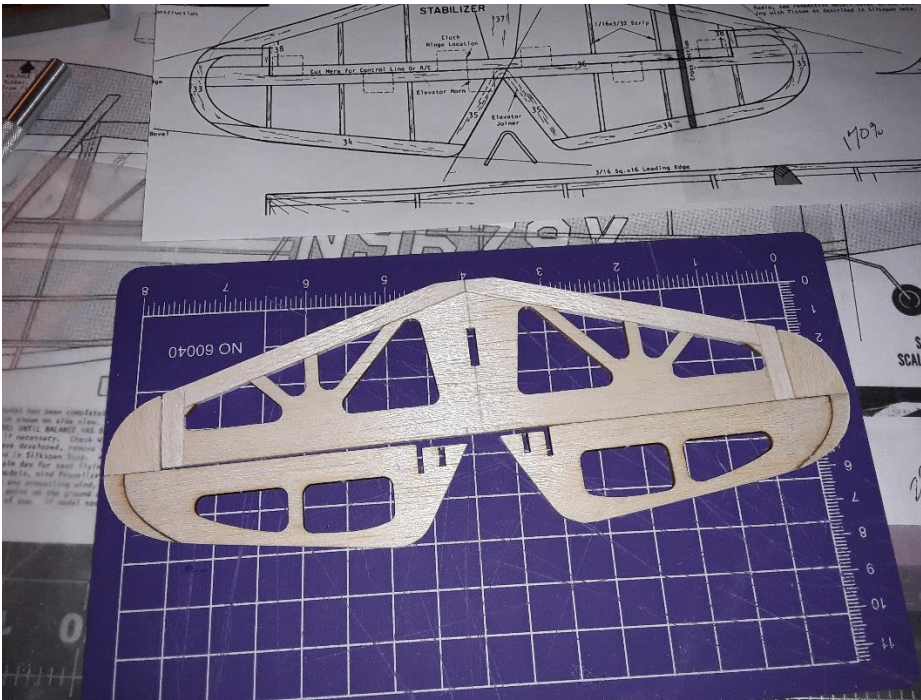
Finished stab ready for final sanding and covering. Trimmed to length, caps added, note grain direction to minimize warps and add stiffness.



Elevators start the same way, tape up the loose parts to hold integrity while modifying.

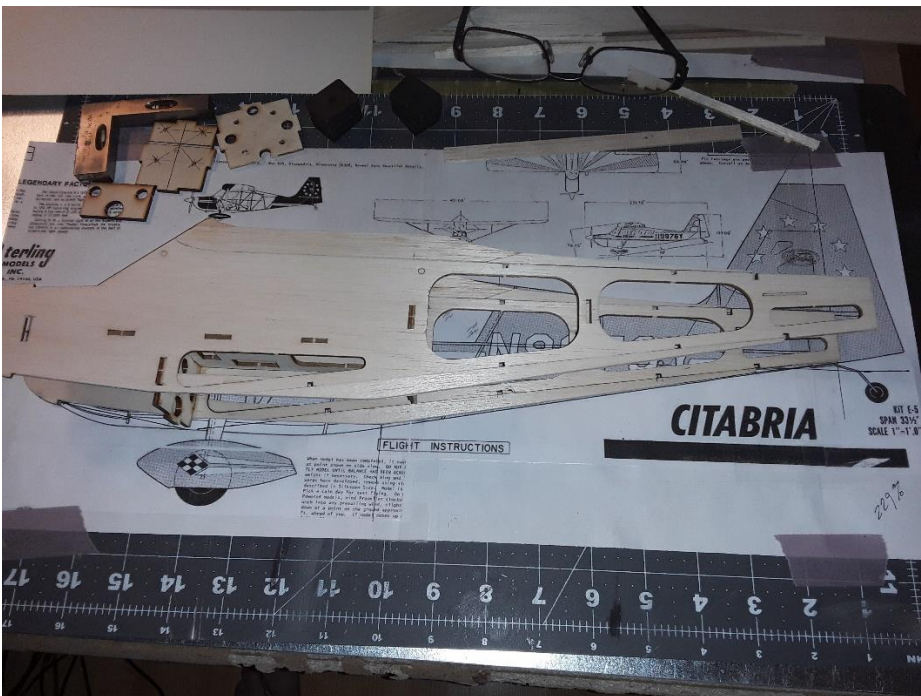


Yup, that triangle getting trimmed for counterbalance is from the Stab. 😊 Again, the piece of scrap glued to the tip.



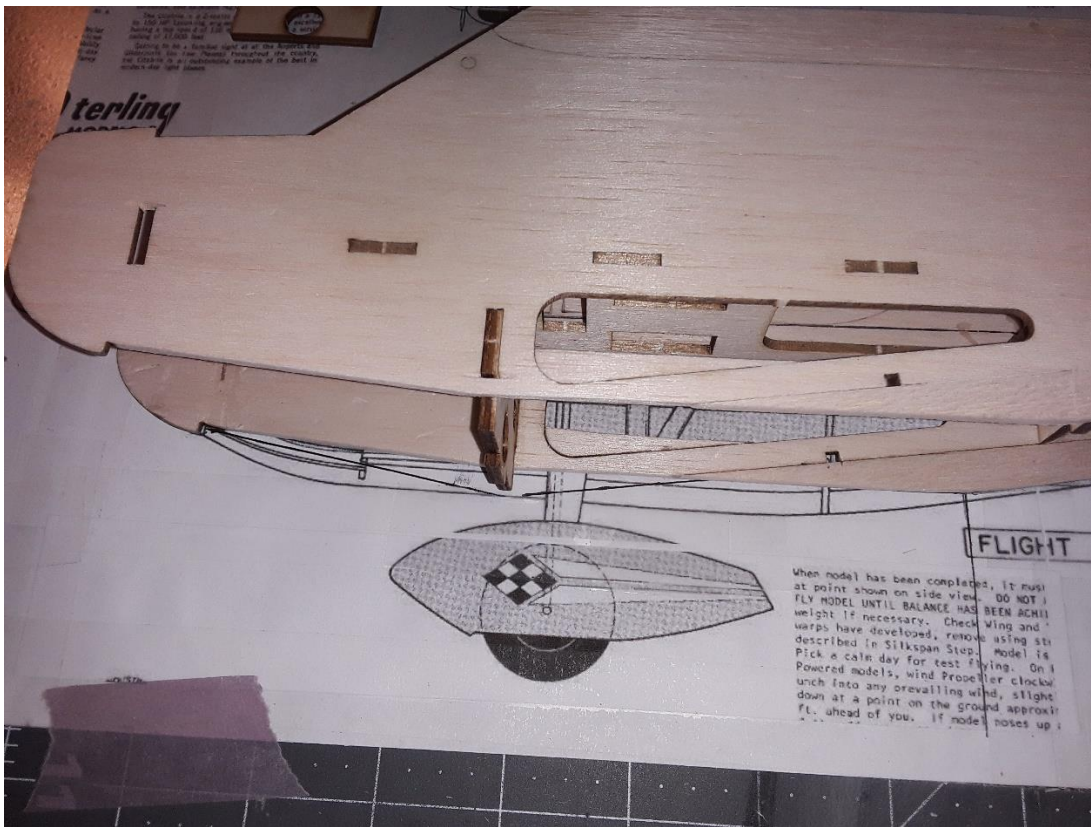
Finished Elevator halves ready to sand.

I went with the Stab/Elevator style balances used on the Citabria Pro to make them simple.

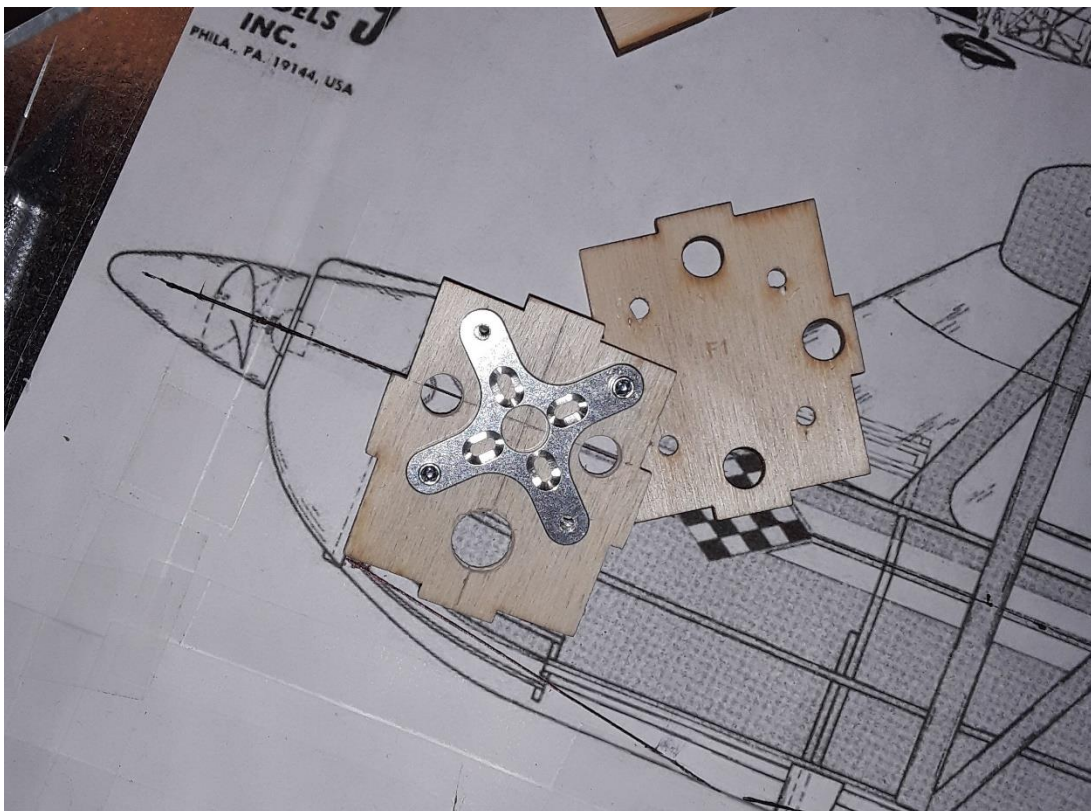


Wanting the overall visage of the body to look more like a Champ/Citabria, I got busy adding some more mods.

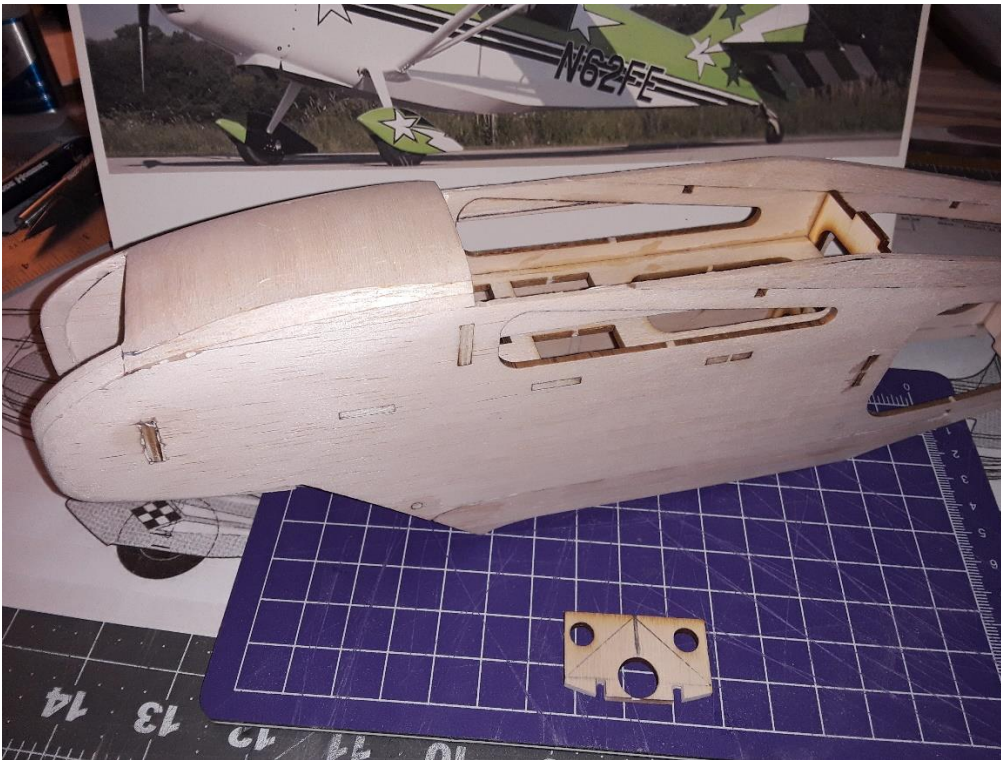
The lower was trimmed 3 1/2 from the wing saddle and parallel with it. I then added the strip to the lower rear. A small section of the lightening hole was glued back in for some integrity. the from area was trimmed from the bulkhead forward as well to reestablish the lower cowl line.



Little closer view of the mod sitting on the plan you can see the match lines



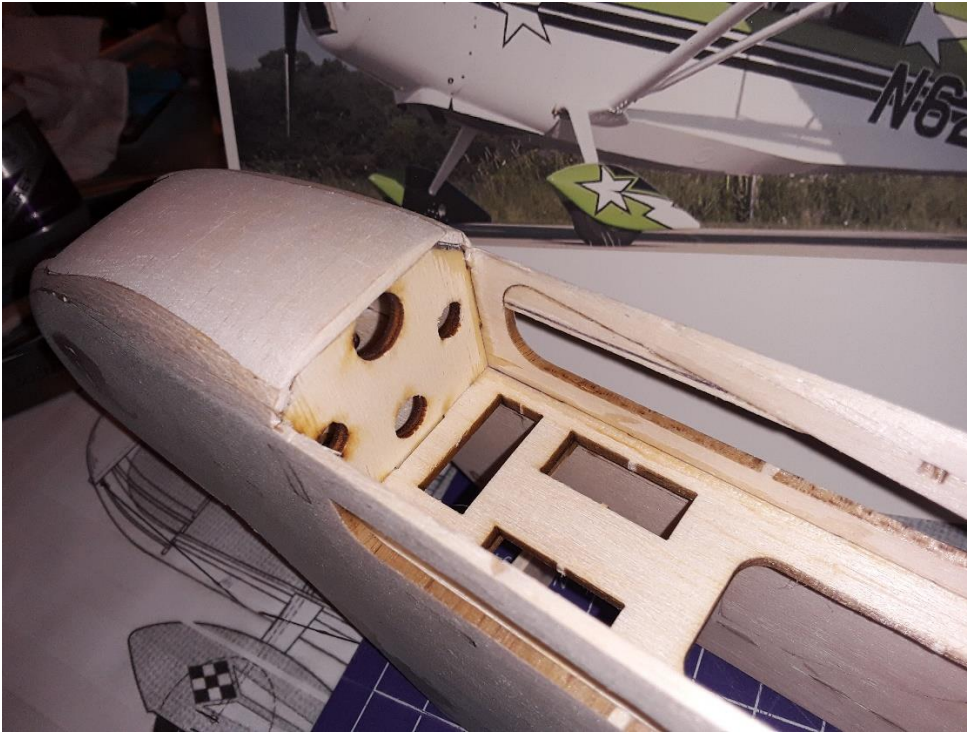
In keeping with the Champ/Citabria mods, I change the thrust line to match the line from the Scale Sterling plan. I used the blank firewall and added the cooling holes, the stock firewall is on the right.



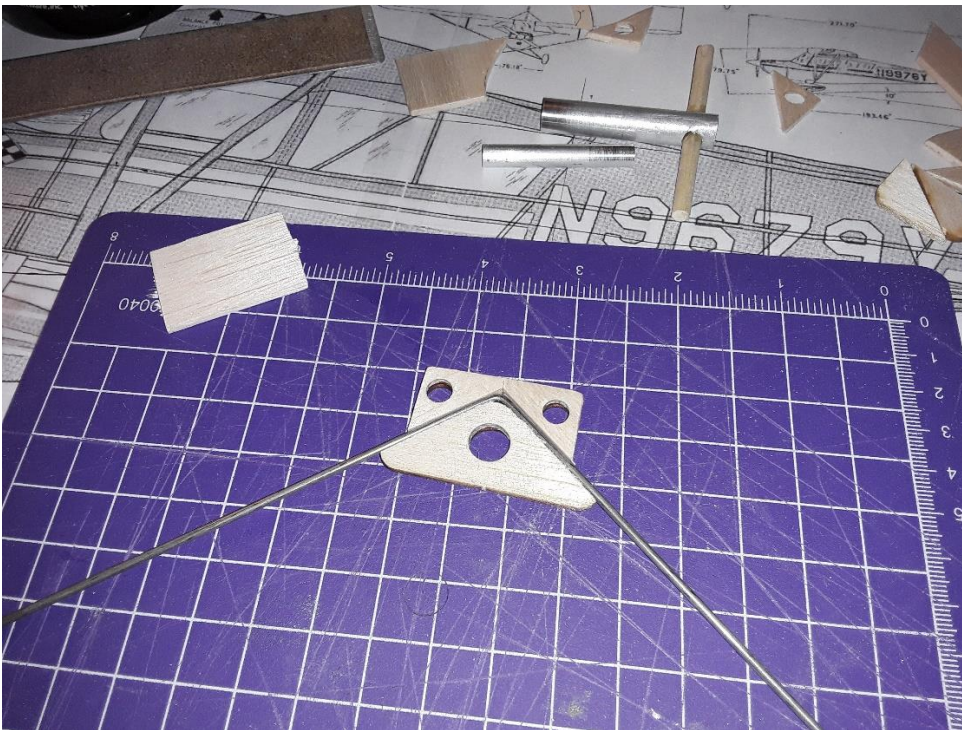
Wanting a little more curve under the nose and cowl area I added some triangle and filler pieces then got to sanding. Kinda early in the assembly for this much sanding but I was also setting up the transition from Cowl area to the stringers in the lower Fuselage as you can see in the background picture. The second former for the gearbox is in the foreground.



Added some cheek to have a sanding foundation. Do they call this getting "Cheeky"? Ha!



You can see where I trimmed the bulkhead for triangle stock. I also trimmed the firewall the same way.



Former for the gearbox, I left the center piece long to trim after I put it in. I wanted to get the cooling holes cut and the thickness established.

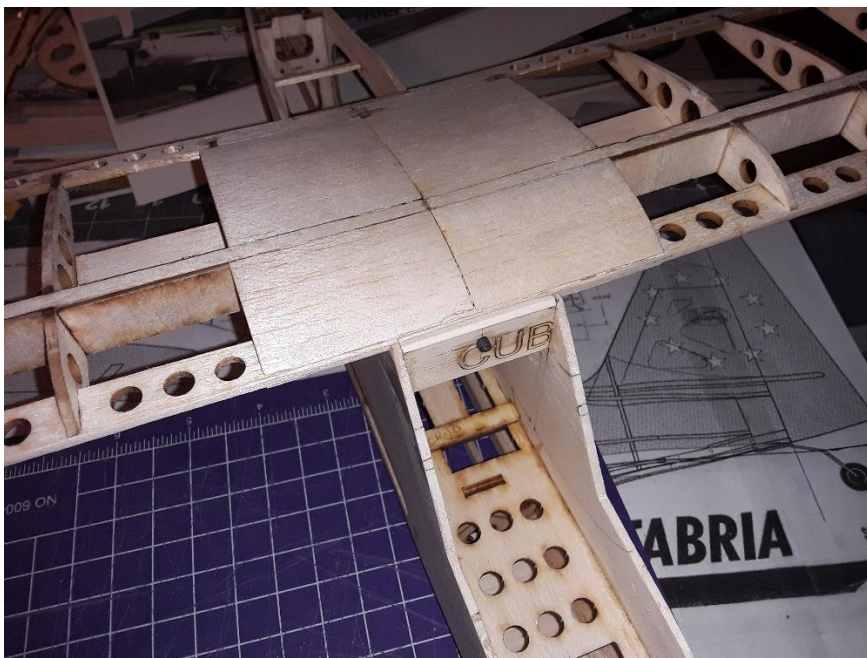
My hole cutters in the background



That pretty well rounds out the bottom. Maybe...



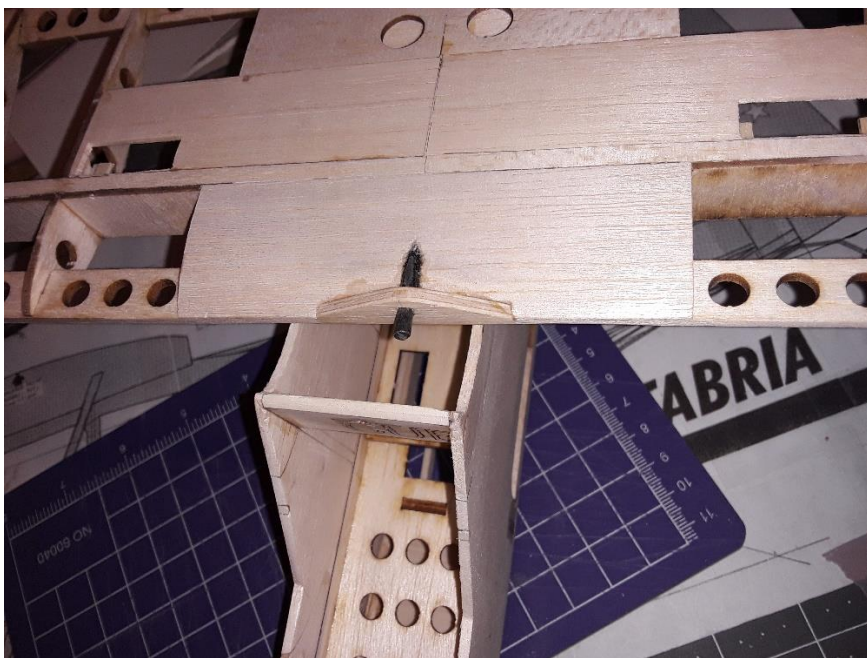
Former for the gear is installed, the gear will go in later, but I think I captured the bottom detail pretty well. At this point the fuselage weighs 30.1 grams.
Need to build the wing to drill peg locations and wing bolt plate. Coming together Kind of nice.



Still on track, I built the wing but didn't add pics since that is covered pretty well in the PDF and other builds.

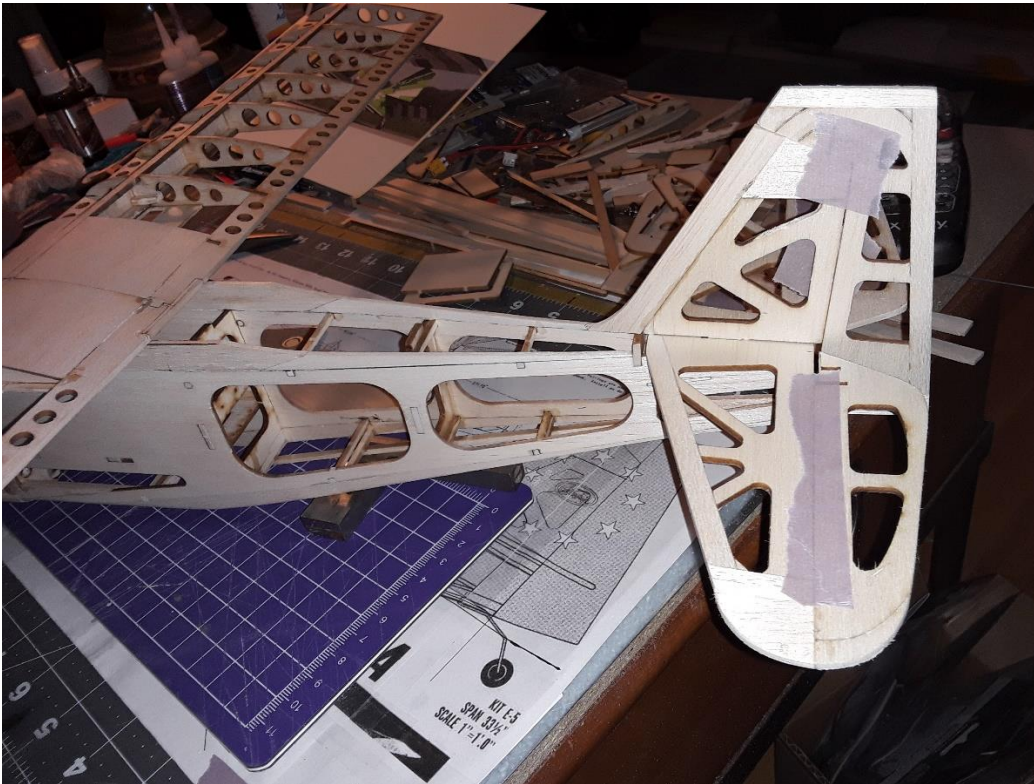
Where this deviates is of course adding the Carbon fiber peg. Yup, still using scraps from the kit as noted by the "CUB" lettering. I did glue the lettering as the etching was almost halfway through it.

You might notice that I did some cutting to the Windscreen angle as it was kinda wrong. Note the laser etching line on the inner Fuselage.

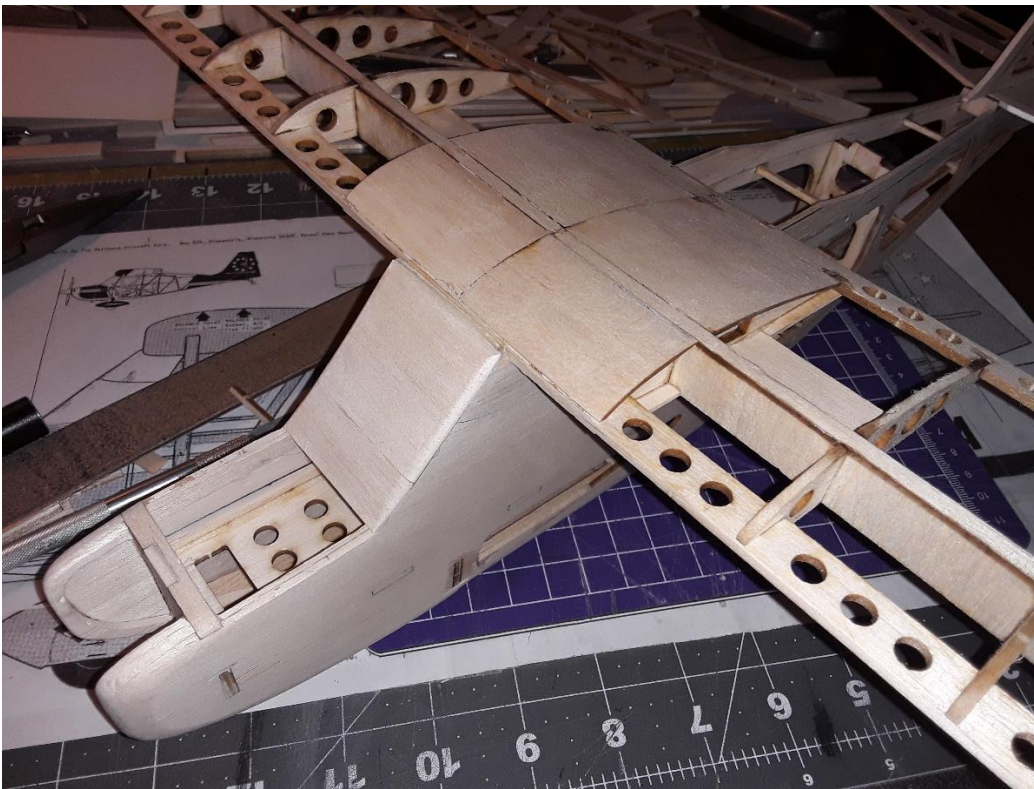


A look at the peg arraignment on the wing.

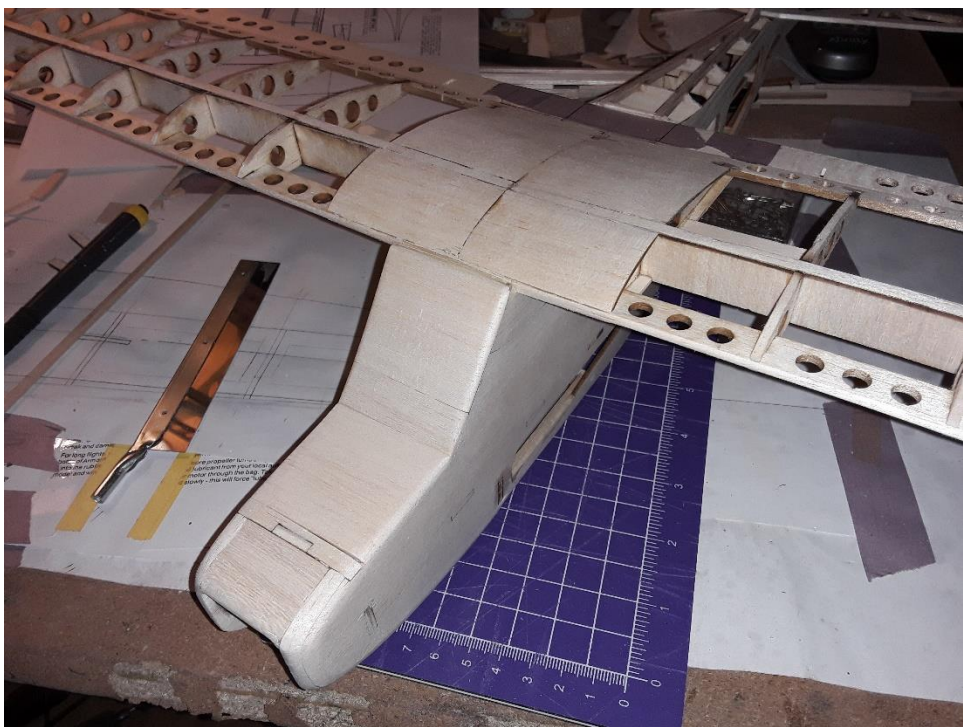
Another thing you might have noticed is the Aileron holes. I made mount tabs for the servos and the stand up along the spars. All that sticks out is the arm and I cover the hole with clear tape after installing them. The EMax 9251ii 's are so small it's really not a big deal. I just don't like gluing servos in.



Next is to add the hold down screws to the rear of the wing and finish up the top stringers. It's getting so close I had to tape things together and take a look.



Shot from the front with the wing in place. Yes, Top hatch, plenty of room to slip the battery in.



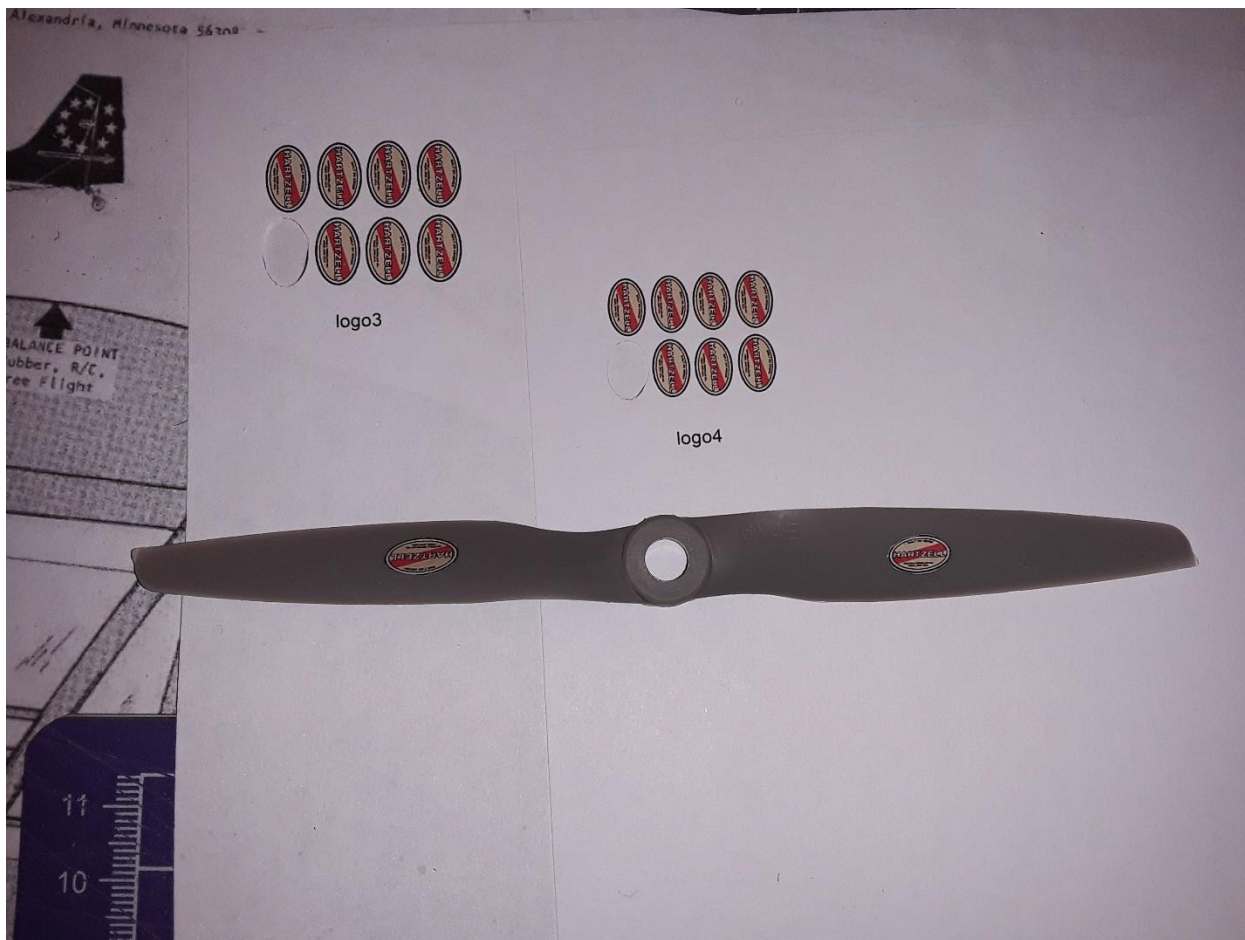
Yes, I decided to cover the nose. Motor fits fine. The battery hatch is on top and the battery slips in fine. with the high wing and the raised trust line I wanted the weight at or a little above, so it didn't get a heavy pendulum effect



There is what I came up with on the upper stringers. I will be a tough cover job, but I'm going to attempt the tail fillet with covering like full scale. Glutton for punishment?



The wing tips...Holy crap! There are several versions depending on the model/year and owners that change them. I settled on this tip. I had some super soft/light block material just begging to be used. They weigh about nothing all carved and hollowed. The tip angles a exaggerated in length, but I like how it looks, the ailerons are strip rather than Barn Door anyway, so deduct points for scale. 😊
Looks pretty cute at this point, couple small things to do and then I start covering.



Ok, playing with my decals again. I have two sizes that I possibly like on the 6x4 prop. That's the size going on the Citabria, but subject to a change to 5.5 dia. The other prop using the decal is going on the Howard DGA and I'm planning it to be a 7 or 8 dia depending on how it flies. Big Cowl = big prop = lower Kva motor = equivalent thrust

