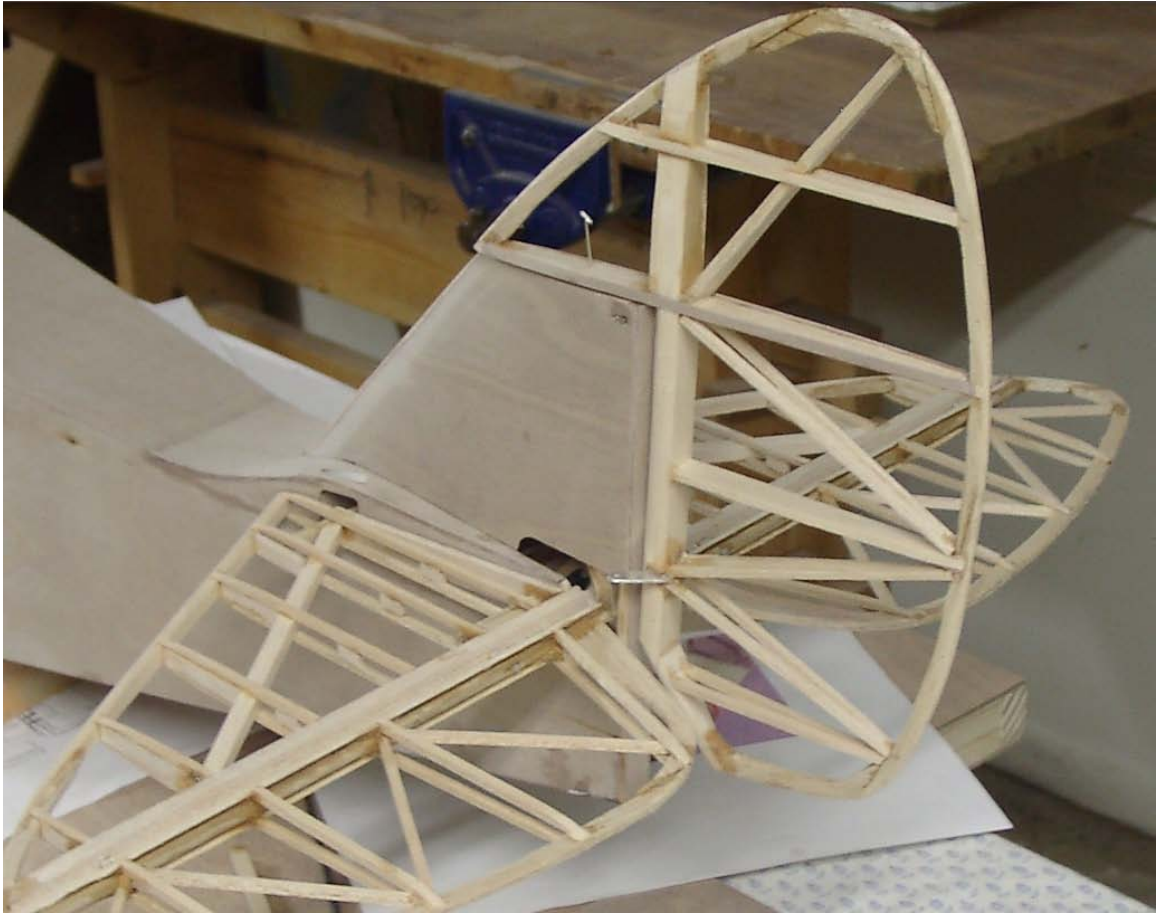


Notice that the elevator horn is made with a hard wood middle spacer and laminating ply sides connecting to the dowel elevator spar. This dowel has a “vee” of balsa for a L.E. The middle spacer then gets a metal ball-end screwed into the top for the control rod connection.





The elevator horn and connection is then hidden inside the hollow vertical stab which is covered with 1/64 ply





Rudder horn made from 0.040" aluminum, attached to vertical post with mixture of wood flour and thin CA. Dust in the wood flour (fine saw dust), then add drops of thin CA.



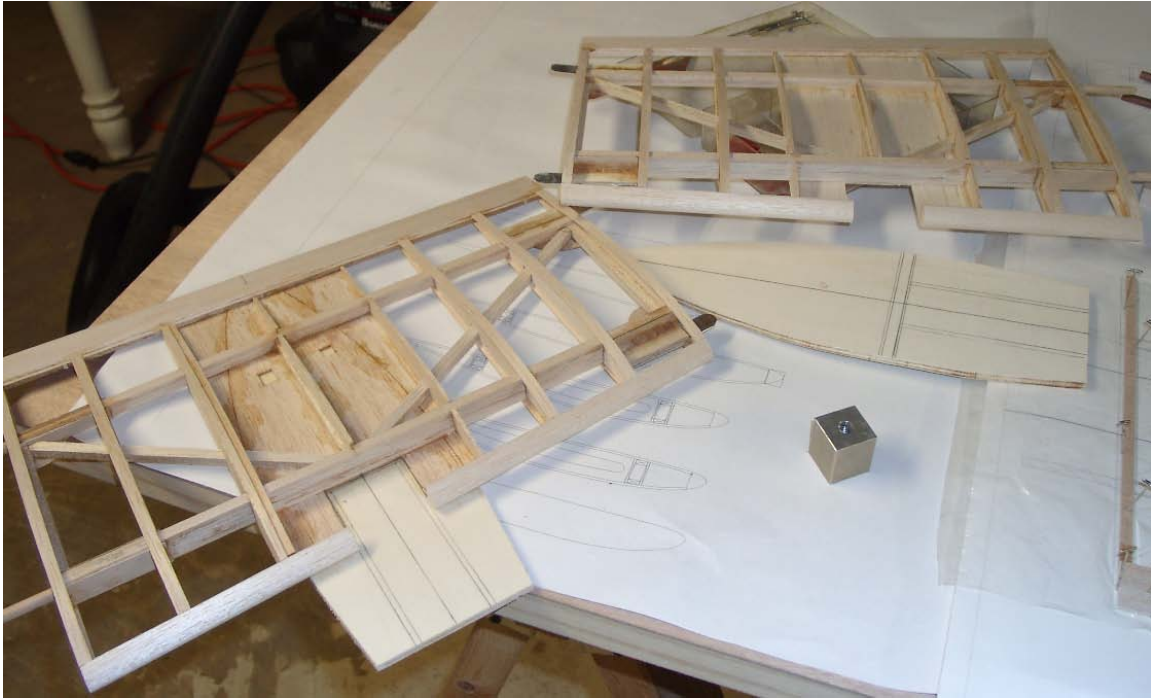
Beginning the inner wing panel by laying down the cap strips first, then gluing the spars and leading edge to them.



Add the bridging structure



Add ribs, and finish off with the top cap strips. The ribs need to have custom cut outs for the bridging structure



With the fuselage level, glue in the bottom inner wing panels using the dowel rods for alignment and attachment. This ties the wing with a shear path, but the struts and guy wires produce the rest of the load path, just like the real thing. If the wings don't line up with the drawn-on airfoils on the 1/64 ply, then adjust the fuse holes with a rat-tail file





Cotter pins are anchored in fuselage frames, attached to struts with #4-40 Allen-head screw and nut.

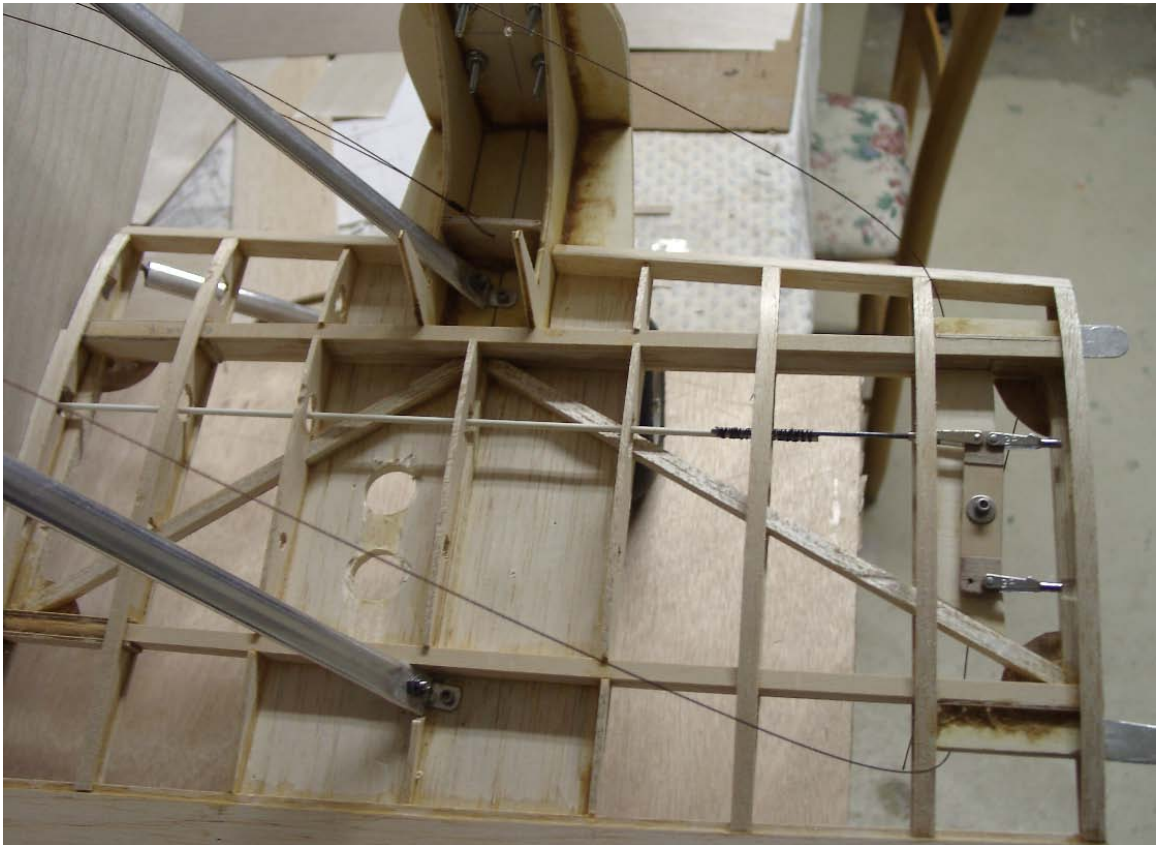
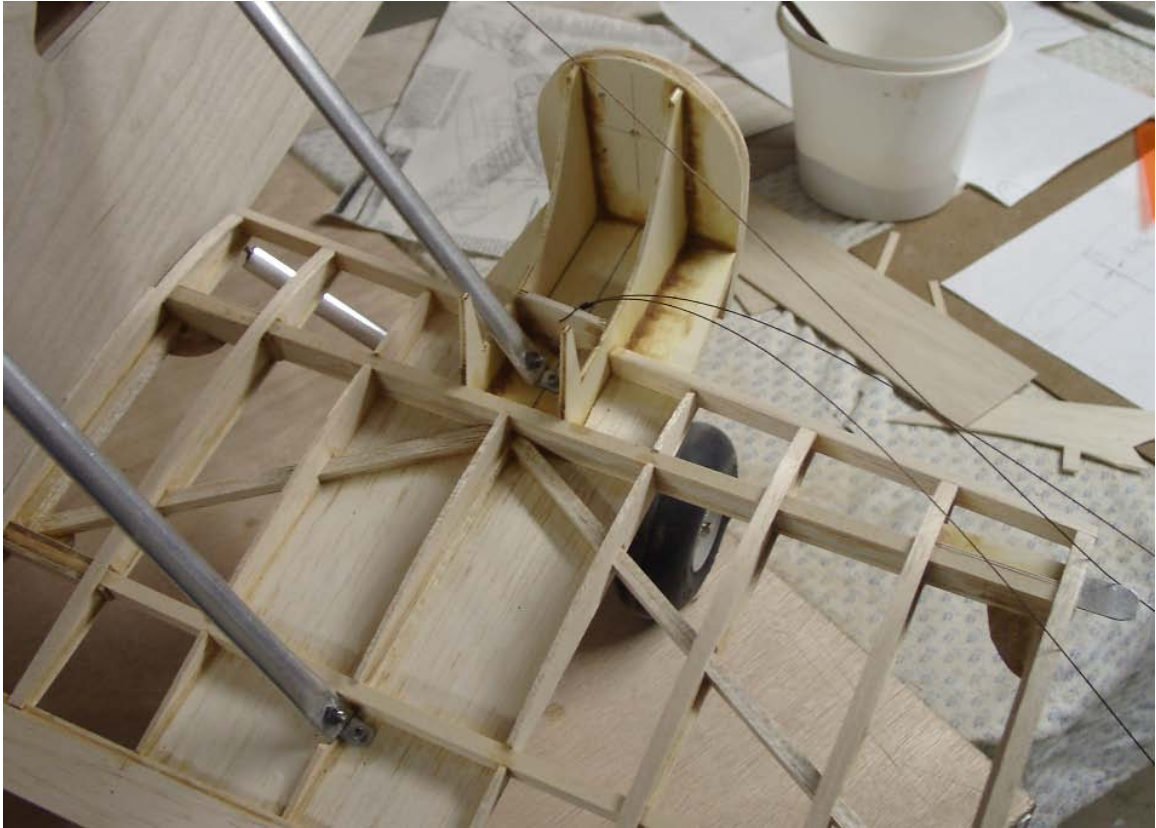


Attach nacelle end with bent aluminum tang, 4-40 screw and nut on bottom side





Wheel axle attached by threading/bonding inside a tight aluminum tube. That tube in turn is pressed into a hole in the square strut, and rotated around by hand until the aluminum tube galls into the aluminum of the square strut. This happens faster than you might expect (galling is welding of similar materials to each other by friction alone).







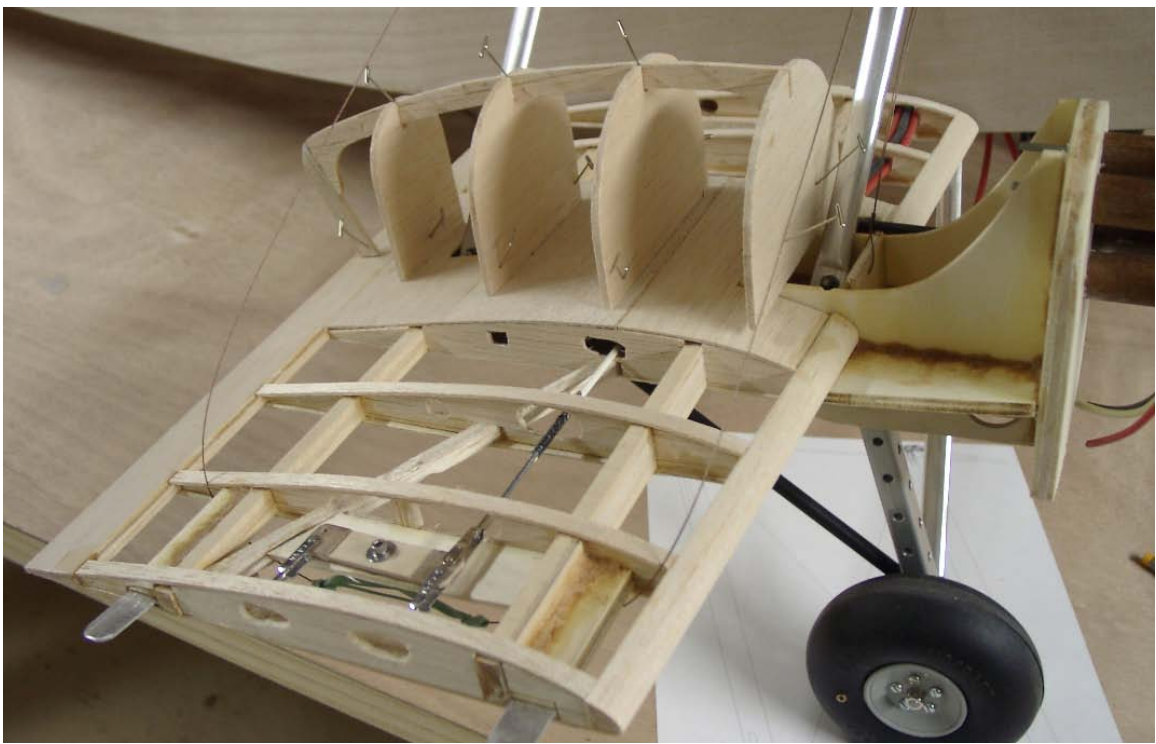
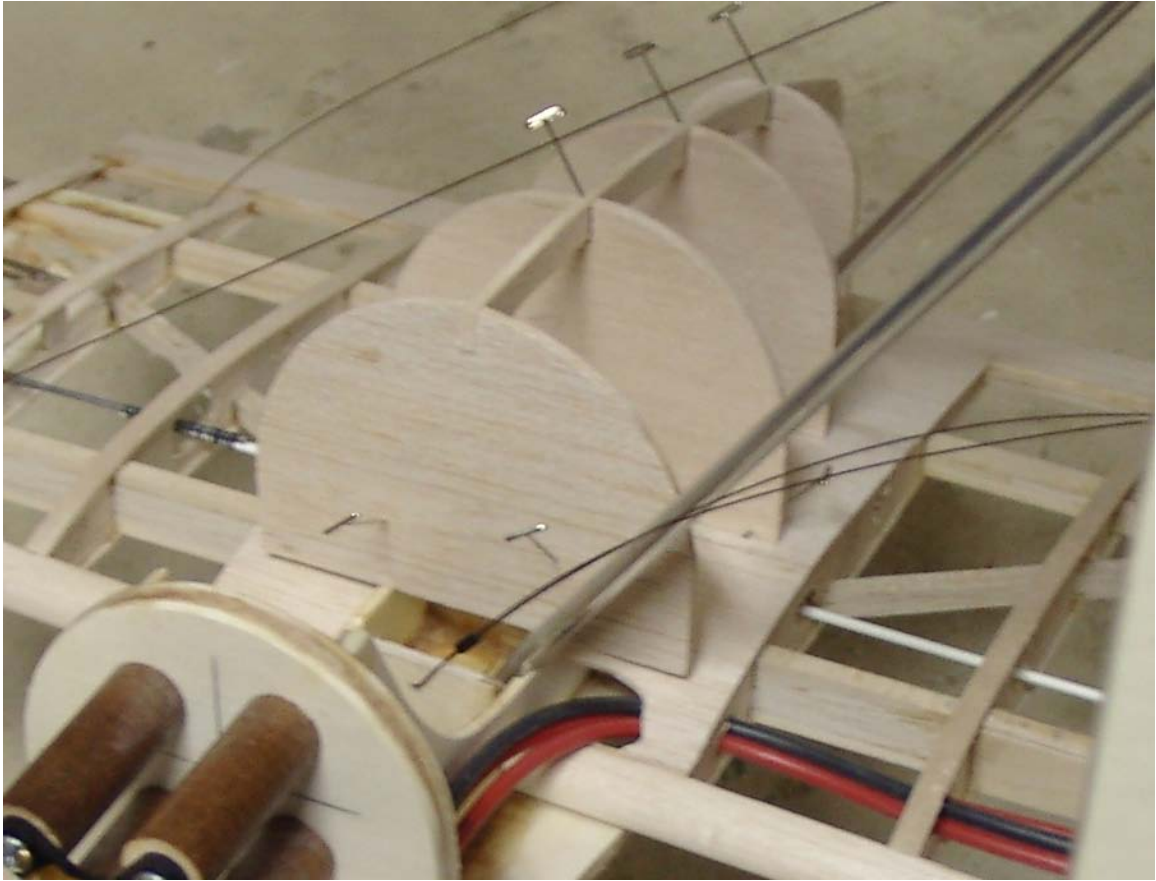
Fiberglass drag strut is anchored between a sandwich of lite ply with wood flour and thin CA.

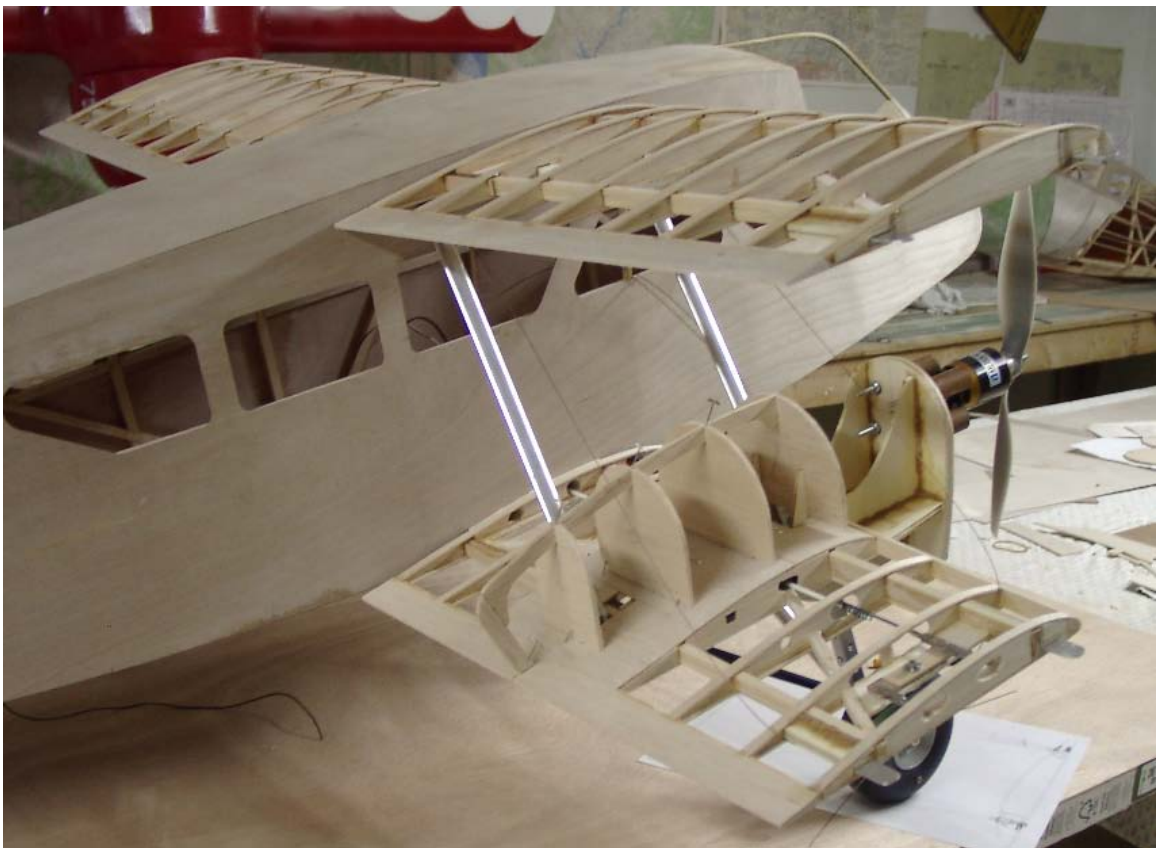
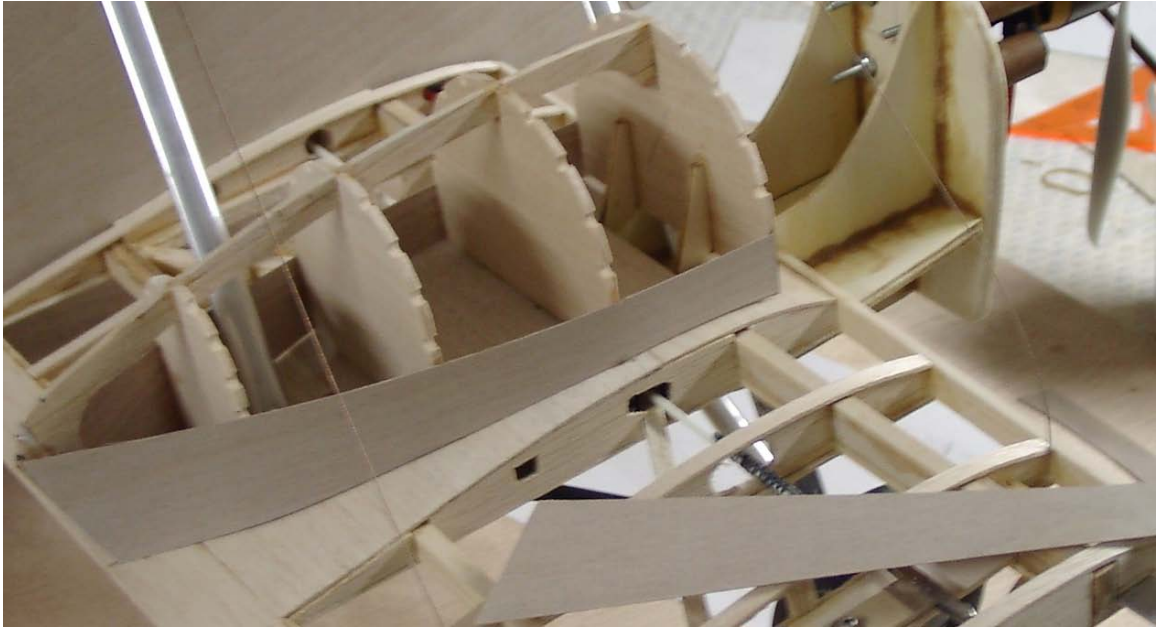


The lateral aluminum strut is made with an internal music wire that is folded into a long thin race-track (the break being in the middle), poking out a loop at either end. It is then anchored inside the aluminum strut with wood flour and thin CA.



You can see the loop protrude out the top end of the lateral strut. It is attached to the fuse which has a cotter pin loop poking out of the bottom corner, using a 4-40 screw and nut.







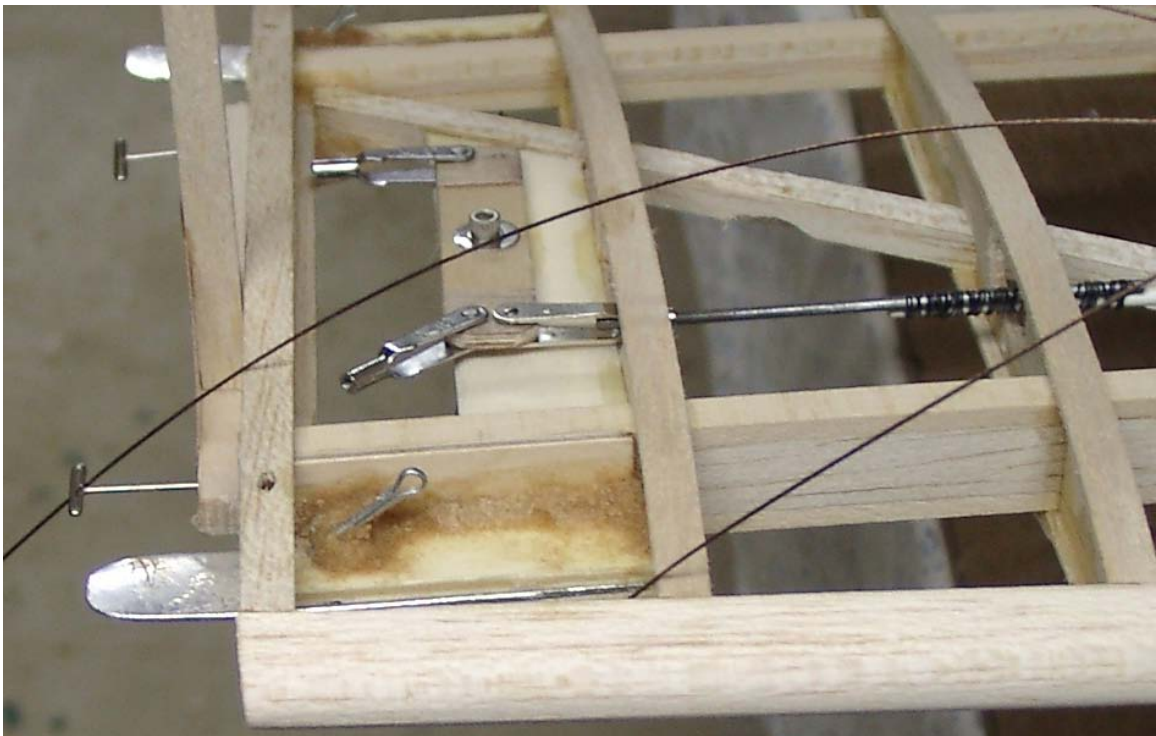
The tail wheel was made steerable, and has internal springs (instead of the usual external springs) because the actual tail wheel was locked or free (for hangar movement). This separate line attaches to the rudder line close to the servo. Notice the paper tube antenna wire guide made from rolled up paper.



Wind screen sides 1/8" inch round dowel soaked in water for ease of bending. Hole drilled into cockpit frame corner to support round dowel.

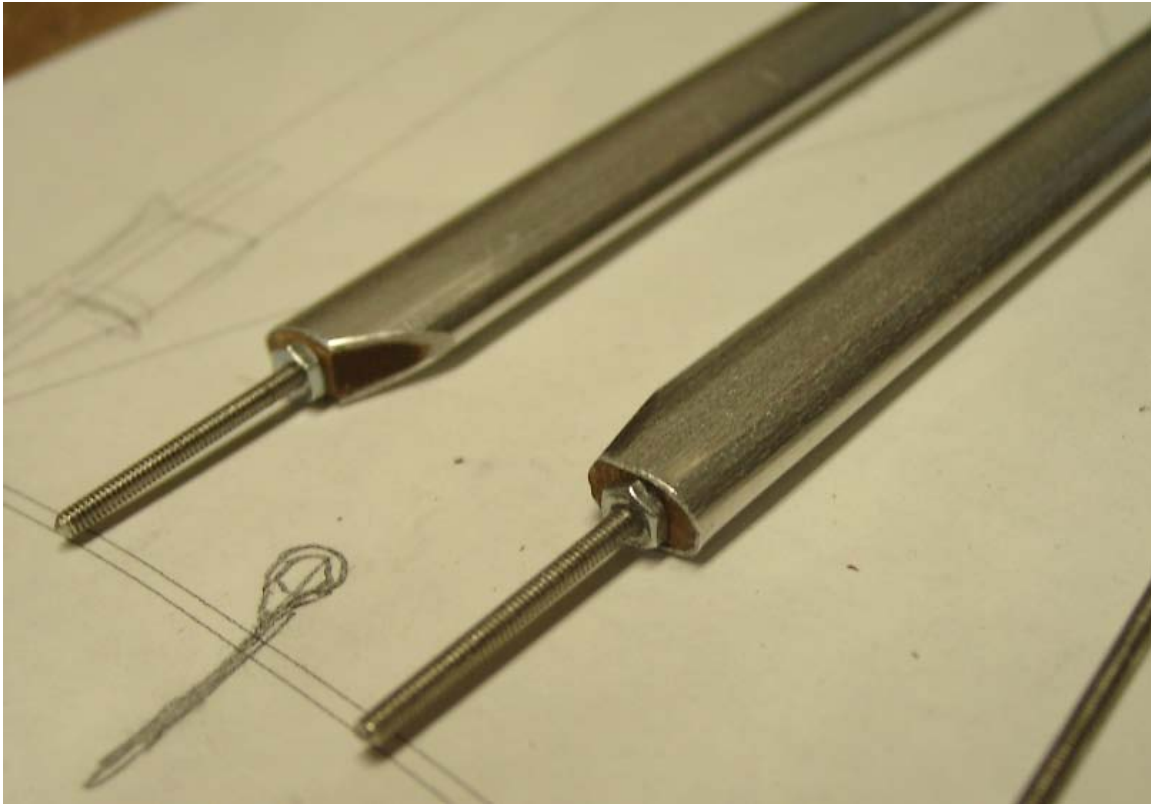


Aluminum tang joiner before match drilling. Notice how it has been anchored both by adhesive and a 0.062" pin.



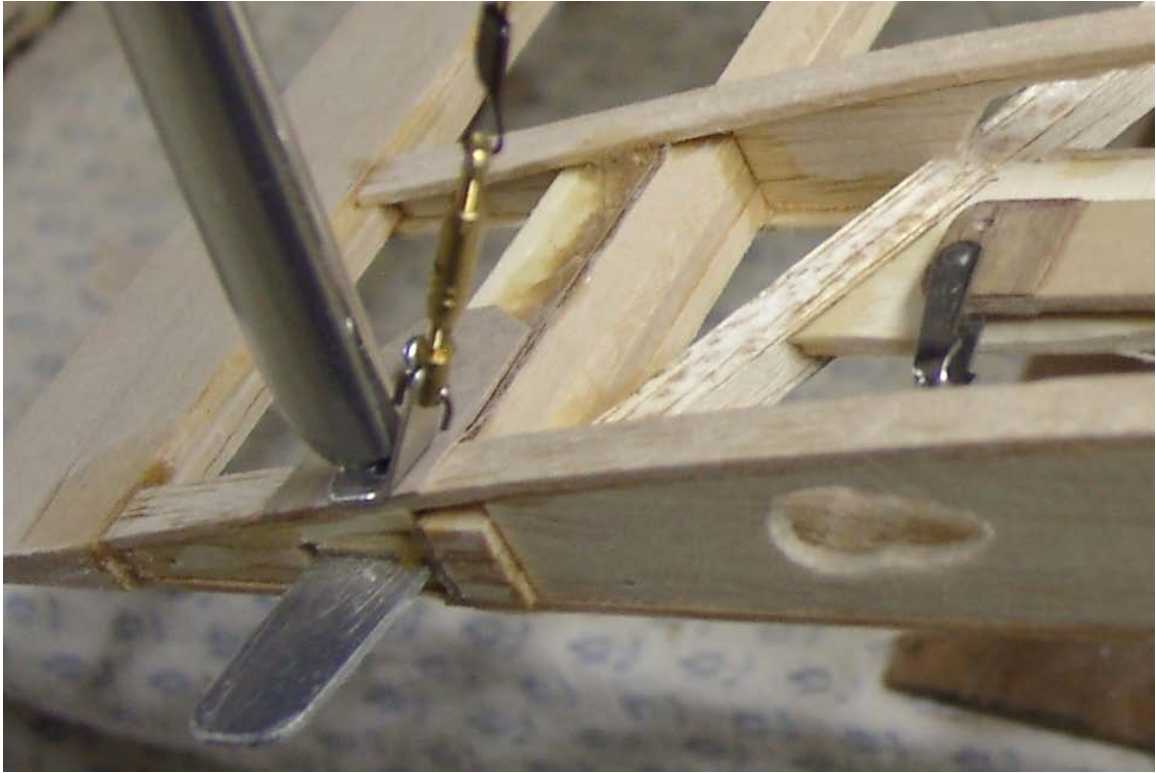
Cotter pin drilled and anchored to ply/aluminum sandwich wing joiner. Adhesive potting is made by dusting in wood flour (fine saw dust), then adding

thin CA. Watch out; the reaction is fast with profuse CA smoke, but the result is fast and as hard as a rock (better than epoxy).



4-40 threaded rod anchored in strut ends with hardwood plugs CA'ed.





Bottom strut attach. Drill hole thru aluminum tang and nut from bottom side.









Outer wing panel bridge frame. Notice space for aileron.



Plane suspended by 2-point sling. Removable cowling in the making.



Cowl has thick front plate, but sides are merely 1/16 balsa soaked and wrapped around the internal formers. Apply light fiberglass to inside to stabilize.

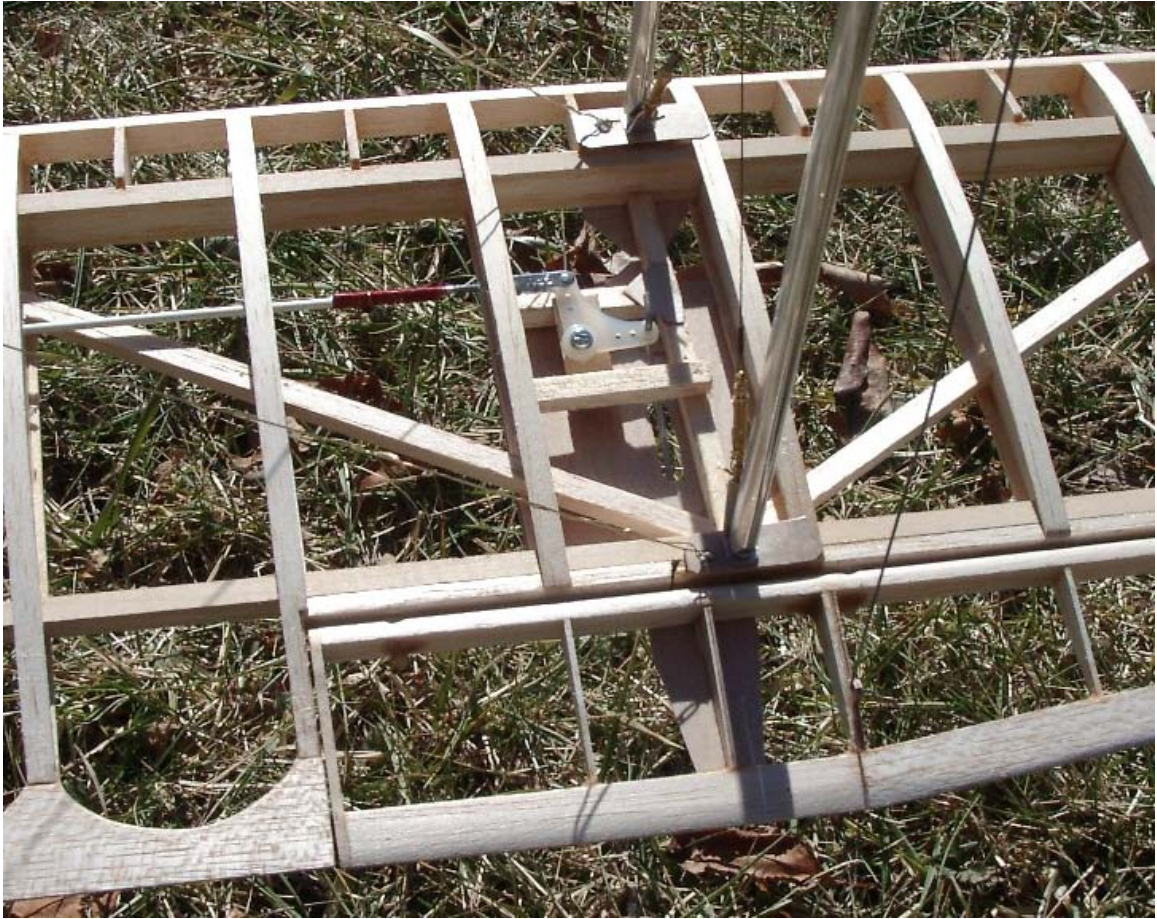


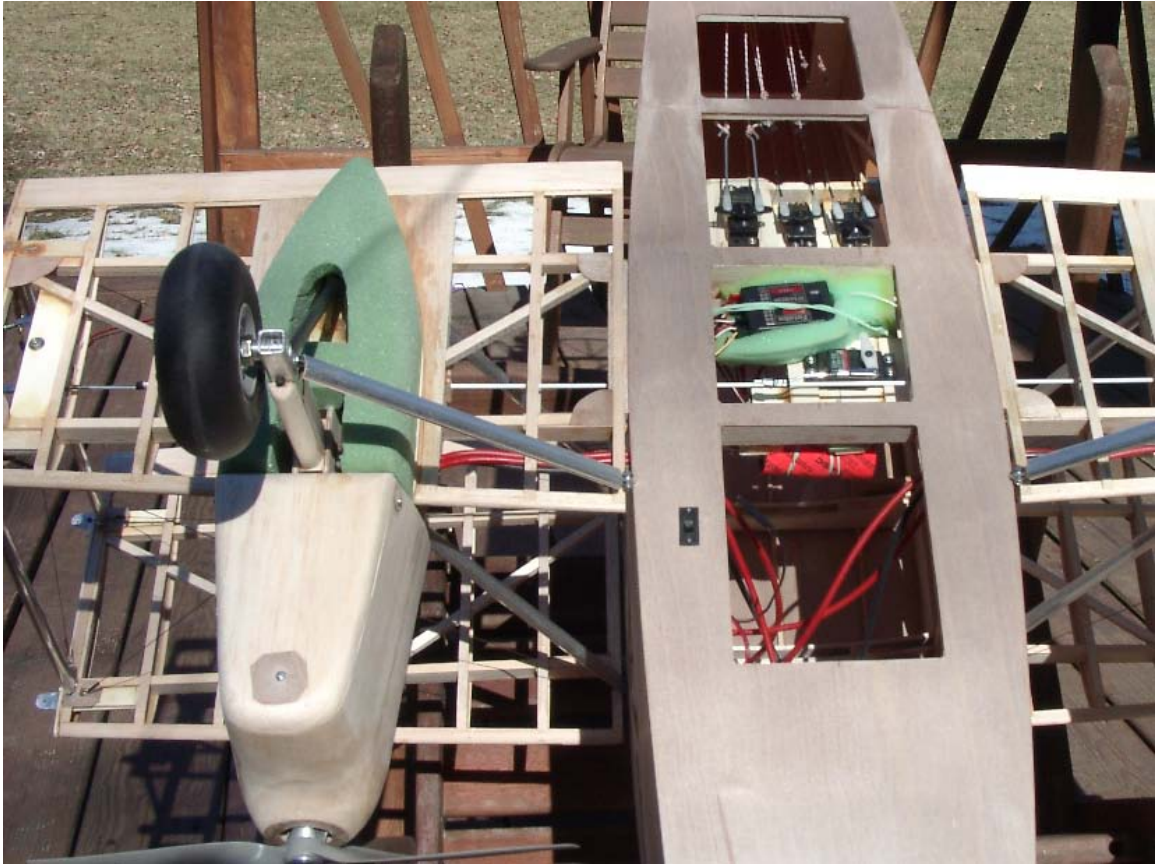


Notice the 2 connector shear pins, with holes matched drilled after wing alignment is verified. Don't drill the 0.062" holes (for the 0.062" pins) until you are dead certain the outer wing panels are where they are supposed to be!!! Starting with the top wing, drill one hole, insert a 0.062 pin, verify alignment, then drill the 2nd hole and insert the pin. Use a straight piece of pine to brace the wing panel to insure it is following the L.E. line of the inboard panel. This assumes you went to some pains to insure the inboard panels were correctly aligned before they were glued to the fuselage.

Move to the bottom wing and repeat. You can drill up from the bottom. I had to add a rib-shaped wedge to the bottom wing inner/outer interface to line up the bottom wing line with the top wing line. This is due to the funky geometry of having the upper wing a consistent dihedral, but the bottom has a dihedral change outboard of the nacelles.

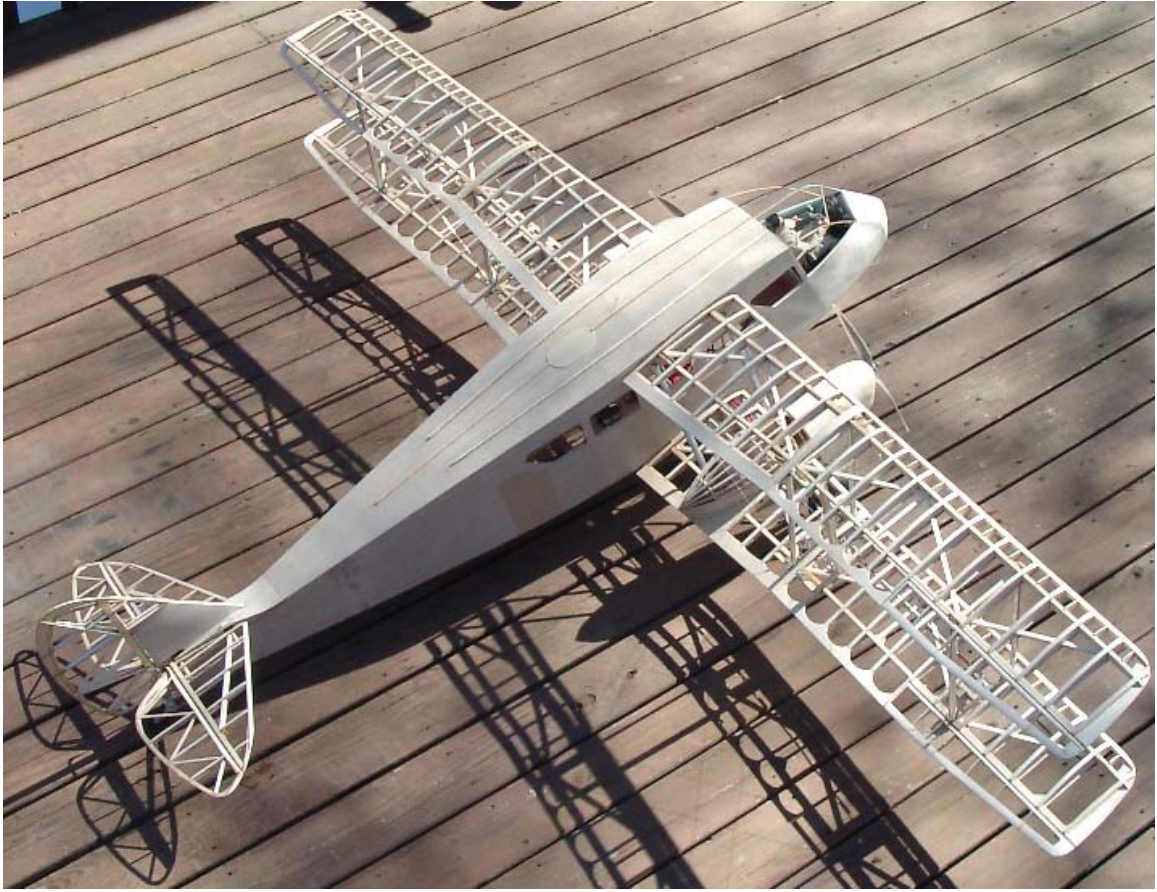


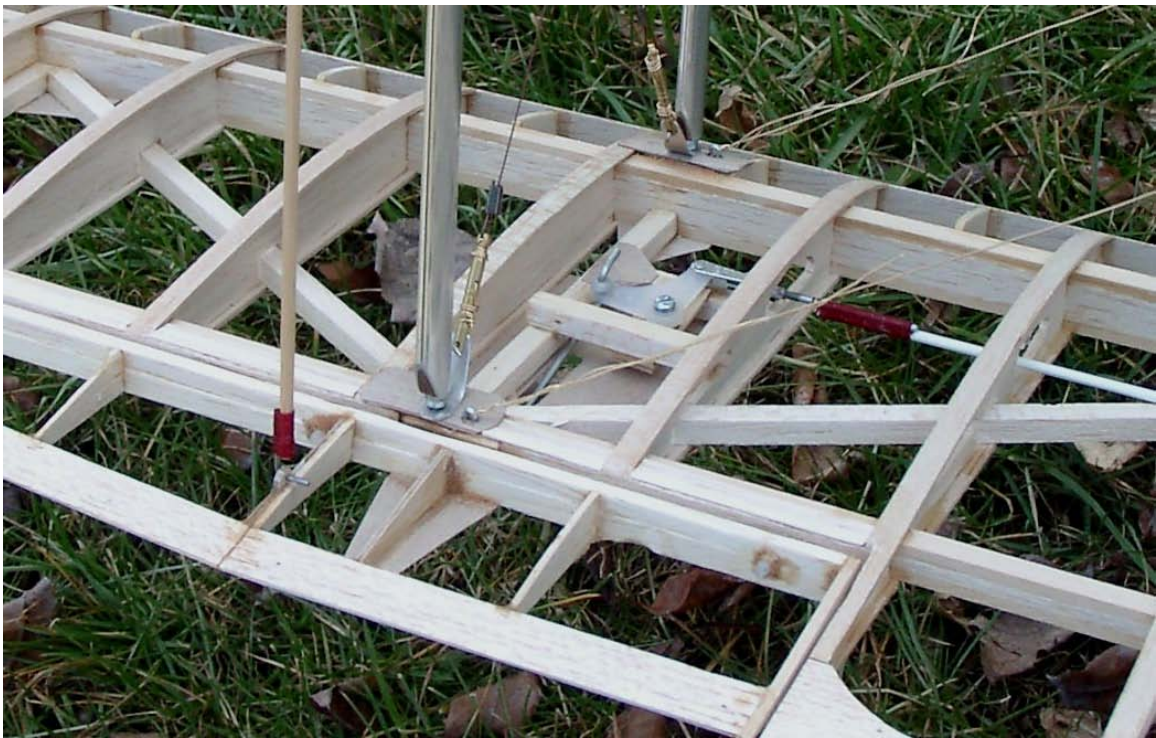


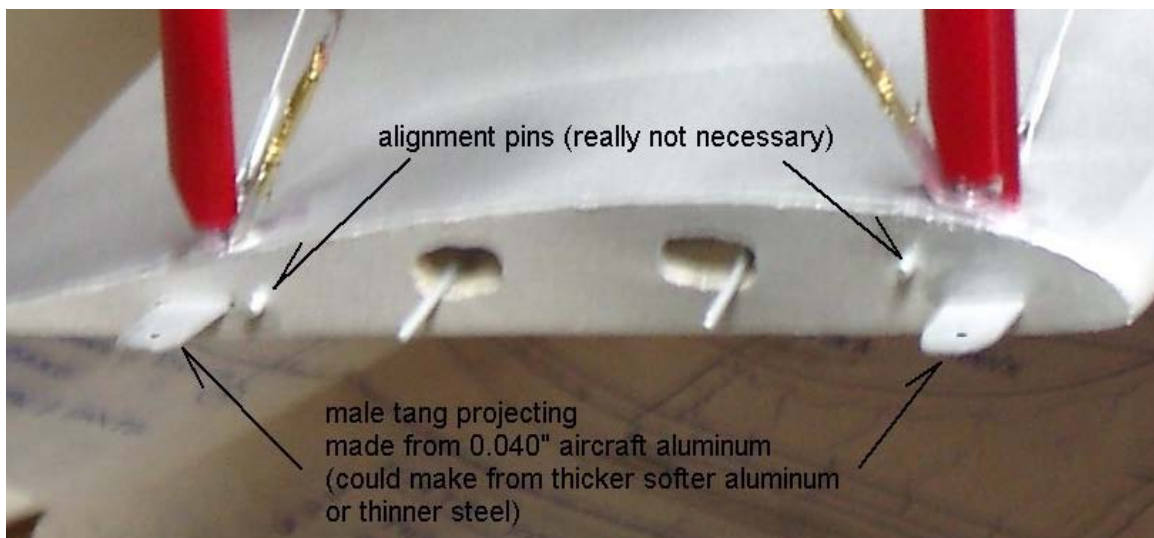
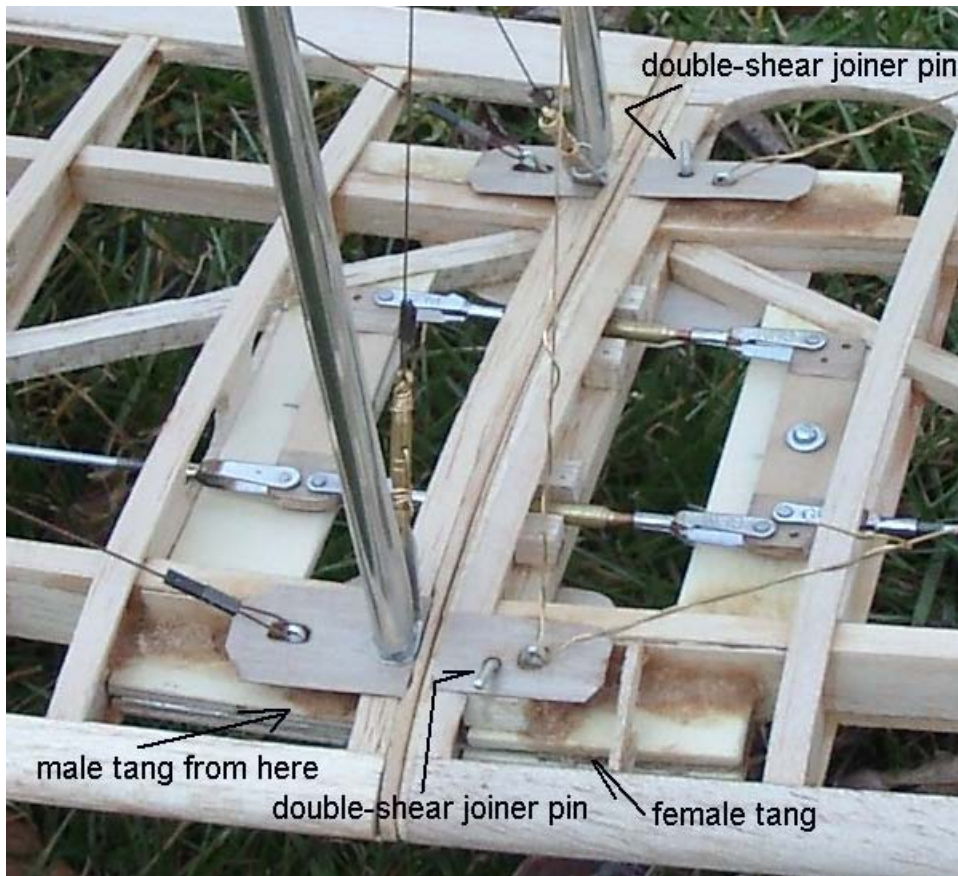




Notice the twin line support.









Glassing is glued onto the inner cockpit frame, then an outer aluminum frame is glued over the glassing edges/corners.



