




**Kit No. CBMD-004**

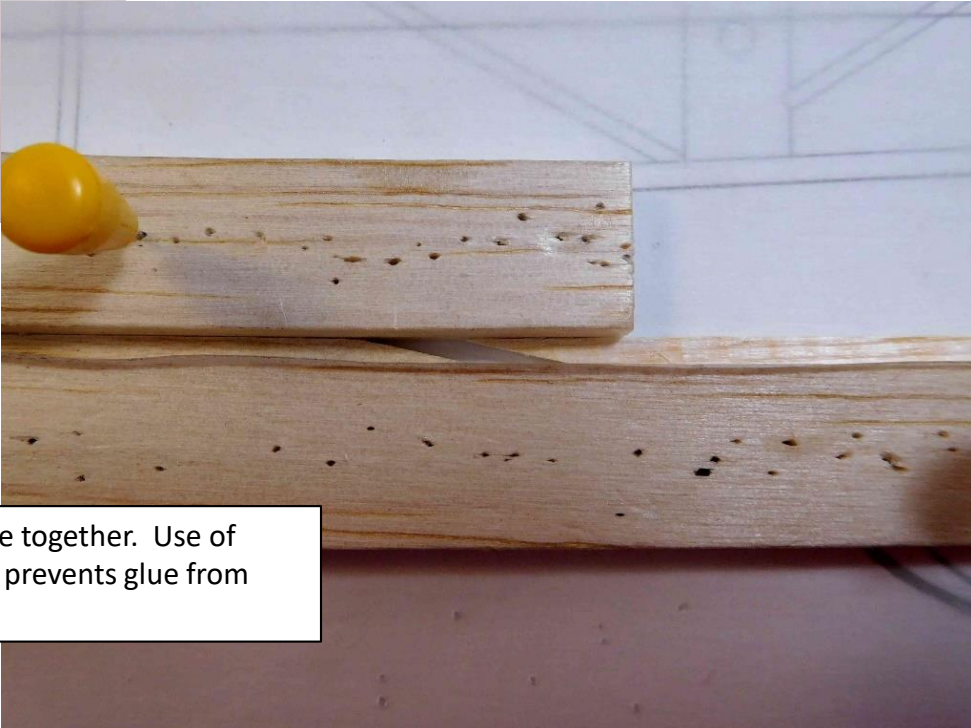
**Construction Detail  
Part 2 of 3**

**CB Model Designs**

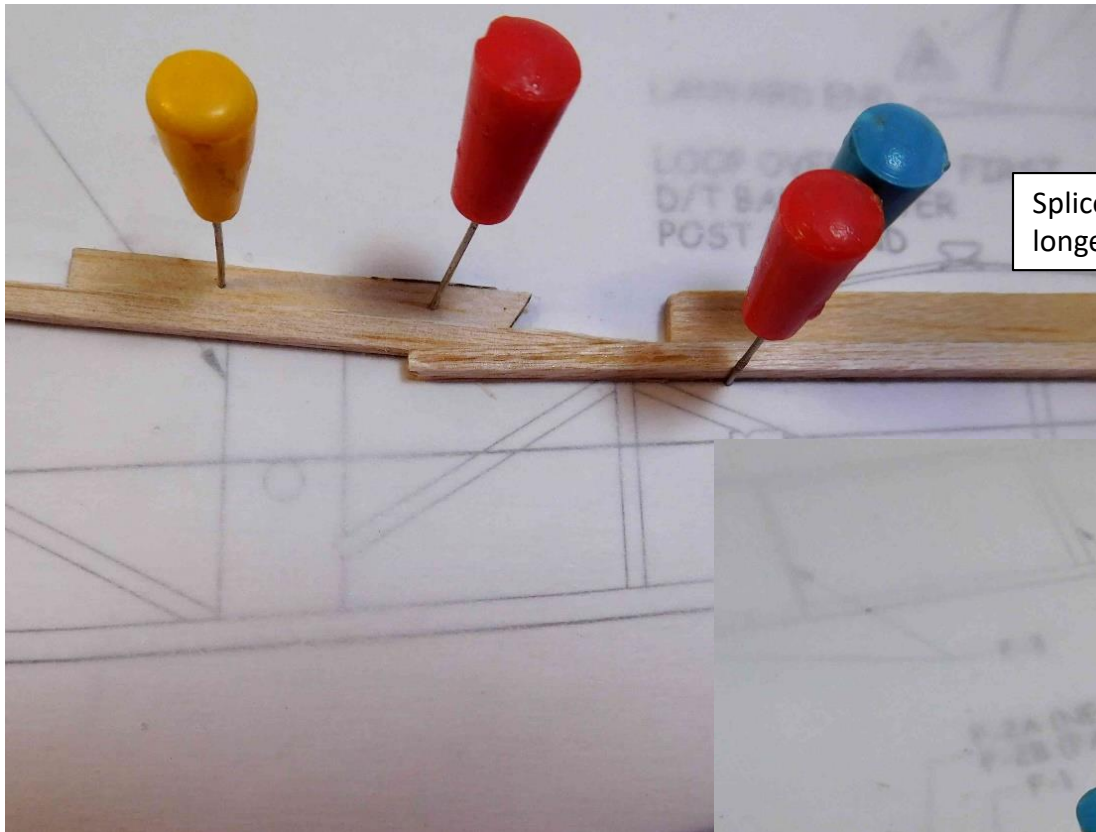
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Make four longerons from the stock provided in the kit. Use the four hard balsa sticks for the forward portion of each longeron. Aft of the rear motor peg hole lighter density sticks can be spliced on to carry through the length required to meet the tail post area.

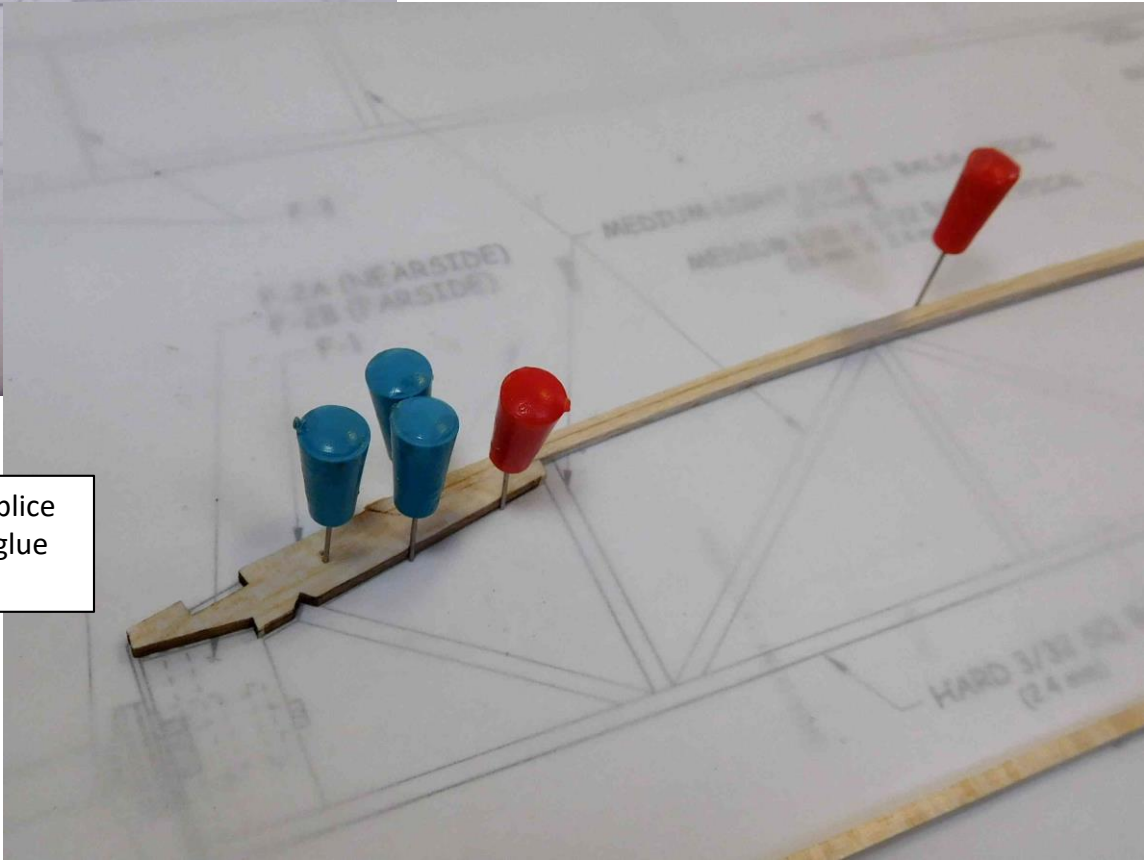


Trap the scarf joint ends between scrap stock to glue together. Use of clear packing tape on the surface of the scrap stock prevents glue from sticking to anything but the splice area.



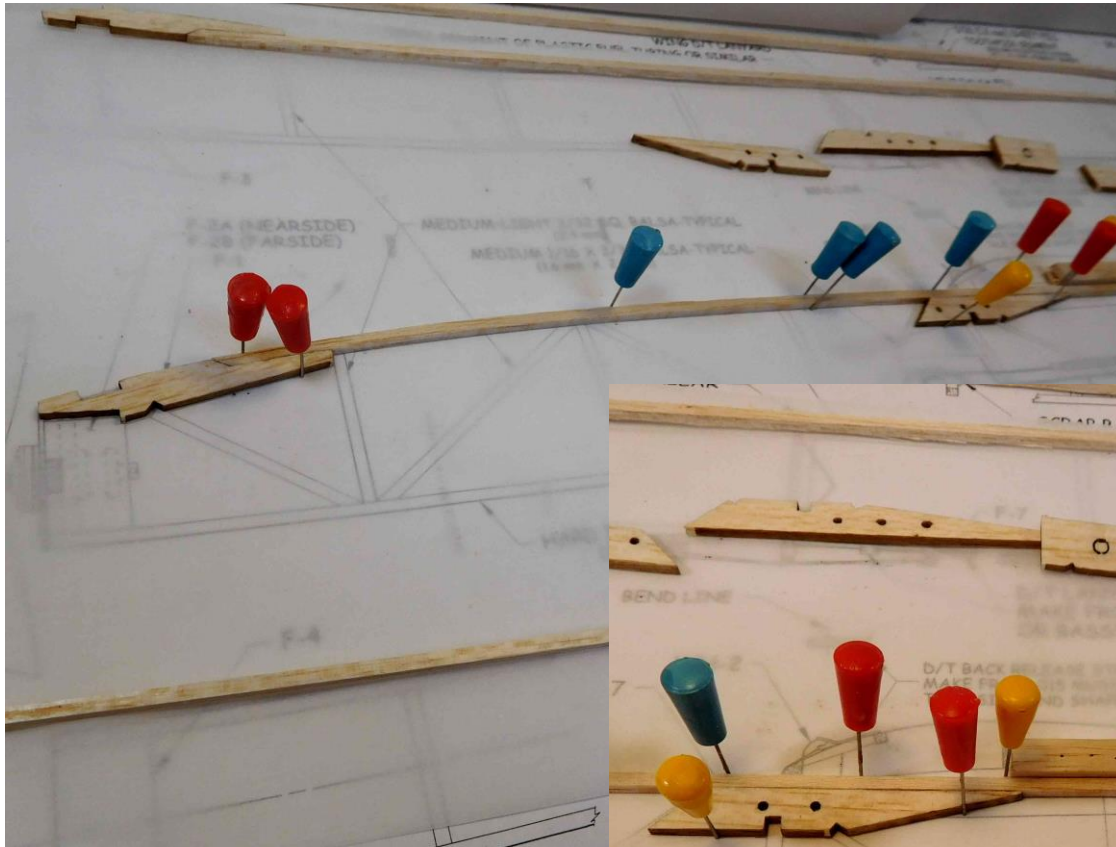
Splice the upper longeron with the stab mount area longeron.

With the longeron pinned to the plan profile, splice the end to fit into the notch in F-1 former and glue together.

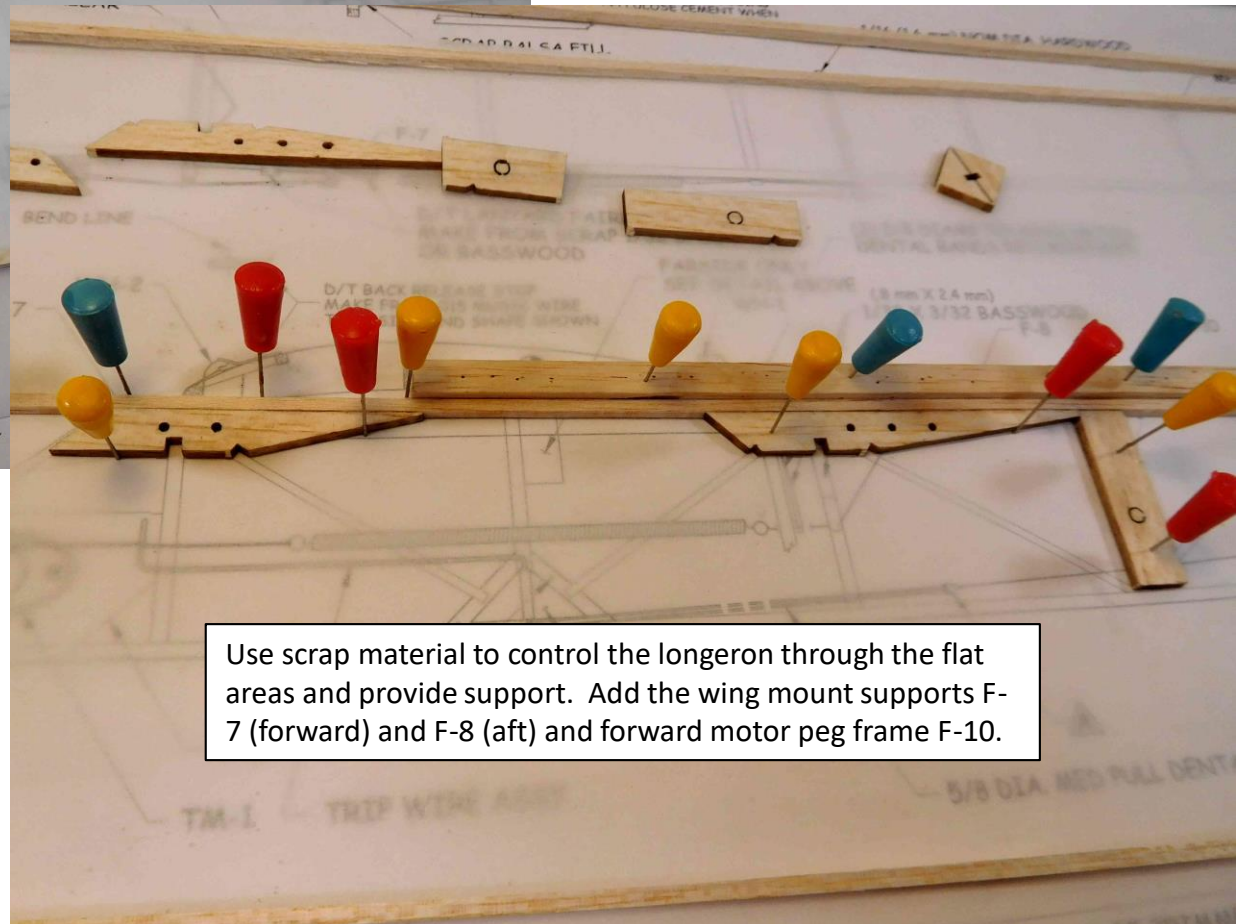


Overall view of an upper longeron assembly.

Finished longeron assemblies—two upper and two completely straight lower ones.

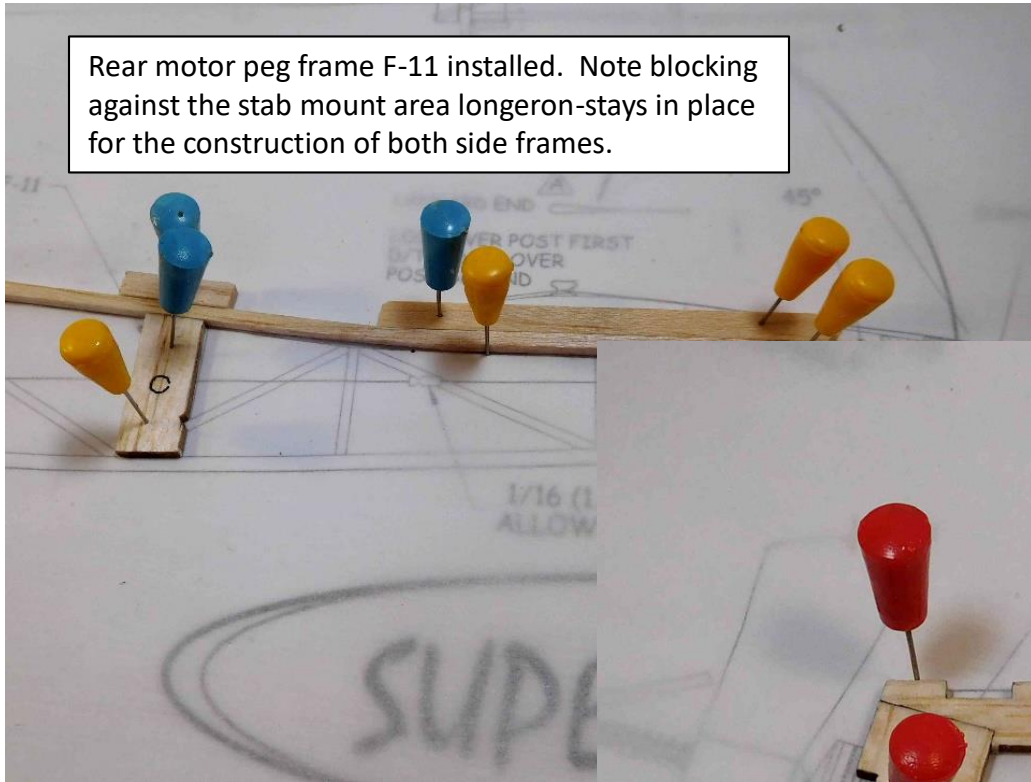


Left side fuselage frame assembly starts with the upper longeron relocated against the plan.

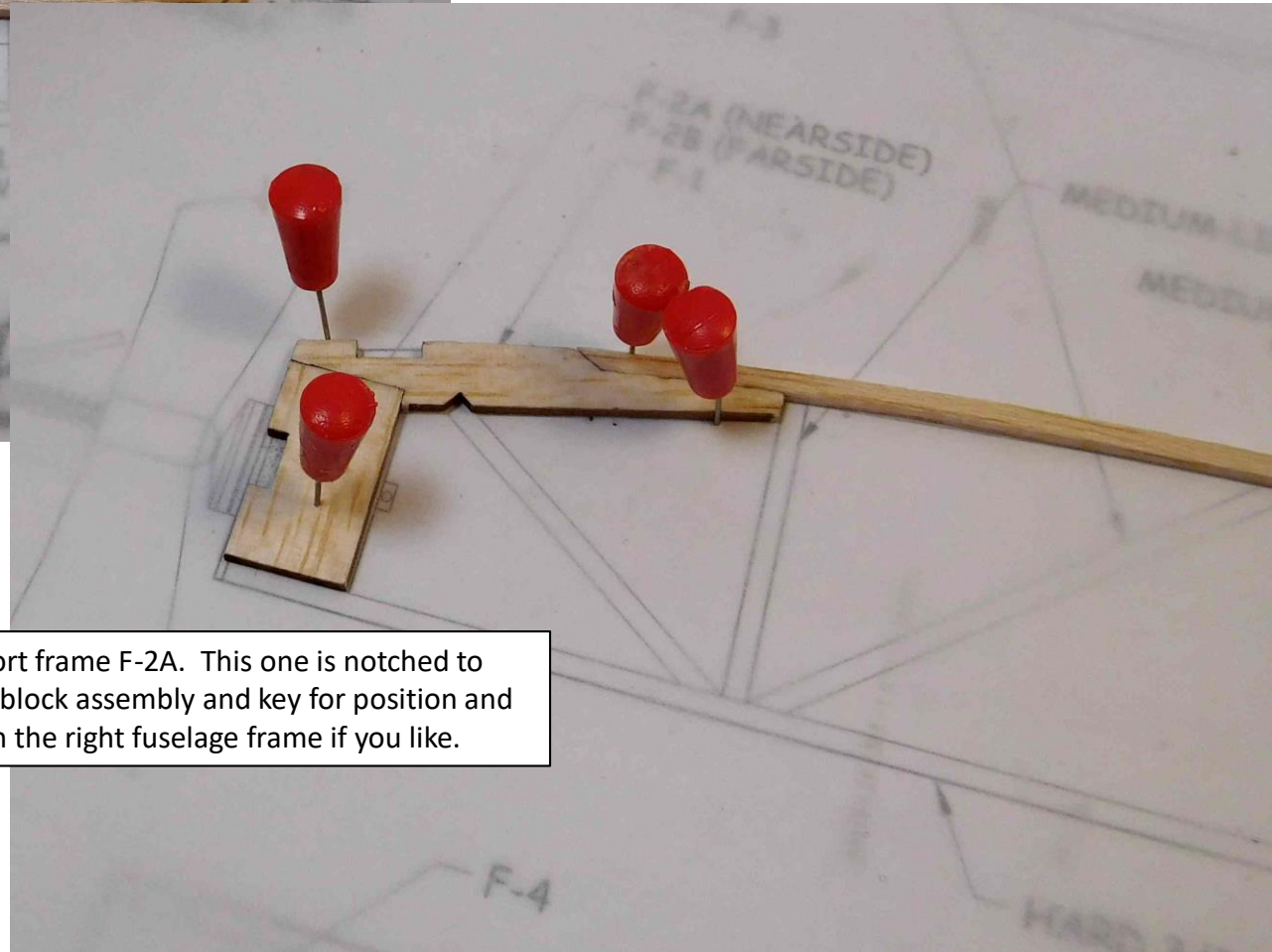


Use scrap material to control the longeron through the flat areas and provide support. Add the wing mount supports F-7 (forward) and F-8 (aft) and forward motor peg frame F-10.

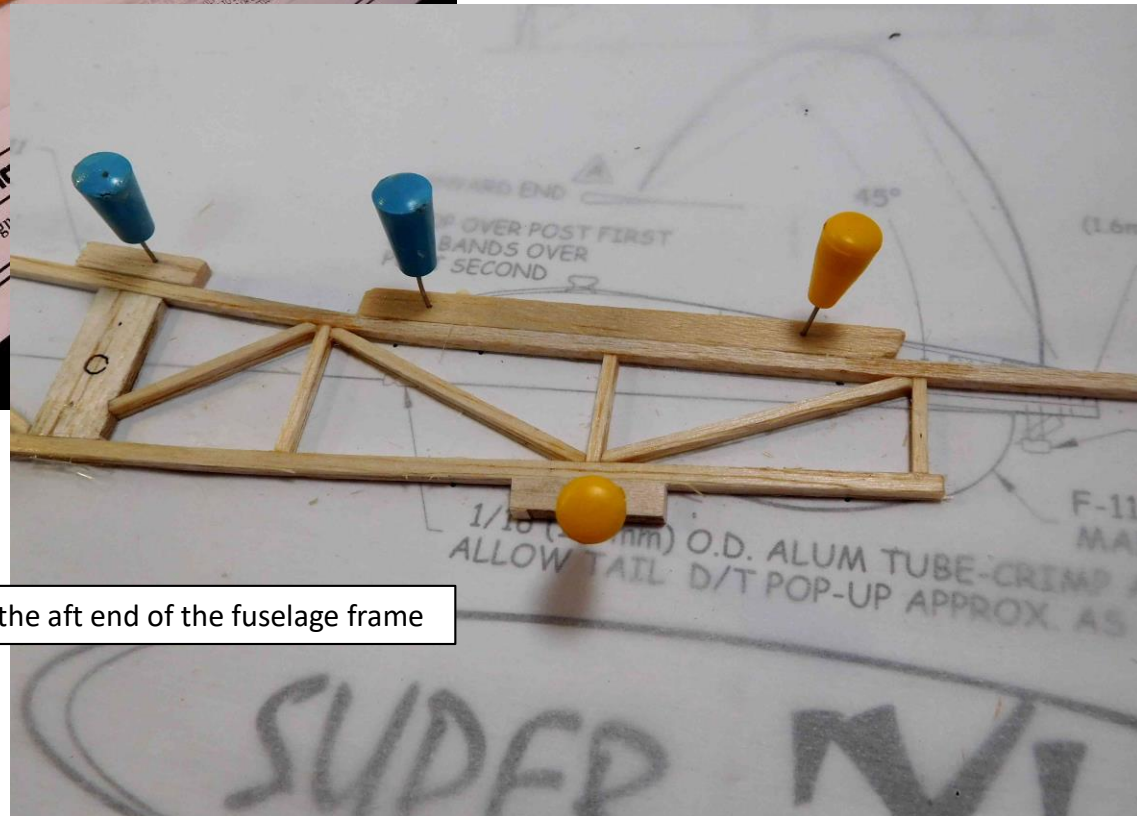
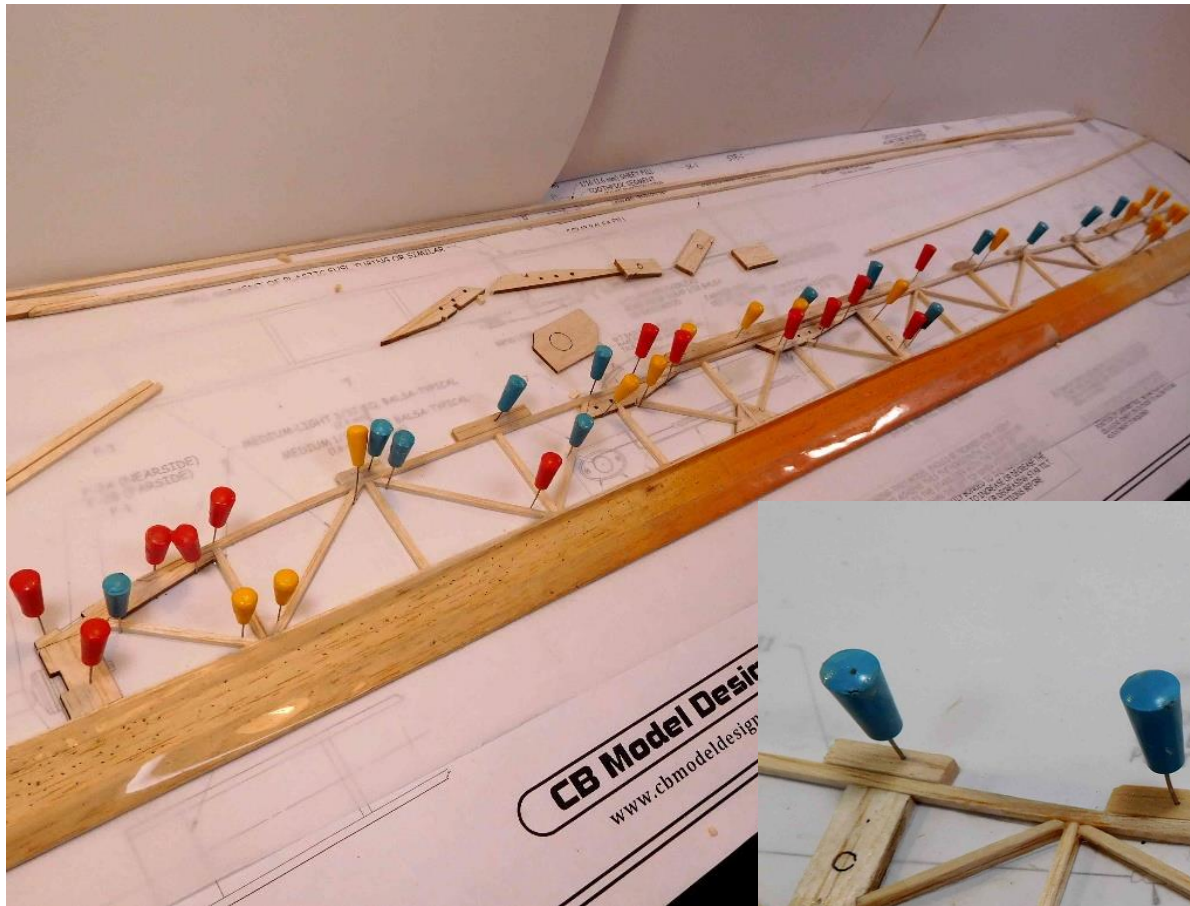
Rear motor peg frame F-11 installed. Note blocking against the stab mount area longeron-stays in place for the construction of both side frames.



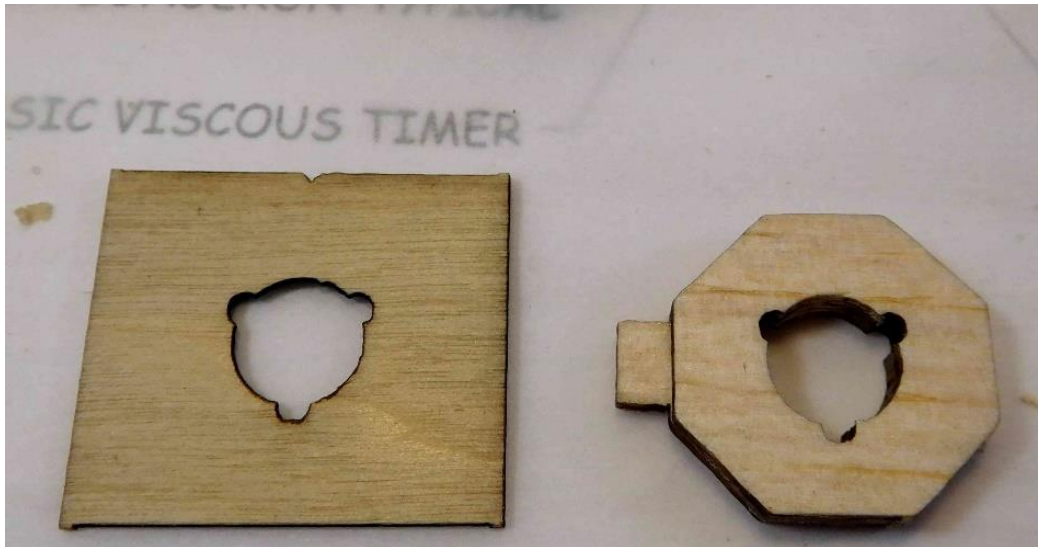
Install the nose block support frame F-2A. This one is notched to accept the tab on the nose block assembly and key for position and anti rotation. It could be on the right fuselage frame if you like.



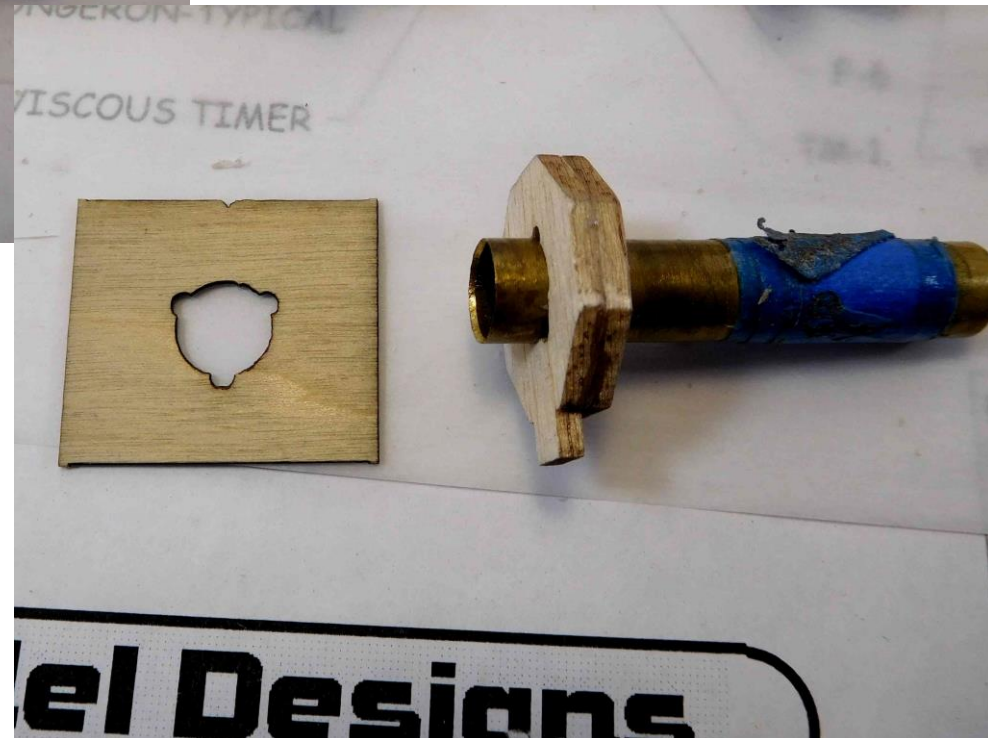
Left side frame assembly complete. Use the harder balsa strip for diagonals and uprights in the construction forward of the aft motor peg and lighter stock aft of it. The orange strip is providing backup support of the lower longeron against the ends of the upright stick members.



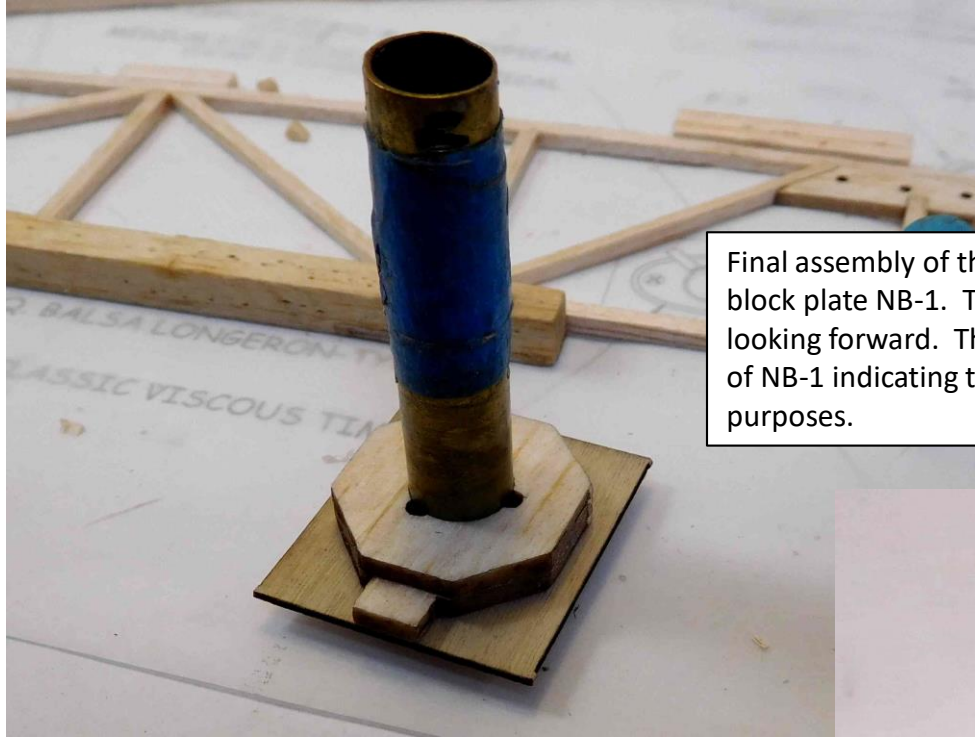
Some detail of the aft end of the fuselage frame



Assemble the nose block while the side frame glue is drying. Assemble the two balsa plates NB-2 & -3 . Use a 3/8" diameter dowel or tube to provide alignment of the parts through the prop bearing holes.

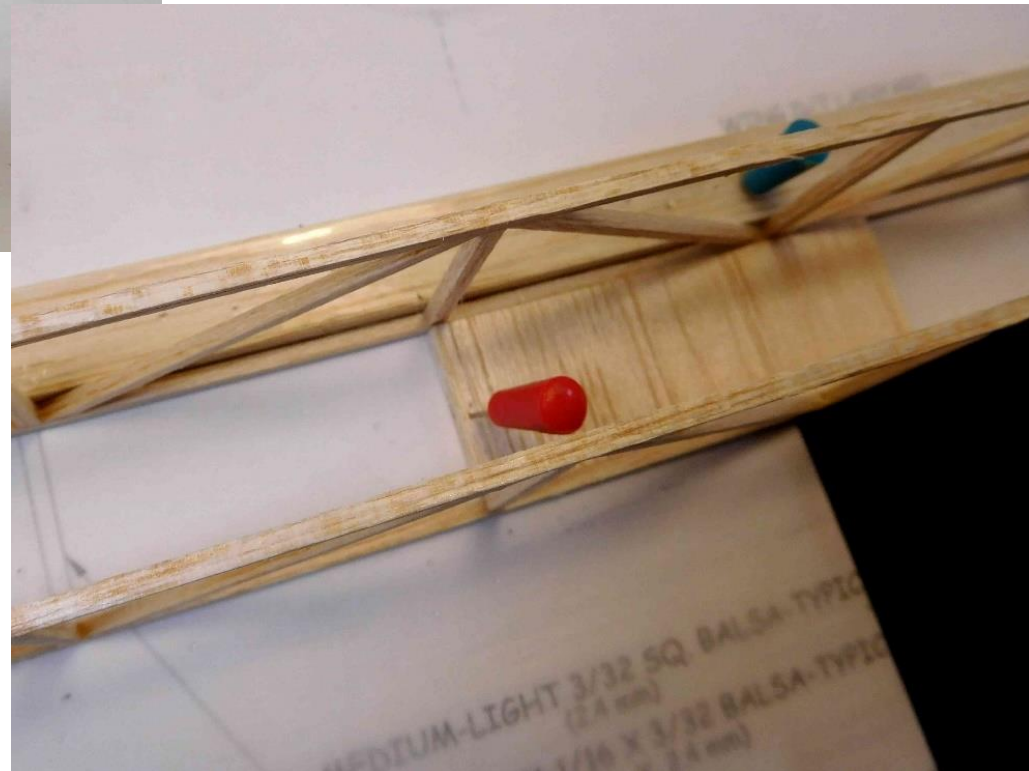


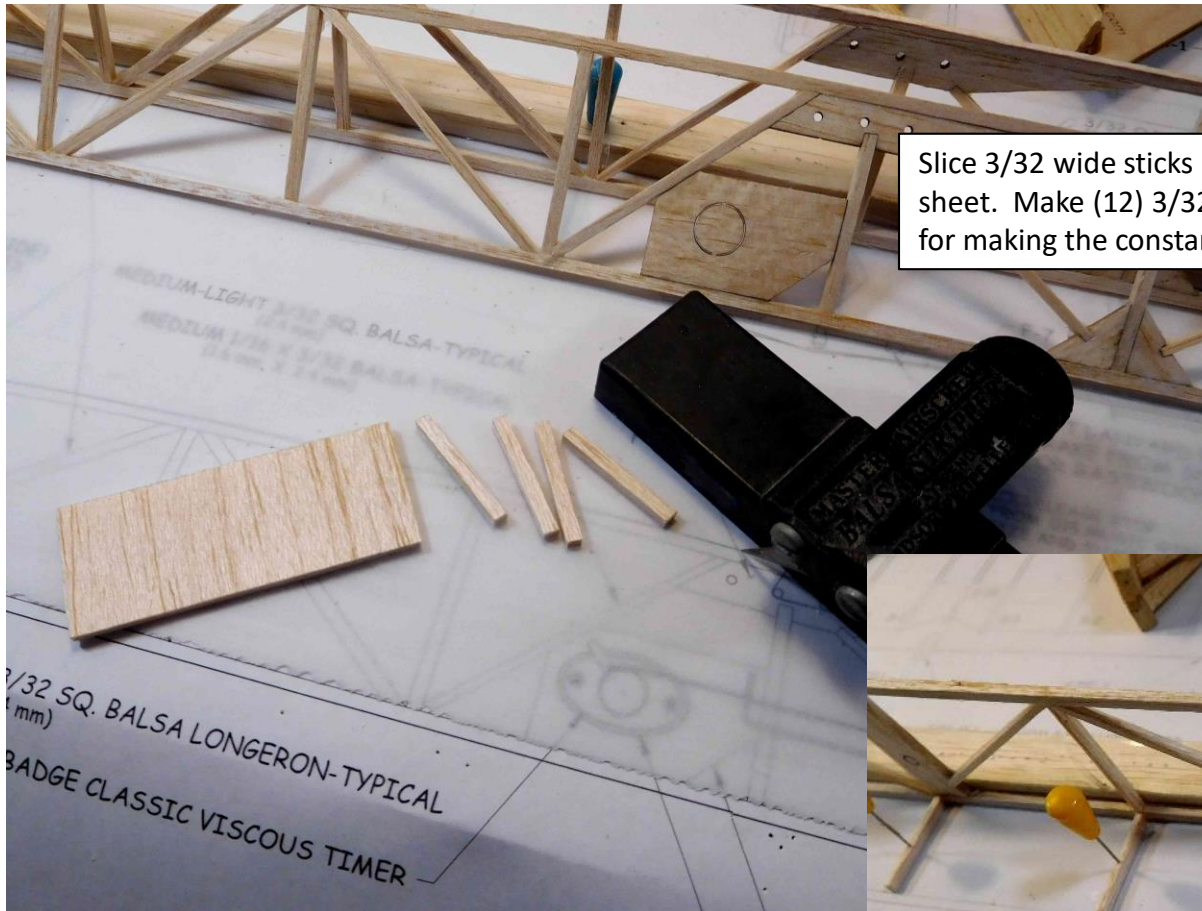




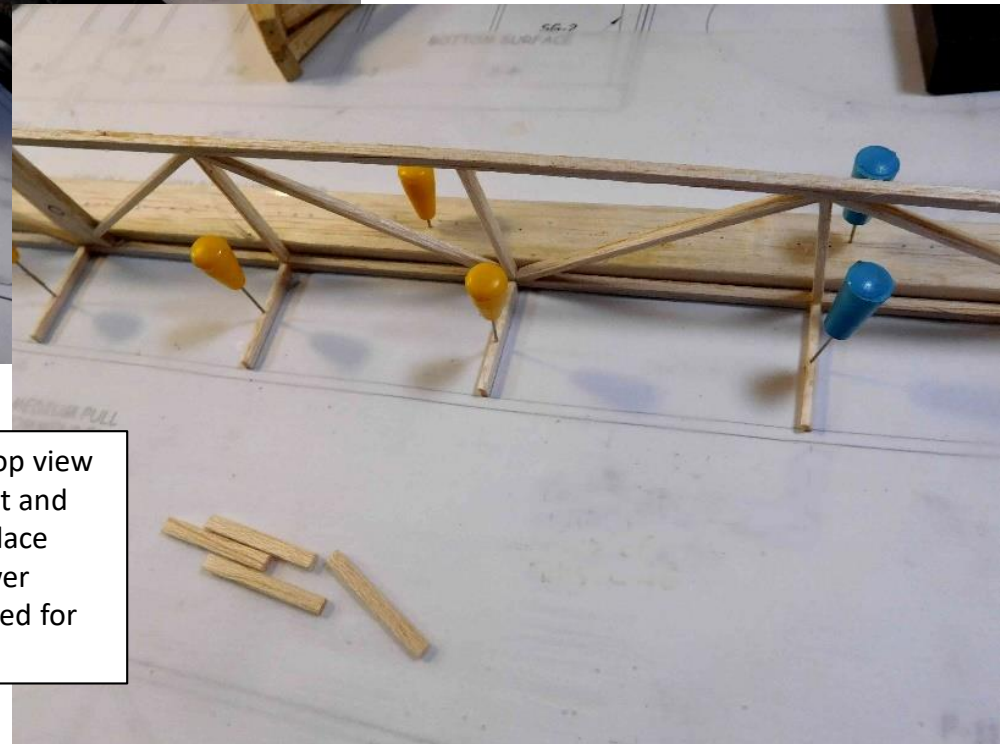
Final assembly of the balsa plates to the plywood nose block plate NB-1. Tab is on the left side of the airplane, looking forward. There is a small notch in the top edge of NB-1 indicating the upper edge for orientation purposes.

Use the scrap end of the 3/32 laser part sheet and make a segment that matches the width of F-4. This section of stock will be used to slice 3/32 wide segments for use in joining the fuselage halves.

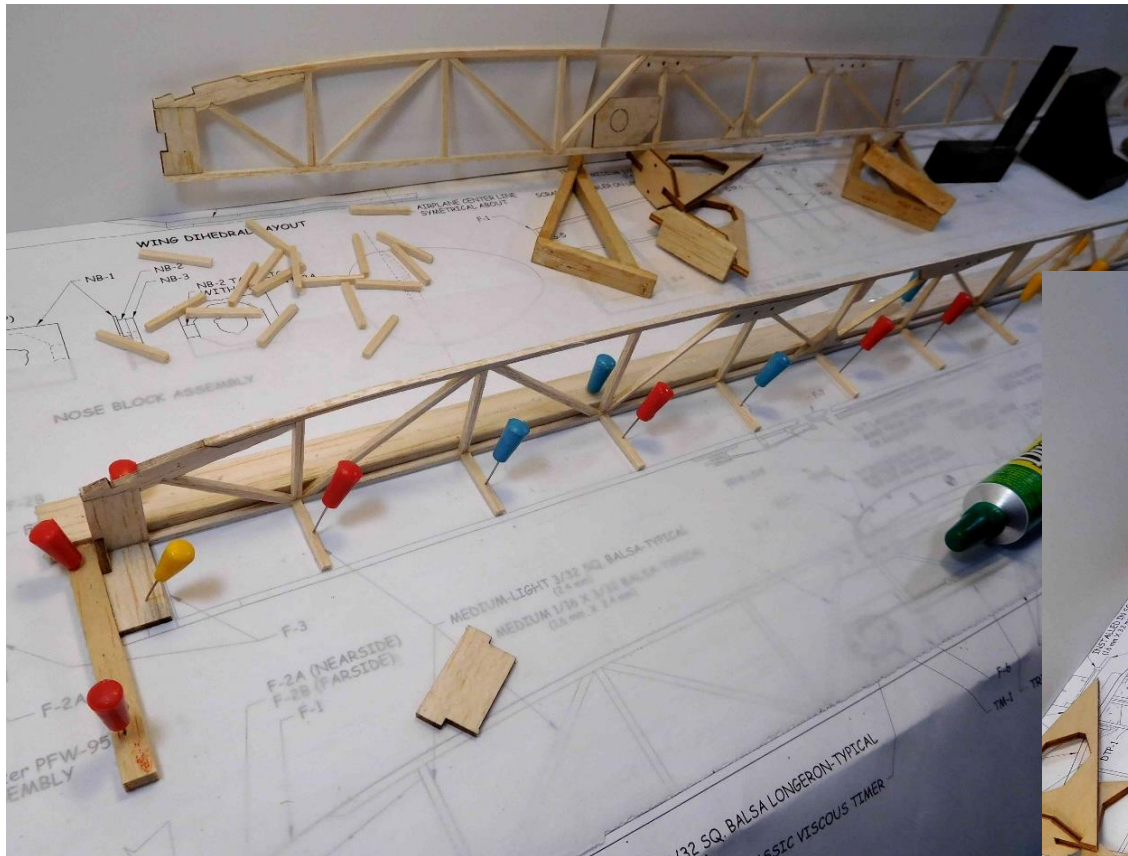




Slice 3/32 wide sticks off the fuselage cross member stock sheet. Make (12) 3/32 square and (8) 1/16 x 3/32 to use for making the constant width section of the fuselage.



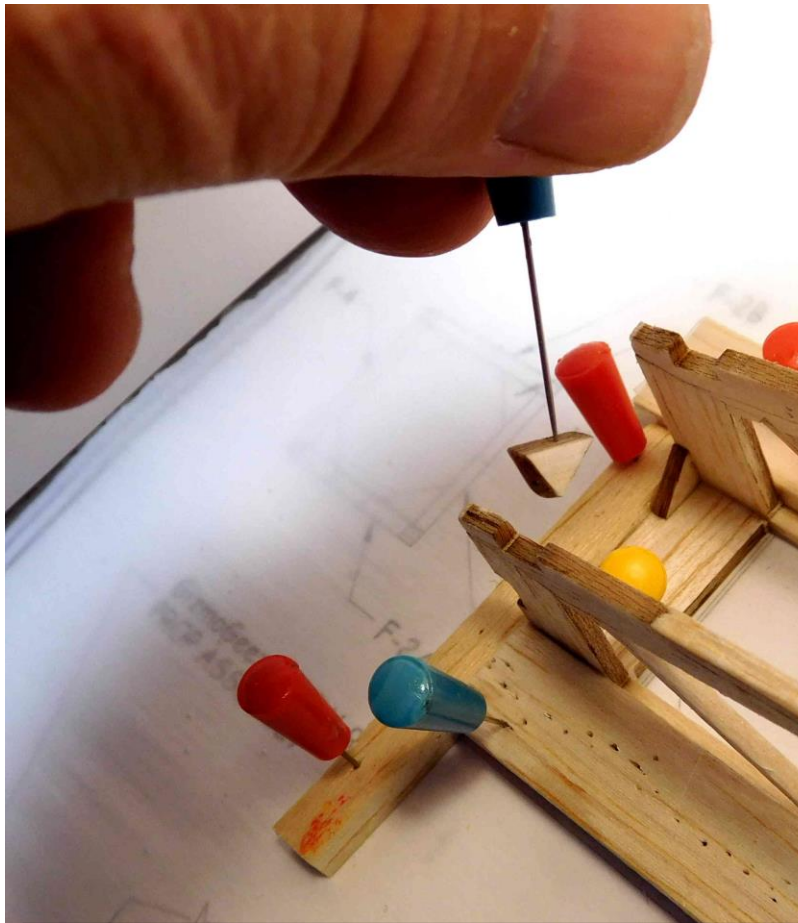
Position a fuselage frame against the plan aligned to the top view profile. Use a blocking strip to keep the side frame straight and secure during assembly. Pin the lower cross members in place over the drawing and glue ends against the side frame lower longeron. Use of cellulose or aliphatic resin glue is suggested for this operation.



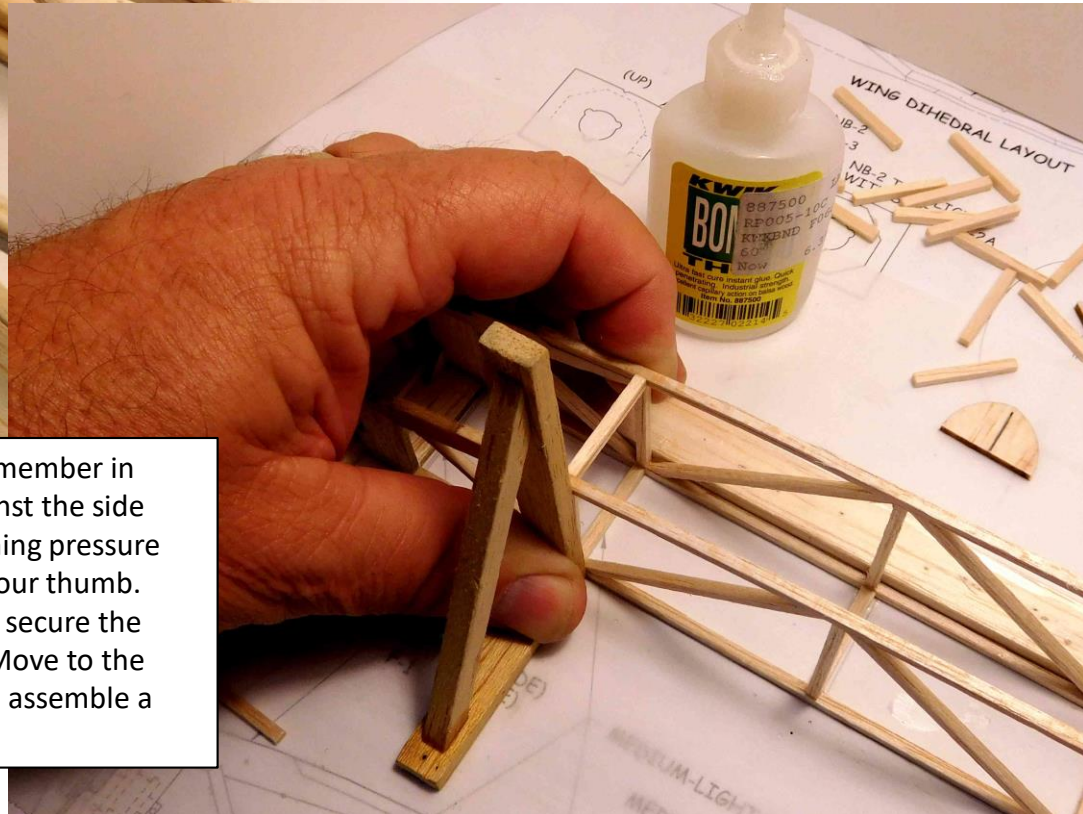
Lower fuselage cross members and F-4 in place. Note the blocking across the forward end to provide a positive stop for the opposite side frame, forward end.



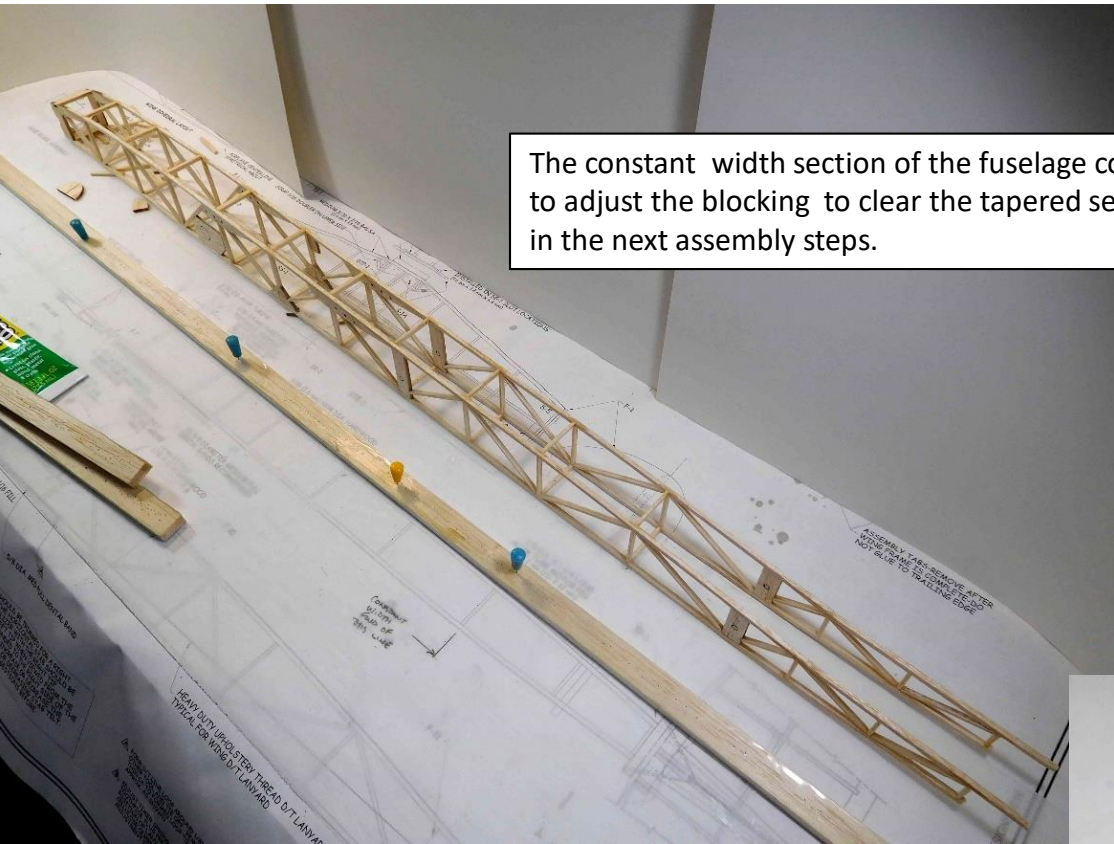
Apply glue to the open ends of the cross members and locate the opposing side frame against them. Use of the blocking stock is suggested to provide clamping force and maintain straightness.



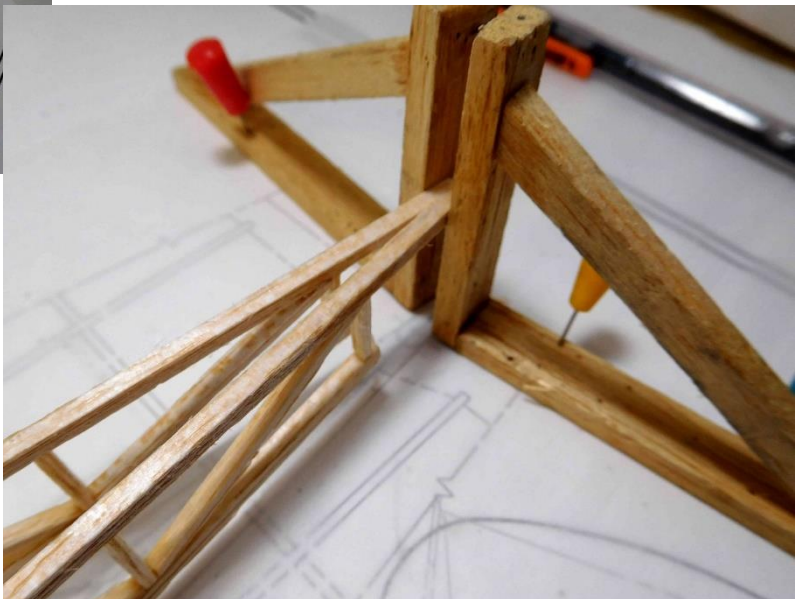
Install the F-5 gussets using a pin to position in place. Cellulose cement/aliphatic glue best for this operation to allow positioning. F-3 can then be installed in the notches in F-1 formers. Add the remaining F-5 gussets after the fuselage is assembled and pulled from the building board.



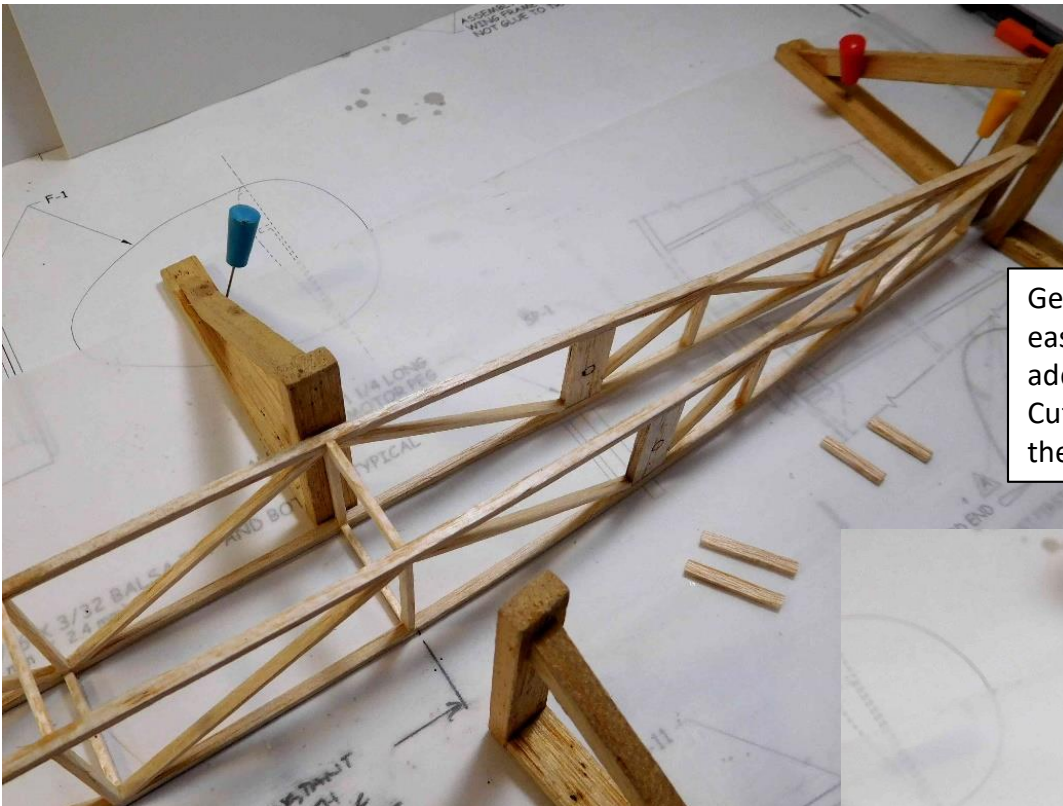
Using a 90 degree reference tool, position an upper cross member in place between the two frame longerons. Push lightly against the side being held against the tool with your finger while maintaining pressure against the building board and opposing side frame with your thumb. Apply drops of thin CA at the upper cross member ends to secure the stick once position is satisfactory using your other hand. Move to the next location and repeat-this is a very fast and easy way to assemble a fuselage of this type of construction.



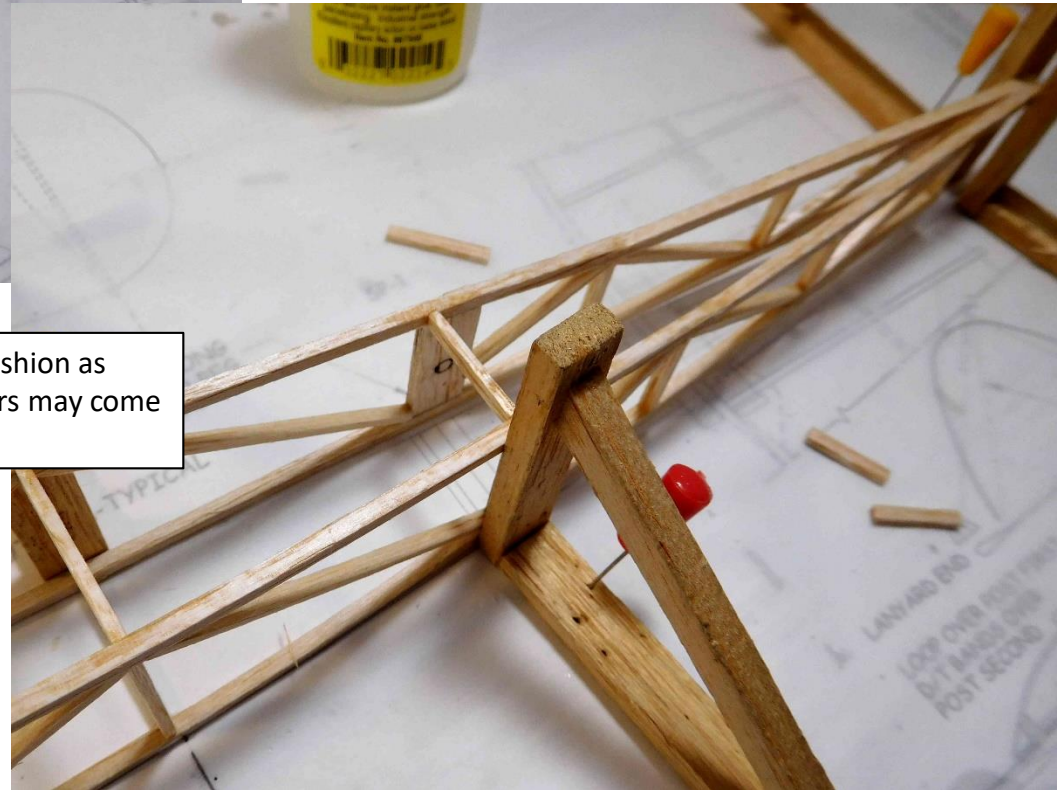
The constant width section of the fuselage completed. Removed to adjust the blocking to clear the tapered section of the fuselage in the next assembly steps.



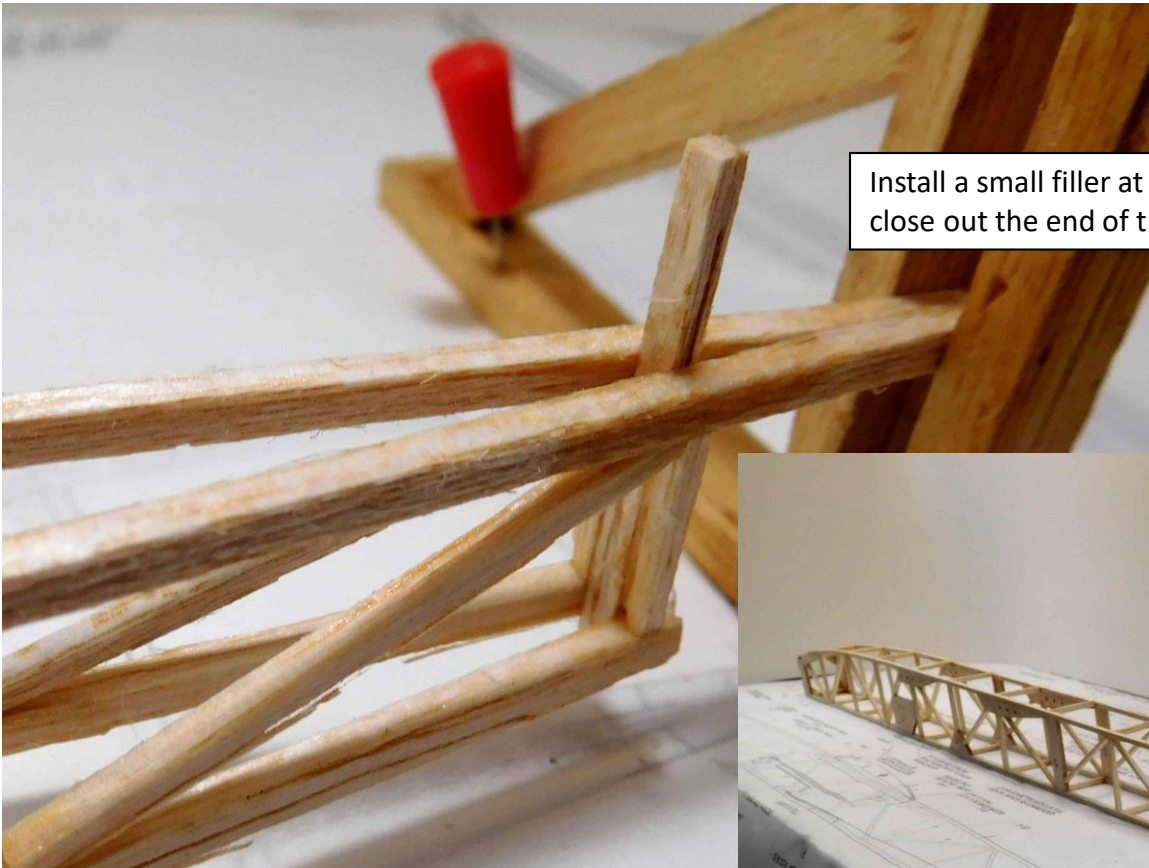
With the fuselage positioned on top of the plan view layout, trim the aft ends of the upper longeron to length and taper the inner edges to allow splicing at the end joint. Use blocking or other 90 degree tools to center the splice location to the plan. Dry fit, sight the length of the fuselage to eyeball for asymmetrical bow or other misalignment. If good, glue the longerons at the splice-leave all in place for the final cross member installations.



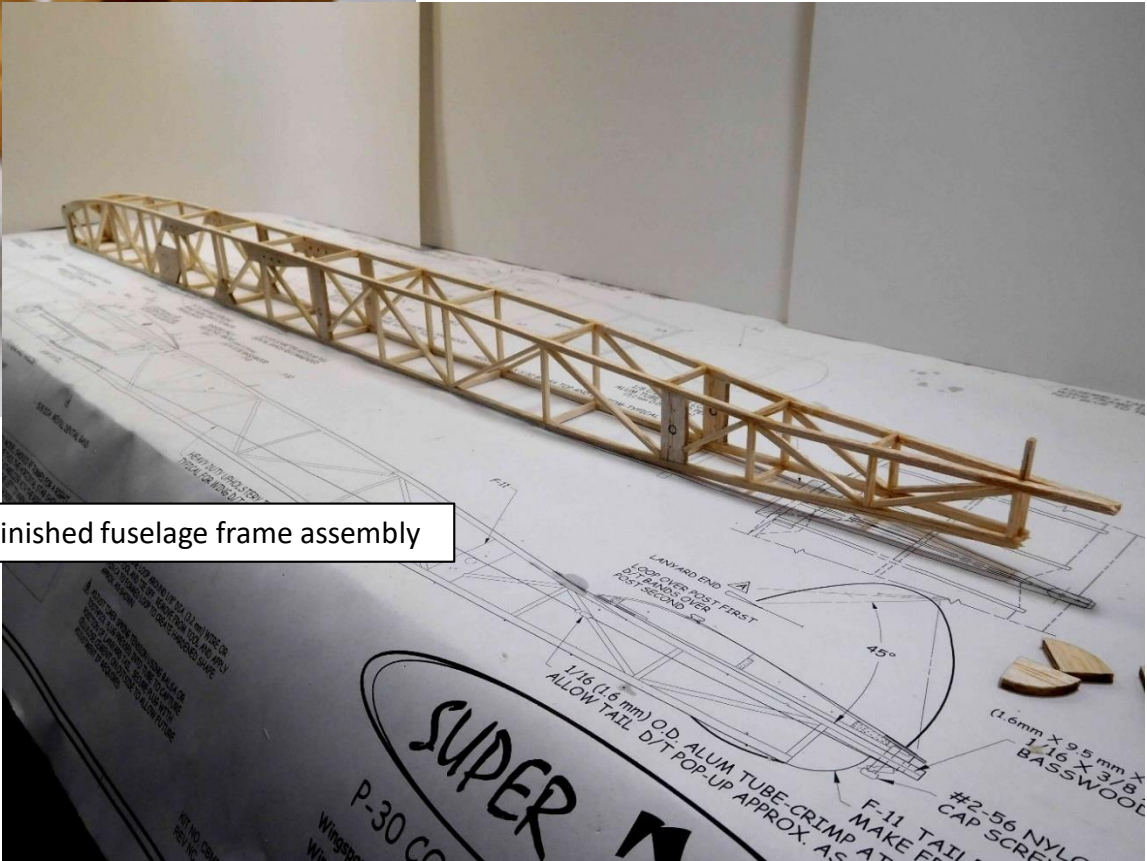
Getting ready to install aft section cross members. It's easier to install the upper ones while jugged and then add the lower pieces once the framing is off the board. Cut sets for each location so you have top and bottom the same dimension.



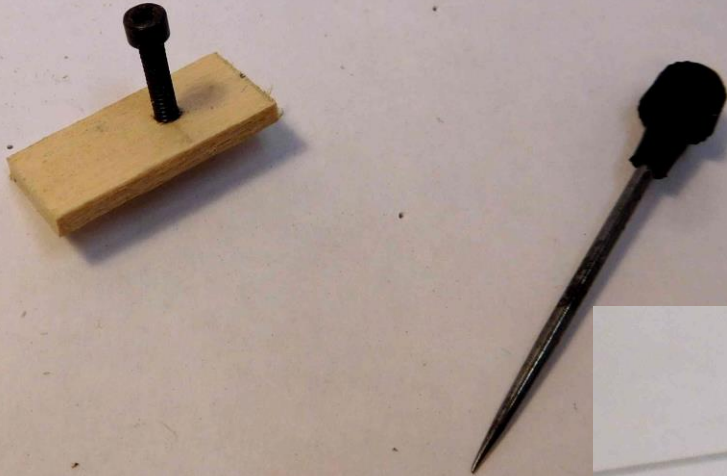
Installing the cross members in a similar fashion as done for the rest-where practical. Tweezers may come in handy as you get toward the tail post.



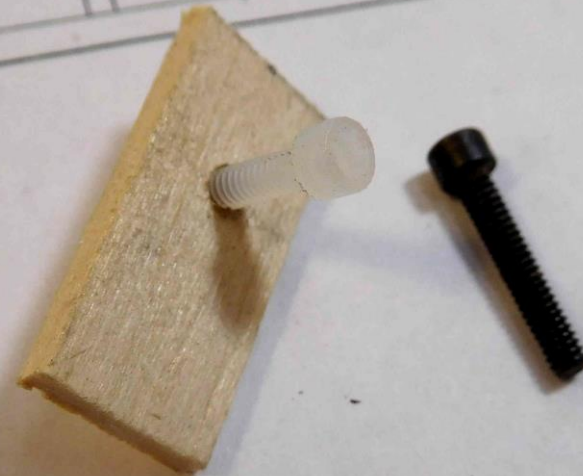
Install a small filler at the tail post to close out the end of the fuselage



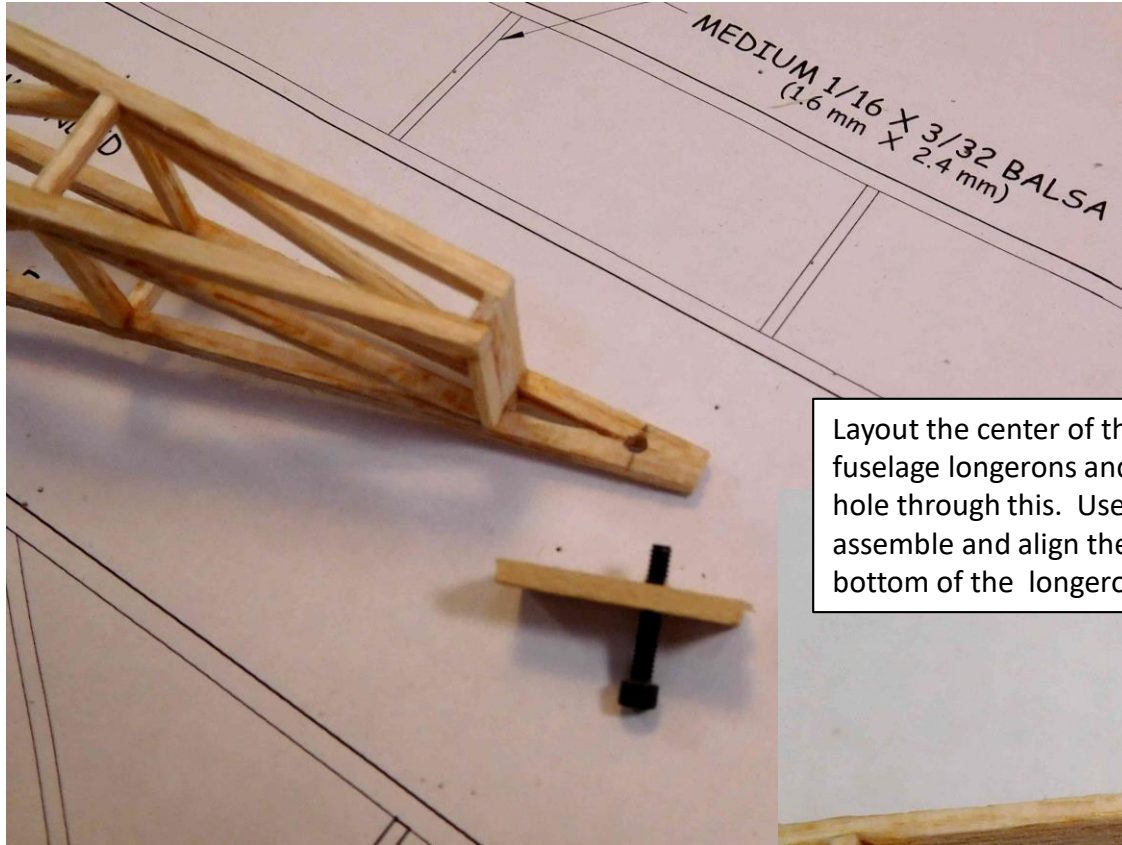
Finished fuselage frame assembly



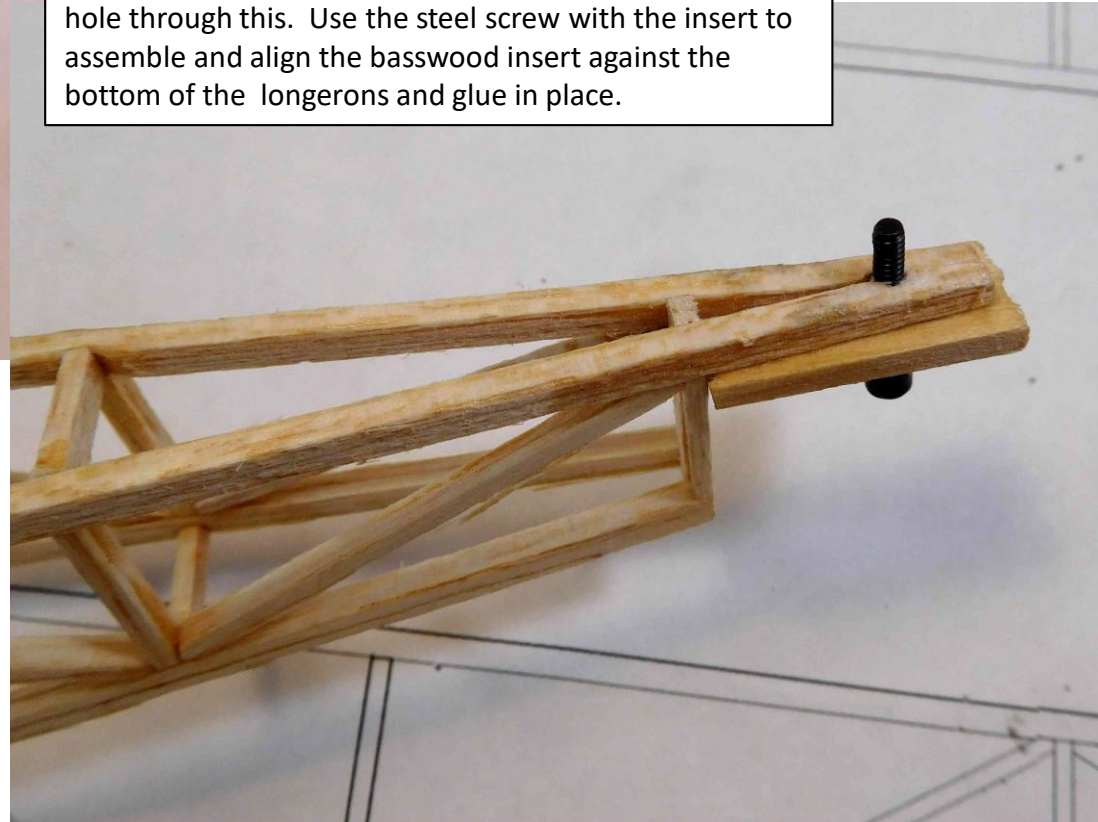
Layout for the incidence adjustment screw center on the 1/16 basswood stock and drill a .062 diameter hole through it. Use a steel #2-56 machine screw to thread the hole if you don't have a threading tap. Remove the screw after threading and apply thin CA to the hole to harden the threaded area. Run the steel screw in and out several times to ensure the threading is clean before installing the #2-56 nylon machine screw.

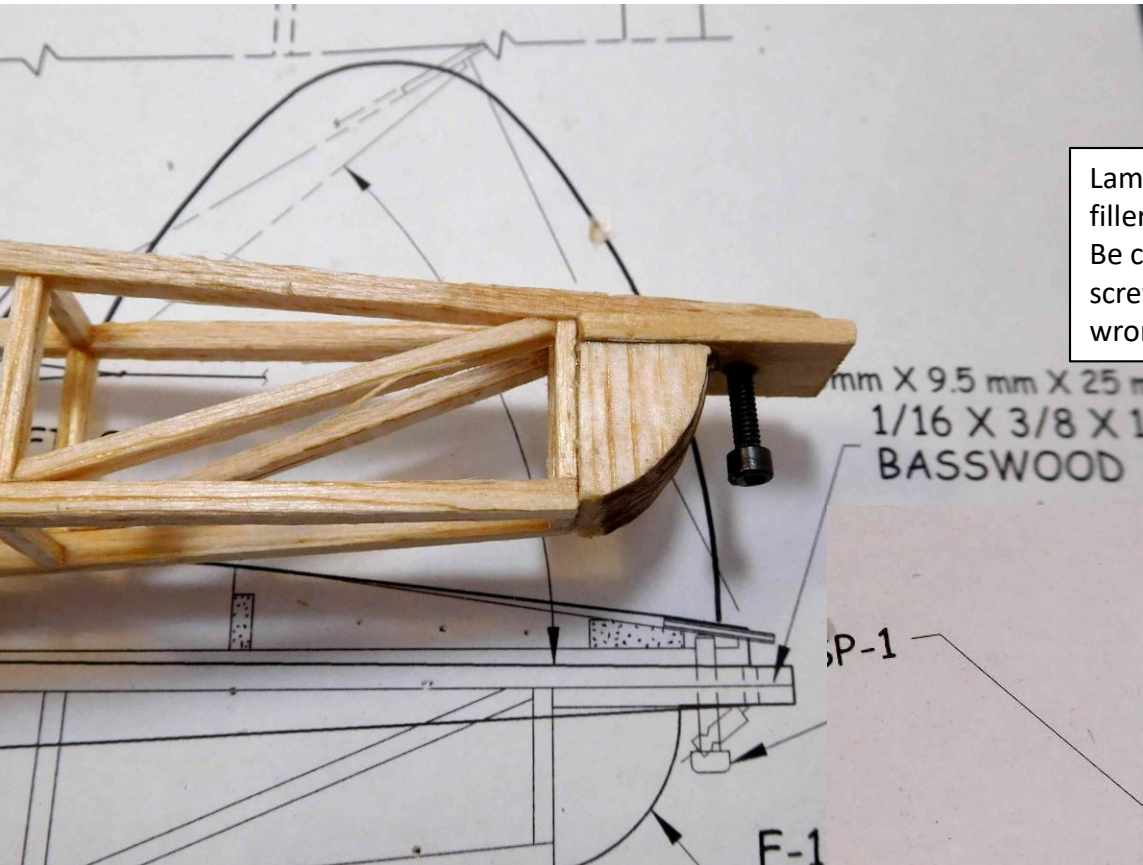




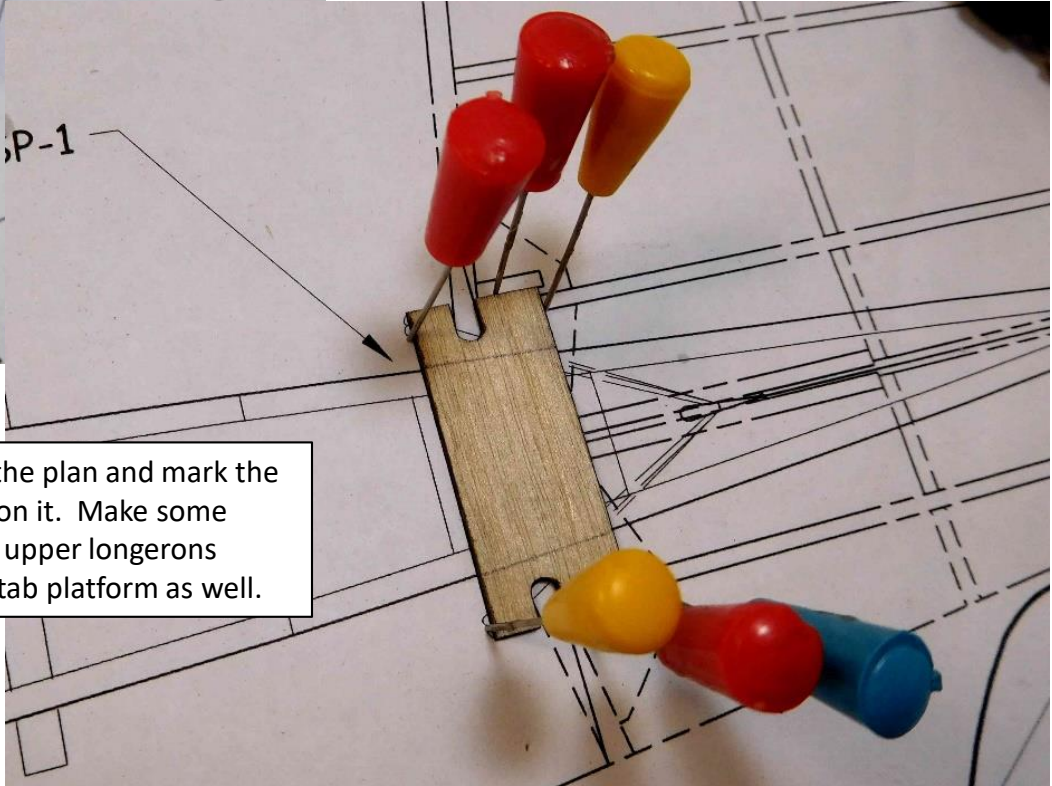


Layout the center of the incidence screw hole in the fuselage longerons and carefully drill a .062 diameter hole through this. Use the steel screw with the insert to assemble and align the basswood insert against the bottom of the longerons and glue in place.

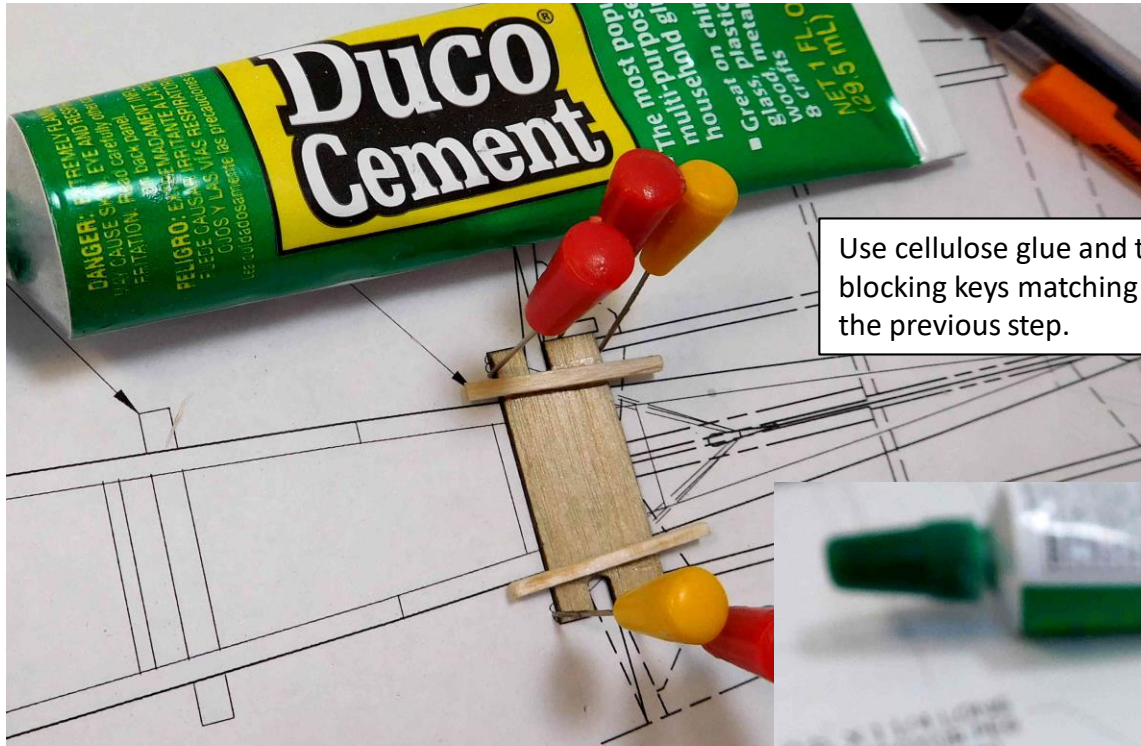




Laminate the (4) F-12 pieces to form the tail block filler installed under the basswood insert as shown. Be careful-it's easy to install backwards-leaving the screw in place will make this obvious if you get it wrong.

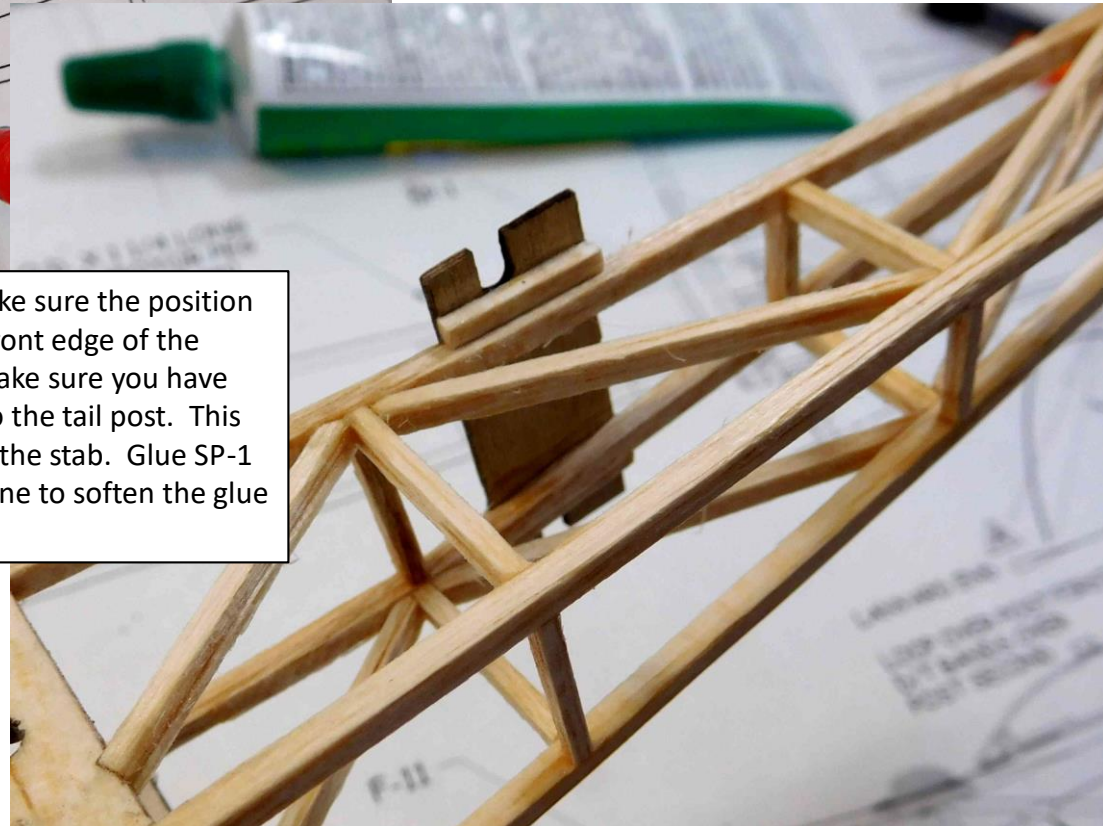


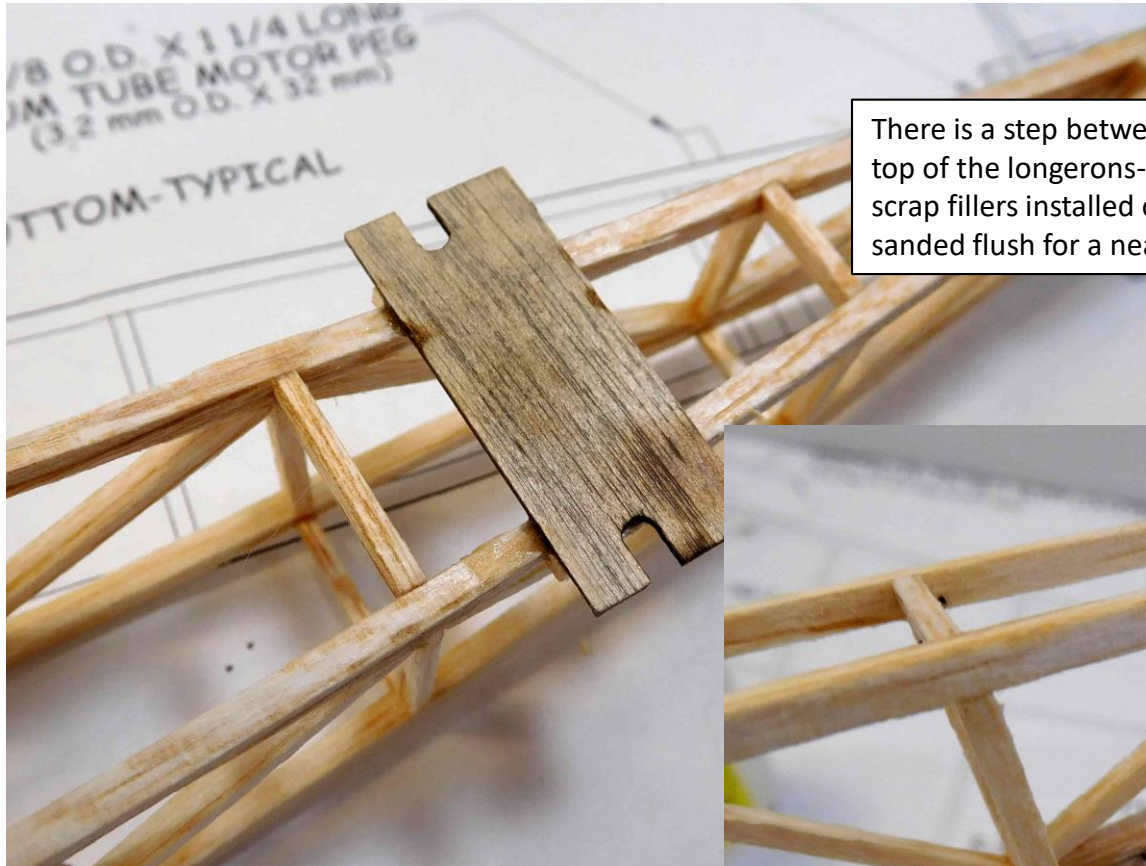
Position the SP-1 platform over the plan and mark the location of the upper longerons on it. Make some reference marks on the fuselage upper longerons matching the front edge of the stab platform as well.



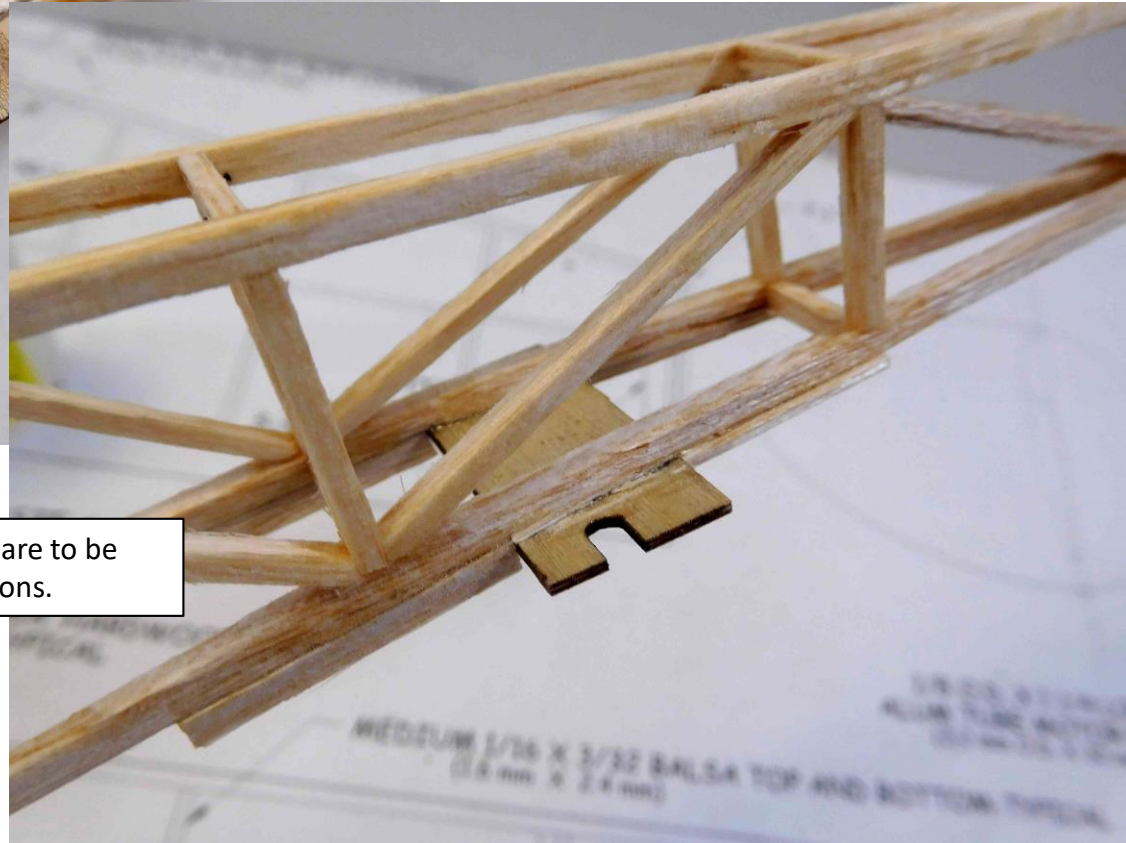
Use cellulose glue and tack glue scrap balsa blocking keys matching the lines you made in the previous step.

Install the stab platform onto the fuelage top-make sure the position matches the reference marks you made for the front edge of the platform. Note-prior to installing the platform make sure you have sanded the taper in the tail platform longerons to the tail post. This provides some clearance for incidence angles on the stab. Glue SP-1 platform on as shown-when glue is dry use acetone to soften the glue holding the keys onto SP-1 and remove the keys.





There is a step between the SP-1 platform edge and the top of the longerons-this can be made flush with some scrap fillers installed on top of the longerons and sanded flush for a neat tissue job in this area.



Showing the scrap 3/32 wide filler pieces that are to be sanded flush to the top of SP-1 and the longerons.

SP-1 fillers are blended in with a sanding block. Finish sand the fuselage frame using up to 320 grit sandpaper. Do not heavily radius the corner edges of the longerons as this results in a significant loss in stiffness and strength. Drill a small hole for the D/T lanyard aft of the incidence screw per drawing location. Clear dope seal all the framework exposed to the rubber motor and lubricant to give longevity to the model.

