



Kit No. CBMD-004

Construction Detail
Part 1 of 3

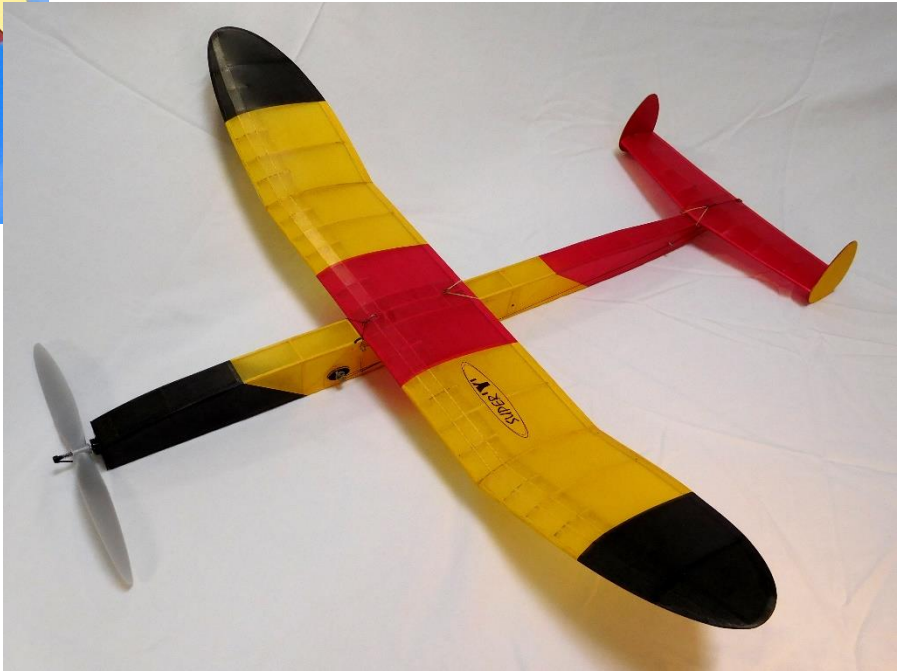
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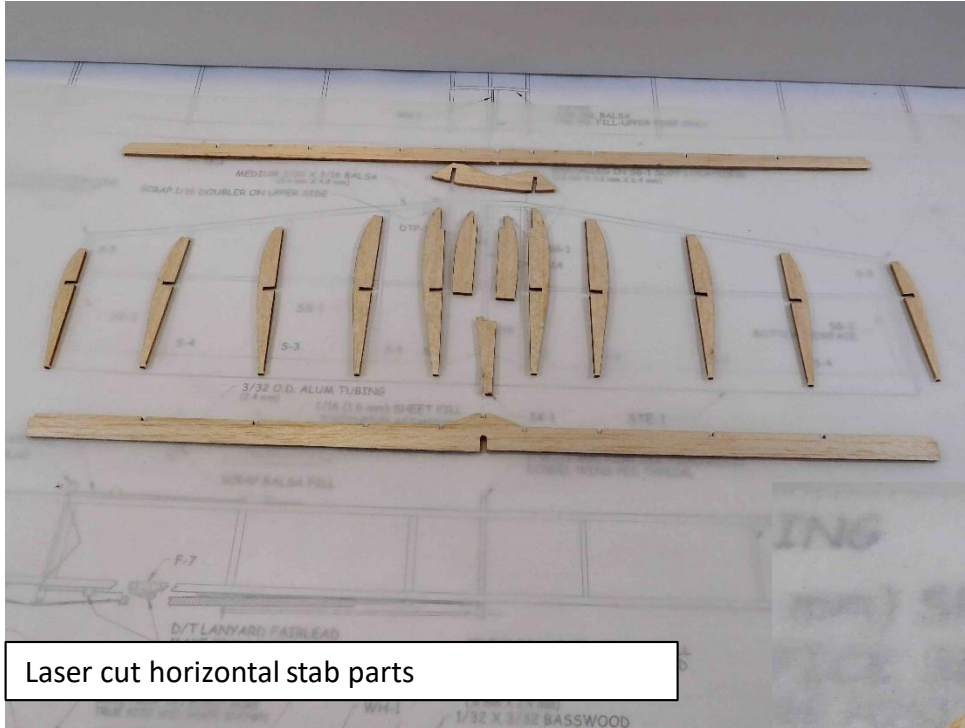
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Model data:

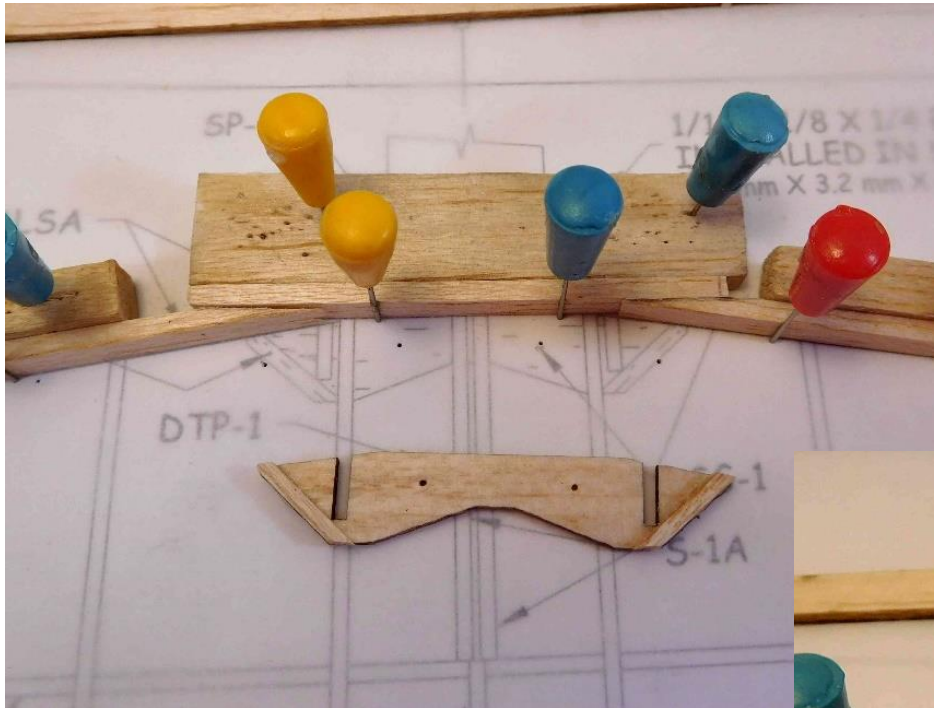
- Weight ready to fly (less motor)39 grams
- Projected Wingspan..... 30 Inches
- Wing Area.....125 Sq. In.
- Nominal Length.....28 Inches



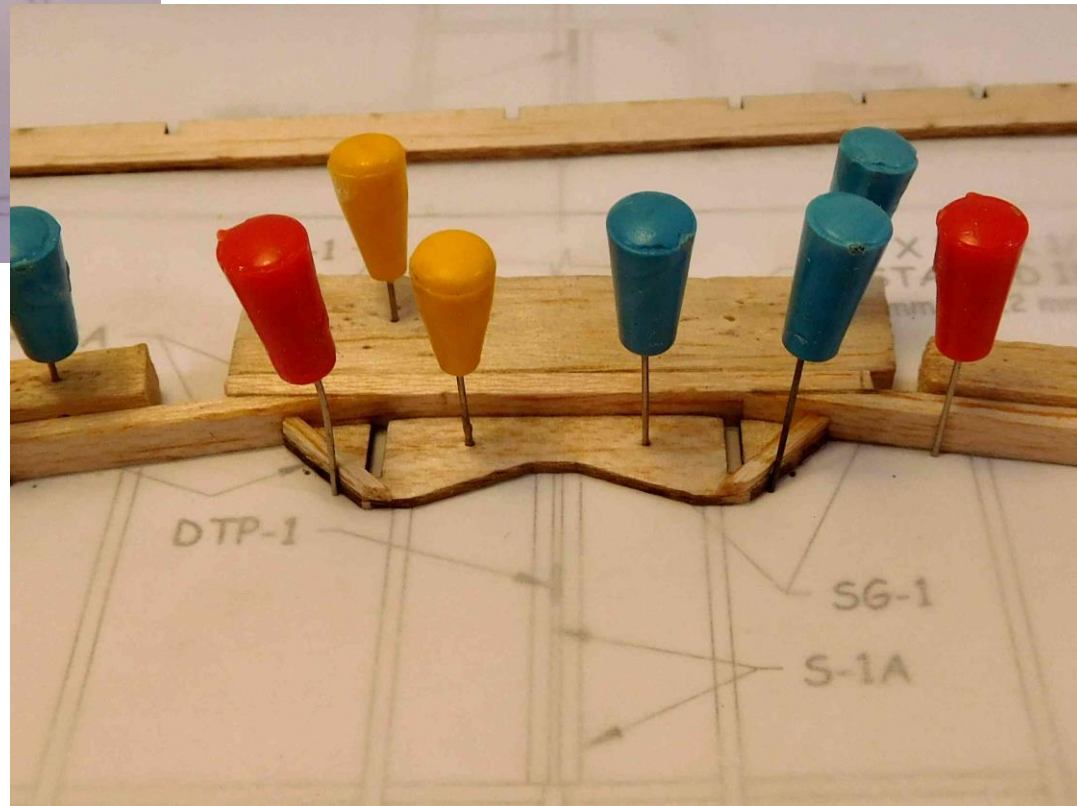
Laser cut horizontal stab parts

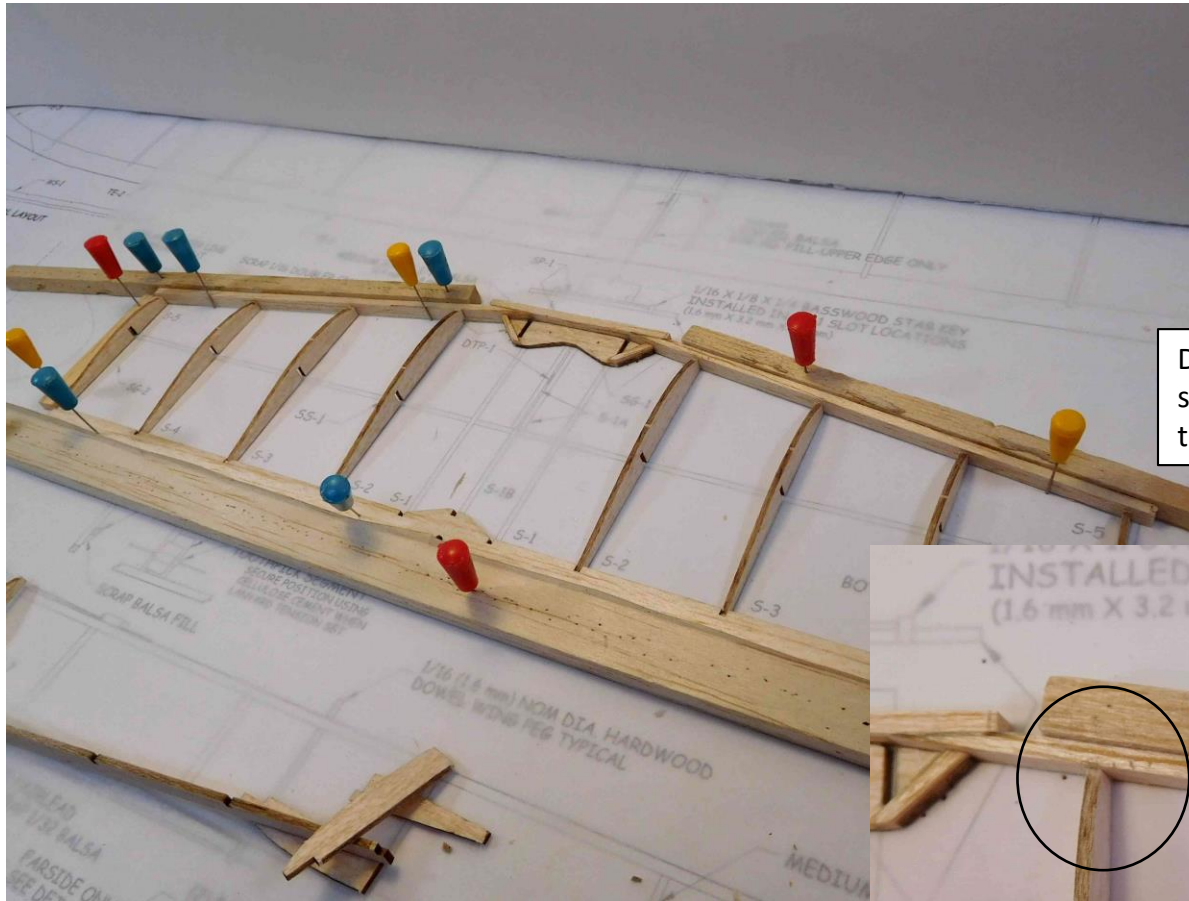
Reinforce SG-1 with scrap 1/16 (1.6mm) square to prevent breakage at the stab key slots during handling and installation





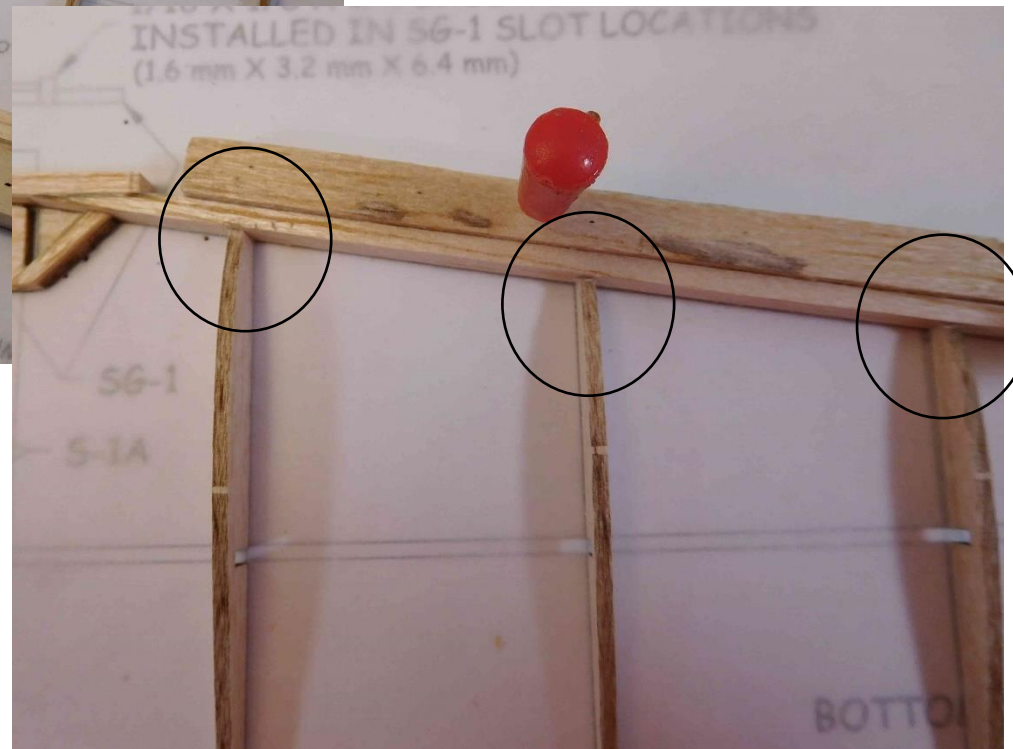
Scarf fit $3/32 \times 3/16$ (2.4 x 4.8mm) L.E. stock at the center to accept SG-1

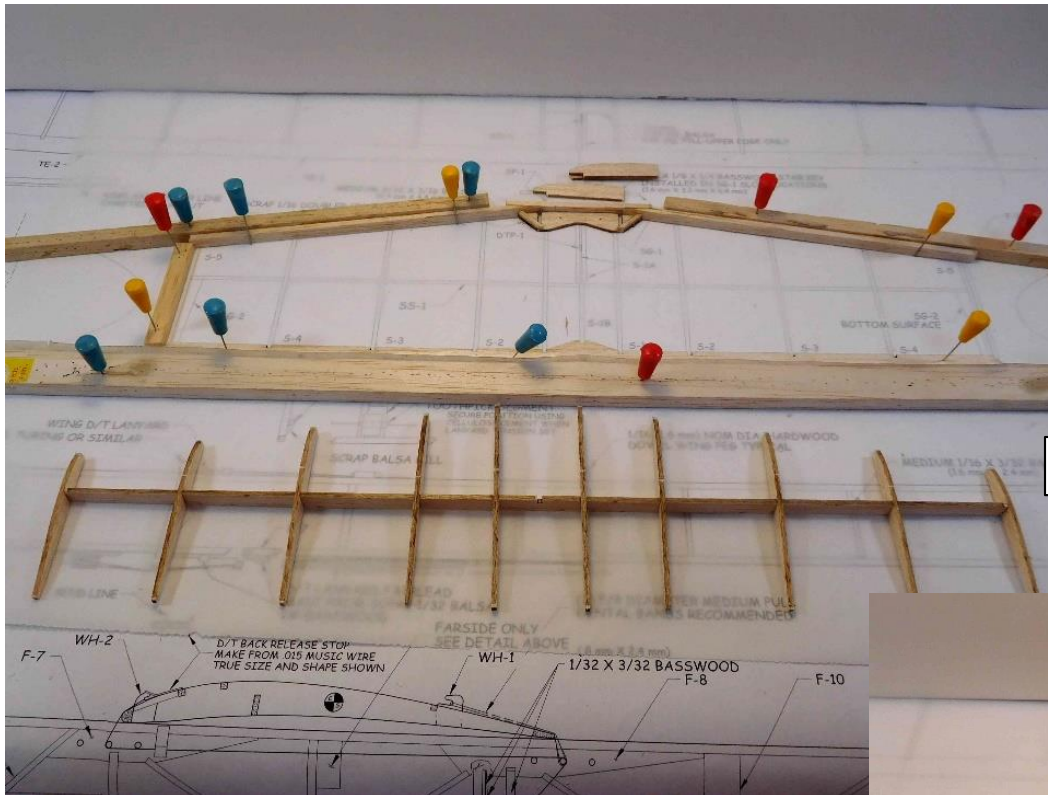




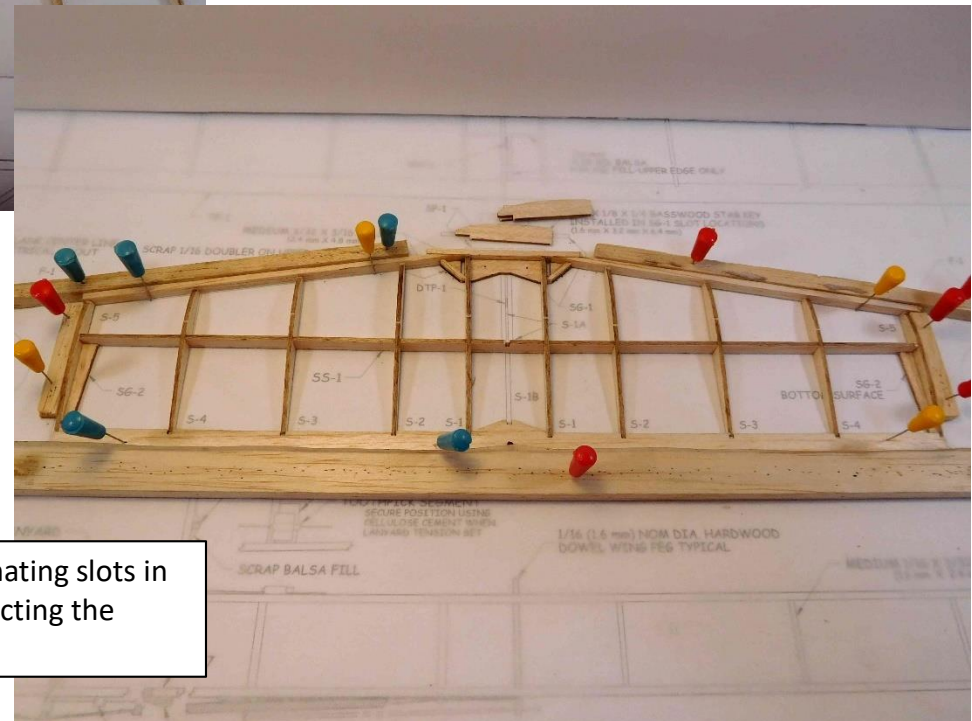
Dry pre-fir the ribs to the STE-1 notches and L.E. stock. Bevel front of ribs to match the angle of the leading edge.

Starting to frame the remainder with the center rib installation



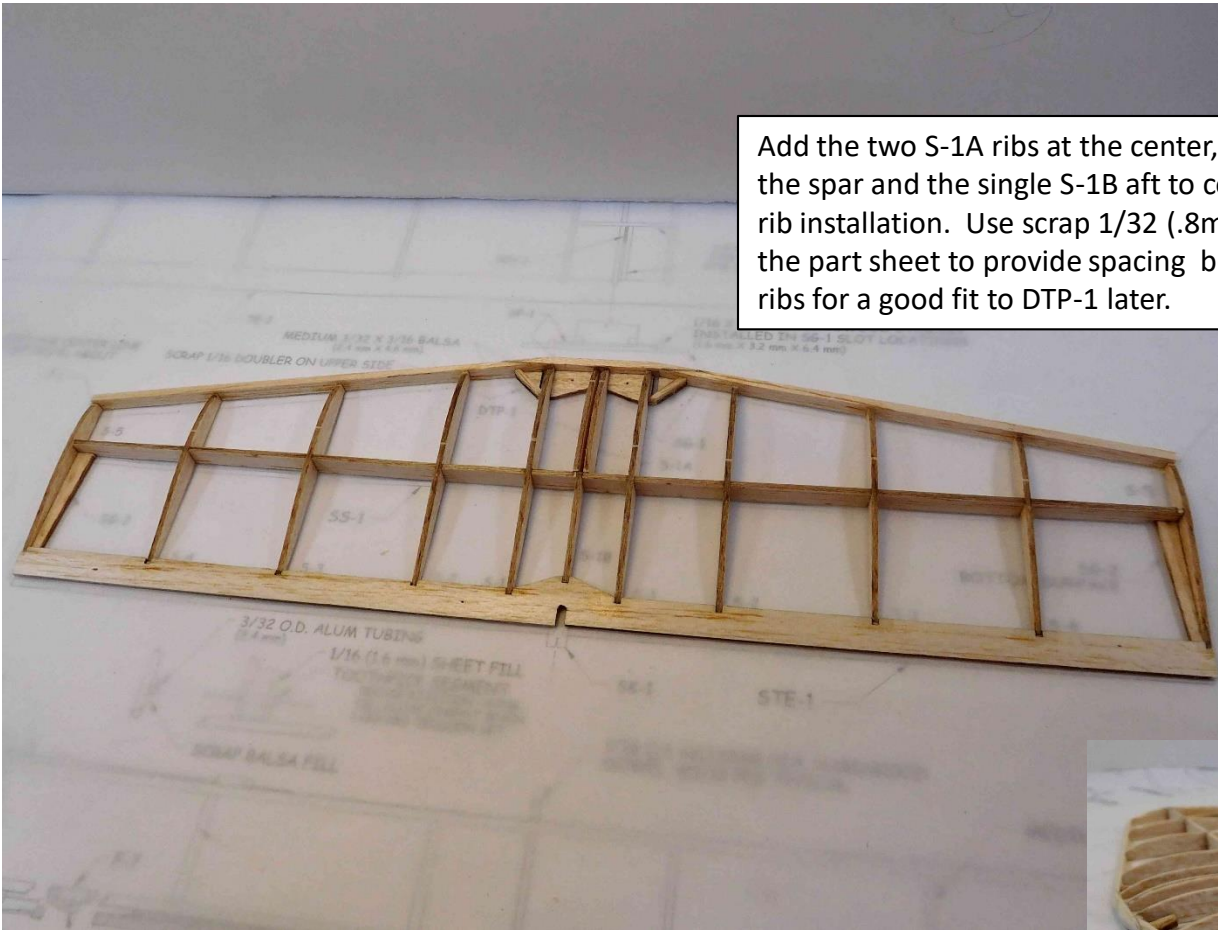


Dry pre-fit the ribs and spar SS-1 together

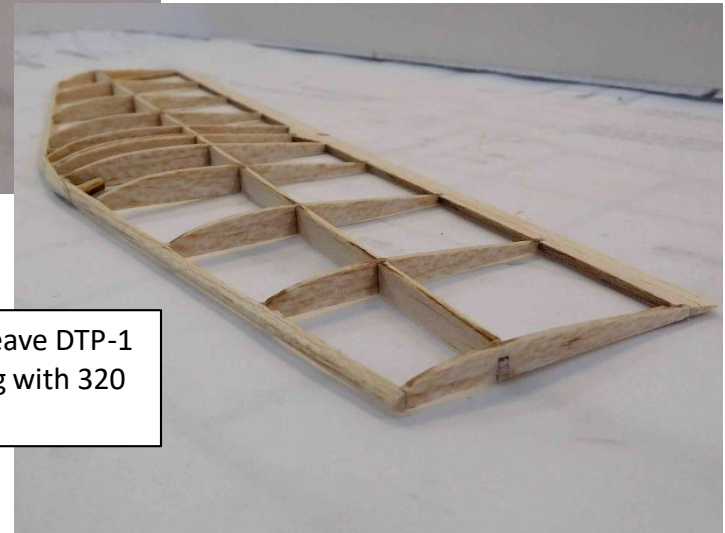


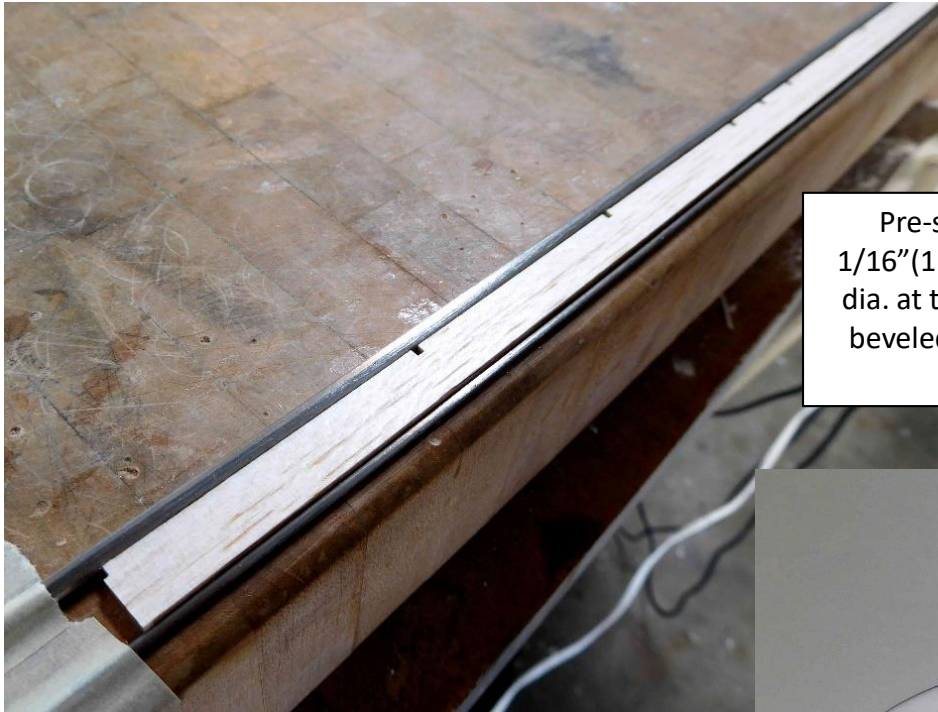
Carefully install the framework-align to the plan and mating slots in STE-1. Make sure the spar and all ribs edges are contacting the building board surface before applying glue.

Add the two S-1A ribs at the center, forward of the spar and the single S-1B aft to complete the rib installation. Use scrap 1/32 (.8mm) ply from the part sheet to provide spacing between S-1A ribs for a good fit to DTP-1 later.



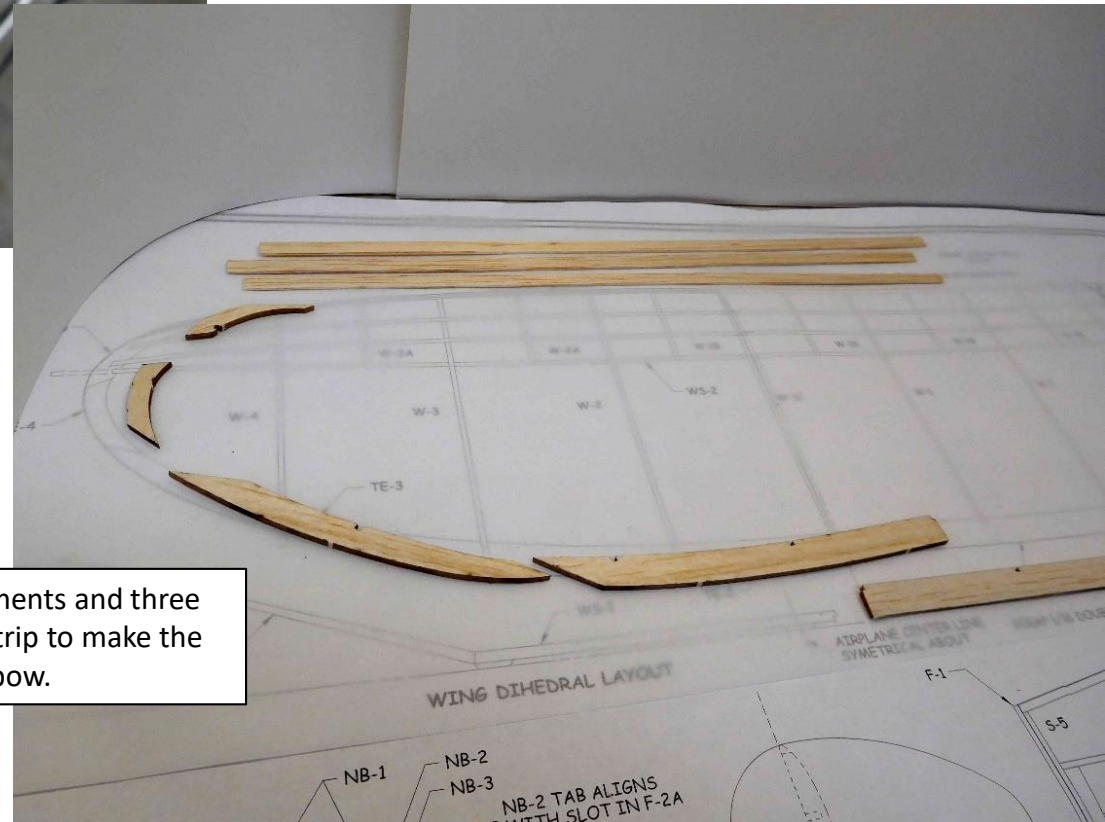
Final sand the stabilizer to finish the contours. Leave DTP-1 & SK-1 off until covering is installed. Fine sanding with 320 grit sand paper is recommended.



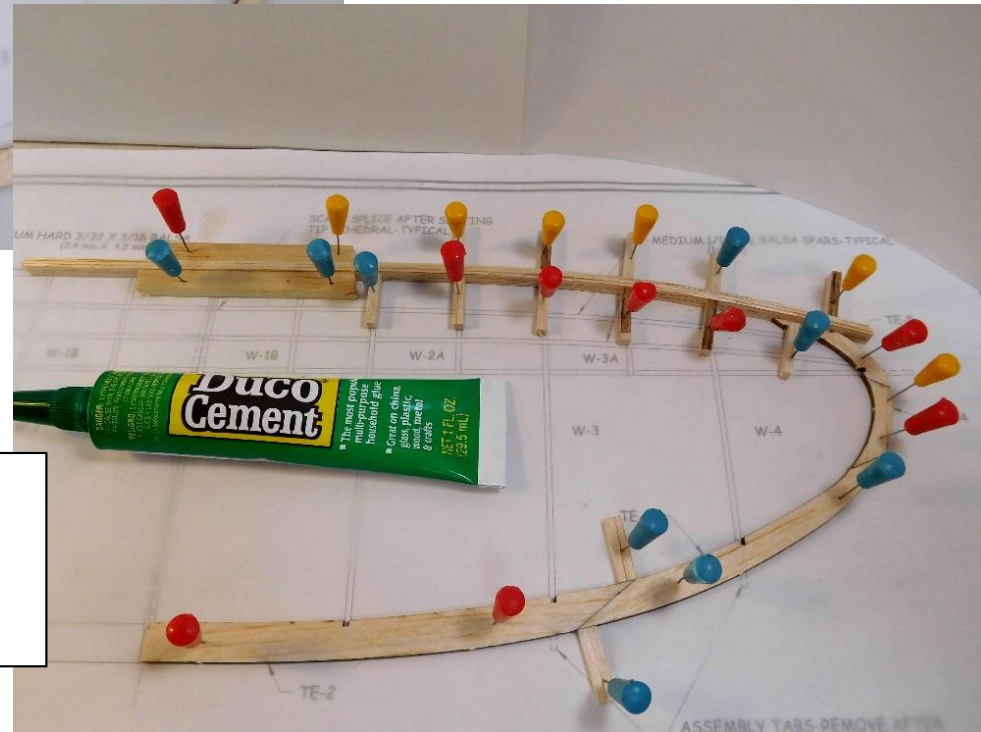


Pre-shape (sanding block) wing trailing edge TE-1 using 1/16" (1.6mm) dia. wire at the trailing edge and 1/8" (3.2mm) dia. at the forward edge to control thickness and provide the beveled cross section required-suggested to ease assembly sanding that follows.

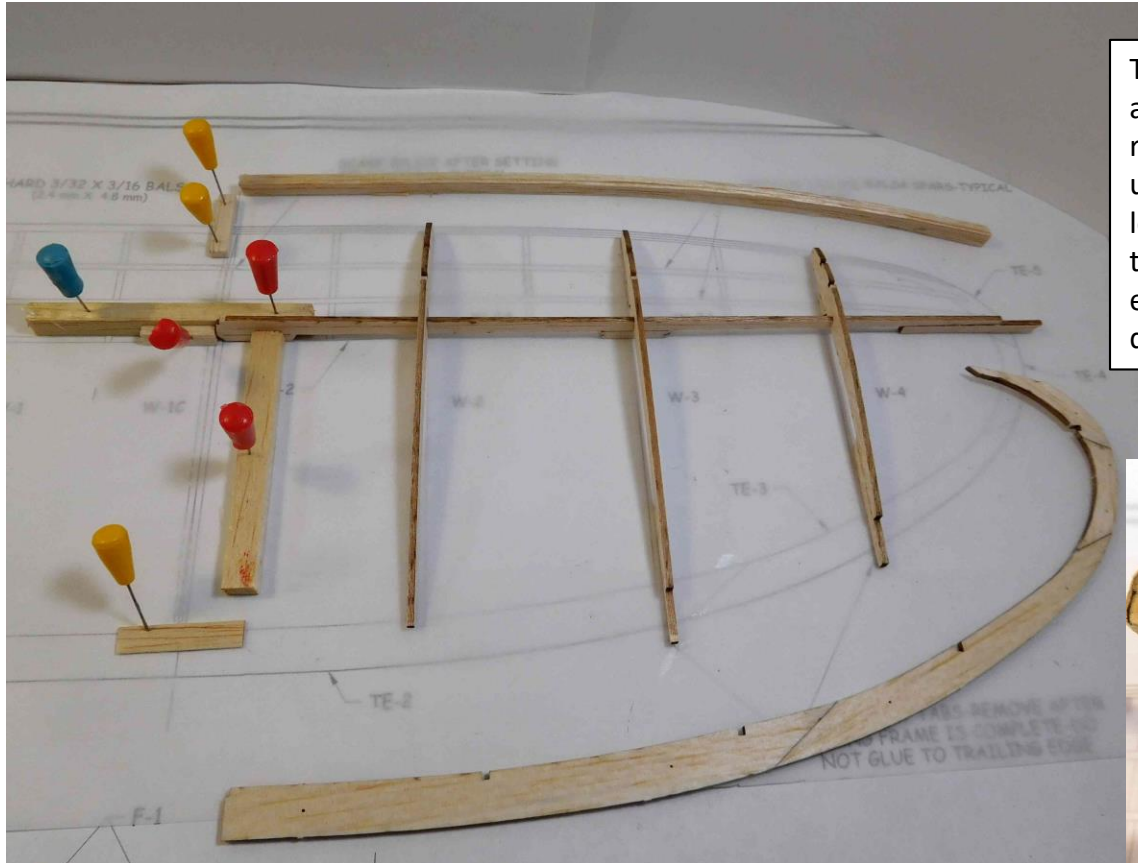
Laser cut tip panel trailing edge segments and three pieces of 1/32 x 3/16 (.8 x 4.8mm) strip to make the laminated leading edge bow.



Block the leading edge bow to follow the plan curve line matching the end of the ribs and let any excess thickness grow to the forward side of the stack.. Note the scrap balsa blocking at the rib station locations to control curvature through these points. Use of cellulose cement is recommended for laminating-no soaking in water is required to form the bow. Note the segment TE-5 pinned in place to obtain good fit with the bow. Do not glue TE-5 to the bow yet.



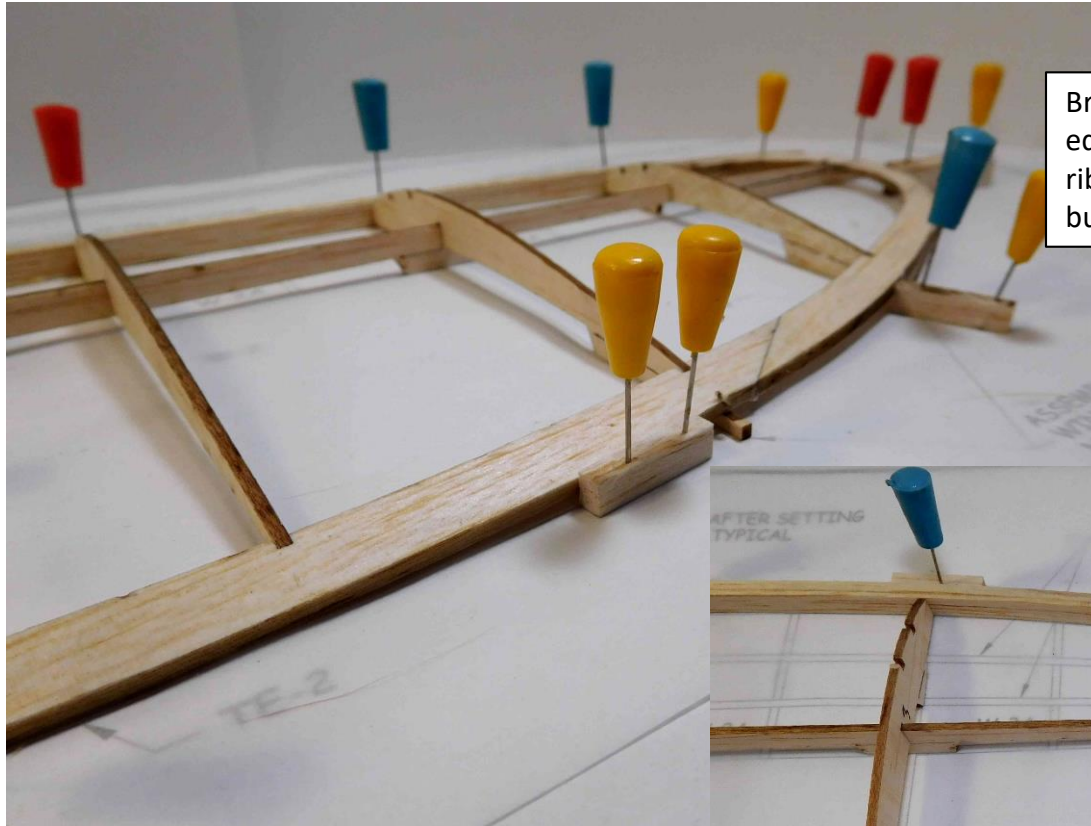
Glue the trailing edge segments TE-2, -3, -4 & -5 together against the plan. Again, no glue applied to TE-5 and the leading edge bow during this assembly step. Use of cellulose glue makes for smoother sanding during final sanding steps.



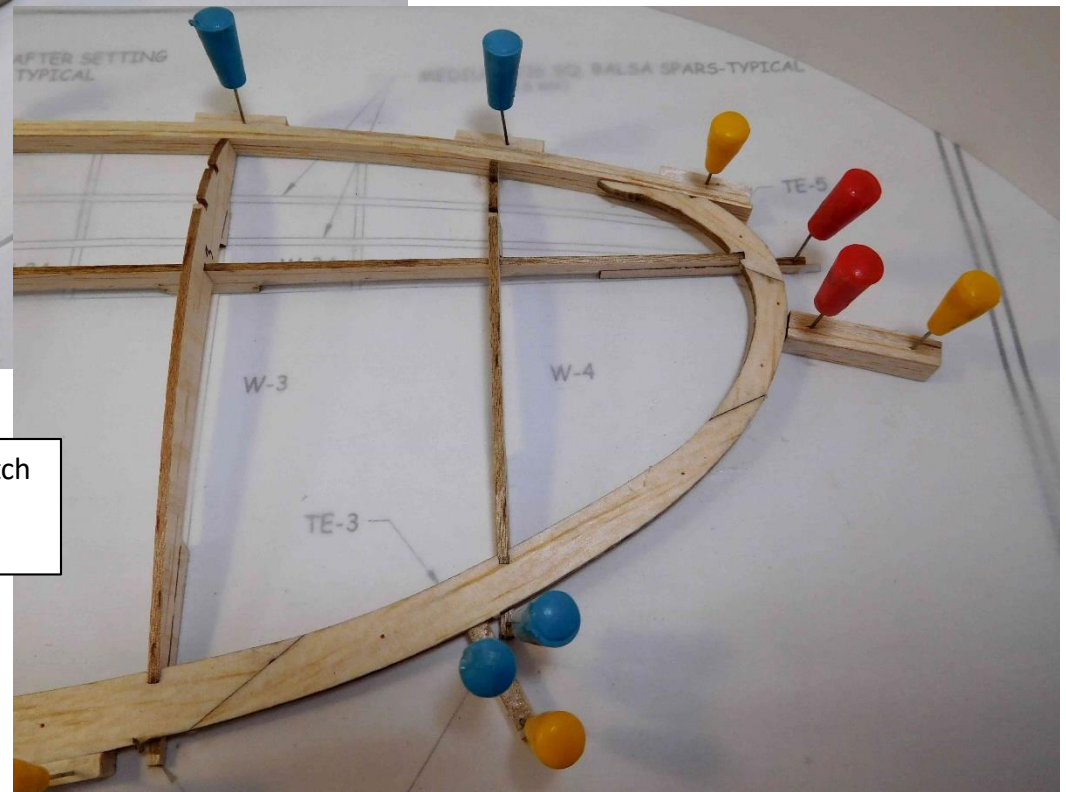
The leading and trailing edge subassemblies are removed for positioning of the dry-fitted ribs and spar to the plan positions. Blocking is used to control the root end of the spar in location to the plane and the main panel spar that follows. Note the stop against the root end to keep the spar from shifting inboard during the assembly steps.



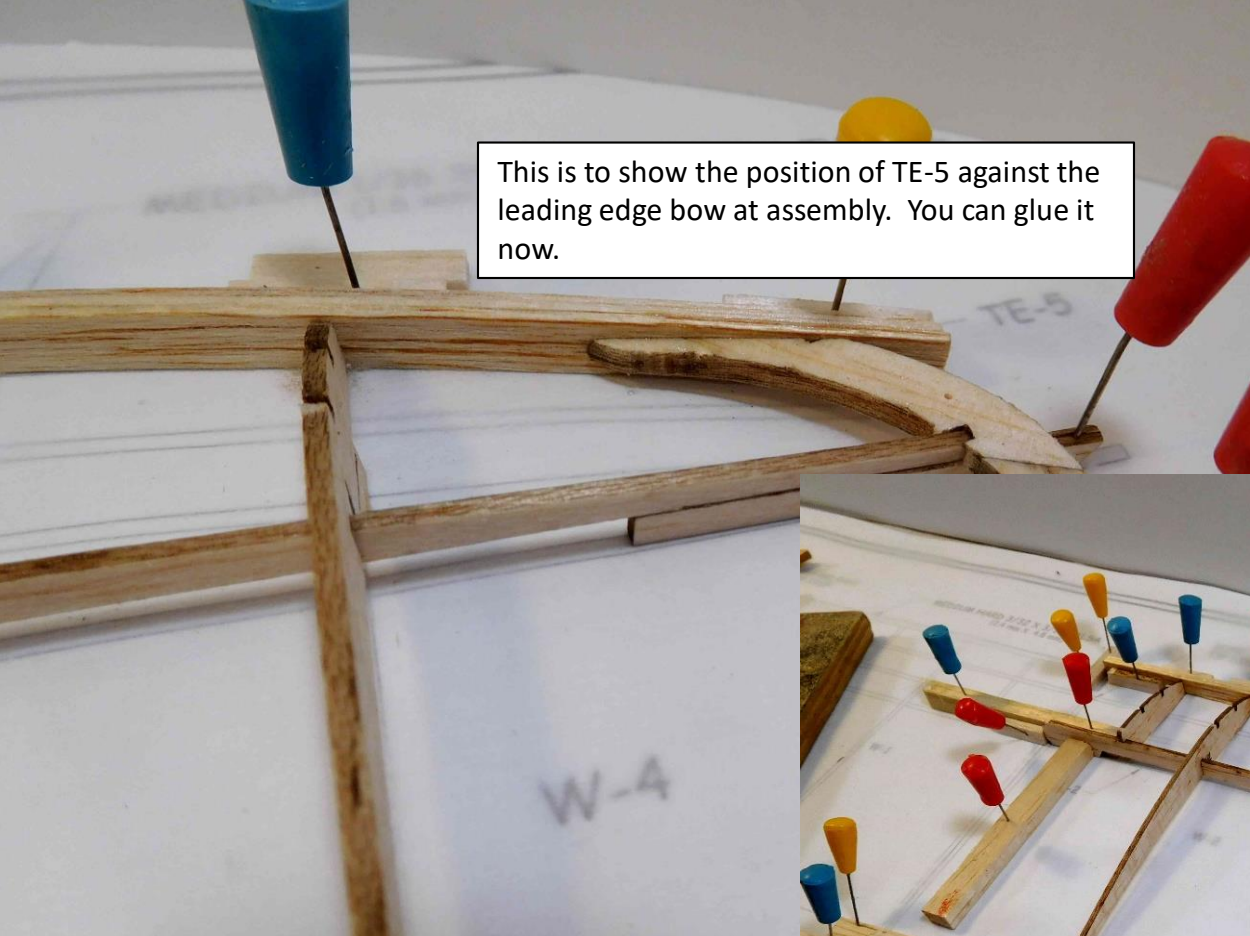
With everything best fit to the plan locations, lightly bevel sand the forward edges of the ribs to match the plan curve for the leading edge bow.



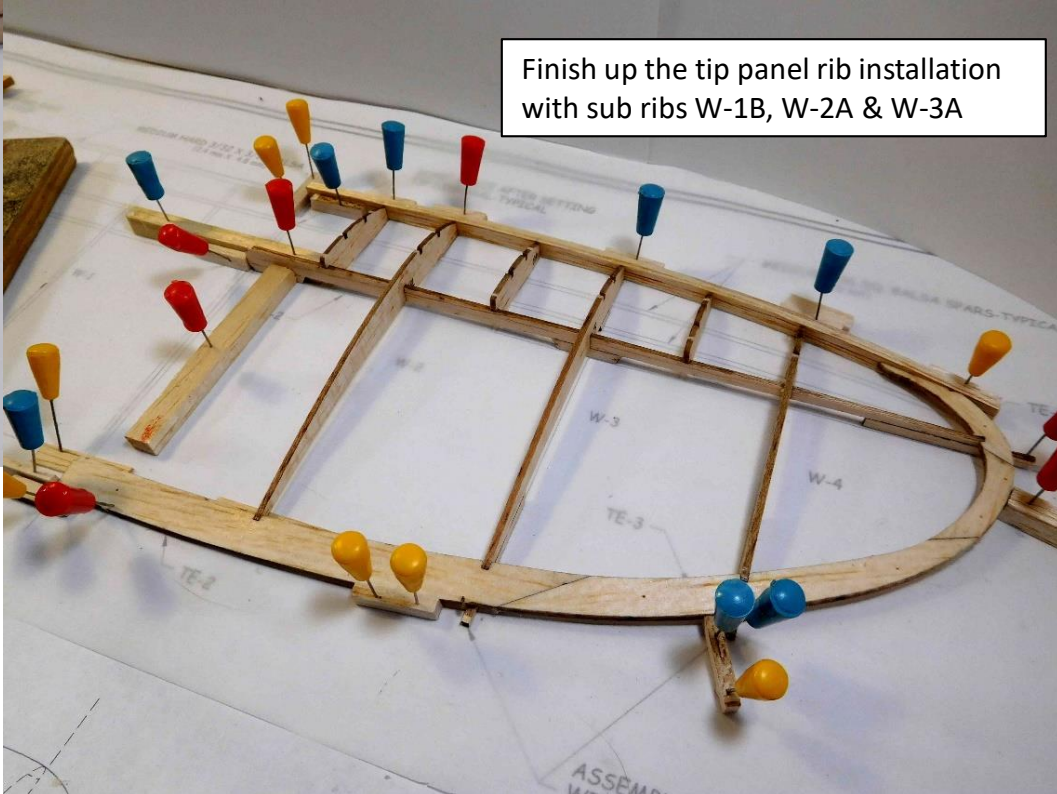
Bring the trailing edge subassembly and leading edge bow into position for assembly with the ribs and spar. The tabs on the rib tails provide built-in washout in the wing tips.



Use scrap balsa blocking to maintain plan match of the trailing edge subassembly. Dry pre-fit everything for best fit before applying glue.

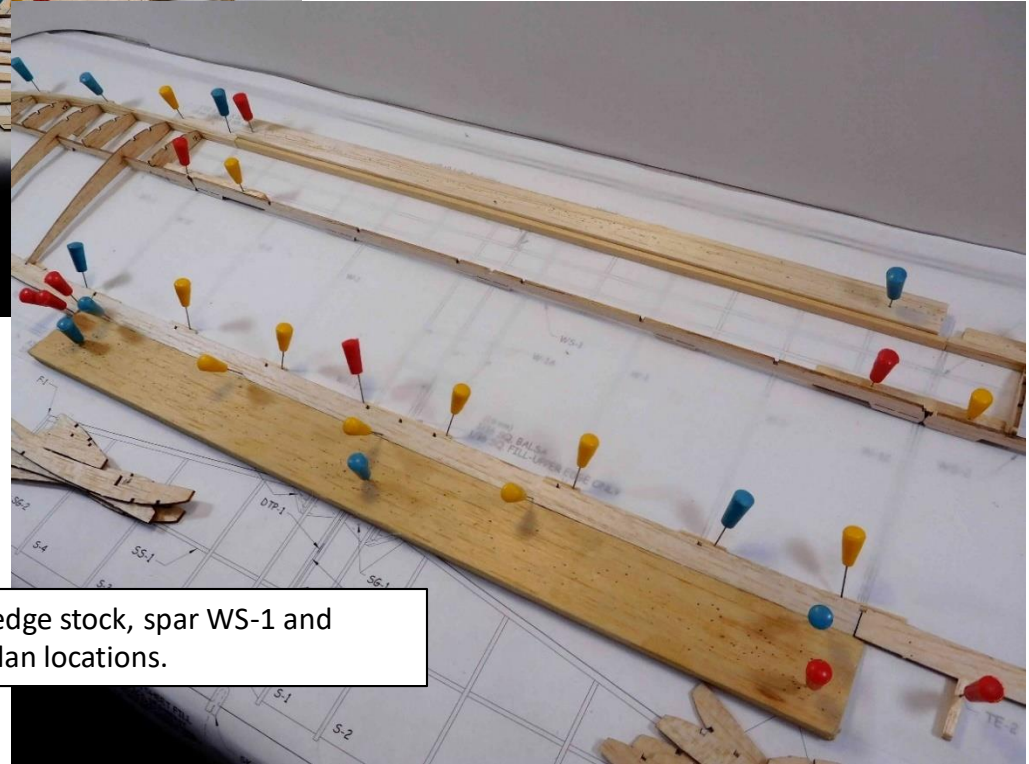
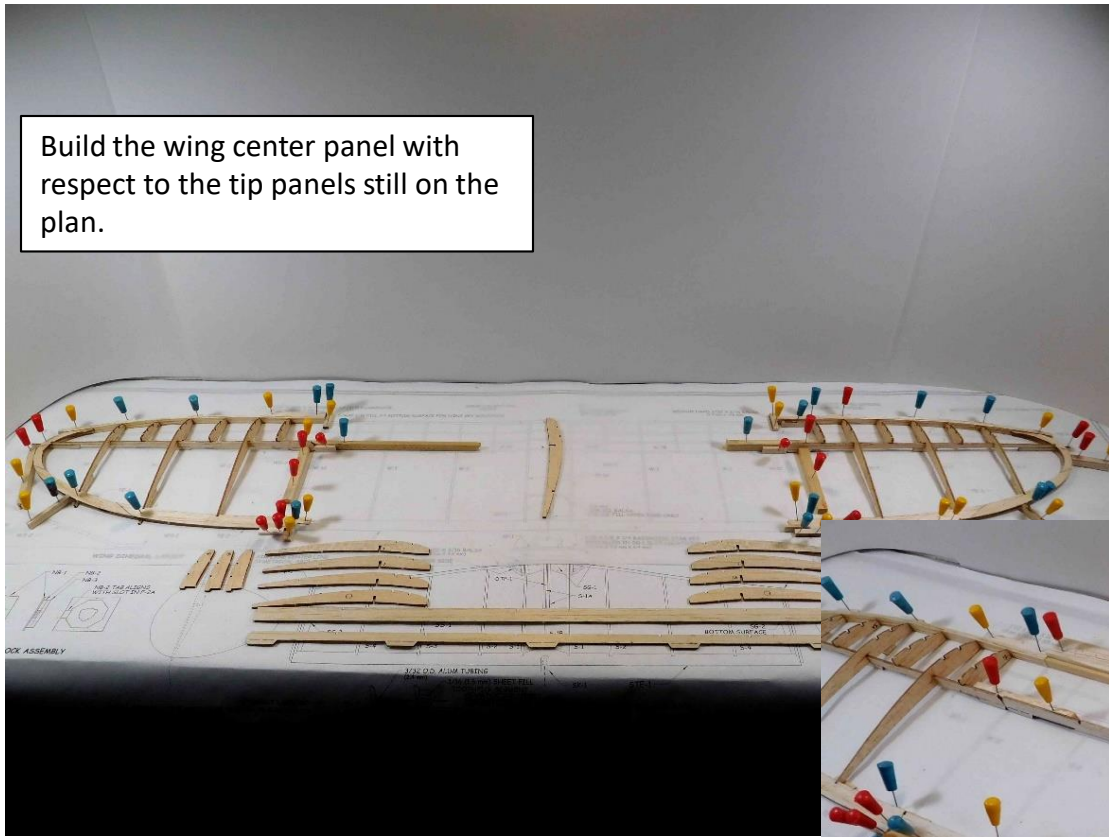


This is to show the position of TE-5 against the leading edge bow at assembly. You can glue it now.

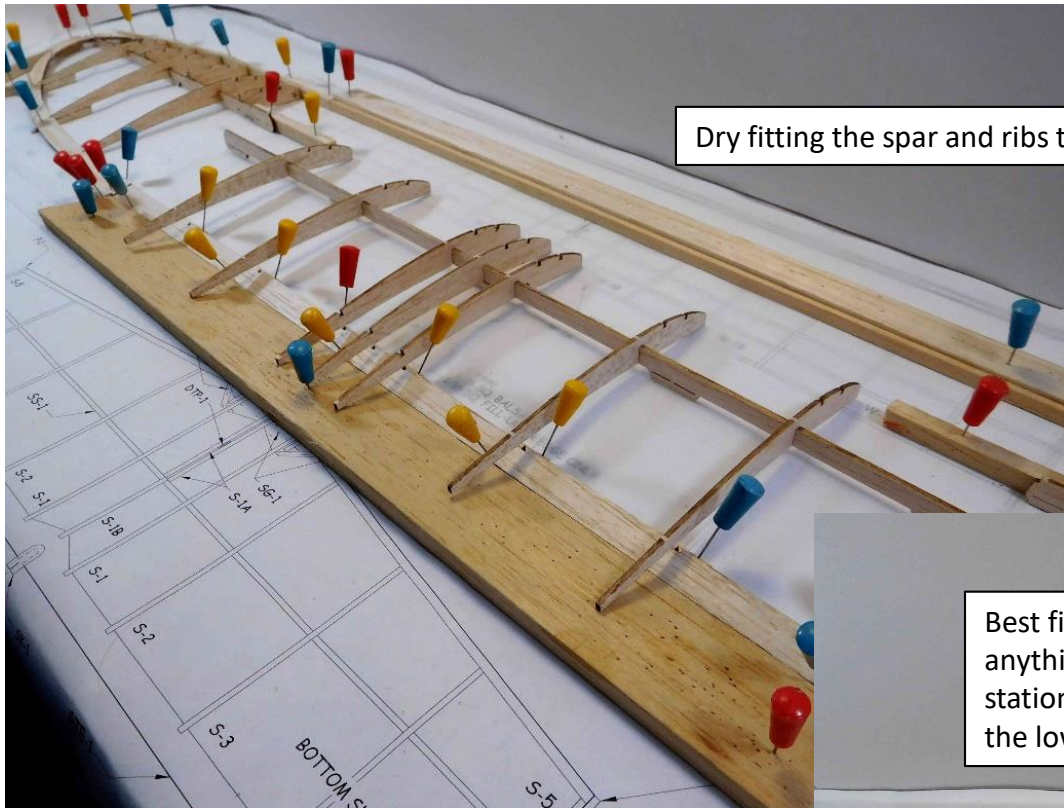


Finish up the tip panel rib installation with sub ribs W-1B, W-2A & W-3A

Build the wing center panel with respect to the tip panels still on the plan.

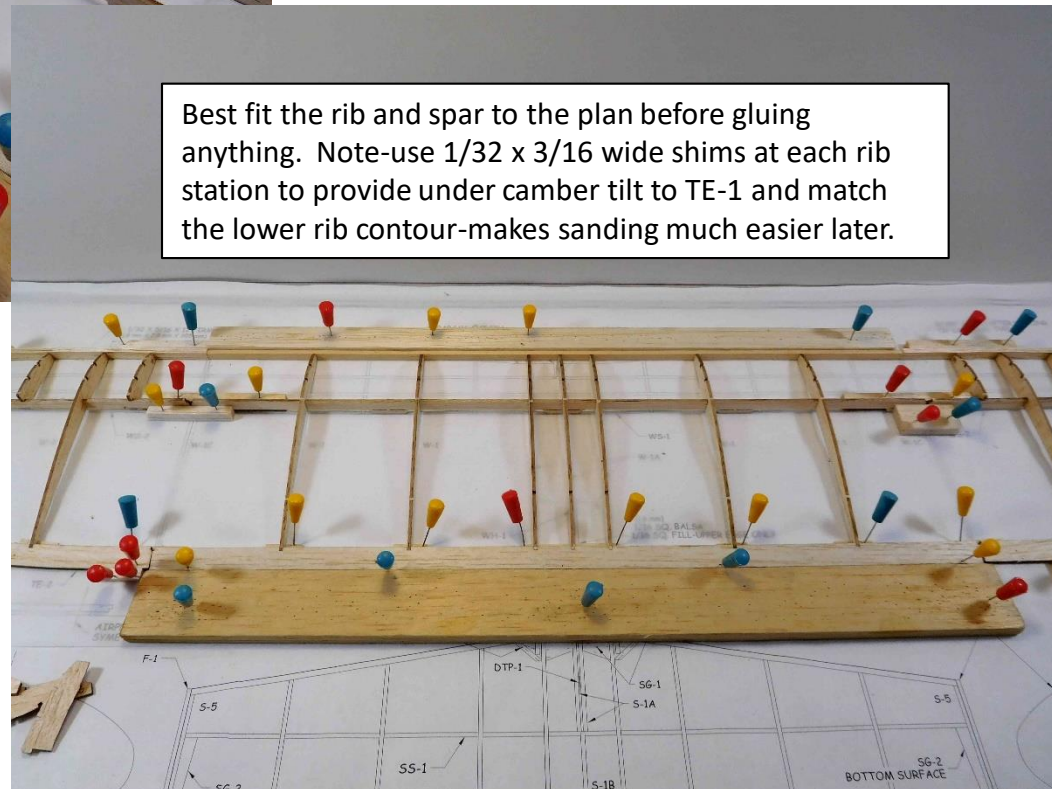


Alignment of the leading edge stock, spar WS-1 and trailing edge TE-1 to the plan locations.



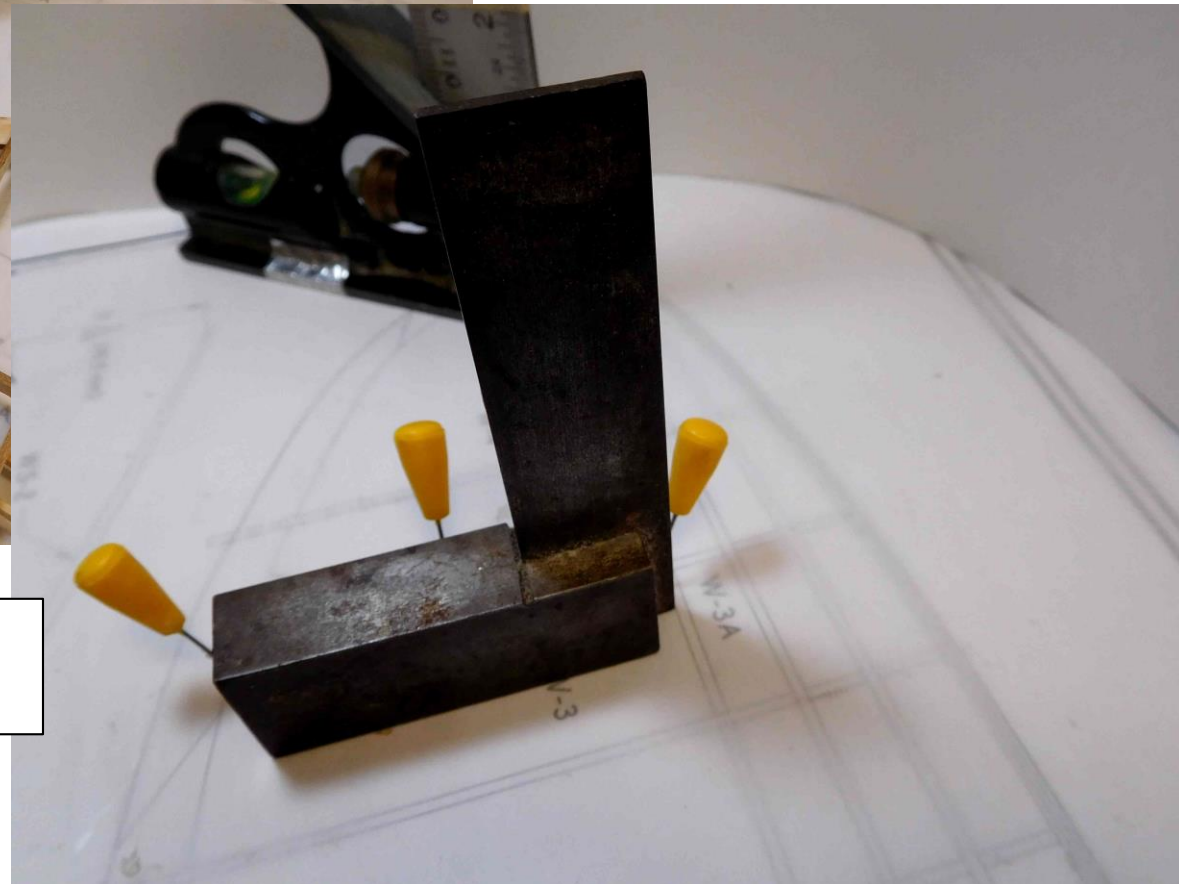
Dry fitting the spar and ribs together

Best fit the rib and spar to the plan before gluing anything. Note-use 1/32 x 3/16 wide shims at each rib station to provide under camber tilt to TE-1 and match the lower rib contour-makes sanding much easier later.

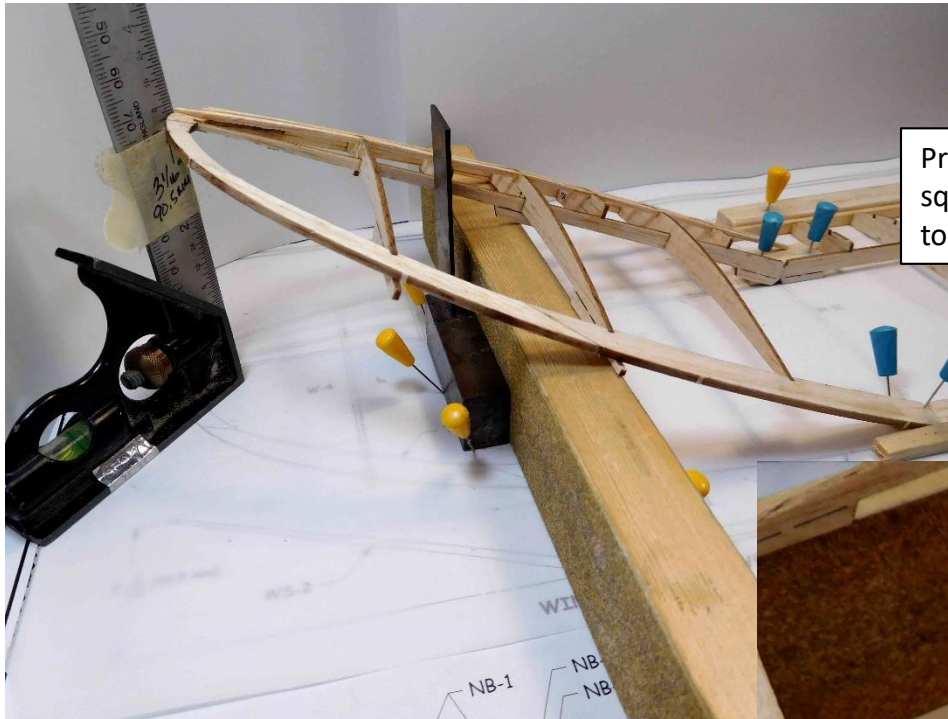




Getting the tip panel dihedral setup ready. Dihedral measurement is taken at the spar-remove the spar building tab to get close to the edge of the wing tip. Leave the rib building tabs on until ready to final sand the wing.



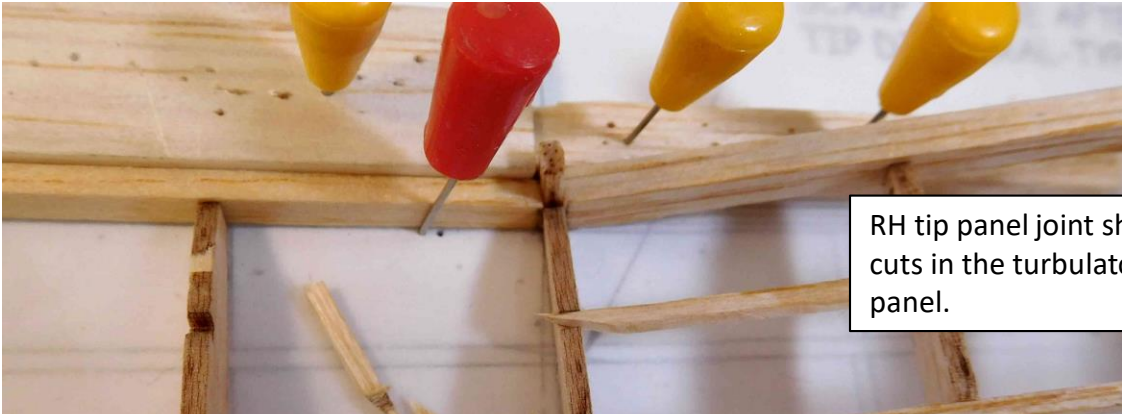
Use the aft surface of the spar to control position of the tip panel during the dihedral rigging process.




Propping up the tip panel for dihedral setting. 1/16 square turbulator spars are already installed-optional to leave off until after the tip panel dihedral is set.



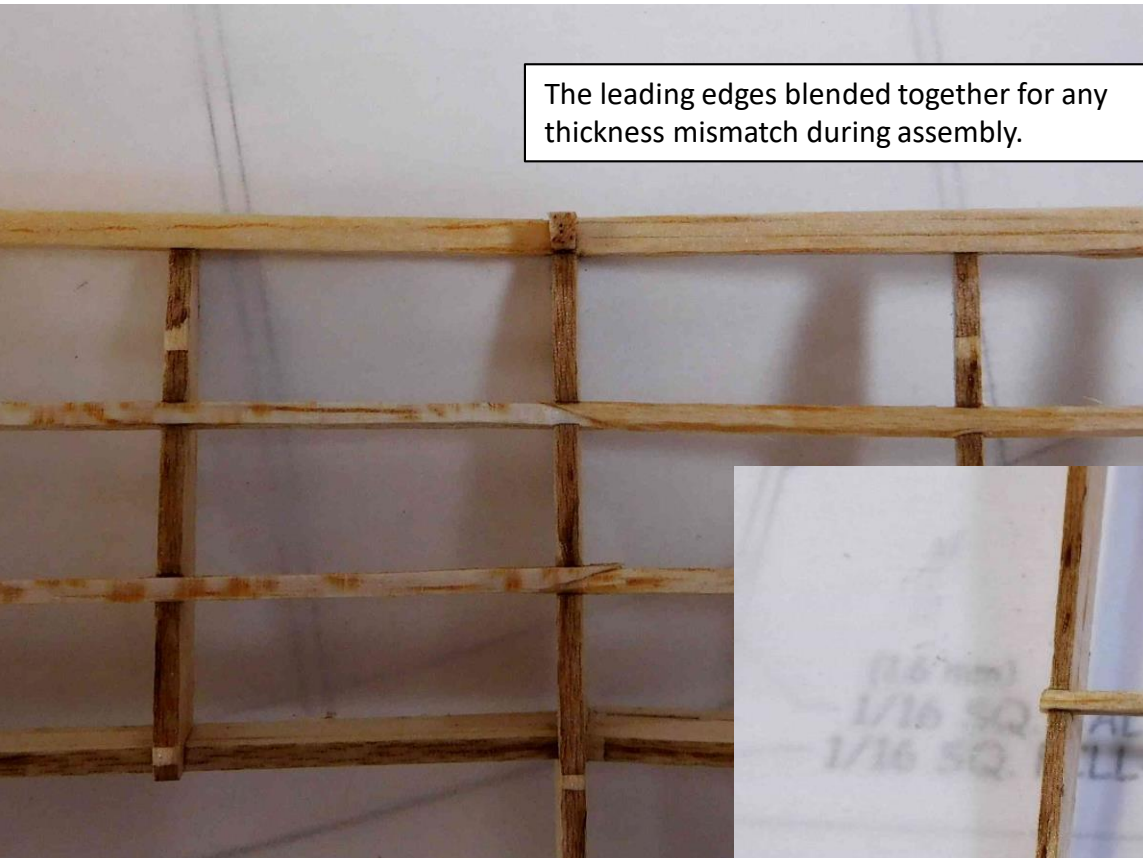
Installing the dihedral break rib W-1C. This is the rib with the hole in it. Don't glue the spar ends into the rib notches until the main panel spars are installed and in position for splicing at the dihedral rib.



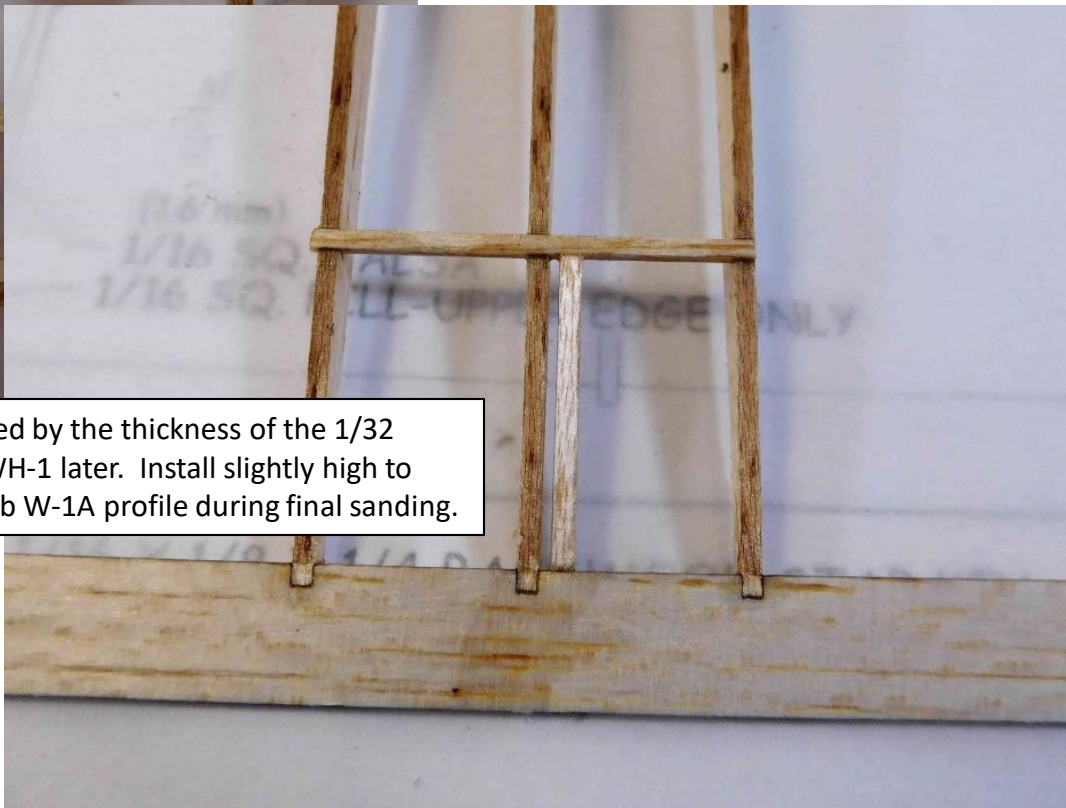
RH tip panel joint showing the first scarf cuts in the turbulator spar ends from the tip panel.



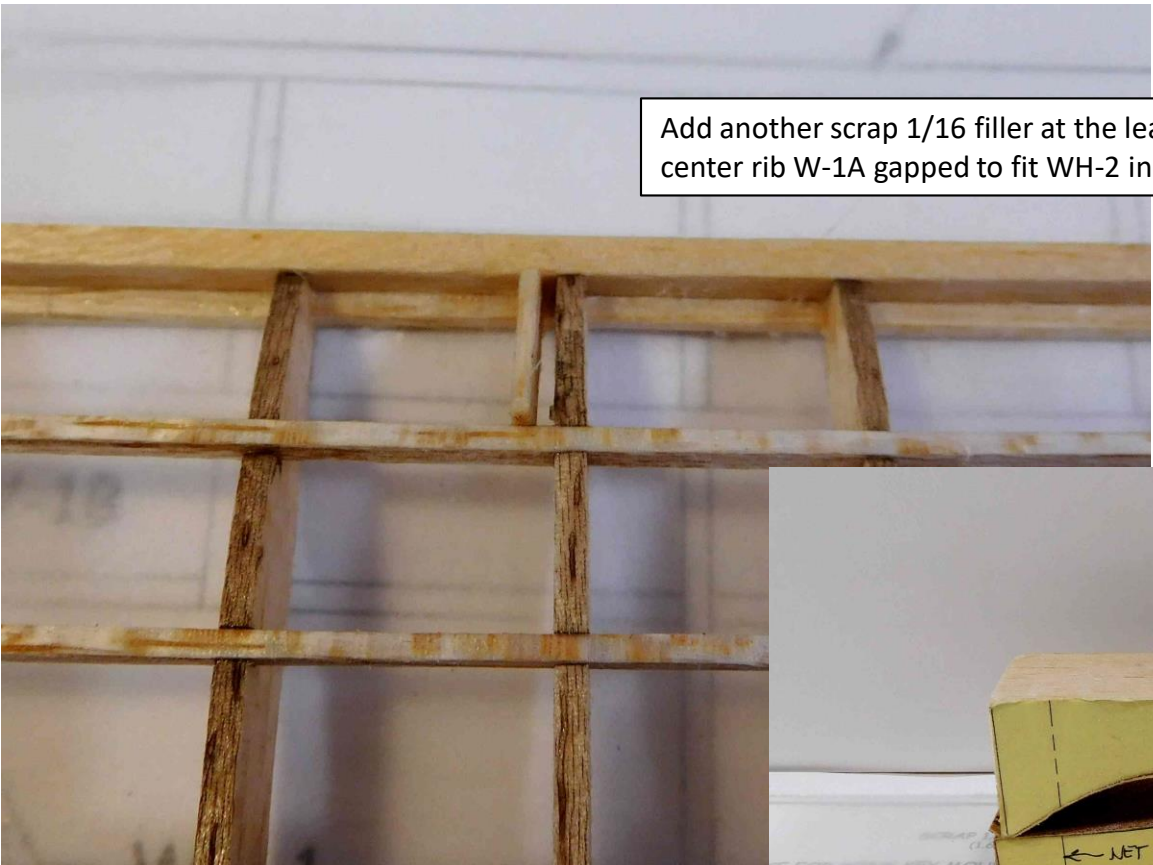
Center panel turbulator spars installed with mating splice cuts. Note the tip leading edge bow offset to the center panel leading edge at the joint. Let any thickness mismatch go to the forward side and fair it flush during final sanding.



The leading edges blended together for any thickness mismatch during assembly.



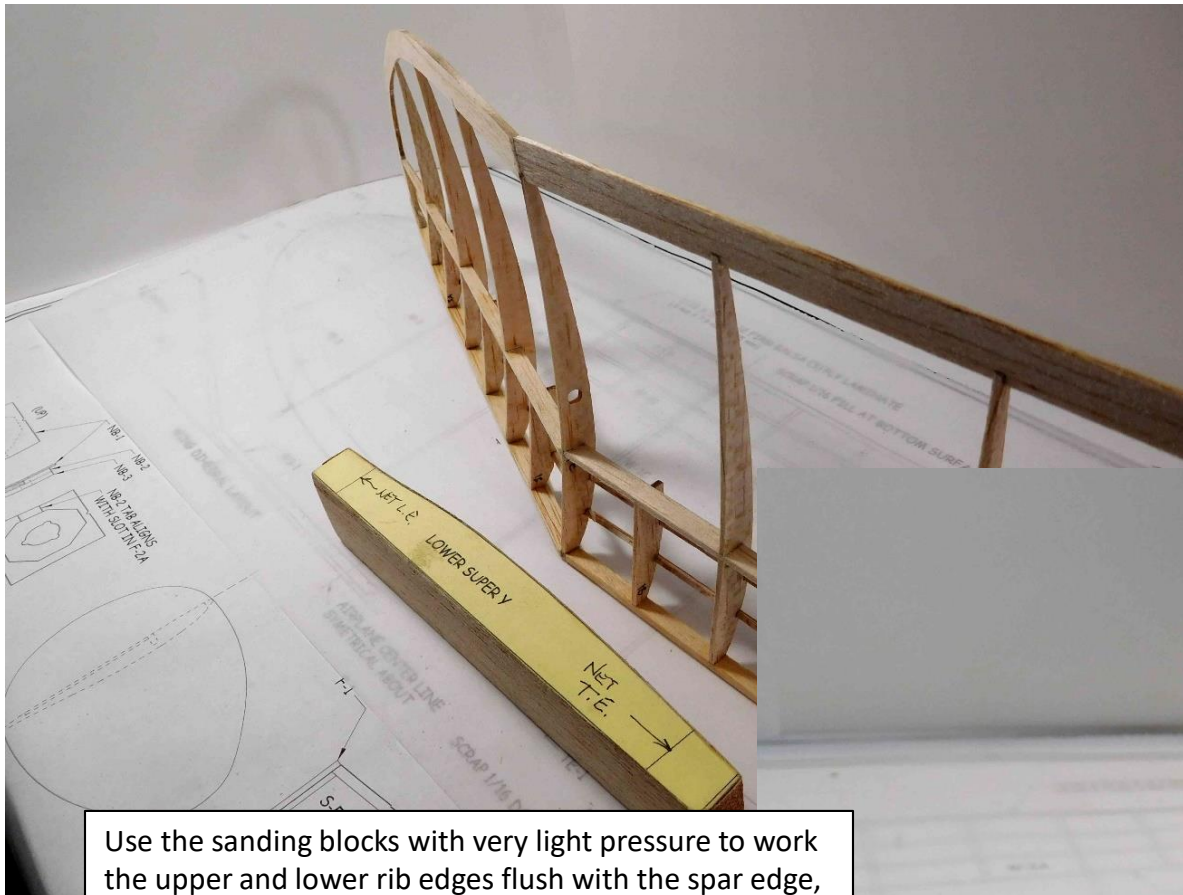
Install a 1/16 square filler gapped by the thickness of the 1/32 plywood part sheet to accept WH-1 later. Install slightly high to allow sanding to the adjacent rib W-1A profile during final sanding.



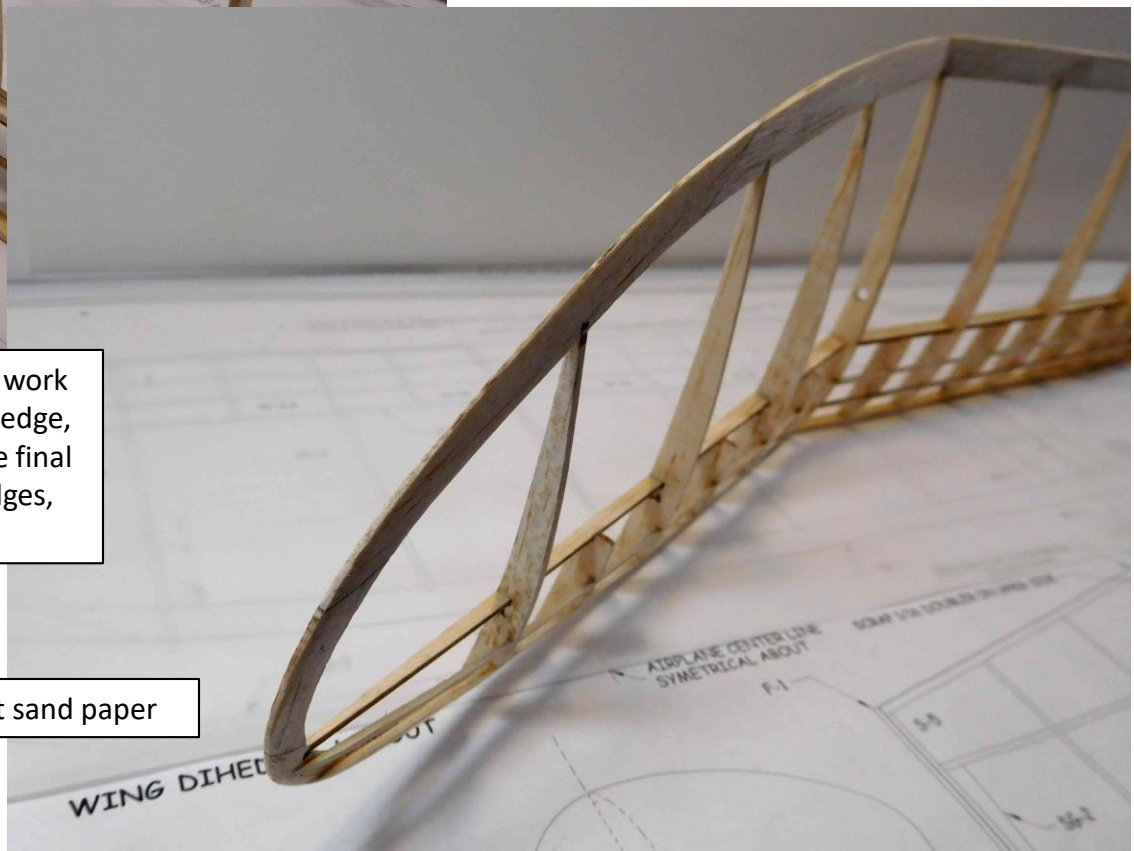
Add another scrap 1/16 filler at the leading edge center rib W-1A gapped to fit WH-2 installed later.



Formed sanding blocks made from the template sheet provided in the construction manual is suggested for the best results in wing sanding. Make from 1" wide material and contact cement a strip of 120 grit sandpaper to each.



Use the sanding blocks with very light pressure to work the upper and lower rib edges flush with the spar edge, etc. Flat sanding blocks can be utilized to sand the final profile cross sections in the leading and trailing edges, tip, etc.



Finish shape and sand the wing up to 320 grit sand paper