

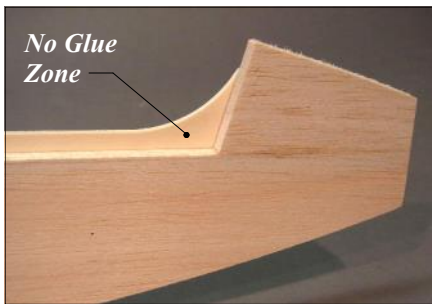
# 7

## FUSELAGE CONSTRUCTION

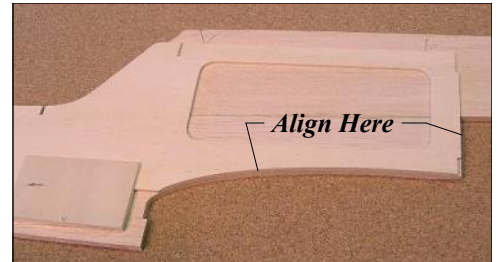
*Now let's have some fun. The basic framework of the fuselage goes together fairly quickly. Pretty soon you will be putting on the wing and taping on the tail and making jet noises in your workshop...*

❑ Trial fit the lite-ply fuselage doublers to the fuselage side. It is very important that both doublers are positioned identically on their respective sides. You won't have any problems if you pay attention to these three critical areas:

- **Aft Edge** must align with aft edge of SIDE-1. Again, be careful to make a right and a left side.
- **Wing Saddle** must align with wing saddle curve of SIDE-1. It should line up perfectly except perhaps right at the LE.
- **Top Nose Edge** must be spaced 3/8" from top edge of SIDE-5. There should be about a 1/8" gap at the very front.

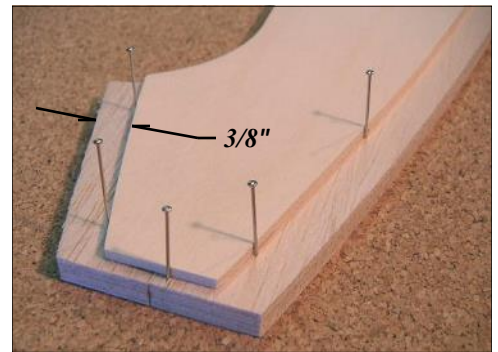
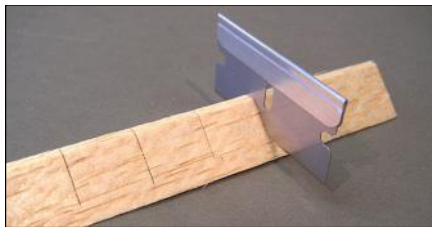


Notice that the doubler actually extends about 1/4" above the balsa sides in the hatch area, so you should tape the doubler in place, flip the assembly over, and mark the "no glue" zone on the doubler. For glue, I like to use thick CA, but epoxy would work as well (avoid yellow glue - it can cause curling on big surfaces like this). To avoid having the doubler slip around,



arrange some straight pins as shown in the photo to act as guides for the doubler as you lay it into place.

❑ In the kit you will find two pieces of 1/2" balsa triangle stock with a "nipped" edge. Apply this material to the fuselage sides with the nipped edge resting against the doubler. You will need a long piece along the bottom of the doubler and a short piece along the top of the nose. If necessary, use a razor blade to make partial cuts in the triangle stock to make it easier to bend.



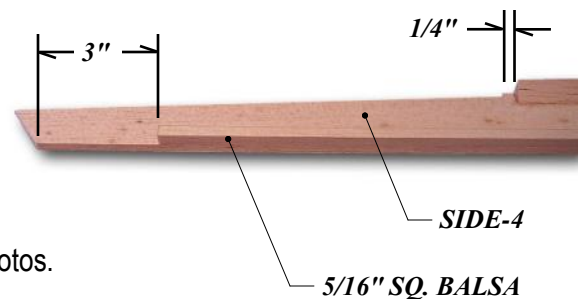
❑ Apply a normal piece of triangle stock to the top of the fuselage sides.

The aft edge of the stick should end 1/4" forward of the little jog on the top edge of SIDE-4. Notice that the top of the fuselage begins a gentle curve near the hatch cutout.

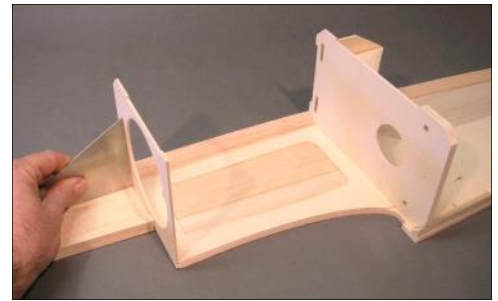
❑ Finally, add a piece of 1/2" triangle to the top edge of each hatch side. At the risk of becoming annoying, be sure to make a left and a right.

❑ Add a 5/16" sq. balsa stick flush with the bottom edge of the fuselage tail boom. The stick should start at the doubler and end 3" forward of the bottom corner of SIDE-4.

❑ Tape the hatch sides firmly in place on the fuselage sides - do not glue! I used blue masking tape so it would show up well in the photos.



❑ Tack glue F-5 and F-6 to one of the fuselage sides, using a triangle to make sure they are perpendicular. Now add the lite-ply fuel tank compartment top (big rectangle) along with the opposite fuselage side. Tack glue the parts, check the fuselage alignment over the plans, then glue them all firmly. These parts will form a self-aligning box that is the core section of the fuselage.



❑ Dry assemble F-1 through F-4 in the nose of the fuselage, using tape at the nose to hold everything together. You can check the overall alignment over the plans, but it's difficult. This is where a trained eyeball will come in handy. Stand a few feet in front of the nose and look for any hint of twists or one side bending more than the other (the banana effect). When you are satisfied that it's straight, start spot gluing the parts with medium CA. **CAUTION!** Be very careful to keep the glue away from the joints between the hatch sides and the fuselage sides.



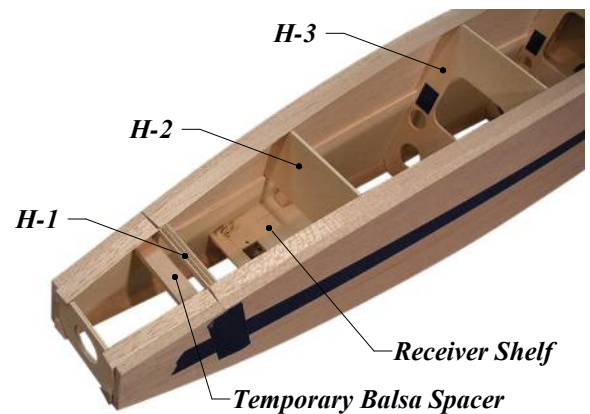
❑ Glue in the lite-ply receiver shelf and ECU shelf.

❑ At this point there is a lot of bending pressure that might be fighting you, particularly near the nose. Apply tape or temporary spreader sticks as necessary to hold things in their proper position. Trial fit the 1/4" plywood H-1 to make sure it fits, then glue it in place on the hatch.



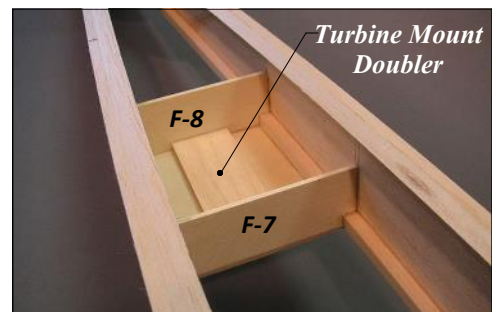
❑ Slide H-2 into position on the hatch. The final position is not critical, you just want to slide it far enough forward that it causes the hatch sides to bulge just a tiny bit away from the lip of the fuselage doubler. You want just enough of a

gap to give the hatch a little wiggle room so it's easy to put in place on the fuselage later on. Make sure the top edge of H-2 is even with the top of the hatch sides and glue it in place.



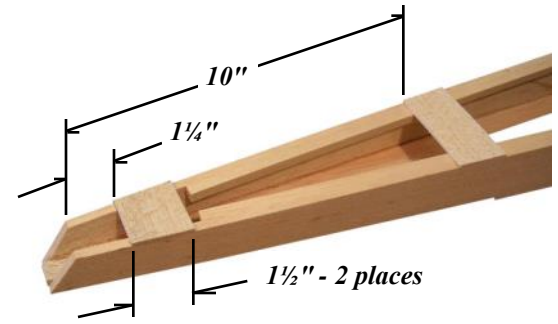
❑ Dry assemble F-7, F-8, and the 1/4" balsa stabilizer mount on the aft end of the fuselage, again using tape and pins as necessary to hold things in place. The fuselage top view on the plans is very helpful for checking alignment during this step. When satisfied that everything is positioned properly, glue with thin or medium CA.

❑ Glue the 3/32" plywood turbine mount to the bottom of the tail boom. Add the 3/16" plywood turbine mount doubler to the center of the turbine mount on the inside of the fuselage.



❑ Sheet the bottom of the fuselage between F-6 and the turbine mount with 3/32" balsa applied cross-grain.

❑ Glue two pieces of 3/32" balsa sheet, 1-1/2" wide, to the bottom of the fuselage as shown in the photo. These are the areas where the two fin posts make contact. For now, it helps to leave the rest of the fuselage bottom opened for access while installing the pushrods and fin post braces. Sand all of the balsa sheeting flush with the fuselage sides.



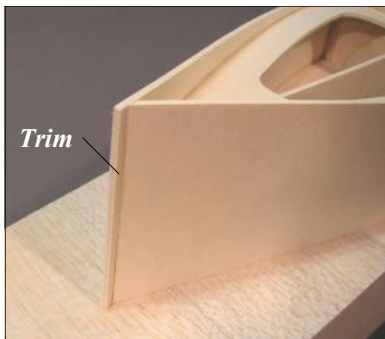
❑ Glue one of the boat tail formers to the sheeting, making sure the point is centered side-to-side. Cut away the balsa sheeting to match the hole in the boat tail former.

❑ Add the boat tail jig. Glue the aft end of the jig firmly, but just spot glue the front end on F-6. Make sure the jig is centered and vertical. The jig is symmetrical, so it can be installed with either side pointing up.

❑ Glue the second boat tail former in place. The front edge should be parallel to the bottom edge of F-6.

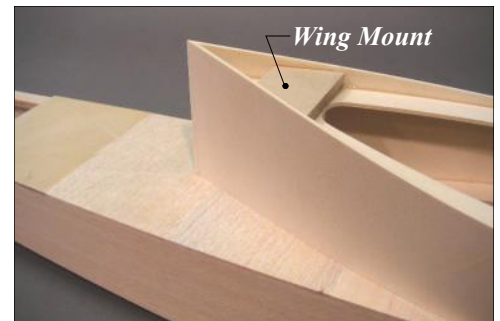


❑ Carefully sand the back edge of the boat tail jig to match the contour of the formers and provide a wider gluing surface for the sides which are to be added next. You can protect the balsa sheeting by putting masking tape on the edge of your sanding block for this operation.



❑ Now glue either one of the boat tail sides in place. The front edge of the boat tail side sits in the notch in SIDE-1. The rear edge of the boat tail side will have to be trimmed to match the angle of the formers and jig. Glue on the second boat tail side, then trim its rear edge to form a sharp point. The whole idea of the boat tail section is provide a smooth flow of air to the turbine intake.

❑ Remove the tape on the boat tail jig and break out the front portion.



❑ Firmly glue the 3/8" plywood wing mount in the rear of the boat tail.

❑ Use a sanding block to smooth the top edges of the fuselage in preparation for the balsa sheeting.

❑ Sheet the top of the hatch with 1/4" balsa sheet applied cross-grain. The sheeting must end right at the front and rear corners of the hatch sides. Use yellow glue for this step because this glue joint will have to be sanded later. Hold the sheeting in place with long strips of masking tape.

❑ Glue 1/4" balsa sheeting to the top of the fuselage at the nose being careful to not glue it to the hatch sheeting.

❑ When dry, remove all the tape from the sheeting and from the bulkheads inside the fuselage. You should now be able to separate the nearly-complete hatch from the fuselage. Grab your bottle of medium CA and go over both sides of every joint in the fuselage and hatch.