

Kam-Aero 43% Extra 300.

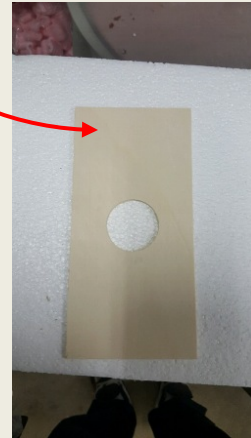
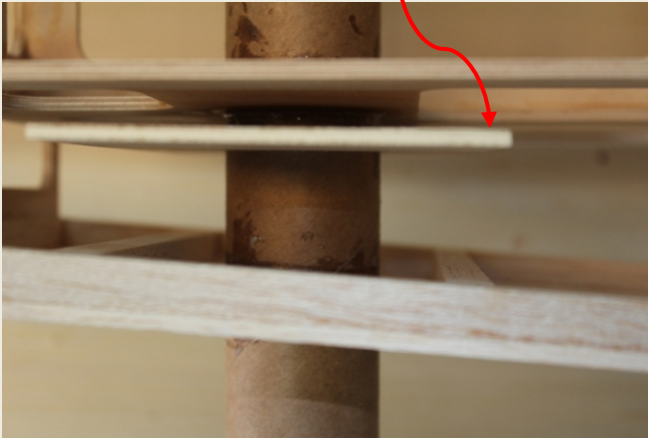
Aircraft Assembly:

With all the foam components sheeted, and the basics fuselage structure done, it's time to mate the wings and stabs to the airframe.

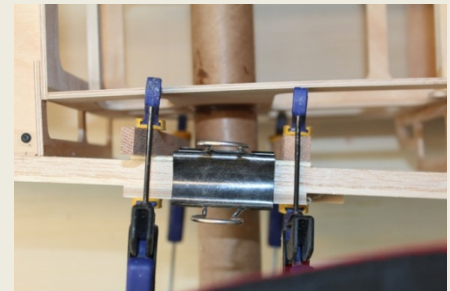
- Trim away the excess sheeting on all the sheeted foam parts. Lightly sand all the edges to make sure they are true.

Fit the wings to the fuselage:

- Insert the wing tube sleeve into the fuselage / motor box along with the two wing tube socket supports. Do not glue in place yet.



- Set your fuselage up such that it is level both laterally and front to rear. Secure the fuselage to the table (I clamp the front edge of the gear plate to the table).
- Insert the wing tube into the fuselage and check the alignment. With the fuselage level, ensure the wing tube is also perfectly level. Verify the longitudinal (front to back) alignment. Adjust the tube hole in one motor box side and fuse side if you need to make any alignment adjustments.
- With the tube alignment level and square, glue the fuselage wing tube sleeve and lite ply support plates in place.

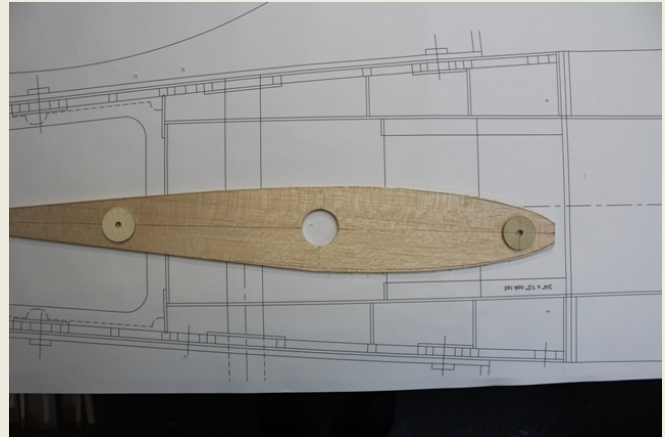


- Trim and sand the wing tube sleeve flush with the fuselage sides.
- Align and glue in place the stab tube sleeve as well. Trim and sand the stab tube sleeve flush with the fuselage side.



- Locate the 48" x 3/8" x 4" wing root blank.
- Cut two wing roots from the wing root blank.

- Fit the wing roots to each wing but do not glue in place yet.
- Sand the wing socket sleeves so that they are flush with the wing root.
- Trial fit the wings to the fuselage.



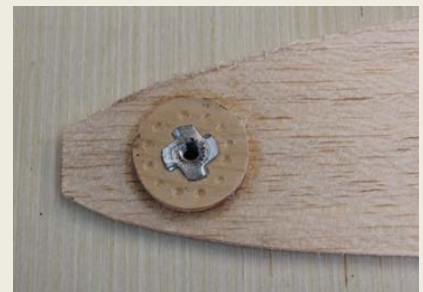
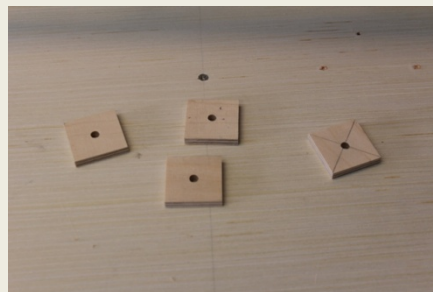
Note: When trail fitting the wings, make sure they aligned at or very close to the proper incidence setting.

- If needed, sand the root end of the wings (not the balsa wing root) so that the wings fit flush to the fuselage.
- Mark and drill the fuselage sides for the wing bolt locations, transfer the hole locations to the wing roots.

- Locate the four (4) 1/8" x 1 1/2" x 1 1/2" ply wing root hard points.

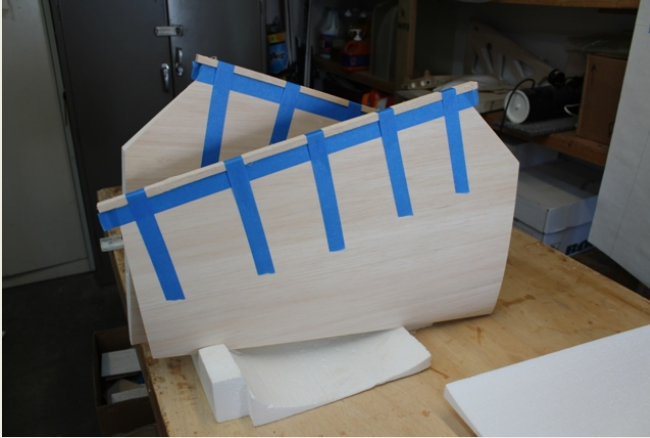
Note: I like to sand them to circles, but this is optional.

- Install blind nuts into the hard point. Note: Use at minimum 8-32 bolts for your wing attachment.



- Glue the blind nut / hard point assemblies to the **inside** of the balsa wing roots. Note: I like to slightly dimple the foam side of the hard point. This increases the gluing surface area.
- Using a router, relieve the foam wing root to accept the balsa wing root and hard points, and glue the balsa roots to the wings. Note: Make sure you drill a hole in the wing roots for your servo wire exit before gluing them to the wings.
- Locate the two 1/8" ply stab roots.
- Using the same procedures as with the wings, trial fit the stabs to the fuselage; adjust / sand the stab root if necessary for a flush fit.
- Glue the stab roots to the stab cores. Note: Make sure you drill the servo wire exit hole in the stab roots before gluing to the stabs.

- Install the 3/8" balsa leading and trailing edges to the wings, stabs, and rudder / fin.



- Use a razor plane and or sanding block to trim the leading and trailing edge flush to the surfaces.



Incidence:

- Locate the four (4) 1 1/2" x 1 1/2" ply wing anchor blocks. Glue to the anchor blocks scrap 1/8" balsa or 1/8" lite-ply to increase the thickness to 3/8".
- Mark and drill the anchor blocks for your wing bolts.
- With the fuselage still secured and leveled, set the incidence for the wings.



- Glue the anchor blocks in place using epoxy.
- While the wing blocks are curing, locate the four (4) 1/8" x 1" x 3" anchor block straddle plates.



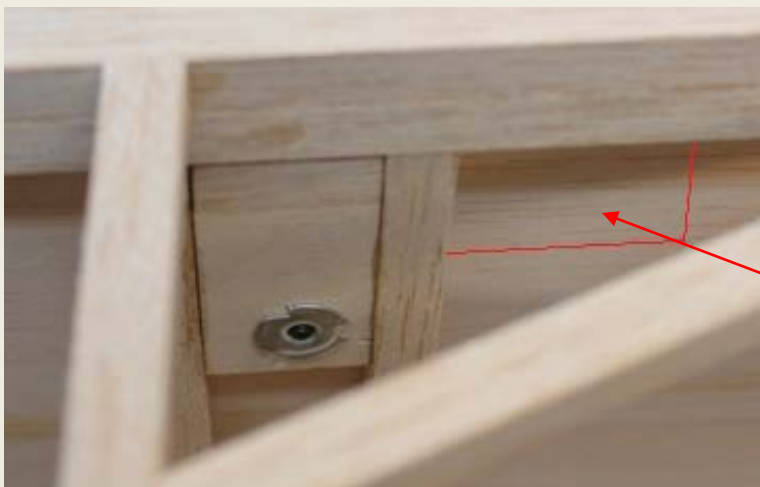
- Once the wing anchor blocks have cured, position and mark the straddle plates for the wing bolts, mark, drill, and install the straddle plates over the anchor blocks to vertical trusses on either side of the anchor blocks.

Stab Incidence



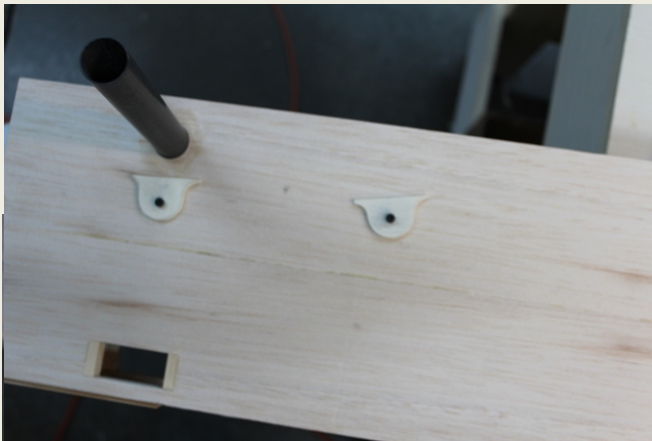
- Locate the 3/8' x 1" x 1 1/2" ply hard point for the forward stab bolts.
- Position one stab on the fuse at 0 degrees incidence. Place and hold a forward hard point in position, and with the stab at zero drill through the forward tab hole, through the fuse side, and into the hard point. I do this with a finger drill and use just enough pressure to mark the hole location on the hard point.

- Remove the hard point, and using a drill press drill the marked hole location to accept a 6/32 blind nut.
- Install the blind nut, and with the stab still at 0 degrees install the hard point / blind nut assembly using epoxy or aliphatic resin. Secure the assembly until dry by installing a 6/32 screw through the stab root into the assembly. Tip - tighten only enough to hold everything in place, and verify that the incidence is still 0.
- Repeat for the other stab.
- Drill the hole for the rear bolt point, making sure to drill completely into the previously installed hardpoint. Install either a 6/32 blind nut, or 6/32 threaded insert for the rear bolt point.



- If using a stab anti-rotation pin, install at this time. Install the pin per the plans in front of the forward bolt point. Note: the anti-rotation pin **MUST** be parallel to the stab tube, not perpendicular to the fuse sides.

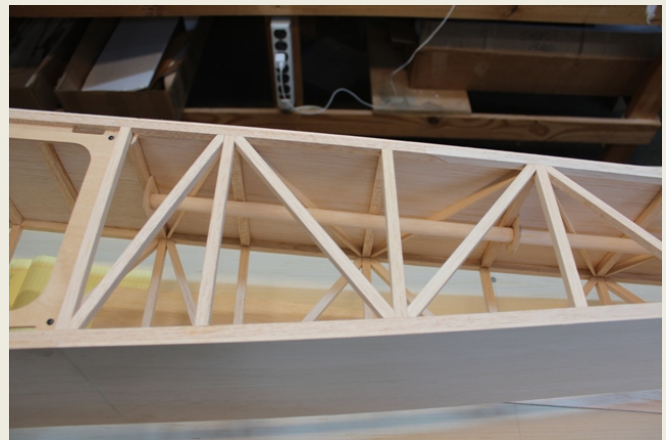
Hardpoint location for anti-rotation pin.



- Cut and install lite-ply fuse side inserts under the stab root tabs. These prevent the stab root tabs from indenting the fuselage sides when tightening the mounting screws.

I cut the inserts to the same shape as the stab root tabs, mount them to the fuselage side, then trace the outline with an exacto knife. I then use my router set to depth and route away the basla fuse side, then fit and glue the inserts in place.

- Install any other internal fuse structures at this time (servo wire tubes etc.) that require you to have access to the internal fuse structure.

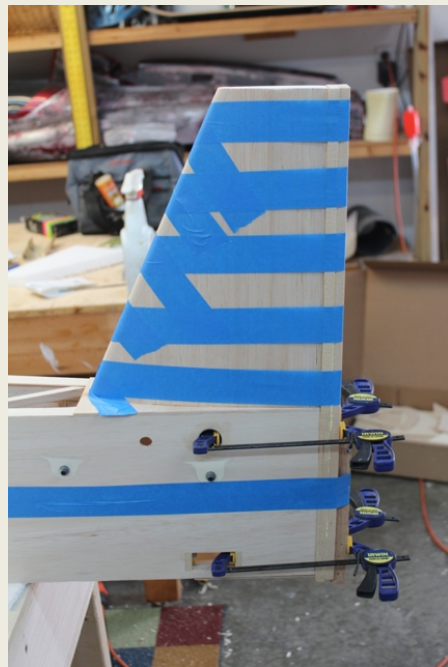
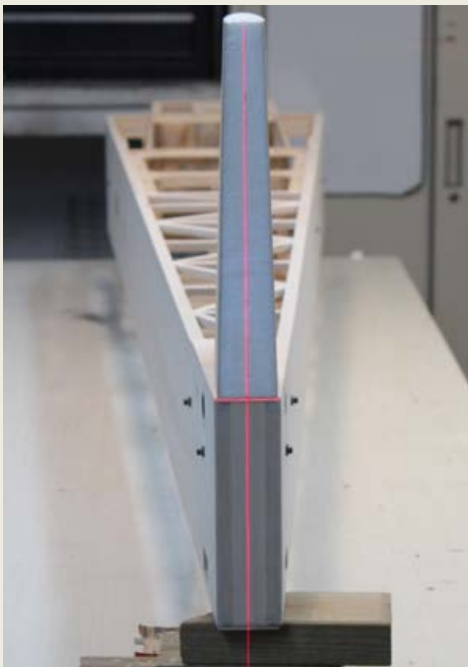


- Cut and install the 1/8" balsa fin deck.



- Install the fin, making sure it is square.

- Install the 3/4" Balsa fin post - use two pieces of 3/8" balsa stock to make the fin post.



- Fit and install the bottom decks. The forward deck must be installed first, take care to accurately cut out the front center section to fit around the lower motor box. **Important!** Adjust the fore / aft position of the deck such that the surface bottom deck aligns flush with the gear plate. Note: When properly fit, the forward deck may extend slightly beyond the F2 former position, this will be trimmed later.
- With the forward bottom deck in place, trim and position the rear bottom deck so that it aligns flush to the forward section. Once the front and rear decks align, trim the rear bottom deck so that it ends at the tail gear plate, and glue in place.
- Turn the over and fit the turtle deck. Tip: Use the shuck from the forward bottom deck as a cradle to hold the fuselage while working on other section.
- Use the fin outline provided on the plans to cut the rear of the turtle deck to fit around the fin. Tip: Cut undersized and gradually sand and shape until you achieve the desired fit.



- Use 1/8" Balsa to cap the front of the Turtle deck.

The next section will detail the hatch construction.

