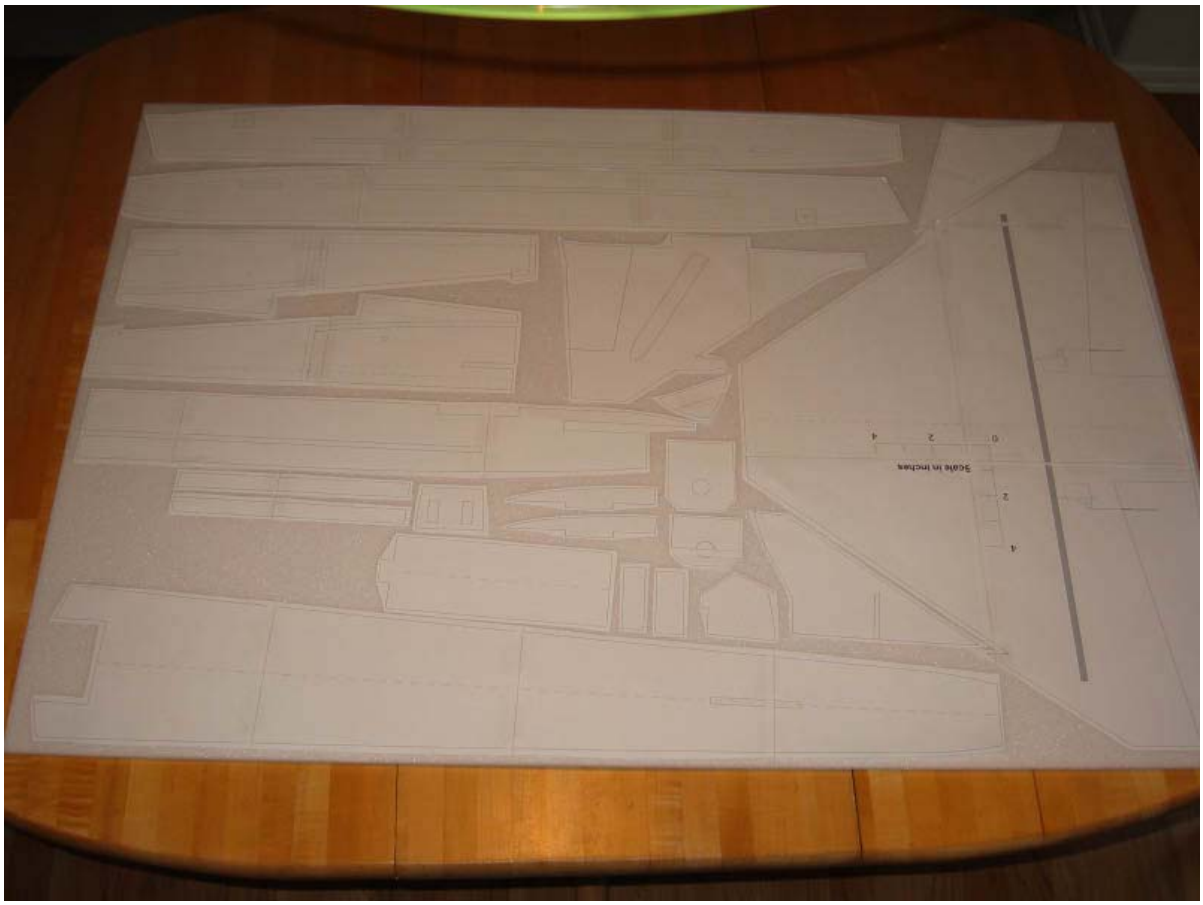
SAAB JAS 39 Gripen

Building Instructions

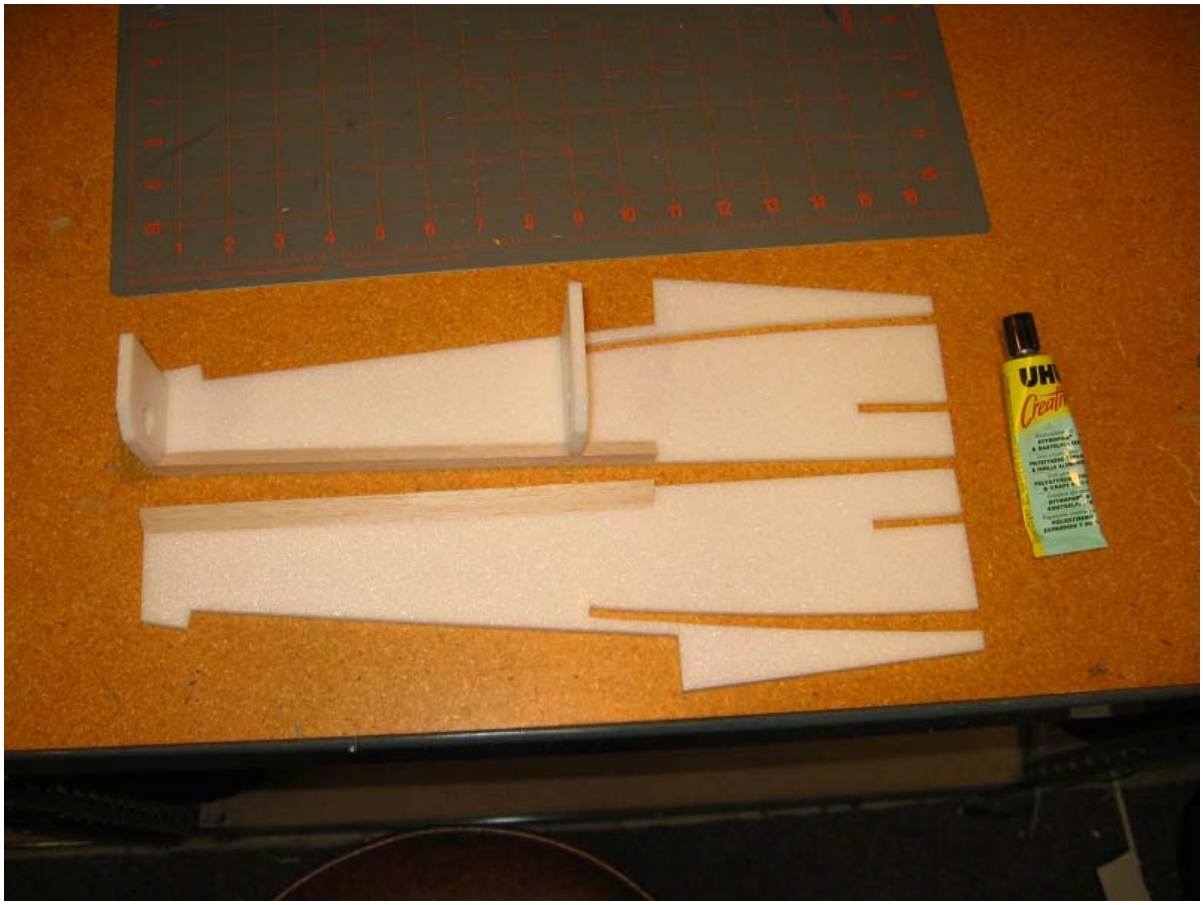
Designed by: Steve Shumate

Taken From: http://www.rcgroups.com/forums/showthread.php?t=308830&page=1

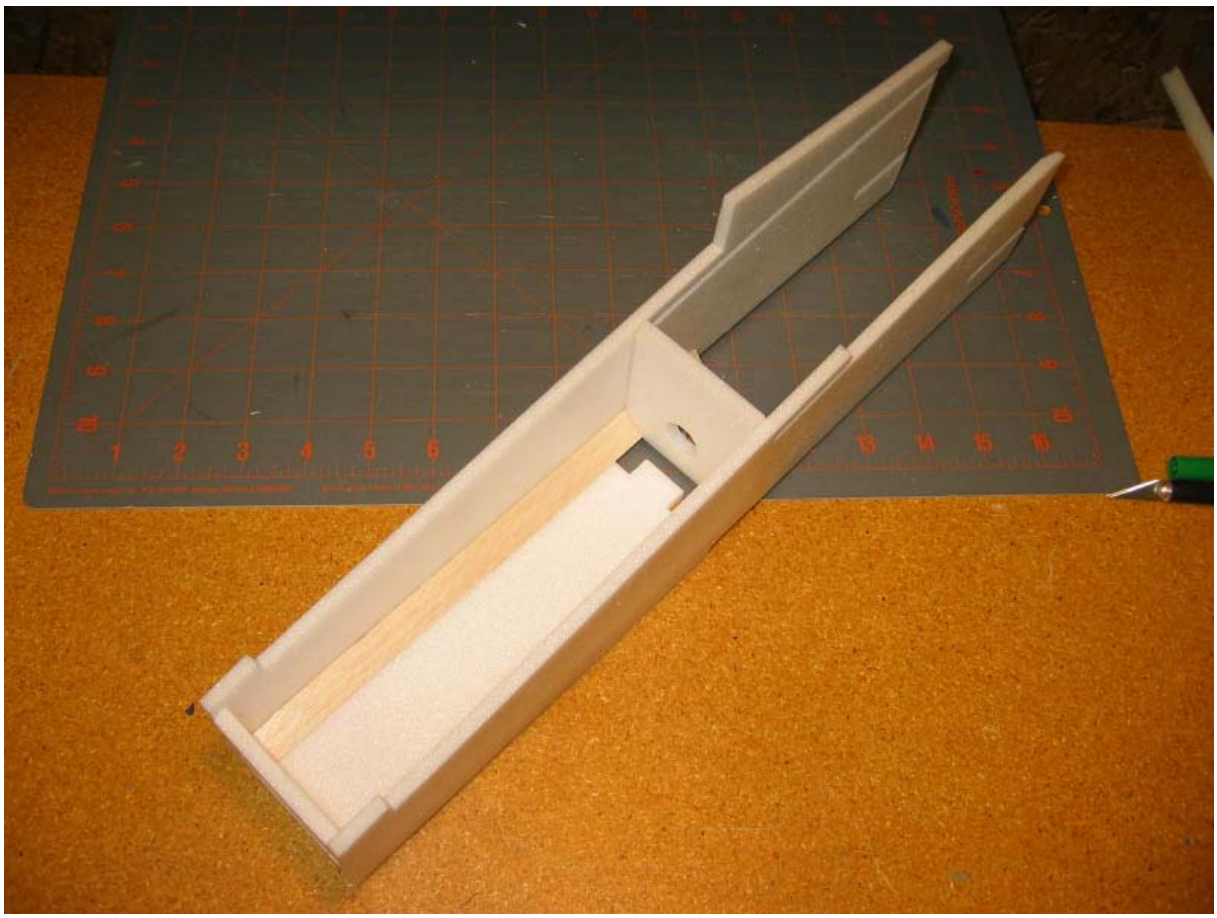
Lightly tack glue the paper templates to the foam sheets using 3M 77 spray adhesive. Then cut out all the parts.



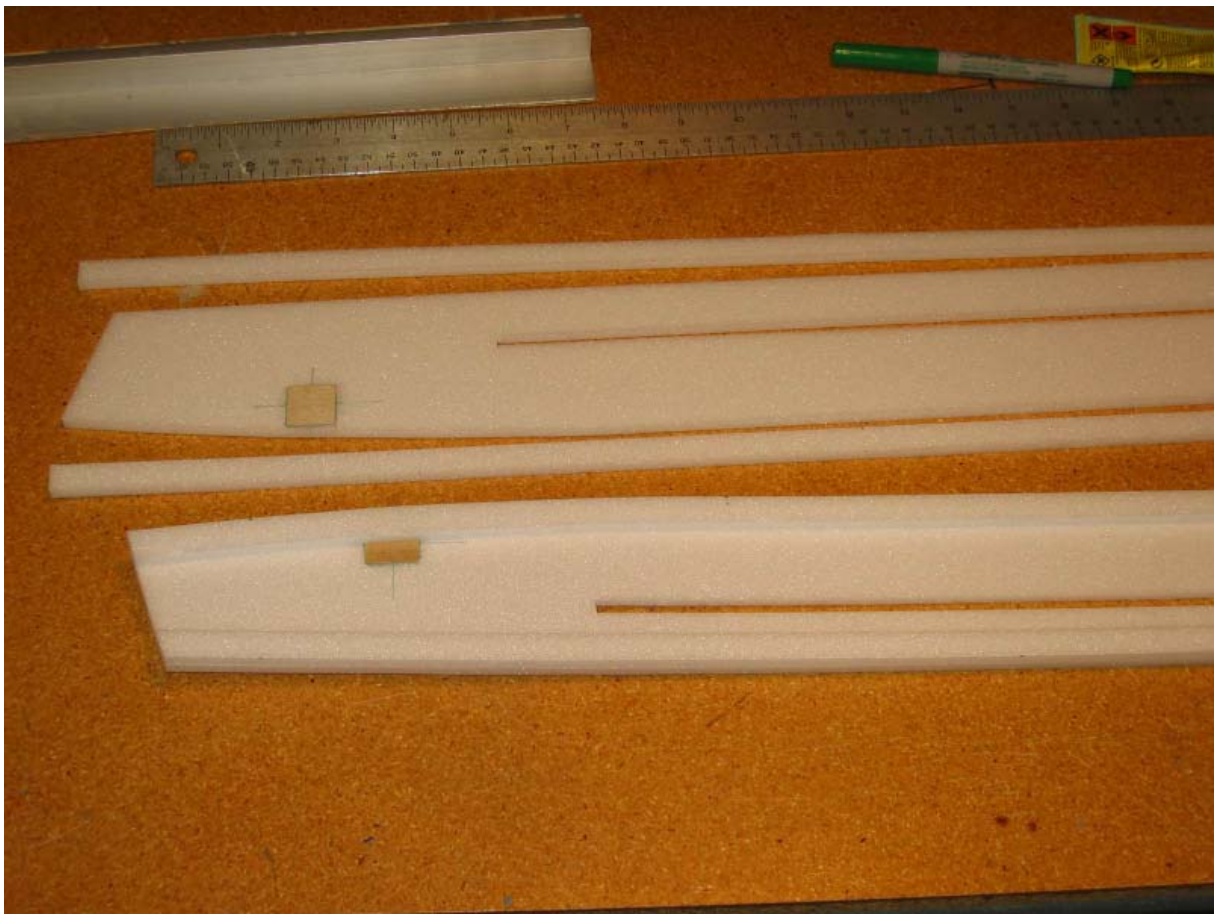
Glue the bulkheads and balsa triangle stock to the forward fuselage sides. I used UHU Por glue and foam-safe CA for most of the construction, reserving epoxy for just a few critical places.



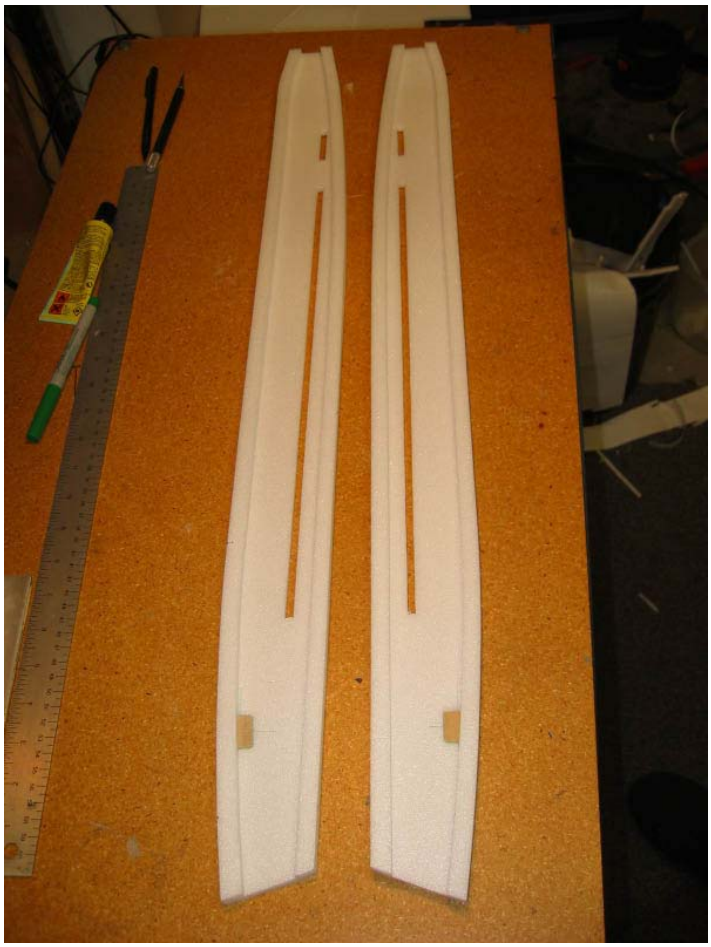
Glue the two forward fuselage sides together, then glue on the bottom piece



Glue the plywood canard supports to each intake side, then glue on
the foam strip doublers to the top and bottom of each piece as shown.



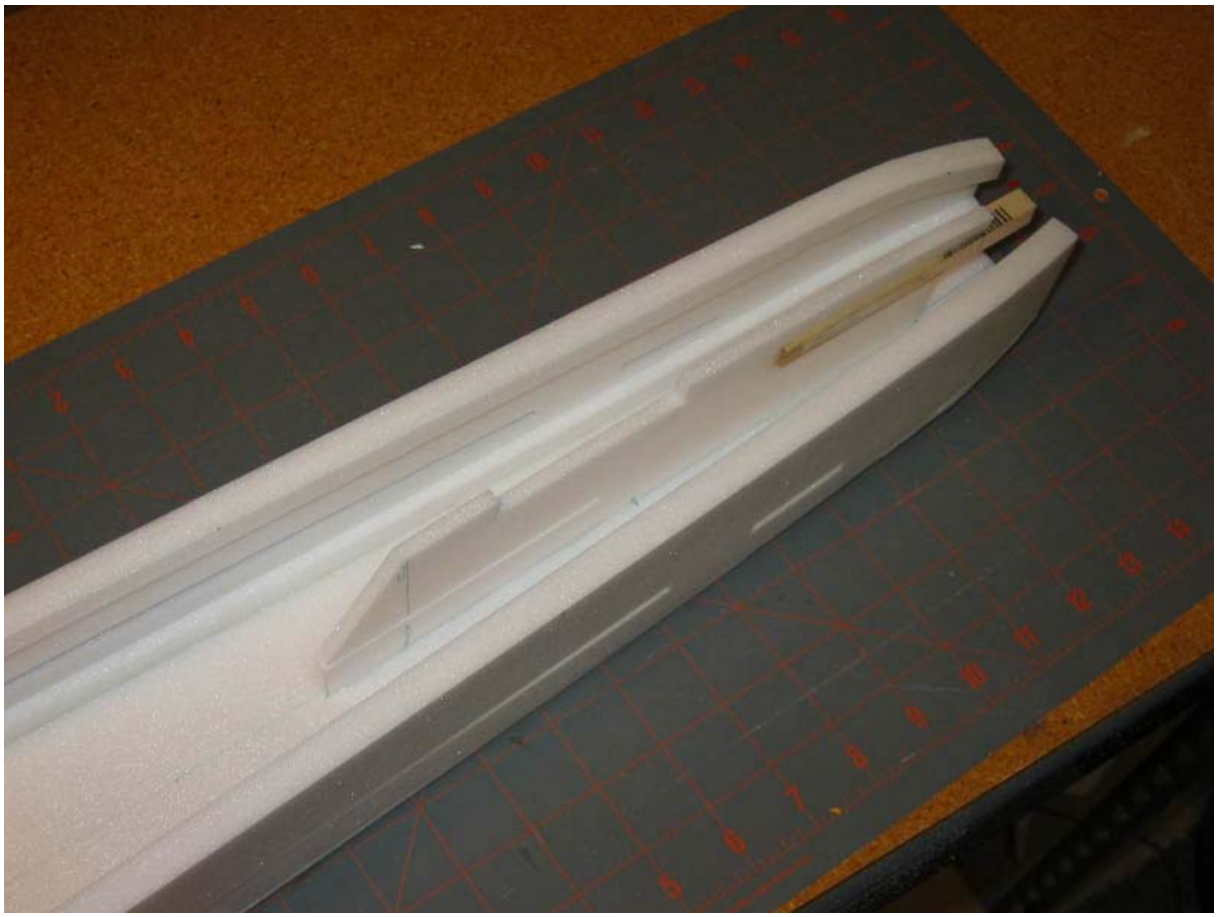
When done, the two intakes sides should look like this.



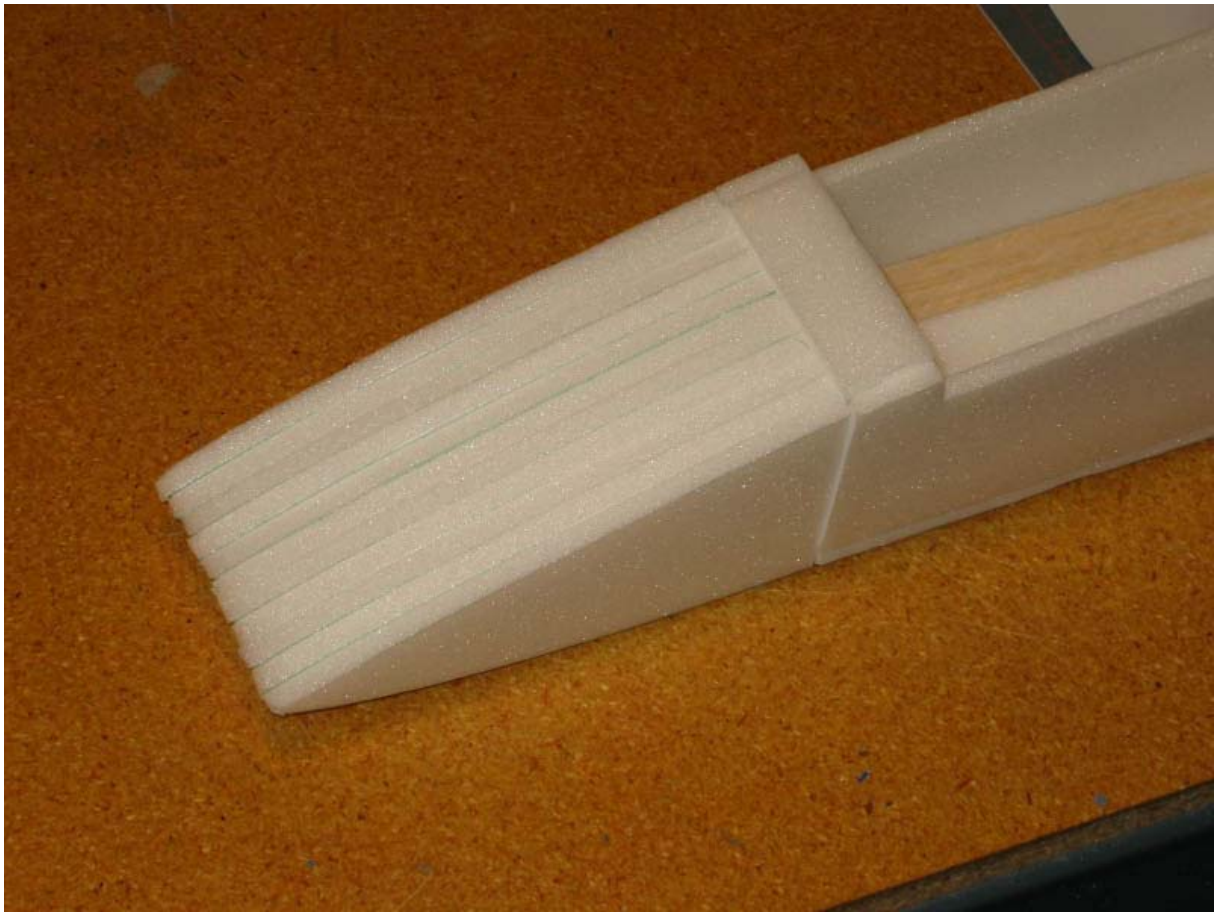
Glue the two intake sides to the aft fuselage bottom piece.

Glue the forward fuselage assembly to the aft fuselage assembly.

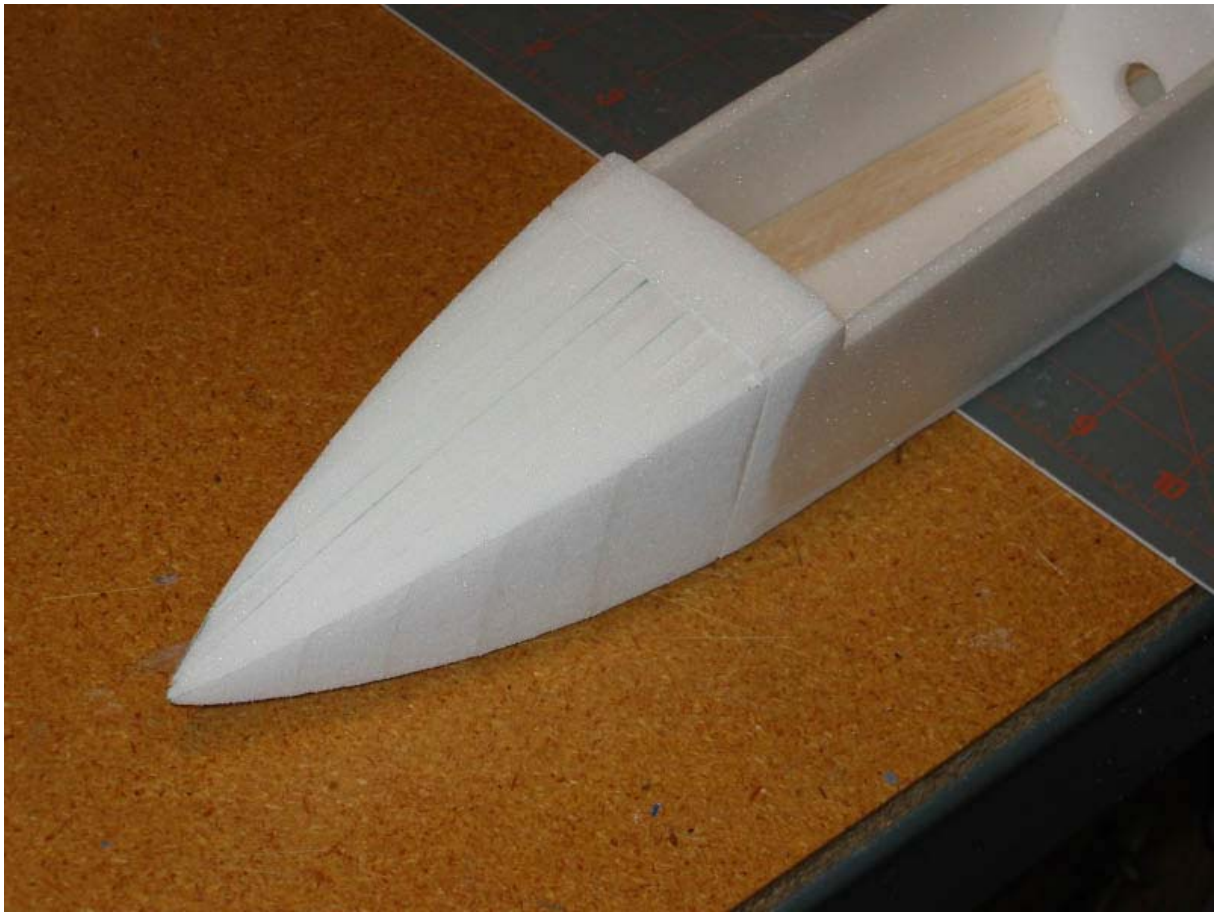
Glue the centerline motor mount support piece in the aft fuselage



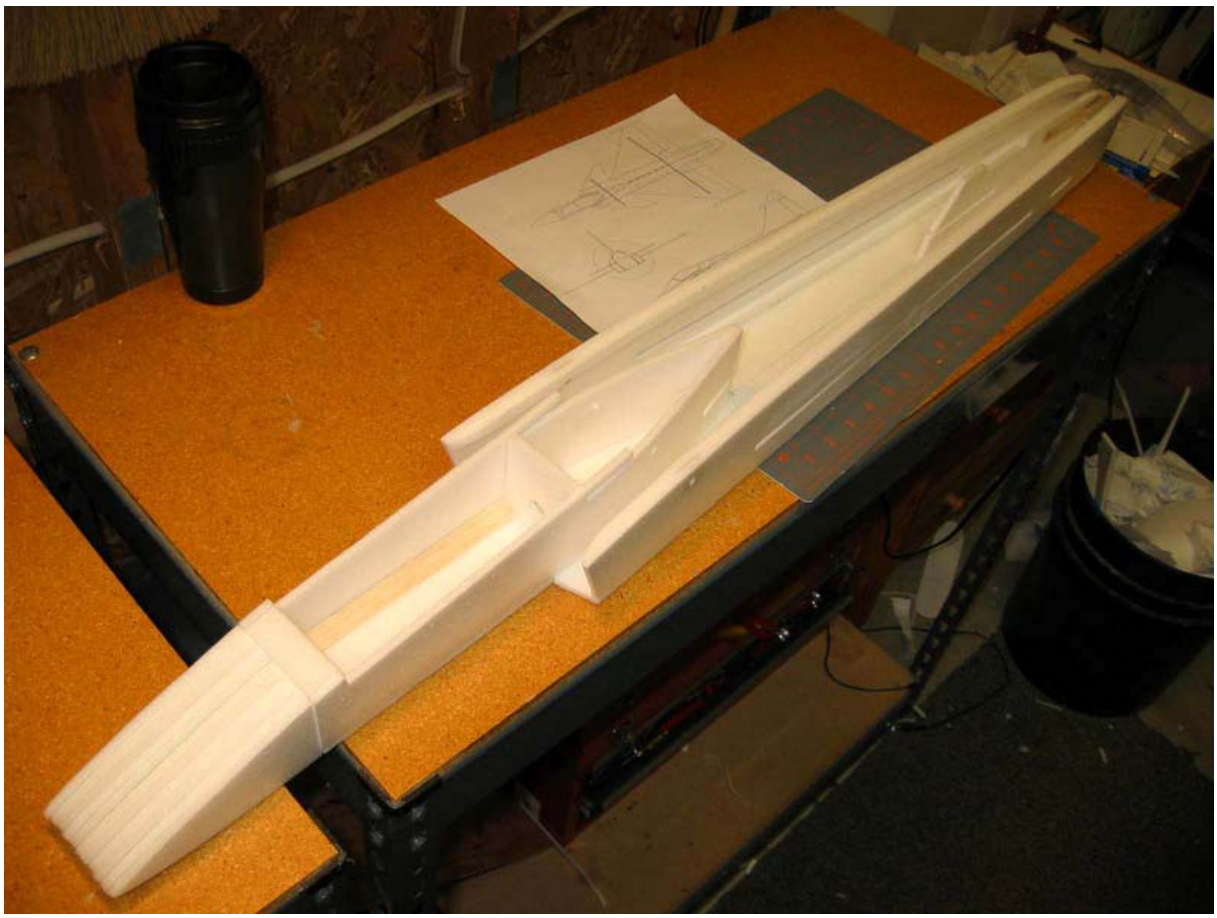
Laminate the nosecone pieces with 3M 77 and then glue onto the forward fuselage. Laminate the canopy pieces together the same way.



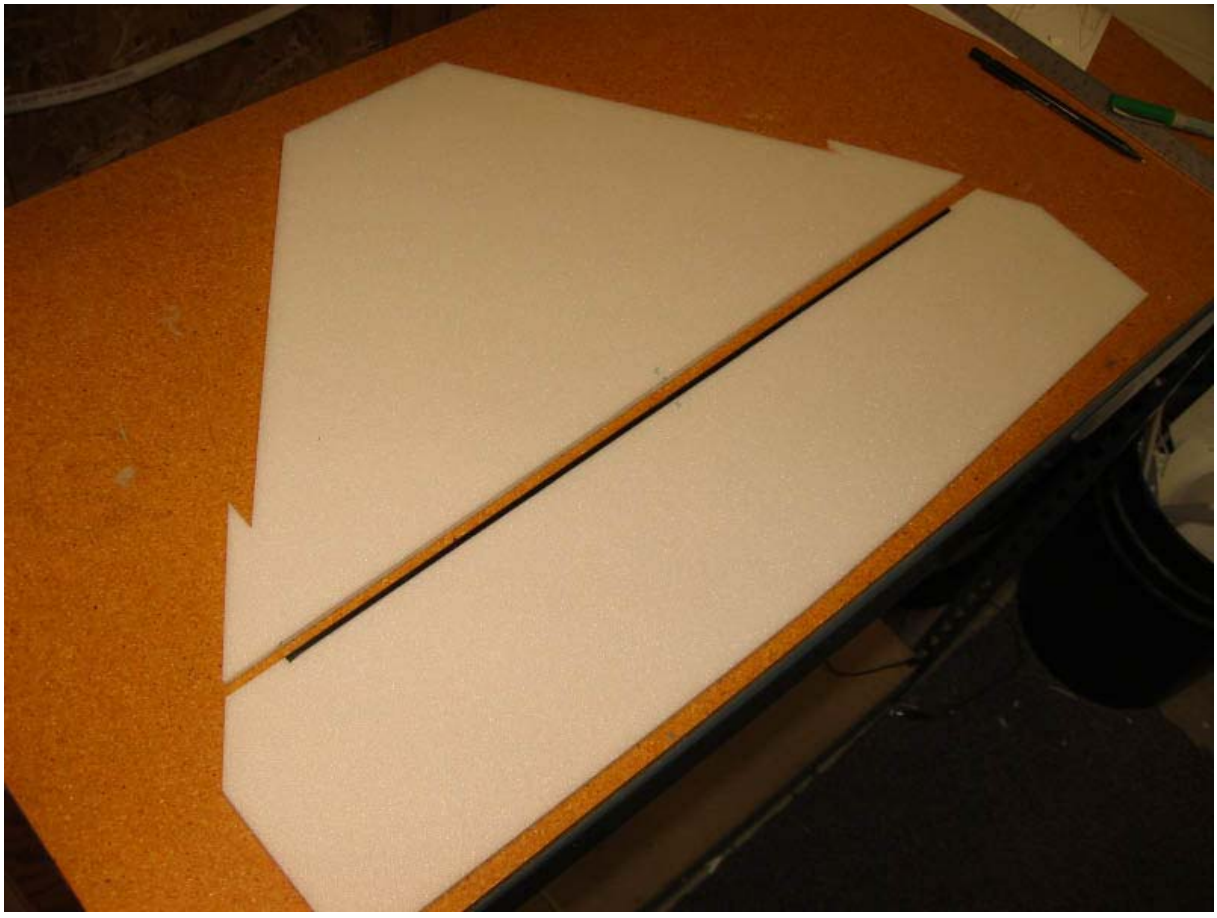
Rough cut the nosecone to shape with a long knife or coping saw (the corners can be sanded round now or later).



The fuselage should now look like this.



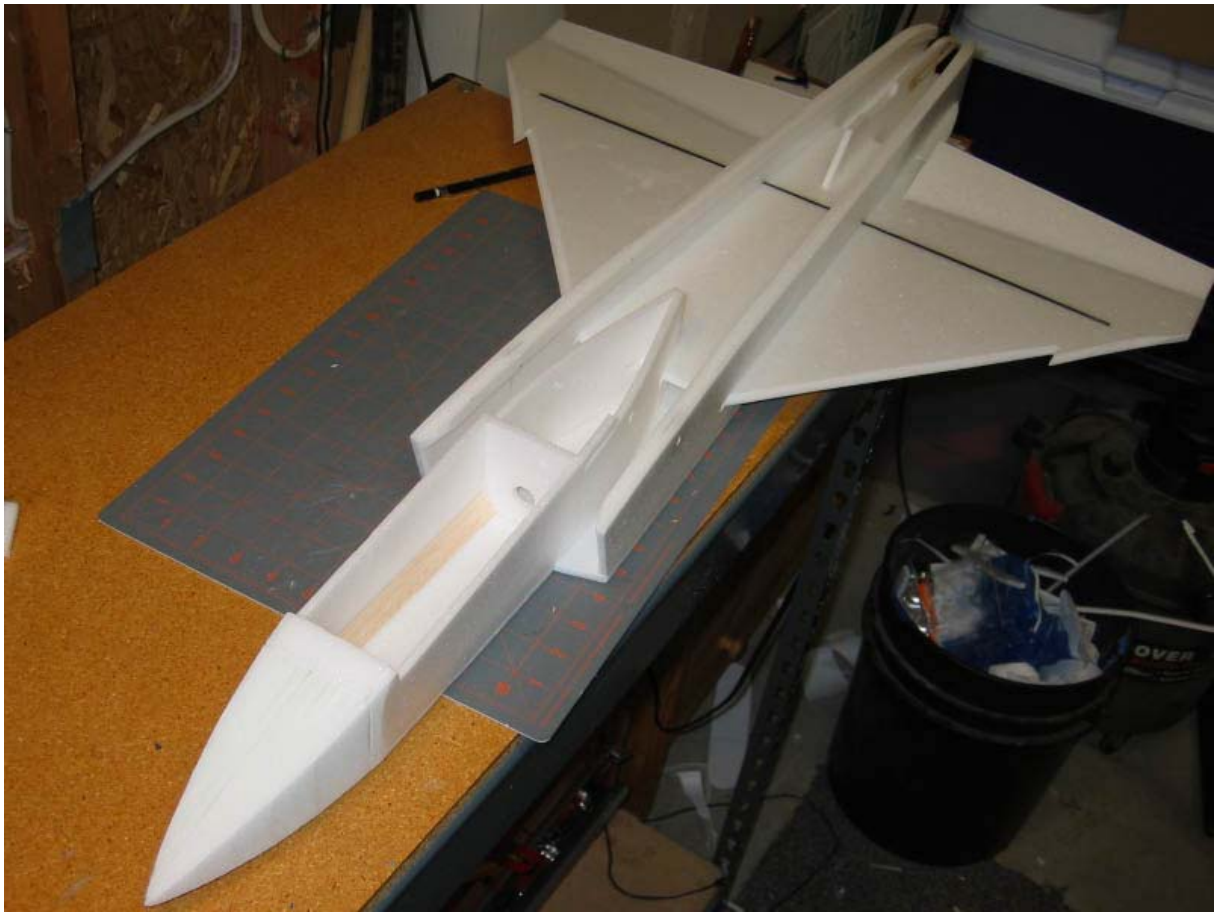
Cut the wing in half as shown and cut a slot to accept the carbon tube spar.



Groove the foam in each wing half to fit the spar (just run the tube down the edge of the wing while pushing down moderately hard, which will crush the foam into a nice semicircular shape that fits the tube perfectly.(

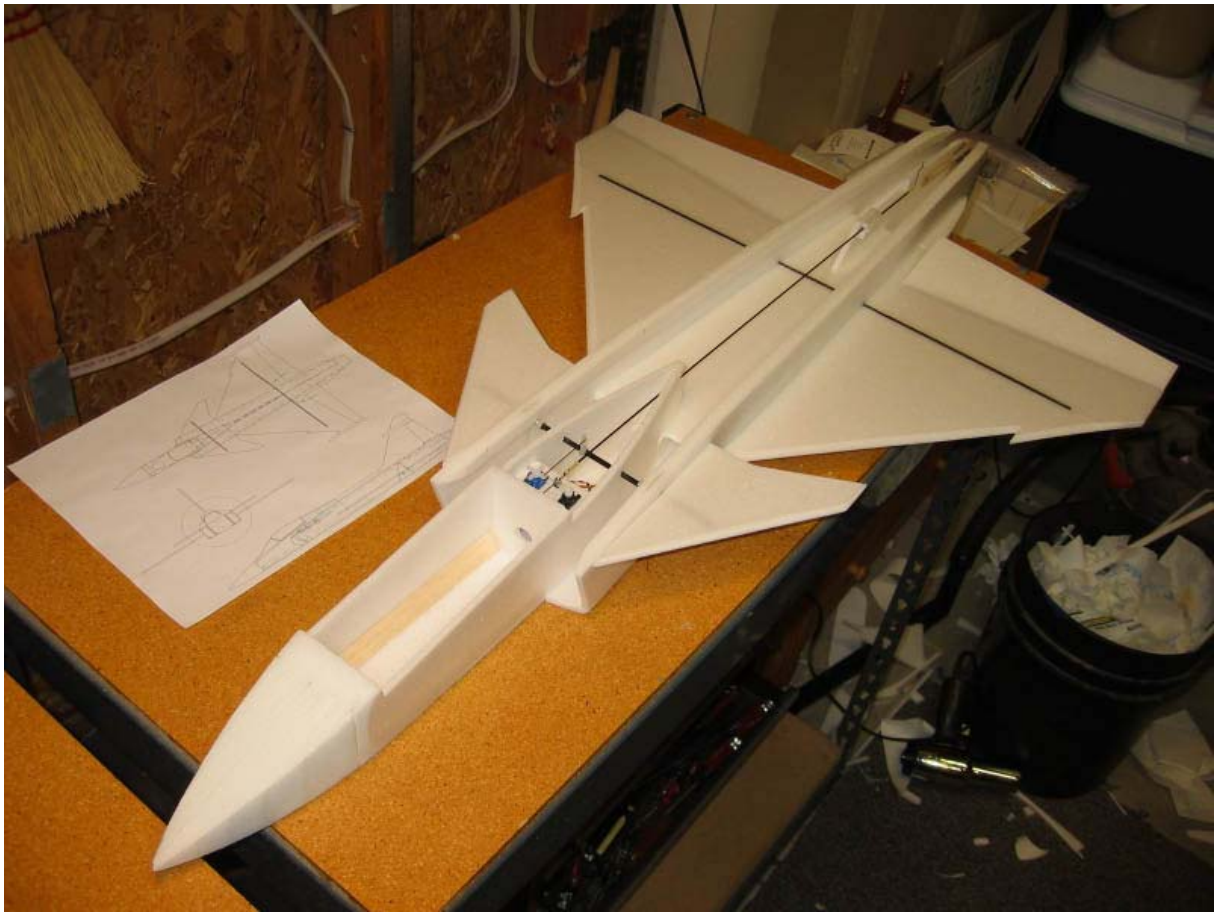
Glue the wing spar in with epoxy. When cured, cut the flaperons from the wing, bevel the leading edges 45 deg, then hinge with 3M Satin tape.

Slide the wing into the fuselage and trim as required for a good fit

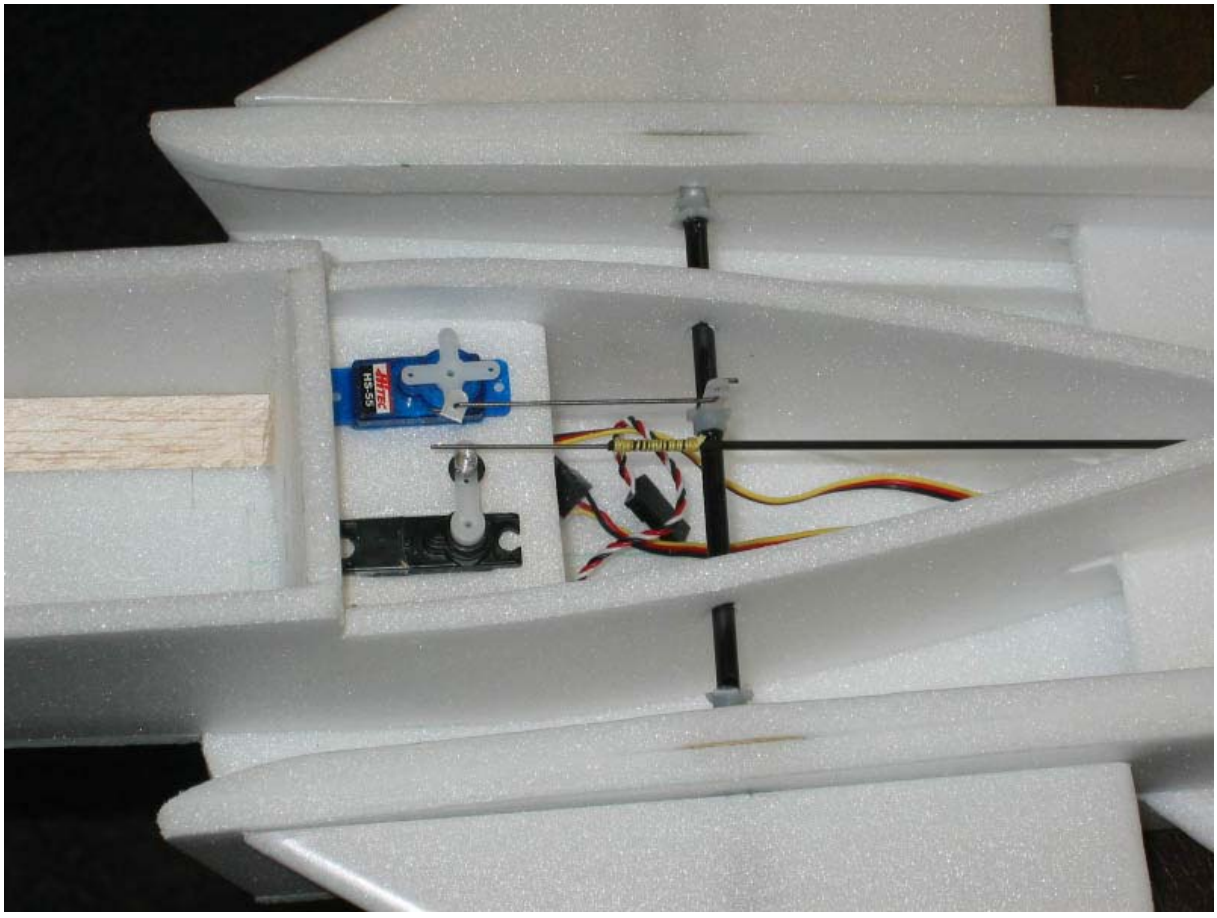


Glue the wing into the fuselage.

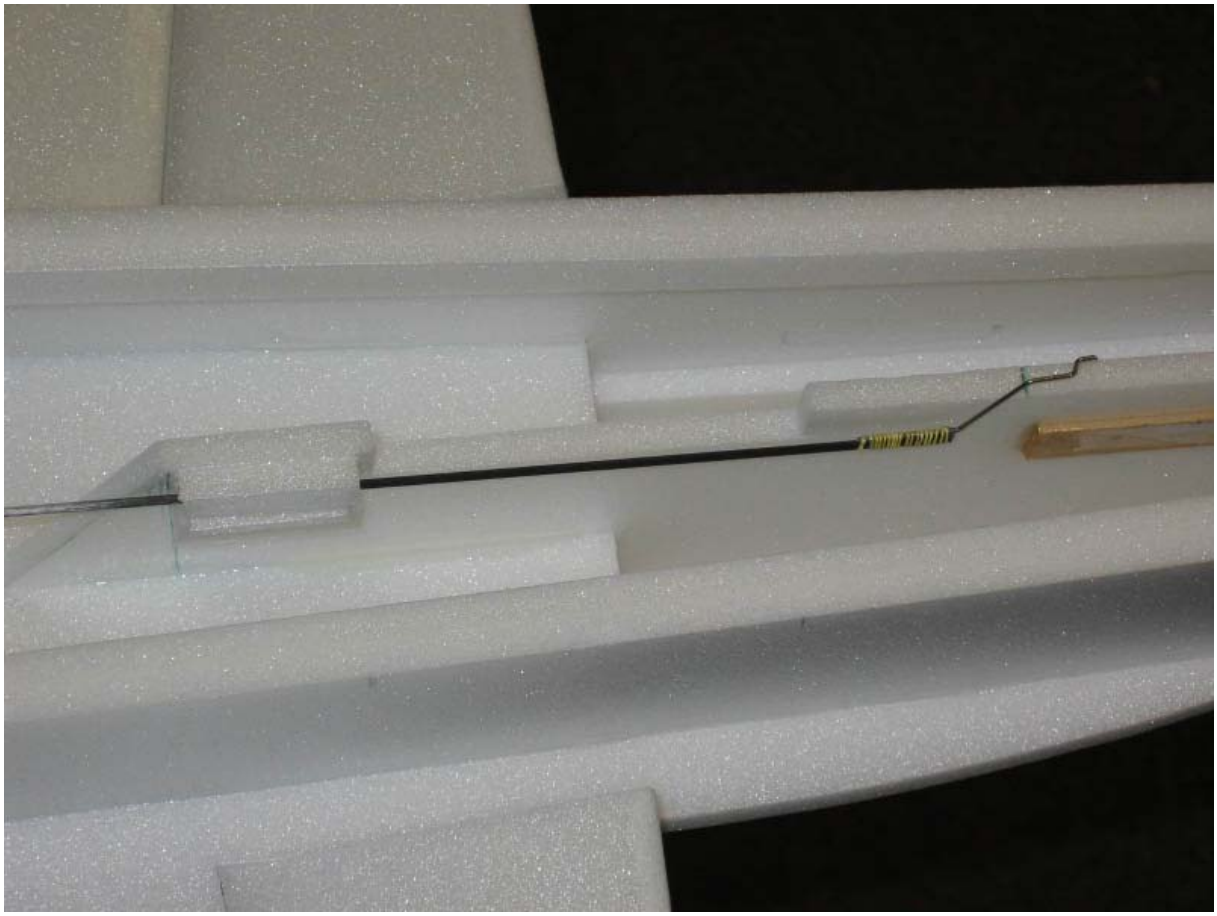
Install the canards into the forward fuselage. The carbon tube canard support pivots inside small pieces of aluminum tubing glued into the plywood supports on each side of the fuselage. Note no supports are required in the fuselage center piece. Now is also the best time to install all internal wiring (battery extensions, ESC + extension, and flaperon servo extensions)



Here's a closeup of the canard installation. Note servo control arms are used for the control horn and the two end stop bearings that butt up against the aluminum tube pivot supports (just drill them out to accept the carbon tube and CA in place)

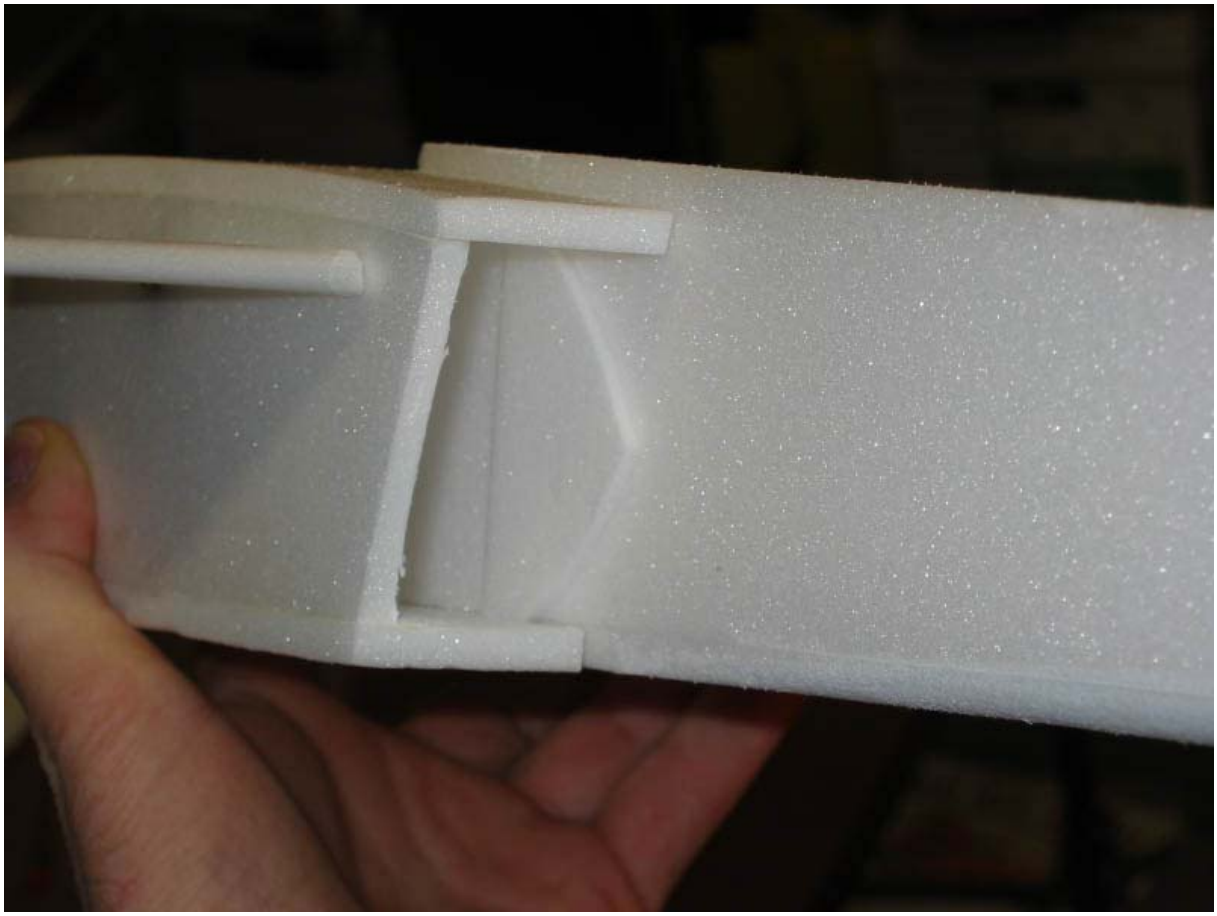


Install the rudder pushrod if installing a rudder. I just used a plain .08” carbon rod and build scrap foam supports at the front and back. Note the 1/32” music wire pushrod end that exits through the top of the fuselage to reach the rudder control horn.



Install the aft fuselage top piece. Cut a clearance hole as required around the radio equipment to provide good access.

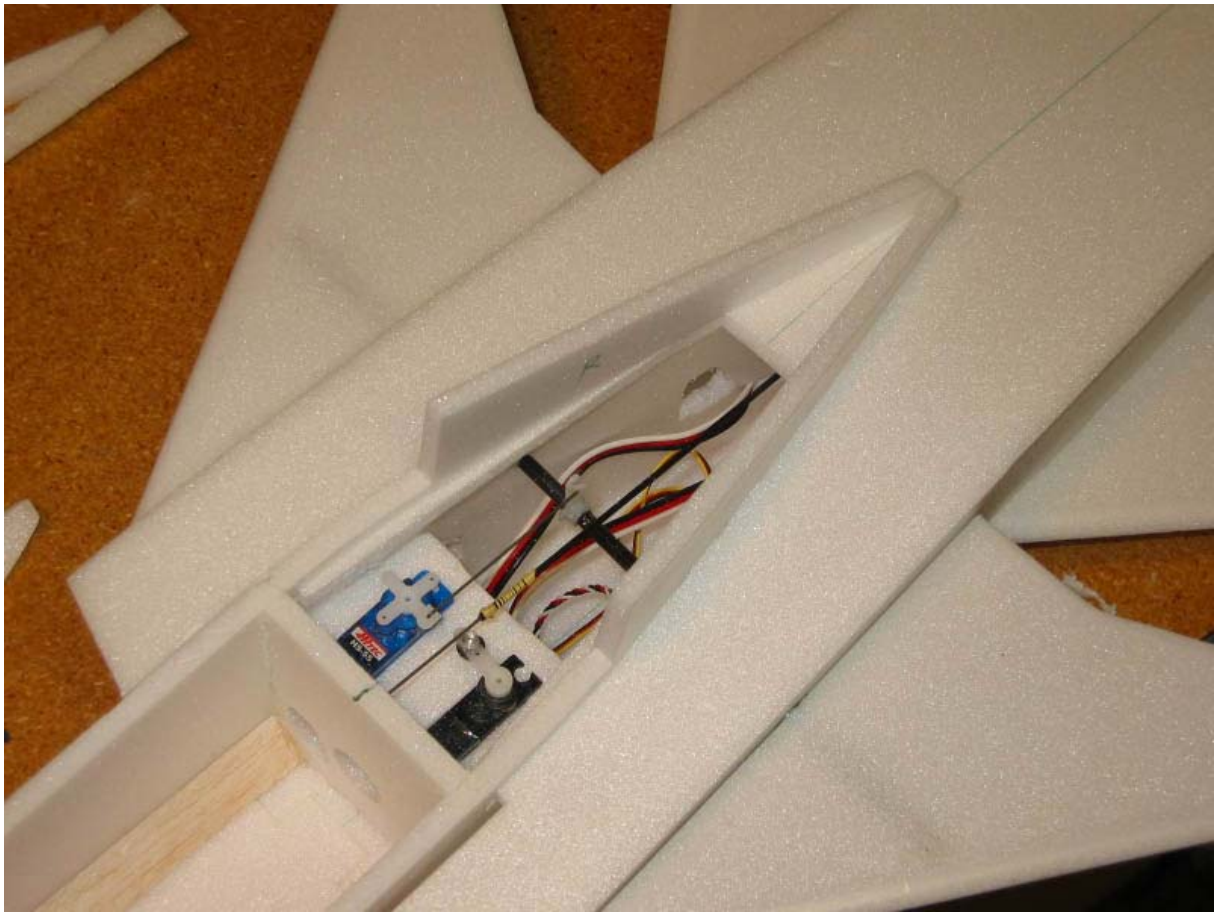
Install the inside intake splitter piece.



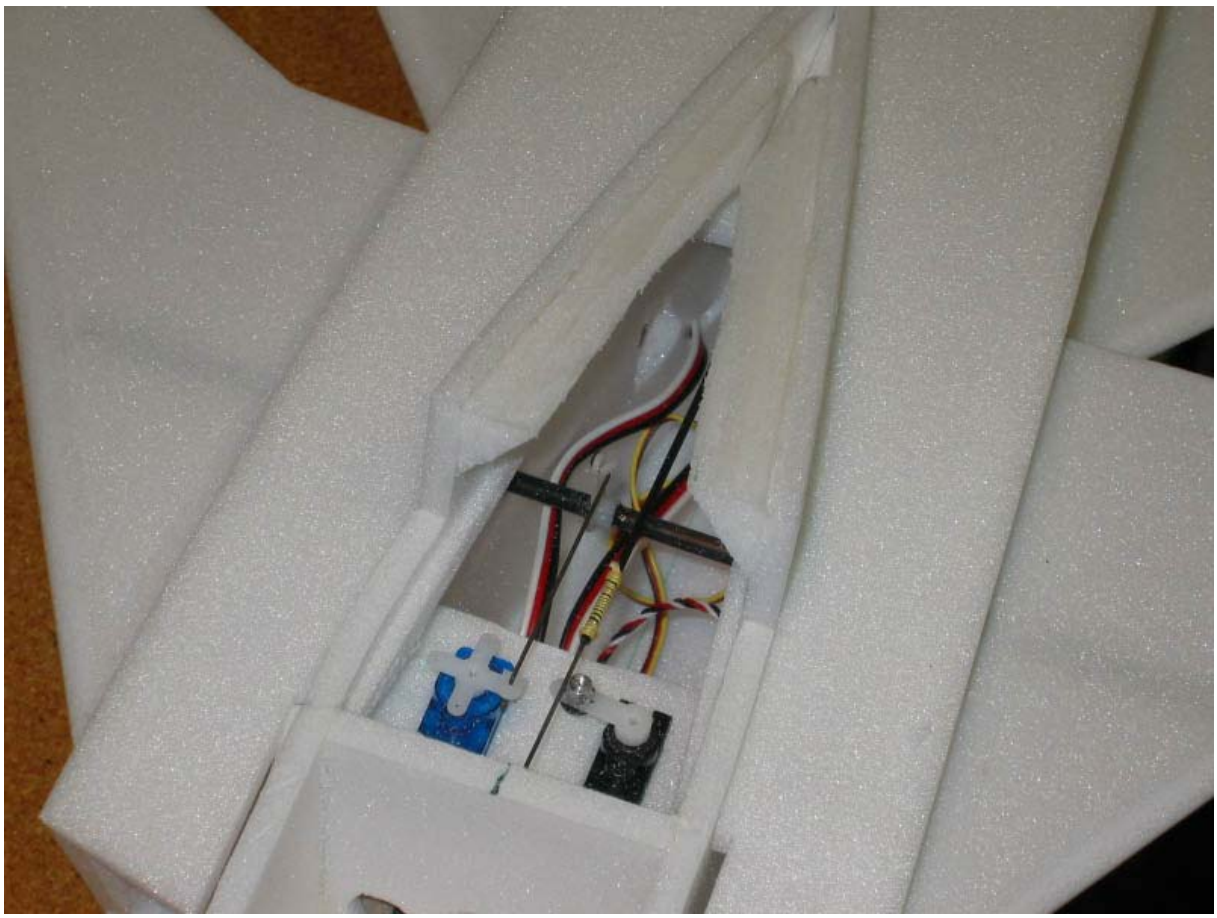
Install the outside intake splitter piece.

Install the vertical tail and the two radar cover side pieces at the top. If installing a rudder, glue in the rudder control horn and connect the rudder pushrod.

Install the turtledeck side pieces



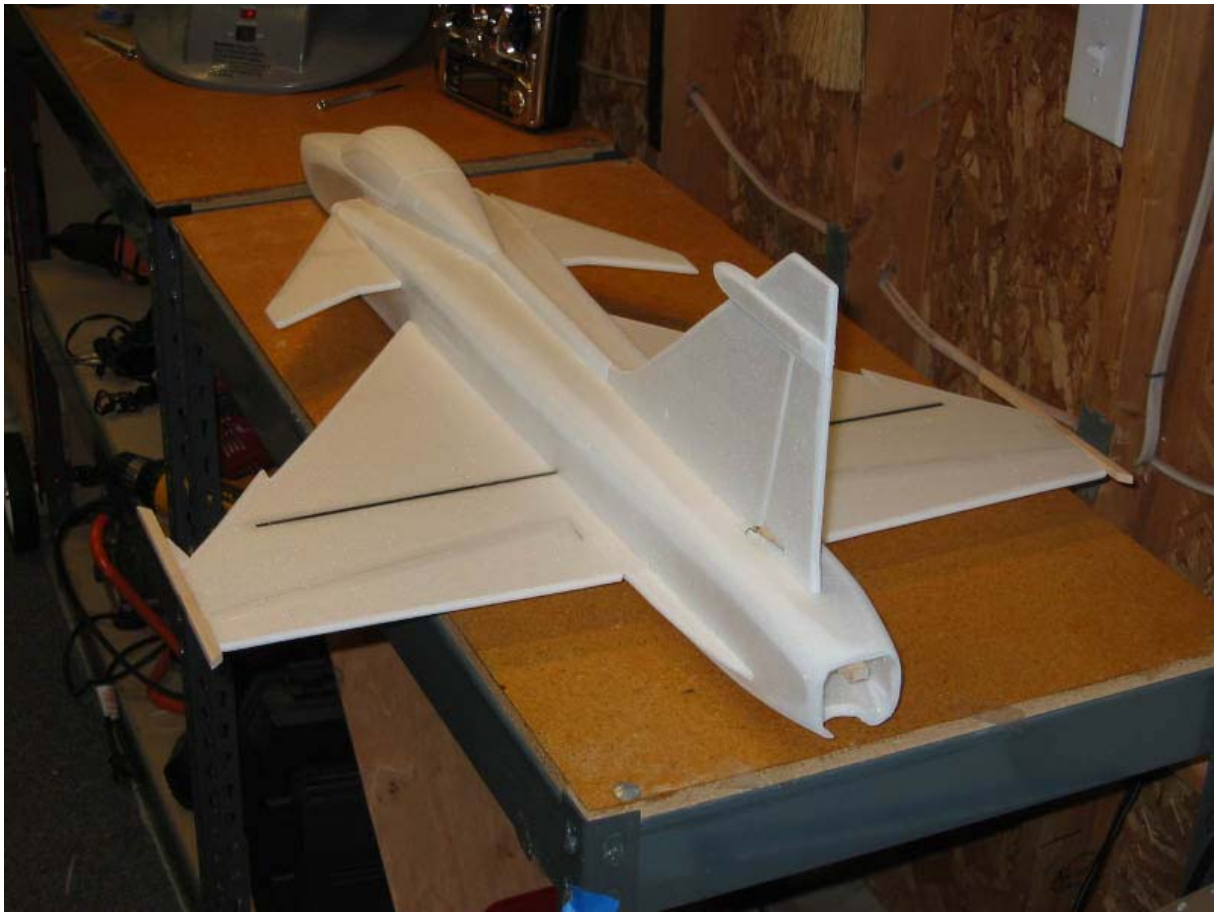
Install the laminated foam triangle pieces to the tops of the turtledeck sides.
These allow sanding a large radius corner on this piece.



Glue on the turtledeck top and the fuselage top spine.

Initial assembly is complete. Now sand the entire model to thoroughly round all the corners. I used an orbital power sander to make quick work of this, but make sure to wear adequate breathing protection (I didn't and felt sick for several days afterward! Lesson learned the hard way)…

Here's another view to show how the corners should be rounded. Note the fuselage corners especially are sanded down a LOT to give them a nice large radius curvature.



Install the flaperon servo and control horn as shown.

Install the motor onto the hardwood motor mount and secure with screws. You’re done!