

The "BIG NASTY"

Build Guide



Supplies needed

Blucore or Depron Foam. Blucore (Fan Fold Foam) is available at Lowes. Approximately \$25 for 50 feet of Blucore. Depron can be ordered on the internet for slightly more.

CA glue (foam safe)

5 minute epoxy

Exacto knife with #11 razor blades

Hot Glue gun and glue sticks. \$1 each at the Dollar Store.

Cheap plastic credit cards.

Clear packing tape

Basswood stick 3/8x3/8x4 inches

Music wire 1/32 (.032)x 12 in.

2 carbon fiber rods 1/8 x 35 in.

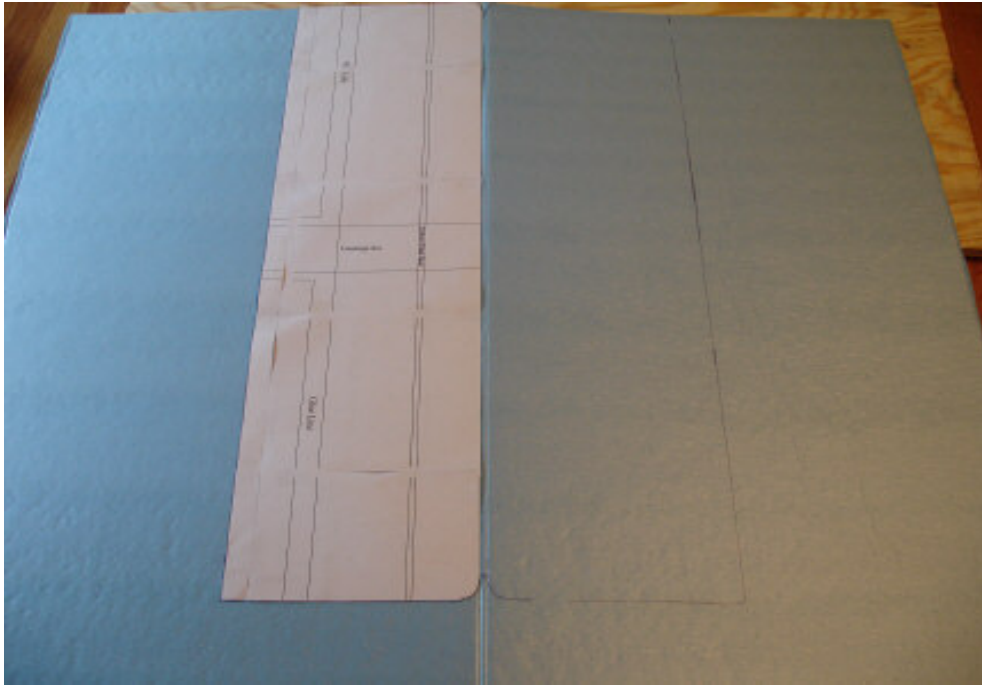
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Getting Started

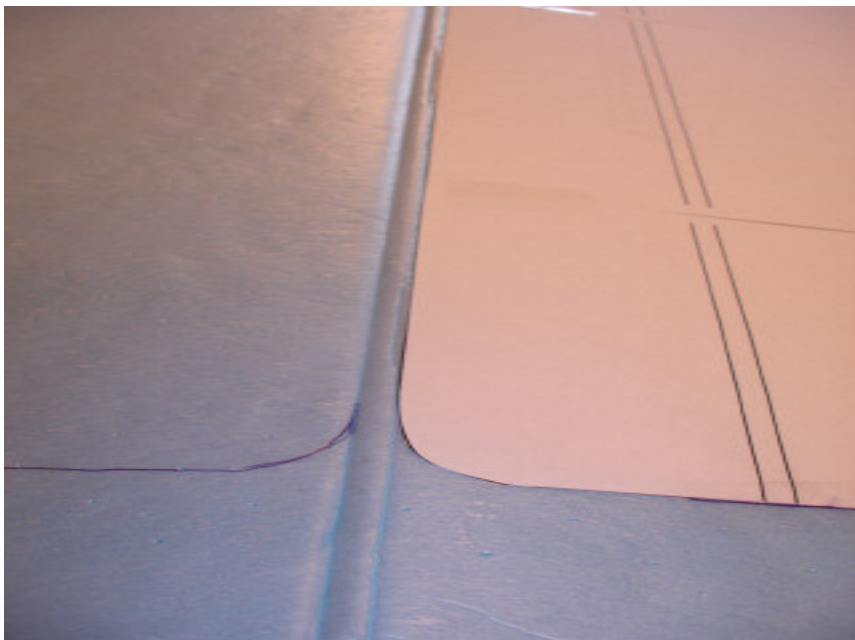


Tape tiled plans together to make full size plan. With full size or tiled plans that have been taped, cut out the “Nasty” and tape to the foam. Trace along the outside edge and remove plans. Using a sharp new #11 exacto knife, cut out the “BigNasty” holding the knife straight. Take your time and make smooth long cuts.



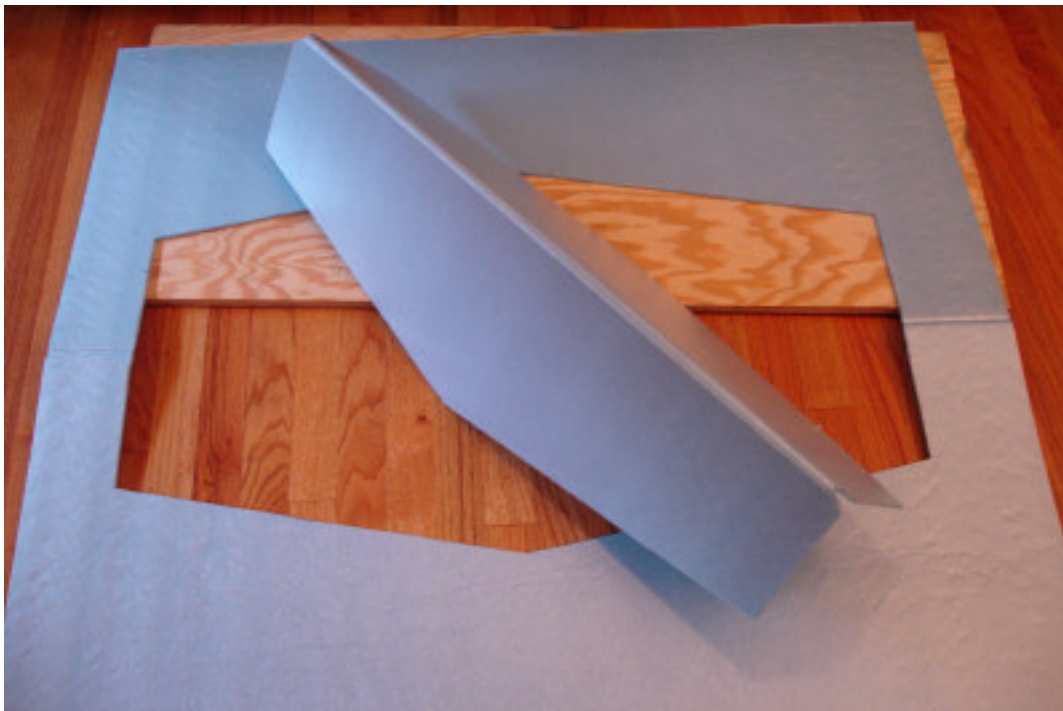


Look for two pieces of blucore that have a smooth folded seam between them. Cut them as one and lay it down unfolded. Two little creases about $\frac{1}{4}$ inch apart will appear on the seam. Lay the template down on the edge and trace with a pen.



If a double crease does not show, just place the leading edge of the wing template

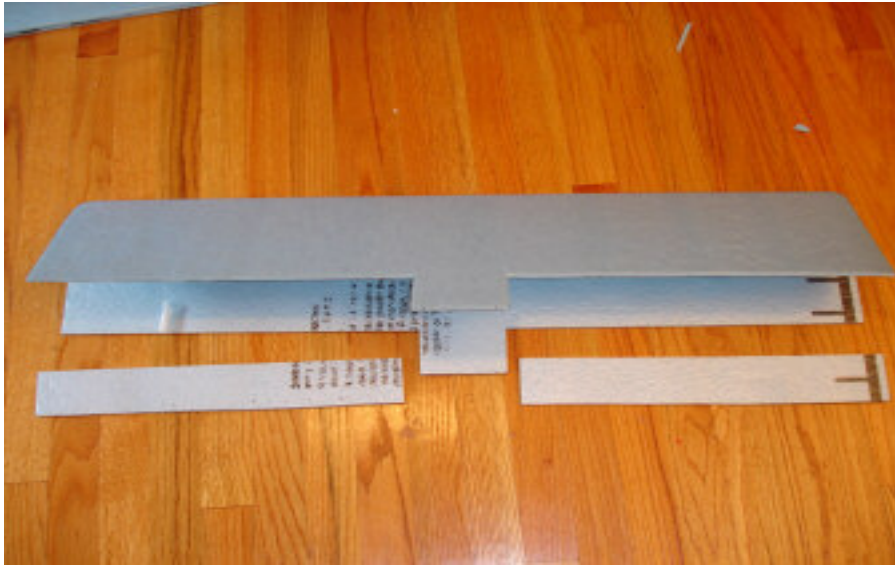
a ¼ inch apart on the fold.



Cut out wing. (Tapered wing shown)



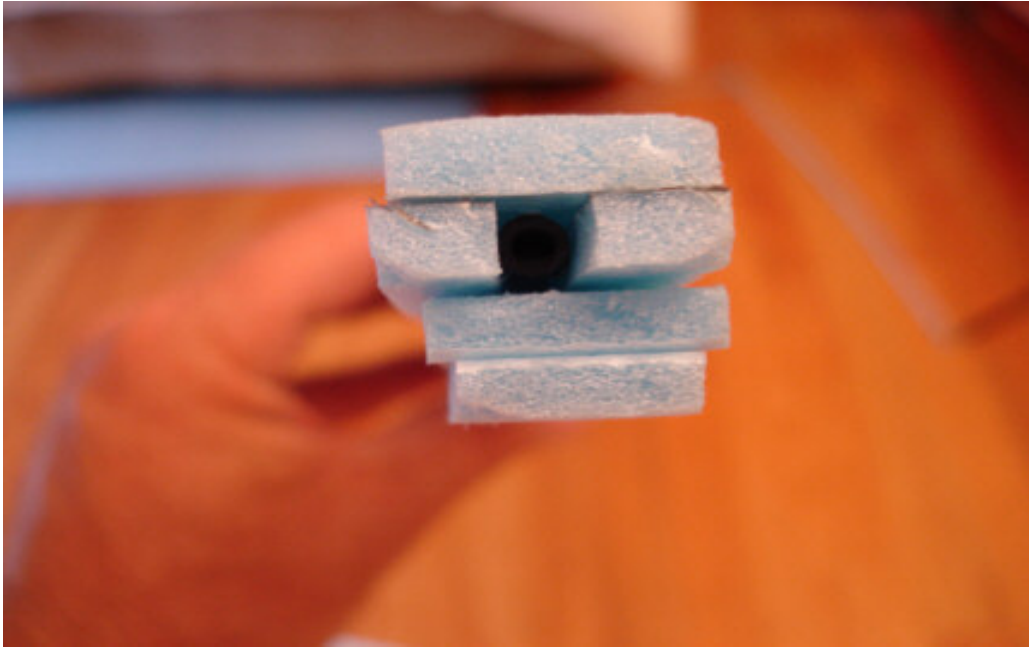
Using wing template, draw ailerons, center spar/support, and glue line on inside of wing.



Cut out ailerons.



For the center spar, you have two options. 1. Use a balsa wood spar that is $\frac{3}{4}$ -1 inch square by 36 inches long. 2. Cut four inch strips of blucore and laminate (sandwich) them together with a $\frac{1}{8}$ inch carbon fiber rod in the middle. The balsa spar weighs 2.3 oz. while the blucore/cf laminate weighs 1.3 oz.



Epoxy or CA glue the strips together with the rod positioned between one that has been split in half.



Allow to dry thoroughly before installing or it will warp.



After drying, trim ends to a point or edge for wingtip.



Peel skin from glue line on both inside halves.



Place laminate or balsa spar into position with it short by 1 inch on each end.



Spray 3M adhesive or epoxy/ca on the glue line back to the trailing edge. I prefer the 5 minute epoxy.



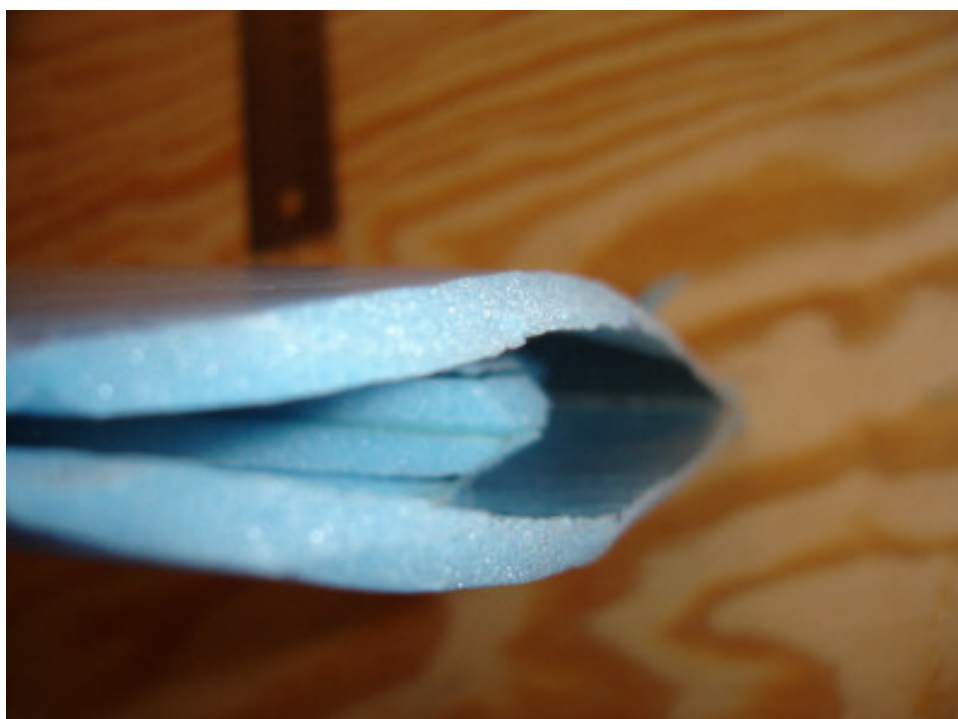
Spray glue on both side of the spar and fold the wing over until the trailing edges meet. It will look like this from the side.



Using two yardsticks and clamps, clamp the trailing edge and allow to dry thoroughly.



After the wing is dry cut the edges of the wingtips at a 45 degree angle.



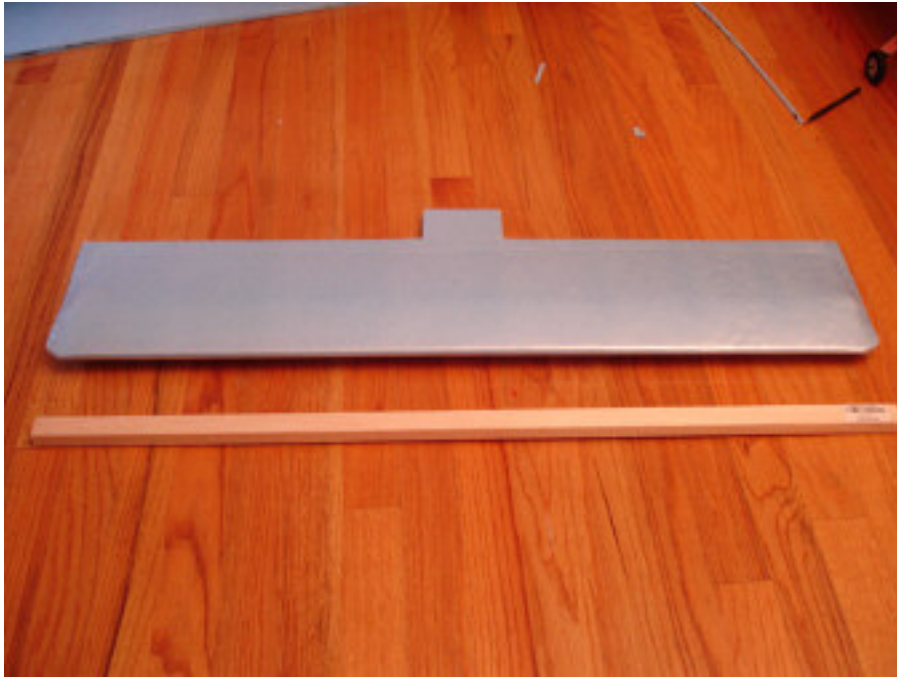
It will look like this when done.



Using CA, glue the wingtips shut, making a nice sharp wingtip. You may also cut a flat end piece to cover the wingtip.



Sand the wingtip so its smooth and cover the leading edge and wingtips with clear packing tape.



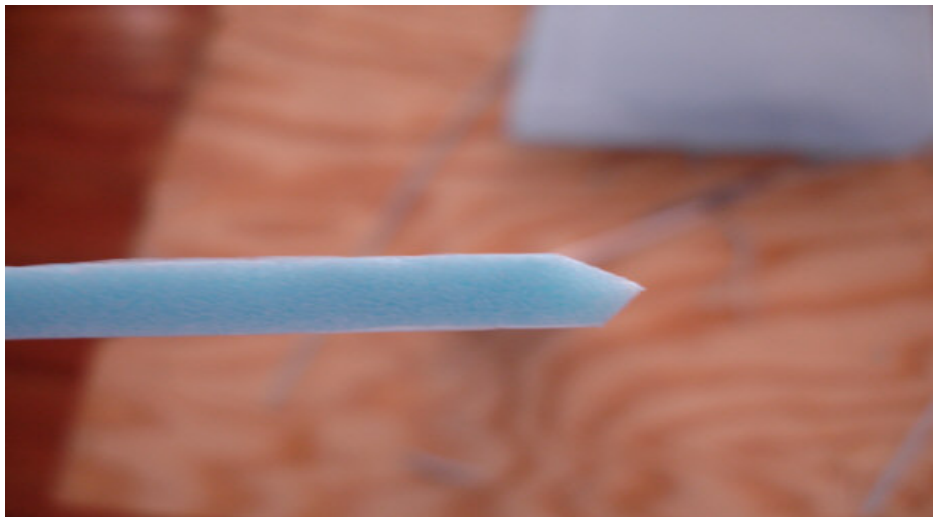
Wing without ailerons.



For aileron attachment, first cut the edge of the wing 45 degrees on both sides....



....until it looks like this.



Do the same to the aileron attachment side. I use single sheet ailerons. Double sheet may be used too.



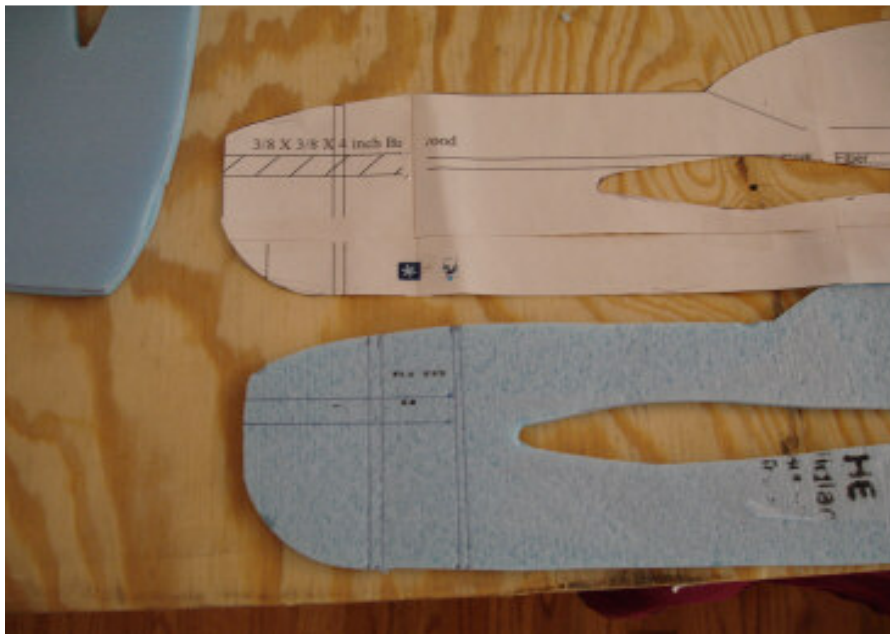
Apply clear packing tape on aileron with it bent at a 50 degree angle. Flip over and do the same to the other side.



Finished aileron



Finished square wing and tapered wing.



Begin the fuselage by peeling the inside skin off. Using the plans, mark your firewall bulkheads, motor stick, and glue line on the inside of both pieces. On the outside of the fuse, mark your horizontal stab/elevator.



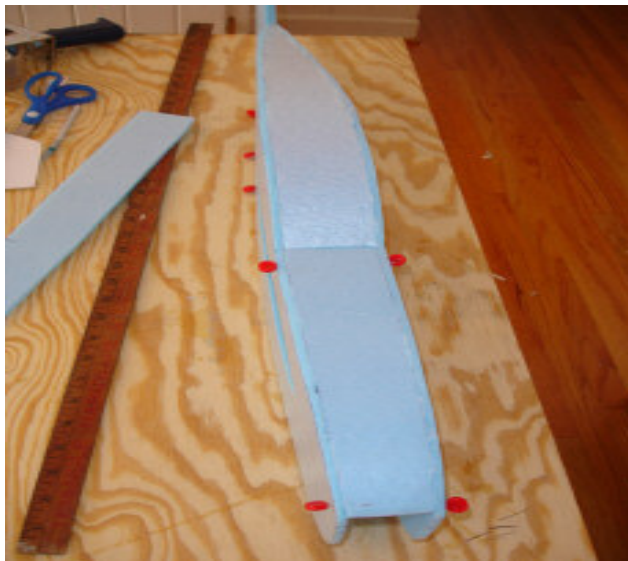
Using spray adhesive, CA, or epoxy, cover the rudder with glue from the “Glue Line” back.



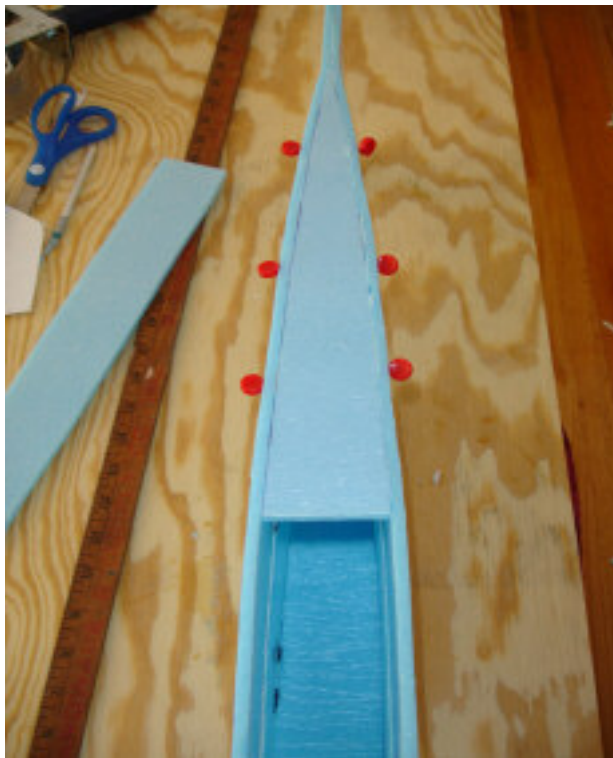
Once it's dry, lay plans on side and cut out horizontal/stab/elevator opening and main wing opening, if not already done.



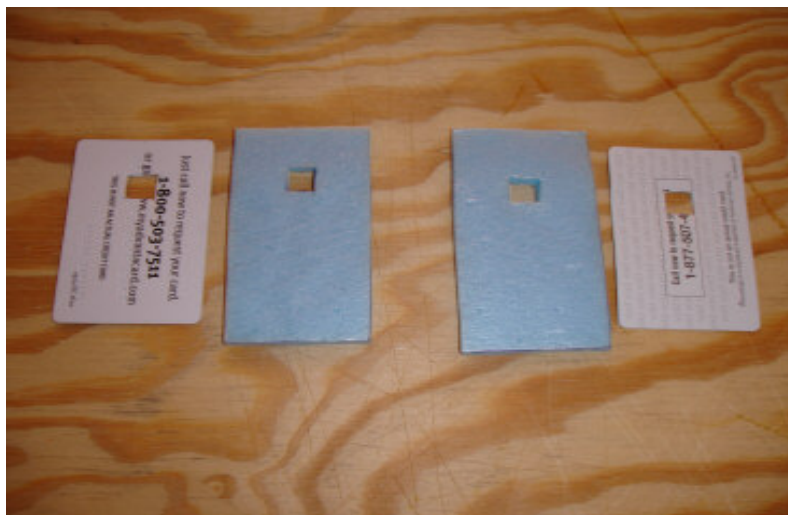
Starting with the top fuse piece, hot glue 4-6 inches at a time on each side, working your way forward. DO NOT glue one whole side then the other. It will come out crooked if you do! Secure with pins if needed.



Then glue the upper nose piece.



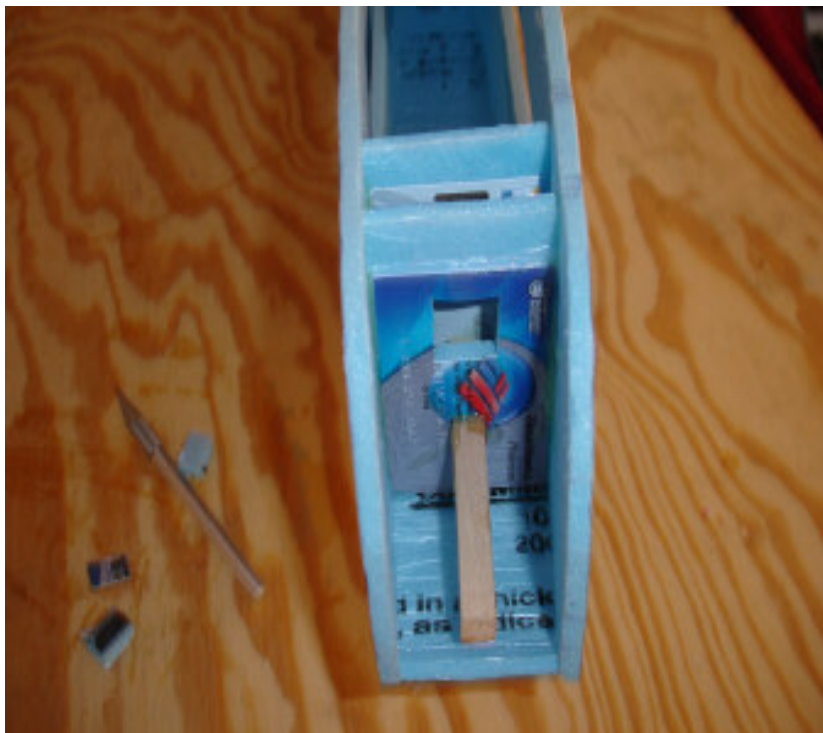
Flip over and glue the bottom rear fuselage.



Cut out the bulkheads. Using the fake credit cards they send you in the mail or Lite ply, reinforce the bulkhead by gluing them together with 5 min epoxy.



Cut out ventilation holes and motor mount guides.



Line up with lines on inside of fuse and epoxy into place. Double check that stick is level and straight.



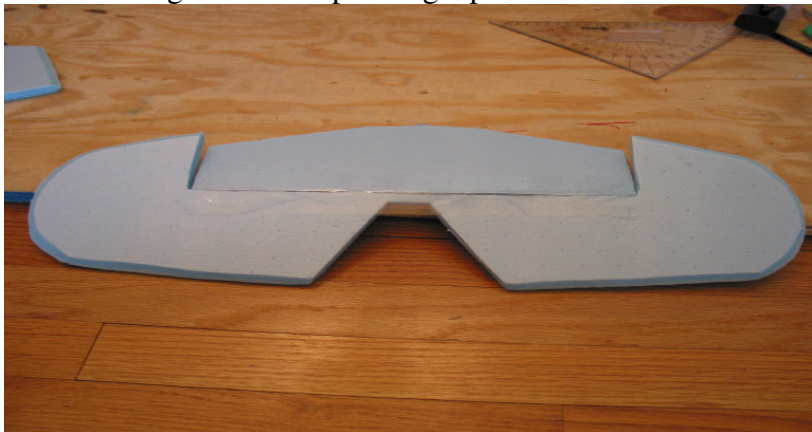
After bulkhead/firewall is dry, add bottom front fuselage piece.



Now add hinges using clear packing tape on the elevator.



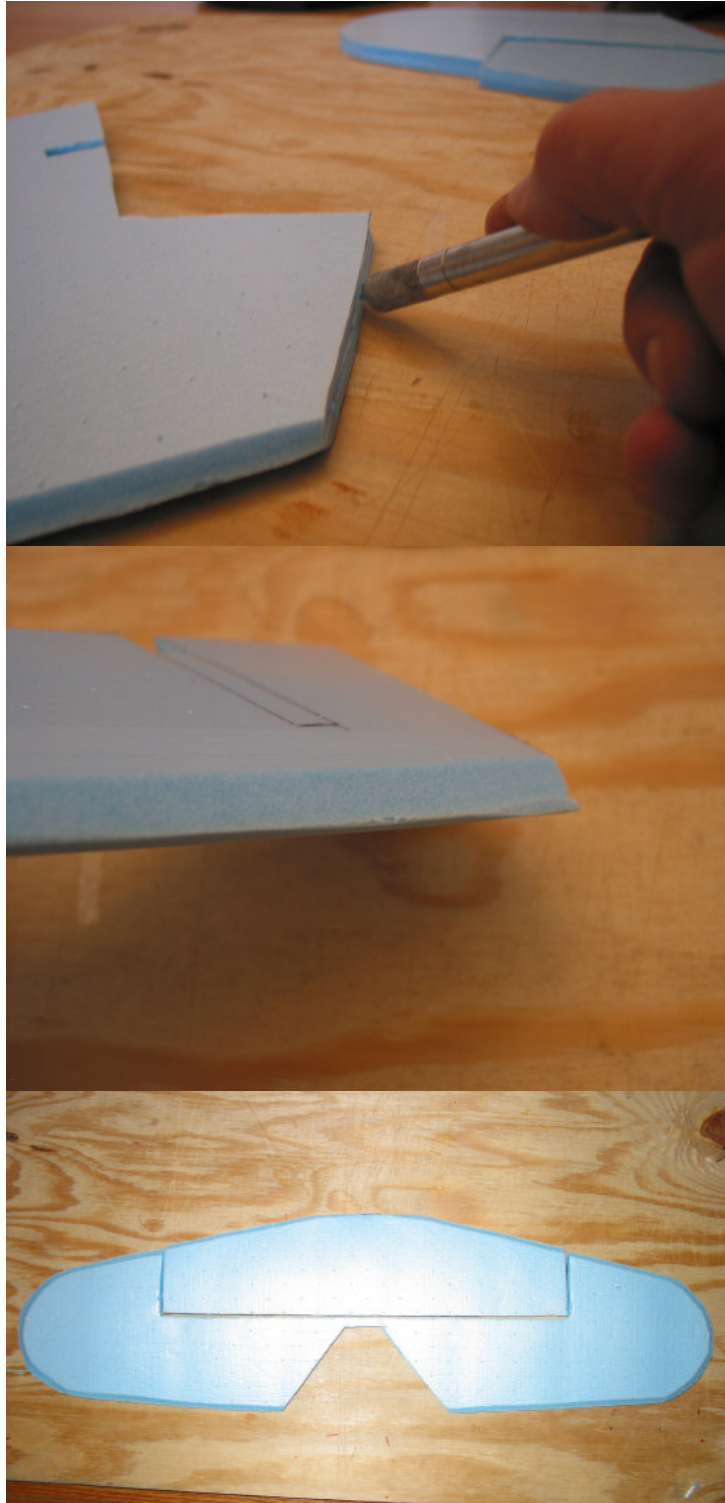
Deflect elevator 45 degrees before pressing tape down.



Add tape to other side, deflecting 45 degrees.



Cut the edges of the rudder and elevator to a fine edge. Take your exacto knife and cut down the edge at a 45 degree angle from the center of the edge. Flip over and repeat. It will make a nice, sharp edge.

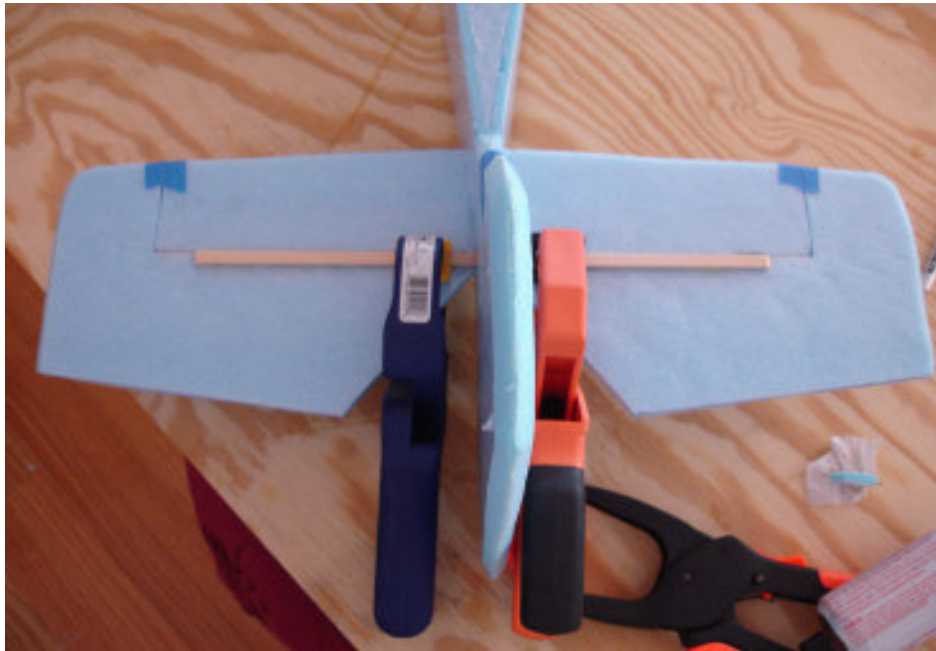




Using medium grade sandpaper, lightly roughen up the packing tape on the elevator. It'll give the wood stick good adhesion when glued.



Glue stab into place with hot glue or 5 minute epoxy.



Use a 1/8 x 1/4 in. basswood stick as reinforcement for the elevator. Epoxy into place.



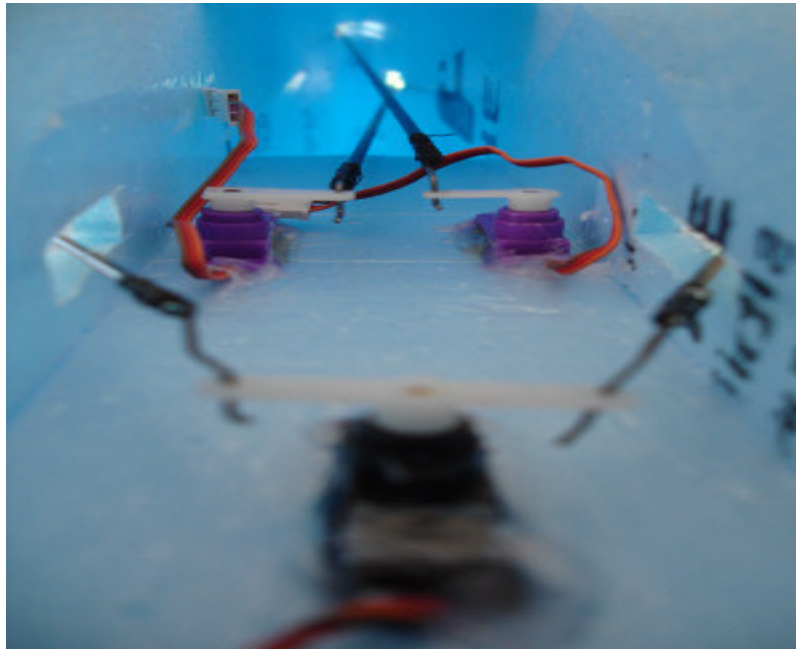
Add tape to rudder and attach.



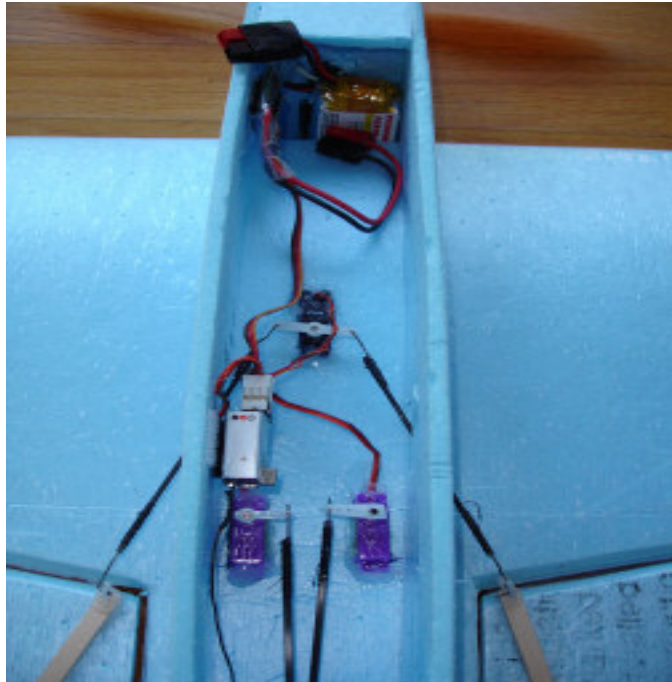
Test fit wing. Make sure it's straight and level by measuring wingtip to fuse, etc. Hot glue or epoxy wing to fuselage.



Now is a good time to add your electronics. Everything mounts to the wing for easy access. You can also mount separate servos for the ailerons in the wing, one each side.



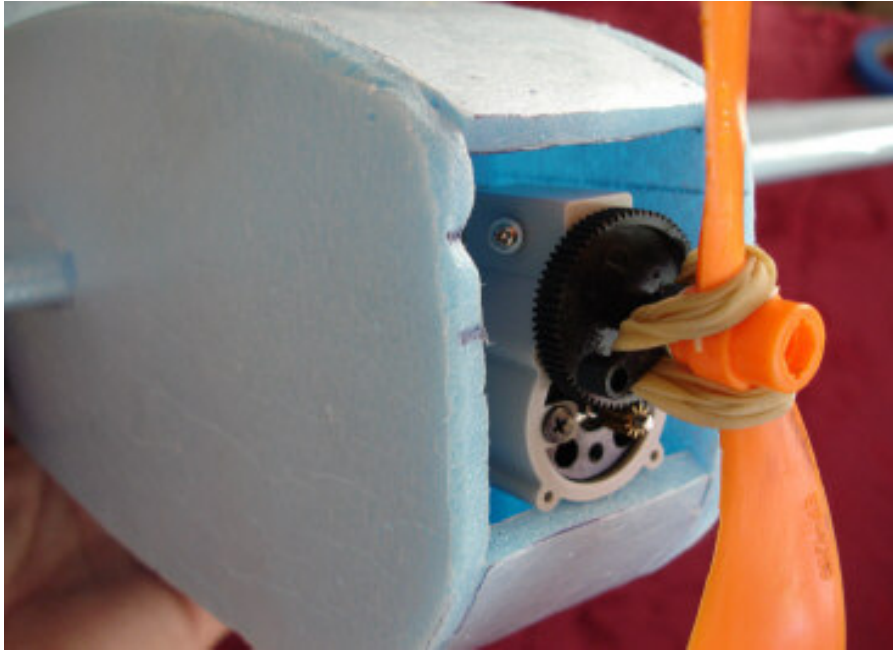
Use carbon fiber or music wire for control rods.



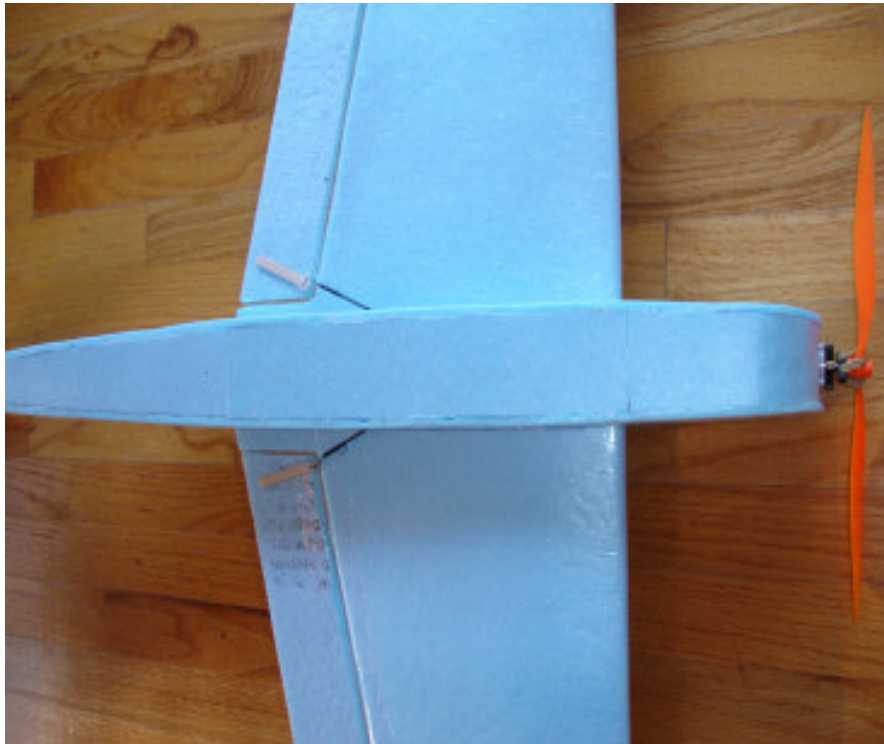


Add servo horns and cut holes for control rods.





Attach motor with a screw into the motor stick.



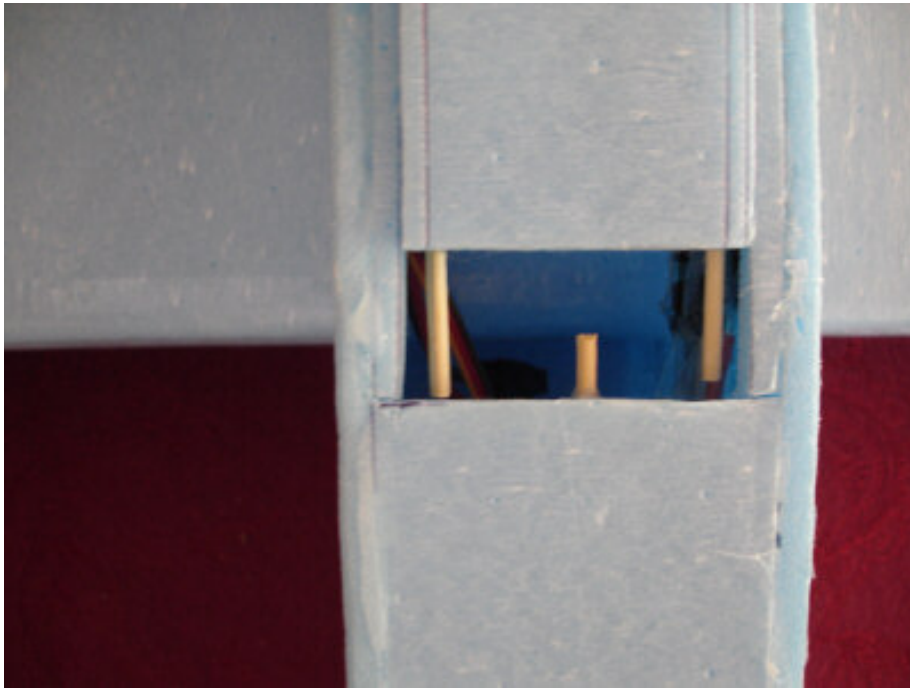
After gear is installed, glue the bottom hatch into place.



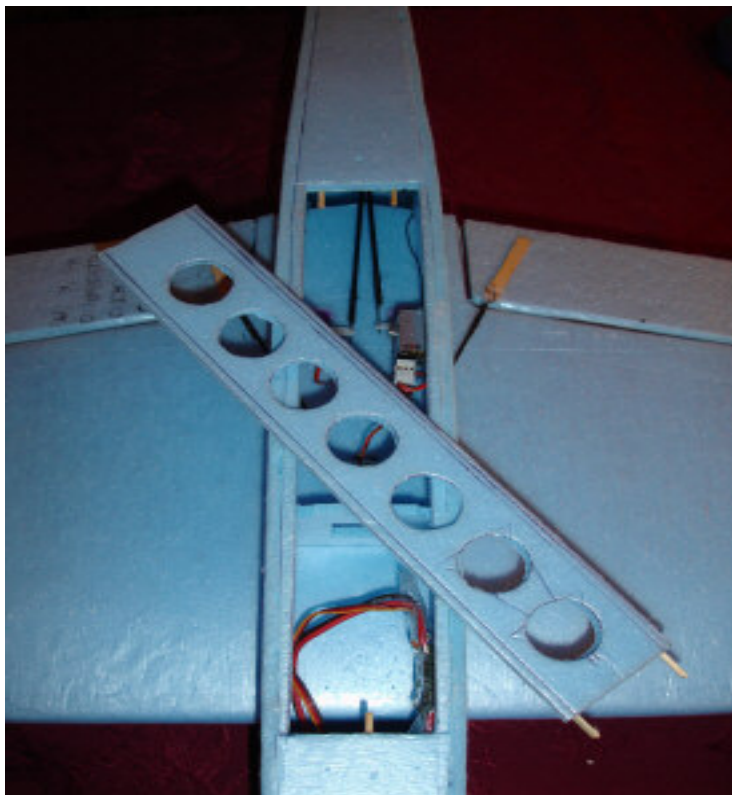
Mark lines $\frac{1}{8}$ in (4mm) down each side of hatch. Cut hatch out.



Use bamboo skewers and glue on e to each side, leaving a $\frac{1}{2}$ in. (8mm) sticking out at the front end.



Add another bamboo skewer to the fuse front with a half inch sticking out, and two in the rear part of the fuse.

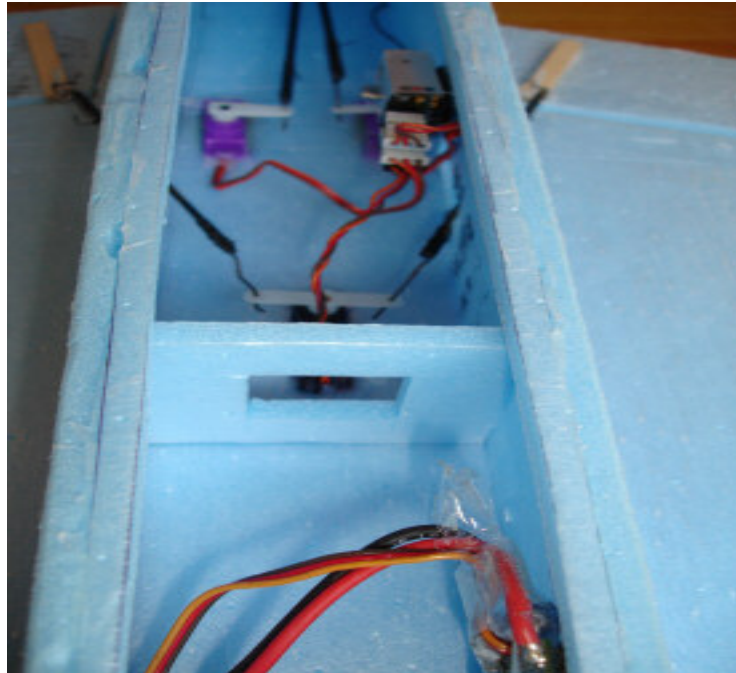


Cut out ventilation holes



Use rare earth magnets (Radio Shack) and glue one to fuse and one to hatch.

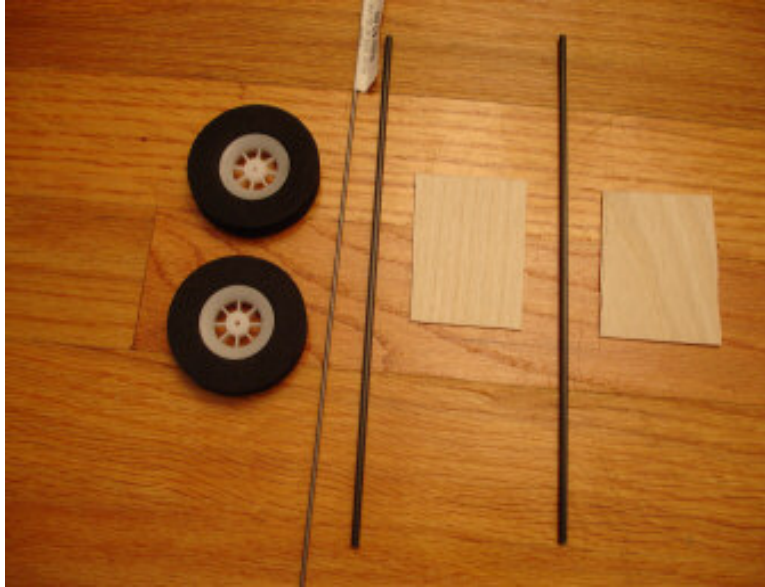




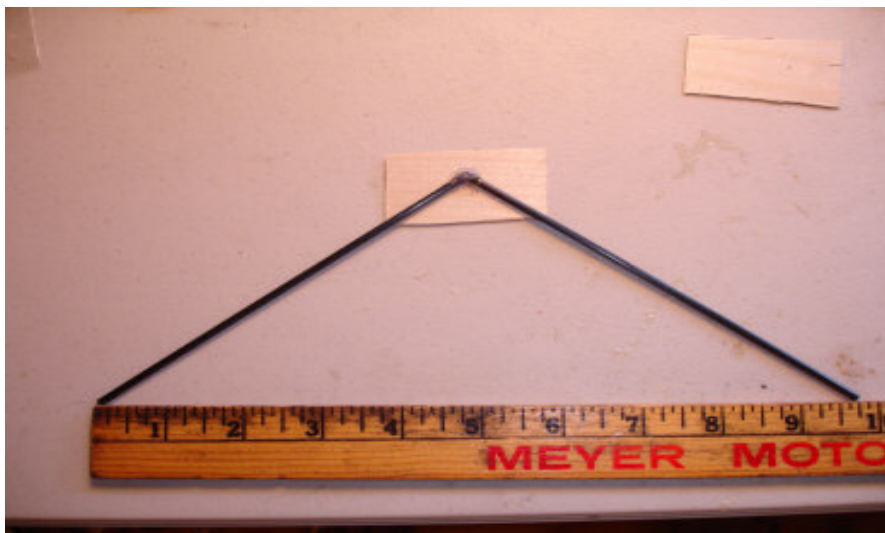
Add the center bulkhead once electronics and CG have been determined.



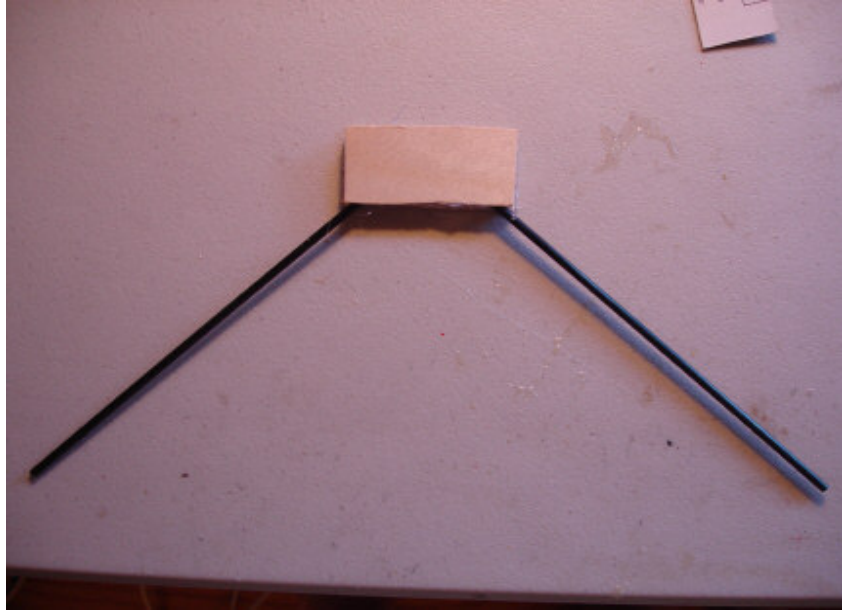
For landing gear, glue two pieces of lite ply or plastic credit cards to both sides of the fuse. Cut slots for landing gear legs.



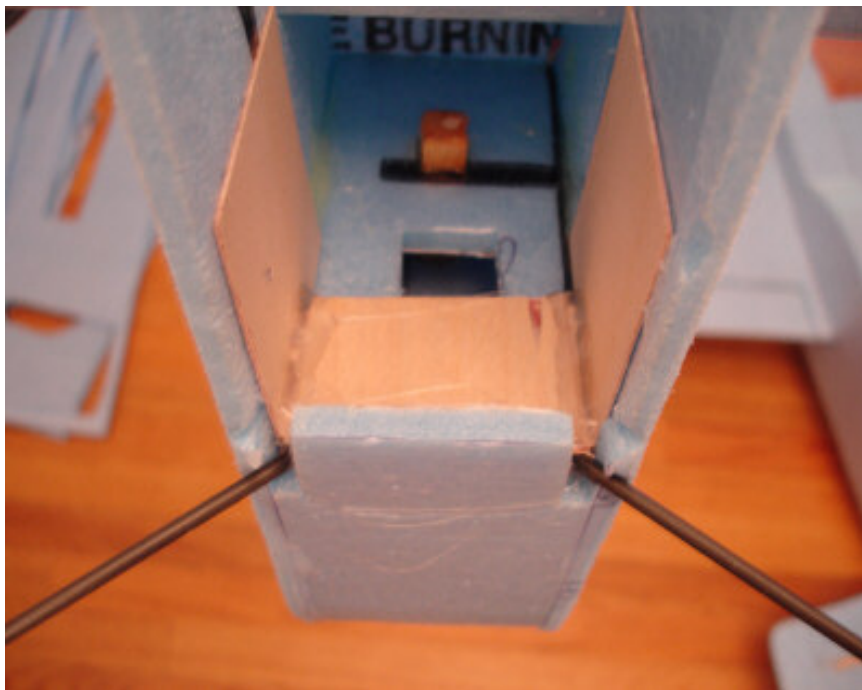
Using solid carbon fiber rods 1/16 in. (2-3mm) or 3/32 music wire for landing gear.



Bend wire to pattern on plans. For CF, cut two 5 3/4 in. long pieces. Glue them with the legs spread 9 3/4 inches apart to a piece of lite ply.



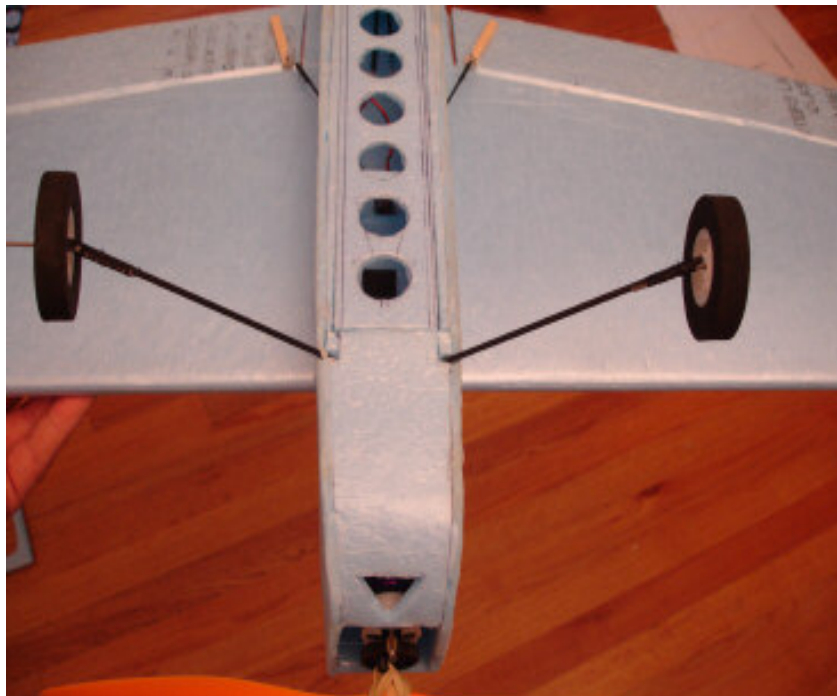
Glue another square of lite ply to sandwich the legs.



Glue the gear to the bulkhead and plywood lining.



Cut 1/16 music wire 1 ½ inches long. Bend and wrap thread around the wire. Secure with CA glue.



Add 2 inch wheels and you're done.



Before painting/covering plane, now would be a good time for a test flight.



Paint or cover and you're ready to fly!







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