

Shaping, Taping, and Covering the Fuselage

Gather:

- Fuselage
- Strapping Tape
- Covering material
- Covering iron
- X-Acto Knife with No. 11 Blade and #26 long straight blade knife.
- 3M 77 or DAP Weldwood contact adhesive
- Sanding block and sand paper

Procedure:

Note:

When applying tape to the fuselage, care must be taken not to bend the fuselage as you stretch or apply pressure to the tape. The EPP cannot resist bending forces until after it is completely taped and covered. Work on a flat surface where possible. The bottom of the cabin and the bottom of the tail boom are all straight lines, so this can be used to your advantage.

- Rounding the corners of the fuselage and the canopy can make a Push-E Cat cut the air more efficiently. This is best accomplished by carving the corners down with the #26 knife and then feathering out the edge with the sanding block with 80 to 100 grit sandpaper. Basically have at it until the fuselage meets your liking. Be careful not to make the tail boom too thin. A $\frac{1}{2}$ inch radius corner on the tail boom is about right.
- The canopy deserves a little discussion. You can slot the underside of the canopy and put an inlet hole in the front and an exit hole in the back to route cooling air over the top of the batteries. To do this, first make a set of lines $\frac{1}{2}$ " in from either side of the canopy.
- Cut a square bottom channel into the underside of the canopy from near the front to the rear.
- Cut a hole in the canopy nose to let air into the channel. We attempt to make them look like NACA ducts, but it doesn't always turn out that way.
- Cut a half moon slot in the back of the canopy that will lie between the forward wing dowels. This is your cooling air exit hole.
- Set the canopy aside to be covered later.
- Going back to the fuselage, cover the fuselage with an even coat of 3M 77 or Dap Weldwood. Also coat the inside (but not the bottom) of the battery bay. Let dry for at least an hour for DAP Weldwood, or 30 minutes for 3M 77.
- Put a piece of $\frac{3}{4}$ inch wide strapping tape on the top inside edge of either side of the battery bay.

- Starting inside the battery bay at the front, wrap a piece of $\frac{3}{4}$ inch high strength strapping tape over the top of the nose, down under the fuselage, and all the way to the tail along the bottom of the fuselage.
- Run a strip of $\frac{3}{4}$ inch wide tape from the back of the cabin down the top of the tail boom, stopping right in from of where the tail is glued on.
- Using $\frac{3}{4}$ inch high strength strapping tape, run a piece down either side of the fuselage, nose to tail, aligning the tape with the top of the battery bay and the tail boom, which are even with each other.
- Cut two strips of $\frac{3}{4}$ inch tape 6 inches long. Center a strip over the wing dowels and punch holes through the tape to allow the strip to seat on the reinforcement plate. Wrap the ends of the tape around the corners of the cabin.
- Coat the surfaces of all the fiber tape with a layer of Dap Weldwood or 3M 77. Let thoroughly.
- You are now ready to cover the fuselage. For iron on coverings, now is the time to cut out all the pieces you need to cover the fuselage. For taping with packing tape, CHARGE!
- For iron on coverings, the sequence is generally top, bottom, side, side. For taping, just have at it.
- For iron on coverings, you seat the covering material on the adhesive and rub out any wrinkles or air bubbles until the covering is more or less smooth. Seal the edges with the covering iron.
- Once all the covering is seated, you can shrink and seal it all over to seat and tighten the covering. Carefully monitor the tail boom during this process to make sure that you do not induce a bow or warp. Correct as necessary.
- If you are taping the fuselage, make sure each strip of tape overlaps the previous strip by at least $\frac{1}{4}$ " to $\frac{1}{2}$ ". Also, take extreme care when covering the tail boom to avoid inducing a warp or bow.
- When you finish taping, seal the tape and set the adhesives with the covering iron. Again, be careful to monitor the straightness of the tail boom.
- Attach the canopy to the fuselage with a tape hinge at the front of the canopy so that the rear of the canopy is held in place by forcing it under the wing dowels.

Note: The tape hinge is made by first placing the canopy in place on the fuselage. A strip of tape is run on the front of the canopy and the fuselage. The canopy is then flipped open and a second strip of tape is run on the inside of the joint.

It is now time to cover and install the tail.