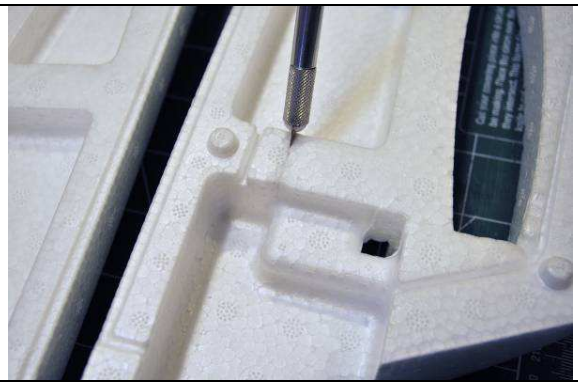
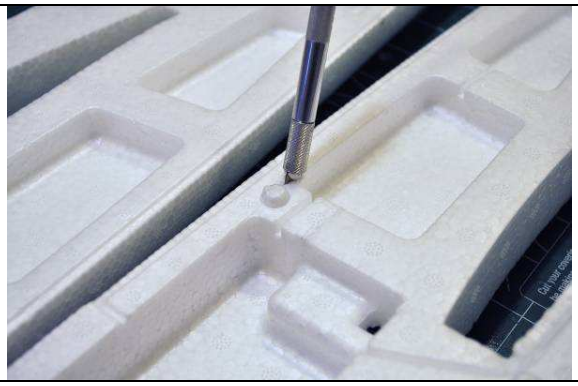
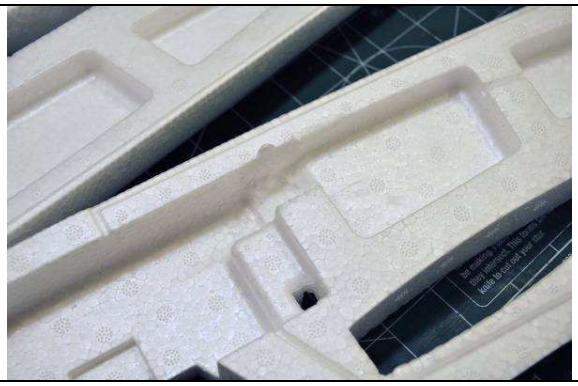
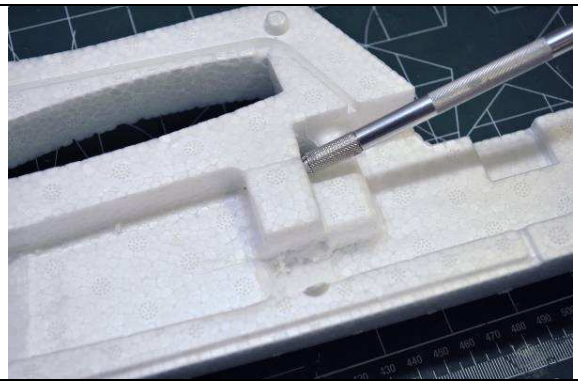
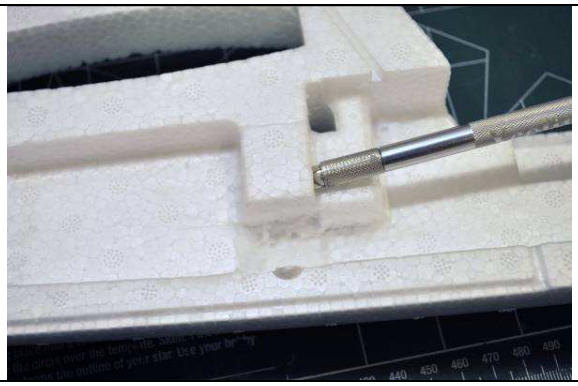
Easy Star Customization and Build Guide

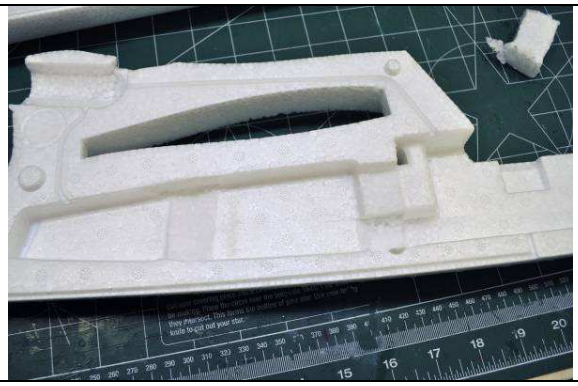
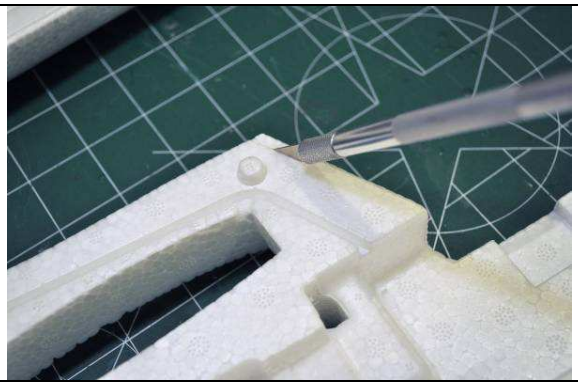
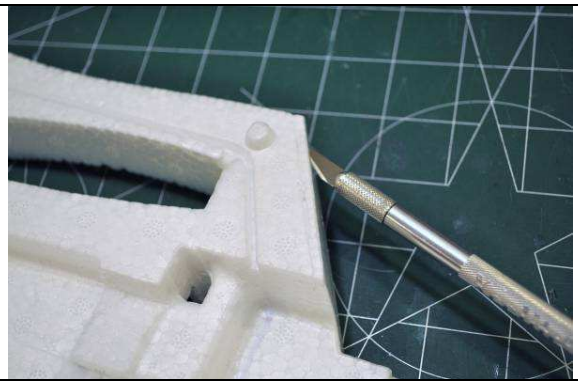
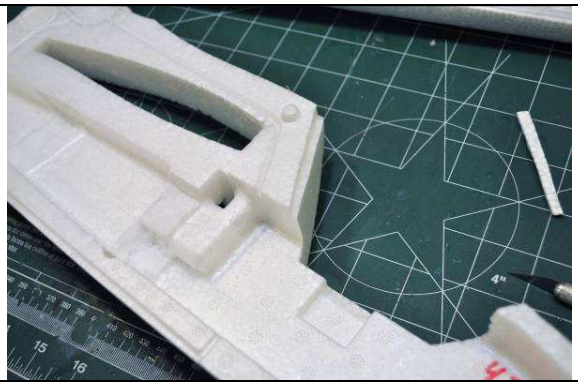
In this document I'll attempt to share my build methods for custom built/modified Easy Star R/C planes. There are many techniques available online, but these are the techniques I've used when I made custom planes for people. Bear with me as I "fill in the blanks" of the process. I've found that just taking the pictures and putting them in the document has taken a lot of time. I'll continue to add descriptions as I work on things and as I receive feedback.
You can send feedback and/or questions to me at tim@readymaderc.com.

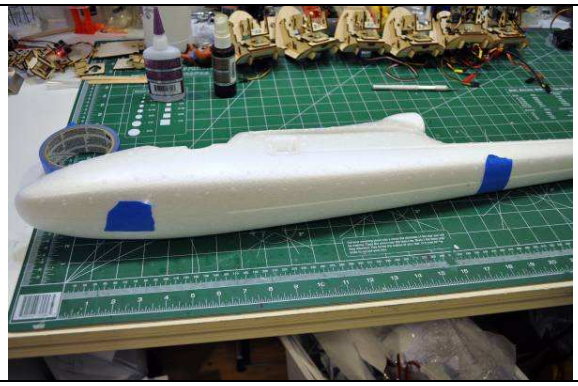
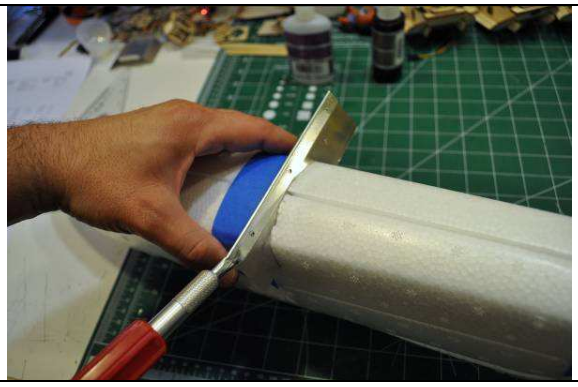
Tools required:
X-Acto knife
Medium (gap filling) CA (don't use foam safe CA!)
Painters tape
5 minute epoxy

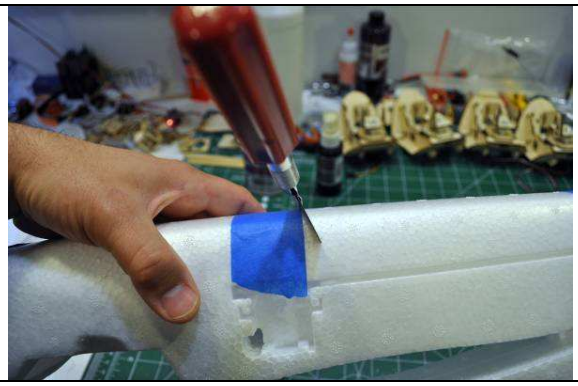
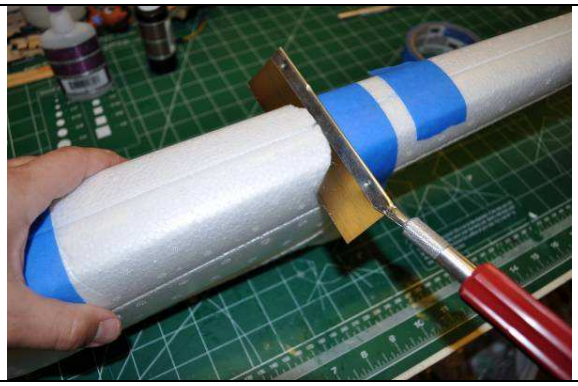
Fuselage	
Make a vertical cut just under the servo pocket on each fuselage half. Cut in the full depth of the x-acto blade.	
	Make the same cut along the bottom of the fuselage, following the thickness of the rest of the bottom.

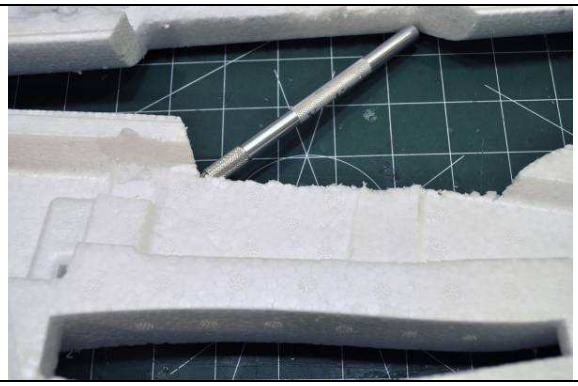
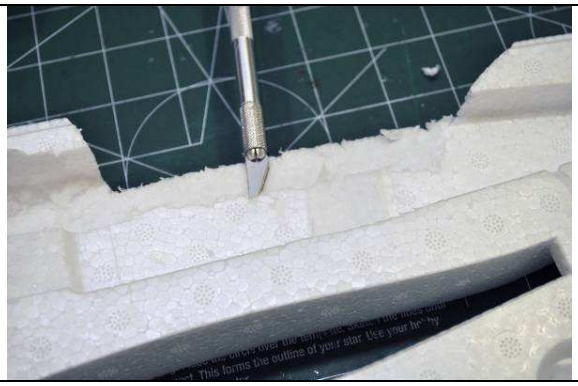
Lay the knife on its side and make a cut under the area as shown.	
	Pop out the area as shown.
Make cuts along the top and bottom edge of the reinforcement areas under the wings as shown.	
	Cut under the areas as shown from one side.

Then cut under the other	
	Remove the piece of foam from under the wing area.
Cut the areas shown down to the level of the back of the servo pocket.	
	Cut as shown, making sure you don’t cut into the servo pocket area.

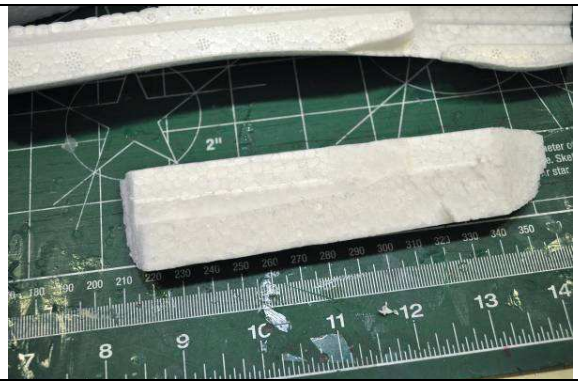
Remove the piece of foam.	
	Make a cut approximately 1/8” in from the canopy and approximately 3/16” deep on each fuselage.
Make the other cuts approximately 3/16” from the edge and approximately 1/8” deep.	
	Remove the piece of foam from each side of the fuselage. This will be the channel for the wires going to the ESC.

Tape the fuselage halves together on the top and bottom.	
	To aid in alignment of the hatch cutouts, take longer strips of tape and make straight lines. One from the back edge of the servo cutouts, and the other from the back edge of the wing cutouts.
Another view.	
	Using a saw, cut along the line with a slight angle (see next picture).

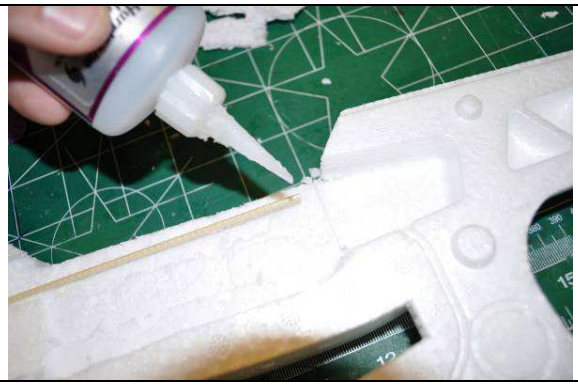
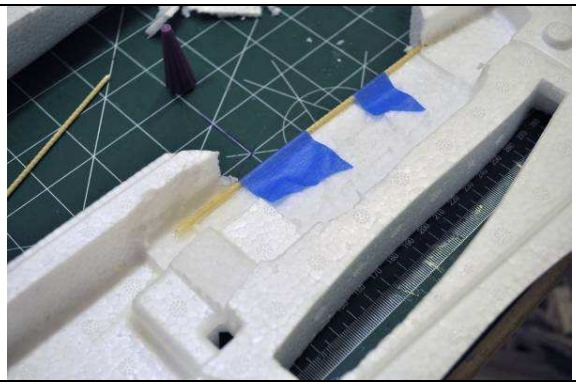
The angle I use.	
	Make a similar cut along the back edge. Note that I'm only going in the depth of the saw that I have, which is approximately 7/8" deep. This is just enough to clear the foam on the bottom of the plane on the inside.
Make a straight cut ash shown between the two saw cuts.	
	Separate the fuselage halves and remove the cutouts. Some areas may need a little cutting from the inside to prevent damage when removing.

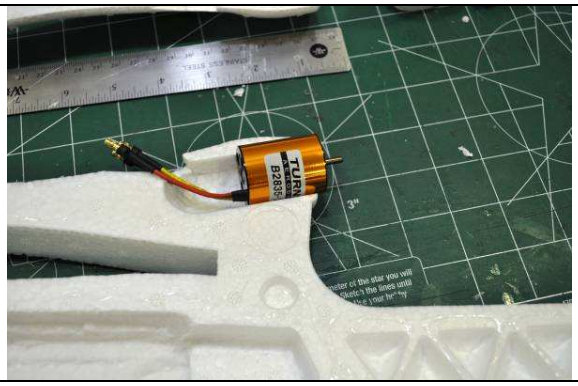
To gain even more space inside the hatch area, I like to remove some material from inside the hatch area. I like to make it even with the cockpit area, so I remove approximately 1/8”.	
	Cut in sections the depth of the blade. If you have a longer blade you may be able to do this in one cut, but be careful that you don’t cut too deep and make the walls of the plane too thin.
I remove a small amount of the area under the wings as well, typically 1/8”-3/16” deep.	
	The area removed. Do not get too close to the servo pockets you you’ll punch a hole through where the servo mount openings are located. If you do this, a little CA on some foam scraps can easily cover the hole.

To match the new thickness of the outer walls of the fuselage, I cut the same amount of material off of any remaining outer wall area on the hatch cutouts. (next 4 pictures).



To reinforce the area that has been cut out for the hatch, I like to use fiberglass rods. Carbon fiber may also be used, but I like to keep the amount of electrically conductive material to a minimum on my plane to reduce the reflection and/or absorption of radio waves. I cut the rods (2-4mm) to 10” length.	
	Sharpen the end of the rods somewhat.
While holding right along the bottom edge of the hatch opening, carefully press the rod into the foam.	
	I like to cover the area shown. It’s good to keep the end of the rod toward the front as close to, if not buried, in the foam to prevent damaging/puncturing your lipo battery.

You may remove the rod and add CA to it, but the CA will grab fairly quickly and may keep you from inserting the rod all the way. Either way, ca the entire rid along the edge of the fuselage opening.	
	Tape securely in place. I put a LOT of CA along the front area and hit it with kicker.
Once the CA has dried, you can remove the tape.	
	Wipe the mating areas of each side of the fuselage with rubbing alcohol to remove mold release residue.

	
	I suggest NOT using kicker. Apply glue to the motor area on the first half, then insert the motor and apply glue to the rest of this half of the fuselage. Apply glue to the motor area of the other half of the fuselage.
Put the halved together and QUICKLY press everything together and tape in place. Make sure everything is straight, and that there aren't any gaps anywhere. The CA will start to set fairly quickly even without kicker.	
	Apply glue to the contacting edges of the cutout. Don't go too close to the front and back.

Put the cutout sections together and tape in place.	
	Insert the plastic antenna rod in the bottom of the easy star and glue in place.
Cut the plastic rod.	
	

Install magnets in the pod…(to be continued…)	
Need to add some more pictures of hatch magnet install.	
Wings