

**Please review this entire manual before beginning assembly.**

**By doing so it will help you better understand each step as you progress in the actual building of your kit, and you will do a better job in assembly.**

### **INCLUDED IN THIS KIT:**

- All CNC router cut 3mm Depron parts
- Plywood motor mount
- All precut-to-length carbon fibers flat spars and rods  
(one-24in 3mm flat, one-8in 3mm flat, six-10.25in 1mm rods, five-4.5in 1mm rods, two-3.5in 1mm rods)
- 4 micro control horns
- 8 pushrod wire ends + 10 shrink tubes
- Landing gear kit (light weight wheel kit + 2mm carbon fiber rod)

### **SPECIFICATION:**

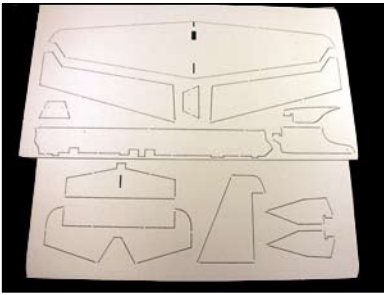
- Wing Span: 28 inch
- Length: 28 inch
- Weight with no battery: 3.75-4.5 oz (depending on motor & equipment used)
- Ready to Fly Weight: 5.6 oz with 460mAh 7.4v 2S Lipo

### **NEEDED BUILDING TOOLS:**

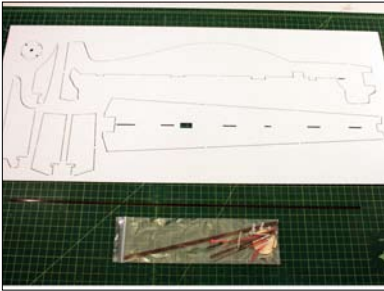
- Foam Safe / Odorless CA glue + Foam Safe Accelerator
- Hot glue
- Blendederm Hinge Tape
- Sandpaper
- Hobby Knife + small square file
- Ruler (preferably metal)

### **REQUIRED EQUIPMENT:**

- 4 Channel Transmitter + Micro Receiver
- 3 Micro Servos (HXT500 or similar)
- Micro sized low KV Outrunner (20 grams or under)
- ESC: 10Amp or 12Amp, depending on motor used
- Prop: GWS 8043 or 8060
- Lipo Battery: 350 ~ 460 mAh 7.4v 2S up to 11.1v 3S, 30C up to 45C

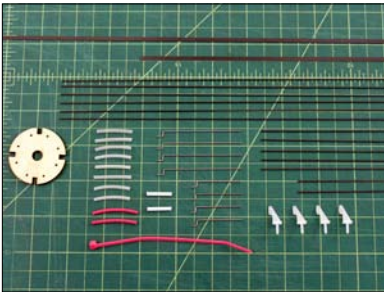


The Depron Parts will arrive as shown. Here are the wing and tail group.

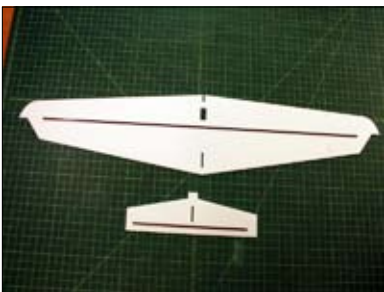


Here is the fuselage group and hardware package.

Start by cutting out all the parts as you go along with the build so you don't lose any.



A detailed look at the hardware package.



Start with the wing and horizontal stabilizer. Also prepare the flat spars to glue into the parts. \*UPDATE\* Now all control surfaces come pre-hinged. so you can skip those steps

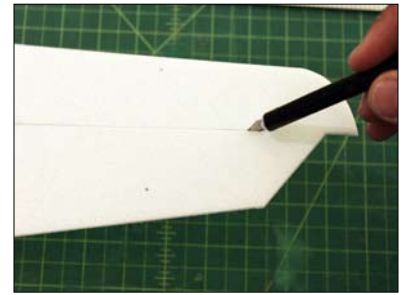


Start with the main wing. Leave 2 inches on each side line up the 24 inch flat spar in the center. Line it up with the tip of the aileron cut out.

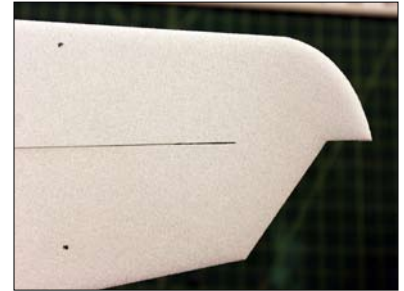


Cut a slot in the wing 24 inches long. Remember to leave 2 inches on each side.

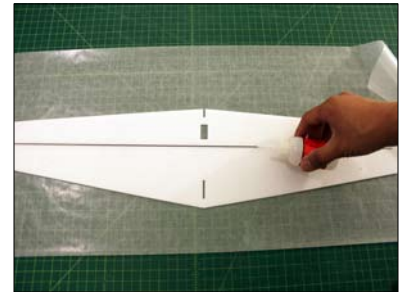
Use the back end of the blade and widen the slot slightly at the ends. Swipe it a few times with the back of the blade while slightly twisting to widen the slot.



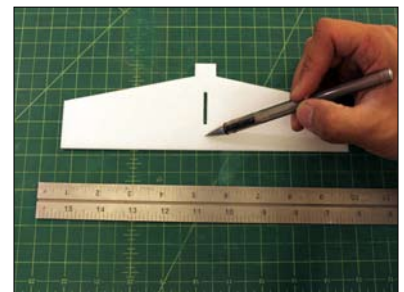
Widen it just enough for the carbon fiber flat spar to slide in easily.



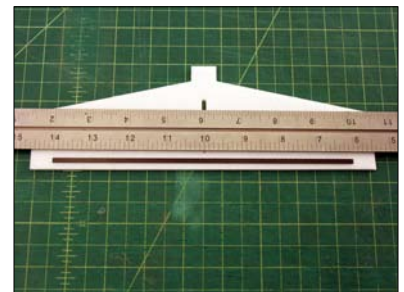
Place the wing over Wax paper. Then insert the flat spar in completely, then use Thin foam safe CA and apply glue. Let the thin CA wick into the slot completely. Spray accelerator.



Next prepare the Horizontal stabilizer to cut the slot for the flat spar. Up about 3/8" from trailing edge.



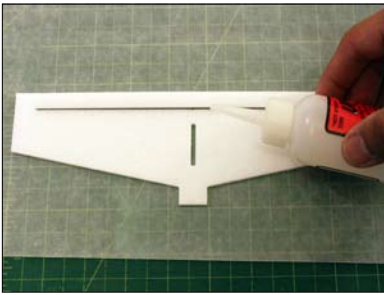
Line up the flat spar in the center. Leave about 1/2" on each side.



Cut the slot and widen it as you did on the main wing. Just enough to fit the flat spar.

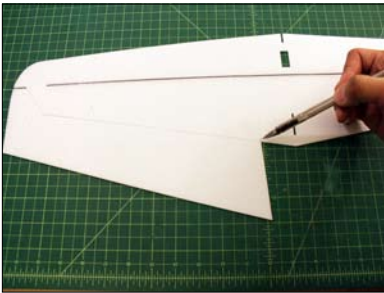
Insert the flat spar



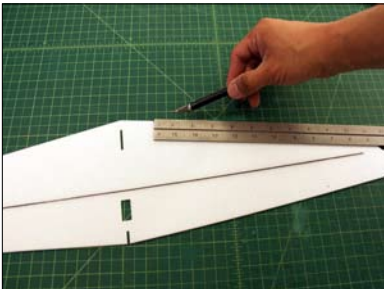


Apply thin foam safe CA. Make sure enough of it wicks into the slot.

Wipe excess with a napkin and spray accelerator.



Line up the Ailerons and mark the inside location where it ends on the wing.

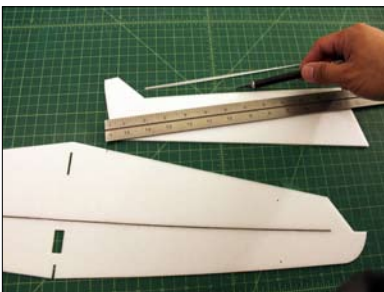


Make a bevel cut for the hinge starting where you just made the mark. You can bevel past the mark if that is simpler for you. it actually doesn't matter.

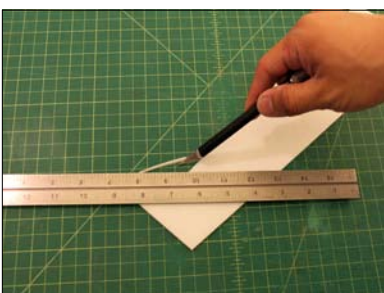


Take your time and make a clean cut.

Use a new blade for best results when bevelling.

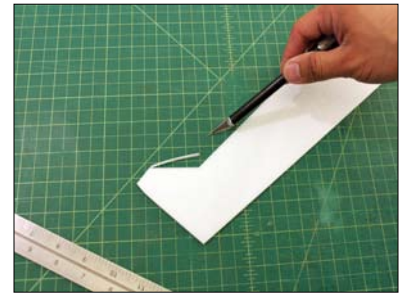


Bevel the ailerons as well. Pay attention to the side you bevel for each aileron so that you don't make a mistake and have 2 same sides.

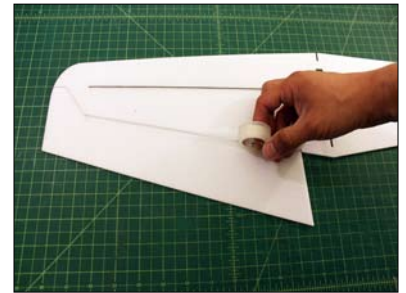


Also bevel the tip of the aileron so that it will have clearance once attached to the wing.

Just another photo to show where on the aileron tip to bevel.



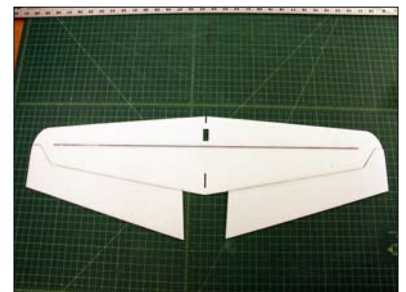
Use Blenderm hinge tape and attach the aileron to the wing.



Flip it over and only use 3 little strips of blenderm to hinge the bottom. If you use a whole length strip then it may not have proper flexibility and be too stiff and binding.

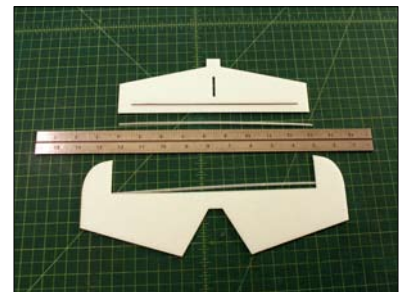


You can use a full strip of hinge tape on the bottom of the hinge if you like. But it is not necessary. The 3 small strips is sufficient.

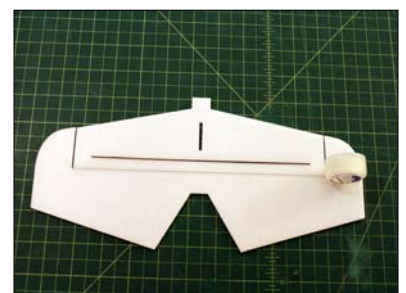


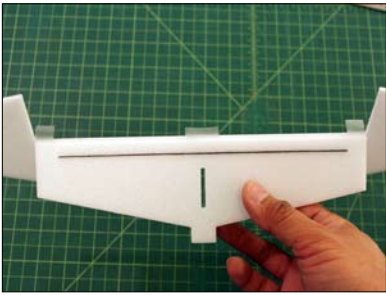
Do both sides.

Bevel the elevator and horizontal stab.

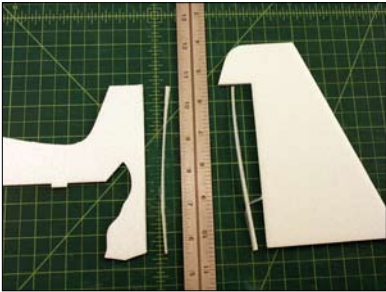


Apply blenderm hinge tape to attach the assembly.





Again you can use 3 small tabs of hinge tape on the bottom side of the hinge to allow a more free moving elevator.  
Or again use a full strip of tape if desired.



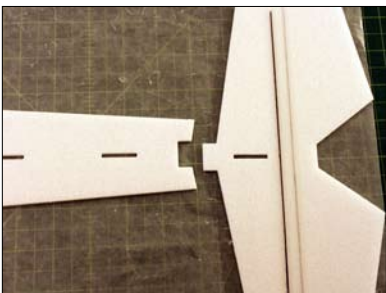
Next bevel the rudder and the vertical stabilizer.



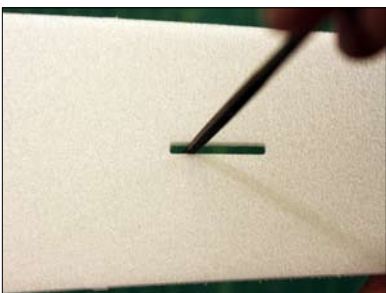
Use hinge tape and attached the two sides.



Flip it over and hinge tape the full side. The rudder is small (short) enough to use a full strip on the opposite side to not cause too much binding.

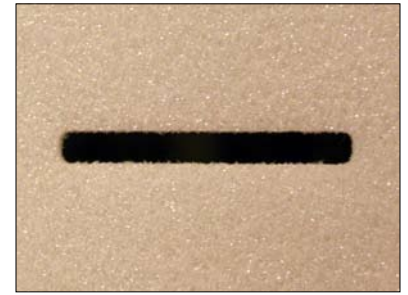


Attach and glue the elevator assembly to the flat horizontal part of the fuselage.

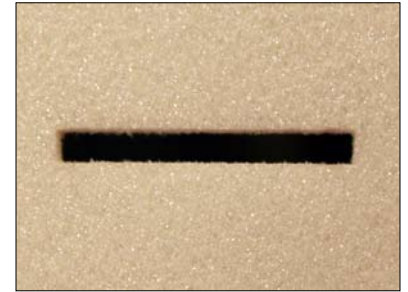


Use a small square file to sharpen up the corners of all the slots. Doing this will allow the parts to fit easier.

This photo show the corners slightly rounded.



After a few swipes with the square file in the corners it will have sharper corners.



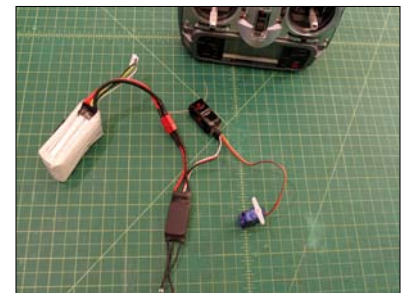
Also find all corners of the fuselage both top and bottom side to see where there are rounded corners that can be sharpened. This photo shows a rounded inside corner.



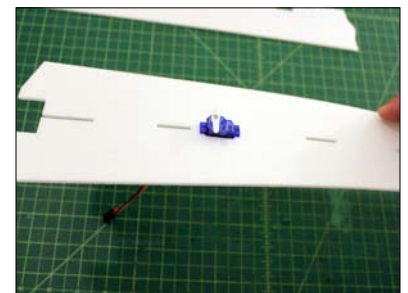
Here is another example of a sharpened inside corner.

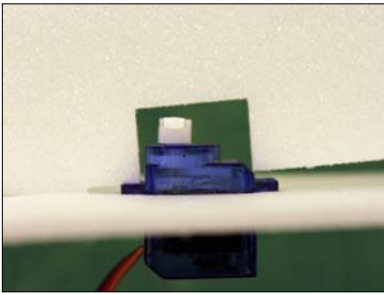


Prepare the Aileron servo buy either using a servo tester or simply hook up your Receiver and make sure your transmitter is in neutral position. Confirm neutral on the servo and attach the servo arm.

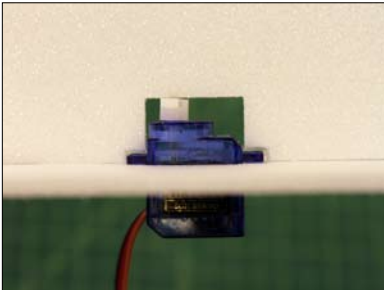


Insert the servo into the horizontal fuselage part. You can use a drop of CA on it to slightly lock it in position. Don't use too much. It will be a tight fit anyway.





Test fit the top fuselage part into the horizontal fuselage part and you will see that it will not fit all the way down due to the servo tabs.



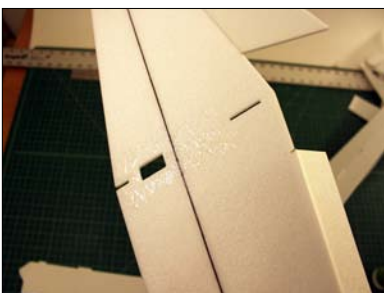
Trim off a very little amount and it should fit nicely.



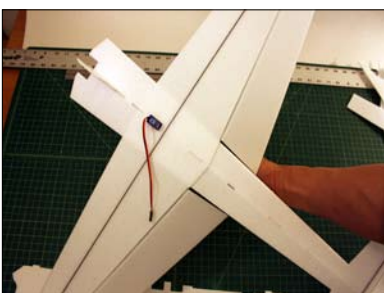
Press in the rest of the top fuselage part into each slot position. Don't apply glue yet as it will seep through the bottom and get all over the place. Apply glue later when the rest of the fuselage is attached.



Apply glue to the top side of the wing. Only spread it over about a 2 inch wide area in the center.

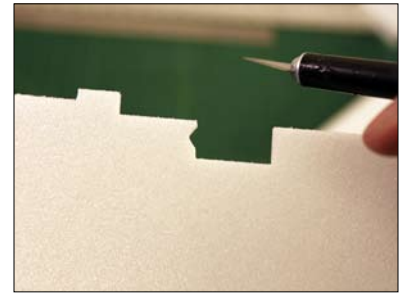


If you look carefully you can see the glue sparkle to give you an idea of where and how much to apply. If you can't see it don't worry too much about it. It's not that critical.

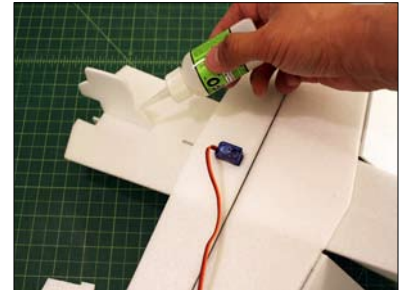


Attach the wing to the fuselage assembly. Press the wing in fully

Before attaching the bottom half you will need to trim a small slot to allow the aileron servo wire to clear the foam.

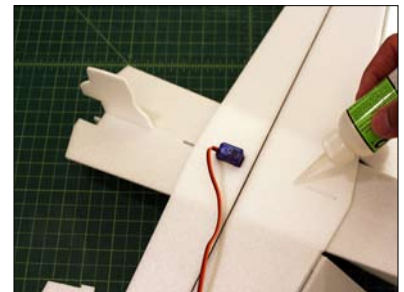


Now glue all the way down the center line of the bottom fuselage.



Use thick or medium foam safe CA.

Continue down the center line applying glue.

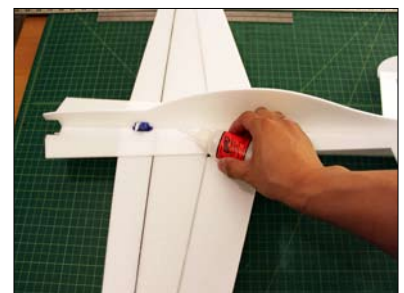


Make sure you get some glue into each slot area as well.



Then attach the bottom half.

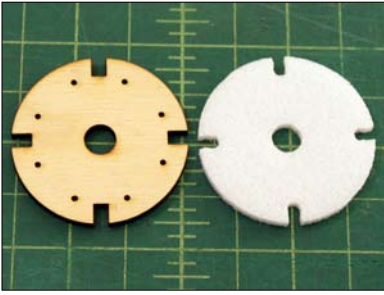
Now you can go over the top half and use Thin foam safe CA in the top joint on both sides.



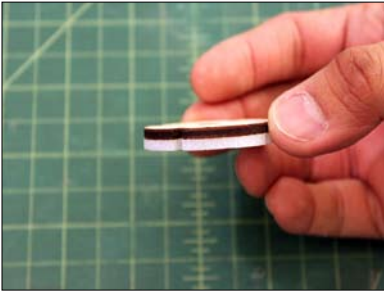
At this point most of the foam construction is almost done and you have the basic airframe all up.

Attach doublers later...

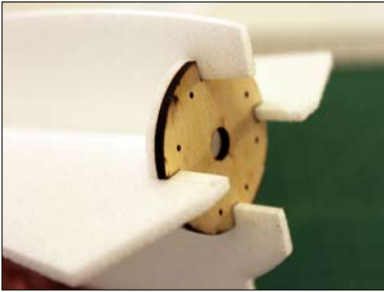




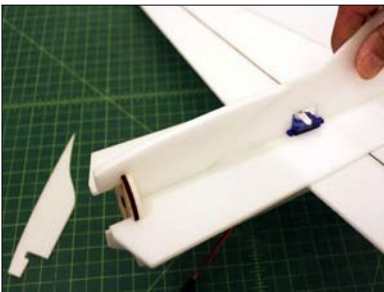
Prepare the motor mount first.



Glue the foam part to the plywood motor mount.

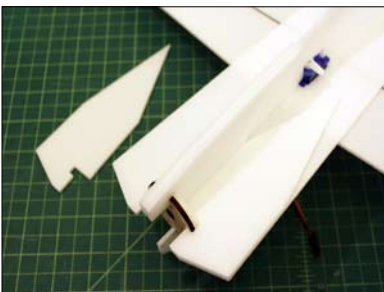


Insert and glue the motor mount with the foam backing into the fuselage.

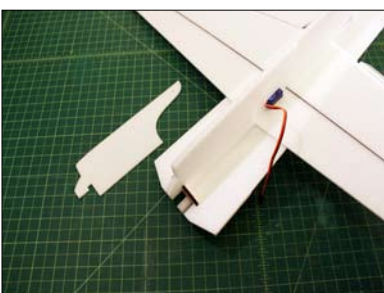


Now attach the fuselage front doublers.

Start with the vertical top parts. Attach and glue both sides.



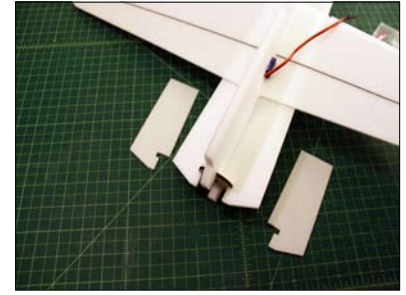
Next attach and glue the top horizontal parts



Flip over the fuselage and now for the bottom front doublers.

Attach and glue the vertical fuselage doubler first.

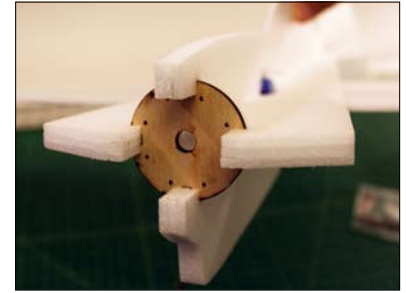
And finally attach and glue the remaining bottom horizontal front doublers.



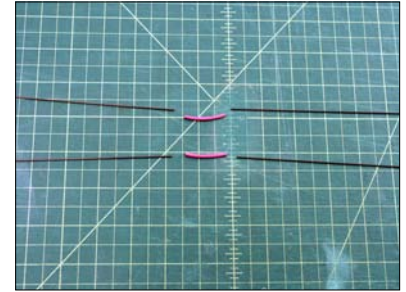
Now your front end should look like this.

9mm thick front end.

Much more durable for very little extra weight.



Find 4 (four) 10 inch 1mm carbon rods and 2 (two) colored shrink tube pieces.

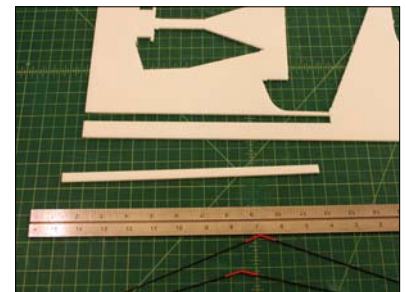


Attach 2 carbon rods using a shrink tube and heat the tube to shrink it.

Then place a drop of thin CA glue on each side to lock it in.

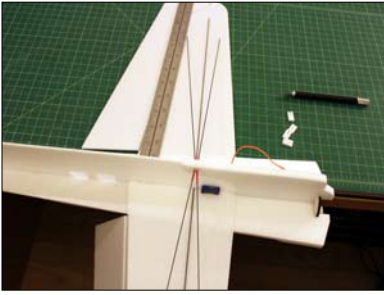


Make 2 of those rod assemblies. Then cut out a strip of foam about 1/4 wide and 10-12 inches long. Use the scrap left overs.

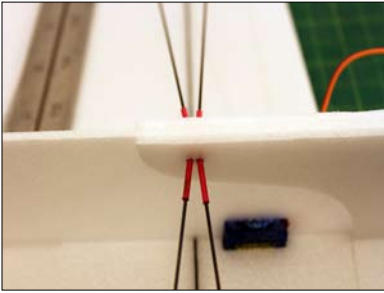


Carefully cut little squares or rectangles and cut a small slit for the carbon rods to fit.

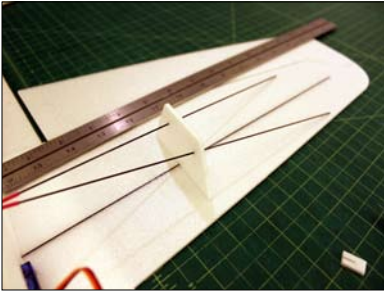




Lay out the plane on the corner of the table and insert the 2 rod assemblies through the hole in the bottom of the fuselage. Use a heavy ruler to hold the wing down flat.



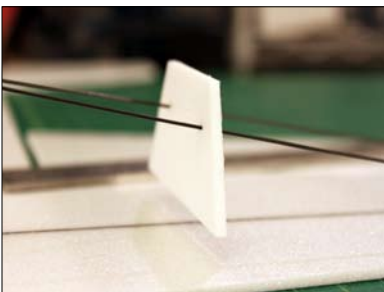
A close up of the hole area to show you where it goes.



Find the vertical support piece. It is in the shape of a trapezoid with 2 small holes. Insert it now and position it to allow the ends to line up over the 2 holes in the wing tips. Don't glue anything yet.



Line up the rods over the holes in the wing and glue them in position using the scrap squares that you just made.

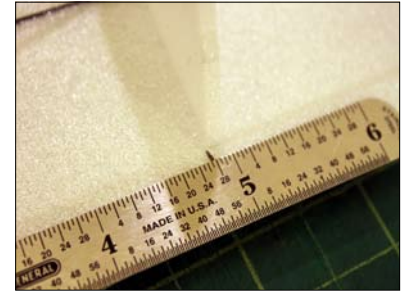


Now you can line up the vertical support piece. Let it naturally fall into position so that the carbon rods are not flexed or bent in any way.

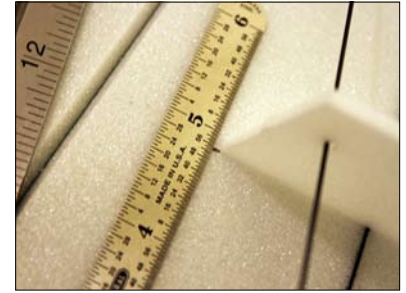


Again, let it sit on the wing and not cause the rods to flex.

Now measure the distance from the fuselage to the front side and mark the position.

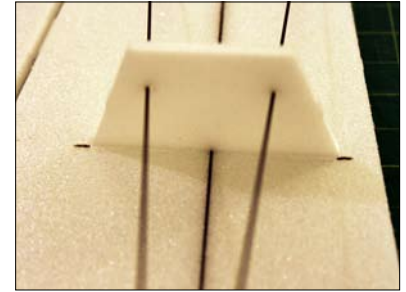


Measure the back side and line it up the same distance from the fuselage as the front side.

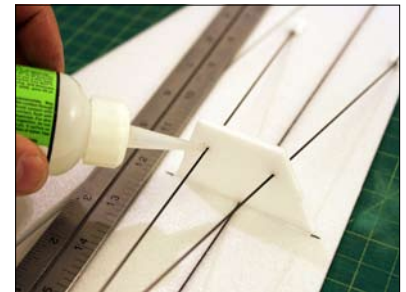


You want it parallel to the fuselage.

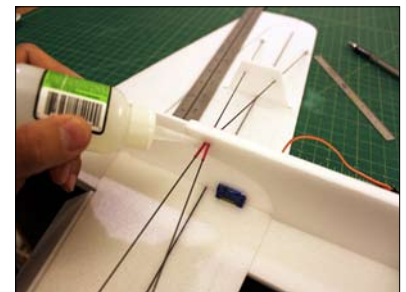
Now that you are sure it is parallel to the fuselage go ahead and glue it onto the wing.



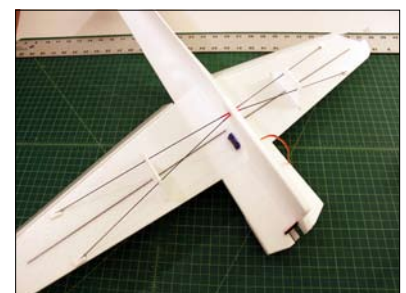
Then glue the rods to the support

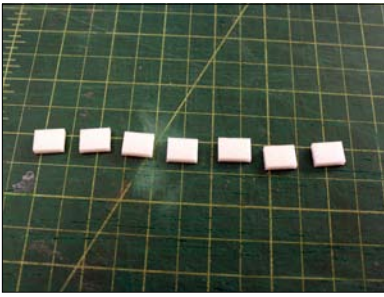


Complete both sides THEN glue the center section in place.

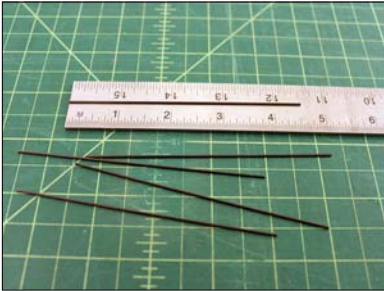


The completed wing struts.



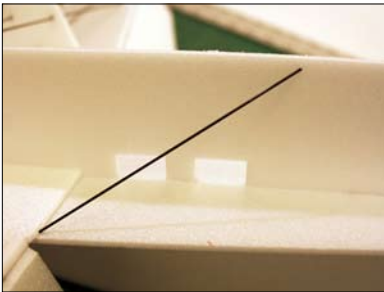


Cut 7 more small pieces from the scrap Depron. Use these to make anchor tabs for the fuselage struts.



Locate the 5 pieces of 4.5 inch 1mm rods.

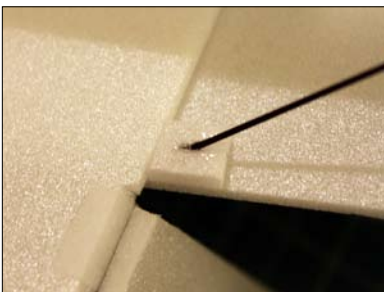
4 of the 5 struts will be used on only 1 side of the fuselage.



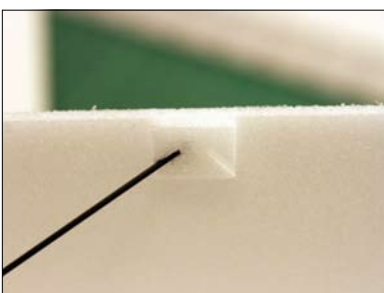
Start by lining up the first rod as shown.



Cut small slits on 2 of the little foam anchor tab pieces. Cut them at approximate angles that the rod will be positioned.

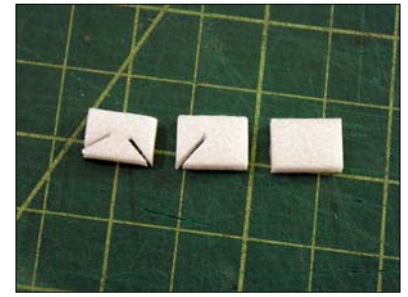


Glue the first tab in place with the rod in it.



Attach and glue the second piece as shown. Cut the slits in the angle needed to fit the rod in place.

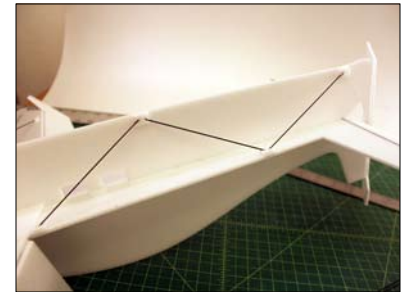
Continue with the next 2 rods in this crisscross pattern. Notice the angle of the slits on the anchor tab pieces



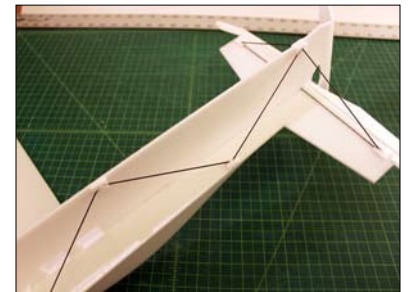
After installing 3 rods in place on this side of the fuselage the remaining 2 rods will support the horizontal stabilizer from both sides. Make the last 2 tabs for the horizontal stabilizer.



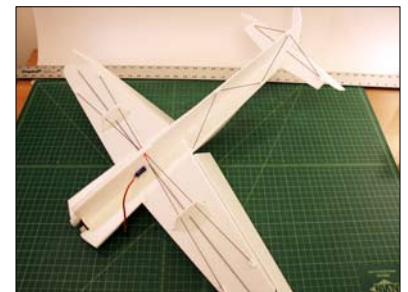
Position the 3 rods as shown.



Use the last 2 rods to support the horizontal stabilizer as shown.

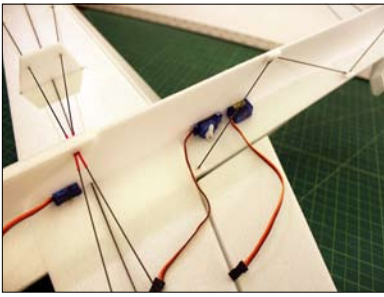


Now all the struts are done.

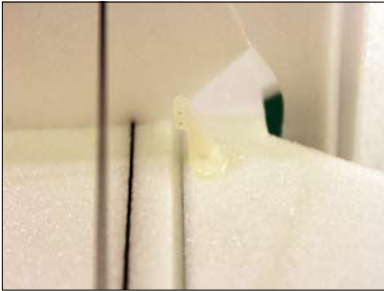


Next prepare your elevator and rudder servos. Make sure they are centered before gluing them in the fuselage. It makes it easier to do this beforehand.





Use a drop of hot glue or CA to attach the servo in the servo slots.



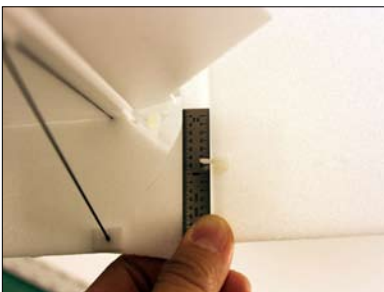
Carefully install the micro control horns in the bottom of the elevator. Glue them in a close as you can to the hinge line without losing structural integrity strength. Meaning not **in** the bevelled area.



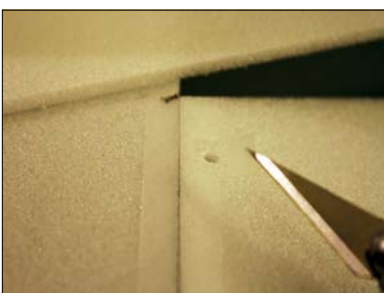
Make sure you used plenty of glue to secure it. Try to have the holes line up close to the hinge line.



For the Rudder control horn you may need to very carefully trim away some of the hinge tape to get foam to control horn contact. This way the hinge tape won't get in the way of a strong glue bond.

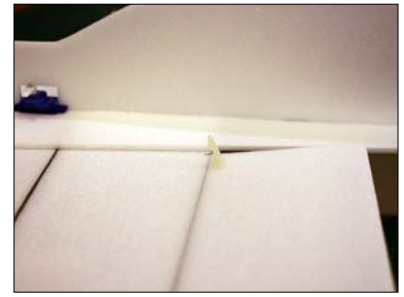


Make sure the rudder control horn is attached about 1 inch below the elevator position. This is to allow clearance for the rudder pushrod.



Again for the Ailerons, Very carefully with a NEW knife trim away some hinge tape from the area where the control horn will be glued in.

By getting the holes to line up as close as you can to the hinge line, then your servo arms do not have to be extra long to get extreme 3D throws.



Use a lot of glue around the base.

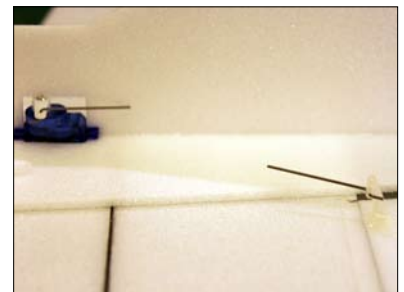


Insert the pushrod in the bottom or middle hole for extreme throws or the top for less deflection.



Prepare the aileron pushrods. Use the two 3.5 inch 1mm rods to make the pushrods assemblies.

Insert 1 wire rod into the outside most hole on the servo arm. Then select the desired hole on the control horn for your preferred set up. The middle hole is a good place to start.

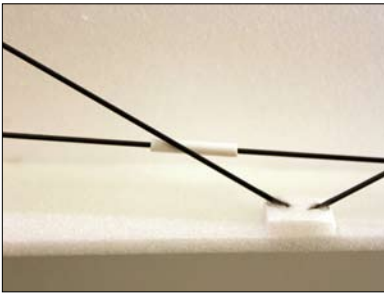


Insert the shrink tubes on each end of the carbon rod to connect the wire pushrods together. Use a postcard thickness paper and fold in under the pushrod assembly to protect the foam from the fire.

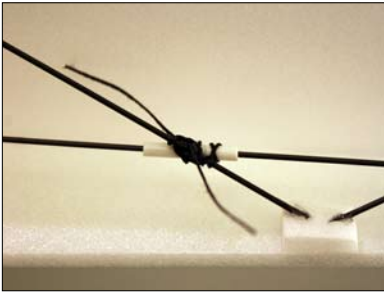


Do the same for the rudder and elevator pushrods. Again use thick paper to protect the foam from the heat of the fire or solder iron, which is a good alternative to shrink the tubing.

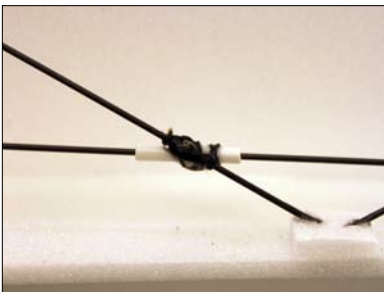




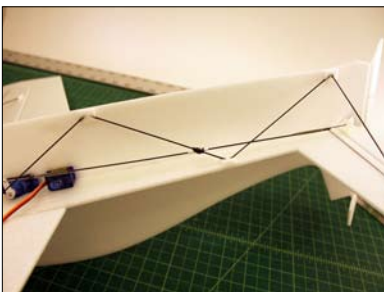
Before you close off the ends of the elevator and rudder pushrods insert the small plastic tube into the carbon rod section for each elevator and rudder pushrod.



You will find that it rests right up against the center (second) fuselage strut. Use some string and tie it to the strut.

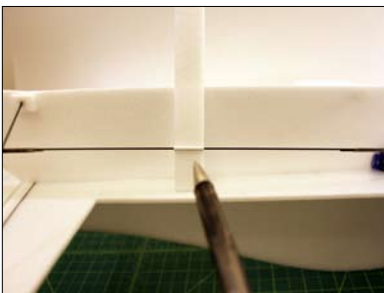


Apply a drop of CA to the string to lock it in.



The completed pushrod assembly on this side.

Once confirmed the servo and elevator is in neutral position, then apply CA to the shrink tube to lock in position.

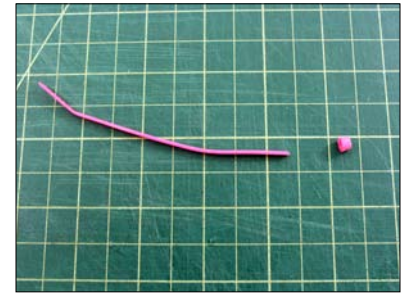


For the other side, again insert the white plastic tube in the rod before attaching the shrink tube to the ends. Measure off some scrap foam to make a support for the pushrod

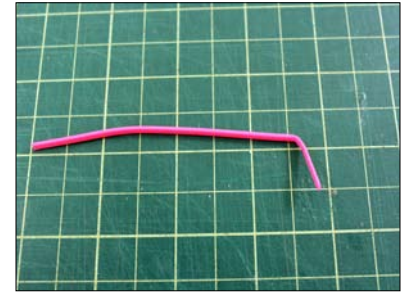


Make a support brace from both sides of the fuselage. Glue the foam to the white tube. keep the pushrod straight with no bending. Be careful not to get glue inside the tube.

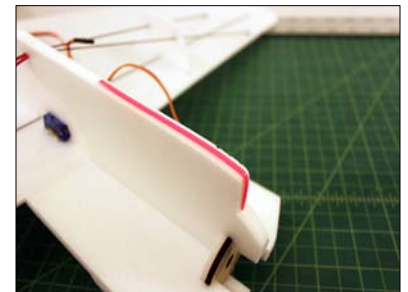
If you are not using landing gear then make a front skid from the zip tie. Trim off the head. Don't cut it off if you are using the landing gear wheels.



Bend the thin side tip to 90 Degrees



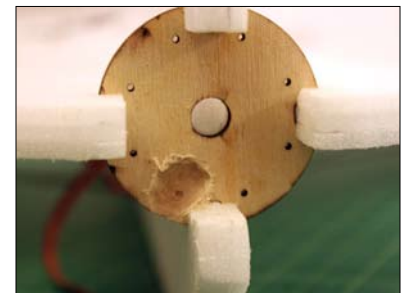
Use hot glue and attach it to the front bottom to act as a landing skid. If you are using landing gear wheels then use it as a tail skid. See how to do it later.



If you are using the recommended motor then you will notice that the wires will not allow the motor to be mounted level.

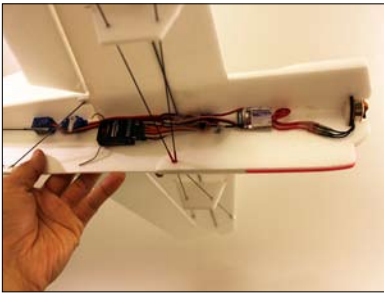


Use a rotary tool and grind away some of the wood to allow the motor to sit flat on the mount.

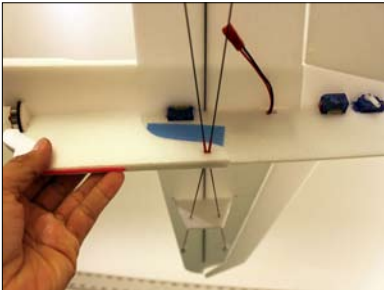


A properly mounted motor should seat flat on the wood mount without force. Screw in the motor. There should be no up/down/or side thrust what so ever.





ESC and Receiver placement.



Make a hole for the battery lead to go through to the other side. Place a piece of Velcro (hook & loop) to the fuselage as shown.

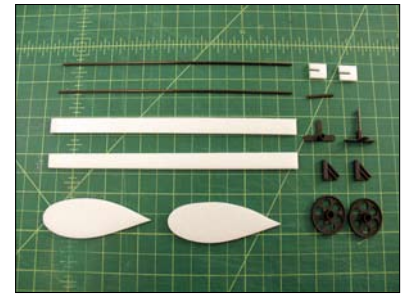


Your plane is complete if you are not using the landing gear.

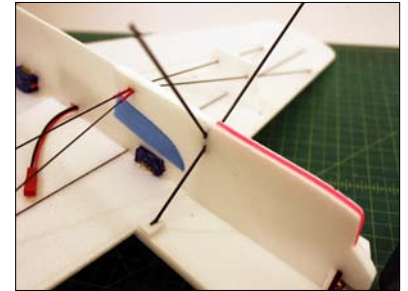


Create the canopy shape with paint, marker or color tape it as desired.

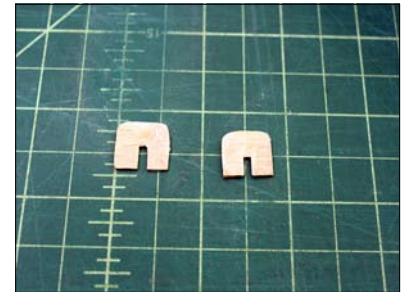
The wheel cover foam parts are included in this kit. However, the carbon fiber and wheels are available separately. You will need to make your own anchor tabs.



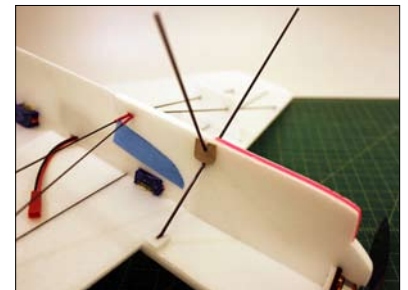
Carefully use a drill and make holes in the fuselage section to position the landing gear as shown. Use your anchor tabs you made to secure the ends to the horizontal part of the fuselage.



As an option, you can make some supports from 1/16 or similar.



Glue the supports where the landing gear penetrate the fuselage. again since the foam is 9mm thick and strong at this point these supports are purely optional.

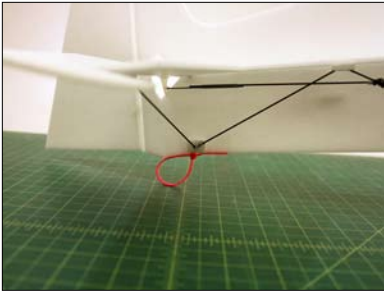


Assemble the wheels and glue them to the landing gear struts.



Glue on the wheel covers and strut covers.





If you used the landing gear then take the unused mini zip tie and loop it. Then glue and tape it to the tail to act as a tail skid.

**Warning!** This aircraft is not a toy. If built or flown incorrectly, this plane can cause damage property or injury to people. User assumes all responsibility and risk. It should be flown only in fields specifically reserved for RC aircraft which have been approved by the AMA. It is highly recommended that you join the AMA if you are not already a member.



Congratulations, you are totally done!

Decorate as desired. But remember it adds weight, so decorate sparingly.

### **Airplane Characteristics:**

This Depron Foamie is great for light wind days in the frontyard, backyard, parking lot, or indoor gym. There are some key features that set this kit apart from other Depron kits in this class. Mainly, like it's big brother this plane uses front fuselage doublers that give this foamie extraordinary durability in the front for those occasional hard landings with very little added weight. While other features like all precut carbon fiber and full hardware make this kit quick and easy to assemble. This plane can keep up with the best of the 3D foamies in this class, and it has great performance and great looks!

**Weight without battery: 4.4 oz**

**Weight with 460 7.4v 2S lipo: 5.6 oz**

**Center of Gravity:** Start with 2" to 2 1/4" from the front leading edge at the wing root. Test fly it then move the battery forward or rearward to suit your needs. The plane should fly hands off in straight level flight both upright and inverted when proper CG is used

**Aileron , Elevator, and Rudder Throws:**

30 to 45+ degrees deflection for each direction depending on your preference

Dual Rates optional

Expo is at your preference 30% to 50%

### ***Recommended motor set up:***

Motor: 2204-14T 19gram 1450kv motor or T-Motor 2202-32 14.5gram 2350kv

ESC: ZTW 12 Amp

Battery: 360mAh 2S 7.4V Lipoly Pack / 360mAh 3S 11.1V 30C or higher Lipoly Pack

Prop: GWS 8043 or 8060 (If you use the 3S then ONLY use the GWS 8043 prop)

If you use T-Motor, GWS 7035