



Thank you for buying a TBRC Wing.

### **Kit Contents**

- 1: 4 wing sections
- 2: 4 x 2mm carbon fiber rods 1000mm
- 3: 1 x 1/8" fiberglass rod 1000mm
- 4: Foam motor mount
- 5: Plywood motor plate
- 6: Laminate
- 7: Balsa Elevons
- 8: Coroplast winglets
- 9: Control horns

### **Tools Required**

- Hobby Iron
- Goop (or other contact adhesive eg Welders or ShoeGoo)
- Sand Paper
- Soldering Iron/Gun
- Hobby Knife
- Side cutters(optional)

CG is 7" from the nose

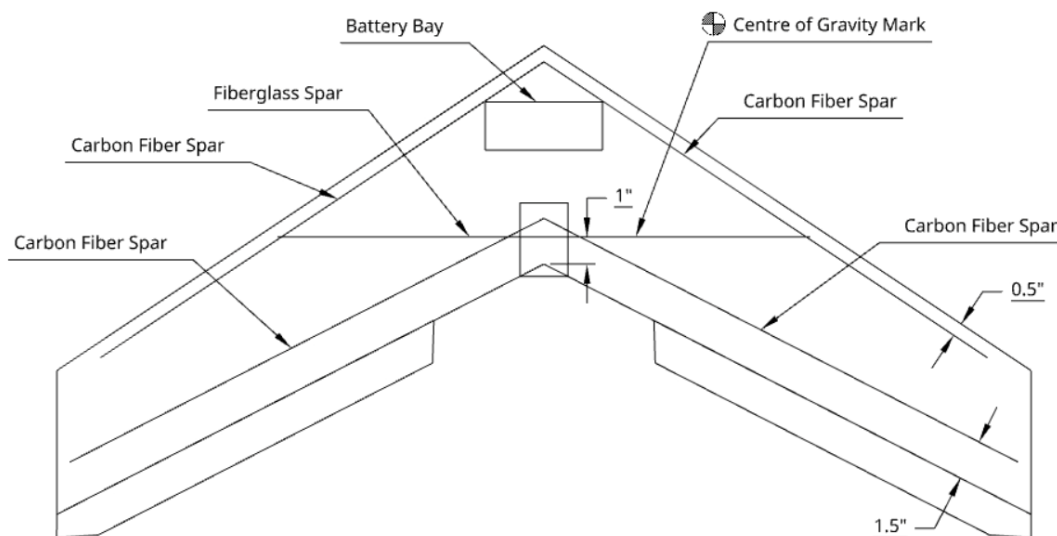
## Step1

Using Goop, or other similar adhesive, attach the 4 wing sections together. Be sure that you have them lined up correctly, so that the front and rear match up perfectly. Also at this first stage glue the plywood motor plate onto the foam motor mount.



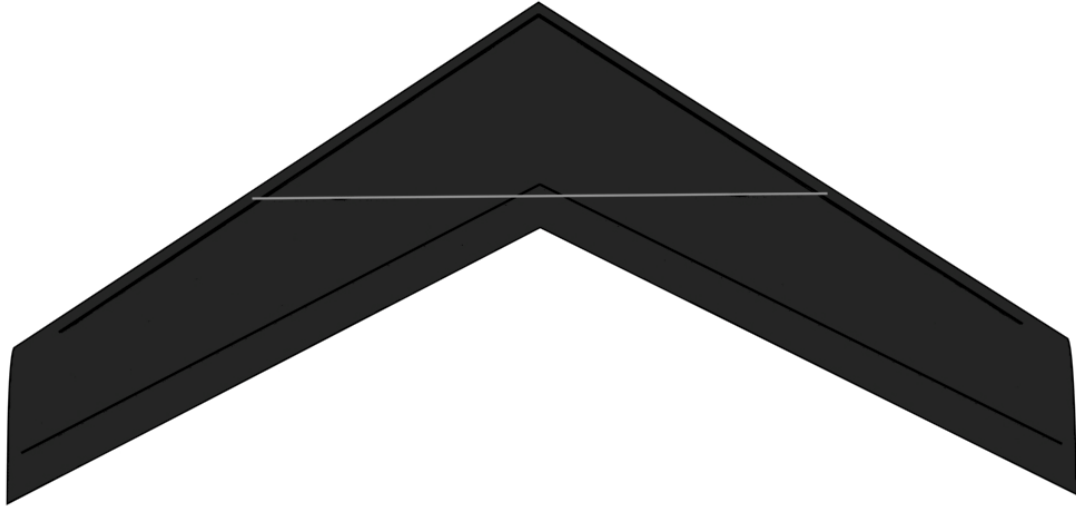
## Step2

Using your side cutters, cut all your spars in half to give you 500mm lengths (about 19 and 11/16 inches). Mark the locations for your spars on the top and bottom of your wing. The carbon fiber spars are to be installed 0.5 inches back from the leading edge, and another one 1.5 inches forward of the trailing edge. The fiberglass spar is to be installed 1 inch forward of the v formed where the back of the wing halves join together. The positioning of the fiberglass spar is important because it will double as your CG mark.



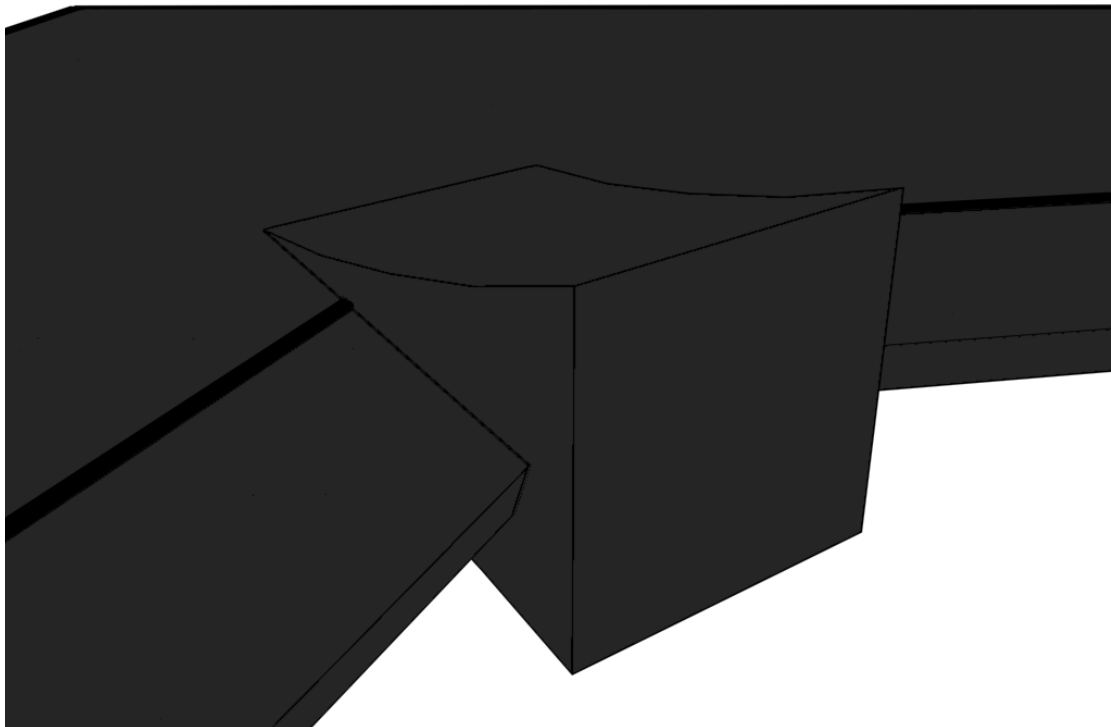
### Step3

Using a sharp hobby knife cut along the marks you made in Step2. The cuts should be deep enough that you can push the spars into the foam without them sticking above the surface. Cut the fiberglass marks twice as deep as you'll be putting the fiberglass underneath the carbon fiber spars. Inject each cut groove with Goop (or similar adhesive) and press in each spar. Starting with the fiberglass spars. Do this for both the top and bottom of your wing. Once the spars are installed, check that the wing is not twisted. Let the wing rest undisturbed until the glue cures.



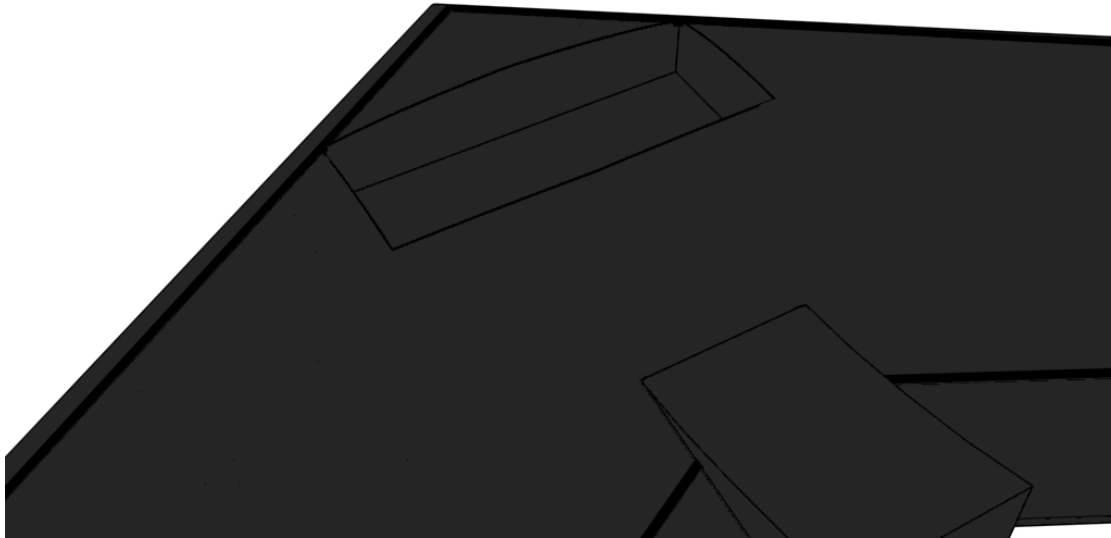
### Step4

Glue the motor mount to the back of your wing. Be sure that it's centered and lined up straight. You can use pins to hold it in position while it dries if you fear it's going to slip and move before the glue cures.



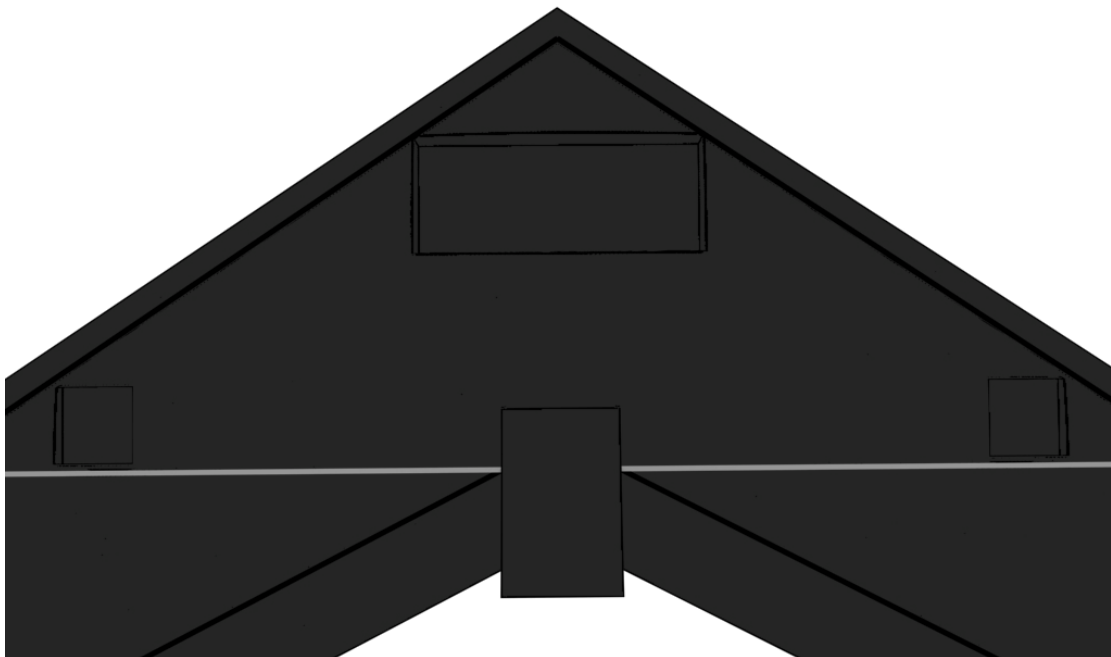
### Step5

Using a knife, soldering gun or a Dremel tool, cut in your battery bay. The front corners of the battery bay should be where the carbon fiber spars are. Be sure to measure your battery to ensure your hole is the correct size so that your battery will fit snugly inside. Some pilots choose to cut all the way through the foam here, others like to keep a small amount of foam at the bottom of the hole. This is up to you and your personal preference. If you choose to cut all the way through the foam then your battery will be resting on the laminate underneath once your wing is complete.



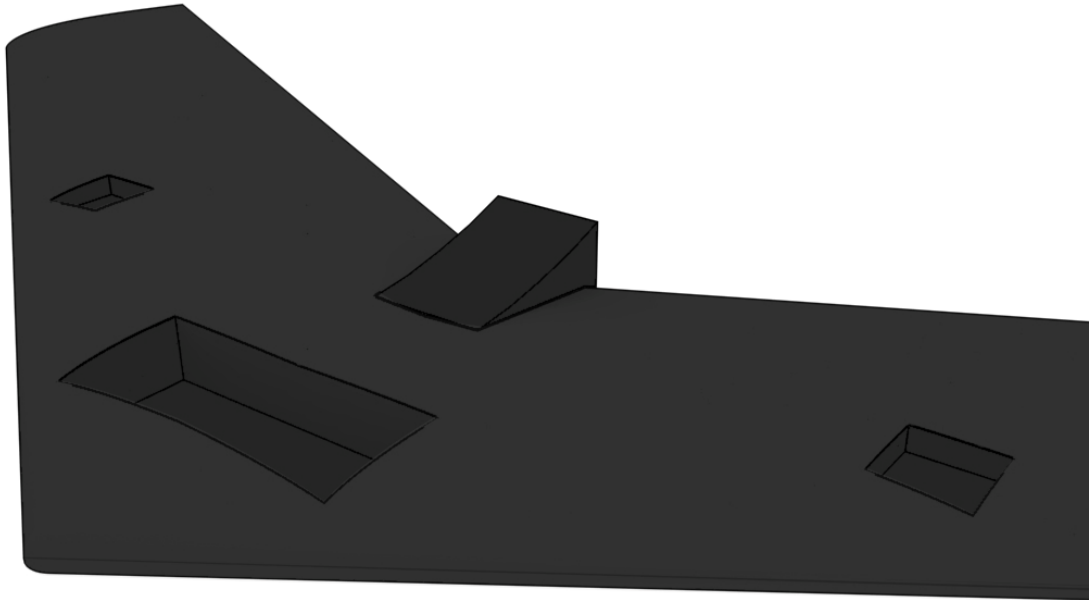
### Step6

Mark the locations for your servos and using your preferred clearing method, cut out the holes for them. Locate the servos in front of the fiberglass spar as far out as possible making sure to still have clearance for your control arm.



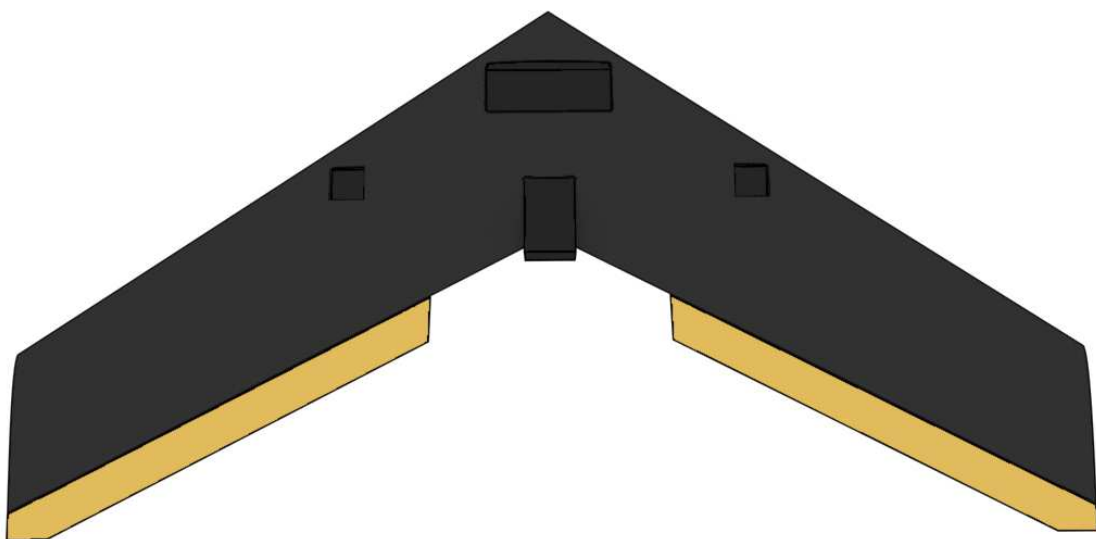
### Step7

Using your hobby iron laminate your plane. Do not laminate the flat ends of the wingtips as we will be attaching the winglets here and the glue attaches better to bare foam. Using an extra strip of laminate to double up the leading edge of your wing will help add extra strength to your plane if you're planning on bashing this plane into flags and gates. If you cut your battery bay completely through be sure to add an extra 1 or 2 layers of laminate underneath the battery bay for added strength.



### Step8

Laminate your elevons. Cut 4 strips of laminate about 1.5 inches wide and as long as your elevons. Use these strips to attach your elevons to the back of your wing. Using one on the top and one on the bottom of each elevon. Be sure to check that you still have full range of motion on your elevons once they are attached.

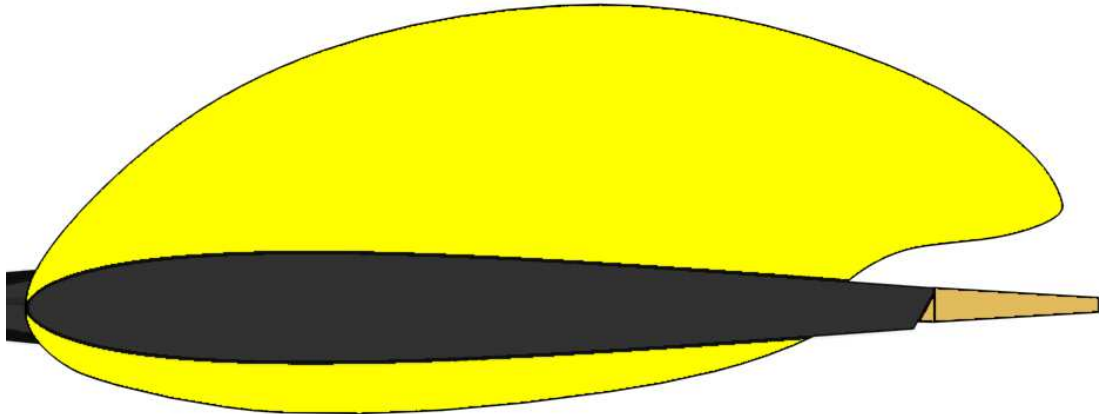


### **Step9**

Install your electronics into your plane, cutting out necessary holes and pockets as needed. Prior to cutting in the holes, a good practice is to temporarily tape all the electronics and remaining winglets into place on your aircraft and checking that it balances on the CG mark (the fiberglass spar). By balancing it with your electronics means you shouldn't need to add unnecessary lead ballast to balance your plane later on. Many people install the ESC on the upward slope of the motor mount to allow for excellent cooling, however bury it into the foam if you want slightly better aerodynamic performance.

### **Step10**

Glue the winglets onto the ends of your wing.



### **Step11**

Attach your stickers and decals to your wing. Be sure that the plane balances right on the CG mark. Slightly forward is ok. Slightly behind will cause you troubles and you won't have a nice flying aircraft.

**CG is 7" from the nose, if you built the wing as described in these instructions your CG mark is the same as where you placed your fiberglass spar.**

Now go out flying, good luck in the races.