Thank you for buying a TBRC SOS (Son Of A Spec)Wing.

Kit Contents
1: 2 wing sections
2: 3 x 2mm fiberglass spars 1000mm long
3: 1 x Foam motor mount
4: 1 x Decal set
5: 1 x Laminate
6: 2 x Balsa elevons
7: 2 x Coroplast winglets
8: 2 x Control horns

Tools Required
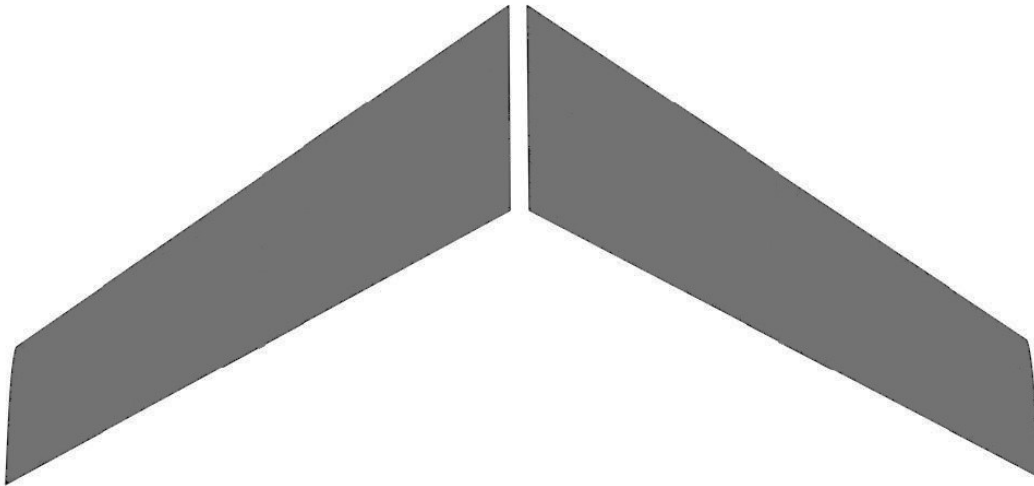Hobby Iron
Goop, Welders or ShoeGoo
Sand Paper
Soldering Iron/Gun
Hobby Knife
Side cutters (optional)
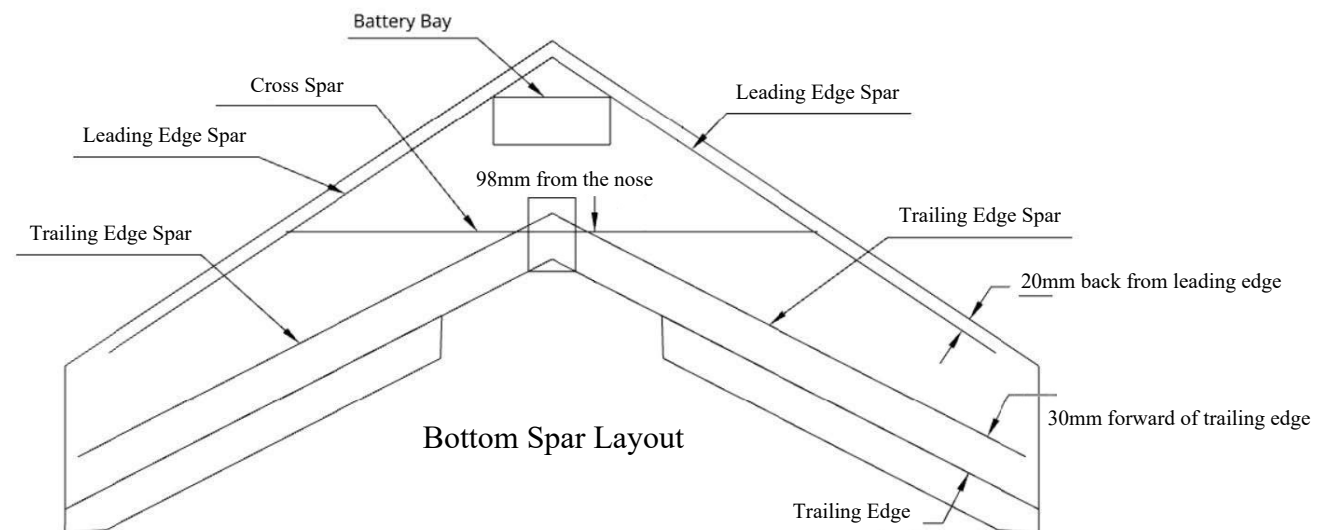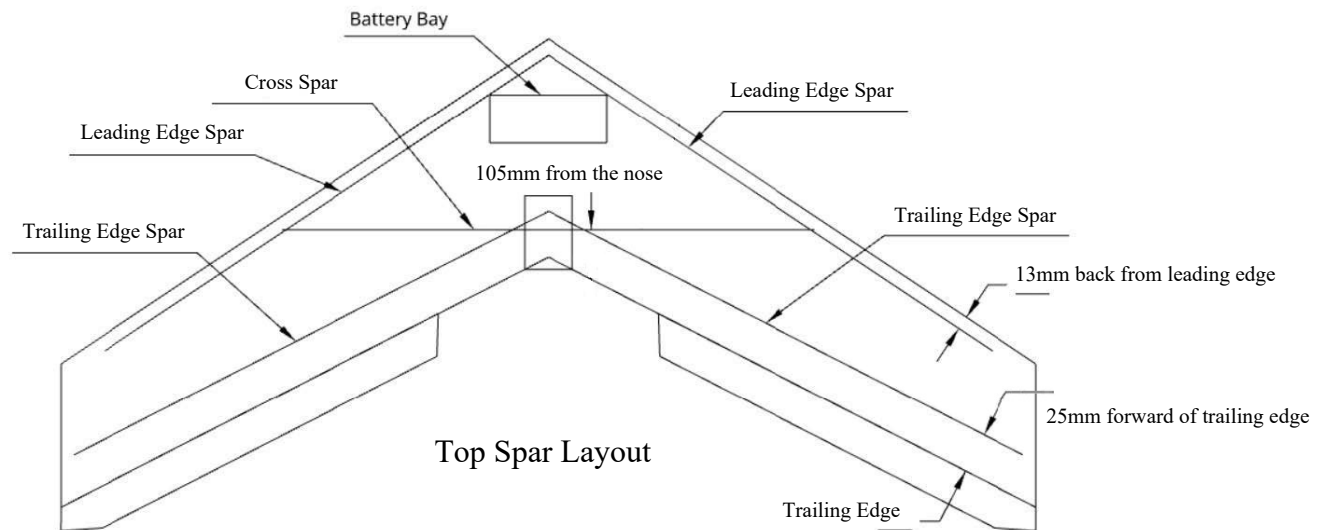
CG is 98mm from the nose

Step1
Using Goop, or other similar adhesive, attach the 2 wing sections together.

Step2
Using your side cutters, cut all spars to length. From 2 full length spars cut 8 pieces at 250mm lengths. These are for leading edge and trailing edge spars. Cut 2 x 300 spars that will be used for the cross spars. The spars are to be installed top and bottom according to the diagram and dimensions below. Pay close attention to dimensions when marking your spar layout. spars must intersect as shown. This layout will increase strength and rigidity to the build. The positioning of the fiberglass spars is important because the bottom spar will double as your CG mark.

Battery Bay

Cross Spar

Leading Edge Spar

Leading Edge Spar

Trailing Edge Spar

105mm from the nose

Trailing Edge Spar

13mm back from leading edge

25mm forward of trailing edge

Top Spar Layout

Trailing Edge

Battery Bay

Cross Spar

Leading Edge Spar

Leading Edge Spar

Trailing Edge Spar

98mm from the nose

Trailing Edge Spar

20mm back from leading edge

30mm forward of trailing edge

Bottom Spar Layout

Trailing Edge

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. Take note you need to install the cross spars first and will be putting them slightly deeper so that the angled spars intersect and cross. If all spars are making contact but not sticking above the foam surface lock them down. CA can be used or any flexible adhesive. Remember you must install the cross spars first. Do these steps for both the top and bottom of your wing. Check that the wing is not twisted. Let the wing rest undisturbed until the glue cures.
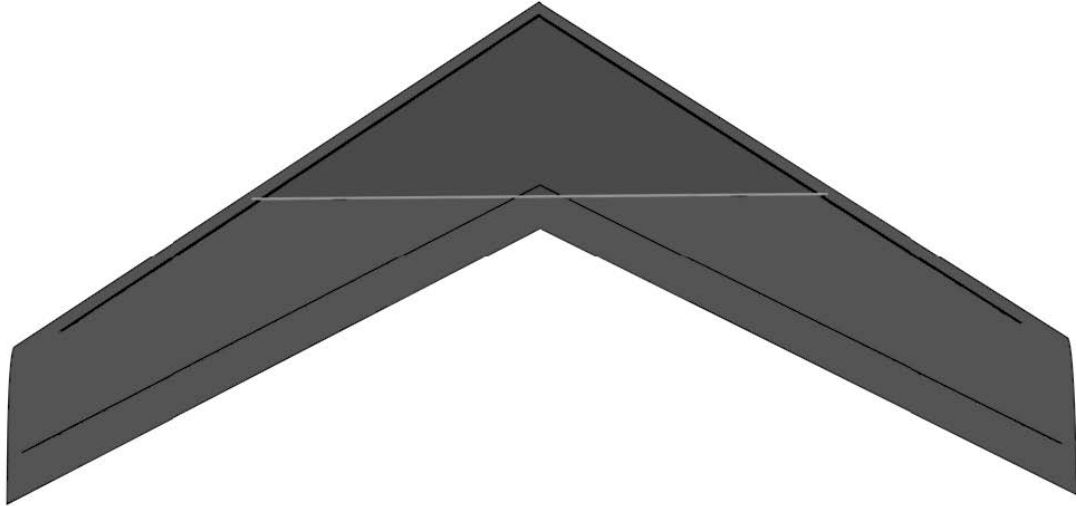

Step4

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.
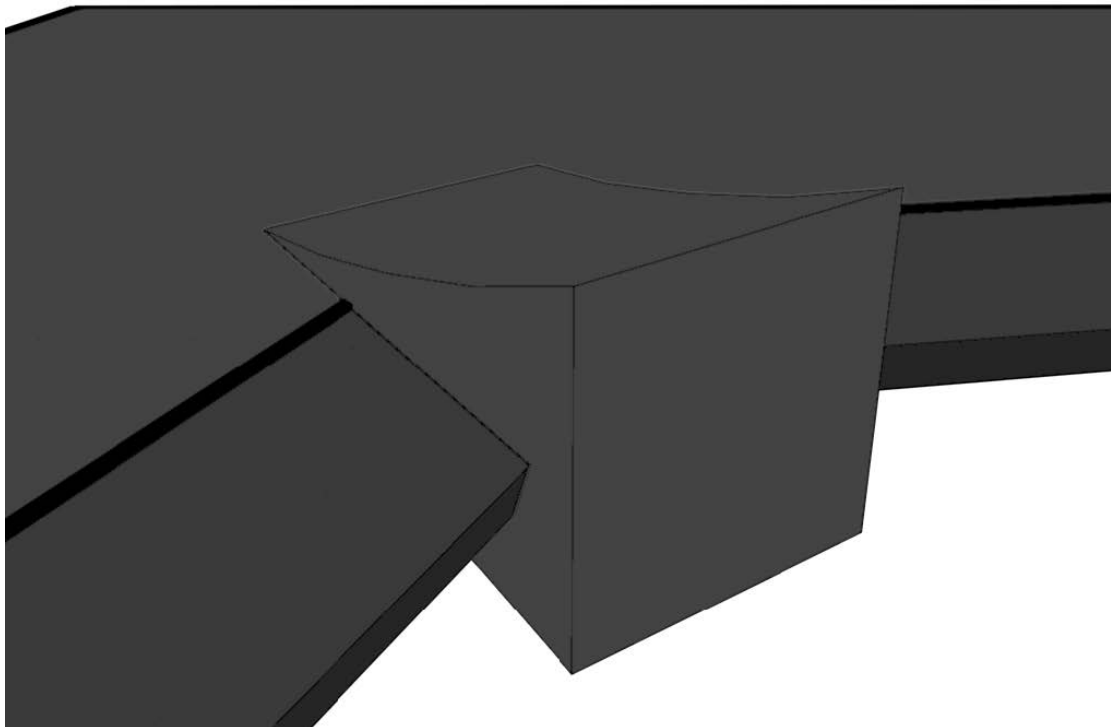
Step5

Using a knife, soldering gun or a dremel tool, cut in your battery bay. The front corners of the battery bay should be close to where the 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.
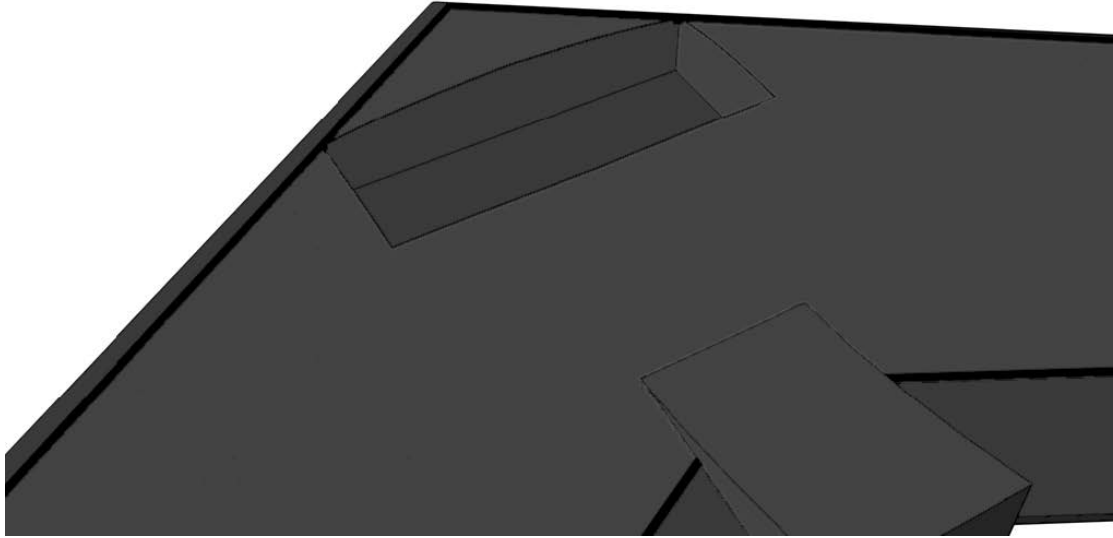
Step6

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 cross spar as far out as possible making sure to still have clearance for your control arm.
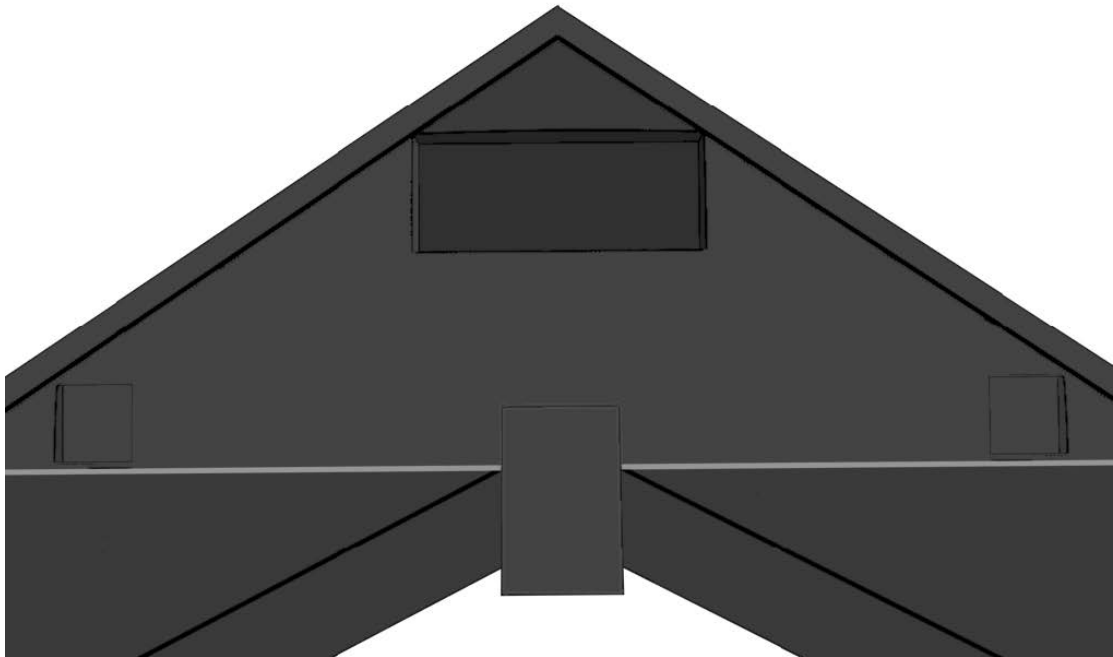
Step7

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.
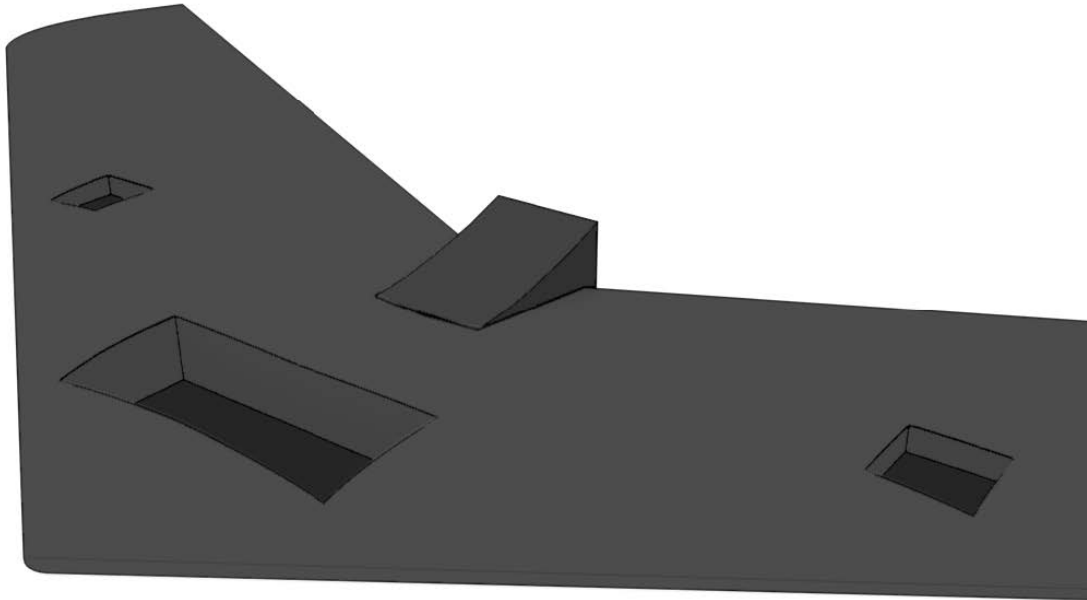
Step8

Laminate your elevons. Cut 4 strips of laminate about 50mm 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.
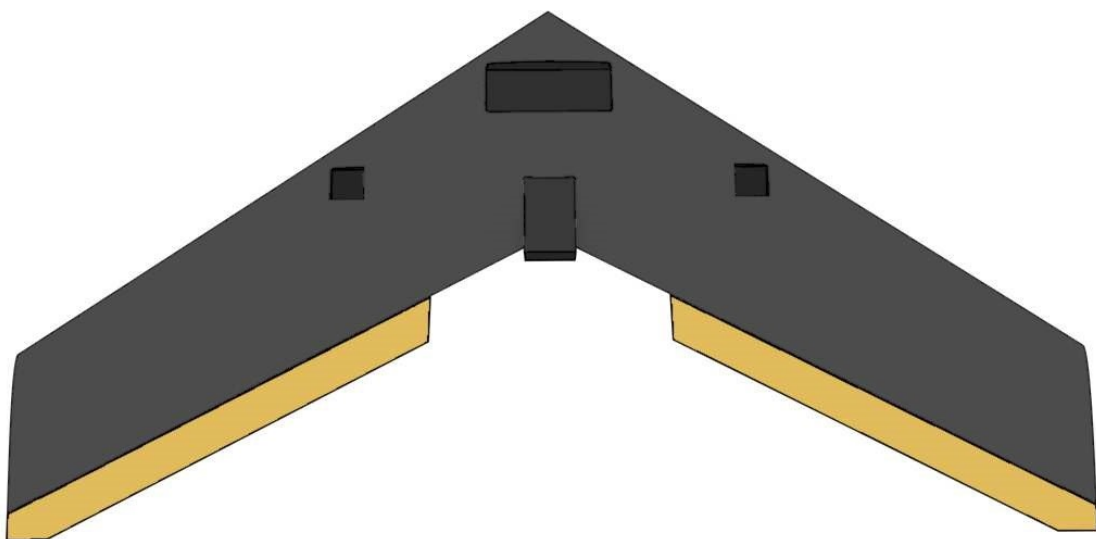
Step9

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 98mm from the nose. Balancing it with your electronics means you shouldn't need to add unnecessary lead ballast to balance your plane later.

Step10

Glue the winglets to the wing tips.
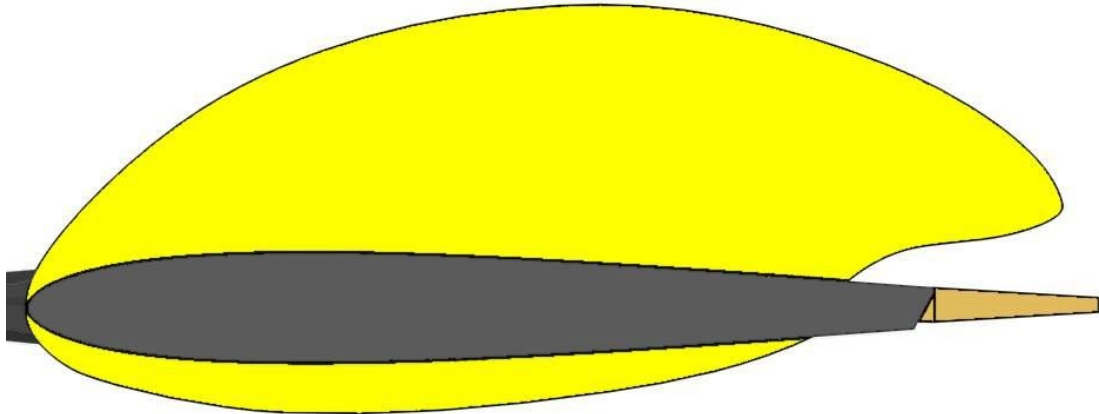
Step11

Apply the 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 98mm from the nose.

Now go out flying, good luck at the races.