



Ultralightweight Ultraportable high performance slope wing.

"The Wing in a Bag"

A unique blend of laser cut balsa, 3d printed components and carbon tube give you a truly versatile quick and easy to build model that you just should leave home without.

Recommended electronics:

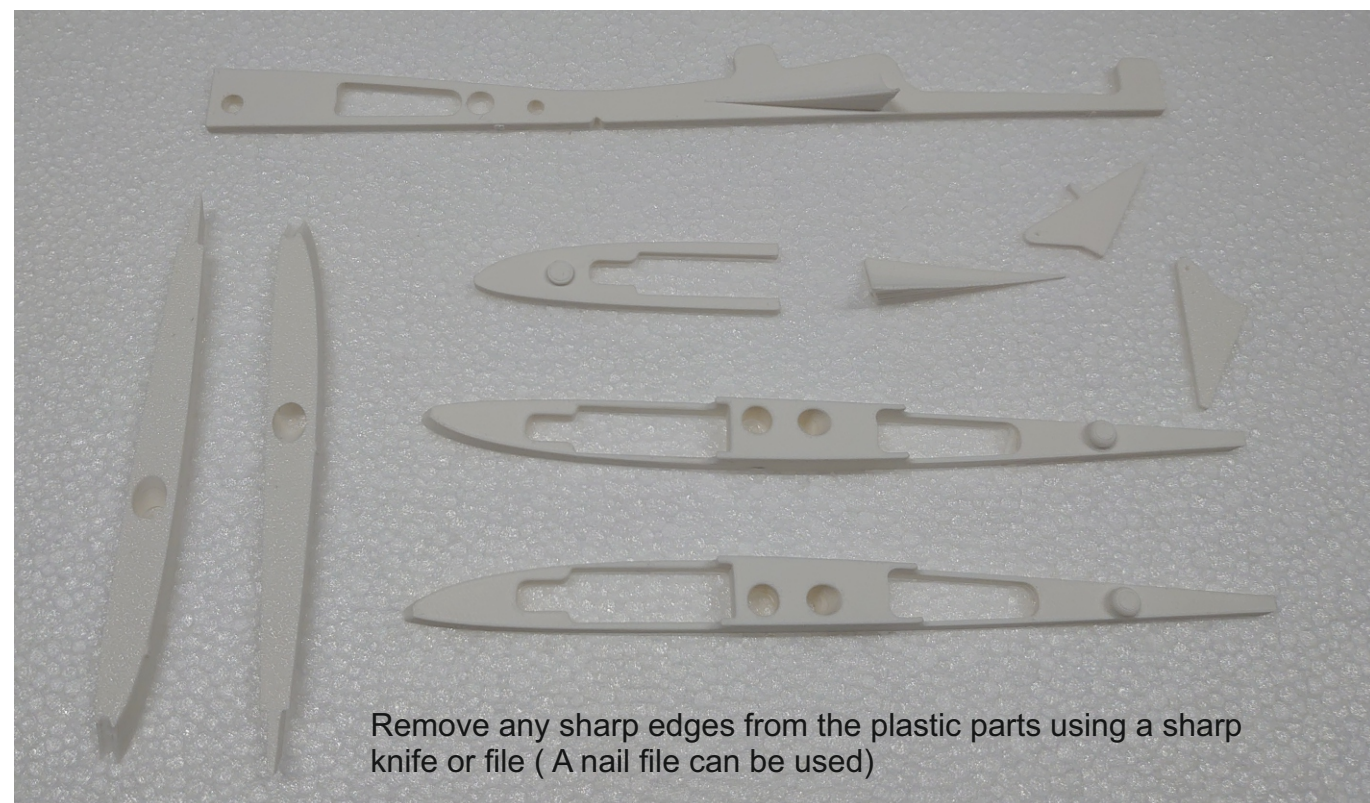
4 cell 400mah 2/3aaa NIMH Receiver battery

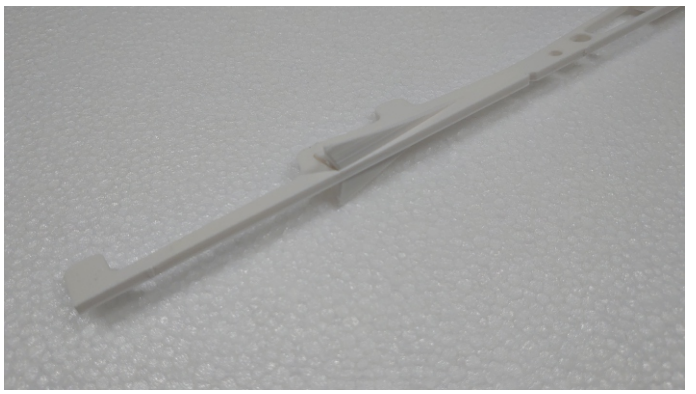
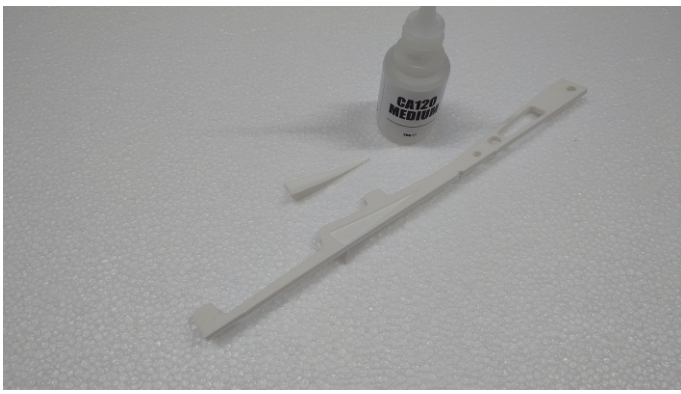
2 x CHA DS06 / Bluebird BMS101DMG / Emax ES9052 / Kingmax CLS0511H

Micro 4 channel receiver (eg Radiomaster R84 V2 4CH) N.B. if using a larger receiver you can cut a hatch in the underside of the wing to accomodate.

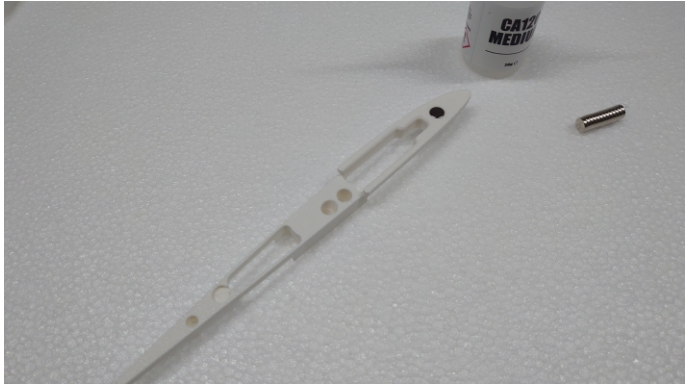
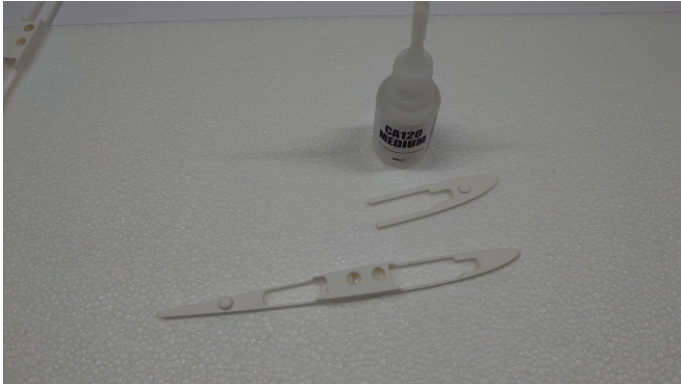
Wingspan	900mm	35.4"
Wing Area	17.5 dm2	271sq"
Weight	180-220g	6 1/2 to 7 3/4 oz
Wing Loading	~10.3 - 12.6g dm2	~3 1/2 to 4 oz sqft
Aspect Ratio	4.6:1	
Airfoil	Root PW1211 Mod	Tip AW1211

1st task before starting the build is to lightly sand the carbon fibre tubes. This will give a better adhesive bond as it removes any release agents used in the manufacturing process. We prefer to use "wet n dry" paper for this, used wet to prevent the carbon dust. **When cutting or sanding carbon fibre products always wear a mask.**

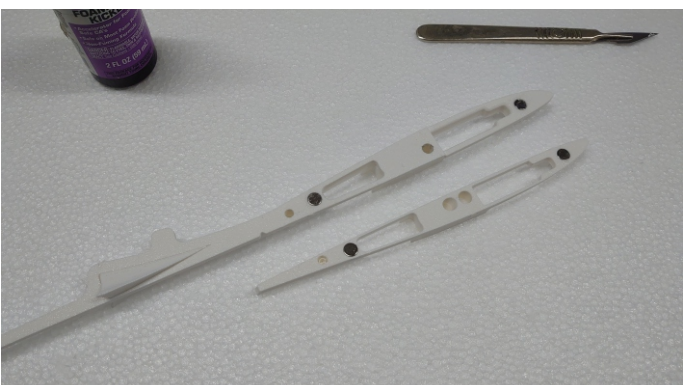
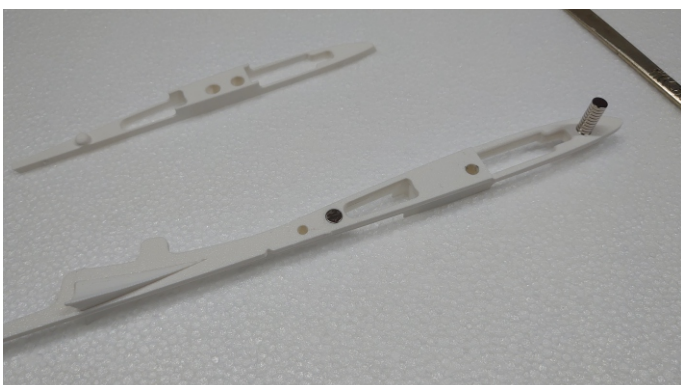
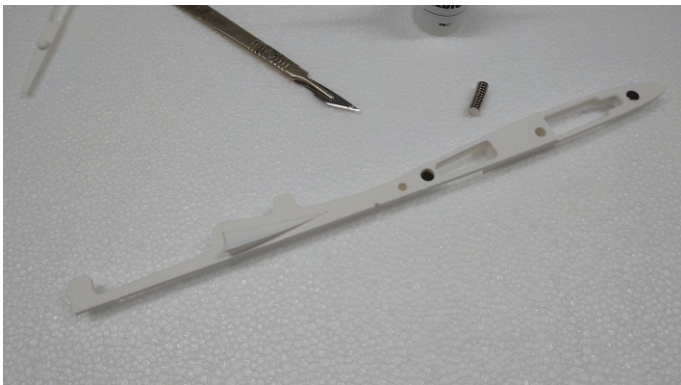
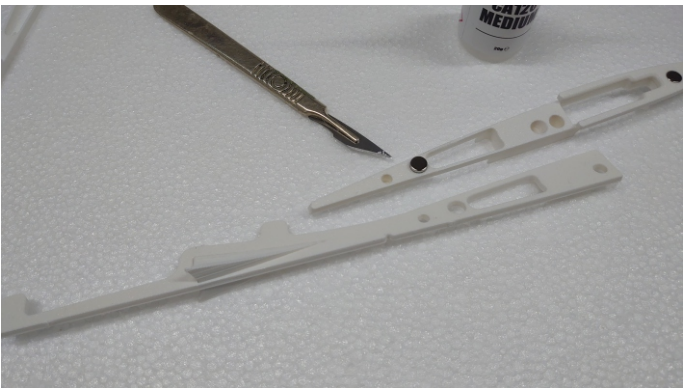




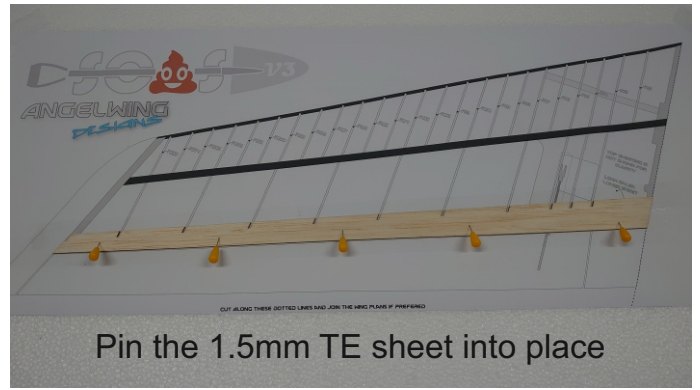
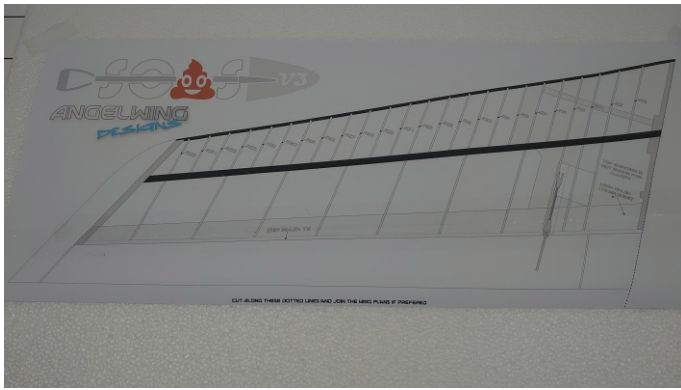
Using Medium CA glue the fin support into the pocket on the right hand side of the fin keel.



Using Medium CA glue the nose blank onto the left hand root rib. Take care to align this correctly
Keeping the magnets in a stack glue one of the 6mm x 1.5mm magnets into the socket as shown



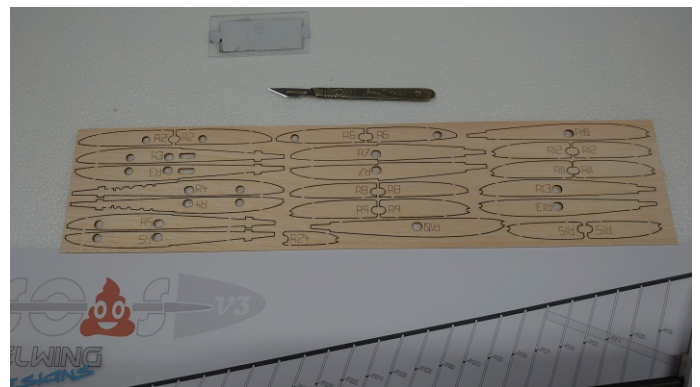
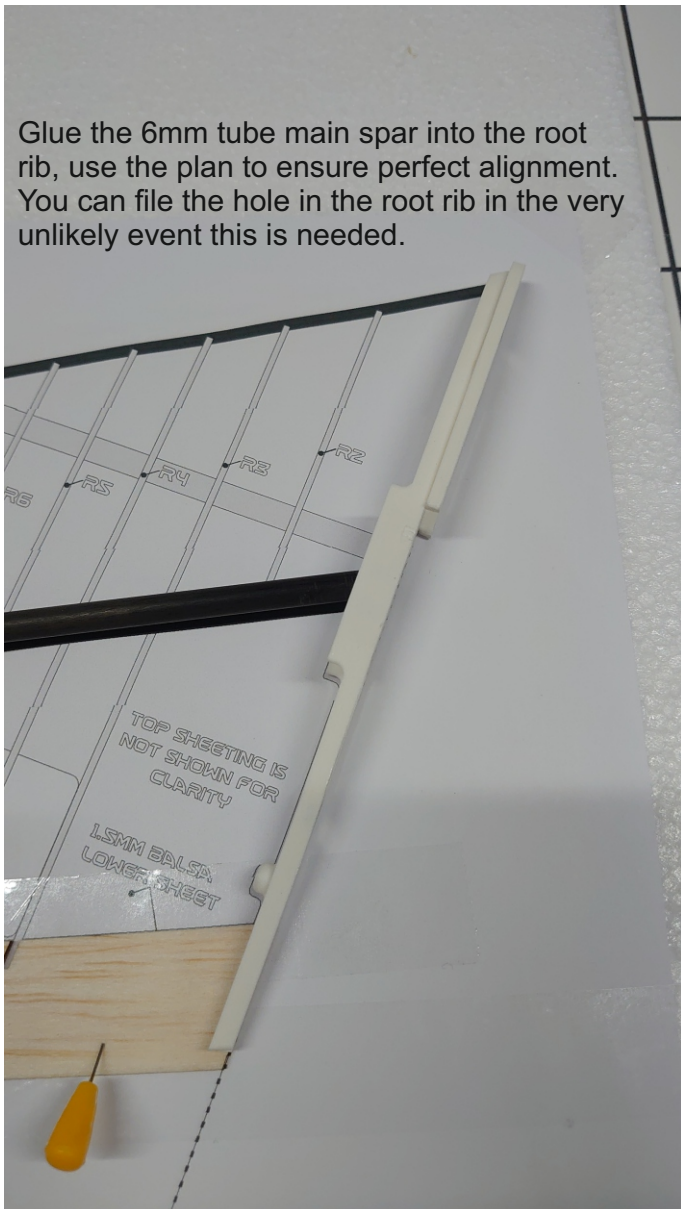
Glue all the remaining magnets into place, keep checking the polarity of the magnets before glue



Pin the 1.5mm TE sheet into place

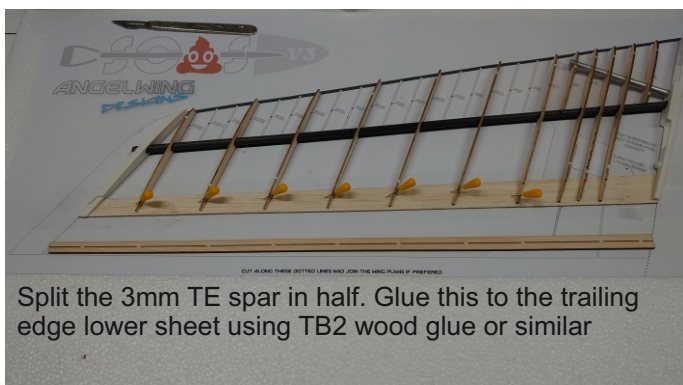
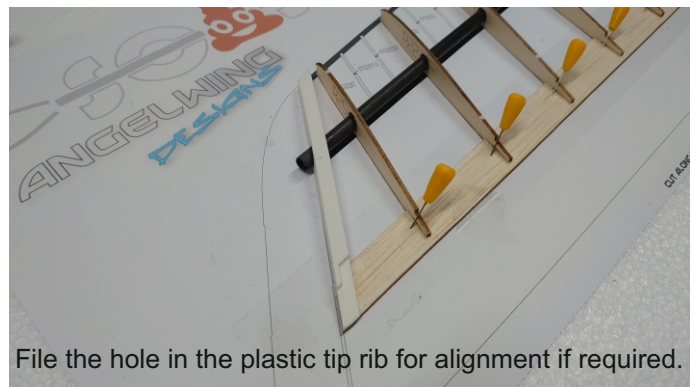
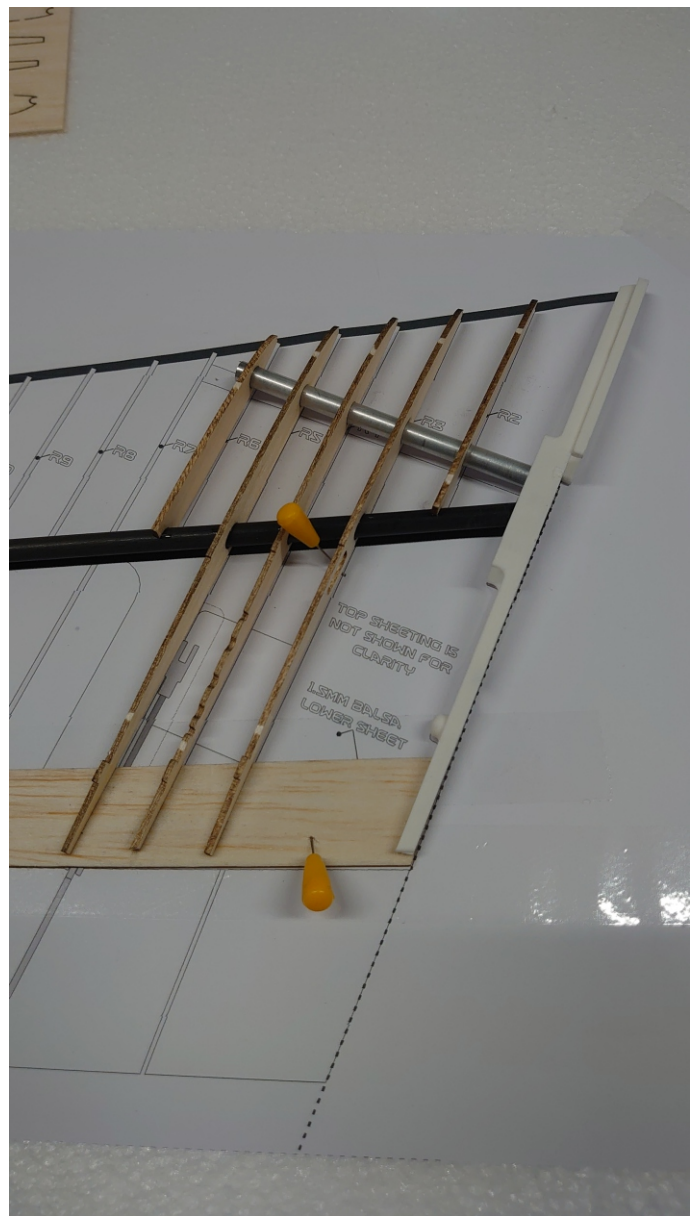
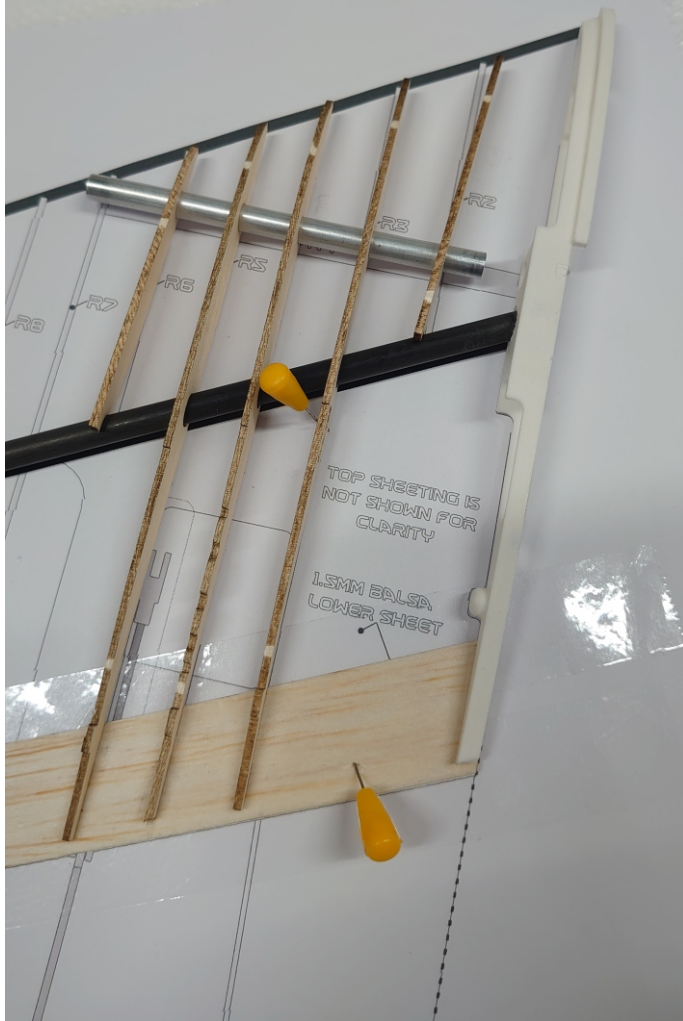
Split the plan so you have a left and right hand wing plan. Our build sequence shows building the left wing first. this isn't critical, just remember to make a left and right hand wing! The plan needs protecting where the 1.5mm balsa trailing edge sheet sits, you can use clear tape or protect the whole plan with a clear polythene sheet if preferred.

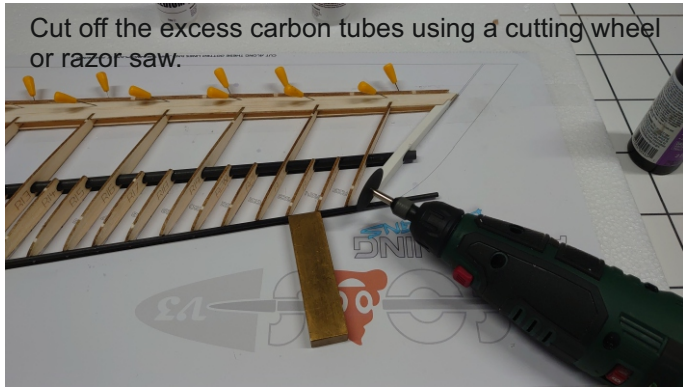
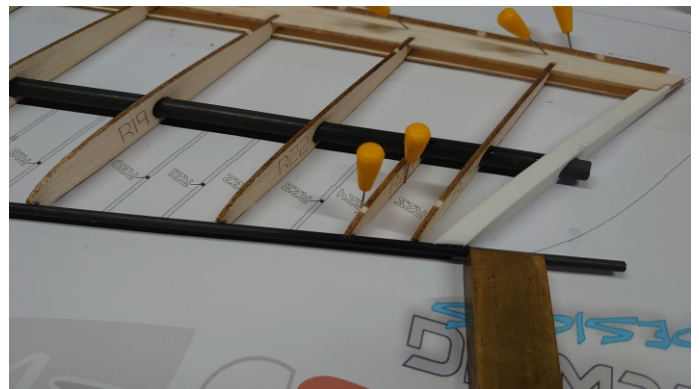
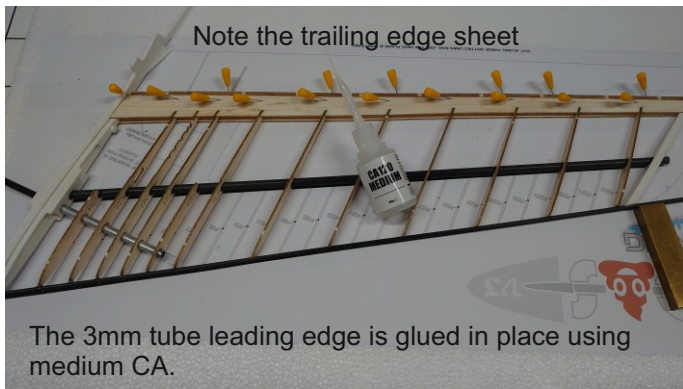
Glue the 6mm tube main spar into the root rib, use the plan to ensure perfect alignment. You can file the hole in the root rib in the very unlikely event this is needed.



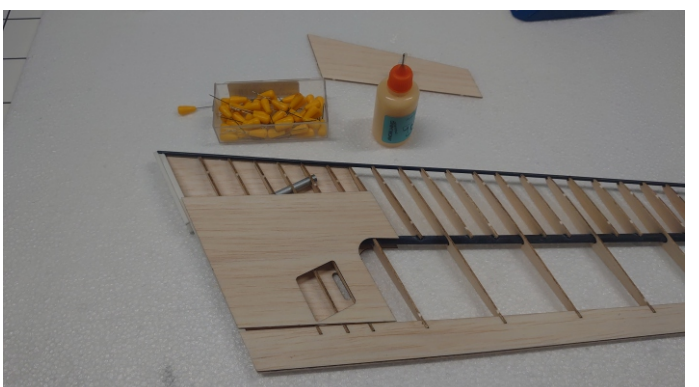
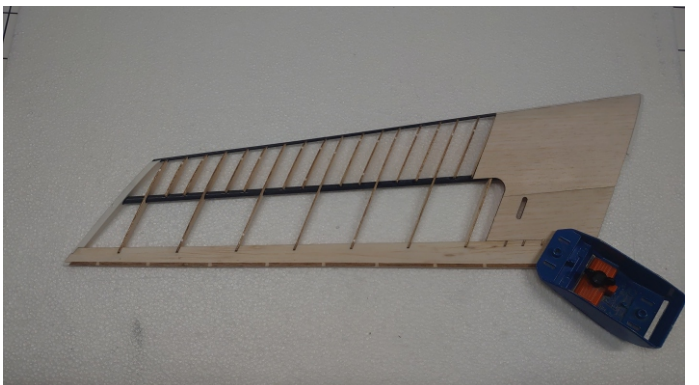
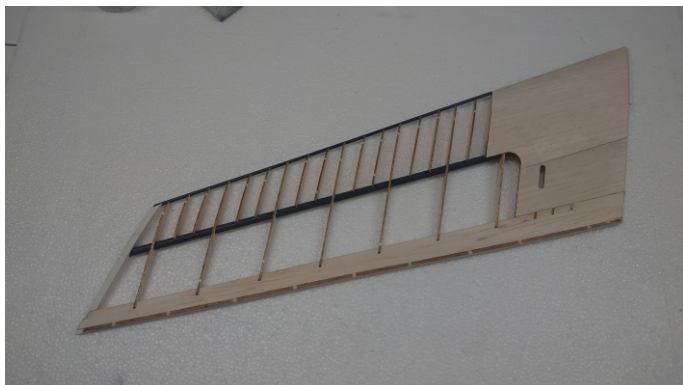
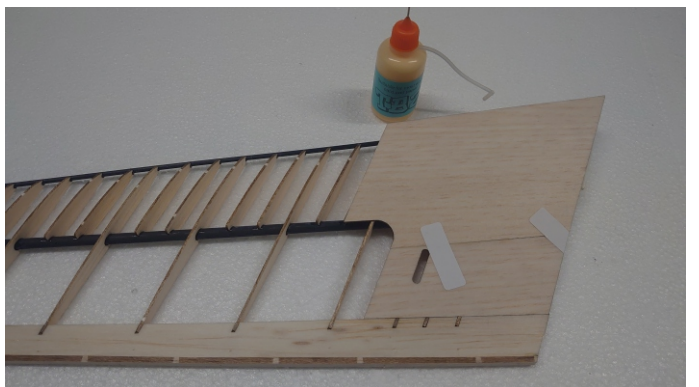
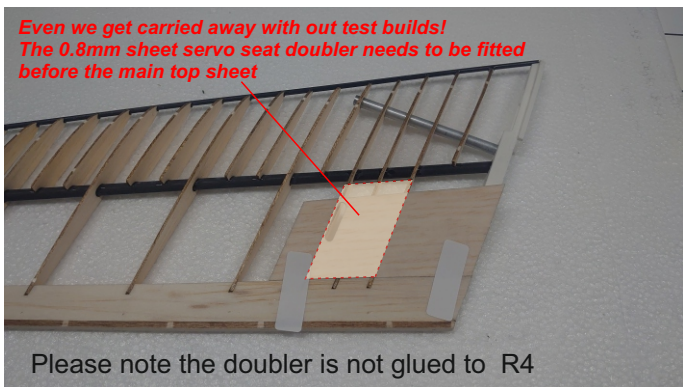
Take care sliding the ribs onto the main spar. They are not a very tight fit but do get more difficult to move around the spar as more of the ribs get glued into place later. The root rib is glued to the balsa TE sheet using medium CA. The balsa ribs are glued to the main spar using the same medium CA. For the balsa to balsa joints we used our TB2 wood glue. Superphatic or regular wood glue can also be used.

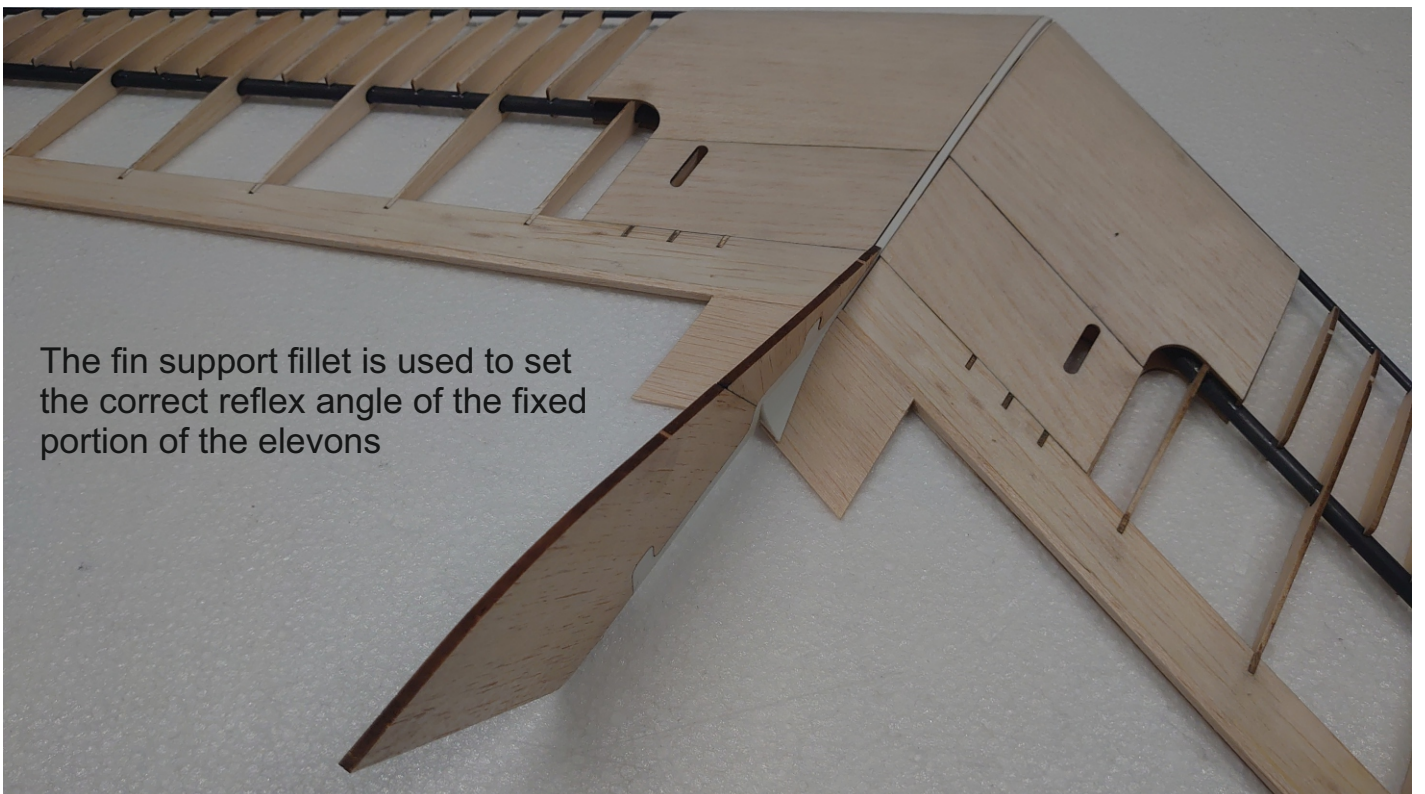
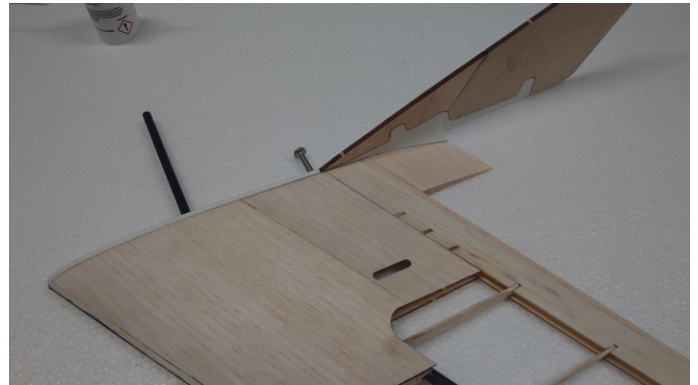
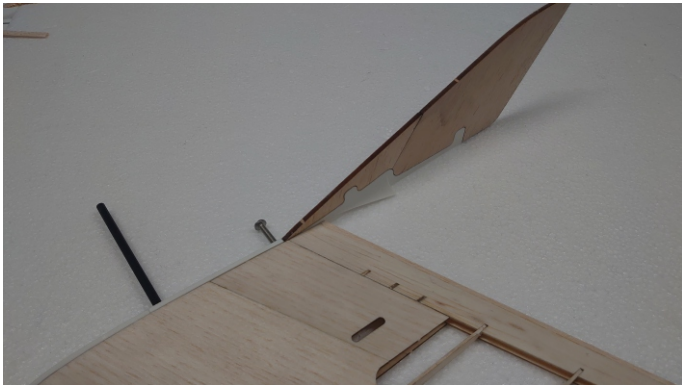
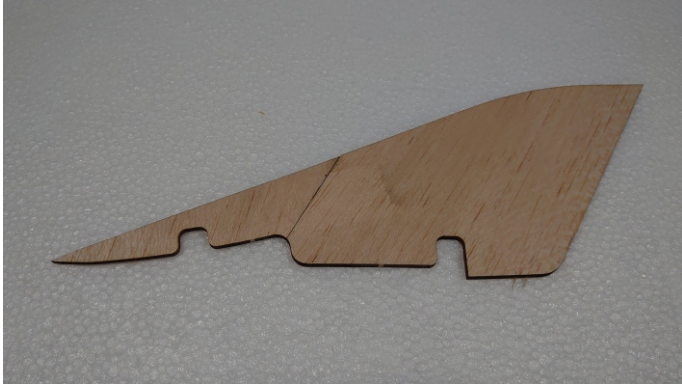
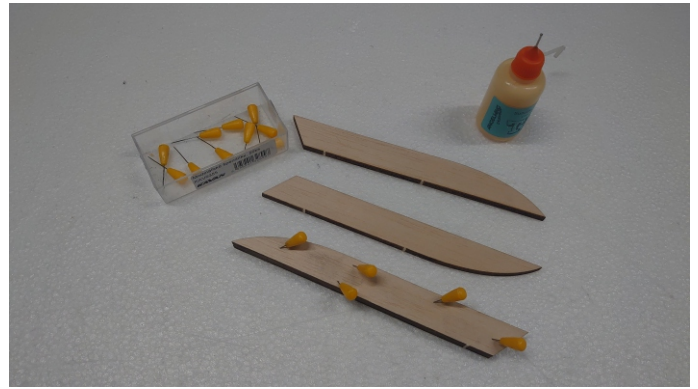
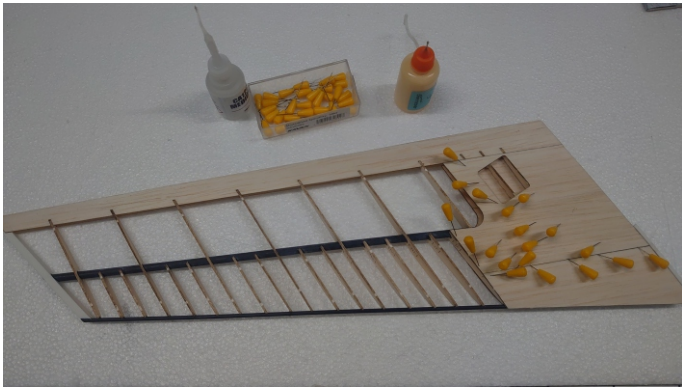
Note that R2 and R6 are not glued into place until the wing joiner tube has been glued into the root rib and also R3,4,5

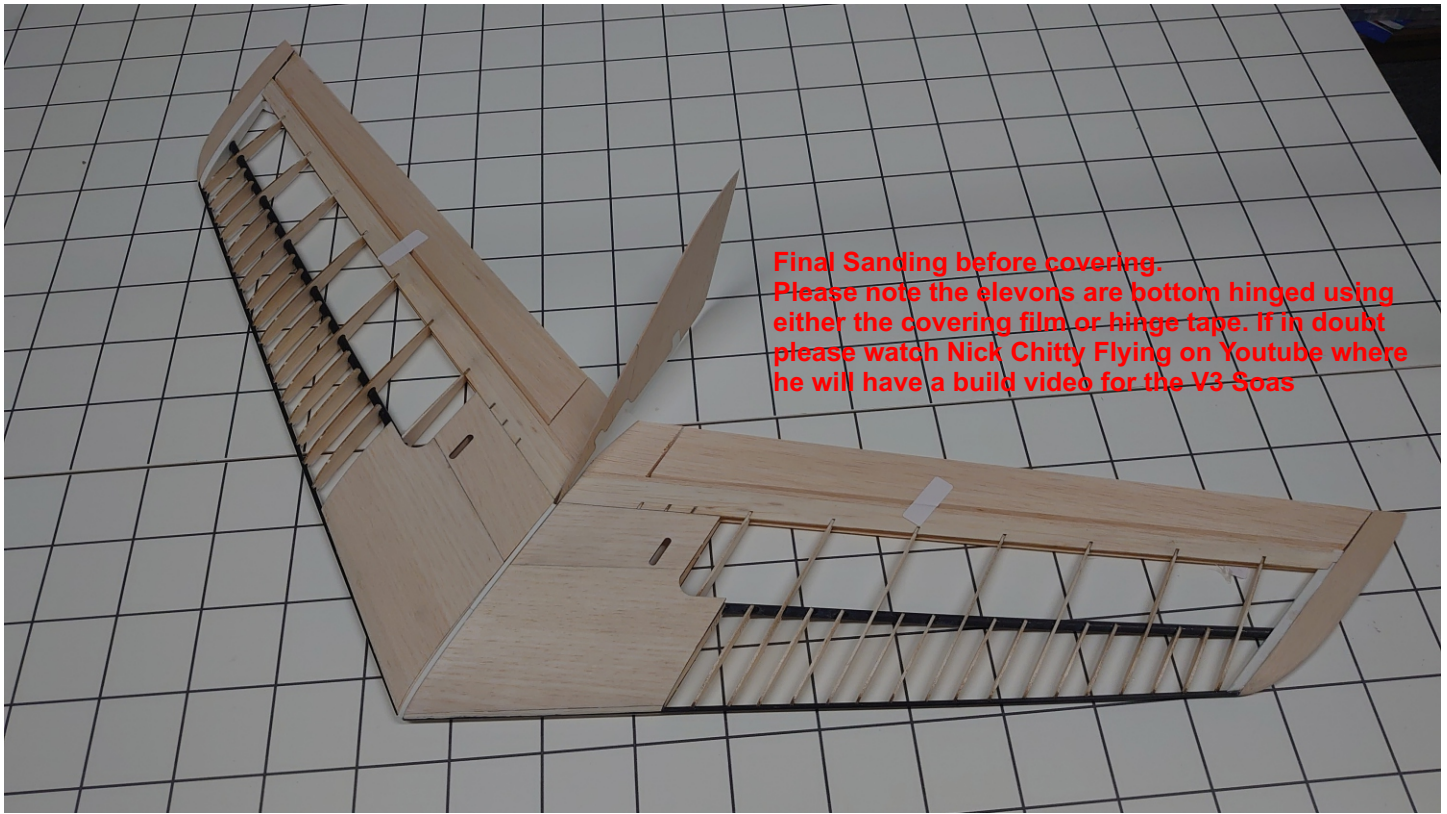




You will notice we do not removed the left hand wing from the plane when we start building the right hand wing. You can if you wish to do so of course. However please note that the right hand wing should always be built, or at least part built with the left wing, and fin keel in place. This ensures you will have a perfectly snug fitting wing join.







Final Sanding before covering.
Please note the elevons are bottom hinged using either the covering film or hinge tape. If in doubt please watch Nick Chitty Flying on Youtube where he will have a build video for the V3 Soars



The model depicted here is covered with regular heat shrink film and our vinyl decal set option



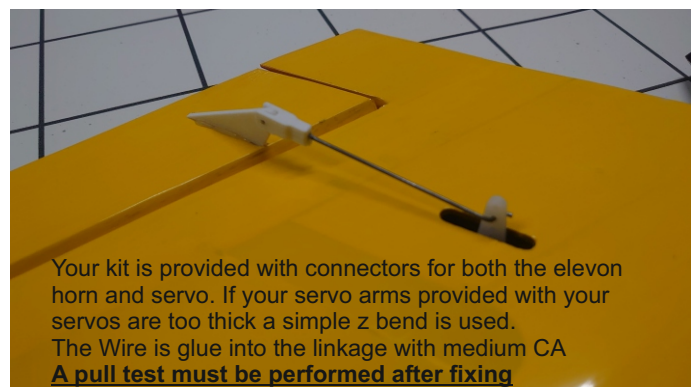
Remove the film covering to access the servo bay



Remove the unglued portion of R4



CHA DS06 servo fitted using a very small amount of hot melt glue.



Your kit is provided with connectors for both the elevon horn and servo. If your servo arms provided with your servos are too thick a simple z bend is used. The Wire is glue into the linkage with medium CA
A pull test must be performed after fixing



Trim the servo covers with scissors. Ours are painted on the insides before getting taped into place. You can also see we routed one of the antenna out of one of the servo bays. The yellow arrow highlights the C of G point. This is easily identified as an indent on the bottom of the fin keel.

Setup and control throws.

You should always take time to tune a model to your own specific needs and flying style. The information below is therefore intended as a guide and a starting point for you to work from.

Balance point and reflex (up elevon) are critical factors to the performance of all flying wing aircraft of this nature.

The C of G is designed into the fin keel. Please do not attempt to fly the model with the CG rearward of this point unless you have become familiar with the model and want to get even more from the design.

Control Throws:

Elevator 3mm up and 2.5mm down expo 30 to 45%

Ailerons 7mm up 5mm down expo 25 to 35%

For your first flights set up the elevons so they are neutral with the fixed elements of the elevons as dictated by the fin supports. Add around 1 to 1.5mm of additional reflex using the elevator trim. Depending on the site your flying from we expect the Soas to be flown in winds between 7 and 25mph. Although very light the SOAS has a thin clean wing section so can be flown in the higher wind speeds. For test flights we would suggest you do not exceed 15mph wind speed unless you're an experienced pilot.

Remember this is not a Toy. It is the pilots / operators responsibility to ensure the safe operation of this aircraft at all times and compliance to local laws must be considered.