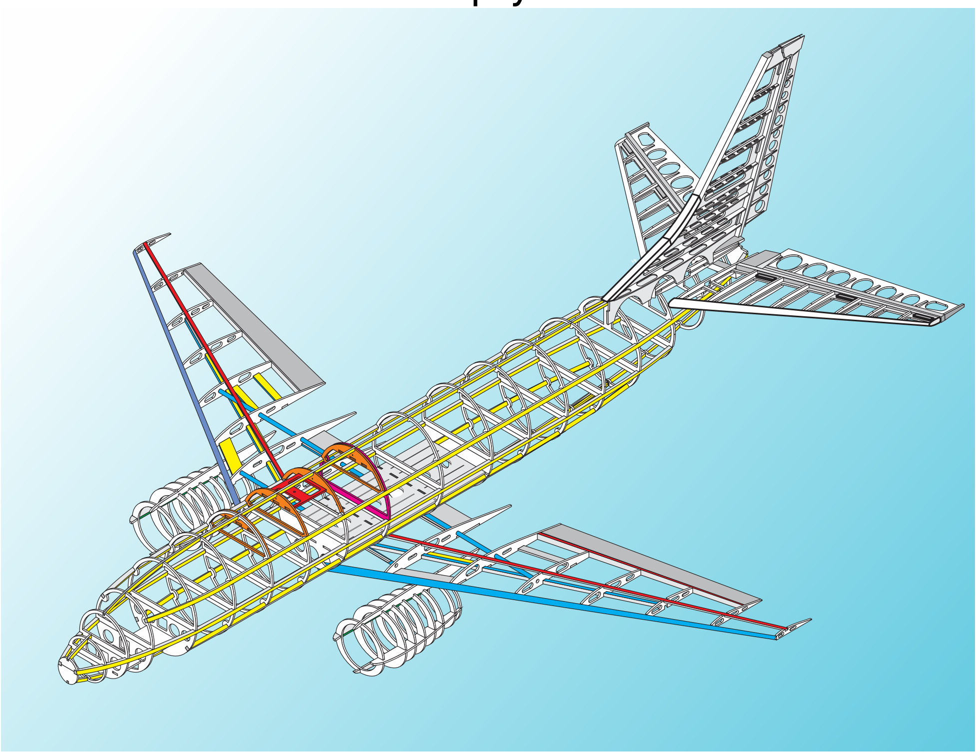
BOEING® 737

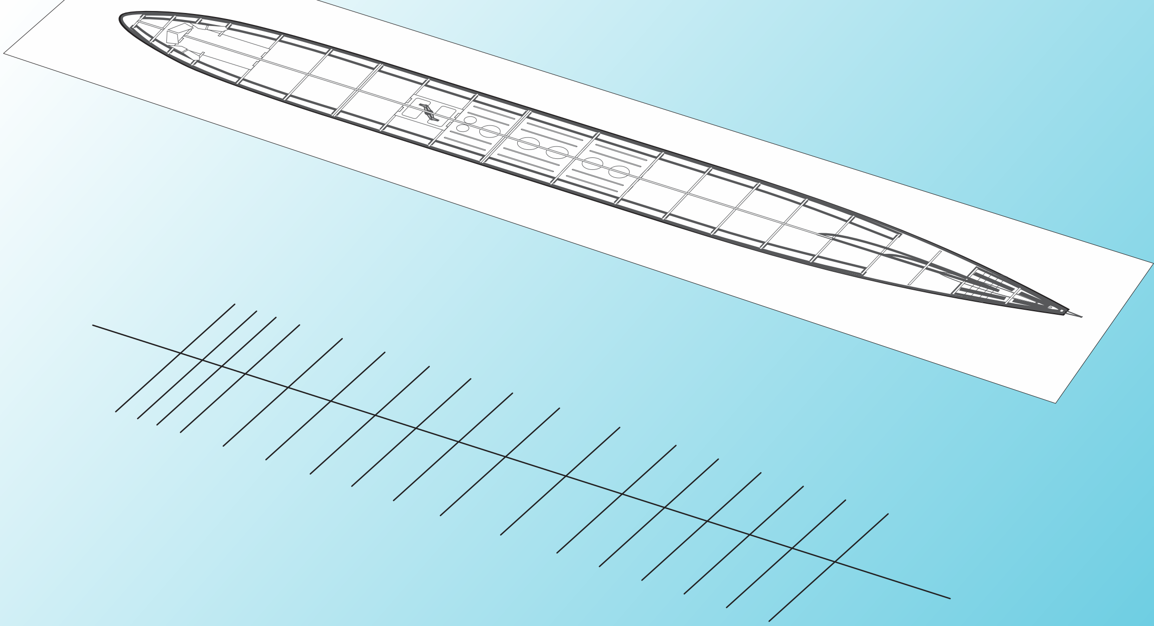
Balsa and ply model aircraft kit



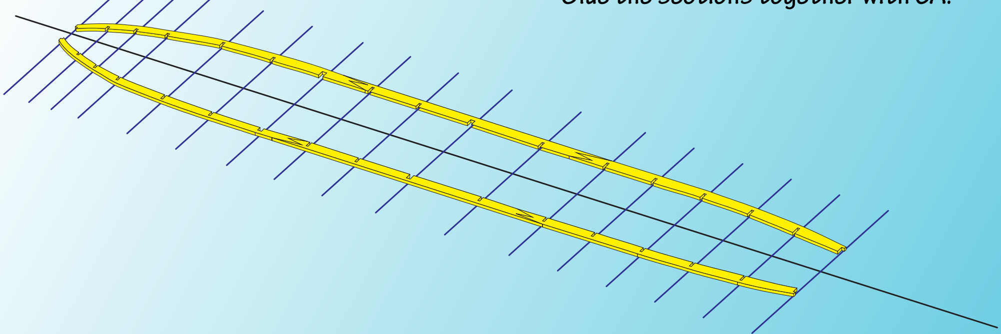
Construction Notes

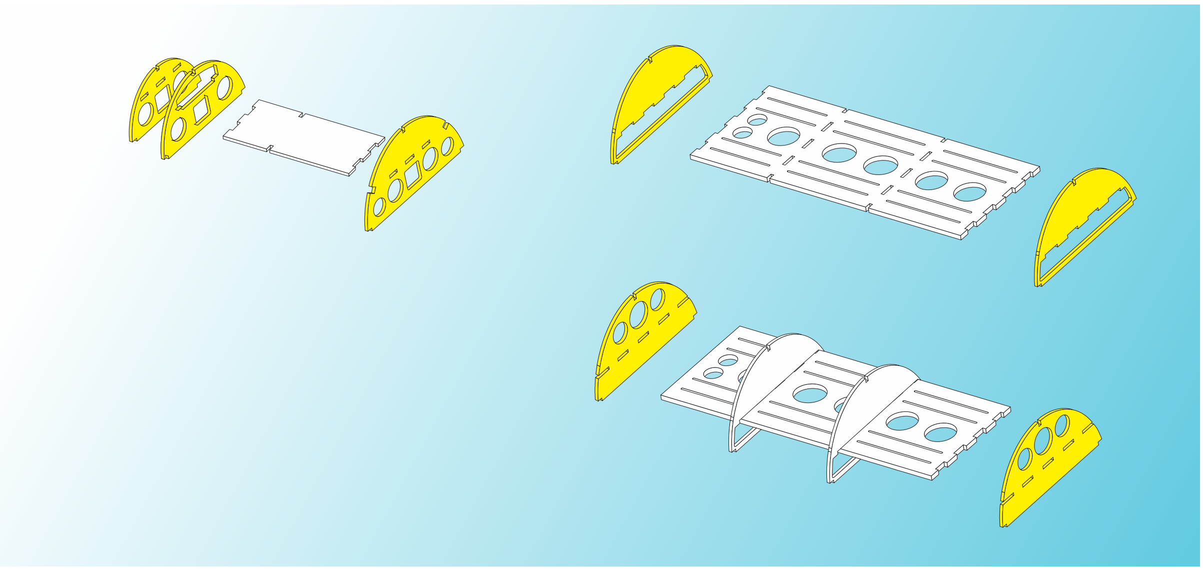
HorizonsNZ Aviation Graphics
& Model Design

Choose whether you will be building over the plans or drawing on your building board. Either way can be used quite effectively. Make certain you put wax paper on top of the plan/board so you don't stick your parts to them. You wouldn't be the first!

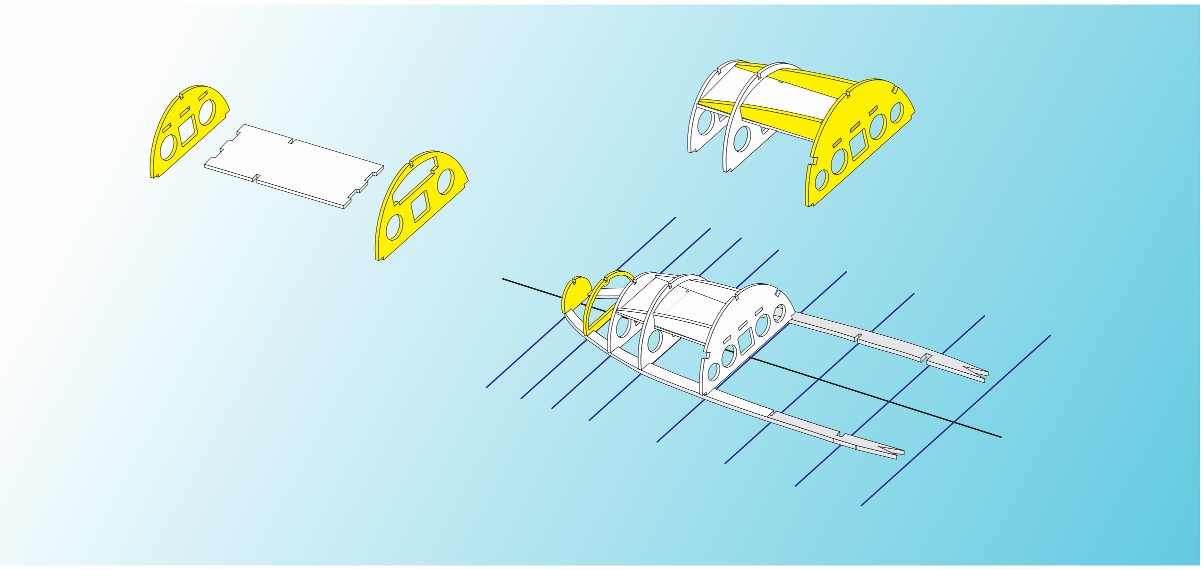


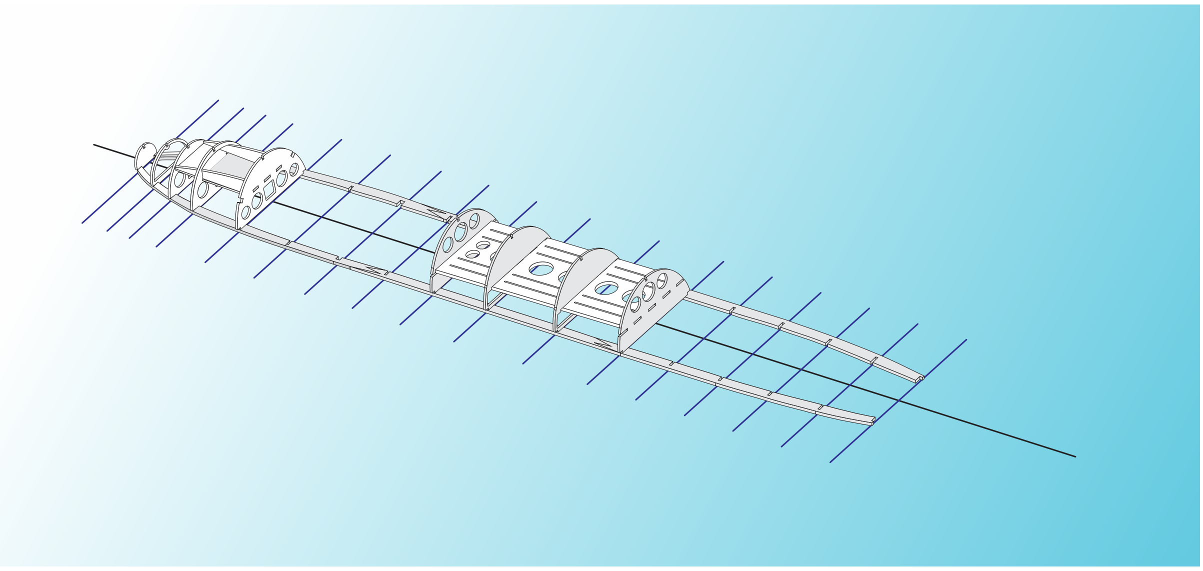
Lay out the ply longerons and secure them to the board. Glue the sections together with CA.

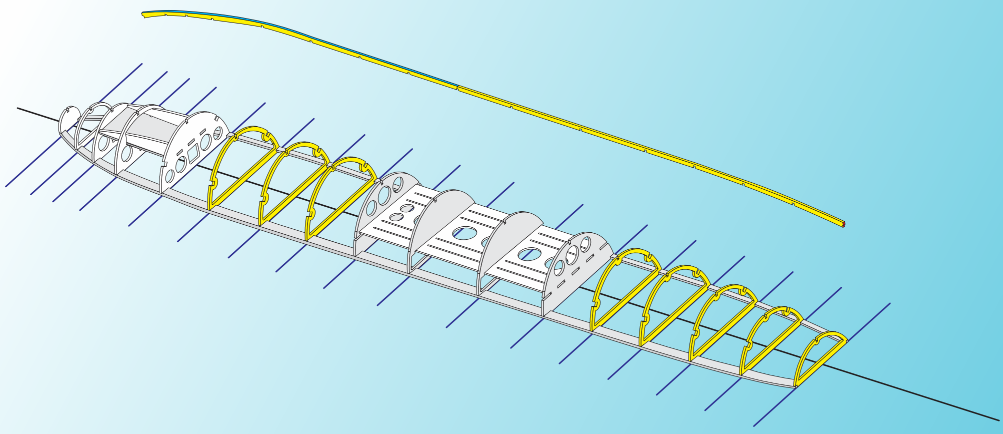




Pre-assemble the belly pan and nose undercarriage
mount, and then place the finished assemblies
onto the board, glued to the longerons.



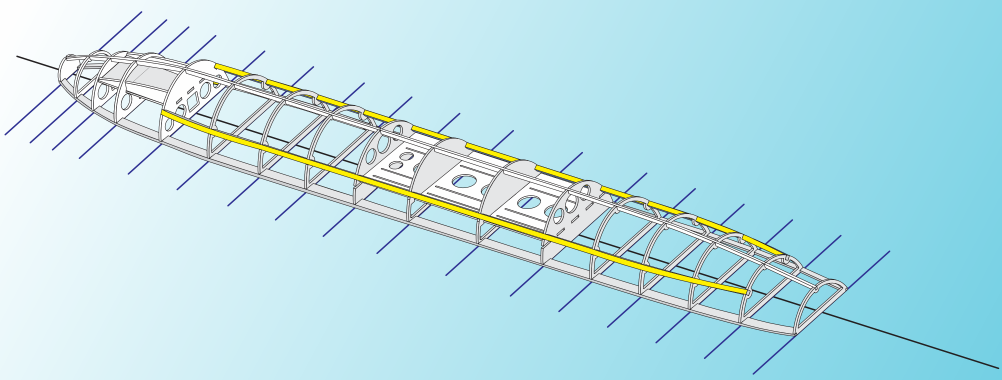




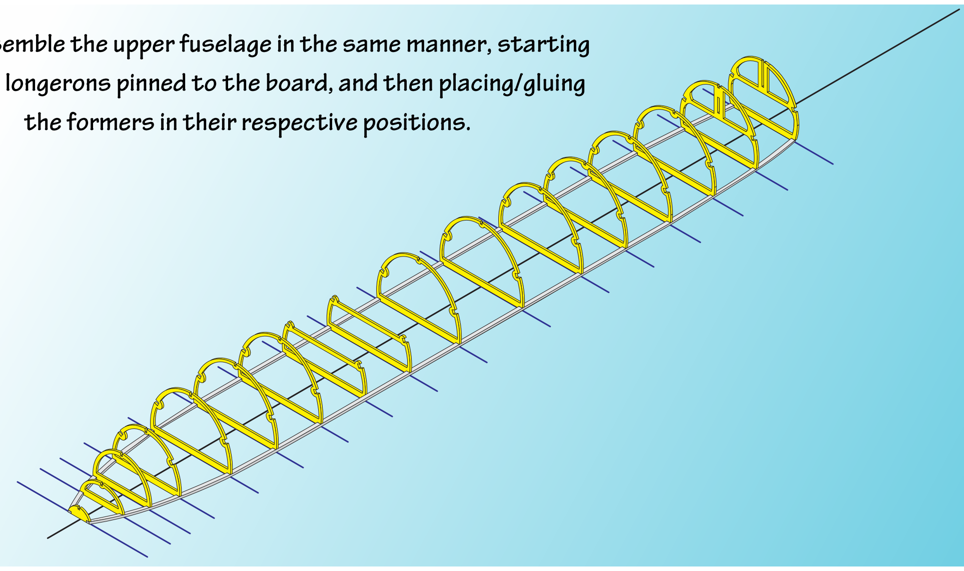
The remaining formers can now be placed in their respective positions and glued to the longerons. Take care to refer to the plans and ensure each former is in its correct position.

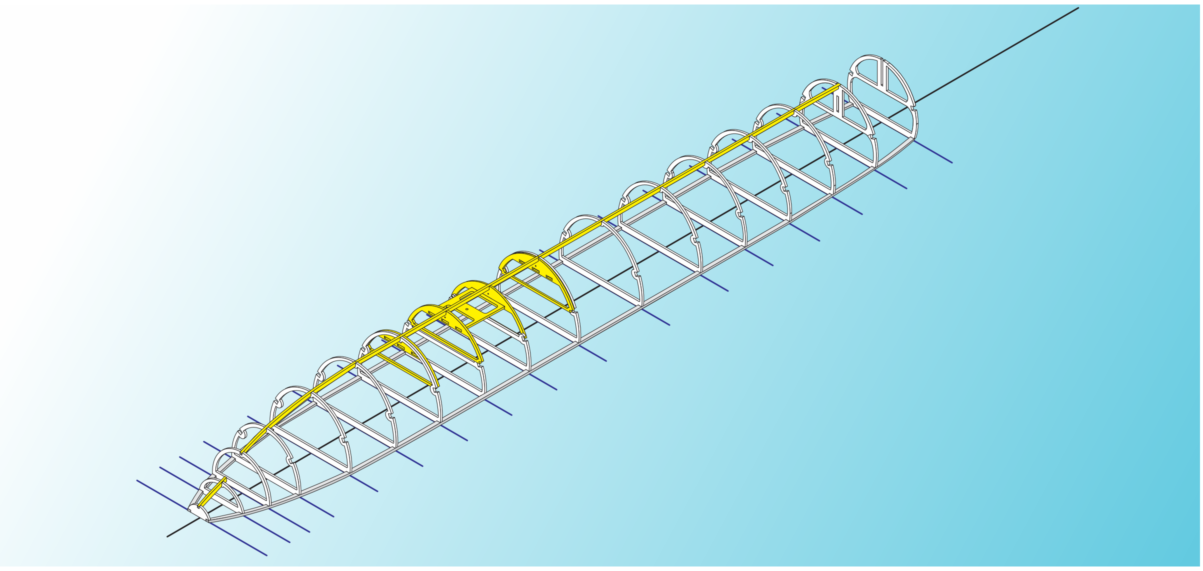
Glue the lower fuselage stringer in place and check all glue joints to ensure you have not missed any.

Glue remaining stringers and set assembly aside for the moment.



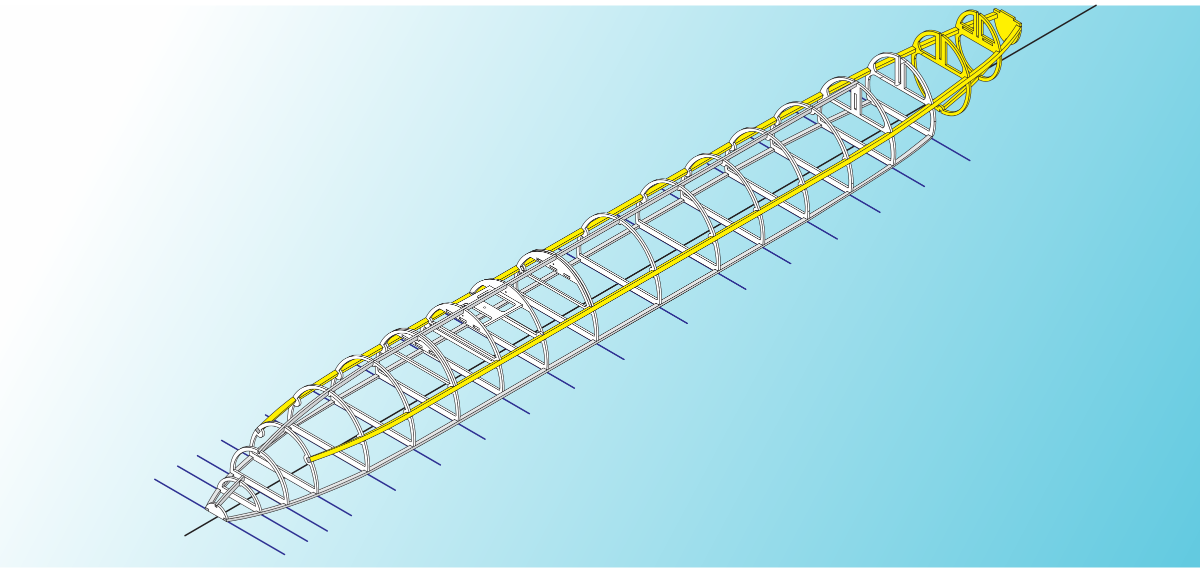
Now, assemble the upper fuselage in the same manner, starting with the longerons pinned to the board, and then placing/gluing the formers in their respective positions.



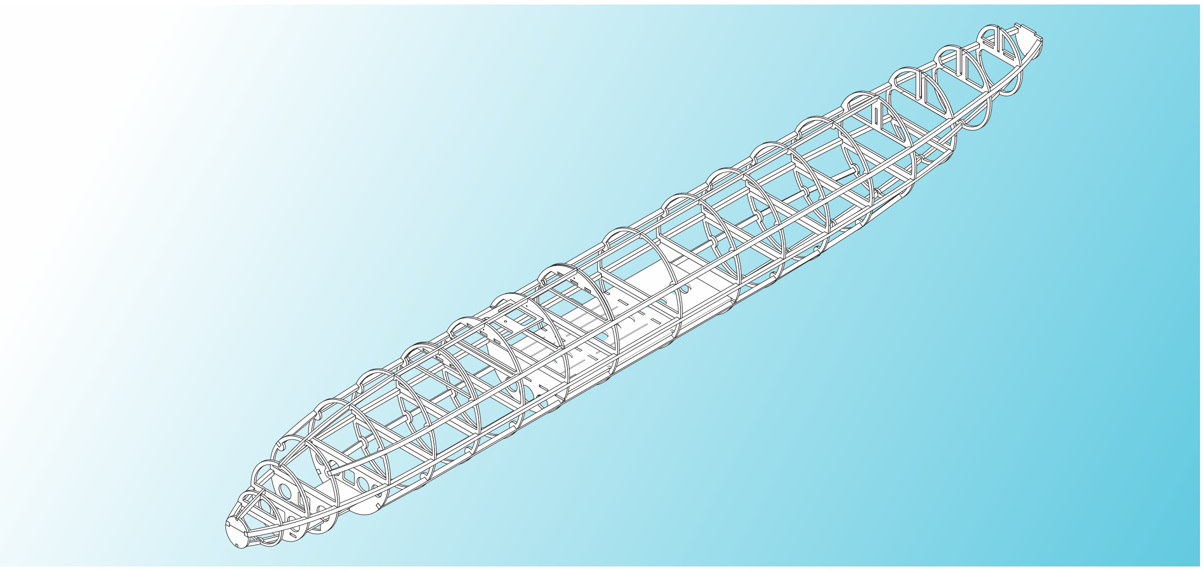


The top hatch is next to be assembled, and these parts are initially tack-glued into position. Once you are happy with their position and alignment, go ahead and mount the upper stringer to the formers.

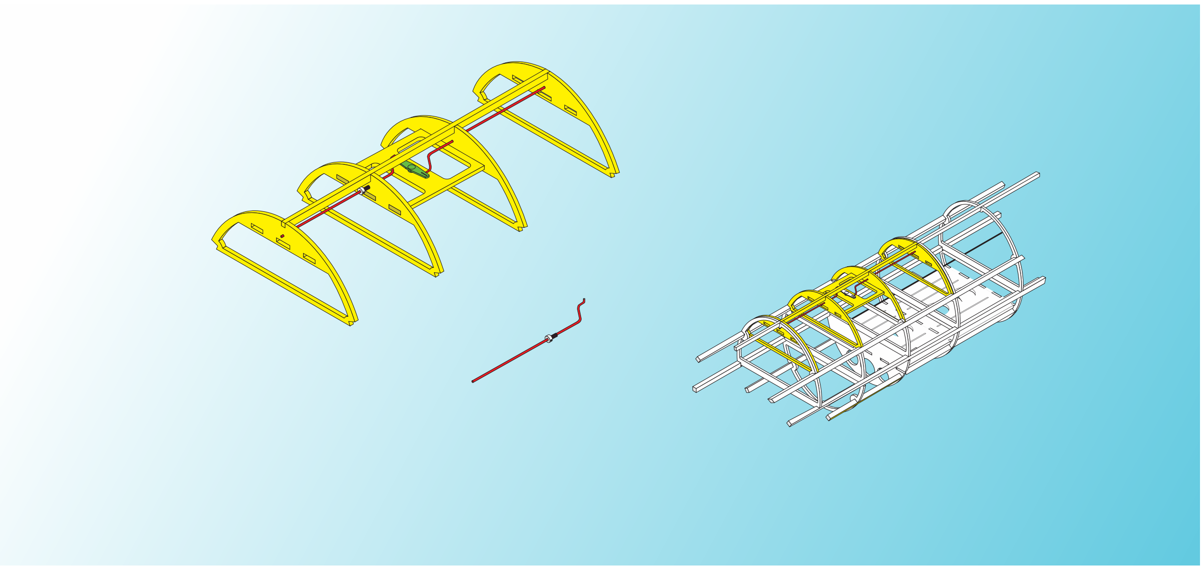
Once this is completed, mount the remaining fuselage stringers, along with the last three formers at the tail. Initially, these rearmost formers are only attached by the stringers, but ultimately the fuselage will be sheeted and much stronger. In the meantime however, ensure they are all aligned correctly as the vertical fin will need to be mounted squarely, and vertically.



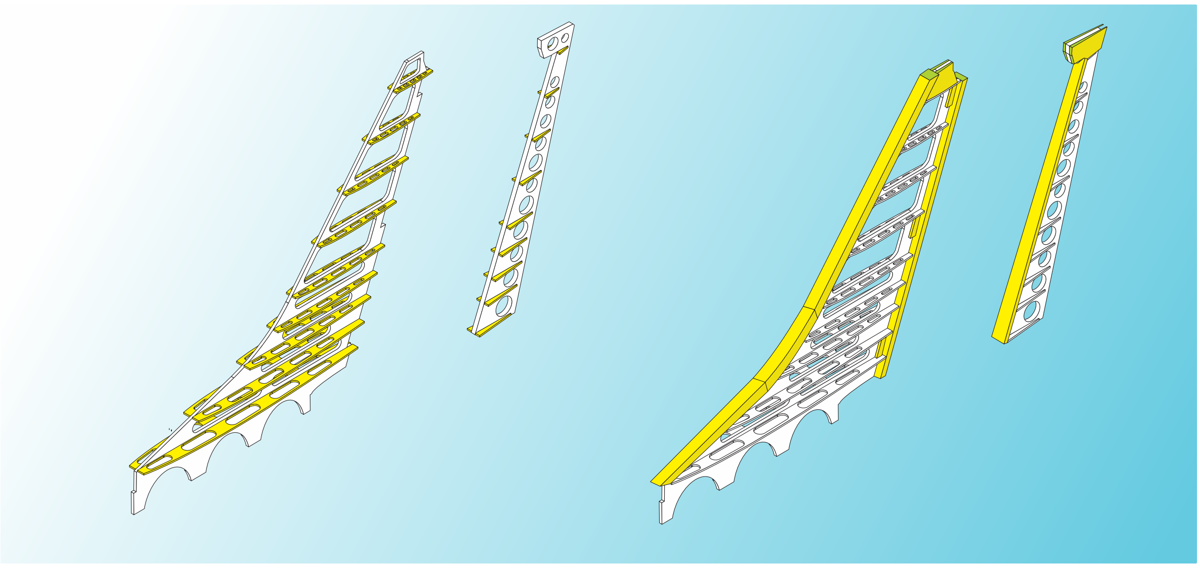
Once you are satisfied that all joints are properly glued, and the glue has had time to set, remove the upper fuselage from the board.



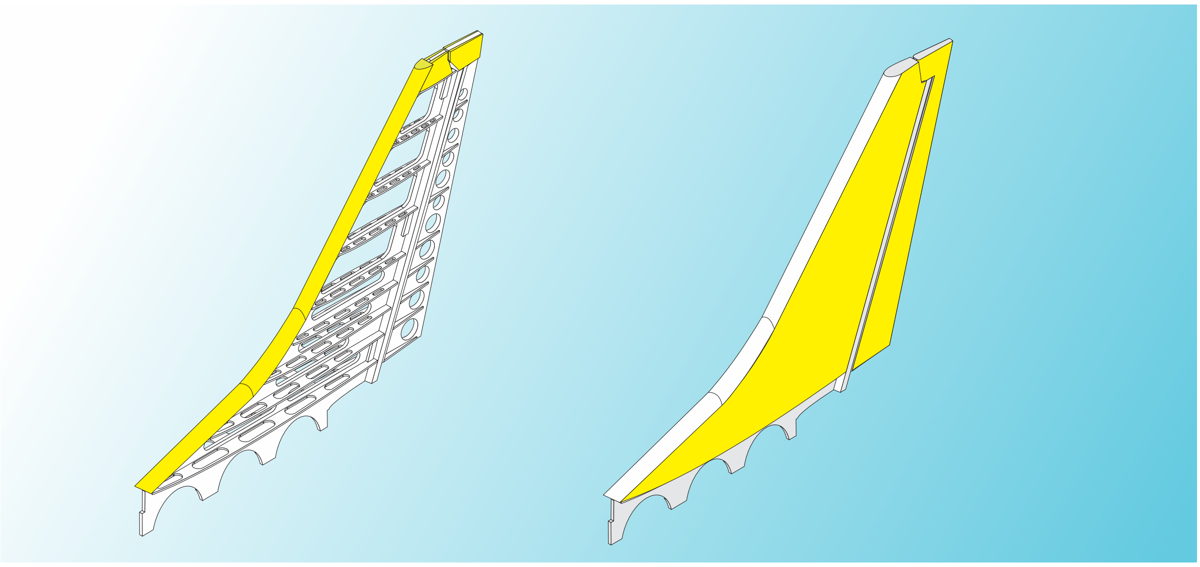
The top and bottom fuselage assemblies may now be brought together, checked and glued. Make certain that the structure remains straight and true for the entire process.



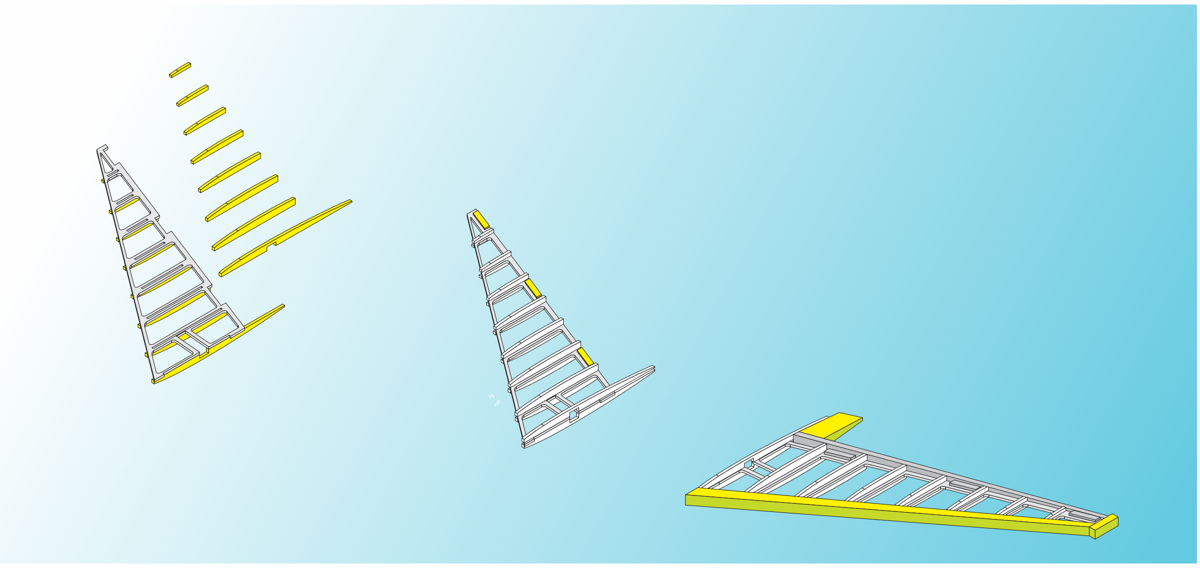
Now is a great time to assemble the components for the hatch locking mechanism. Using a spare servo output arm, some pushrods, wheel collars and springs, mount the assembly to the top plate as shown. Mark on the spine, the position of the mounting screw. This mark will later be used to drill a hole in the sheeting (and through the spine) for access to the locking mechanism.



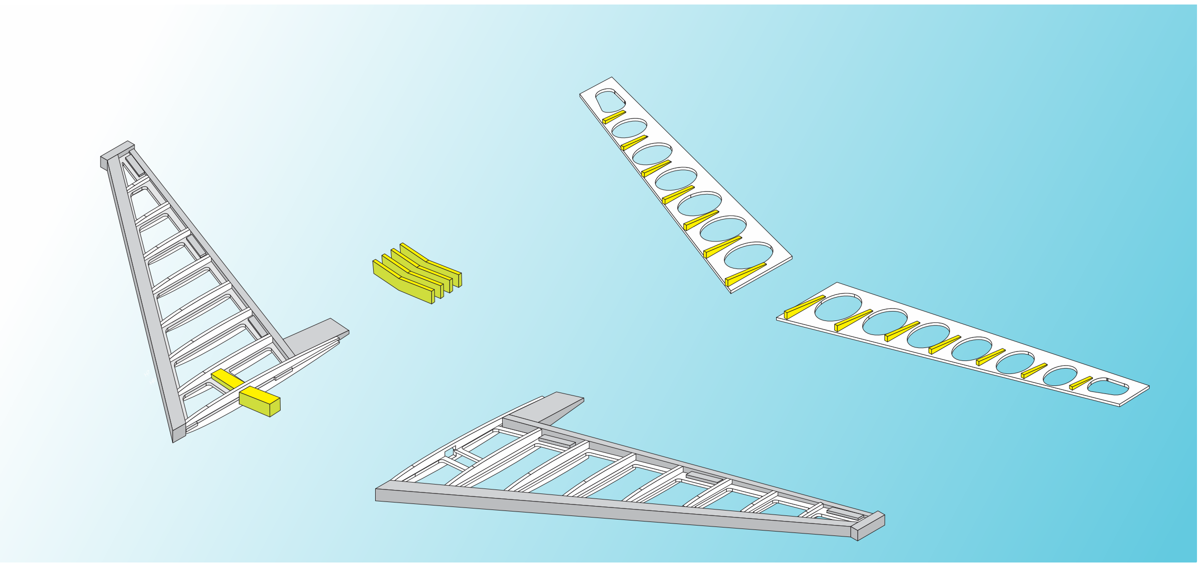
The fin and rudder assemblies are built up by first mounting the ribs to the ply frame, and then adding the leading and trailing edges. Don't forget to insert the hinge mounting blocks in the fin before adding the trailing edge.



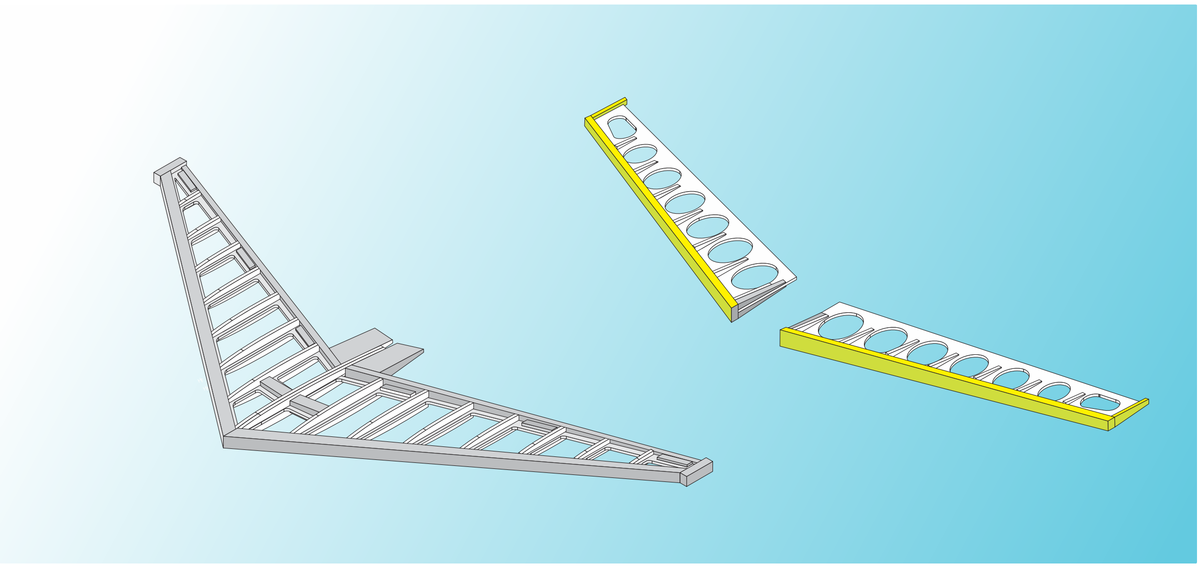
Round the leading edges of both fin and rudder and then fit the sheeting, taking care to ensure the trailing edges are properly sanded and square. Set the assembly aside for the moment.



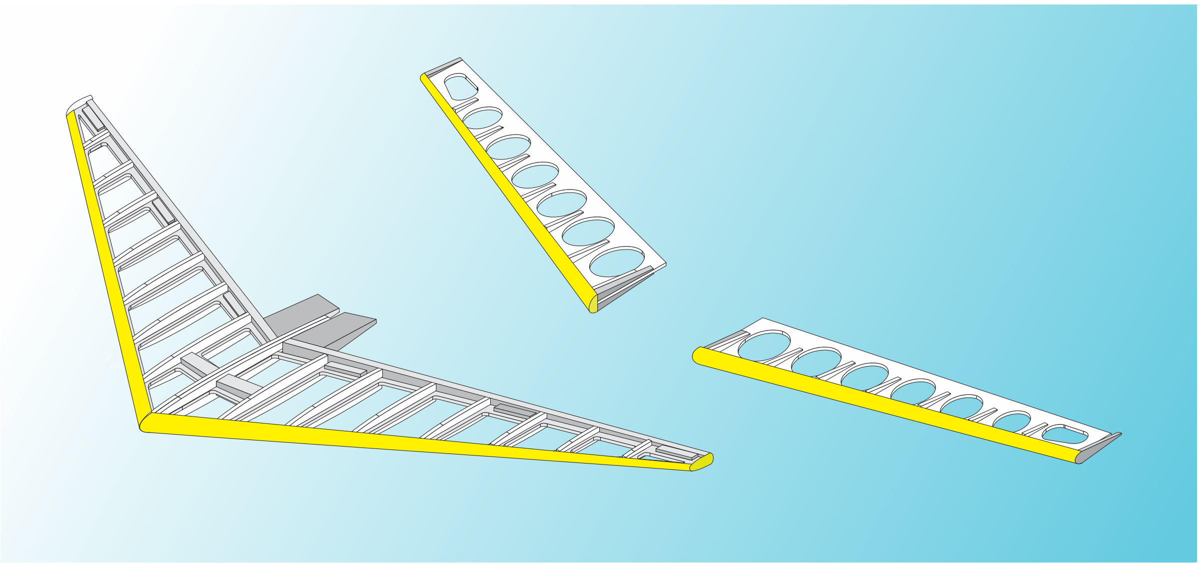
The horizontal stabilizer and elevators are next. Each tailplane half is constructed by mounting half ribs to the ply core as shown. Once the ribs are in place, hinge mounts are inserted and the leading and trailing edges, tip and trailing edge block are all mounted.



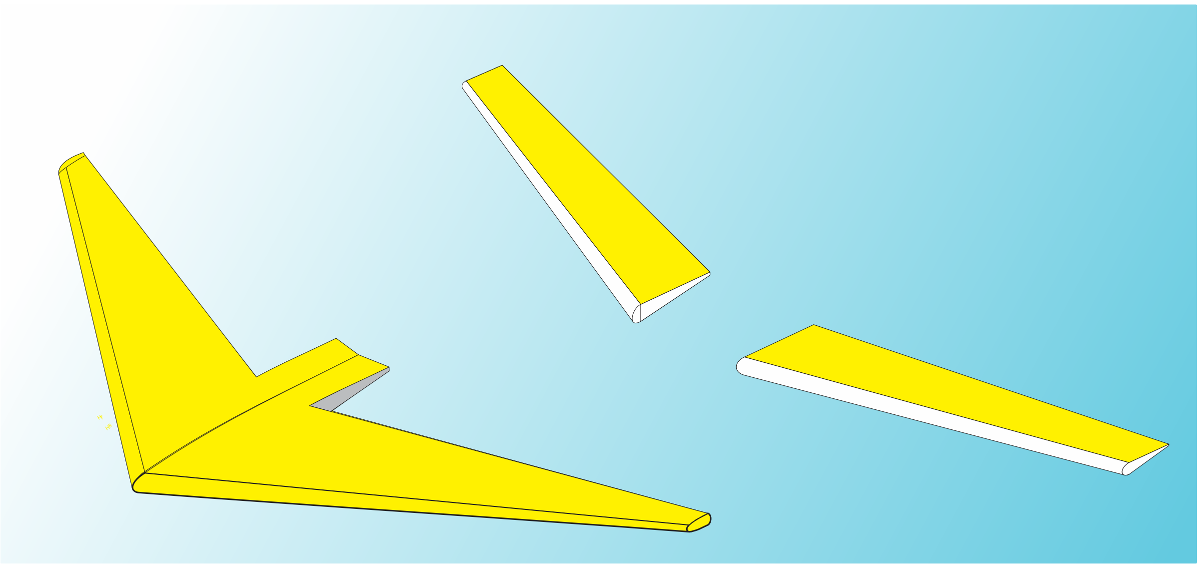
The elevators are constructed in a similar way, with half ribs, top and bottom. Meanwhile, the tailplane joiner is assembled and mounted in one half of the tailplane.



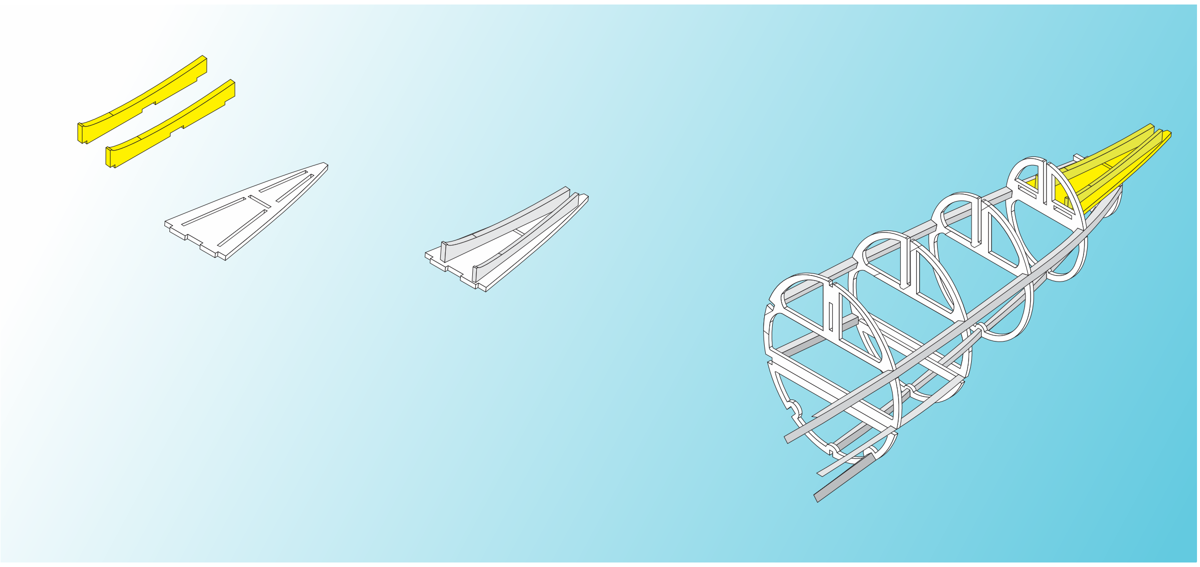
Join the tailplane halves now, and mount the leading edges and tips to the elevators.



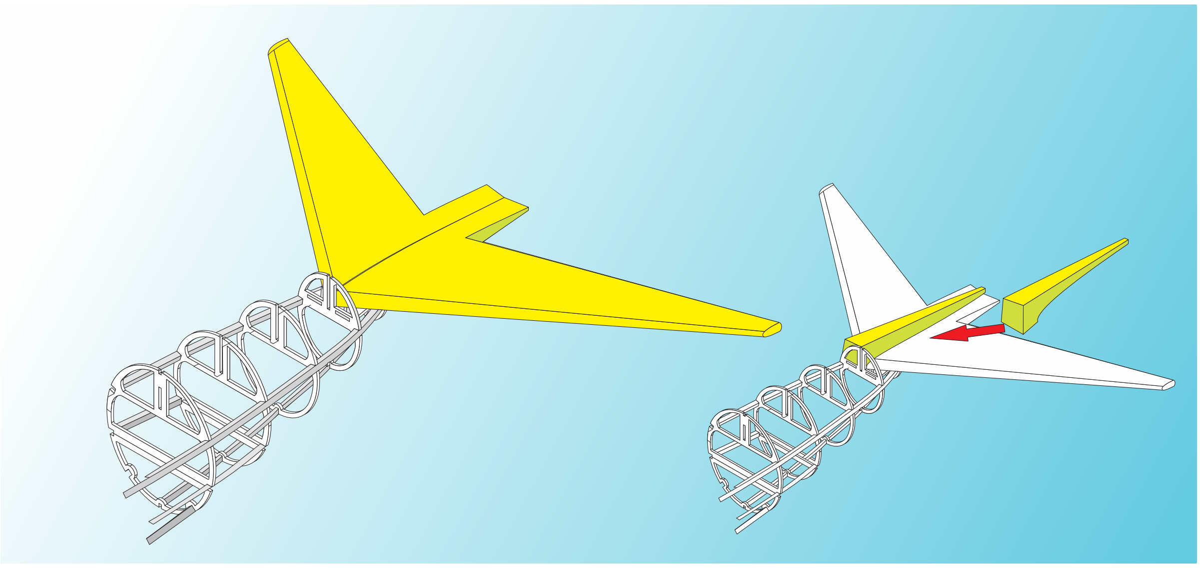
Leading edges may now be shaped, only roughly at this time, as we will be applying the sheeting next.



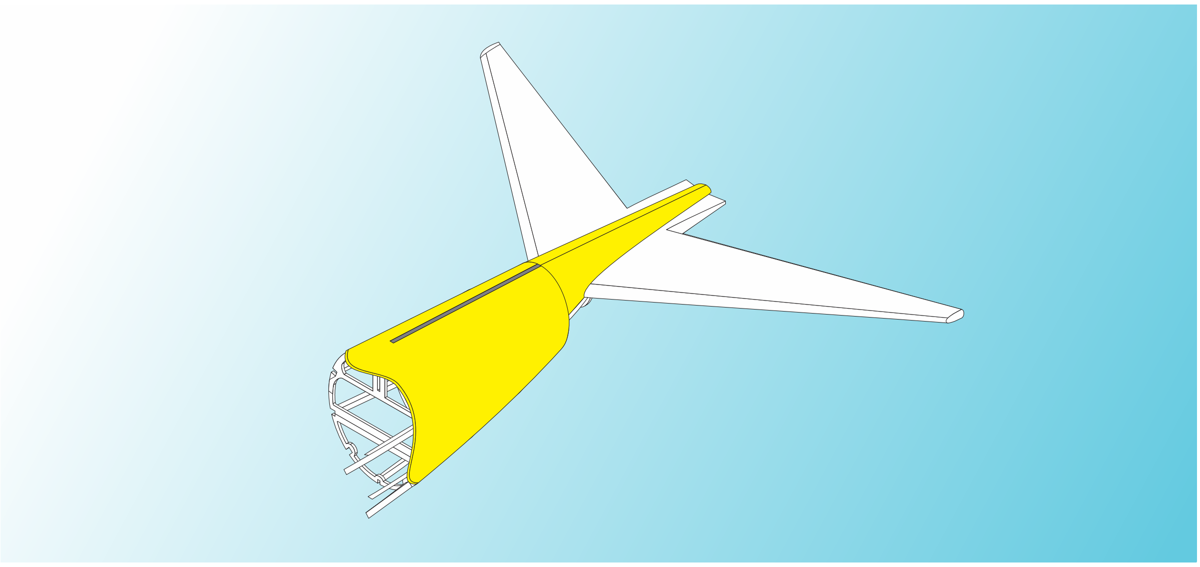
Sheet the upper and lower surfaces of the tailplane and elevators, and sand all edges.



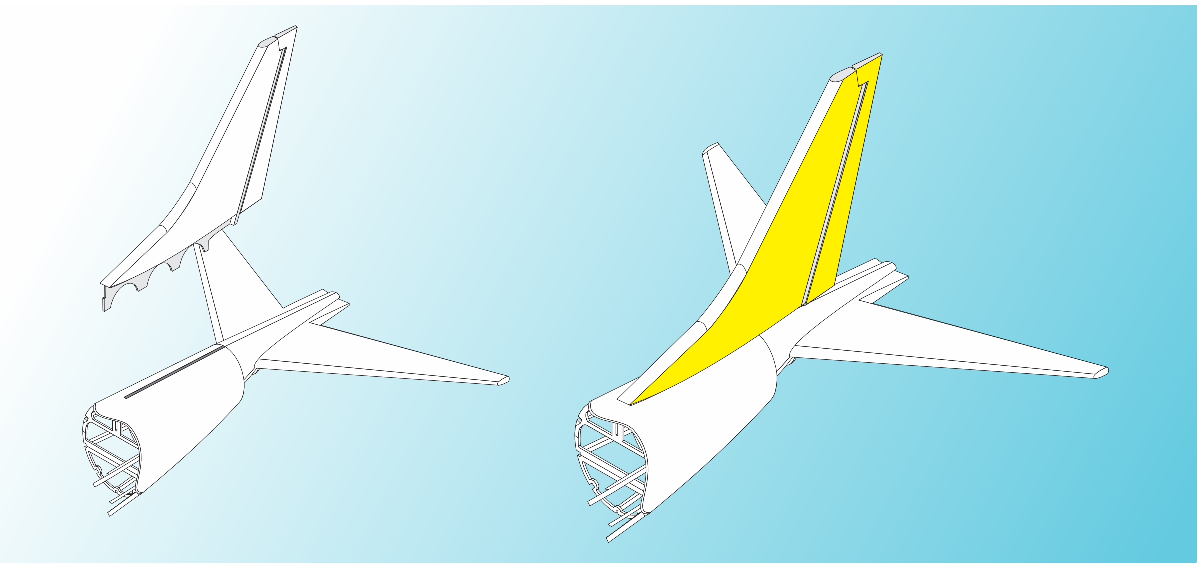
Assemble the tailplane mount and fix it to the fuselage.



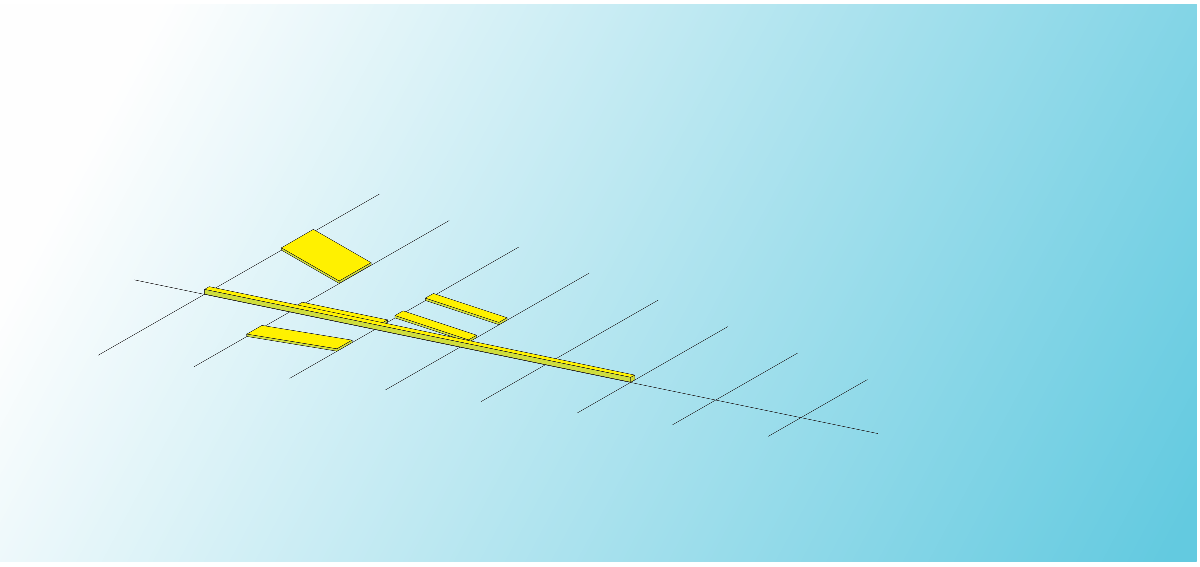
Mount the tailplane at this time, and add the blocks.



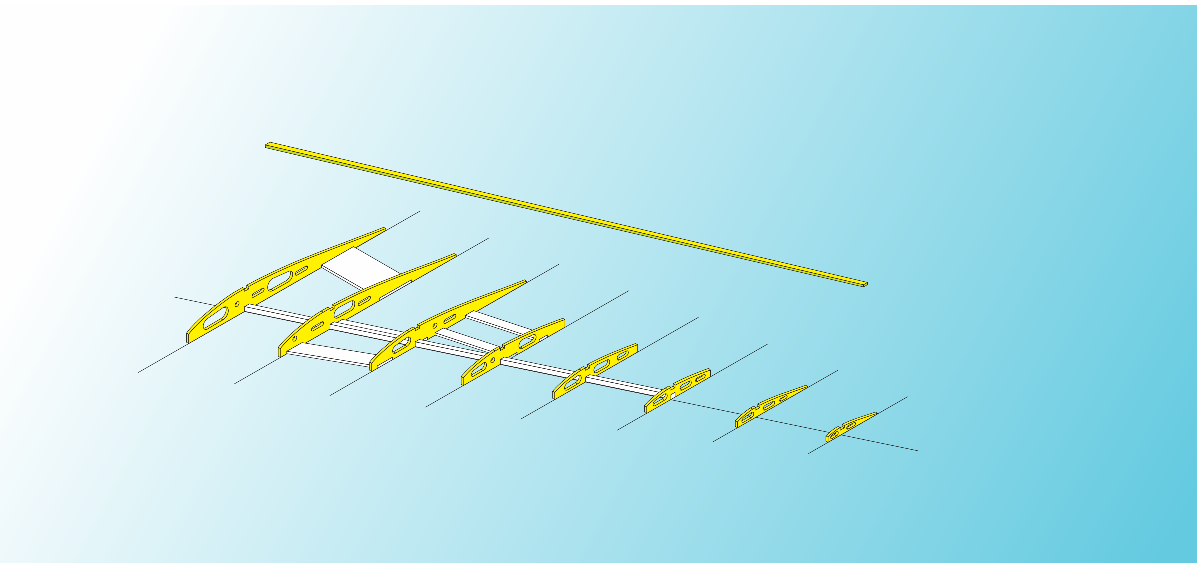
Shape the tailcone blocks and sheet the upper fuselage.



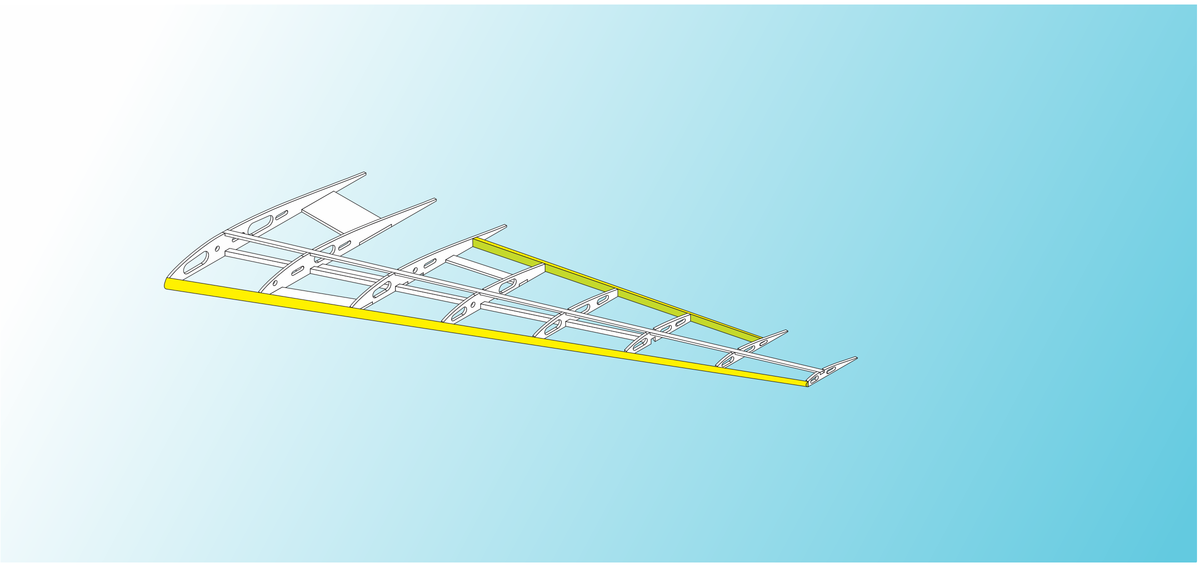
Open the fin slot, and glue the fin to the fuselage.



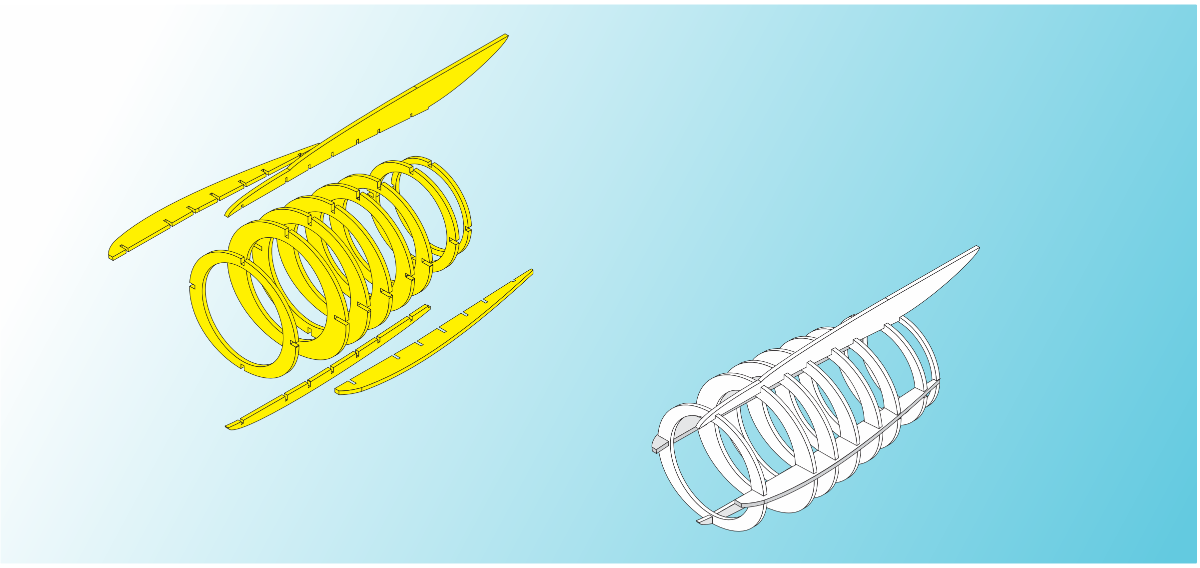
The wings are constructed over the plan or marked board, beginning with the lower spar, undercarriage mount engine mounts, and aileron servo mounts. Pin the spar to the board, but initially leave the other mounts loose so they may be positioned more accurately.



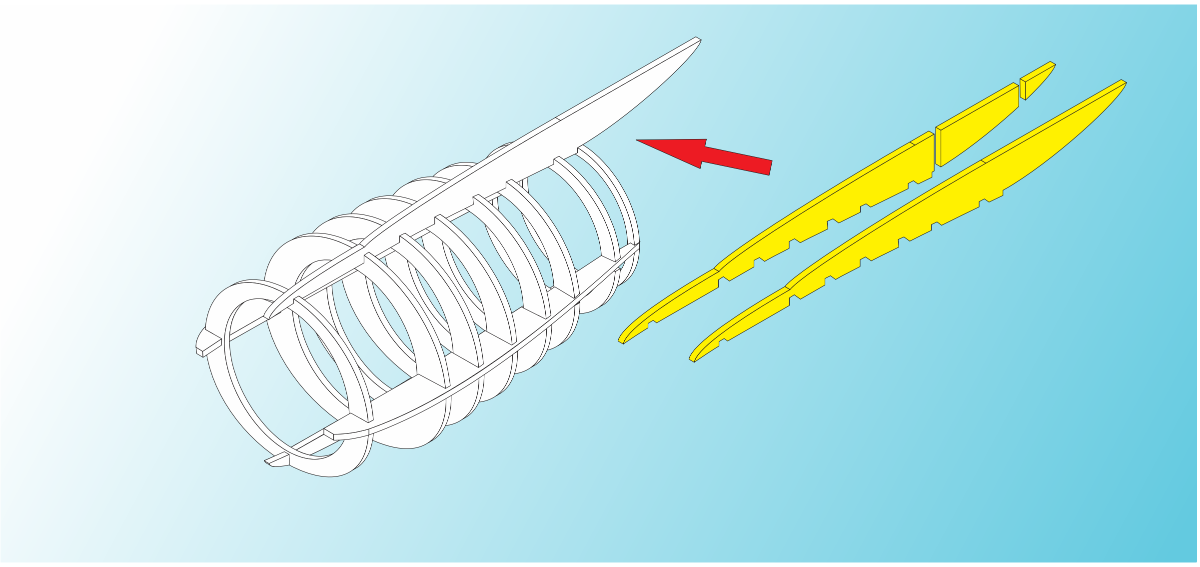
The ribs may now be placed over the top, and the upper mainspar placed on top. Glue all components, using CA for the majority, but epoxy for the engine and gear mounts.



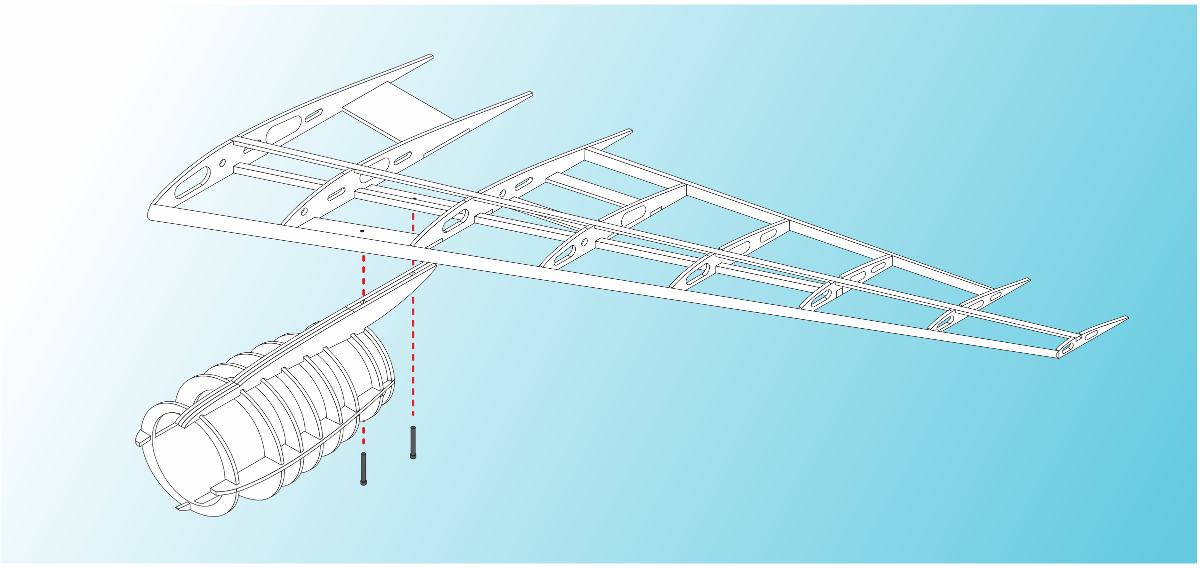
Leading and trailing edges are now mounted.



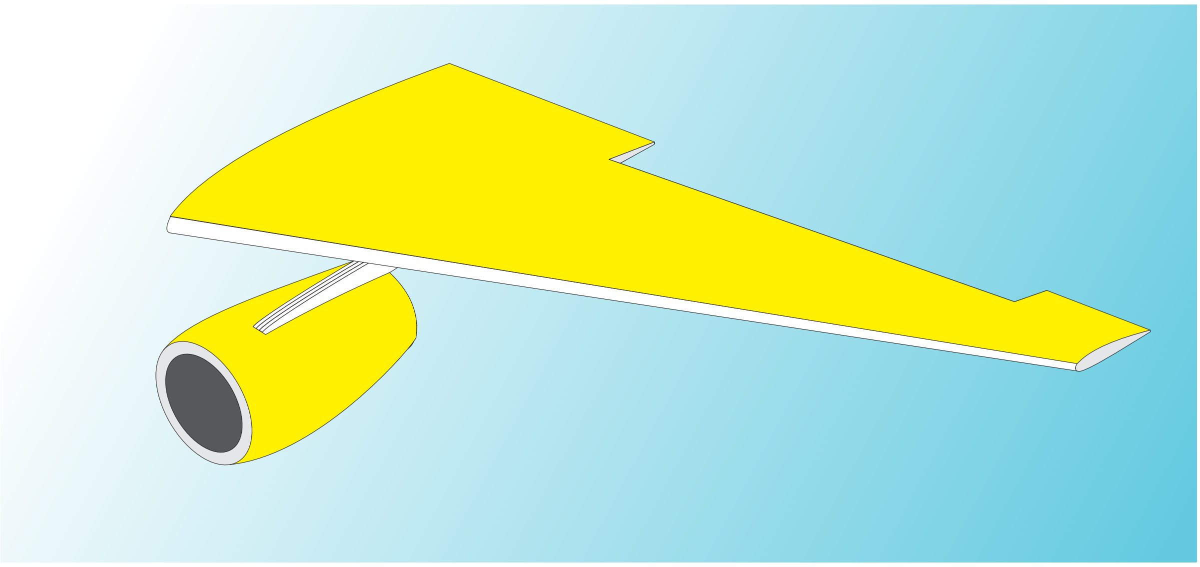
Assemble the engine nacelles as shown



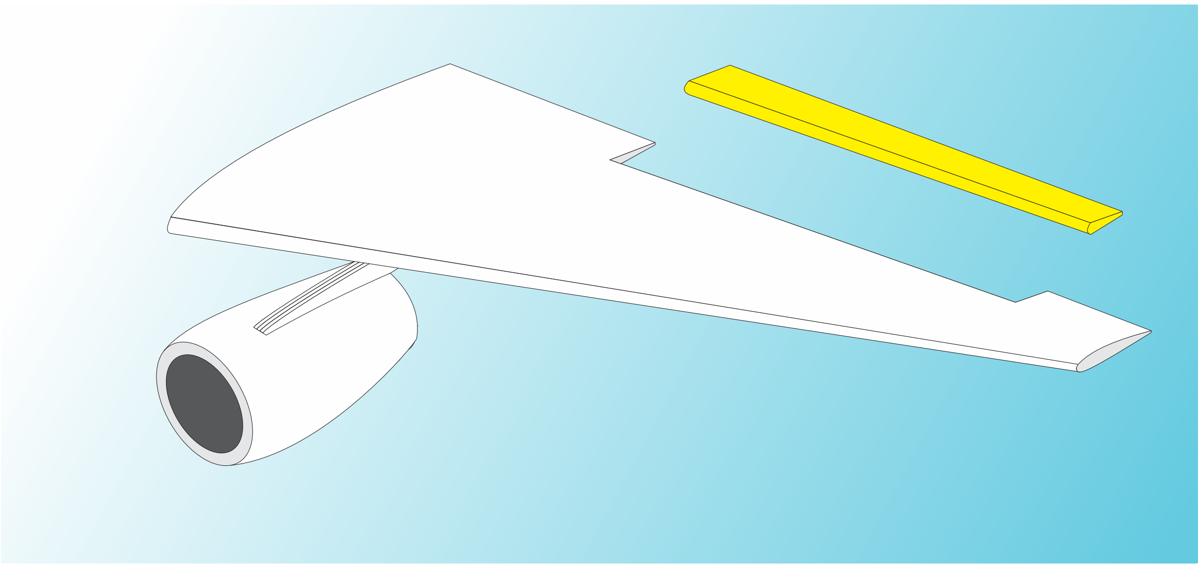
At this point it is important to note that the nacelles are “handed”. Add balsa copies of N11 to one side of each nacelle mount, making certain you put them on different sides. The gaps are for the mounting bolts to pass through.



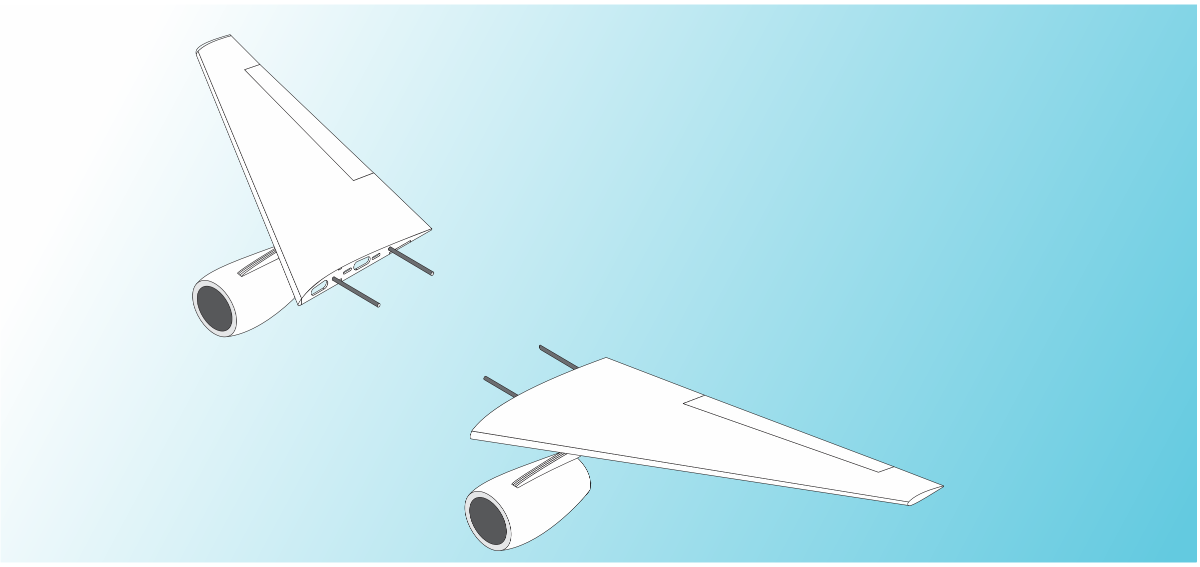
Mount the nacelle to each wing, using two 3mm bolts and blind nuts. Use epoxy to firmly secure the blind nuts because we will shortly be sealing the section when the wing sheeting is put in place.



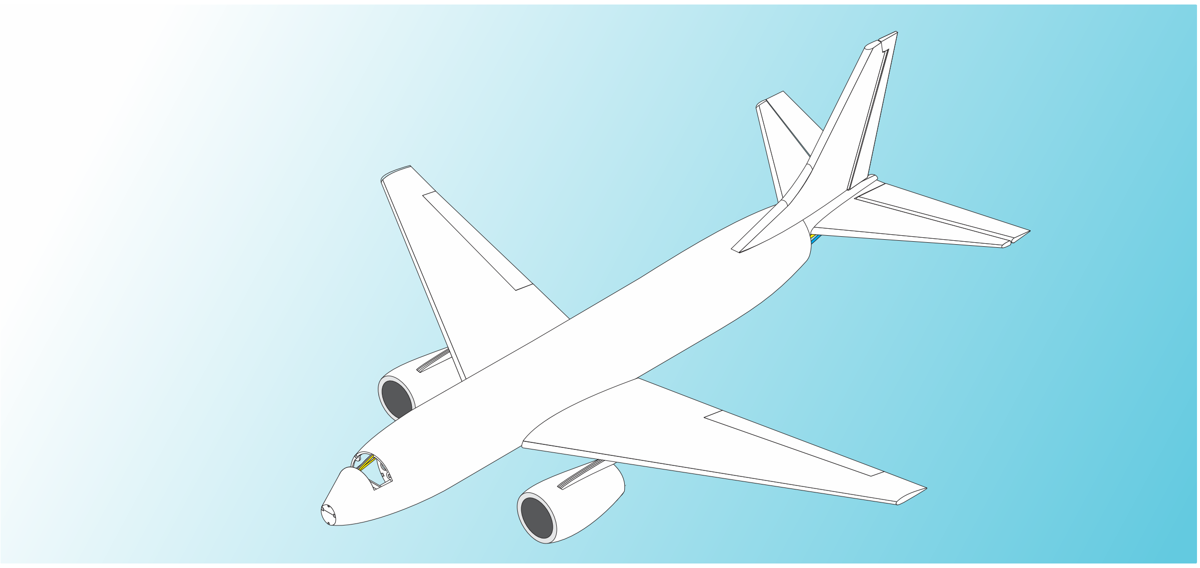
Sheet the wing upper and lower surfaces, as well as the nacelle. Sand and finish in your preferred method, keeping it as light as possible.



Fit the ailerons, servos and run any power leads for the motors.



Your wings are now complete and ready to fit to the fuselage. The easiest method would be to epoxy the carbon rods inside the tubes, but a less permanent method may be preferred.



Fit block foam to the nose and cockpit area and sand to shape. Finish the undersurface and tail sheeting.
Sand and cover or finish with your preferred method.