E-Aeromotive

The Classic Q-Tee !

Laser Cut and Keys Together!
1/2A or 200w Electric Power

E-Aeromotive.com

37” WS, 3D Printed Cabanes
Fuel or E-Power
Quick Build, Tab Lock Construction

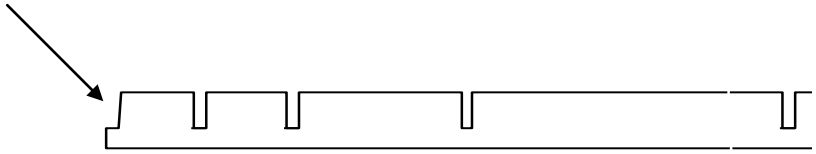
Thanks for purchasing one of our kits! Enjoy the Build!

Most of the model can be constructed with CA. However the fuse doublers should be mated with Tite-Bond or equivalent glue. The firewall, wing center joint and cabanes should be glued with epoxy. Additionally the wing joint must be reinforced with the 2” fiberglass tape and epoxy.

The basic assembly is straight forward. Dry fit the parts first before any glue is applied. The tab fit construction will hold the item together to verify correct parts placement and to square up the frame.

Full size plans are supplied to build over. Protect the plans from being glued to the frame with some plastic sheet or parchment paper and use a dead flat building surface.

Wing Assy: Locate the ribs, main spar, leading and trailing edges. The main spar wing joint has a 3 degree cut in it. This is the center joint for the wing. Dry fit the ribs, No Glue!



Note there will be a 3/16x1/8 spruce cap on top and bottom of the main spar. Engage the ribs fully into the slots, then slide in the lower spruce cap strip. Now engage the leading and trailing edges over the plan and square up the leading edge and the outside rib. No place the top spruce cap strip and the lower rear spruce spar, then the top leading edge 1/8” balsa spar.

With all straight and parts fully set into their appropriate slots, using Medium CA tack the corners. When set, recheck square, if good proceed to CA joints. To secure the spruce cap strips, using thin CA and a applicator tip will work well and keep the glue where it belongs. Repeat the process for the other half of the wing BUT Be Sure you are building a mirror image! The wing centers have the angled rib mount and the closely spaced ribs. Check twice before gluing!

The angled spar is for 3 degrees dihedral per panel. Be sure to set the center rib to that angle. When all done, one wing tip will be raise to 2" and then joined, more on this later. Once wing ribs are glued, its time to add the leading edge 1/4' sqr balsa and then the center sheeting. After that its time to sand the leading edge profile, smooth the sheeting at trim any over hanging sticks. Last step are the wing cap plates and finish the center trailing edge. In the center trailing edge use some scrap 1/4" balsa and build up the edge so it has a nice curve and transition from the ribs, see plan.

When happy with the profiles its time to join the wings. Lay one panel flat and butt the centers together and raise one panel 2"at the wing tip. Make sure you raise the panel evenly, this is most important so your QTee flies true! Using Epoxy, smooth some on each rib end. Butt the center of the wings together. Secure the wing is laying down and support the raise side by 2 inches and be sure leading and trailing edge are at the same height! Make sure the center joints are secured and don't lift.

Double check that all is straight now, recovery is possible at this phase. Check you have glued a left and right panel together, wings are straight and the dihedral is uniform.

Supplied with the kit is a 2' wide length of fiberglass tape. Cut it into 2 lengths to cover the center joint with a tad of overhang.

Starting on the bottom, lay the tape centered across the joint so there is 1 inch on either side of the joint from leading to trailing edge. Here using a slower epoxy or polyester resin is a good choice to give you some working time. I like to use an old credit card or scrap piece of wood will work. Mix your glue and pour it in the center of the joint. Then use the card to push it outwards and into the tape. The tape will become transparent when pushed thru properly. Spread as needed to push through and not leave excess glue. When cured, sand excess cloth from leading and trailing edges and repeat the steps on the top wing joint.

Next step is to build the tail surfaces. These are straight forward and built over the plan. Using your choice of a pin board (I like a piece of sheetrock), locate the parts and pin the outer perimeters. Also on the cut sheet are the flat sticks that key into the slots. Dry fit all the parts! Make sure you have used all of them and are in the correct places and is all flat! When satisfied, you can apply thin CA to the joints. The Elevator is glued separately. It is joined with a length of dowel and epoxy.

Now the fuselage; Assembly is very straight forward. As mentioned before make sure you are building a left and right side! Using an aliphatic / PVA glue place the fuselage doubles on each side. Carefully place, pin and weight them for a good accurate glue joint. When this is dry start with the 3 plywood formers and dry fit. Square up the firewall with the side and be sure the sides are parallel. Give it a touch of CA and recheck.

If good, CA the joints Do Not epoxy at this time. On F4 add the cross grain doublers as shown on the plan. Then dry fit and pull the tail together. All should meet evenly then glue tail and F4.

Before sheeting the bottom of the fuselage, bend the landing gear wires. The top of the wires set into the ply landing gear plate and plate doublers. Generously epoxy the plates and wires into place and clamp. While curing set the fuse in the gear and adjust so that it level with the surface.

When cured, proceed to glue in place the bottom sheeting. After the glue dries trim the sheets square with the fuselage sides.

The completed rudder and stabilizer can now be glued together. Insert the rudder into the stabilizer slot. PVA glue can be used here and use a square to set the rudder perpendicular to the stabilizer. When this is dry the assembly can be epoxied to the tail indent on the fuselage. Center the front and rear of the rudder to the fuselage and make sure perpendicular to the fuselage sides.

The top rear of the fuselage deck is covered with 3 - 1/8" square balsa sticks from F3 slots to the leading edge of the stabilizer.

The 3D printed Cabanes can now be installed. First separate them from the extra material. The **front** of the Cabane is the **Longer** stick. The cabanes are installed between F2 and F3. The are placed flush with the formers and the bottom sheeting. Apply epoxy to the areas on F2 and F3 where the lower sticks mount and install and clamp in place. The mid cross sticks of the cabanes will be parallel to the fuselage top.

At this time go ahead and create epoxy fillets on the both sides of F1,F2 and F3.

The last items to build are the battery hatch and the pilot /radio hatch. These are straight forward and self explanatory. The light burned lines on are for 1/8" stock to build up the sides.

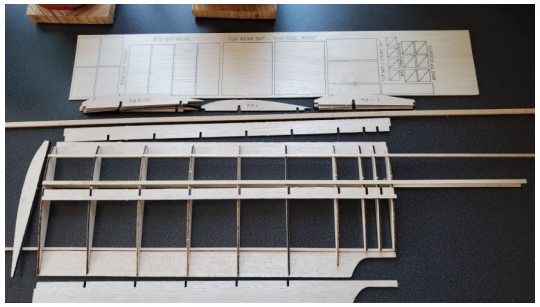
Supplied is a servo mount plate. Before installing it, it is recommended to install your motor (e-power 2212 motor) battery and ESC. Mount the wing with rubber bands and check the balance point; CG is the center I-Beam spar. If tail heavy mount the servos forward in the section below the wing, conversely if nose heavy shift the servos rearward. Mount the servo plate with epoxy and make sure there is enough room for the servos to clear the bottom sheeting. Install your choice of pushrod and control horns now while the fuselage top is open. Hinge the rudder and elevator, but don't glue yet. If needed use some scrap wood to support the push rods from bowing.

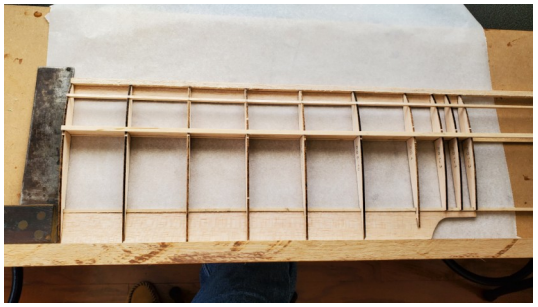
Your on the home stretch now! Give it a final sanding a cover the model with your favorite material and fuel proof the firewall and hatch area if required. When all covered install and glue hinges in place. Paint you pilot, balance on the spar and check lateral balance. If a wing tip drops weight other side till balanced. Double check for wing warps and correct before flying.

If powering with nitro, fill tank for 30 seconds or less of fuel for maiden! If possible try an unpowered glide as a maiden flight.

Hope you enjoyed the build and flying!

Dennis






SECOND SQR ↑ RIB
TO TRAILING EDGE


RIB 1-3
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