JTA INNOVATIONS





JTA Innovations 33” MXS

Please Read For Your Safety

The product that you have received is not a toy. Please understand that model aircraft have several moving parts and equipment that if misused, can not only cause harm to other materials and objects, but also to you and others around you. JTA Innovations is not accountable or responsible for any events or incidents that cause damage, injury, or even death. After purchase and receiving of this product, the customer is fully responsible for the assembly and use of the model. We cannot monitor the procedure/methods used in assembling or flying of the model. If operating in the United States, please make sure that you have membership with the Academy of Model Aeronautics and follow AMA rules. Please operate the model at AMA flying sites. If living outside of the US, please follow the rules of model aviation operation in your region. JTA Innovations is not responsible for any disregard or breaking of these rules. Prior to being shipped to each customer, airframes will be checked for any damages. We have no control over what happens during the shipping process. If any product is deemed defective by a customer, please contact JTA Innovations with proof of defect (most likely photo or video), and proof of purchase including purchase date. JTA Innovations will analyze your claim and handle the situation case by case.

Tools/Supplies needed

Including but not limited to:

-Ruler

-Building Adhesive

-CA

-Hobbyknife with blades

-Scissors

-Heat gun or lighter for heat shrink

-Assorted phillips and flat blade screwdrivers

-Assortment of small drill bits

-Drill

-Needle nose pliers

-Driver set

-90 degree square

-CA accelerator

-Sandpaper

- Wax Paper or Parchment paper for a building surface

Airframe Description

Continually providing high performance and durable EPP foamies, JTA Innovations took yet another leap forward with the release of the 33" MXS. In 6mm EPP just as the previous Gamebird, the MXS is an excellent compliment. Tested by high profile 3D/freestyle pilots here in the United States, the MXS has proven to satisfy some very technical demands. Both striking color schemes are designed by Kim Quenette and are sure to catch attention. JTA Innovations also introduces another development in the carbon fiber construction technique with this release. The use of flat carbon fiber throughout the airframe not only improves durability reducing flex and wear on the EPP, but also helps keep mass centralized in certain parts of the airframe.

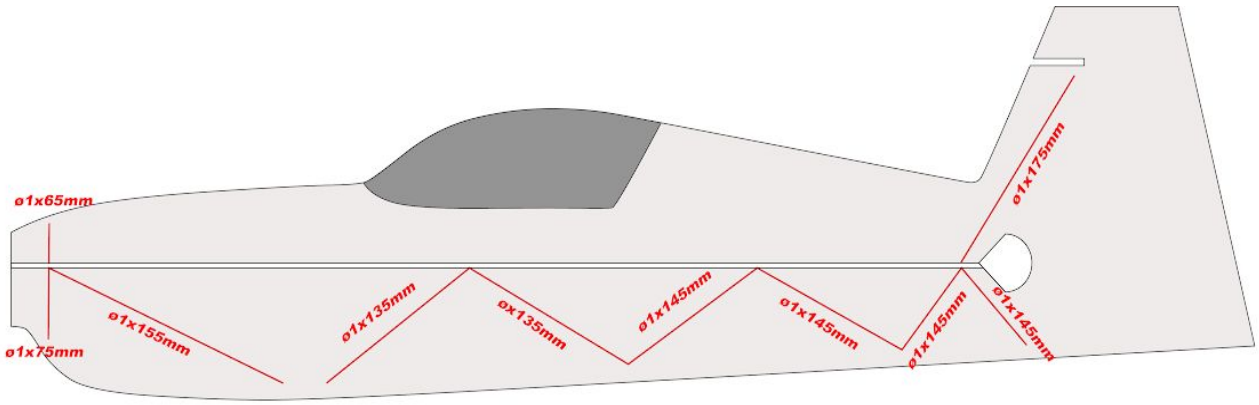
Recommended Equipment:

Motor - Hacker A10-9L, T-Motor AT2303, equivalent
ESC - 10-15 amp
Servos - 6-12 gram (Qty. 3)
Propeller - 8-9" (APC Indoor SF highly recommended)
Battery - 2S or 3S 350-750 mAh depending on motor/ESC capabilities

Carbon fiber layout

Aileron linkages: 70mm long each

Elevator and rudder linkages: 400mm long each


ø1x65mm
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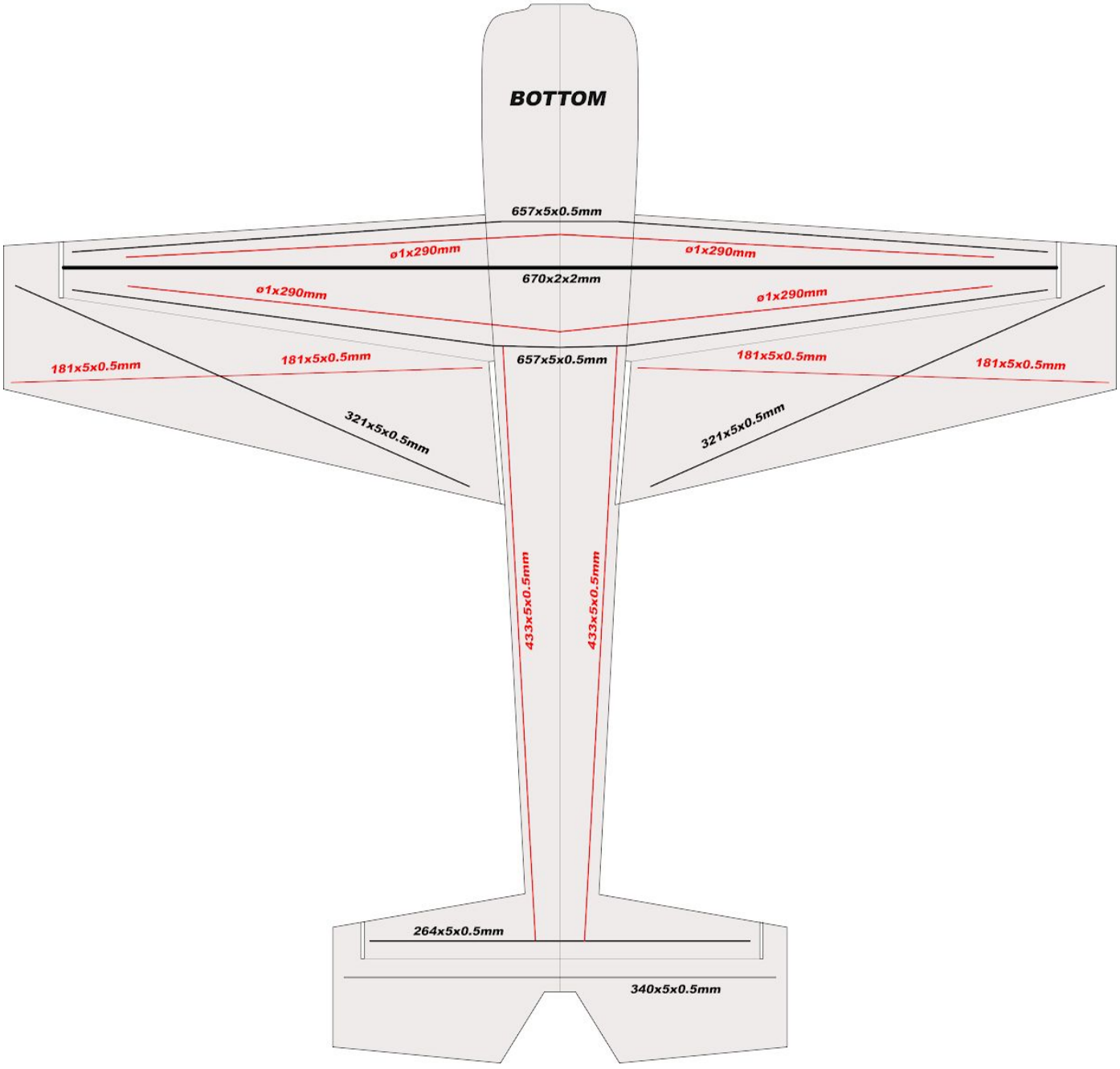
BOTTOM
657x5x0.5mm
ø1x290mm
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670x2x2mm
ø1x290mm
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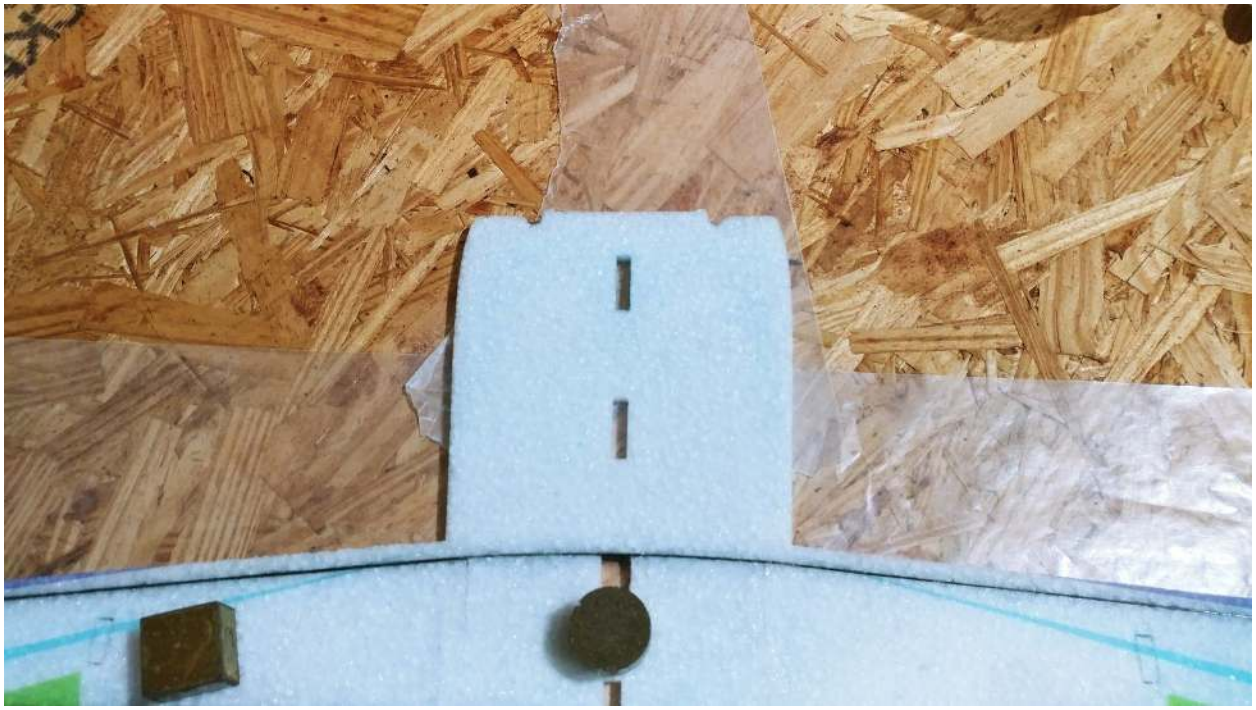
181x5x0.5mm
181x5x0.5mm
657x5x0.5mm
181x5x0.5mm
181x5x0.5mm
321x5x0.5mm
321x5x0.5mm
433x5x0.5mm
433x5x0.5mm
264x5x0.5mm
340x5x0.5mm



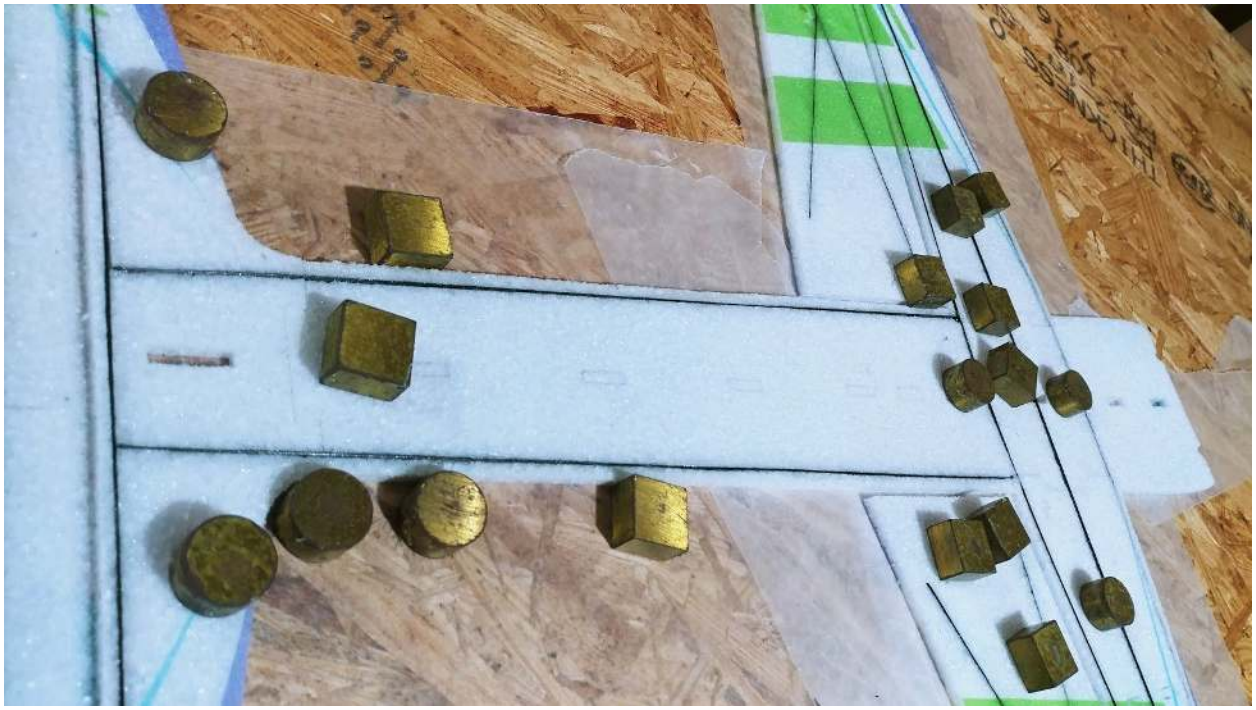
As shown above, the aileron bracing is done using flat carbon fiber glued into the slots creating durability for the aileron. Please see the carbon fiber diagram for your airframe to determine which size carbon strips are to be used.



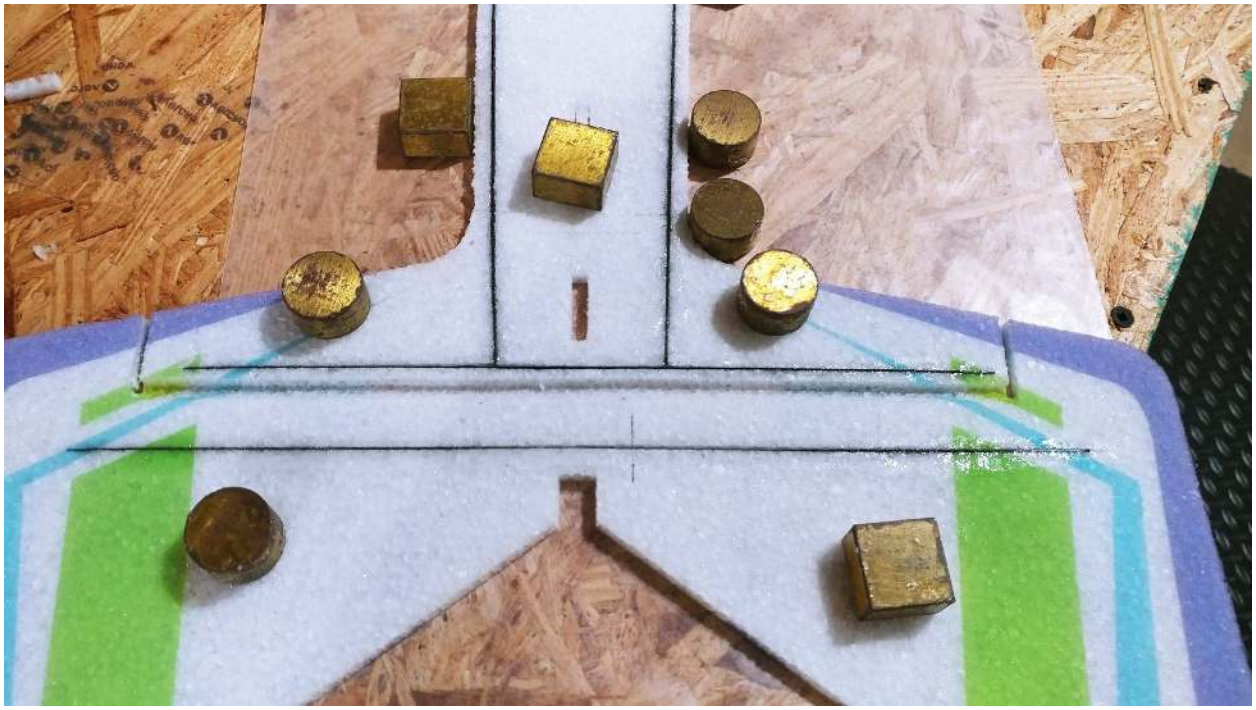
Wing bracing shown above. The center wing spar is the supplied carbon fiber square stock.



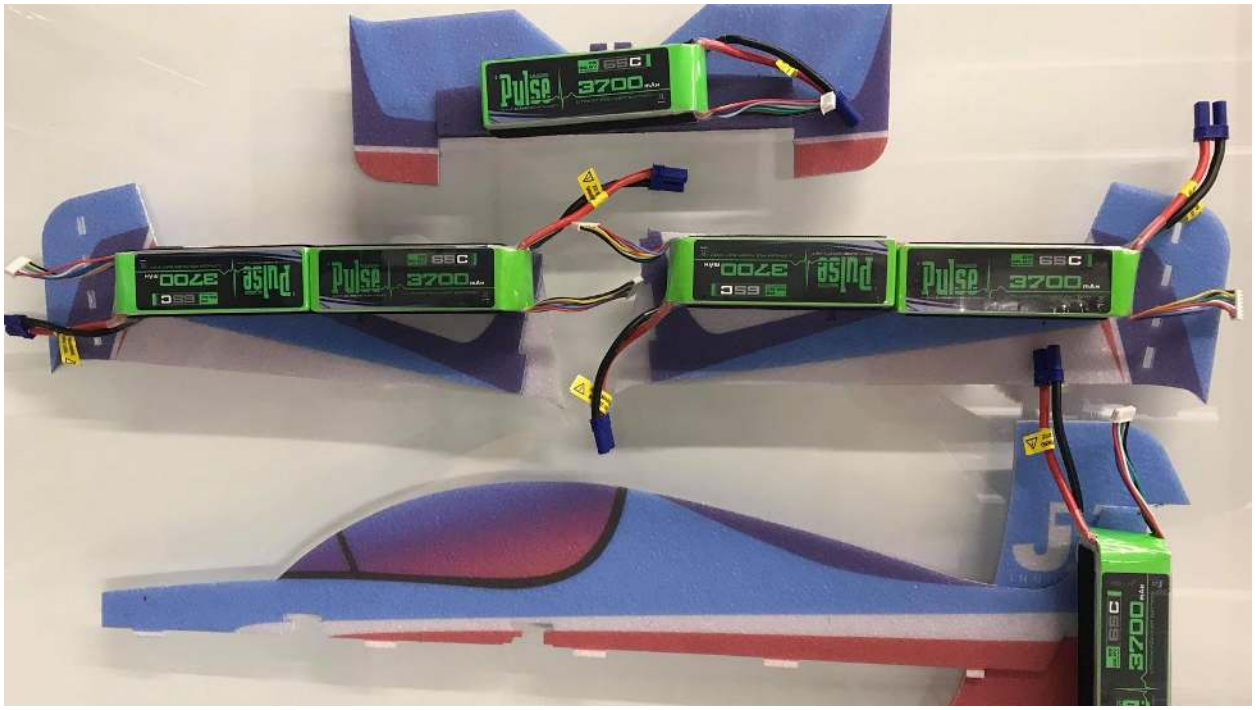
Cowl glued to the fuselage.



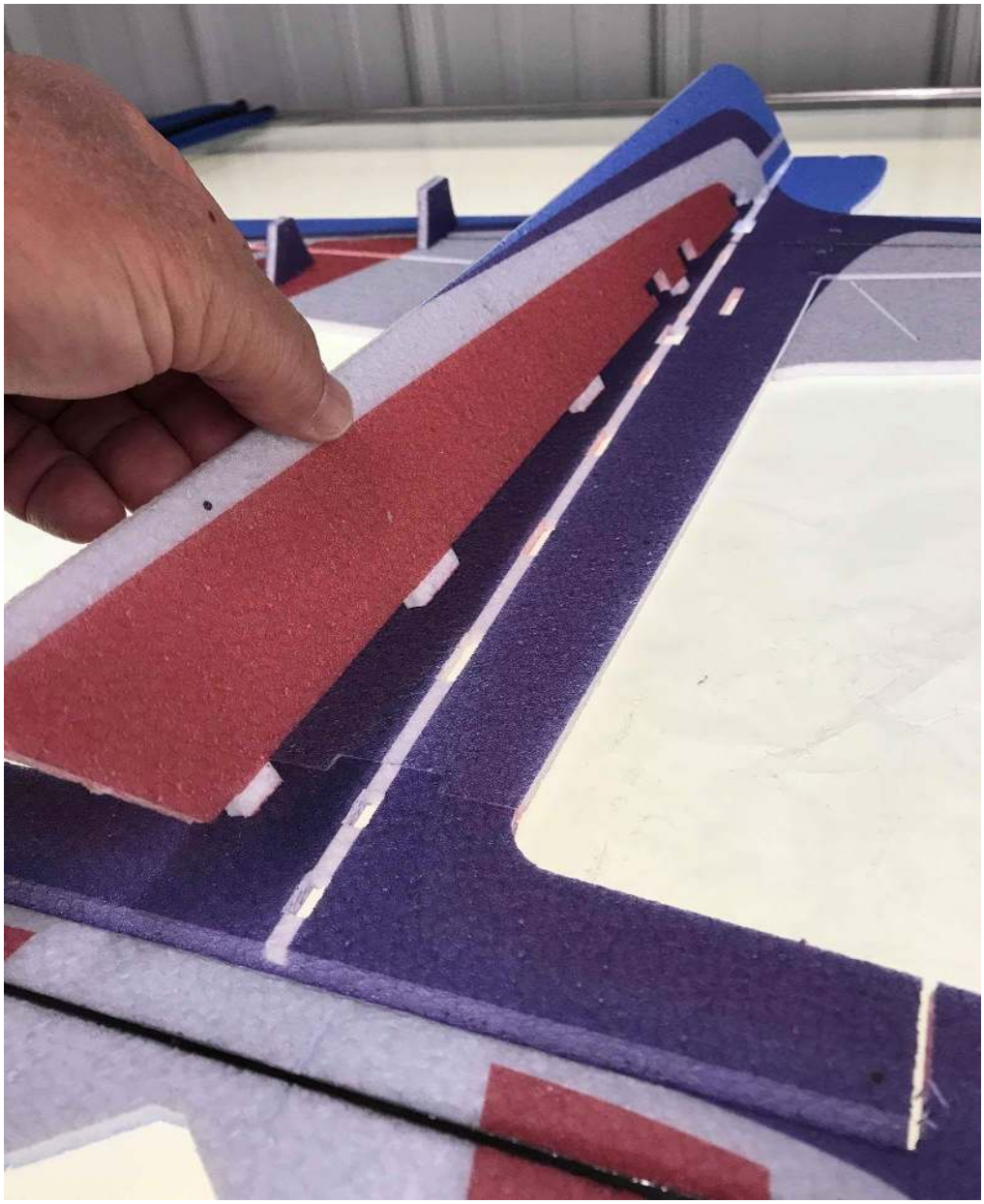
The horizontal piece of the fuselage also uses flat carbon fiber spanning the entire length from the rear wing spar to the horizontal stab spar.



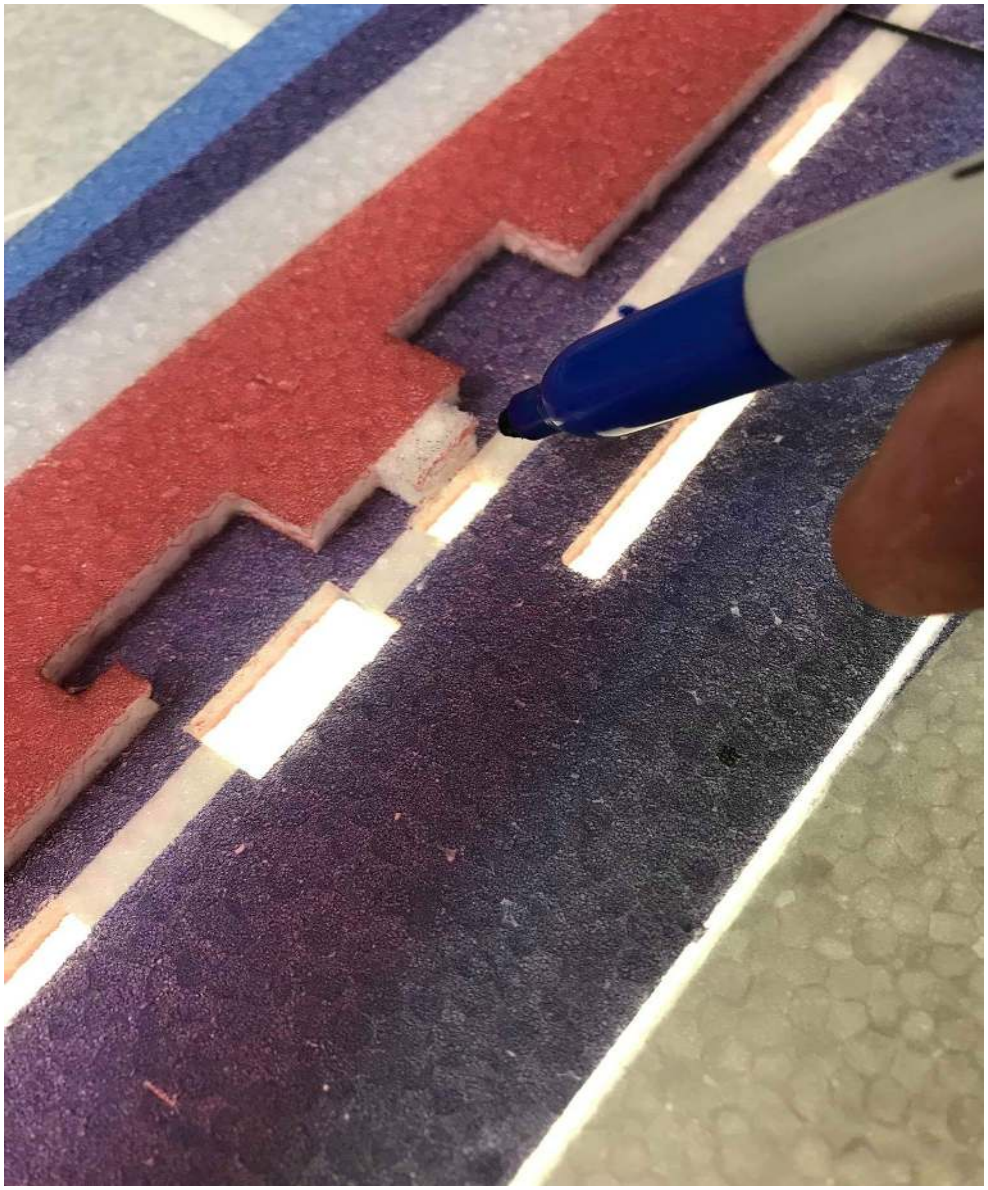
Elevator flat spar and h-stab flat spar shown above.



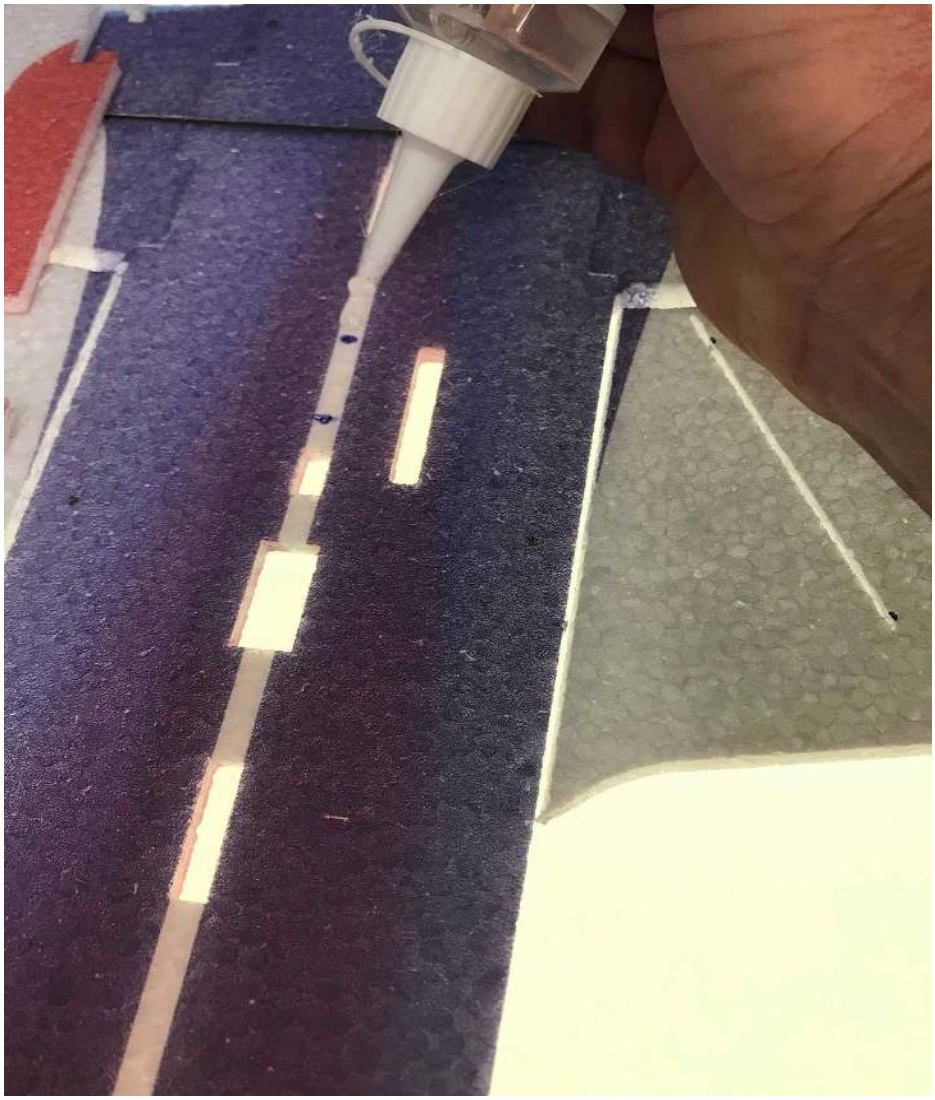
Now that rigidity is established, it is very important to break in the hinges by flexing them all the way over and weighing them down. Let them rest for at least 60 minutes.



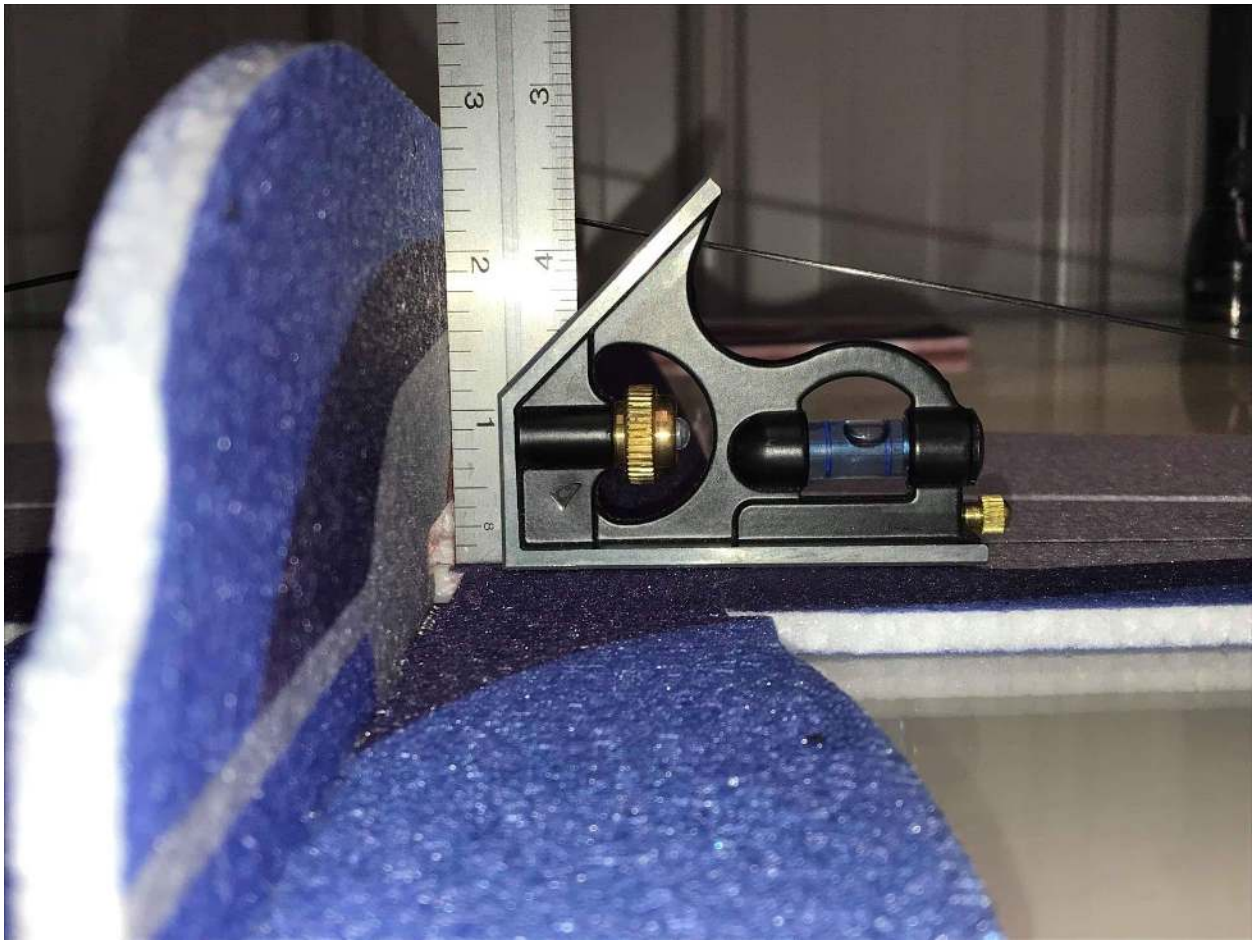
You can now prepare the bottom half of the fuselage. Test fit this into each slot as shown above before glueing.



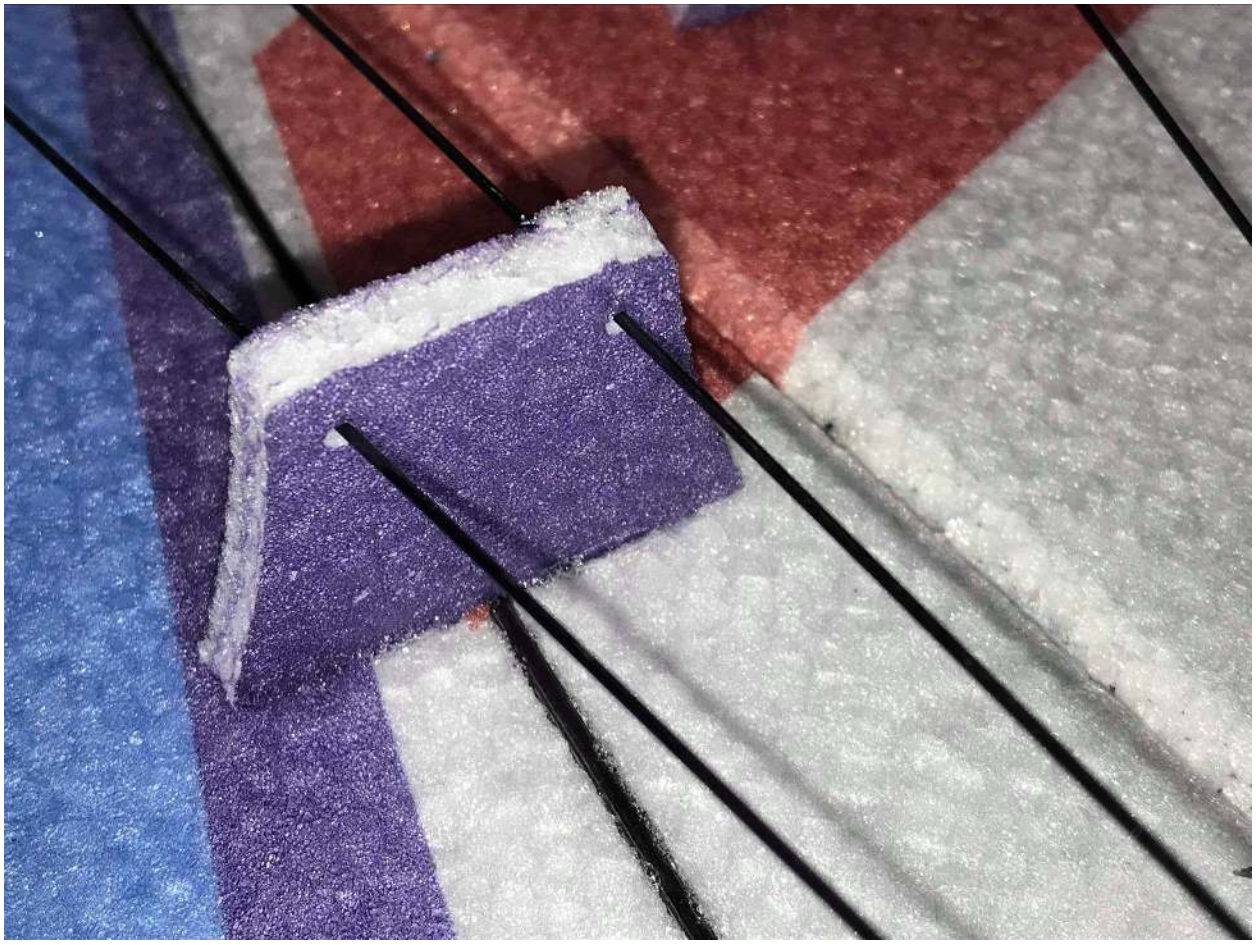
If deciding to place glue on the horizontal part of the fuselage, you can mark out where the glue will be placed as shown above after test fitting the fuselage.



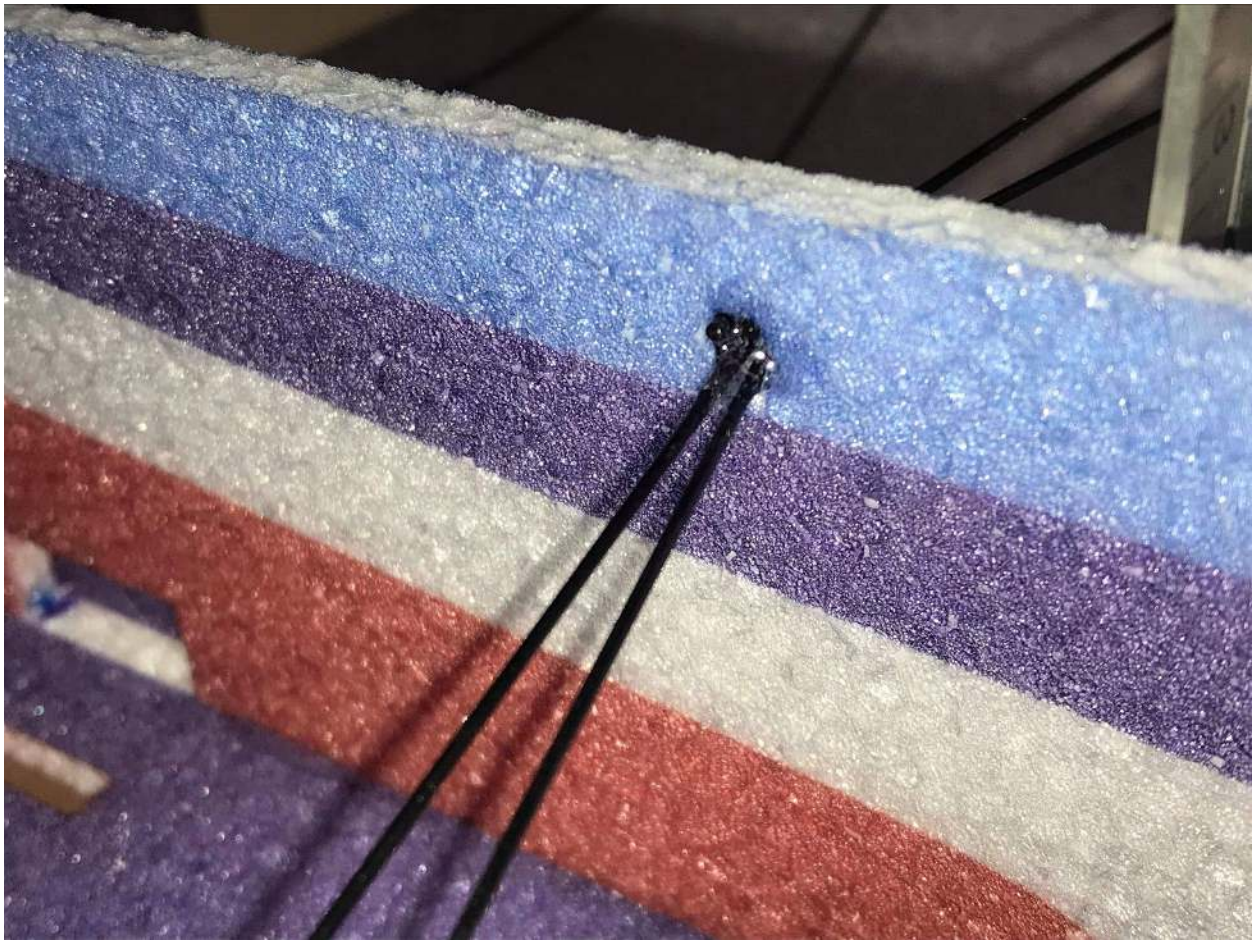
Using the marks that you just made, place your glue along the fuselage.



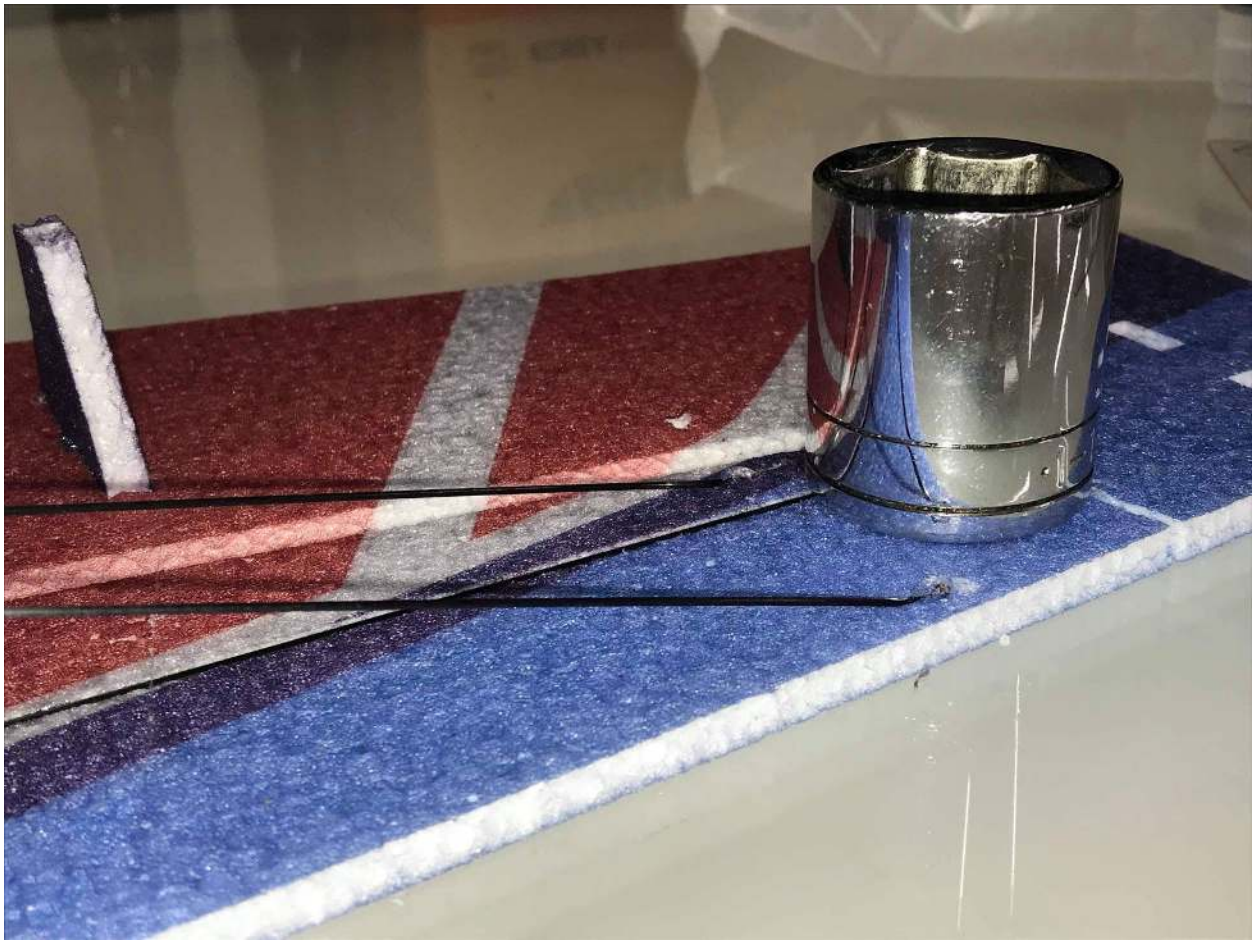
It is extremely important to make sure that the bottom vertical part of the fuselage stays 90 degrees to the horizontal fuselage while the glue is setting. This can have a huge effect on the flying characteristics.



Now that the bottom fuselage piece is glued into place, you can locate the carbon fiber rods used for the wing bracing. Shown above is the wing joiner used to guide the wing bracing. Some airframes may have a larger gusset or joiner that overlaps the leading edge. You will also find dots towards the tip of each wing to determine where to glue the carbon rods. The same goes for the location on the bottom part of the fuselage. There should be four total carbon rods for wing bracing. Two will be used on each wing. Lengths can be found on the carbon fiber diagram.



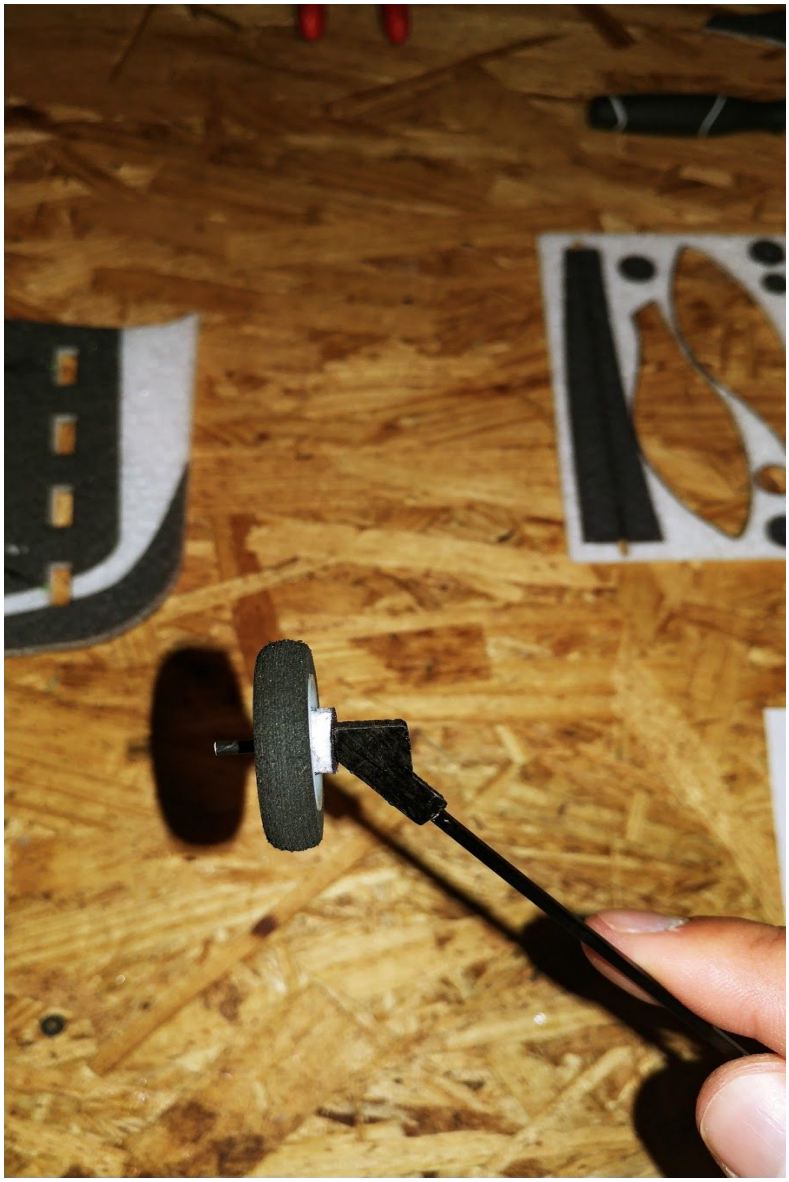
Shown above is the wing bracing glued into the bottom part of the fuselage.



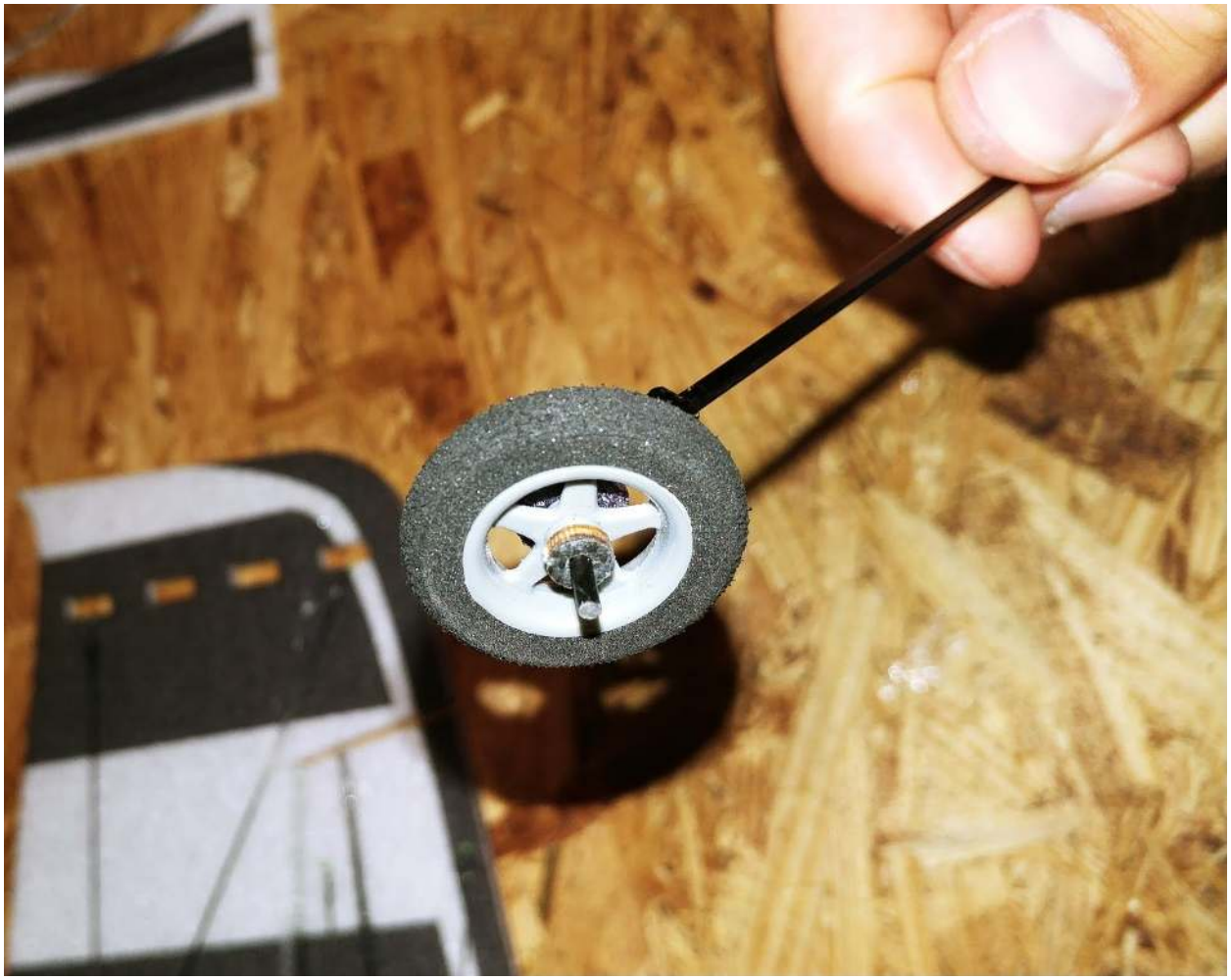
Just like the aileron bracing, it is very important to use weight towards the wing tip while the carbon wing bracing is setting to keep the leading edge of the wing as straight as possible.



Shown above is one of the carbon fiber landing gear legs that come pre-glued to the axle. The larger of the two EPP foam circular collars will slide on first. No need to apply glue to anything quite yet.



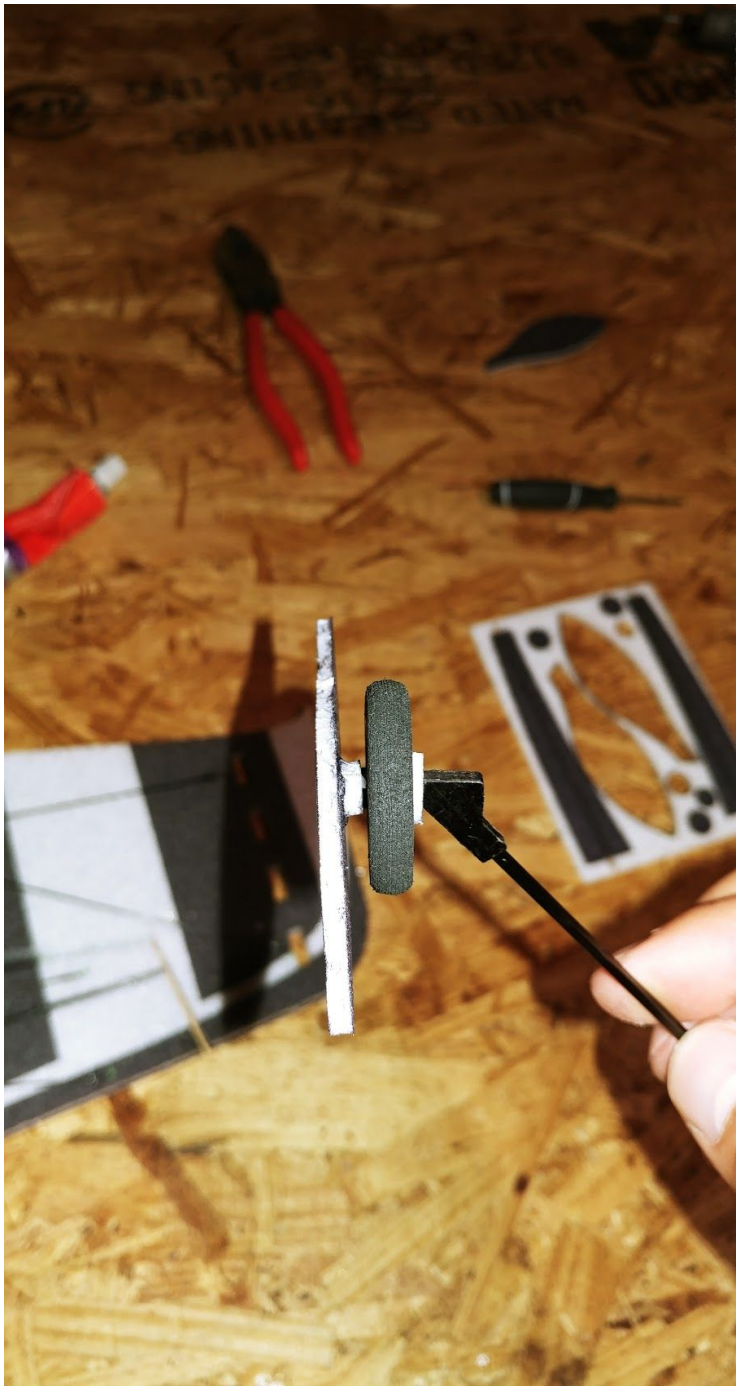
Next, with no glue needed, slide one of the wheels on to the axle all the way up to the first foam collar. Make sure it is spinning freely.



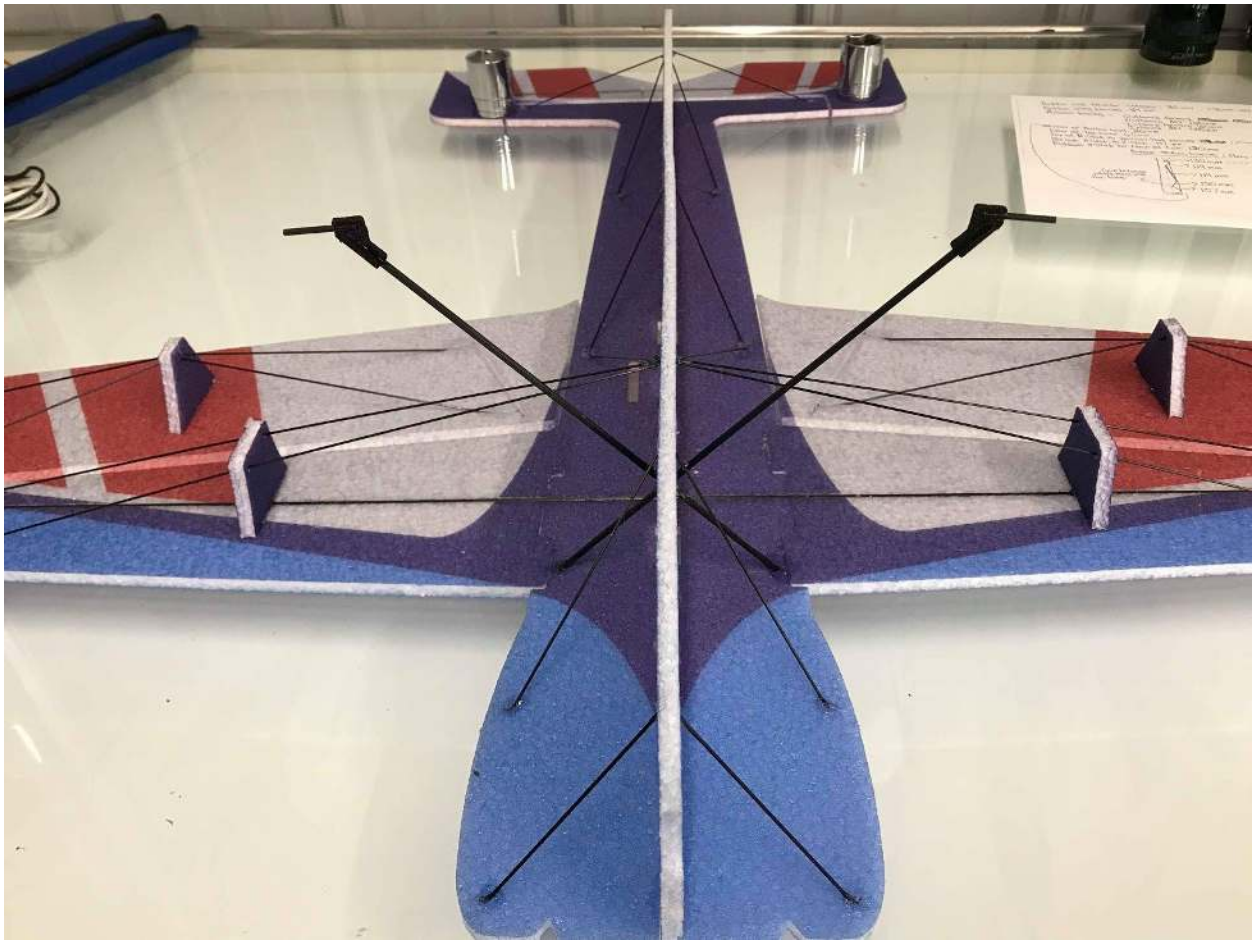
Now locate the plywood/carbon fiber laminated collar to slide up next to the plastic wheel. Once again, do not apply glue yet as the tire will need to spin as freely as possible around the axle.



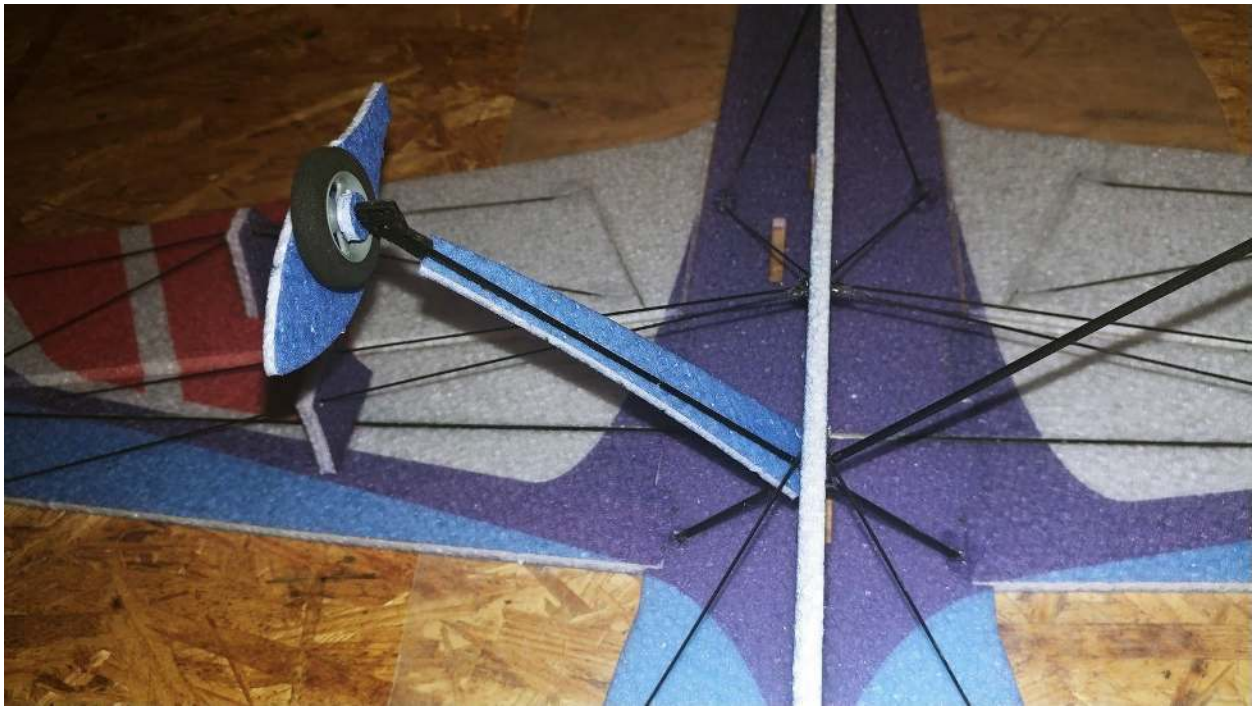
Locate the smaller of the two circular foam collars to slide onto the axle next.



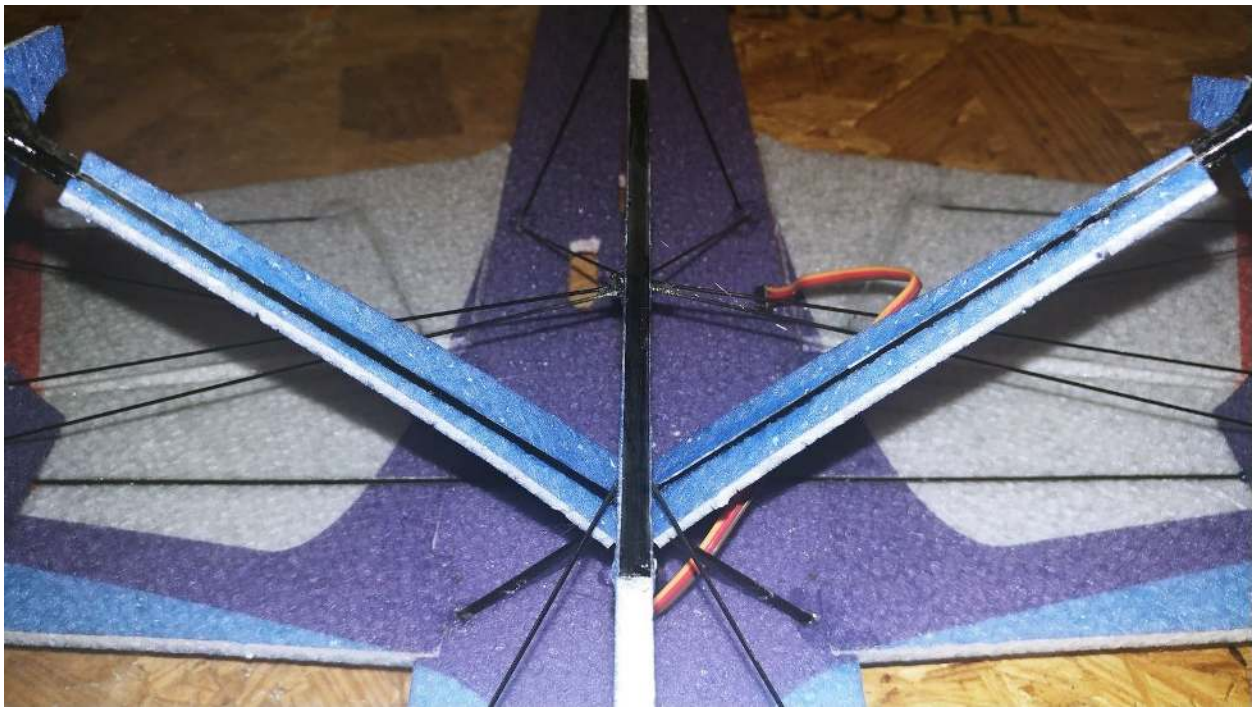
Lastly, locate one of the wheel pants. You can place a bit of adhesive on the last foam collar before sliding the wheel pant on to the axle. If desired, you can place some adhesive on the outside of the wheel pant where the carbon fiber axle ends.

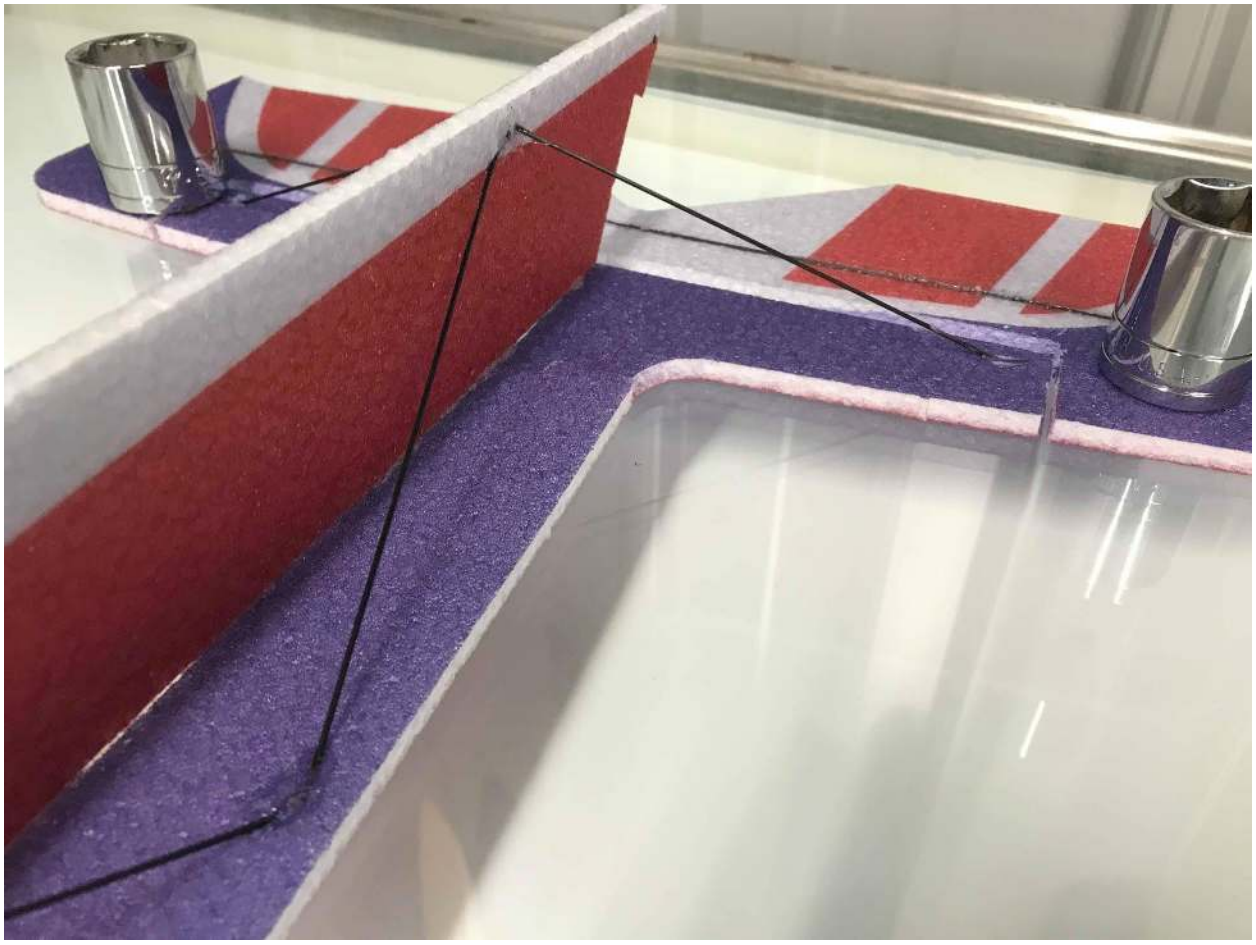


Shown above is both landing gear legs in place. You will find the slots cut in the side of the bottom of the fuselage to slide each landing gear leg into. Make sure that the bottom of each leg is placed to where the airplane will sit level on the ground. Also shown is the first two carbon braces on the front of each side of the bottom of the fuselage.

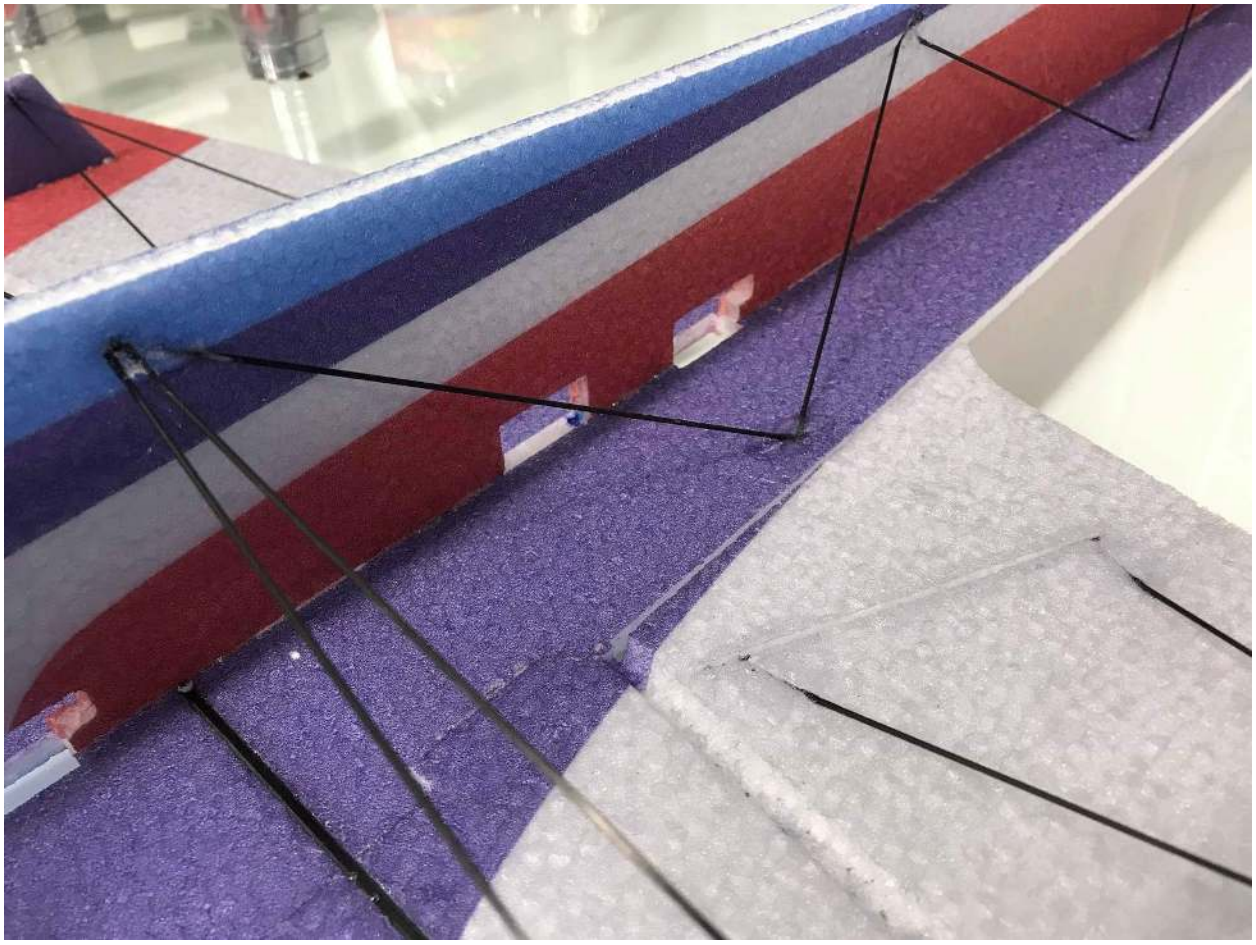


Locate the EPP landing gear cover that will be placed over the carbon fiber landing gear leg. Test fit this piece, then glue it on over the carbon fiber using the pre-cut slot.





Shown above is the bottom fuse bracing for the rear of the fuselage. Lengths found in diagram.



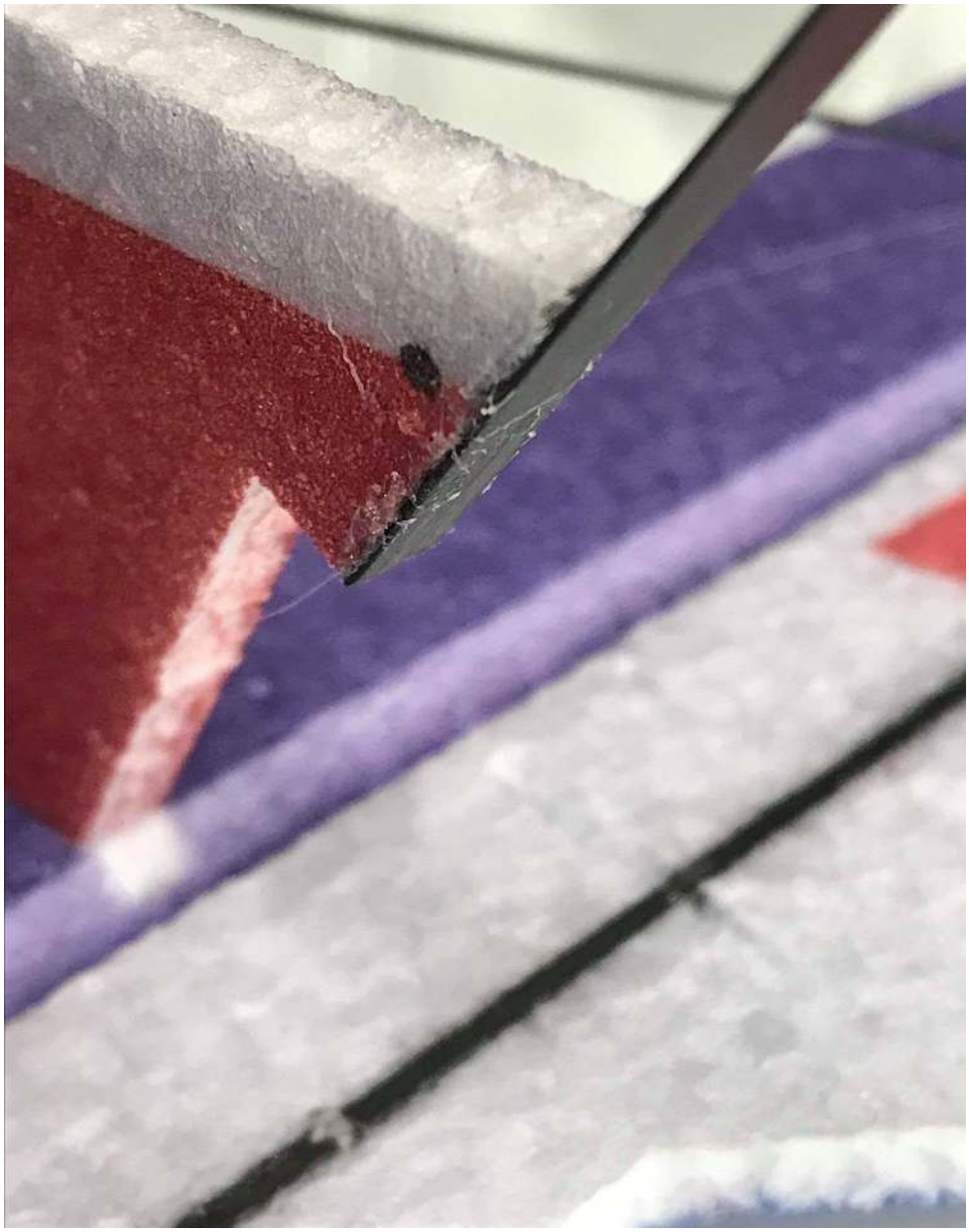
Shown above is the rest of the bottom fuselage bracing up to the wing bracing. You should be able to notice the dots marked to help guide where each rod will be placed. Lengths found in diagram.



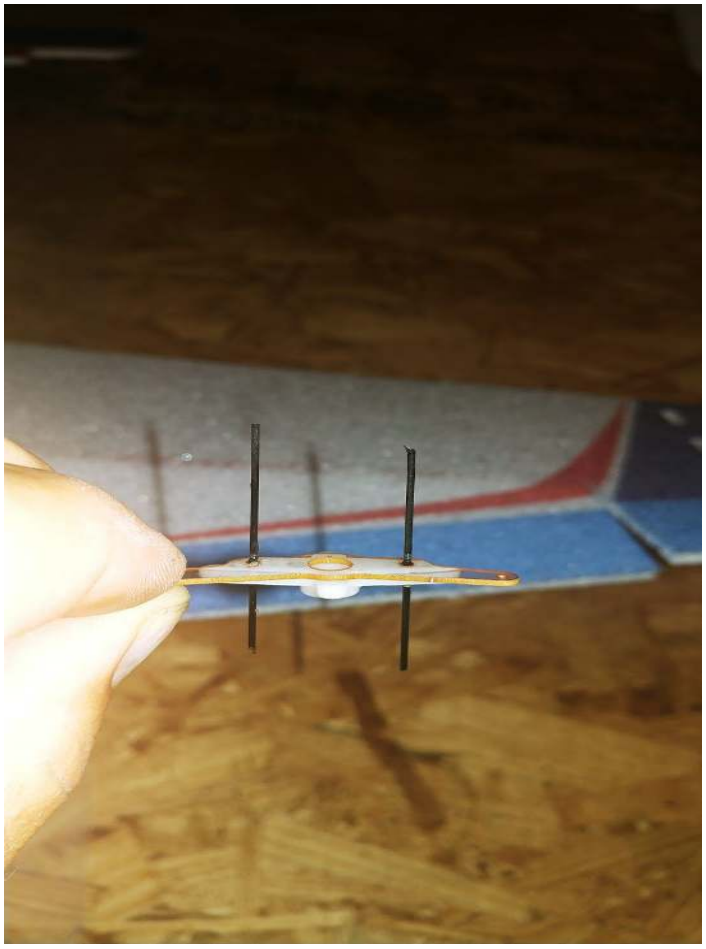
Above is other side of the fuselage carbon fiber arrangement.



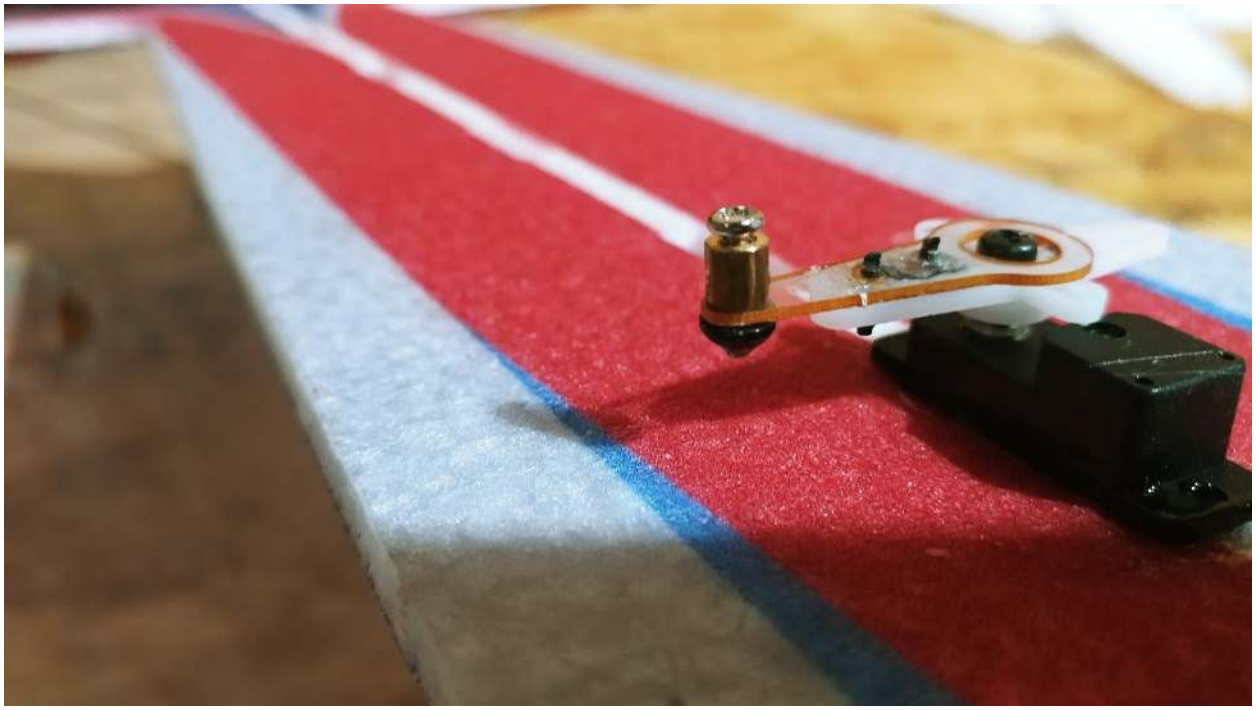
Locate the short flat carbon fiber piece that will be used as the tail piece for taxiing, taking off, and landing.



Glue the tailpiece into place as shown above while making sure that it is on the same angle of the bottom of the fuselage to ensure that the airframe will sit level.



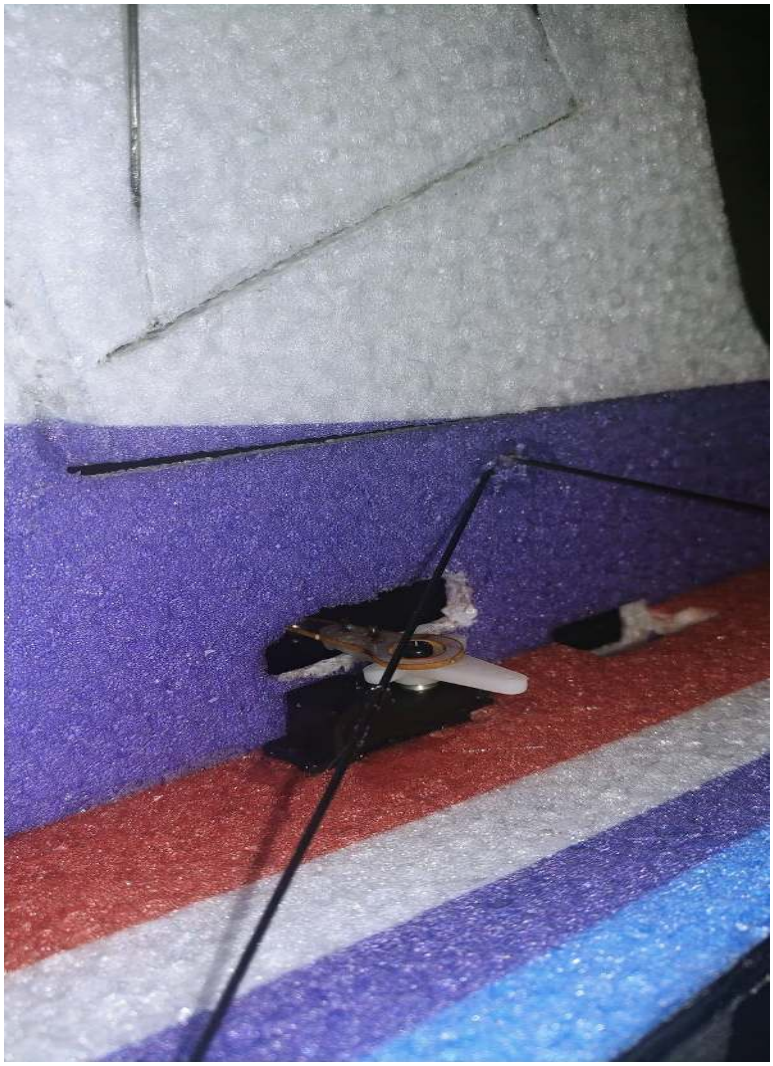
You can now prepare your servo arms. Above is the provided double arm to be added on to the aileron servo arm that comes with the servo. Using the extension will provide the maximum amount of aileron throw. To join the two arms, use carbon fiber rods as shown above and glue them in through the holes lined up on each arm. It is important to use regular CA for this. You can then cut each rod down to shorten them. Another option is to use thread to join the two arms.



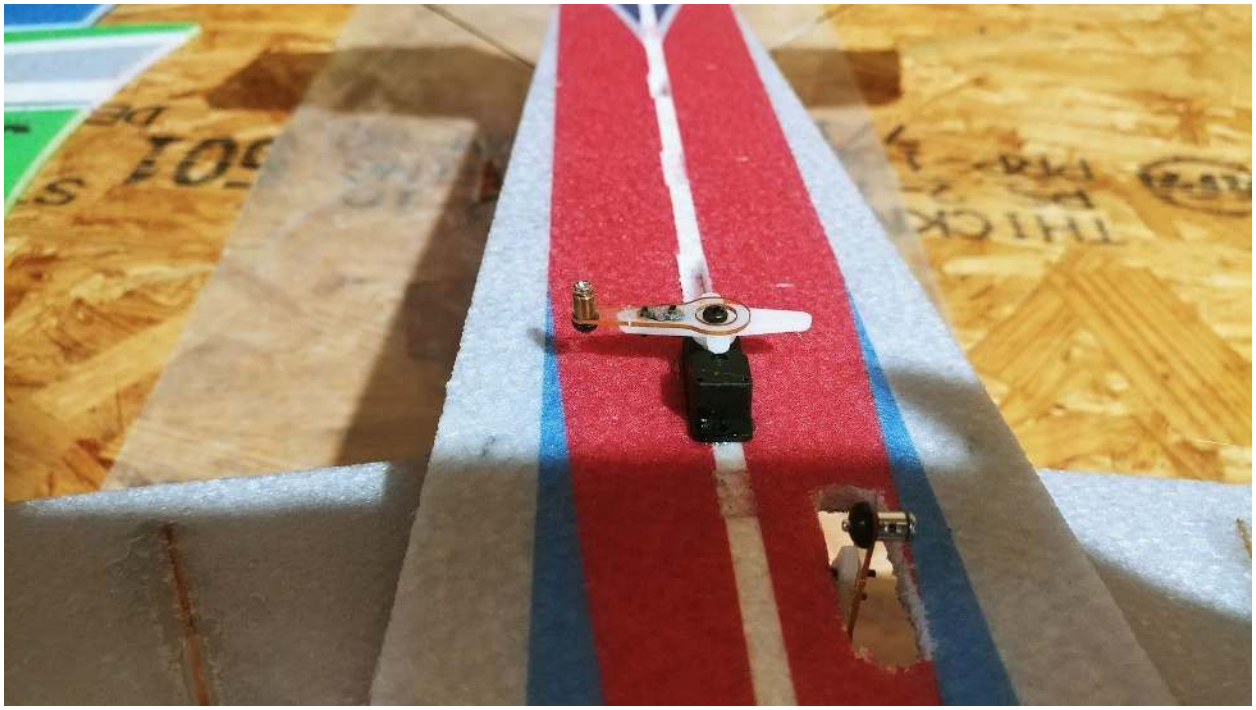
Before placing the servo arm on the servo, locate the mini EZ connector. These connectors will be used to secure the linkage to the servo arm. Slide the top metal piece into the end of the servo arm and then fasten the bottom plastic piece through the pin. You may want to put a bit of CA on the bottom of the pin and plastic piece to provide the most possible strength. The mini EZ connector will allow you to center your surfaces mechanically to reduce the need for subtrim. The top screw will be used to tighten down on the linkage once the center is found.



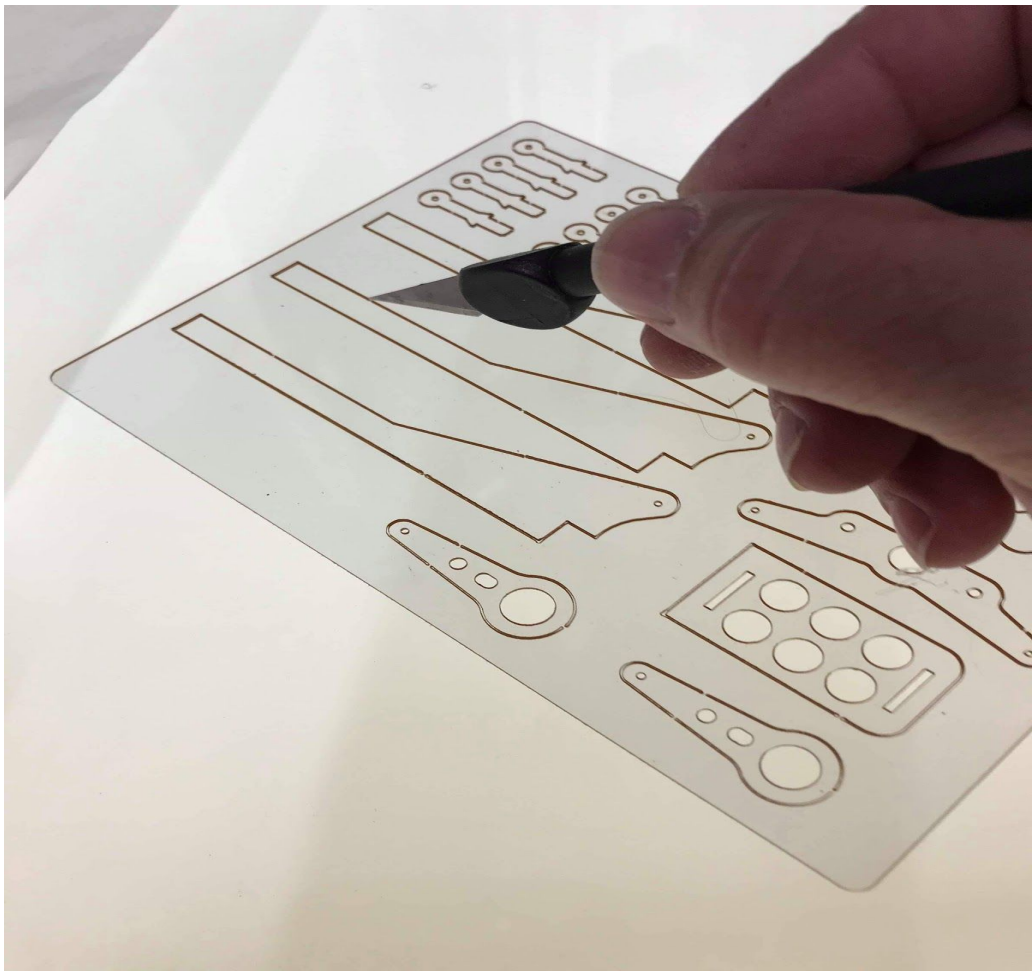
After you electronically center your aileron servo by plugging it into your receiver and powering it on with zero sub trim and trim, you can glue it into the servo slot that is the most forward on the airframe with the output shaft facing rear. The aileron servo arm will be angled forward.



Shown above is the glued in elevator servo. For the elevator, use the horizontal servo slot that is on the side of the fuselage. The arms used for the elevator and rudder servos are the singles. For both the elevator and rudder servos, face the output shaft towards the rear. For the MXS, position the servo arm towards the bottom of the airplane and run the linkage along the bottom part of the fuselage.



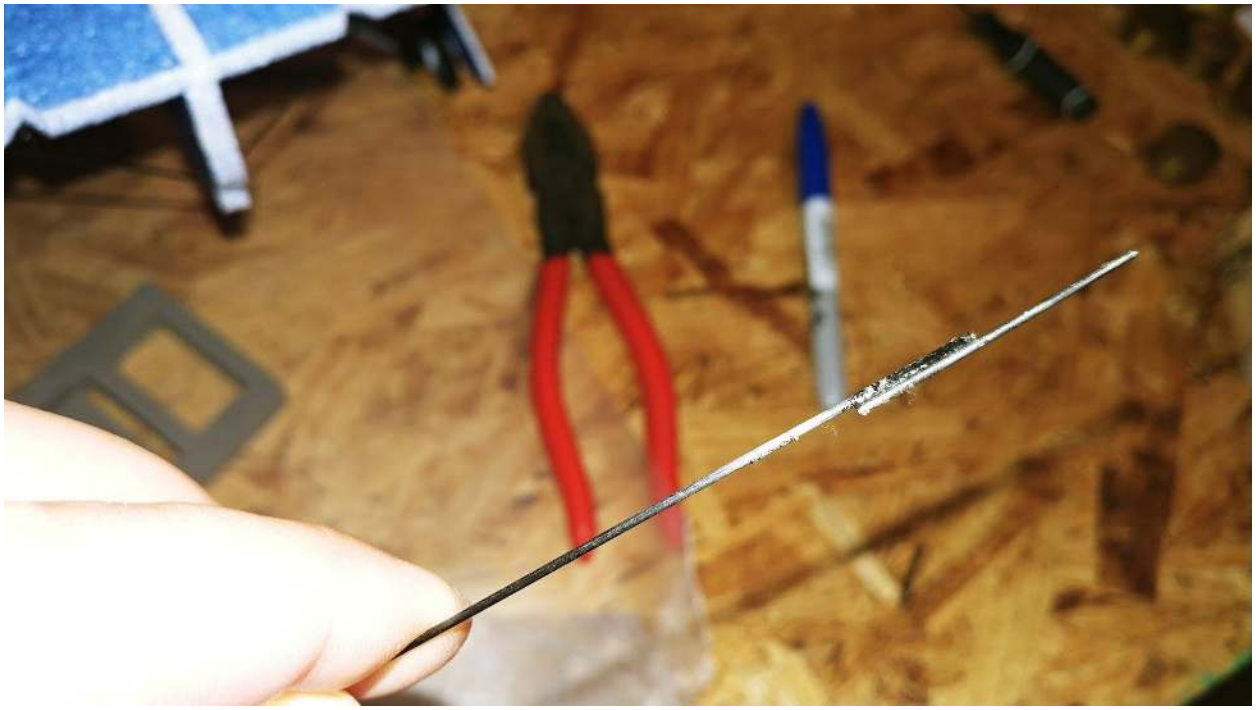
Shown above is the rudder servo mounted.



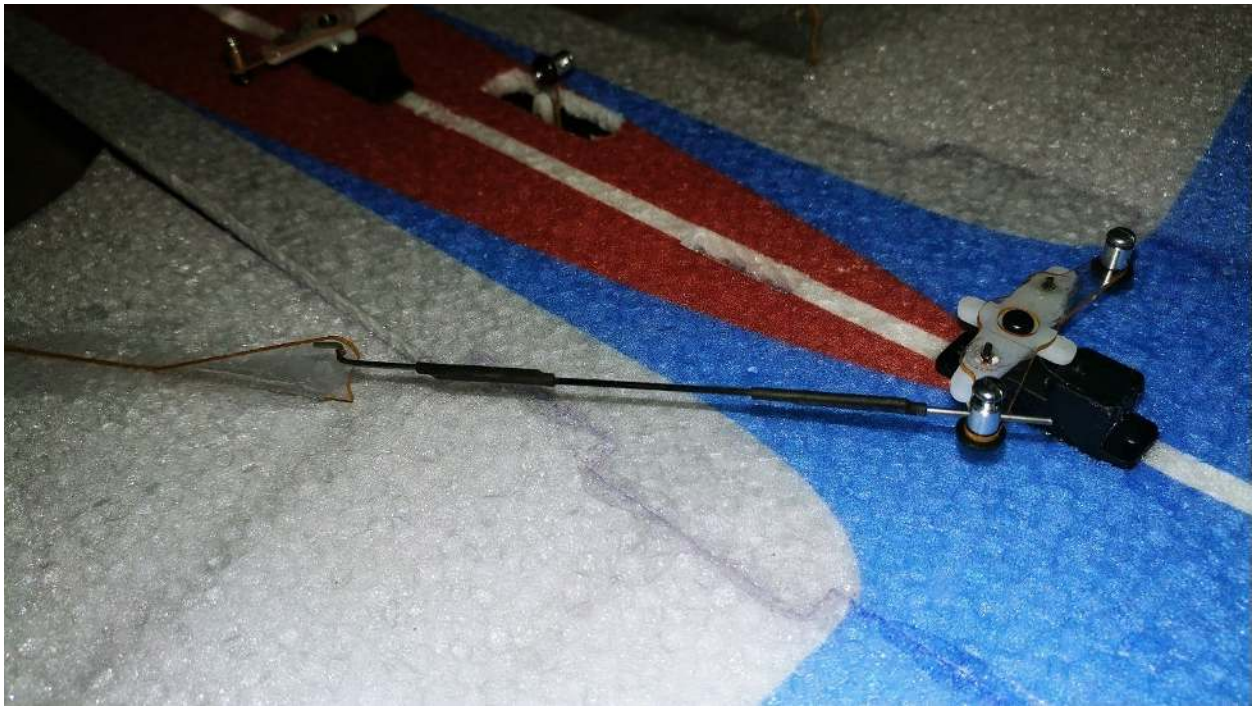
Locate the control horns in the provided kit. You will find three longer horns and one shorter one. Two long ones will be used for the ailerons and one long horn for the rudder. The shorter one will be used on the elevator. You will notice a cutout on the bottom of the elevator horn that will fit over the elevator spar.



Shown above is one of the aileron horns in place on the top of the aileron.



Locate the carbon fiber rods to be used for the aileron linkages (lengths shown in diagram). This will be cut and used for the two aileron linkages. Also locate the straight metal piece as shown above. Use regular CA to glue these two together. The straight metal piece will be what slides into the mini EZ connector on the servo arm of the aileron. The metal Z bend provided in the kit will be glued to the opposite end of the linkage and fit into the control horn. *Make sure to cut your heat shrink and place it on to the linkage before glueing the Z bend and straight end.*



Shown above is the entire aileron linkage assembly for one aileron. Notice the heat shrink over each glued end, as well as the straight end clamped into the mini EZ connector on the servo arm.



Shown above is the elevator linkage. Notice how the 4 guides are slid over the linkage and the heatshrink is cut and slid on before the Z bend is glued. The rudder linkage will be done the same way later on. You will be able to tell where the guides will need to be glued in based on the slots in the fuselage.



Above is another view of the elevator linkage setup.



Above is the finished elevator linkage setup with the guides glued into the fuselage and the elevator centered and clamped into the mini EZ connector.

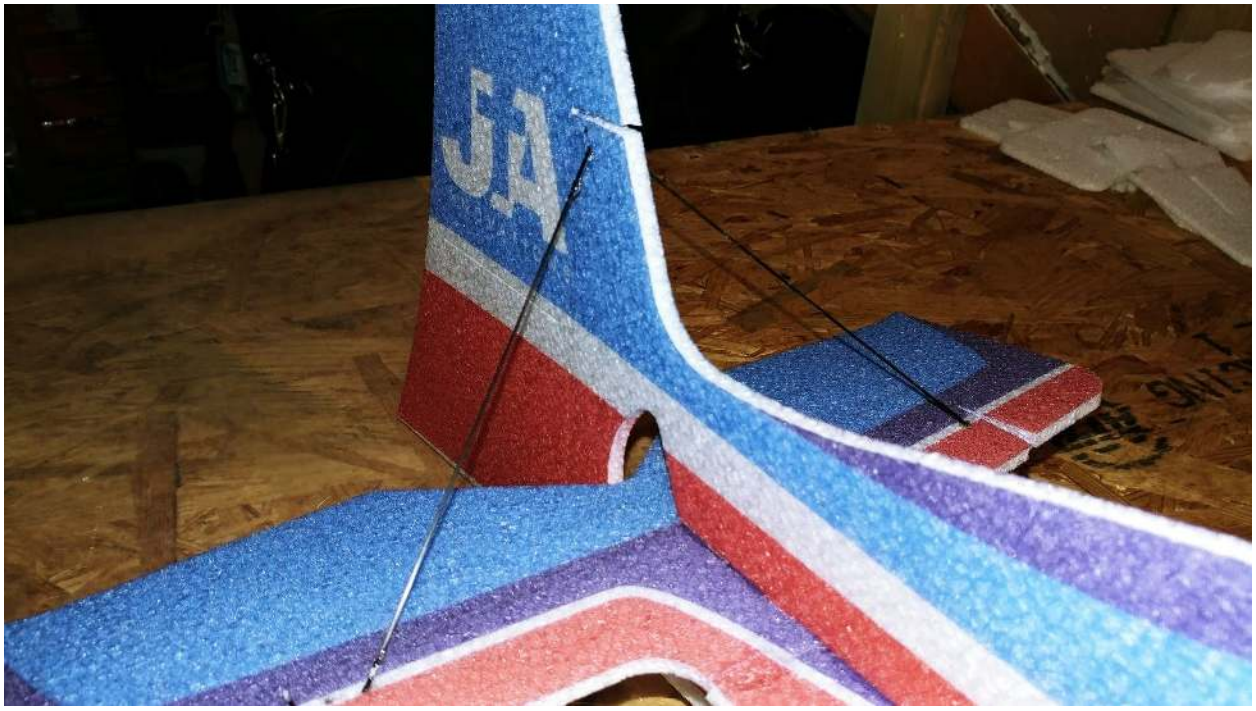


Once the aileron and elevator linkages are set up, use the same process as glueing the bottom of the fuse to glue the top of the fuselage into place. Once again, it is important to keep this as straight as possible.



Now that the top of the fuselage is glued in, you can glue the other rear carbon fiber rods to help strengthen the tail as shown above. They will be mounted

from the bottom of the horizontal tail to the rear of the bottom vertical fuselage. Make sure they are glued in a location that allows for full down elevator throw.



Shown above is the carbon rod that will go on each side of the fuselage. It will be used to strengthen the horizontal stab and vertical stab.



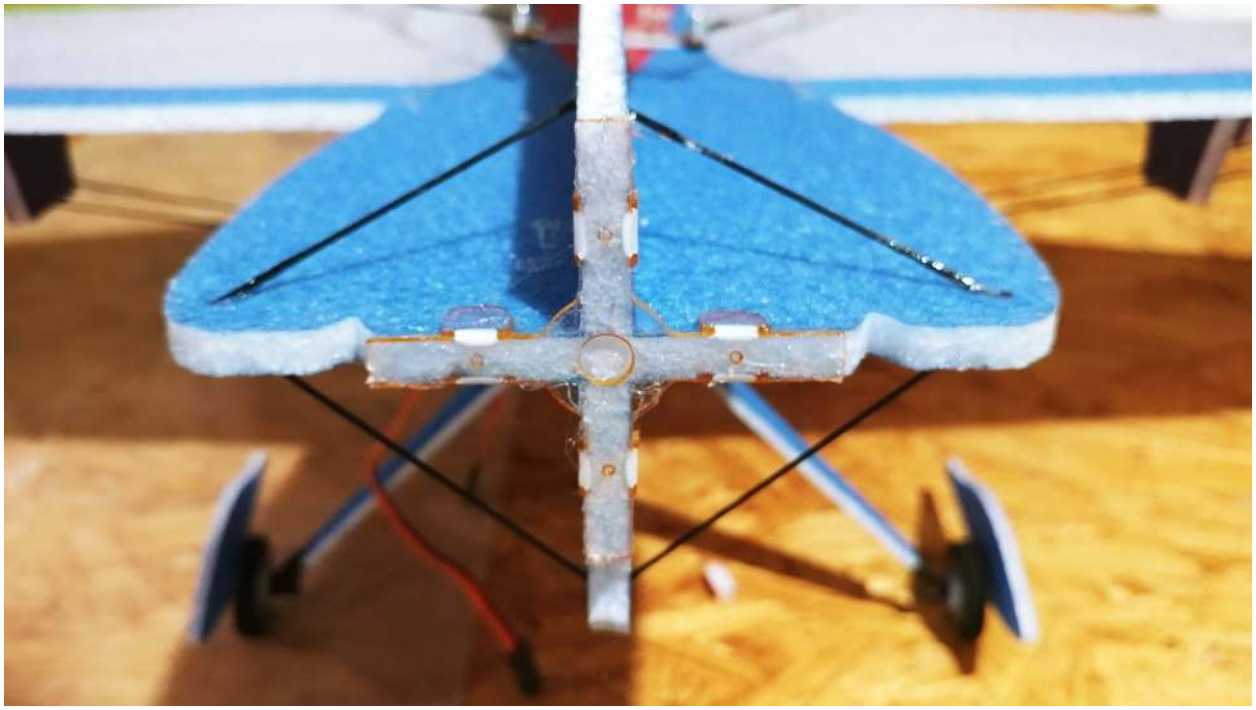
The final piece used for carbon fiber bracing will be the

rod used at the front of the airframe. Make sure that the fuselage is straight

while these pieces are setting.



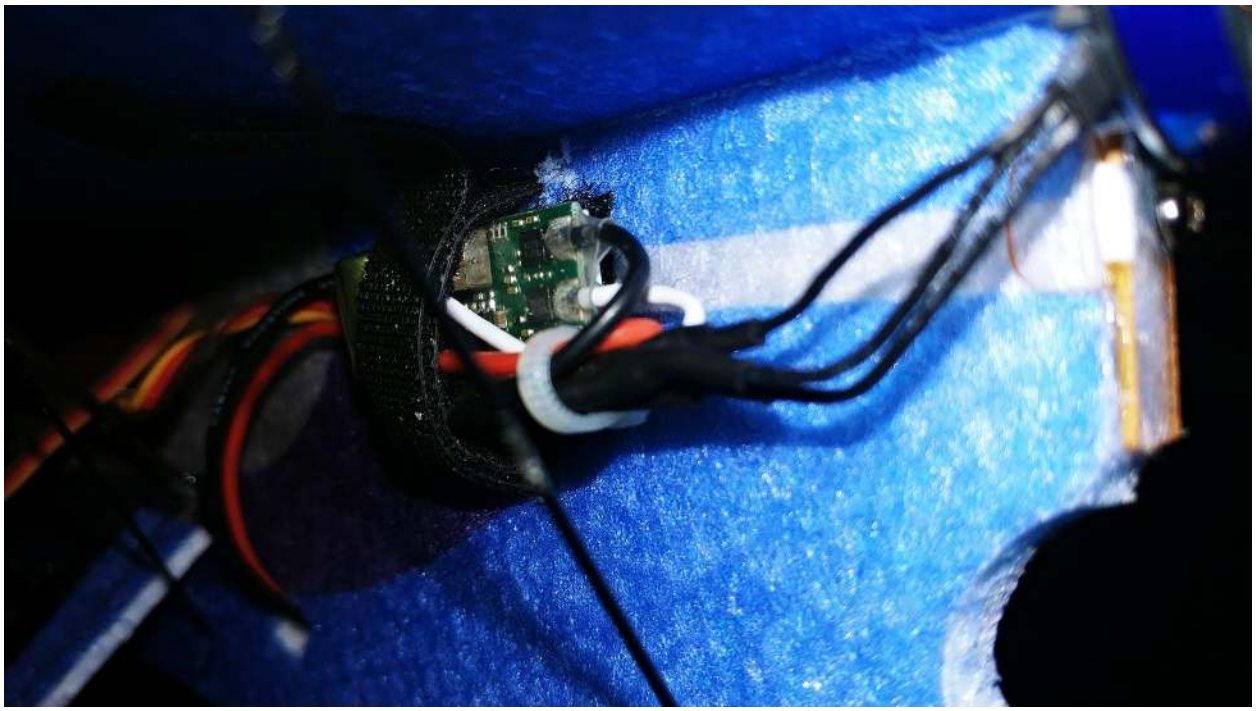
You can now locate the final long control horn and glue it into the slot on the side of the rudder. This will be used for the rudder linkage that will be constructed in the same way as the one used for the elevator. Once again, the length for that linkage is 365mm. The guides for the rudder linkage will be glued into the top of the vertical fuselage.



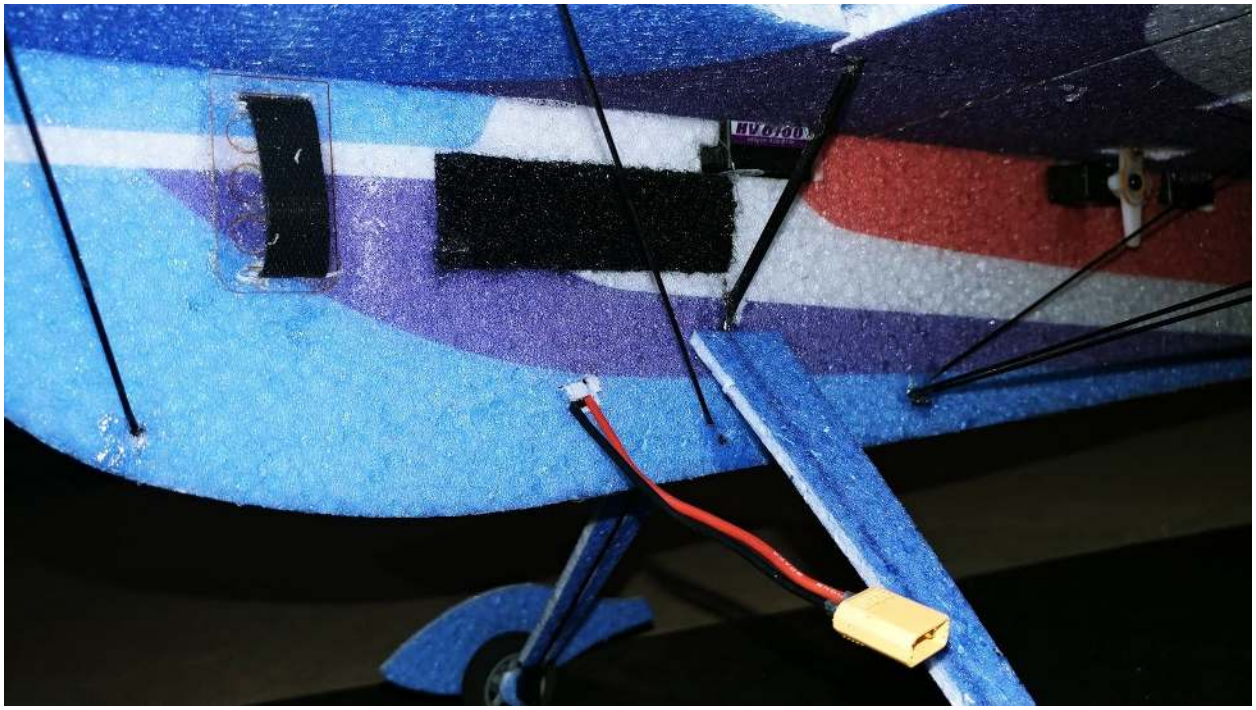
Locate the motor mount as shown above. Test fit the motor mount to the front of the fuselage by bending the attached tabs 90 degrees and sliding it on without glue. Once test fitted, place adhesive on the inside of the motor mount covering every spot, then place again on the front of the fuselage making sure everything is flush and lined up correctly.



Notice above the plate glued onto the side of the fuselage. This can be used to mount the electronic speed controller on the other side of the fuselage. The two cutouts on the top and bottom of the plate is where the provided velcro strap will slide through.



Shown above is the ESC mounted using the velcro strap and a supplied zip tie is used to tie the ESC wires together.



The center of gravity and battery placement will depend on equipment used and personal flying preferences. The long piece of velcro mounted above is the location of the battery for this setup. To save space on the other side of the fuselage, the battery connector is put through to the opposite side of the ESC and receiver.



Shown above is the motor mounted to the provided motor mount.



If desired, locate the side force generators that will be glued into the counterbalances of the ailerons. *Some airframes may require the SFGs to be glued into different locations along the wing.*



Shown above are the pieces included for the stand assembly.



Here is the stand fully assembled.

Message from Jase

Dear JTA Innovations customer,

The appreciation of you to express interest in our product is highly valued. The foundation of this business was created on passion for the hobby and is inspired by those who have helped me experience it since I was a small child. I have been blessed to meet several genuinely kind people in this hobby and I am using this business to contribute my part to the cause of model aviation. We hope that this purchase is a success for you and that it brings the type of joy to you that only model aviation provides. Please do not hesitate to contact us regarding any type of question or concern. We are anxiously awaiting your feedback on this product and I hope I will get the pleasure of meeting you in person if I have not yet already. Once again, thank you!

God bless,

Jase Dussia - Owner/Founder JTA Innovations, LLC