



Superlite Indoor Series

13g - 18g motor / 30 - 50 watts
 6 - 10 amp ESC
 4 channel radio
 2x 4g - 6g servos
 1x 8g - 11g servo
 7in - 8in prop

USA Distributor

Twisted Hobbys
www.twistedhobbys.com

YAK
 Wingspan = 32"
 Length = 31"
 A UW= 126g - 135g

INFERNO
 Wingspan = 34"
 Length = 35"
 A UW= 126g - 135g

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TWISTED HOBBYS

Website: www.twistedhobbys.com – email: sales@twistedhobbys.com

Thank you for your purchasing a Twisted Hobbys' model. Please read through the entire manual before beginning to build this model. If you have any questions please contact us at the above indicated email address.

WARNING INFORMATION

This R/C Aircraft is not a toy! Read and understand the entire manual before assembly. If misused, it can cause serious bodily harm and property damage. Fly only in open areas, and AMA (*Academy of Model Aeronautics*) approved flying sites. Do not overlook the warnings and instructions enclosed or those provided by other manufacturers' products. If you are not an experienced pilot and airplane modeler you must use the help of an experienced pilot or an authorized flight instructor for the building and flying of this model aircraft.

These instructions are suggestions only on how to assemble this model. There are other ways and methods to do so. Twisted Hobbys has no control over the final assembly, the materials and accessories used when assembling this kit, or the manner in which the assembled model, installed radio gear and electronic parts are used and maintained. Thus, no liability is assumed or accepted for any damage resulting from the use of the assembled model aircraft or from this instruction manual including but not limited to direct, indirect, incidental, special, and consequential damages. By the act of using this user-assembled product, the user accepts all resulting liability. In no event shall Twisted Hobbys' liability exceed the original purchase price of the kit.

SHIPPING DAMAGE

Twisted Hobbys checks each plane before shipping to ensure that each kit is in fine condition. We have no bearing on the condition of any component parts damaged by use, modification, or assembly of the model. Inspect the components of this kit upon receipt. If you find any parts damaged or missing, contact Twisted Hobbys immediately. We will not accept the return or replacement of parts on which assembly work has already begun. Twisted Hobbys reserves the right to change this warranty at anytime without notice.

OUR MISSION

To provide the best products and service to our customers at the lowest prices possible. We take great pride in our company, our commitment to customer service and in the products we sell. Our online store is designed to provide you with a safe and secure environment to browse our product catalog.

Thank you for shopping with Twisted Hobbys!

SAFETY NOTES

- ✓ Before assembling and flying this model, read carefully any instructions and warnings of other manufacturers for all the products you installed or used on your model, especially radio equipment and power source.
- ✓ Check thoroughly before every flight that the airplanes' components are in good shape and functioning properly. If you find a fault do not fly the model until you have corrected the problem.
- ✓ Radio interference caused by unknown sources can occur at any time without notice. In such a case, your model will be uncontrollable and completely unpredictable. Make sure to perform a range check before every flight. If you detect a control problem or interference during a flight, immediately land the model to prevent a potential accident.
- ✓ Youngsters should only be allowed to assemble and fly these models under the instruction and supervision of an experienced adult.
- ✓ Do not operate this model in a confined area.
- ✓ Do not stand in line with, or in front of a spinning propeller and never touch it with any object.

IMPORTANT: PRIOR TO ANY ASSEMBLY

Please Note: after removing kit from shipping box, lay each piece flat on a hard surface, this will allow the airframe to straighten out if lightly bent from shipping. Do not worry since EPP is very pliable and can be bent back if out of shape.

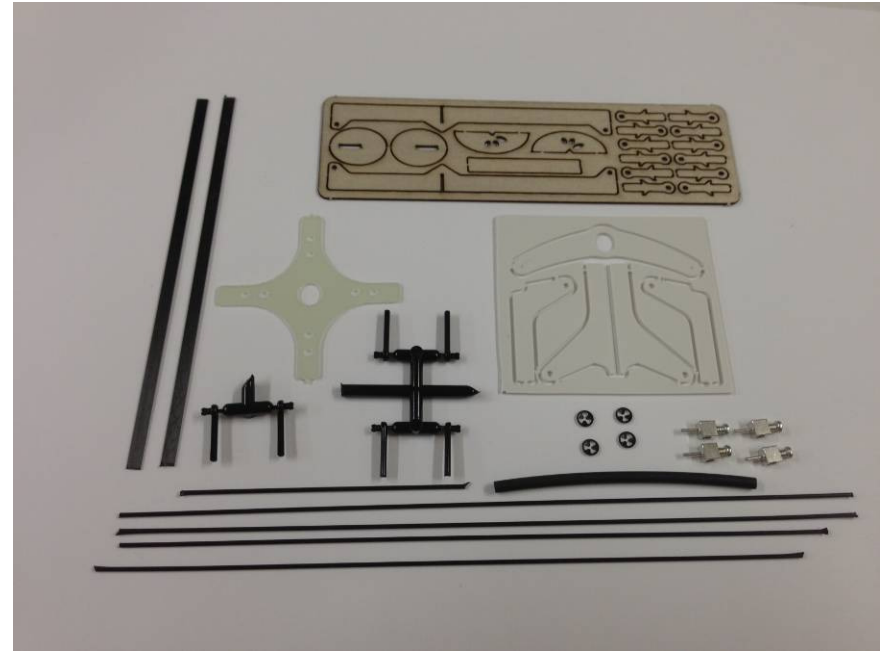
KIT CONTENTS

PARTS LIST



AIRFRAME COMPONENTS

- | | |
|--------------------------|-------------------------------|
| 1x Wing (2pcs) | 2x 1mm x 500mm Round |
| 1x Top Fuse | (elev. & rudder control rods) |
| 1x Bottom Fuse | 4x 0.75mm x 225mm Round |
| 1x Rudder | (aileron stiffeners) |
| 1x Elevator | 4x 1mm x 200mm Round |
| 1x Canopy | (wing-fuse stiffeners) |
| 2x Wheel/Pant | 2x 1mm x 3mm x 198mm Rec |
| 1x Wing SFG Kit | (landing gear struts) |
| 2x Fuse Truss | 1x 0.5mm x 4 x 667mm Rec |
| 1x Horizontal Fuse | (wing spar) |
| 1x Hardware - see detail | |



DETAIL - HARDWARE PACK

- 2x 1mm Dia x 150mm Round (Aileron Control Rod)
- 1x 1mm Dia x 50mm Round
- 1x 1mm Dia x 60mm Round (Tail Skid)
- 2x 0.5mm x 3mm x 100mm Rectangle (Tail Stiffeners)
- 1x Fiberglass Motor Mount
- 1x Plastic Kit
- 1x Wood Horn Kit
- 6x Snap Link Ends
- 4x Quick Links with Screws and Keeper Rings
- 1x Heat Shrink Tube for Z-Bends (approx 65mm long)

OPTIONAL PARTS



Crack Power Combo

(Recommended by Twisted Hobbys)

- (1) Crack Series 14g - 19g Motor
- (1) Crack Series 6A ESC
- (2) CS-40D Digital Micro Servos
- (1) CS-70D Digital Micro Servo
- (1) 7 x 3.5 GWS DD Prop



Specifications

6 Channel / DSM2 / 2.4GHZ
 25mm X 19mm X 11mm
 Weight: 3.0g / Input: 3.5–9.6V
 Bind plug included



CA and Kicker

Various thickness CA glues
 and
 Activator available from
 Twisted Hobbys'



Blenderm tape is one of the best know tapes used for hinging and repairing your Depron or Epp models. Each roll consists of 1/2" wide x 4m in length



Perfect choice for building and repairing your Twisted Hobbys EPP planes! This is the only adhesive you will ever need. Welder virtually bonds anything to anything! Clear, heavy-duty, flexible and water-proof when dry. Use indoors or out. (1) 1 oz tube

Note: many of these "optional parts" shown or similar items, may be available from the Twisted Hobbys' web store.

TOOLS & ADHESIVES NEEDED



Tools shown and listed are suggestions only. Depending on your building technique you may not need everything indicated – and/or – you may find that other tools available to yourself may be of benefit to your Build.

It is also recommended that you have a flat building surface, one that will accept stick pins and push pins. An Acroscopic Ceiling panel from your local hardware store fits this bill nicely, and will lay flat on your work table. Over size / long push pins are available at your local craft store. These two items are by no means required, but will aid in the building process, and can be used for future projects.

- **Lighter**
- **Small drill bits**
- **Tape Measure and Ruler**
- **Black Sewing Thread**
- **Welders Glue**
- **Hobby Knife w/new Blade**
- **Needle Nose Pliers**
- **Wire Cutters**
- **Low Temp Hot Glue Gun**
- **Course Sand Paper**
- **Scissors**
- **Small Phillips Screw Driver**
- **Thin & Medium CA**
- **CA Applicator Tips**
- **Activator**

THE BUILD

CONSTRUCTION METHODS:

Building surface should be at least 2ft x 4ft and flat. Weights or some small heavy objects will be handy for holding things in place during the time glue is setting.

Welders glue is the primary adhesive used for this build. The Rod Guides and End Links use thin CA with Applicator and Activator. **When using the Welders glue for a butt joint, apply a thin film to each surface, allow to sit for approx five minutes and then assemble.** Note that this method will create a nearly instant bond, so locate carefully when bringing the two pieces together. **If alignment is necessary** or a slip joint, do not allow the glue to tack up, simply apply and join immediately, you will have several minutes to locate the two parts before the glue sets up. In most cases the parts being glued can be handled with care in 30 minutes, full cure is approx 24 hours.



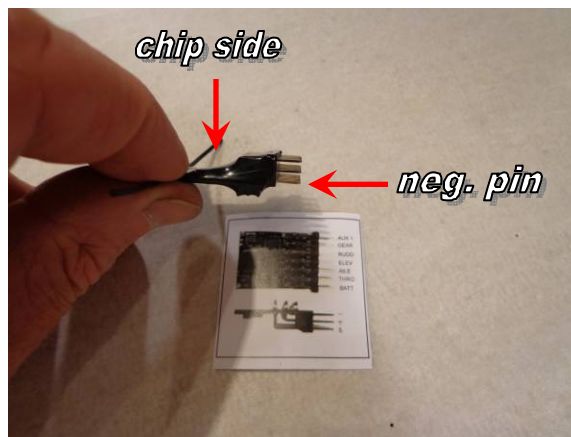
Open up your kit and inspect for damage and / or missing parts.
Use the Parts List on page 5 to verify that your kit is complete.



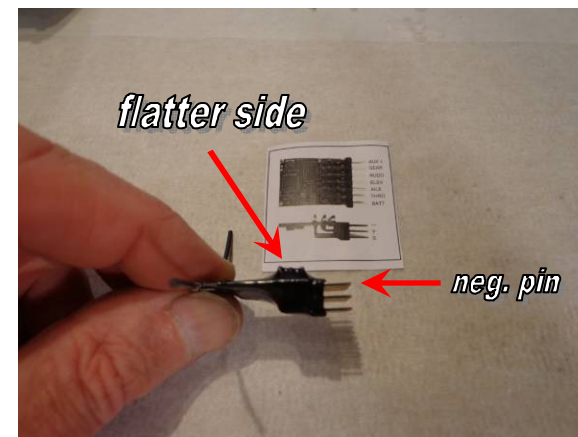
Do the same with the Power Set, confirm that you have all your items and that they appear to be in sound condition. Testing of functionality will be one of the first steps that will follow shortly.



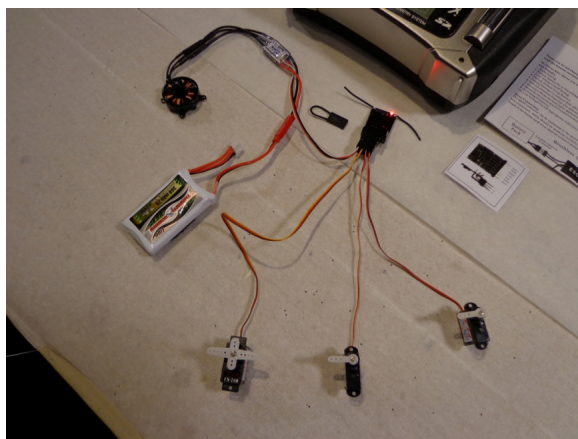
Make a new program in your Radio. Zero all the Trims and Subtrims. For starters all the ATVs can be set to 100%. Adjustment of additional settings will be done at the end of the build.



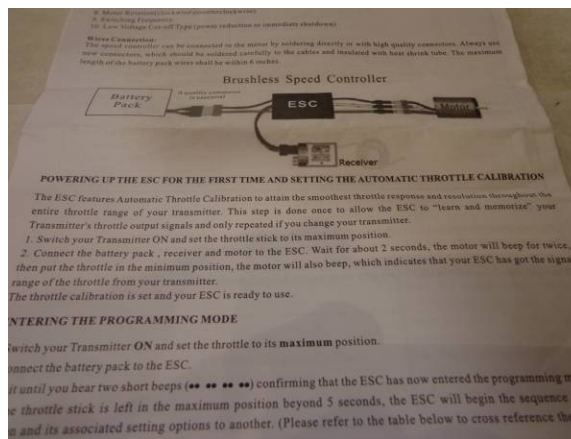
Identify the proper pins for the; Throttle, Aileron, Elevator and Rudder Channels. Carefully compare to the diagram to make sure you have the correct orientations.



Compare your Receiver to the included diagram from the side as shown above. Make a note of the polarity of the pins. In most cases, either Black or Brown is used to identify Negative (-).



Plug Motor wires into the ESC, the ESC into the Throttle Channel, and the servos to their appropriate channel. Bind per your Radio's Instructions.



Program the Throttle End Points per the ESC Instructions and next couple steps....



turn on your radio and move the throttle stick to "full throttle" position...



.... reconnect the battery to the ESC and listen for two quick short beeps, immediately following the beeps, move the Throttle stick to low position.

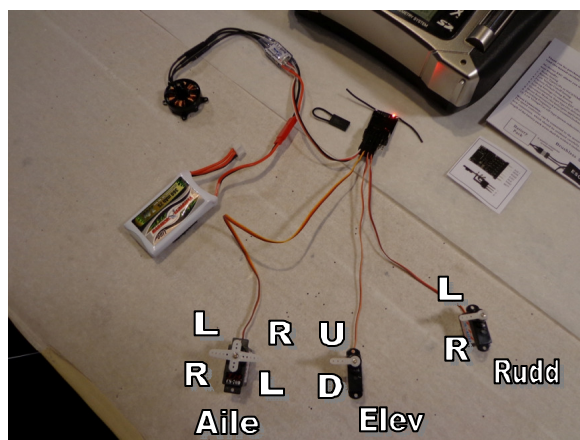
Next you should hear a series of tones to indicate that programming is complete.

Re-bind the system and double check correct operation of all components.

Center all servos as close to 90 deg as possible. Install the Longest single arms on the servos.



Fold all the hinged parts over onto themselves and let sit for approx ten minutes



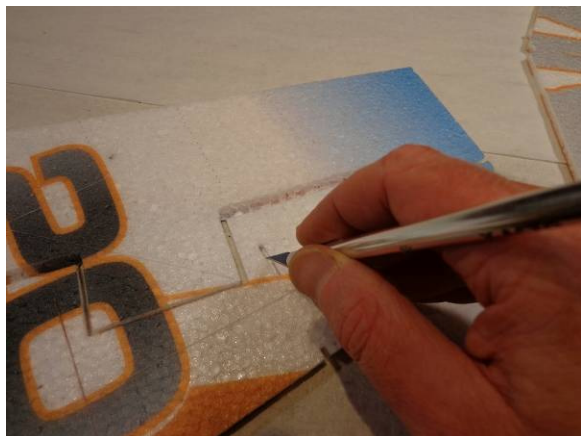
Program your radio so that the channels & directions match the picture above. Installed horns as shown, dbl check that subtrims - arms should be at 90 deg



Mark the Servos with their channel and install the horn screws



Locate and position the four pieces shown above



Remove the webs from the areas where the Side force generators will install



Apply a medium bead of Welders to one of the pieces of each joint



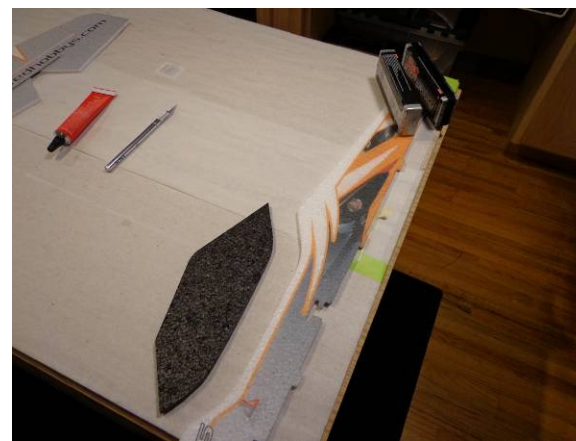
Join and separate each joint a couple times to evenly distribute the glue onto both surfaces, set aside to tack up



While this is tacking up, do the same with the canopy and fuselage. Also locate the short carbon strips and test fit them into their slots.



It may be that the slots need to be made a little deeper for a flush fit. Apply some glue into the slot and install the strips. Weigh down flat and let dry



Set these aside for while the glue tacks up for the canopy joint



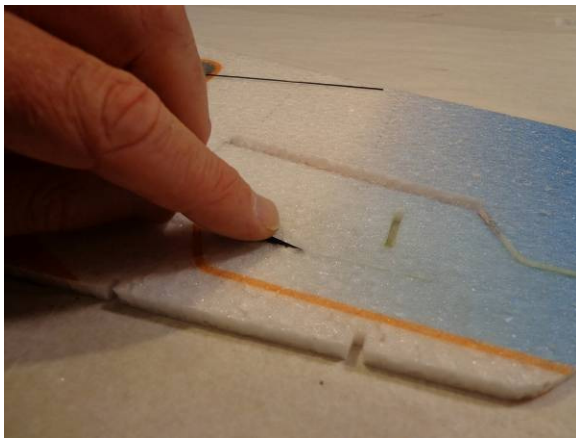
By now the glue for the fuselage horizontal fuselage sections should be tacked up. Carefully bring them together, the bond will be instant



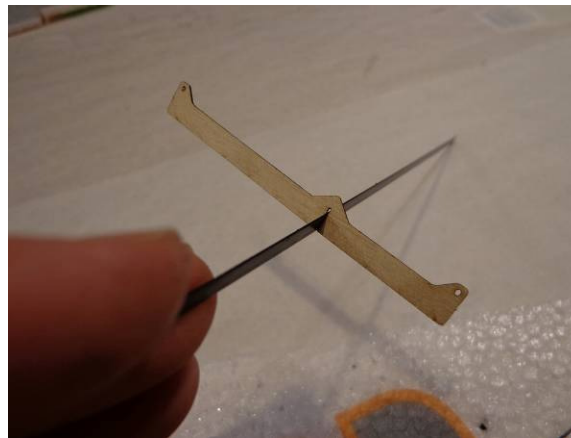
Next is the carbon inlays. Locate the longest strip, the four 225mm rounds and the wood kit



Find the pre-made slots and cuts for all the pieces. Notice how the wood rib is different from front to back



Check that the slot for the Wing Spar is deep enough, should sit flush. If not you can gently drag the end of the spar across the slit to increase the depth until deep enough



Make sure the slot in the rib allows for an easy fit of the spar. Enlarge if necessary with a hobby knife if necessary



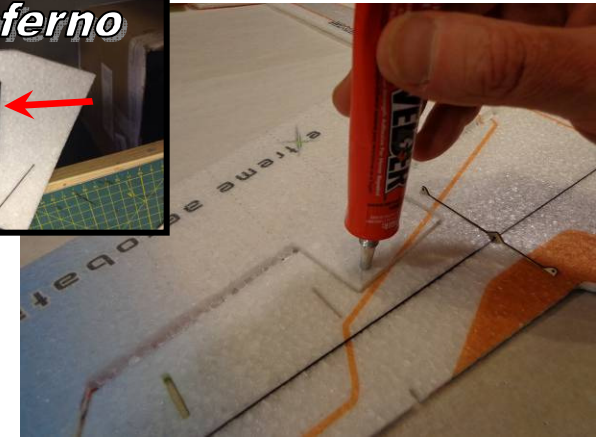
Test / Dry fit the rib and spar pieces, with the exception of the bumped areas, everything should be flush with the bottom of the wing.



Next test fit the "X" brace pieces into the slits of the aileron. Note, at the intersection point one will be a little deeper then flush



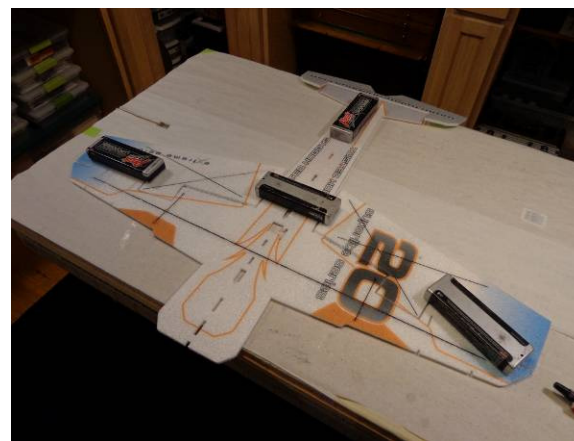
By now the Welder's should be tacked up on the Canopy. Carefully bring the two pieces together, lining up the front and rear points



Back to the wing... remove the pieces for the "X" brace, and with the tip of the Welder's tube as show, force a small amount of Welders into the slit.



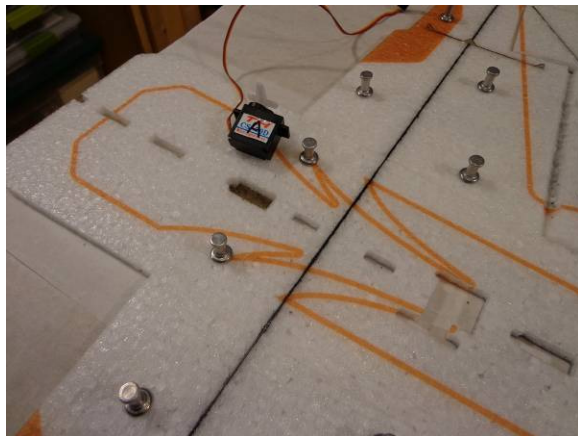
Lay the rod in, and press to flush, wipe away any extra glue that is forced out



Repeat this process for the other aileron and the wing spar/rib parts. Weigh down the assembly and allow to dry



Long Push pins could also be used if you building surface allows for it. Shown here is an acoustic ceiling tile on flat surface covered with Parchment paper



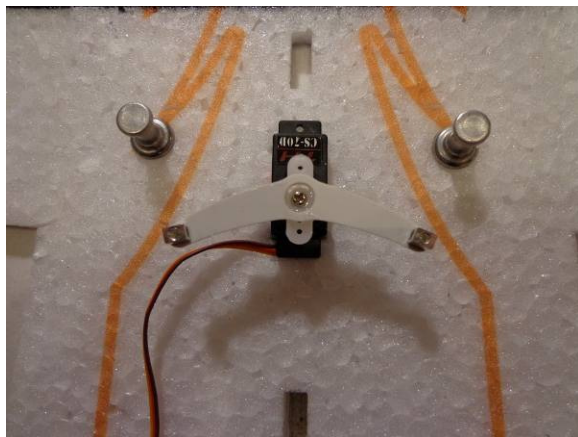
Test fit your aileron servo into the provided cut out. You may need to enlarge it slightly



If your building board allows for it, make a small pocket so that the servo will sit flush on it's ears, otherwise just hang this part over the edge of the table



Locate the Differential horn from the plastic kit and 2 sets of the quick links. Install the quick links into the holes and secure with the keepers



Once the quick links are installed apply a generous amount of Welders to the top surface of the servo arm and then attach the Diff Horn on top of, and centered as shown, allow to dry.



Locate the small half moon wood parts. Note that the notch in the wood will line up with the notch in the foam. Off center hole in the wood is to the rear of the plane



Glue the wood pieces to the fuselage using the tack up method, making sure the orientation and notches are correct and lined up



Once the glue is dry on the aileron differential horn, fit the lower fuselage section as shown



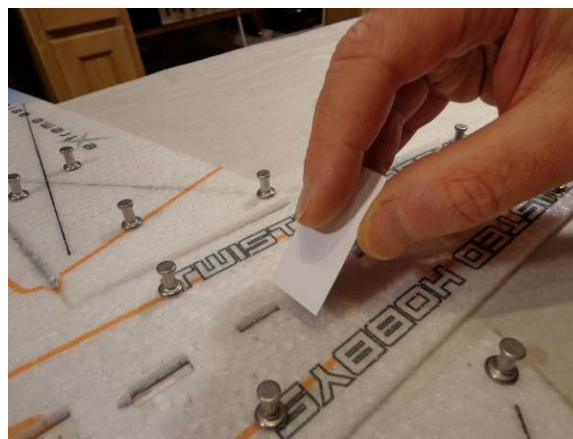
It may be necessary to slightly enlarge some areas to allow for a nice fit



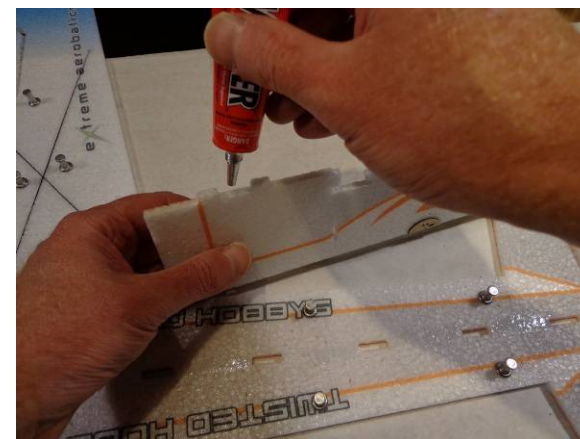
Do the same for the for the rudder servo. Make sure the cut is deep enough and notch to allow clearance for the servo wires



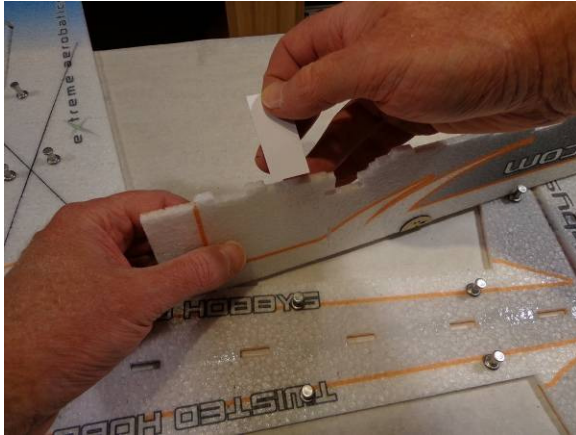
Apply a thin bead of Welders to the butt joint areas on the bottom of the horizontal fuselage sections. Note - no glue in the slots at this time



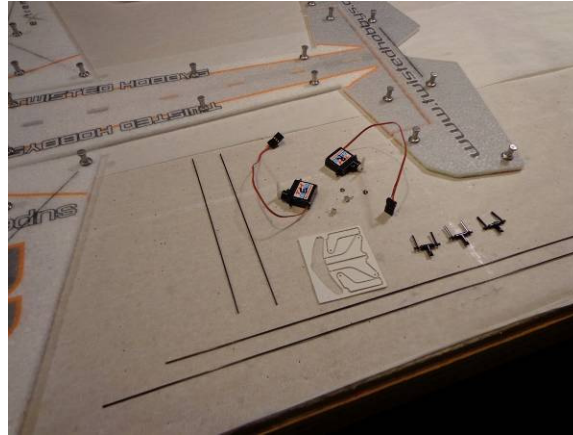
With a small piece of paper or thin cardboard, spread the bead out into a thin even layer



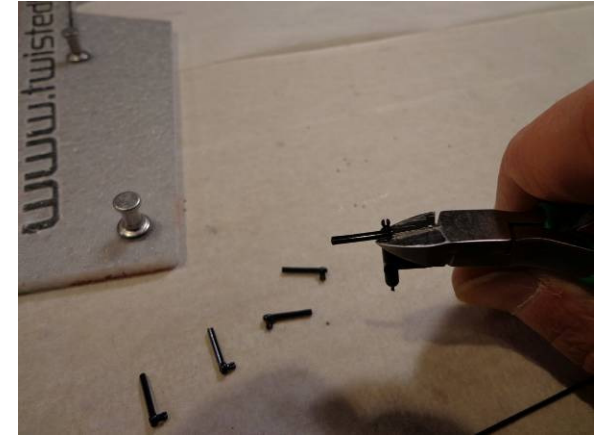
Apply glue in the same fashion to the butt joint area of the lower vertical fuselage section. Note - no glue on the tabs at this time



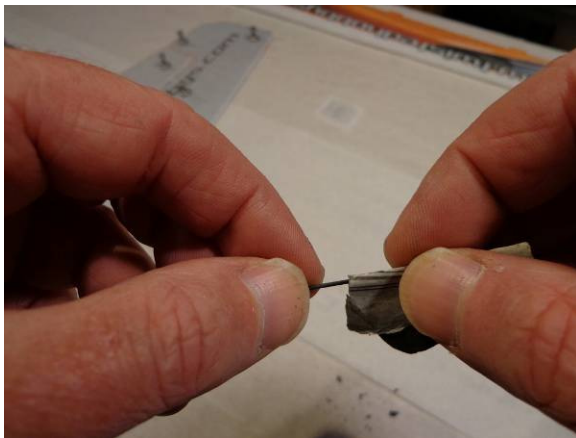
Spread the glue bead out as you did on the mating part, avoiding the tabs. Set aside and let both parts tack up



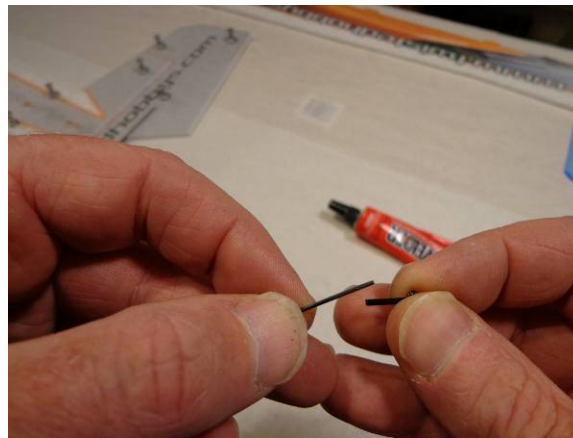
While those parts are tacking up, locate the ailerons control rods (150mm) and tail control rods (500mm) as well as the two tail servos, horns and snap links as shown above



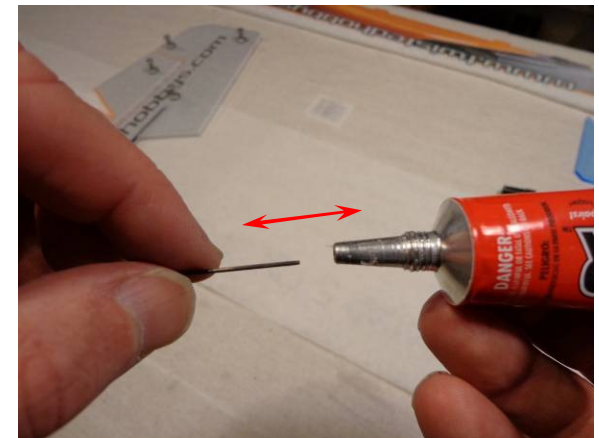
Start by clipping the snaps links from the molded tree. Use a small pair of flush cutters or hobby knife



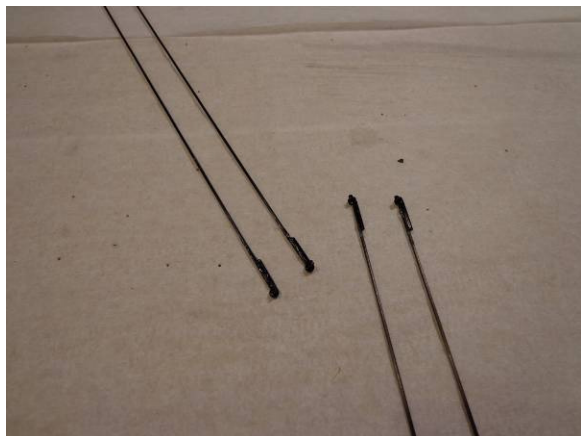
Dress up the end of the push rod that you will be gluing the snap link to. Make sure that the end is nice and round, not crushed out from the cutting process



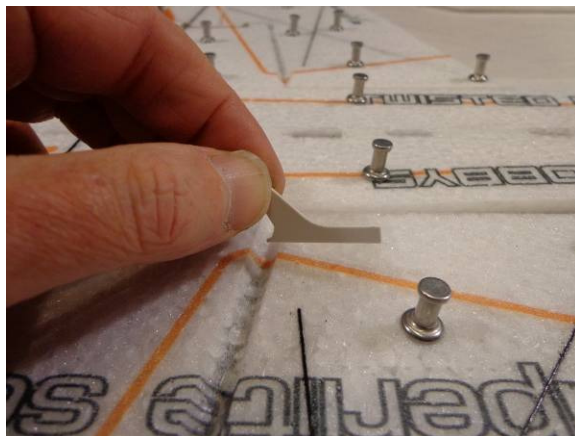
Check to verify a nice fit of the rod into the saddled area of the snap link



Take the finished end of the rod and poke it into the glue nozzle to coat with glue, it may be necessary to do this a time or two for an even coat of glue



Once there is an even coat of glue, attach it to the saddle area of the snap link and set aside to dry. Repeat with the other three control rods



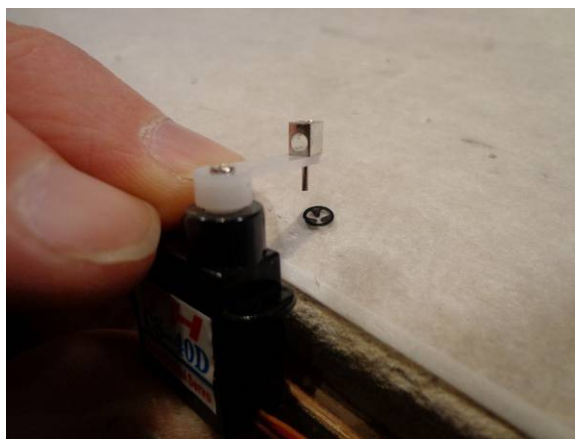
Test fit the aileron control horns. Make sure and use the one that is shown above and that the hole will be inline with the hinge/pivot point



Force some glue into the slit with the tip of the glue nozzle



Install the horn, making it flush with the bottom surface and making sure that the hole is directly above the hinge line. Wipe away any extra glue. Repeat for the other side



Install a quick link into the outer most hole of the longest single sided servo arm.



Press the keeper ring on, make sure the quick link can rotate freely. Repeat for the other tail servo



Back to the Fuselage pieces... add some glue to the tabs and slots



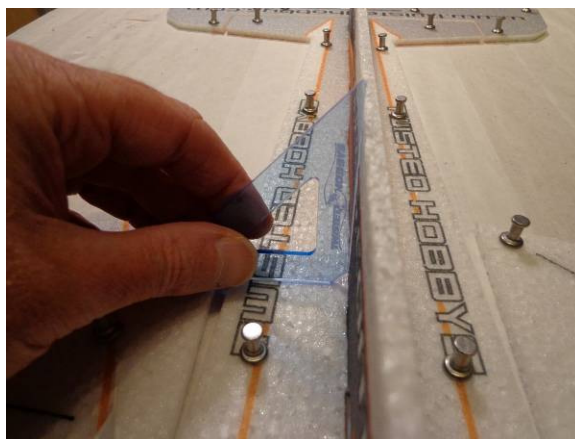
While the glue is still wet on the tabs and in the slots, join the two pieces together. Make sure the nose area is flush



Since part of the joint was tacked up, the bond here will be instant. Press the pieces together firmly and make sure there are no gaps



Wipe away any extra glue. Remember, for this airframe, the lighter the better, so remove any extra glue



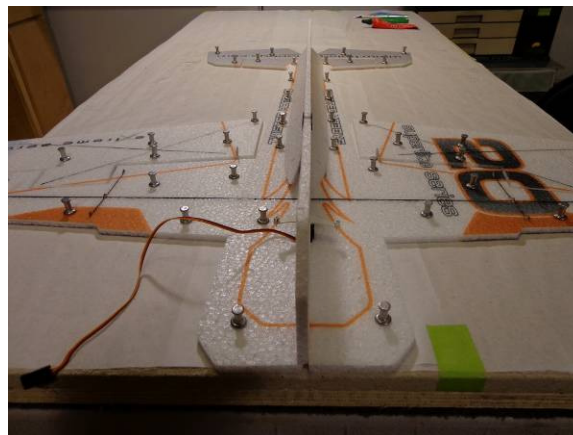
Make sure everything is square. It can still be tweaked a little from side to side if necessary



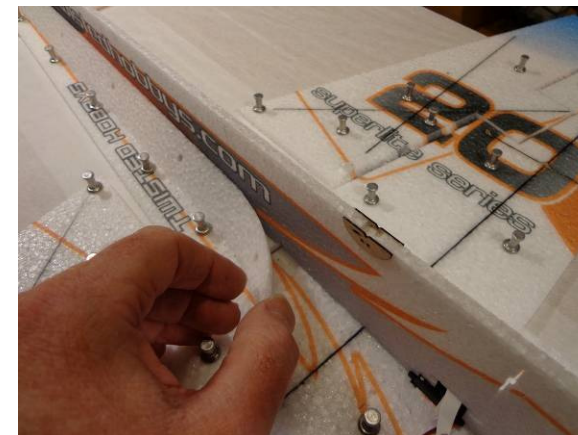
Next is the foam trusses. Start with the right underside truss, add a thin bead of Welders to the entire length of the beveled edges



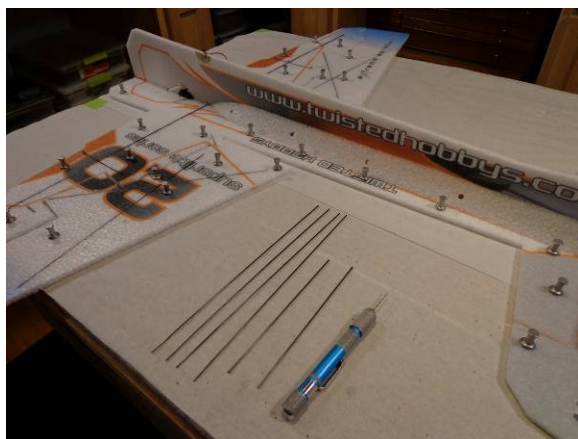
Install the right under side truss as shown... use stick pins if necessary to hold the truss in place while the glue dries



Repeat for the Left under side truss, but do not put glue all the way to the pointed end, see next picture



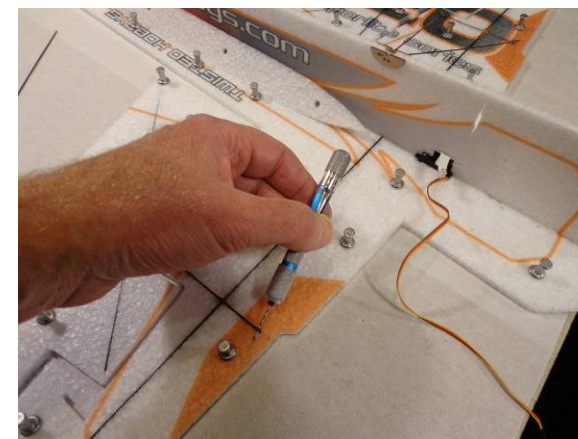
Leaving this area free of glue will allow you to tuck all the radio wires away and out of site later in the build



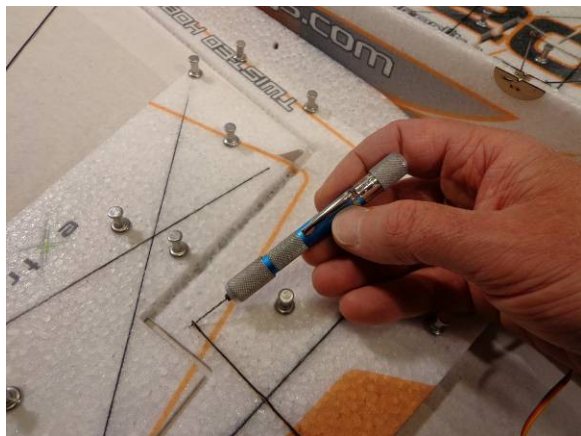
Bottom Carbon Trussing is next. Find the four 200mm rods and the two 165mm rods. A .040" dia drill and pin vise will come in real handy. Read the next couple steps before proceeding



Dress up both ends of all the rods so that they are sharply pointed



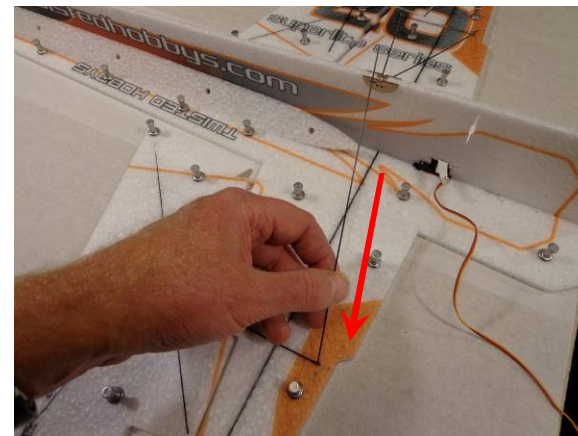
With the drill, chase the holes in the wing rib as shown, using the approx angle that the rod will be installed in for best results and fit



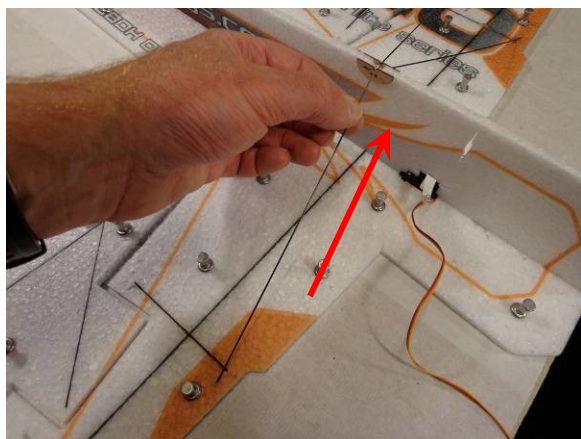
Repeat for the other wing rig hole



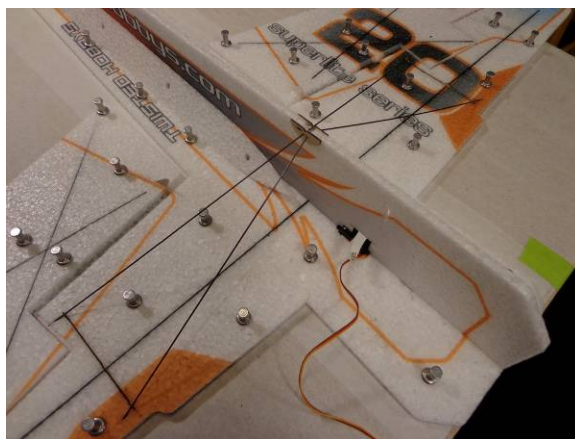
Do the same for the mating holes on the doubler on the fuselage



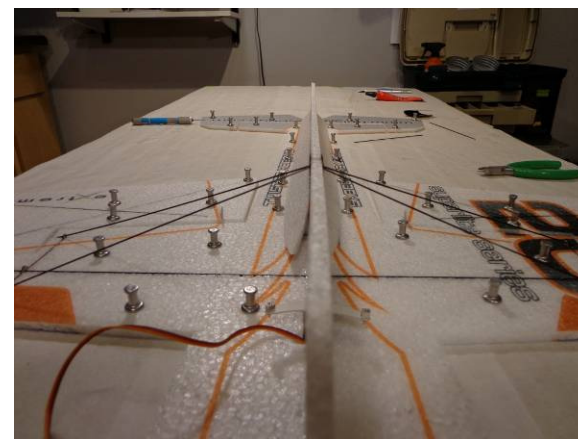
Stick the carbon rod thru the hole in the rib, and while holding at the right angle, twist and poke that end into the foam far enough to clear the fuse hole



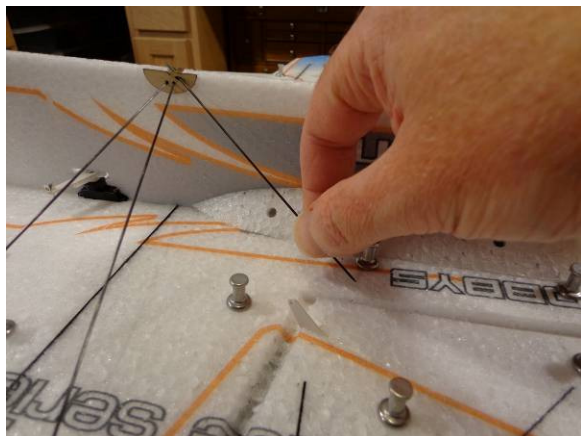
Once far enough in, line the other end up with the mating hole in the fuse double, then back out slightly so that the fuse end is engaged about half the foam thickness



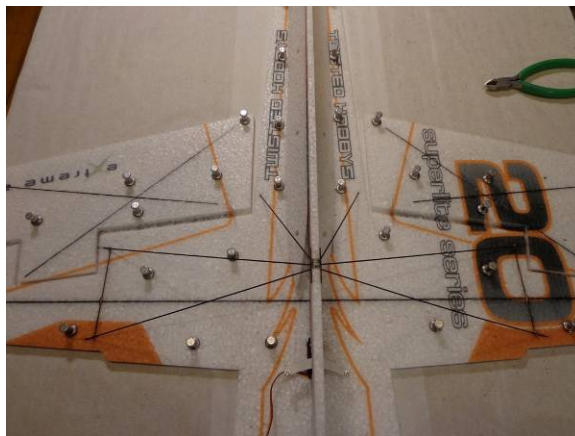
Repeat for the other three long pieces.
Note - no glue yet at this point.



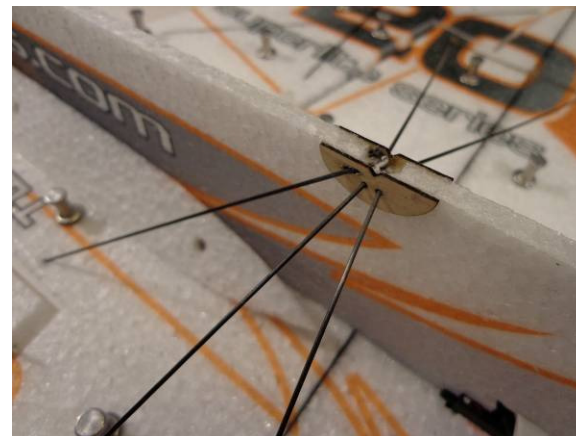
Sight down the fuselage, and adjust for squareness if needed



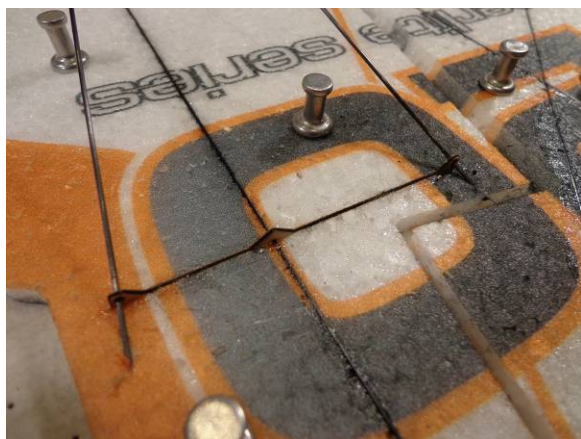
Repeat with the rod that angles backwards. Make sure there is enough clearance in the doubler hole so that it can be installed freely.....



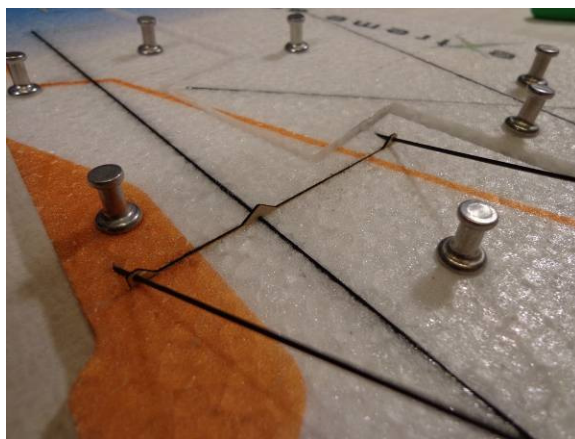
.... stick it thru the about $\frac{3}{16}$ " extra, then prick the other end into the foam and feed back into the horz fuse section approx $\frac{3}{16}$ ". Repeat for the other side



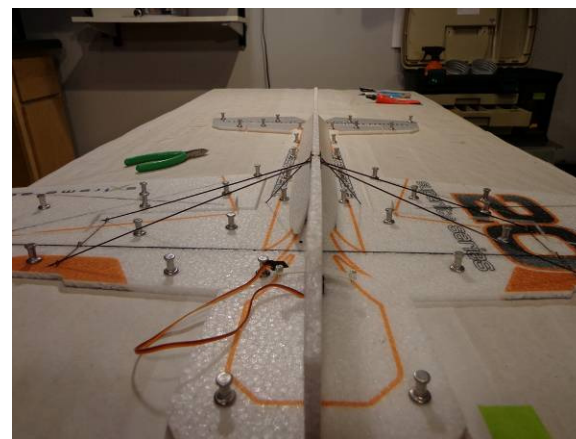
Look every thing over, make sure that there is about $\frac{1}{8}$ " or so sticking thru the doubler in the fuselage, and that other ends have good bite in the foam



Close up, notice how the rods are sticking thru the rib and into the foam. Still no glue at this time



Close up of the other side



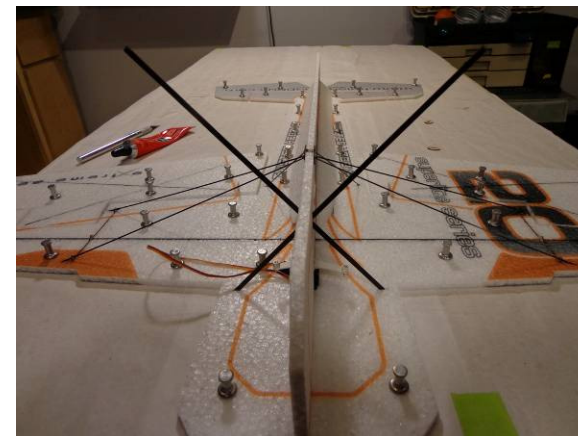
Double check that everything is still square and that all the rod ends are engaged as they should be



Now.. time for glue, back each end in and out a little so that the glue can work it's way in and around the rib and doubler on the other side. Repeat for all ends and double check squareness



Landing Gear - Locate the two 200mm strips and the wood pieces shown above



Dry fit everything as shown, make sure there is clearance for the aileron differential horn



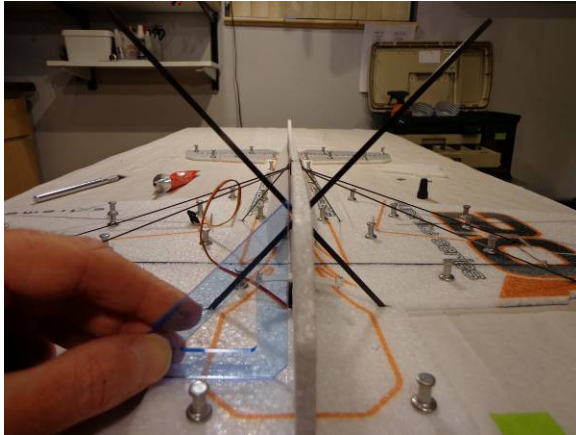
The wood doubler is in the middle, with one strut in the front and one in back



Remove the items once satisfied with the fit. Put a little Welders in the thinner, top and bottom, area of the slot...



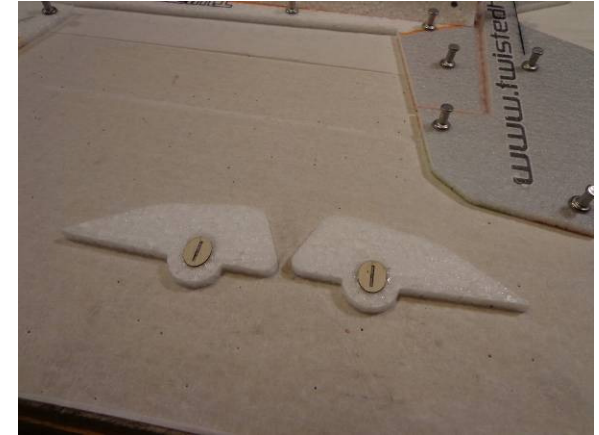
Re-install the wood doubler and gear struts, force glue into the area. Make sure the one end of the strut goes into the slot on the underside of the fuselage with some Welders.



Make sure that the struts are intersecting the fuselage symmetrically and that the horz fuse section is still square. Wipe away any extra glue



Wheels/Pants are next, cut the foam apart, and make sure the slit in the wood pieces is wide enough to clear the landing gear struts



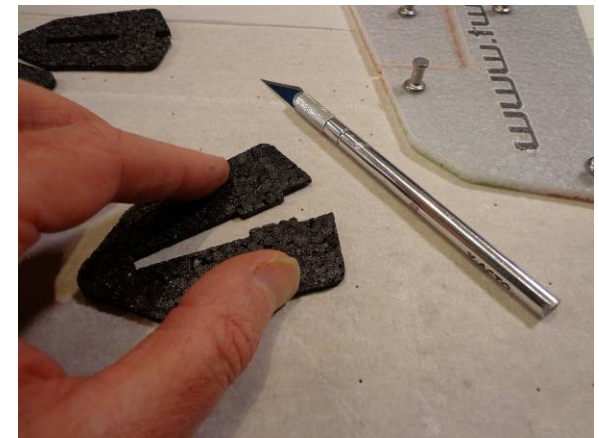
Glue the wood pieces on as shown. Wet or tack up method can be used, if time is critical, use the tack method



While the glue dries on the Wheel/Pants, prepare the Side Force Generators



Slit the one end approx in the location shown above. There are little "v" marks to help get it split right in the middle



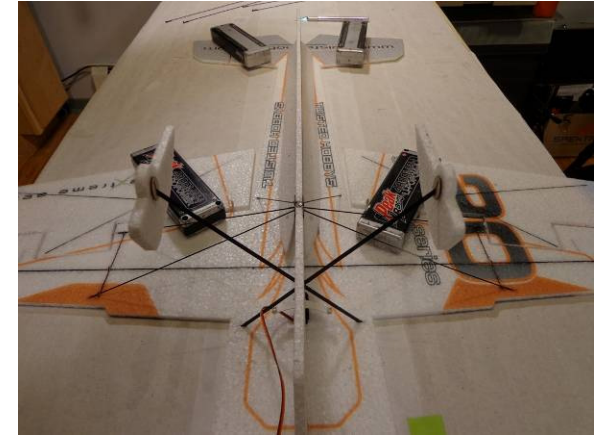
Ready for installation later in the build, repeat for the other three



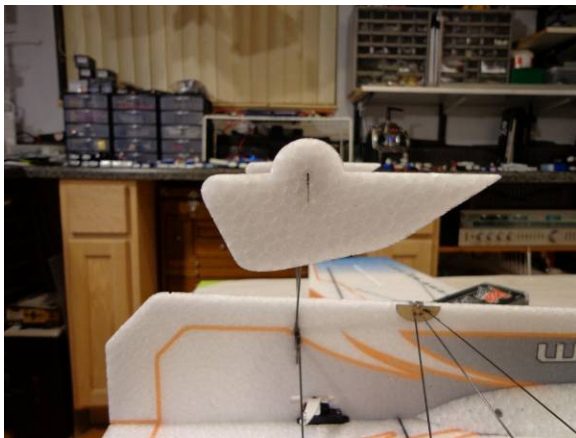
Once the glue has dried, slit all the way thru in the area defined by the slot in the wood doubler



Test fit onto the end of the landing gear strut. Note, the strut should not stick out beyond the far side



When both are installed the should be perpendicular to the work surface and parallel to each other in the direction of flight



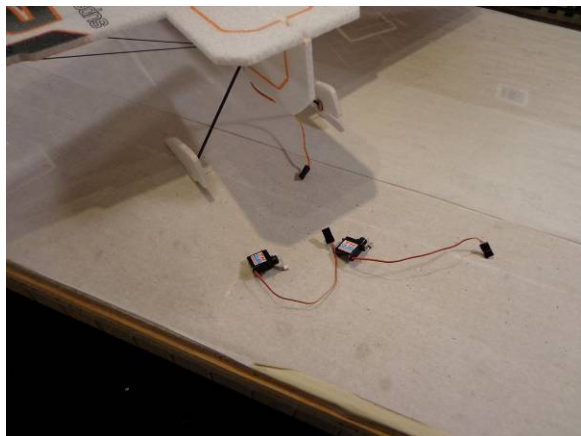
In this view, the bottoms of the wheel pant should be parallel with the work surface, and each other.



Once satisfied with the dry fit, remove the wheel/pants and force some glue into the slit with the tip of the tube



Re-install and adjust accordingly in all directions as was done on the dry fit. Let all this dry over night



Once all the carbon bracing and landing gear pieces have had time to dry, remove the assembly from the bench and flip over onto its wheels



Stick the servos into their appropriate holes. Note the elevator servo is laying down with horn sticking up and rudder servo as shown with arm to the left



Test fit the top half of the fuselage.



Check to make sure that the firewall surfaces are all flat and square to the direction of flight



Apply a thin bead of Welders to the butt joint area as you did on the bottom side and spread to a thin layer. Allow to tack up



Same for the vert fuse section, thin bead of Welders on the butt joint surfaces, spread thin and allowed to tack up. Note no glue in the tabs and slots at this time



Once the butt joint areas are tacked, add wet glue to the slots in the fuse assembly...



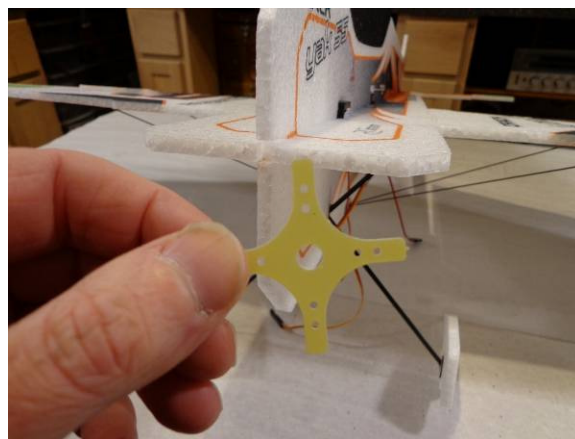
... and to the tabs on the vert fuse section...



... carefully bring the two pieces together. The bond will be instant, so make sure you have good alignment



Prepare the Rudder. Apply a skim coat of Welders to both surfaces and allow to tack up



While waiting for the rudder to tack up, locate the motor mount



Rough up the glue side with a file or rough sandpaper



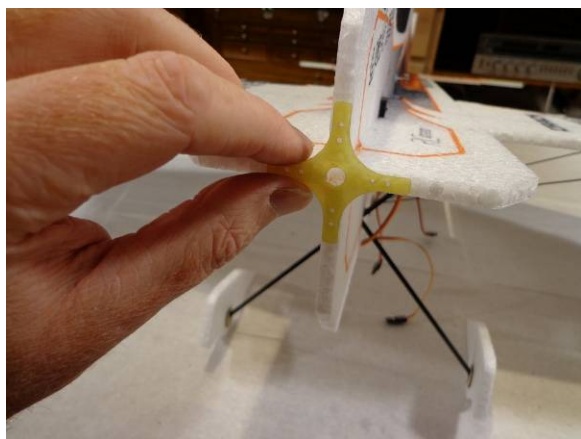
Apply a coat of Welders to the roughed up side of the motor mount...



... and to the mating surface on the front of the aircraft. Let the glue tack up



While in this area, add small fillet (about an inch long) of Welders in the areas where the two fuse sections come together, all four corners



Once the glue is tacked up on the motor mount, attach it to the nose of the airframe



Glue joint for the rudder should be tacked up by now as well. Align the top edge of the fin with the slit cut on the rudder



Locate the 60mm long carbon rod, dress up one end to a point and insert into the rear of the plane, approx where shown. Leave enough hanging out to keep the rudder off the ground



Tail skid installed



Next up is the control horns for the tail and the control rod guides



Test fit the horn into the slot, it may need to be cut thru with a hobby knife. Hole in the horn should be directly above the hinge line. Picture shows the horn but not full seated yet



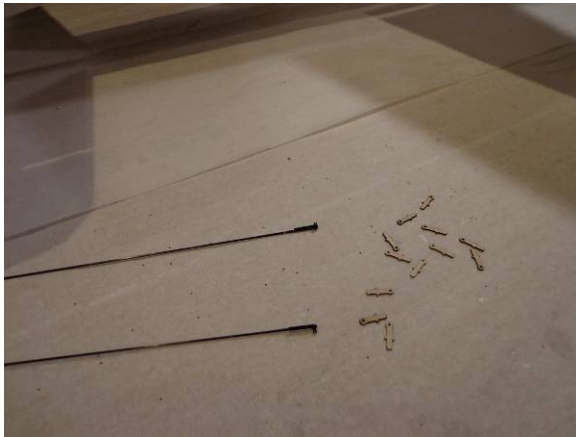
Once the horn is completely flush on the top side the profile of the horn should match the profile of the hinge cut out area



When happy with the fit, remove the horn and squeeze some glue into the slit, re-install the horn, check alignment and wipe away any extra glue



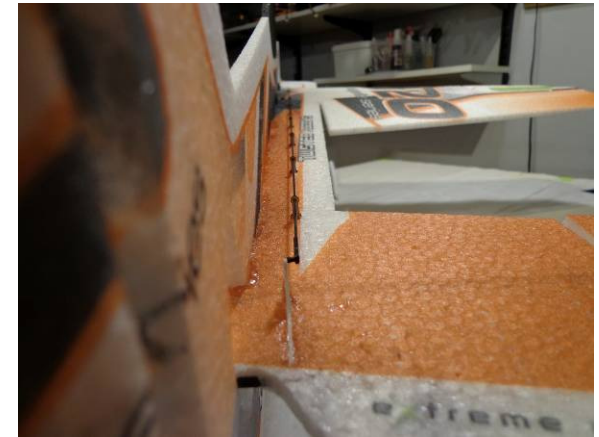
Repeat with the Rudder



Find the two longest control rods and the twelve guides. Slide six guides onto each rod



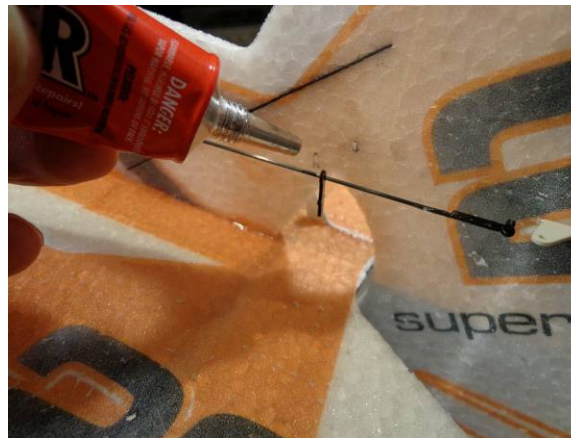
Poke the ends of the guides into the provided holes, you may need to hold the fuse up to a light to see the holes



Adjust them so that they are all lined up nice and straight



Do the same for the rudder side



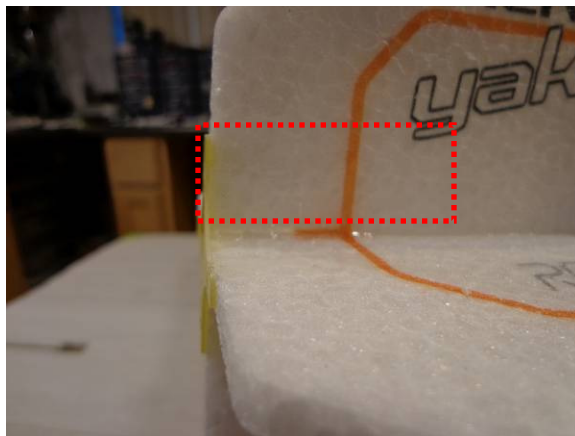
Once happy with the location of the guides apply a little Welders to the hole and base of the guide. Thin CA could also be used here, just make sure that the CA runs away for the carbon rod



Blender Mod (optional) - cut ten pieces one inch long, these will be installed in the areas indicated, and the top and bottom of the rudder hinge line.



Lay down a tiny bead of Welders about one inch long in each of the spots, and spread thin with a piece of paper or thin cardboard



Do the same on the eight different surfaces directly behind the motor mount



Once the Welders has tacked up lay the Blendern pieces on top of the glue spot and press together



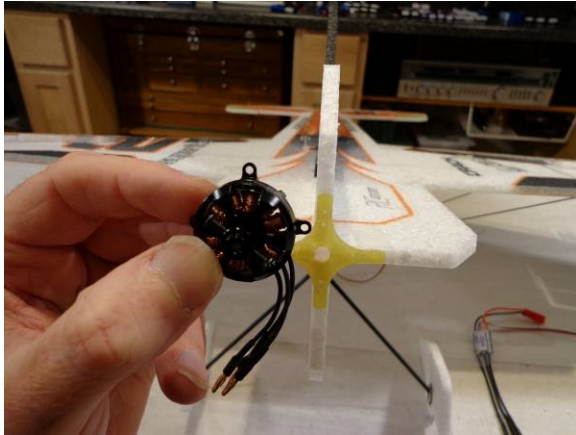
Once the Blendern is stuck down, it is barely visible, but adds lots of strength to the area used.



On the motor mount, the long pieces will fold back on to each surface directly behind the mount, stick down all the edges completely



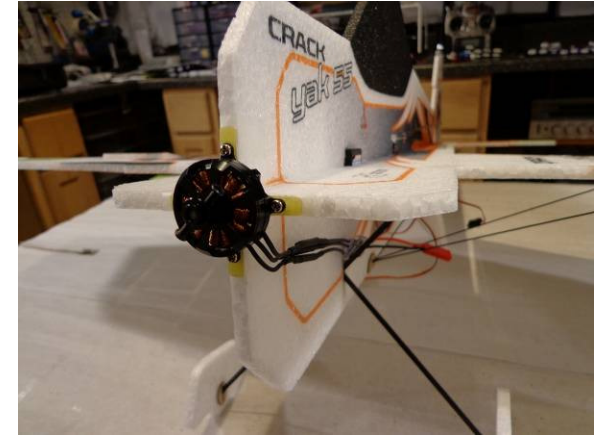
Install the Snap links into the appropriate control horns, this is easily done by lining up the link with the hole in the horn, and gently squeezing with your finger tips, you will here it snap



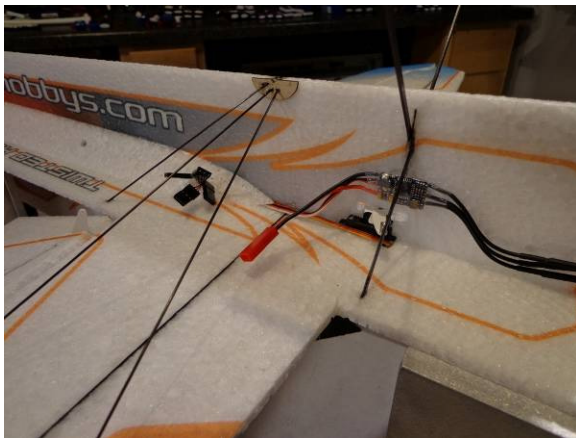
Grab your motor of choice and decide what side you want the wires to be on



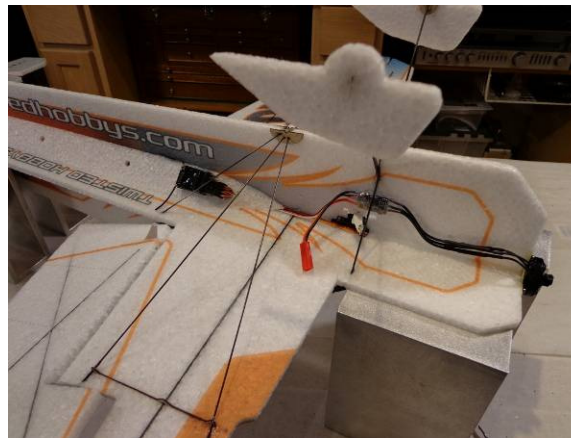
Locate the screw that were included in your motor hardware packet



Mount the motor. Use care when installing the screws, support the motor mount with your fingers so that all the twisting will not damage the glue joint



Install the ESC approx where shown, run all your wires underneath the open end of the foam truss, then glue down the opening



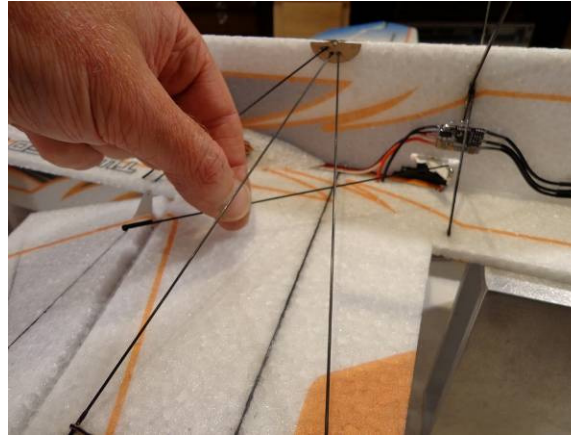
Plug all the servos and ESC into the receiver, attach with a drop of low temp hot glue. Servos should be secured at this time as well with a couple small beads of low temp hot glue



Close up of the receiver wiring and location



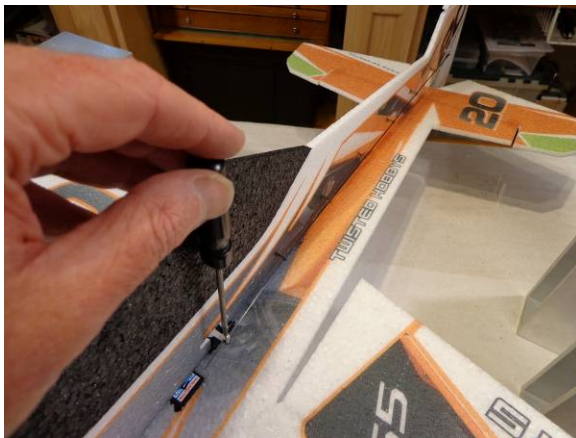
Route the ESC/Battery lead to the general area where you will mount the battery



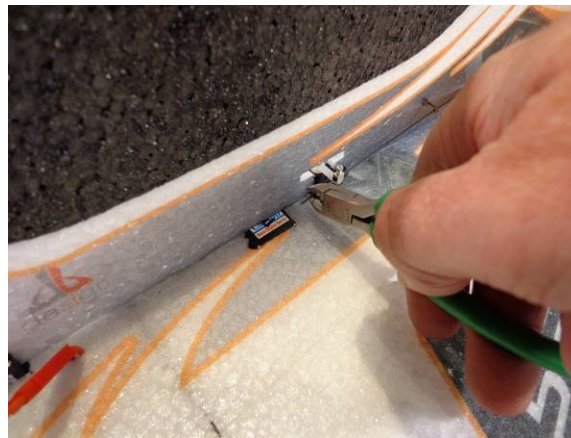
Now that all the work is done in this area, install the aileron push rods.



Find the four tiny screws that are used to lock the rods to the quick links



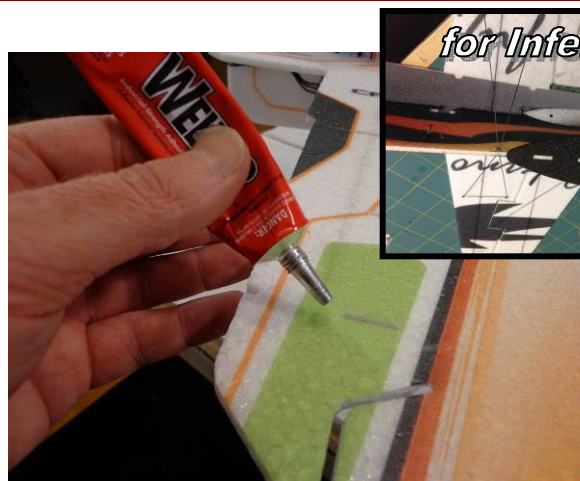
Turn on your radio with the SuperLite program, plug in a battery, double check that all servos are centered. Hold the control surface neutral and GENTLY TIGHTEN the set screw



Clip off any extra rod. Leave about 1/4" stick out. Repeat the process for the elevator and ailerons. Again, be gentle with the tighten of the set screws, it is easy to crush the rod if not careful



Side Force Generators will be installed next....



Lay down a small bead of Welders in the contact area and in the slots



Spread the SFG, being careful to not make a mess out of the glue bead



Bring the open together into the slotted area and hold in place for a minute or two until the glue is holding on its own



Repeat for the other three SFG's. Make sure they are square and stuck down good



Install a small piece of Velcro somewhere between the aileron servo and firewall. Once the battery location has been determined after flying, a hole can be cut to hole the battery

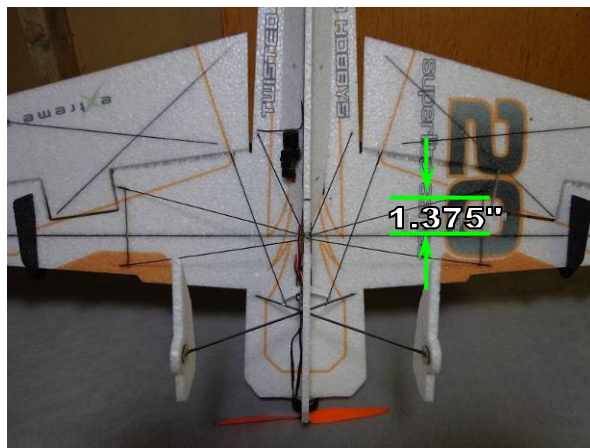


Balance the prop. Set max control throws to 60 degrees on the Elevator, Rudder and Ailerons, Expo 60% on all. Adjust from there to taste after flying

CENTER OF GRAVITY



for YAK



Locate all the electronic to achieve indicated CG point. Use Velcro for initial flights for battery mounting and experiment with it's position until you have determined the best spot for your flying style. For best 3D performance a slight touch of down elevator may be needed for inverted flight, and power off down line should be straight down without any pull or tuck

EXTREME & 3D SET UP PRECAUTIONS

In order to achieve the control throws as suggested above described for "Extreme & 3D", it is imperative that the control surface, linkages, rod ends, etc, all move freely over the entire range, including range end points.

Failure to do so will result in damage to either the servos or mechanical components

CONTROL THROWS

Extreme & 3D:

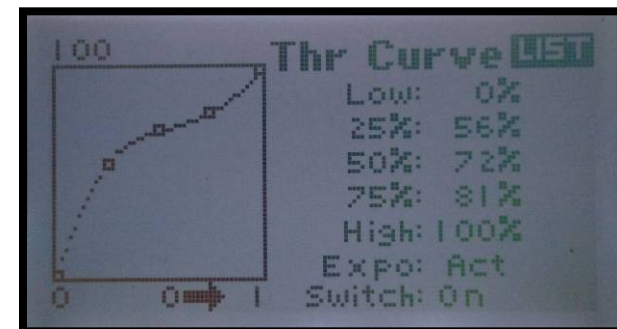
Ailerons - approx +/- 60 deg
Rudder - approx +/- 60 deg
Elevator - approx +/- 60 deg
Expo to suit

Beginner & Sport:

Ailerons - approx +/- 30 deg
Rudder - approx +/- 40 deg
Elevator - approx +/- 40 deg
Expo to suit

THROTTLE CURVE

Throttle Curve can be set-up as pictured below. Move the 50% point so that hover is at mid-stick on your transmitter and flatten out the 25% and 75% points to smooth out throttle response at Hover



PRE-FLIGHT & TESTING

Preflight Checks

Motor: Should run smoothly at all stick positions, and transition smoothly from low to high RPM. If the motor is turning backwards, reverse two of the three wires between the motor and ESC. Check that the screws holding the motor to the airframe are tight and secure.

Flight Controls: Set all to neutral or level positions with sticks in the neutral positions. Ensure that all controls and linkages move freely. Double check that all hinged areas are free from rips or tears. Verify proper control surface directions. Right Roll is – right aileron up, left aileron down, Left Roll is left aileron up and right aileron down.

Batteries: Should be fully charged prior to each flight. Watch transmitter battery level and follow manufactures recommendations. Motor battery should not be drained any further than recommended by the manufacture, use a timer to prevent an over discharged condition.

Radio: All trims should be set to neutral and throttle in the low position. Check that rate switches and mixes are set properly.

Range Check: With and without the motor running per radio manufactures instructions. If there is insufficient range or significant reduction with the motor running, resolve and re-test before flying.

Flight Testing

The first flights should be done with the CG at the recommended position, and reduced control rates until comfortable with your handling of the aircraft. As your experience with the aircraft grows experiment with different CG points and control rates. After all flights, check the aircraft over for damage and/or other items that may adversely affect flight performance.

This Extreme 3D Plane is a full performance aircraft and will provide hours of entertainment, including the occasional crash. If, as the result of a crash, the foam tears, simply glue with Welders or CA. Many pilots prefer Welders because it remains flexible after drying. CA however, is more suited for the “quick” repair.

This aircraft can be flown indoors or outdoors. It is the perfect size for the local park or school yard.

Storage

This EPP plane should be stored resting on the Bottom Pod. Storing in other fashions that put stress on the airframe could cause the airframe to distort. Storage in a hot car could also cause damage.

Be safe and enjoy, thank you again for purchasing a Twisted Hobbys' Product!

NOTES & S/U SHEET

Setup Sheet

Transmitter -

Receiver -

Model

Weight - g oz

CG Point - mm from wing leading edge

timer - min

Travels and Exponential

	low rate	high / 3D
right aileron up -		
right aileron down -		
left aileron up -		
left aileron down -		
aileron expo -		
rudder right -		
rudder left -		
rudder expo -		
elevator up -		
elevator down -		
elevator expo -		

Electronic Components

Aileron Servo -

Rudder Servo -

Elevator Servo -

Battery -

motor -

ESC -

Propeller -

TIPS AND TRICKS

- A good building surface is “drop ceiling” panel from a local hardware store on a nice flat board
- Use parchment paper between the areas being glued and your work surface
- Heavy flat objects (like books, batteries, etc.) could be used to hold everything flat
- When resetting your radio, start with all the ATV's or throw volumes at 100%.
- Make sure you have set the direction of the servos correctly before attempting to trim for zero position.
- If possible try the servo horns in different locations to determine which position will require the least amount of sub trim.
- Installing the servo horns in their final location and attaching quick links to the servos may make servo installation much easier later.
- On the Orange Rx, the negative pin is the one closest to the flat side of the circuit board.
- Keep a good supply of sharp knife blades handy when building a foamie airplane.
- Use low temp hot glue for gluing electronics, this will allow for easy removal later if necessary. The low temp hot glue can be “released” by painting” the glue bead with an alcohol soaked cotton swab a couple times.
- A business card with the corners clipped off can be used as a small square.
- Allowing the Welders glue to set for five minutes before assembly will shorten the tack up time, just be sure if doing it this way that you get the parts into position quickly, as the glue will start to bond on contact. Any joints that you feel are going to require adjustment, it is best to assembly the pieces while the glue is wet. The Green (high tack) masking tape works the best when used to clamp things together on an EPP foam airplane.
- When gluing the rudder to the fuselage, stick pins could be used to hold in position if wanting to handle the airframe before it is completely dry
- A rotary tool with a cutting wheel could be used to produce grooves in fiber glass parts instead of coarse sand paper. Use a hatch pattern. This creates more bonding area for the glue.