

MANUFACTURED BY

RC FACTORY



REVO P3

MOTOR: 1x 46-60g / 1000kv Brushless
ESC: 1x 20-30 amp
SERVOS: 4x 10-16g
PROP: 10x3.8 / 10x4.7 slow fly
BATTERY: 3s 850-1200mAh Lipo

TWISTED
HOBBYS

RADIO: 5 channel
WINGSPAN: 37"
LENGTH: 39"
AUW: 425-475 grams

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.

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!

KIT CONTENTS



Wing Parts

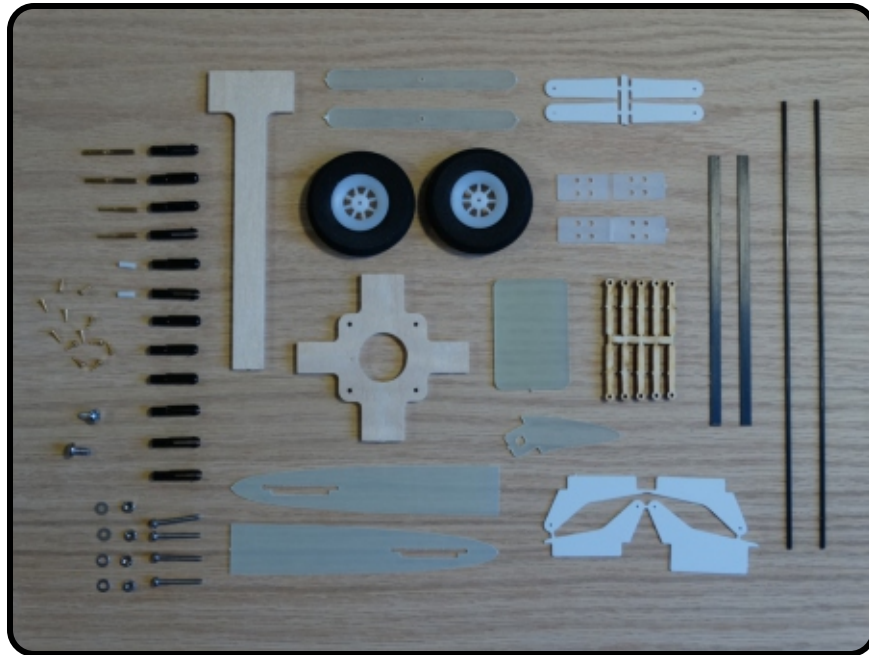


Fuselage Parts

Double check that you have all the above pictured items. Note -
Some kits might have slight deviations from the above pictured items.

DETAILED DESCRIPTIONS OF ITEMS WILL BE CALLED OUT IN THE BUILD STEPS

KIT CONTENTS (cont.)



Hardware and Small Carbon

NEEDED ITEMS



Power Combo & Optional Items

Double check that you have all the above pictured items. Note -
Some kits might have slight deviations from the above pictured items.

DETAILED DESCRIPTIONS OF ITEMS WILL BE CALLED OUT IN THE BUILD STEPS

TOOL AND 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

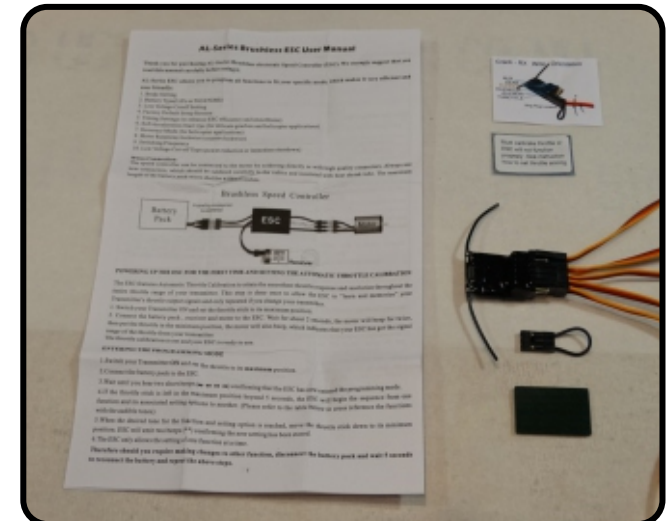
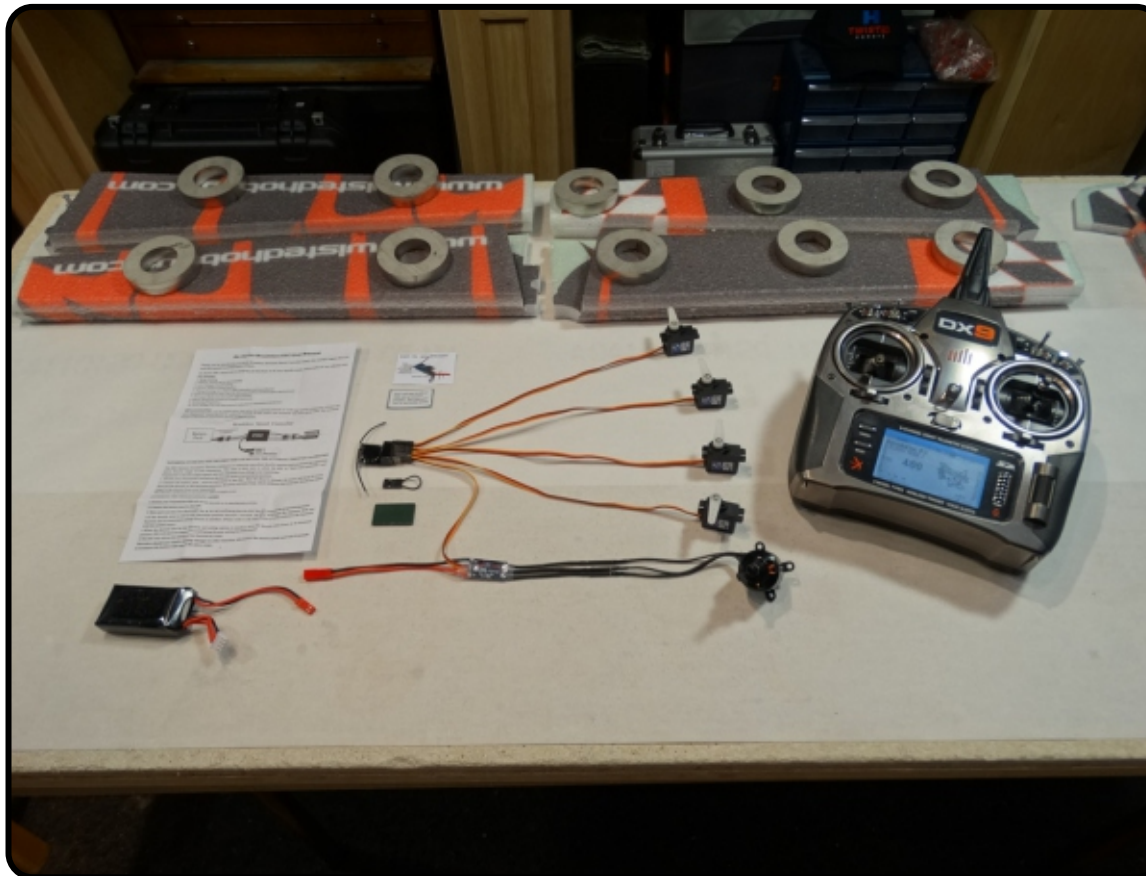
- **Lighter**
- **Small Drill Bits**
- **Tape Measure and Ruler**
- **Black Sewing Thread**
- **Welders or Foam Tac Glue**
- **Hobby Knife w/new Blade**
- **Needle Nose Pliers**
- **Wire Cutters**
- **Low Temp Hot Glue Gun**
- **Course Sand Paper**
- **Scissors**
- **Small Phillips Screw Driver**
- **Thin and 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 or FoamTac glue is used for FOAM TO FOAM joints. Thin and Medium CA can be used on the PLASTIC TO FOAM and CARBON TO FOAM joints. **When using the Welders or FoamTac glue for a butt joint, apply a thin film to each surface, allow to sit briefly per mfg instructions, 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.



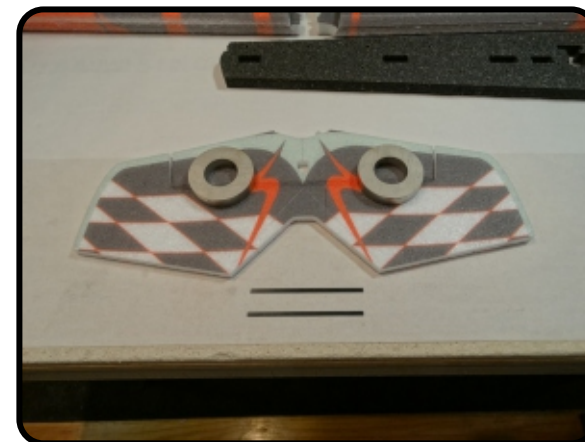
- ☐ Locate all the items pictured to the left.
- ☐ Gently bend all the hinged surfaces back onto themselves and weigh down for about 1 hour.
- ☐ Create a model on your transmitter
- ☐ Following your radio mfg. instructions, bind your radio to the power combo components
- ☐ Calibrate the ESC.
- ☐ Confirm all components work properly.



Build will start off with the main horizontal fuselage section and two 1.5 x 700mm round carbon rods.



Lay the rods into the precut slots in the side of the fuselage piece, make sure the fuselage is flat by laying it down on the workbench, then secure with thin CA and kicker.



Locate the Elevator and the two 3x0.5x100mm carbon spars.



Install one of the spars into the slot on the top side of the elevator as shown. Make sure it is flush with the foam surface.



While keeping everything nice and flat, secure the spar with thin CA and kicker.



Repeat with the other spar.



Locate the 3x0.5x250mm spar, and flip the elevator over so that you are looking at the bottom side (side with the hinge cut relief).



Lay the spar into it's precut slot and secure with thin CA and kicker. Make sure the elevator is flat on the work bench and that the spar is flush with the foam.



Apply a skim coat of glue to the end of the fuselage and the mating area of the elevator. Note - you want to be looking at the bottom side of the fuselage and elevator as shown above.



Once the glue has tacked up, join the two pieces together. Again make sure you are looking at the bottoms. The elevator is thinner foam and this orientation is important later.



Set the horizontal fuselage section and elevator assembly aside. Locate the vertical fuselage section and split it down the middle of the tabbed areas.



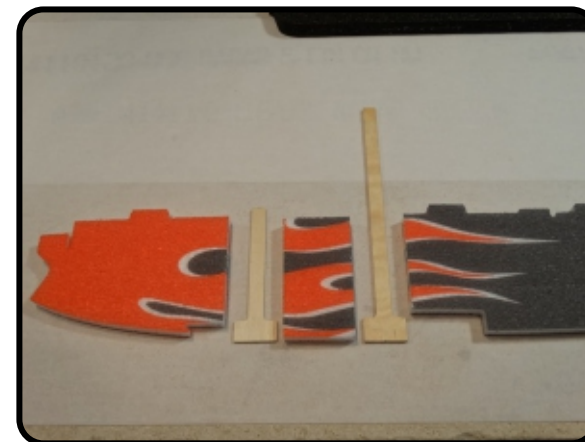
Fuselage completely split apart.



On the bottom portion, remove the webbed areas near the bottom and near the center where it was split. Do this for both slots in the lower section.



Make sure and clean away all the web so that all the surfaces are nice and flat as shown above.



Locate the two "T" shaped wood pieces pictured above. The shorter one installs towards the nose, the longer one to the rear.



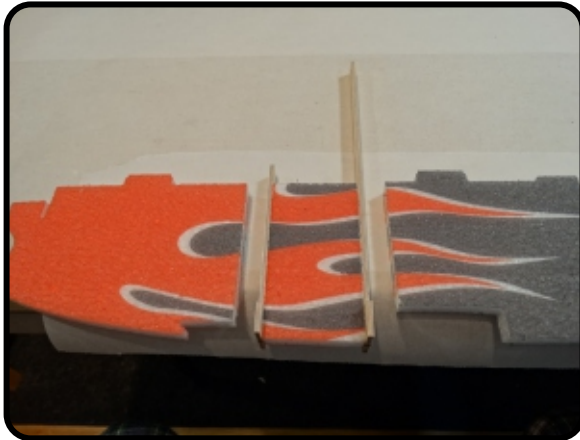
Apply a skim coat of glue to the mating surface of both pieces and join together as pictured. Note that the "T" should be flush with the foam like shown, and the long edges flush with the foam sides.



Once the short "T" is secured, move on to the longer "T". Apply a skim coat to both surfaces, let tack up and join. Note that it should be flush as shown, just like the shorter "T".



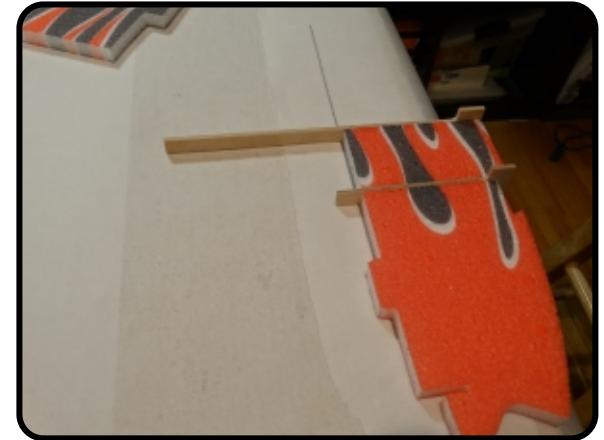
Double check that the skinny parts of the wood are inline and parallel with each other and the foam piece they are attached to.



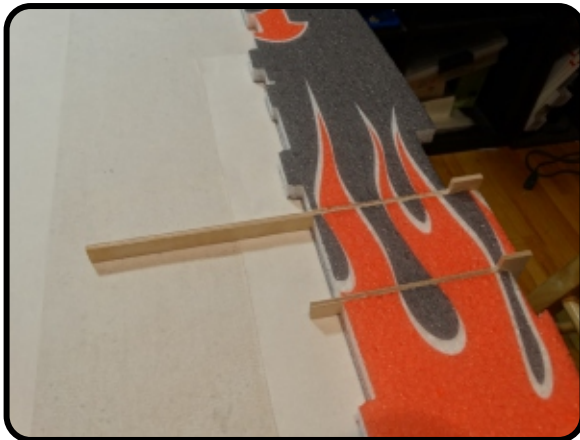
Locate the foam piece you just glued the wood back to where it was cut from. Make sure the orientation matches the picture above.



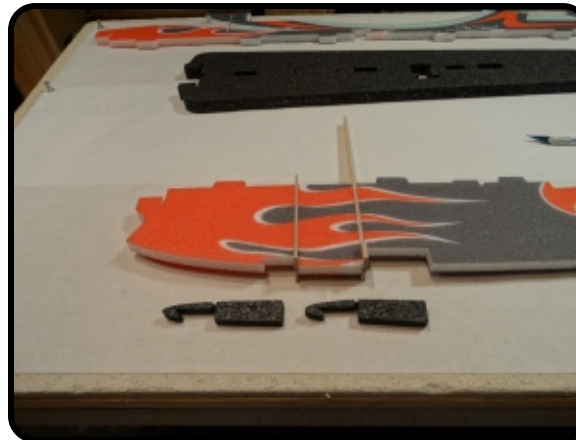
Make a reference line on your workbench as shown, this will aid in making sure the top part of the lower fuselage is aligned properly in the next step.



Glue the nose section on. Use the line you just made as an aid to line up the upper edges.



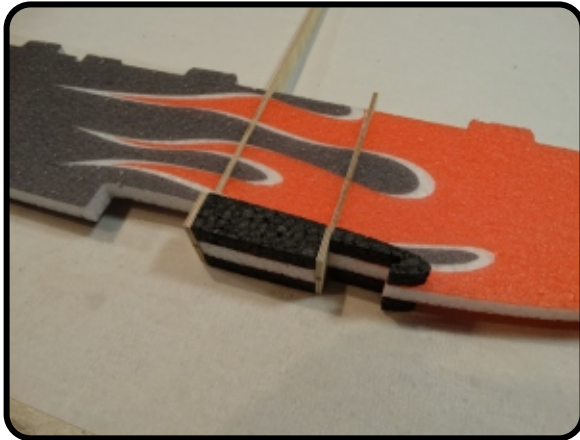
Glue the rear section on. Use the line you just made as an aid to line up the upper edges. Top edge (tabs excluded) of all three parts should be in line with each other.



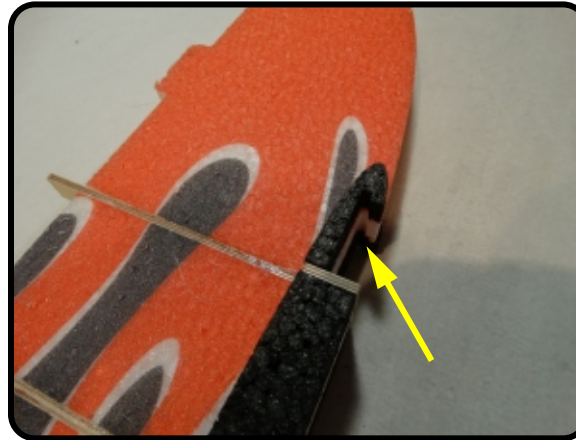
Locate the two small foam land gear bases pictured above.



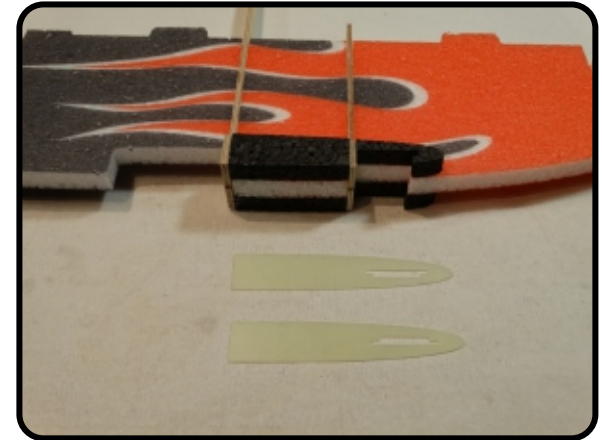
Split them in the area shown, make sure and remove all of the tab/web.



With the same orientation that they were tabbed together in, glue them in place as pictured above. Use the wet method for this step. Do this for both sides.



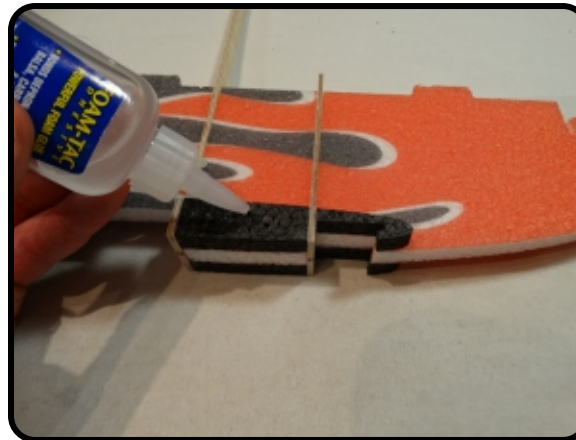
Make sure that the smaller forward piece matches the profile of the fuselage in the area indicated.



Locate the two G10 parts that are pictured above. Note that they are NOT symmetrical.



When properly located, the pieces should be glued on as pictured above, with the skinner-longer slot towards the top of the fuselage.



Use the wet method to attach these parts. Apply glue to the mating surfaces.



Attach the parts as pictured. Make sure and align the profile of the G10 pieces to the profile of the foam and that the slots in the G10 piece match the picture above.



This area is what will support the landing gear, so it is important for it to be strong. Apply some weight and let it dry thoroughly.



Once the lower vertical section from the previous step is dry it can be joined with the horizontal section pictured above.



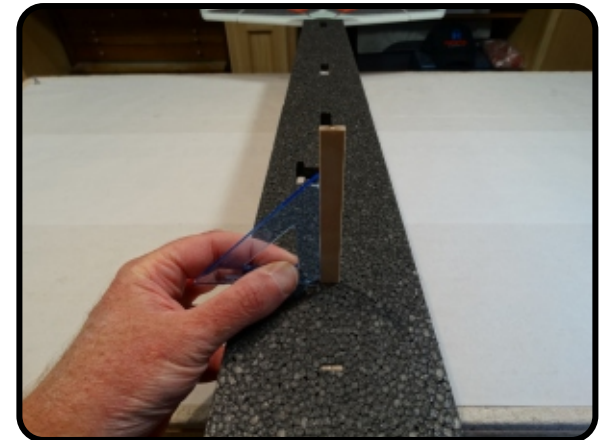
With the **BOTTOM** side of the horizontal piece facing you (hinge cut side of the elevator), apply glue to all the mating surfaces and tabs and insert the long "T" thru the hole as shown.



Firmly press the two pieces together, making sure that all the tabs are fully engaged. Wipe away any extra glue.



With a small builders square, check for squareness along the length of the fuselage.



Also check that the part of the "T" sticking out the top is square. This will determine squareness of the upper fuselage later, so it is important to get it set correctly at this time.



With everything nice and flat, let the glue set up before handling. Use some weights as pictured.



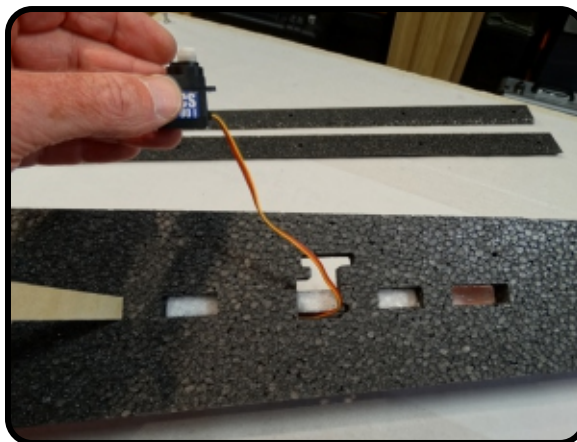
Locate the fuselage truss pieces and the two servos that will be used for the tail control surfaces.



Elevator servo will locate in the slot pictured above. Make sure the servo is electronically centered and that the horn is face upward as pictured.



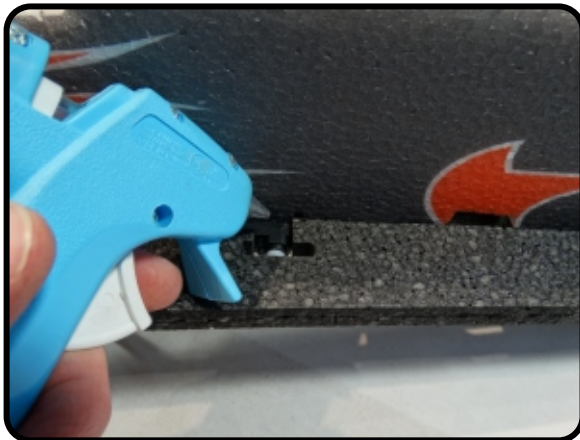
With the elevator servo positioned over it's cutout, make slits in the foam to accommodate the servo tabs.



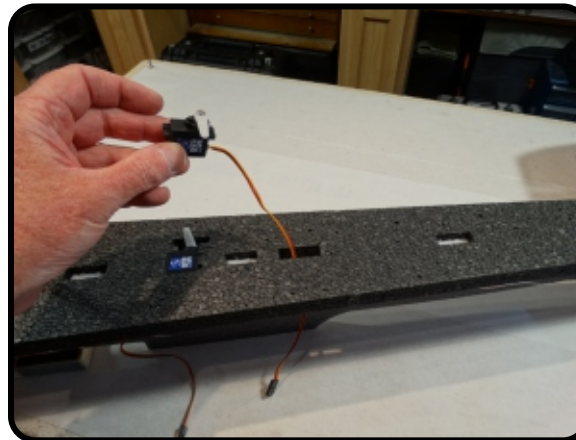
Feed the servo wire thru the opening as shown above.



Press the servo into position as pictured. When properly located, it should be flush with the near surface and arm pointing up.



Flip the fuselage over and with some low temp hot glue the servo can be secured with a small fillet of glue on each side.



The other servo (for the rudder) fits thru the slot pictured above, make sure to feed the servo wire thru the same side as the elevator servo.



Press it completely into the hole. the servo tabs should actually go below flush. Make sure the servo is electronically centered and the arm is orientated as pictured.



When fully seated, servo tabs are below flush as shown, and the output shaft side will be angled slightly upward.



Flip the fuselage over and, as with the elevator servo, apply a small fillet of low temp hot glue to each side of the fuselage to secure the servo in position.



Space the fuselage up as shown (pop cans can be used just make sure they are all the same height) and prepare to glue the trusses on. Thin CA will be used.



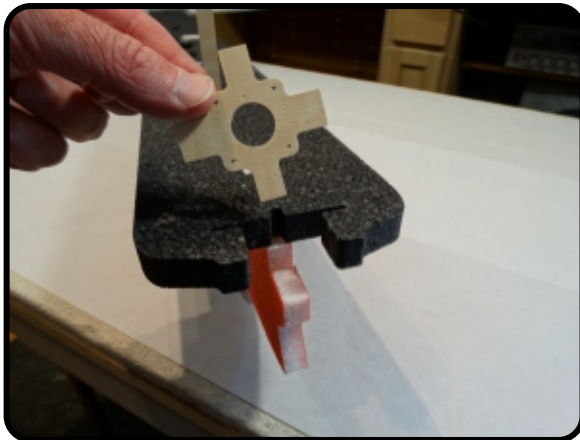
Line the truss up at the end of the fuselage as shown. It should be 45 degrees to both the horizontal and vertical fuselage pieces.



With thin CA bond the truss to the fuselage. Make sure that both fuselage pieces remain square to each other during this process. Do both sides.



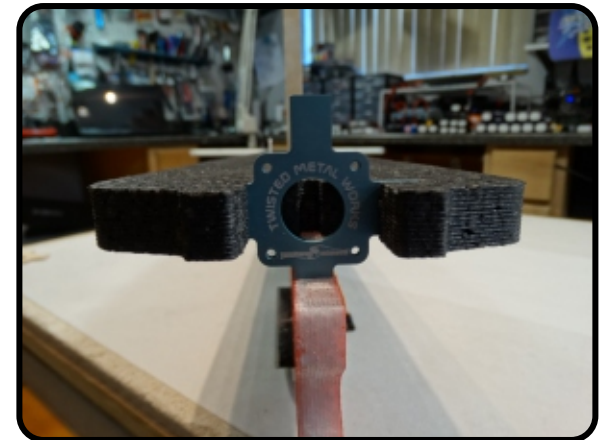
On the side where the servo wires come out, leave the front part of the truss free from the fuselage. This will allow a place to tuck the wires in later.



Next up is the motor mount. Note that it installs into the slots and that the wider tabs fit into the horizontal fuselage section. Apply glue to all mating surfaces and install wet.



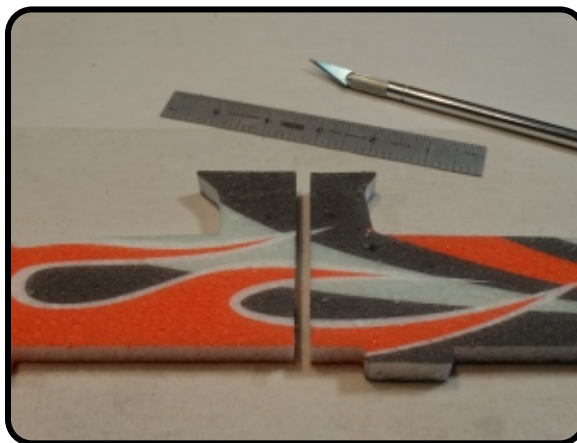
>>> OPTIONAL <<<
There is an option threaded alum. motor mount available if desired. It installs the same as the wooded one, and will be used on this build.



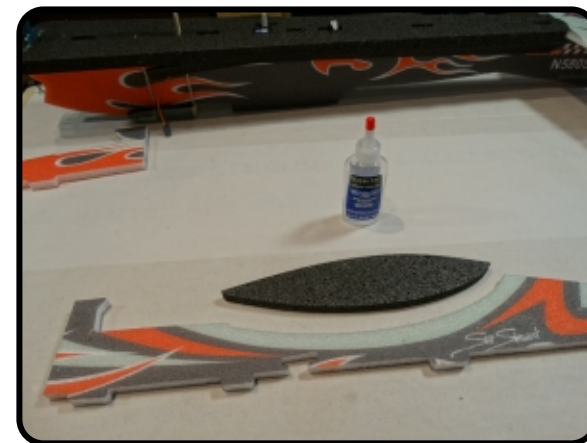
Once the motor mount is installed, wipe away any extra glue and make sure that the "legs" of the motor mount line up with the mating fuselage components.



Locate the upper fuselage section and the black foam canopy piece.



Separate the fuselage piece as shown. Make sure and remove all of the tab like was done with the similar area of the lower fuselage section.



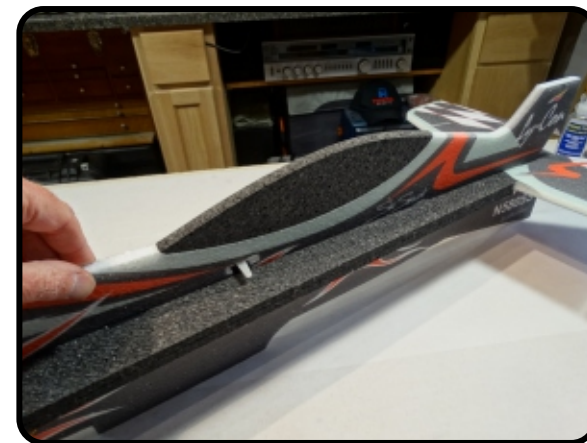
Apply a skim coat of glue to the canopy and it's mating surface on the fuselage. Let the glue tack up for a minute or two.



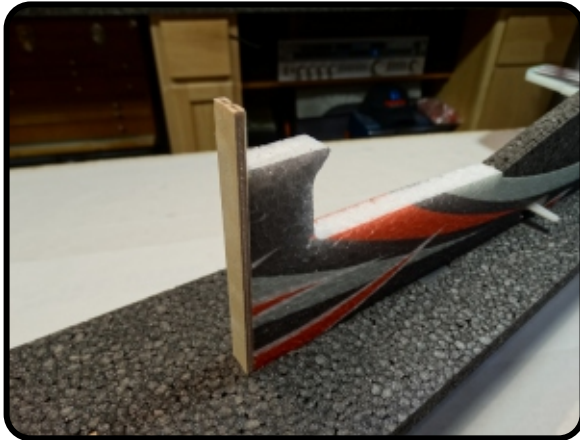
Once the glue is tacked up, bring the two pieces together. Do this slow and precisely, once the surfaces contact each other it is hard to reposition them.



Next attach the rear section of the upper fuselage. Apply glue to all the mating surface and install wet. Note that the servos must be installed prior to this step.



Press the two pieces together firmly to ensure that the tabs and mating surface are all fully engaged.



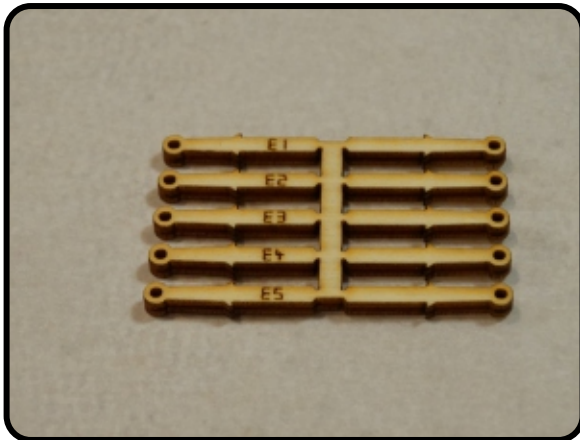
Make sure that the end of the fuselage section butts up against the wood member as shown and is flush with the sides.



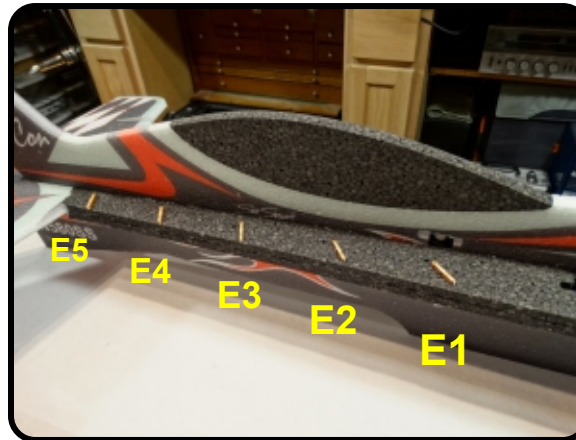
Next do the smaller upper nose section of the fuselage. Apply glue to all the mating surfaces, including the wood stick and the motor mount. Install while the glue is wet.



Line everything up, check for squareness and wipe away any extra glue.



Find the small wood tree of parts shown above, these are the push rod guides. The ones with the engraved characters are for the elevator and start with E1 closest to the servo.



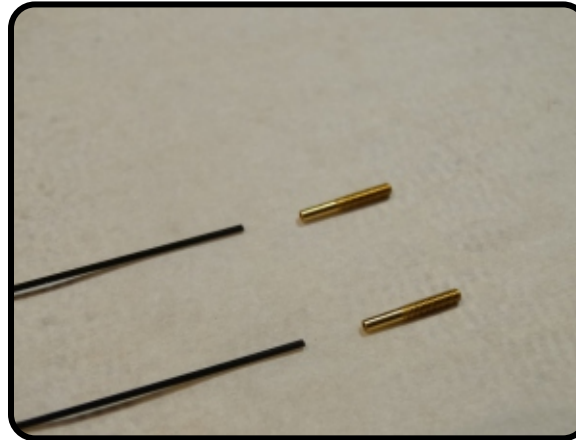
Locate the small holes in the horizontal fuselage section and install the guides in the order shown. No Glue at this time.



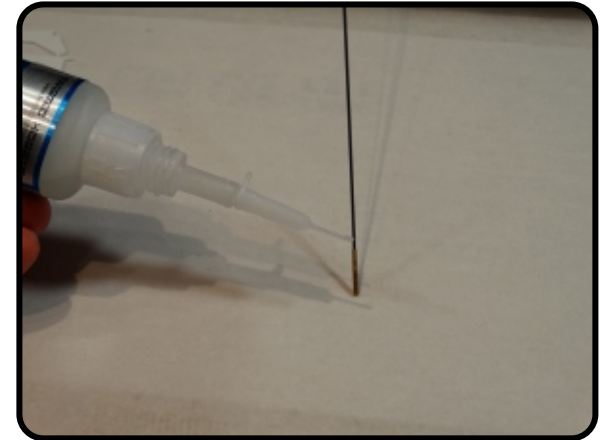
Using one of the push rods for reference, line all the push guides up nice and straight to each other.



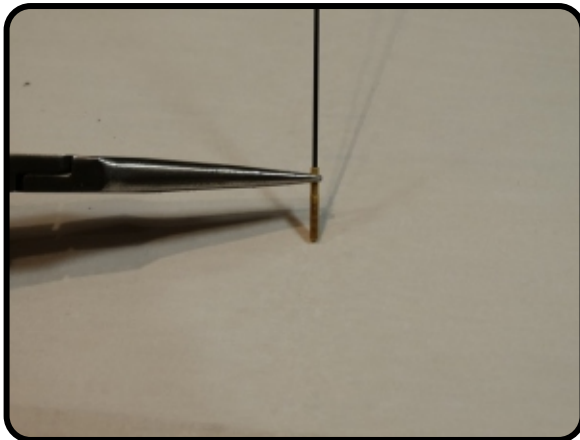
Once you are happy with the position of all the guides, secure them in place with a couple drops of thin CA and set with kicker.



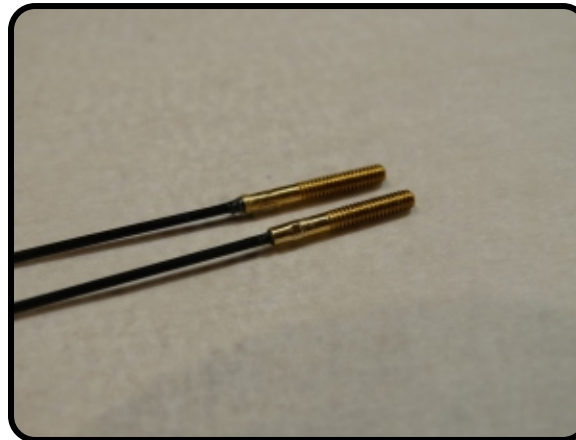
Locate the two 1.0x500mm round carbon rods and the two SMALLER brass threaded fittings.



Secure the brass fittings to the end of the carbon round with a drop of CA. The CA should wick in and you can set with kicker



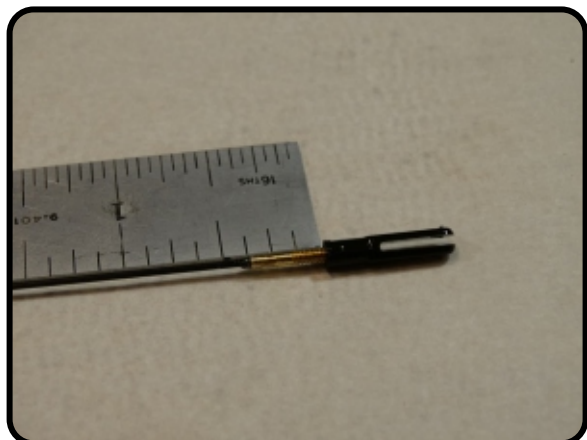
With the tips of a pair of needle nose, crimp the brass sleeve. Note that it does not take much pressure.



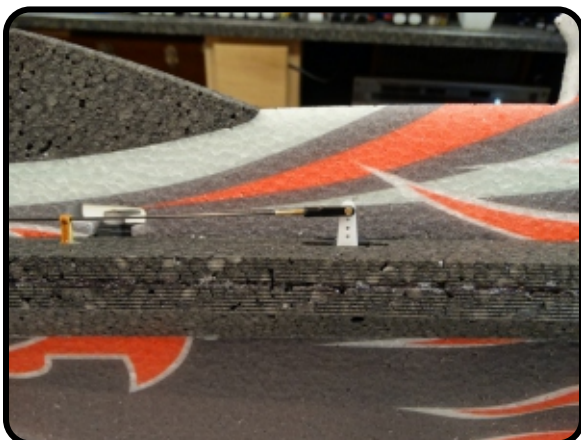
Repeat for the other rod of the same length. Pull on the fittings to make sure they are bonded firmly.



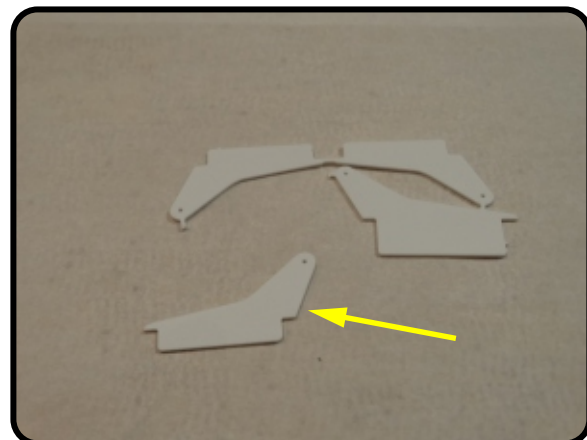
Locate one of the plastic clevis's and its mating brass pin.



Thread the clevis on, leave approx 1/8" to 3/16" of the threads exposed. Doing this will allow for some adjustment in either direction later if needed.



Install the push rod thru the guides so that the end with the clevis can be attached to the servo arm as shown. Note that the brass pin has to be installed thru the larger clevis hole.



Locate the plastic horns and break free the one indicated above for the elevator.



Install the horn in the pre-cut slot from the top side of the elevator as shown. CA or FoamTac can be used.



Find another one of the clevis connectors and a small white plastic tubing section.



Press the white tube into the end of the clevis as shown. It will be a pretty tight fit.



With a small piece of masking tape, lock the elevator into it's neutral position by positioning the tape as shown above.



Make sure the elevator servo is electronically centered and that the elevator is still neutral, then cut the rod to length to match up with the spot on the clevis shown above.



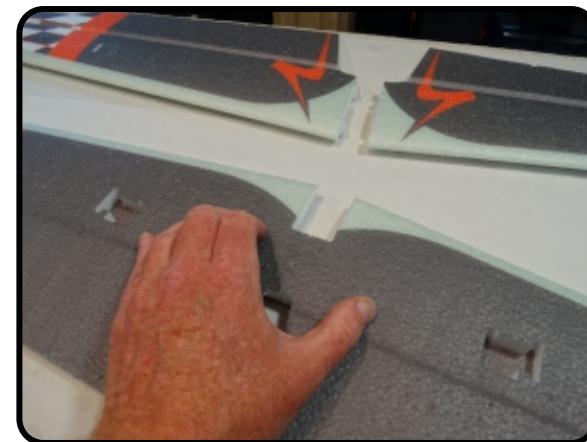
Once the rod is cut it should be close to the length as pictured above.



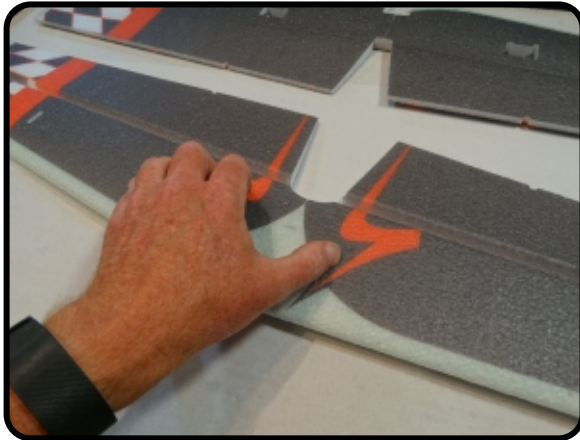
Release the elevator from it's neutral position so that the rod can be installed into the end of the clevis, re-tape the elevator in it's neutral position and secure the rod to the clevis with CA.



Locate the four wing halves as pictured above. Note that they are "keyed" to help prevent gluing them together incorrectly. Apply a skim coat to the mating surfaces and let tack up.



Once the glue is tacked up, mate the pieces together, pay special attention while doing this so that the profile of the airfoils from each half match up perfectly to each other.



Repeat the process with the other wing, again taking care to align the profiles of each half.



Picture above is a close up of how the wing halves should meet up, nice and smooth with no mis-match.



Wing Spars are next. Locate the four carbon rounds that are 1.2x800mm in size. They will be centered in length along the wing....



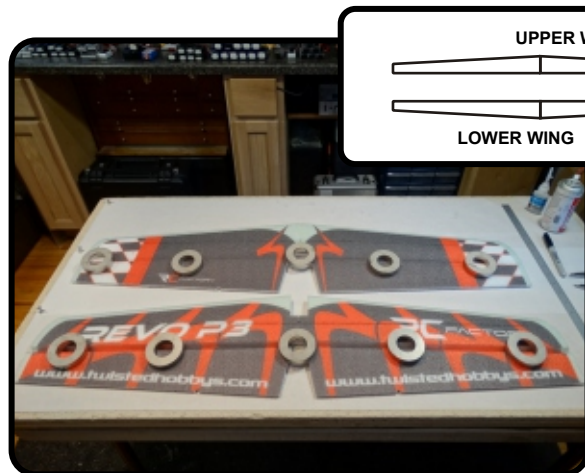
.... and located approx 25mm back from the leading edge in the area shown above. This should put the spar just in front of the slots in the wing for the SFG's.



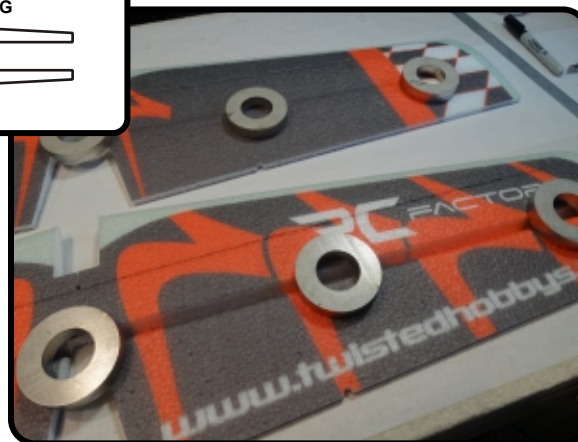
With a fresh blade in your hobby knife, make a slit, just deep enough to bury the rod.



Lay the rod into the slit. Do Not apply any glue at this time. All the rods need to be installed and adjustments made before glue is applied.



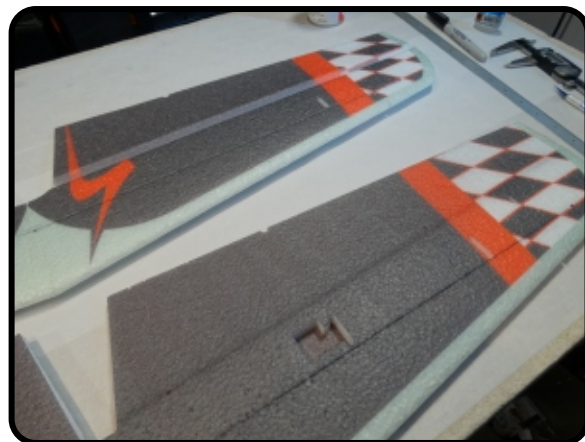
Cut slits for all the rods and lay them in, locate the wings as shown. Lower Wing-Bottom Side Up. Upper Wing-Top Side Up. You want the flat surface down on the bench as the insert shows.



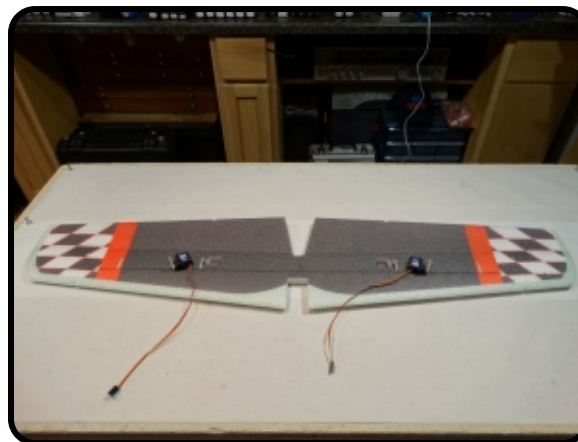
Lay some weights on the wings along the hinge line as shown to hold them flat to the work bench. Double check the orientation, this is important, once sure, apply thin CA and Kicker.



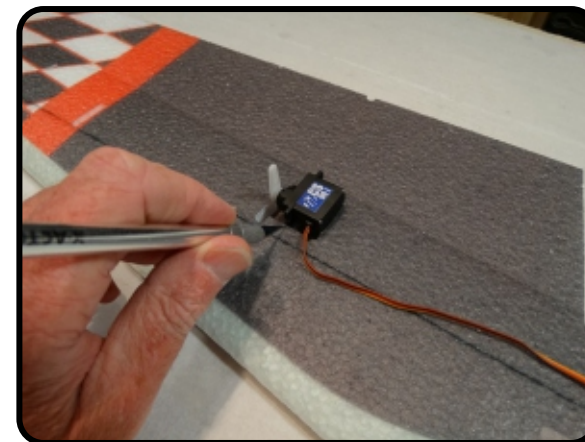
Next, flip the wings over so that you are looking at the opposite side from the previous step and CA the Spars. Do not force the wings flat... let them sit natural on the bench.



Close up of the wings as positioned for gluing in the previous step. IE, you should be LOOKING at the flat side.



Locate the aileron servos. make sure they are electronically centered and that the horns secured and facing outward as pictured.



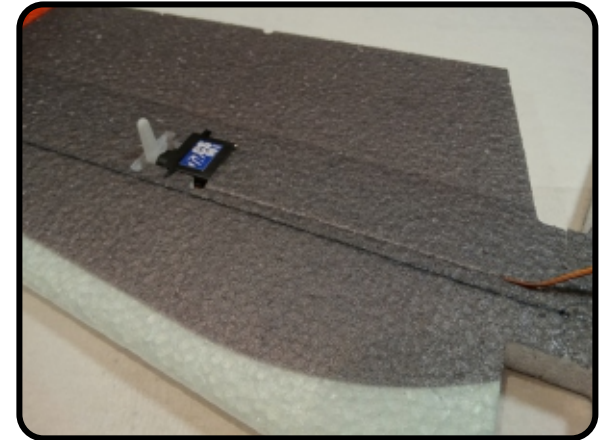
Position the servo over the pocket and then make a slit just big enough to accommodate the servo ears.



Press the servo into the pocket. It should be flush with the wing surface. Make a shallow slit for the servo wire as shown.



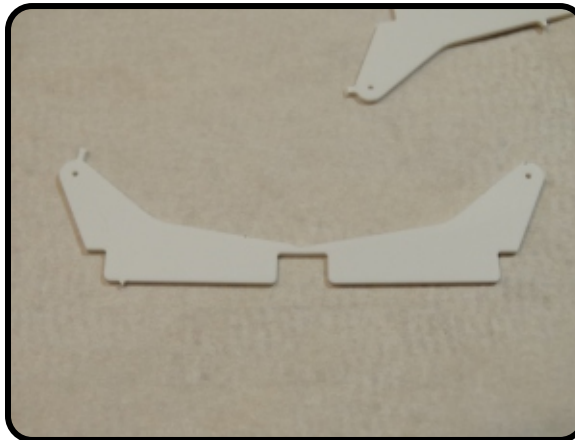
Tuck the servo wire into the slit that was just cut. One of the small G10 parts from the landing gear set works nicely for doing this step.



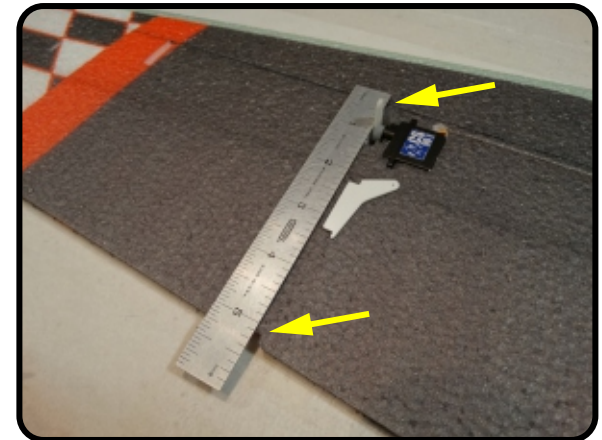
Servo and servo wire installed. A nice clean setup.



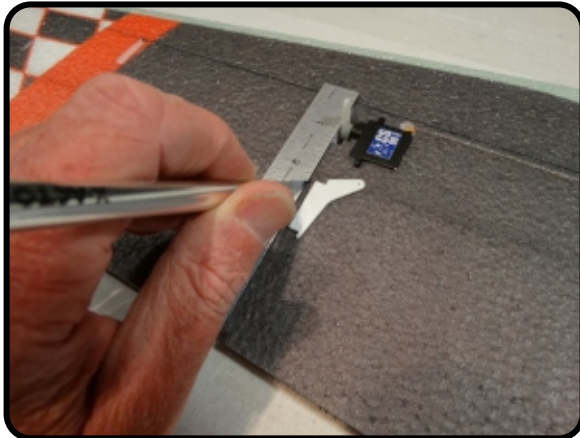
Repeat the previous steps for the other aileron servo.



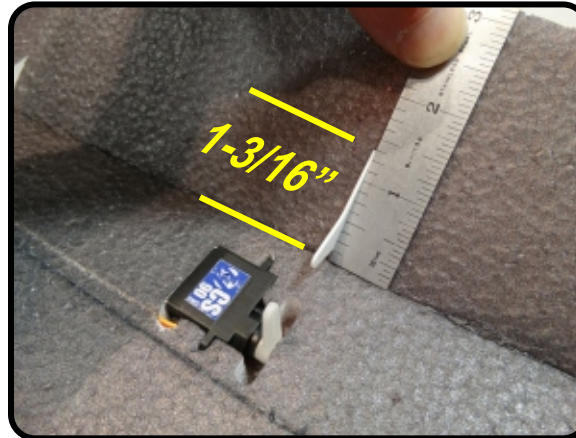
Locate the two matching horns pictured above.



Using a small straight edge. Position it so that it is against the servo arm, and centered on the half round cutout on the trailing edge of the aileron.



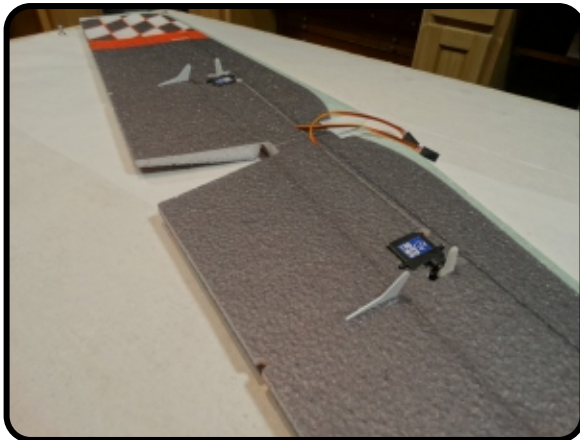
Make a slit in the aileron using the straight edge as a guide, and long enough to accommodate the tab of the horn.



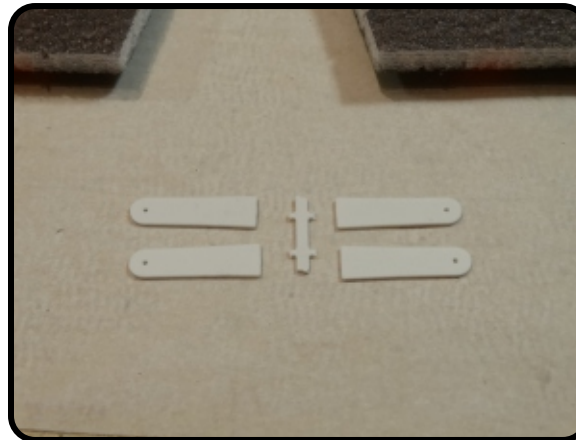
Bend the aileron up about 45 deg and use the crease to locate a small ruler, locate the horn so that it is 1-3/16" to the end as shown above.



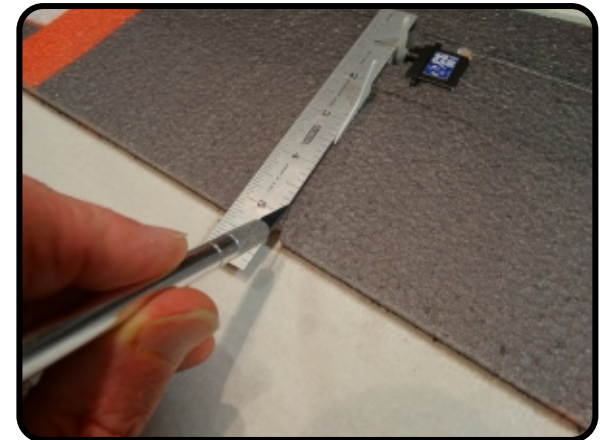
Secure the horn with thin CA and kicker.



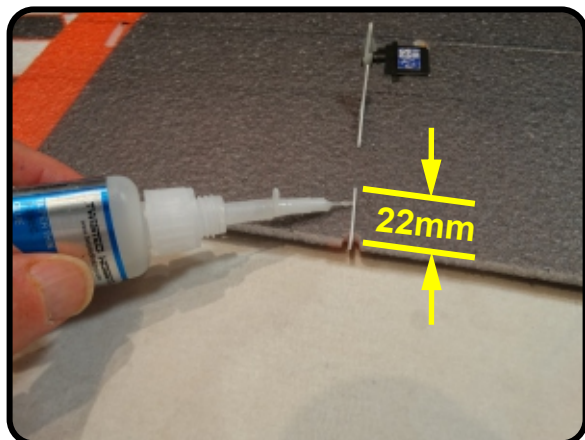
Repeat the process for the other side.



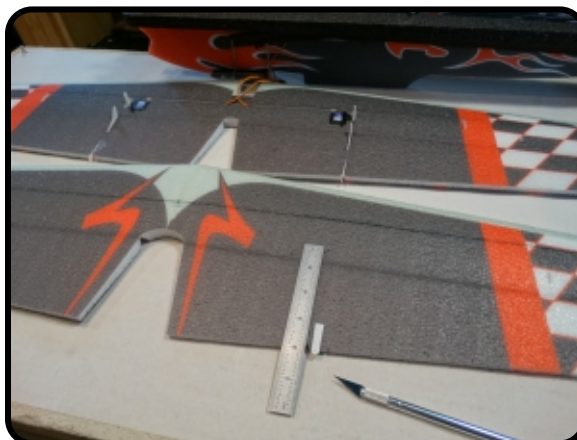
Next are the gang horns, there should be four of them as pictured above.



Make a slit in the trailing edge of the aileron, inline with the servo and control horn just installed.



Make the slit all the way thru and in far enough so that the horn can be located as shown above. Repeat the process for the other side. Secure with thin CA and kicker.



Install the gang horns on the upper wing. Since there is no servo or other horn, make the slit perpendicular to the direction of flight and 22mm deep as was done on the bottom wing.



Secure the top wing gang horns with thin CA as was done on the bottom wing.



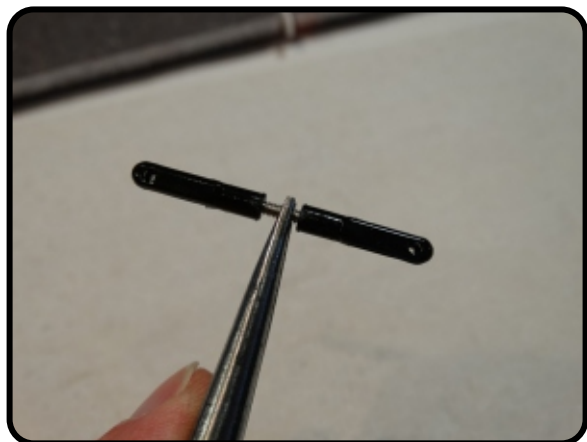
Round up all the items above. There should be four of the M2x16 screws in your kit... you will only need two of them.



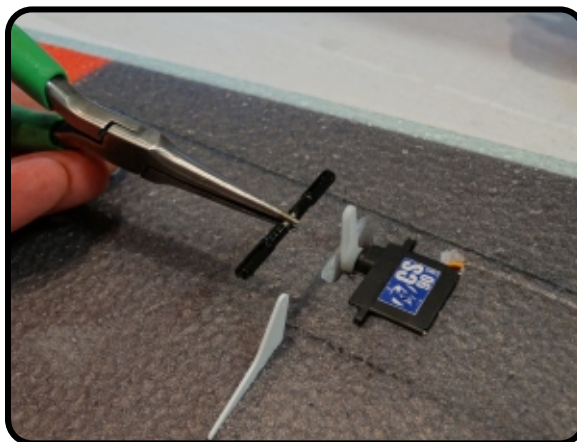
Snip off the head of the screw at the base of the head.



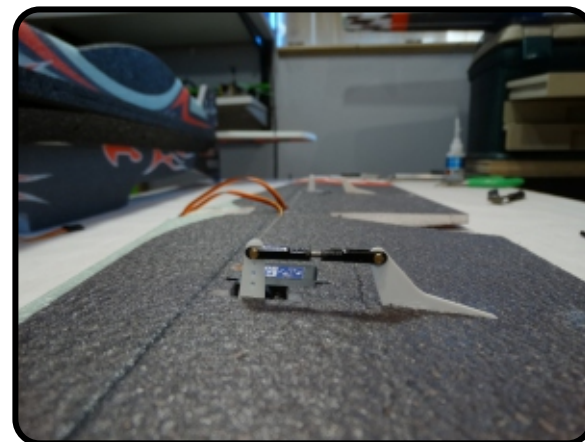
Grind away the burr left behind from the side cutters.



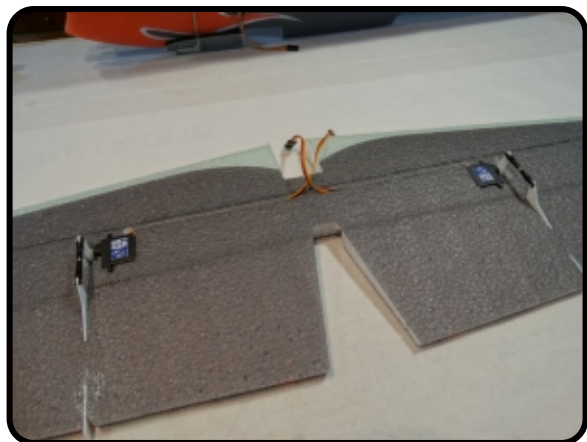
Thread a clevis on to each end of the cut off screw as shown.



With the aileron in the neutral position and the servo centered, adjust the length of the control rod until the holes in the clevises line up with the holes in the servo and control horn.



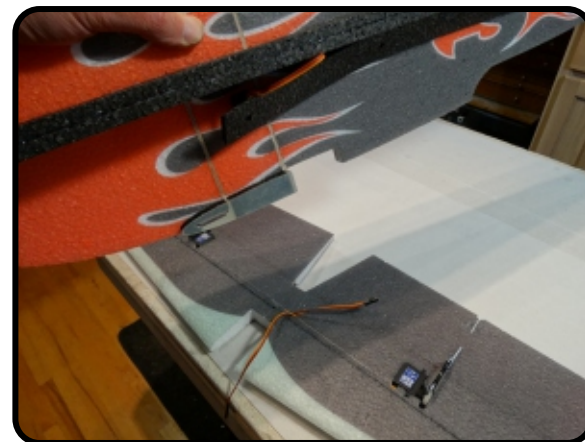
Install the control rod as shown, making any small adjustments to the length as needed.



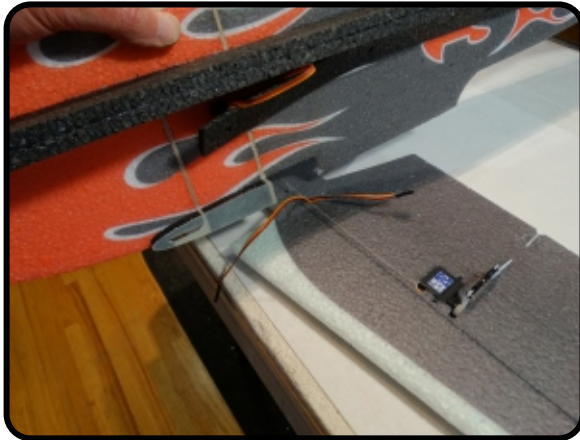
Repeat for the other side.



Normally low temp hot glue is suggested for securing servo to the airframe, in this case however, it is recommended to use thin CA around the perimeter of the wing servos.



Next the lower wing is attached to the fuselage. Note that the wing and fuselage are notched for each other and should fit together precisely.



Once happy with how everything fits together without glue, add glue to all the mating surfaces and join the pieces together. Make sure the servo wires are on the side of the fuselage you want.



Press together to ensure a solid and robust fit, wipe away any extra glue.



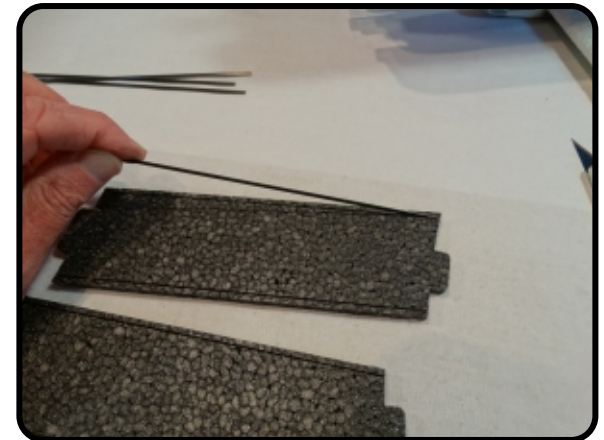
While the glue is still wet, check to make sure that the wing is square to the fuselage and parallel to the elevator. Small adjustment may be necessary.



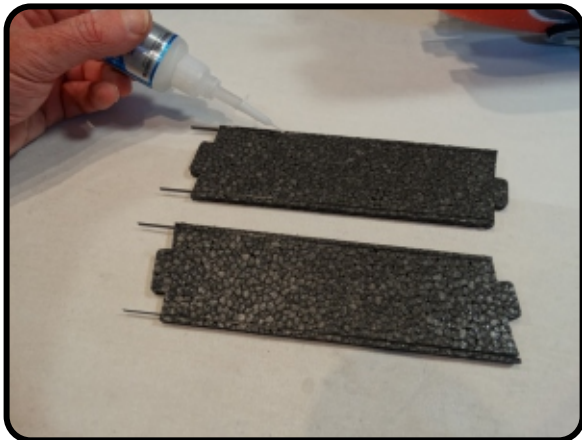
Let the assembly sit for a while so the glue can dry. Position it as shown and set aside.



While the main airframe is drying, locate the wing struts and four pieces of 3.0x0.5x200mm carbon rectangles.



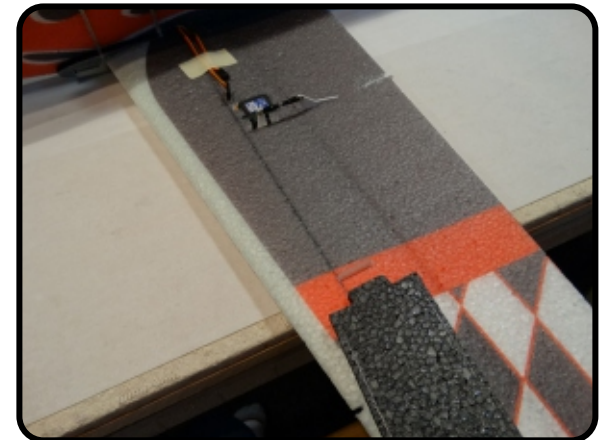
Position them into their respective slots. Note - they will be a little longer than needed, make one side flush and let all the extra hangout the other end.



Use thin CA and kicker to secure the carbon pieces to the struts. Make sure there is a good bond. Go over any areas a second time if needed.



Clip off the excess material. If using side cutter as shown above, make sure they are sharp so as to not crush the carbon.



The struts are “keyed” and should be installed with the LARGER tab into the lower wing, carbon facing inward and strut leaning forward. This is imperative to have correct.



Apply glue to the mating surfaces and install the strut while the glue is wet. Check for squareness and adjust as needed.



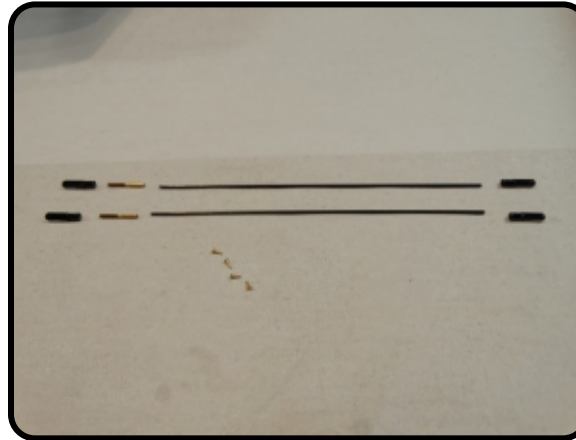
Proper configuration of the strut. If yours does not look like this, do not proceed until re-assembled to match the picture above.



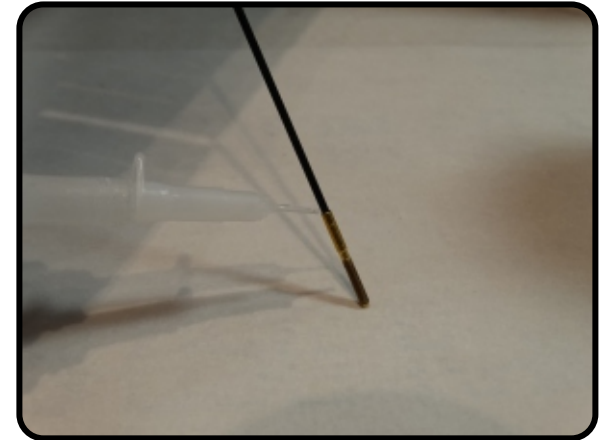
Repeat for the other side, using the same methods and criteria as the first one.



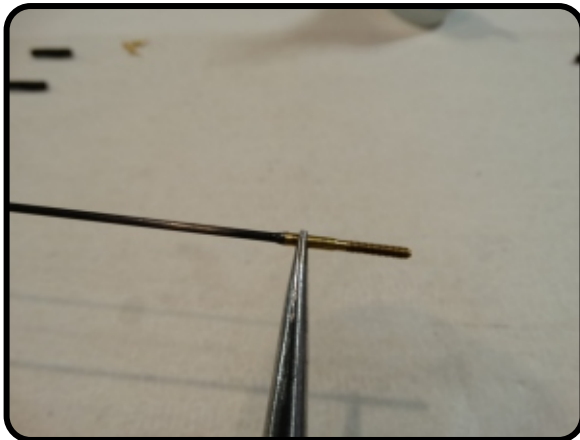
Attach the upper wing. Glue on all the mating surfaces and press together making sure that the two outside struts and the center strut tabs are all fully engaged. Set aside to dry.



While the fuselage and wing assembly is drying, locate the two 1.5x165mm round carbon rods, four clevises with pins and the larger threaded brass pieces as shown above.



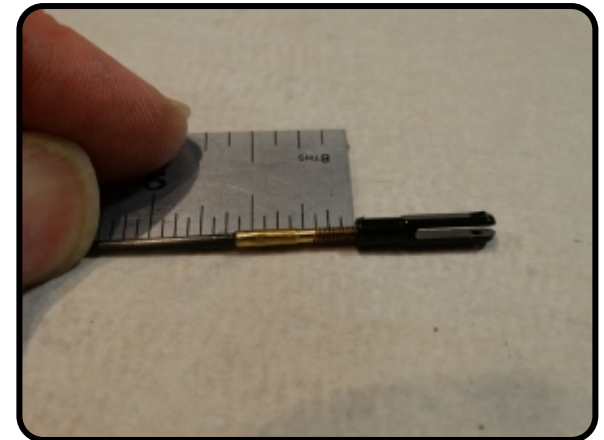
Install a threaded brass piece to one end of each rod with thin CA and kicker.



Crimp the end with the tip of a pair of needle nose pliers. Note that not much pressure is required. Double check the bond and add a little more CA if needed.



Completed ends, showing the crimp size and position.



Thread on the clevis. Leave about 3/16" showing as pictured above, this will allow for fine adjustments in either direction later if needed.



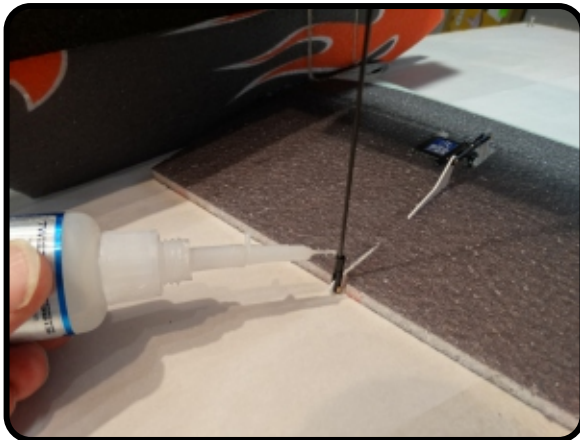
Attach the threaded brass side of the rod to the gang horn of the UPPER wing as shown.



Attach the clevis only to the gang horn of the LOWER wing as shown.



Make sure the lower wing servo and control surface are in their neutral position and stick the raw end of the push rod into the hole of the clevis attached to the lower wing.



Position the upper wing in it's neutral position and secure the clevis to the rod with thin CA as shown above. If everything is done correctly there should be no need to trim the rod.



Repeat for the other side.



With the bottom ailerons still in their neutral position, sight down the trailing edge of the upper wing to verify that both ailerons are the same, and neutral. Adjust if needed.



Locate the tail control rod that was built earlier as well as the five UNMARKED wood control rod guides as shown above.



Grab one of the clevises and thread it on to the brass fitting.



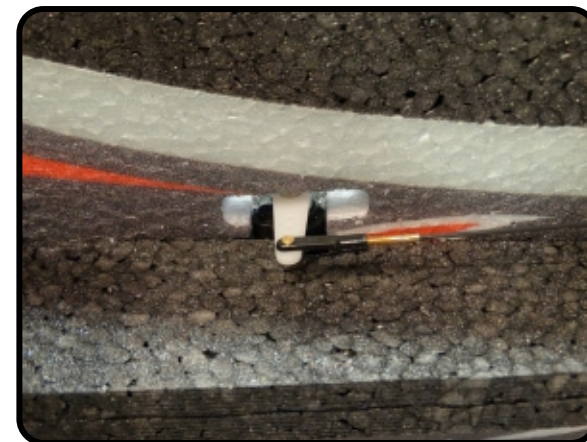
Leave approx 3/16" of thread showing, this will allow for some fine adjustment in or out later if needed.



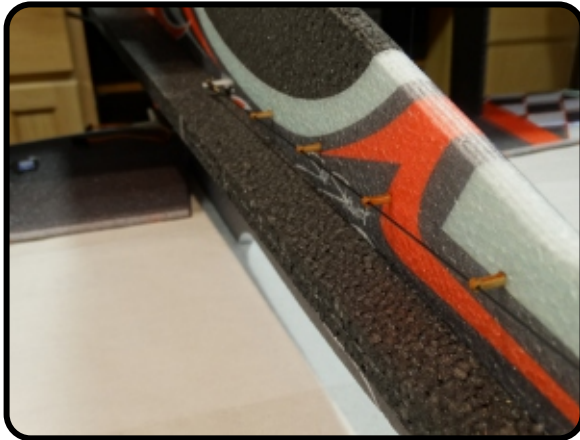
Insert the wood guides into their respective hole in the side of the upper fuselage as shown. No Glue at this time.



Slide the rod thru from the servo side.



Attach the clevis to the outer hole of the servo horn. Confirm that the servo is electronically centered.



Sight down the length of the control rod and guides to confirm that they are all nice and even with each other and that there are no kinks in the push rod.



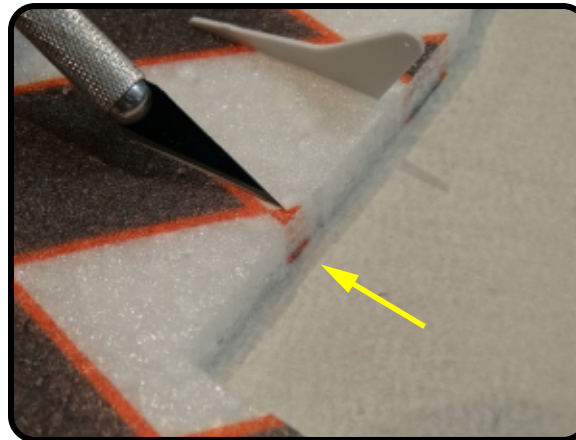
Add a small drop of thin CA to the base of each guide and set with kicker.



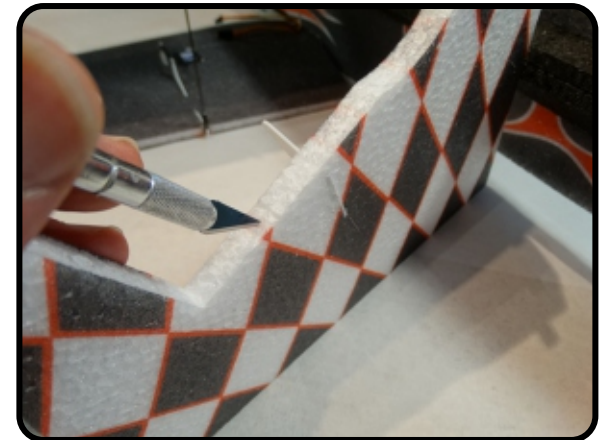
Locate the rudder, the two plastic hinges and the rudder control horn.



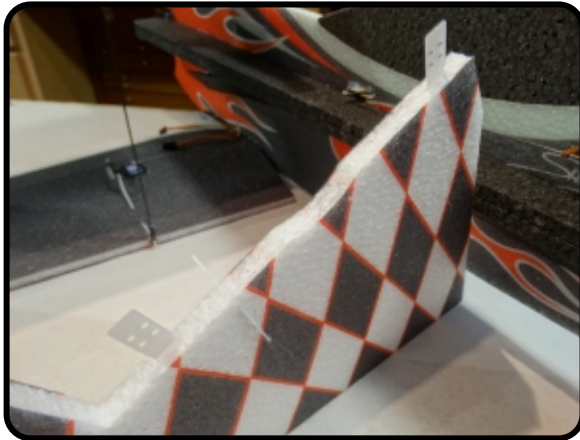
Install the control horn as shown. The precut slot will locate it as needed. Note that the tab of the horn may stick slightly past the surface of the foam on the far side.



Look for the two notched places on the rudder, this identifies the location of the hinges.



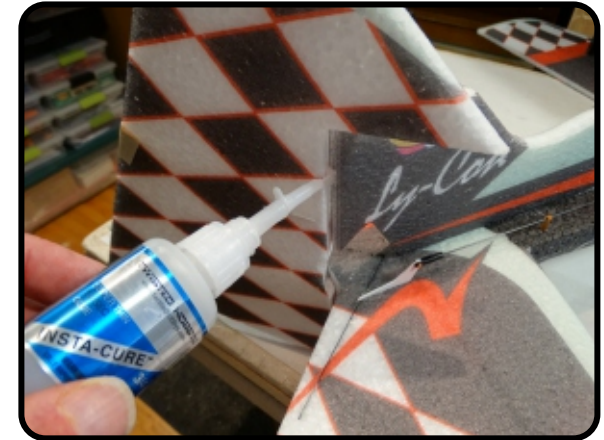
Make a slit in the center of the foam, in the area of the notch, wide enough and deep enough to receive one side of the plastic hinge.



Hinges shown in position. No glue at this time.



Make matching slits in the stab on the fuselage and press the rudder/hinge assembly into them.



Make sure pivot point of the hinge is in the open area between the rudder and stab, make sure the rudder has full deflection there should be about 1/8" gap, then secure hinges with CA.



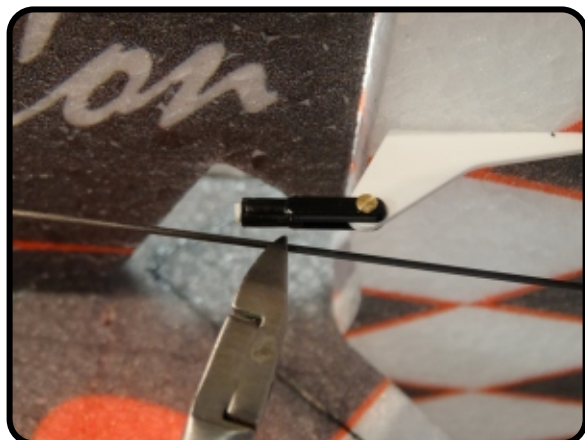
Locate another one of the black clevis parts, one of the small white tubes and the mating brass pins



Install the white tube into the end of the clevis as shown. It will be a tight fit.



Attach the clevis from the previous step to the rudder control horn.



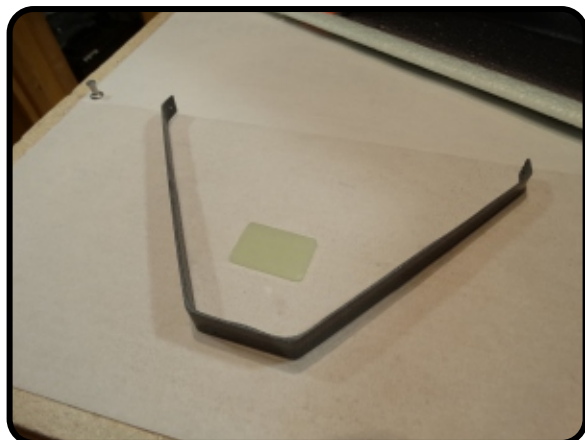
As with the control rod for the elevator, clip the one for the rudder to length. Make sure the servo is electronically centered and that the rudder is in it's neutral position.



Move the rudder aside some and insert the end of the control rod into the white tube. It may be necessary to deburr the end of the rod some.



Return the rudder to it's neutral position, lock it there with a little piece of tape if needed, then secure the clevis to the control rod with a drop of CA and kicker.



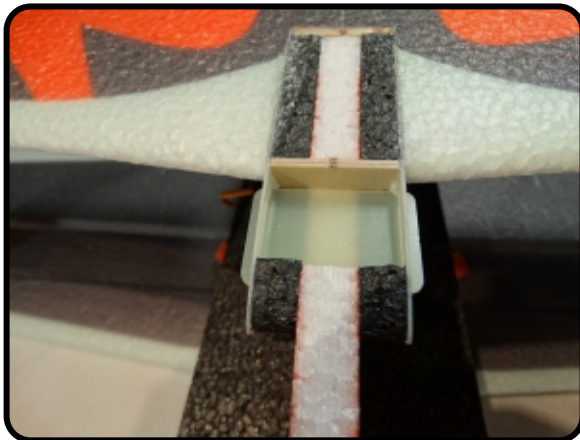
Locate the landing gear struts and the thicker G10 plate pictured above.



Drill a 2mm hole in the end, approx. 5mm in from the end and centered on the width. Repeat for the other side. Location is not super critical.



Slide the landing plate into the slotted area closest to the foam of the fuselage. It should be a snug fit, and may require a little filing of the mating side parts. No Glue at this time.



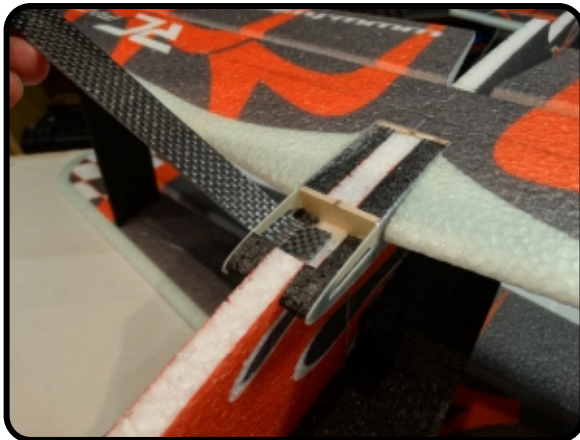
Make sure it can go all the way thru as shown above.



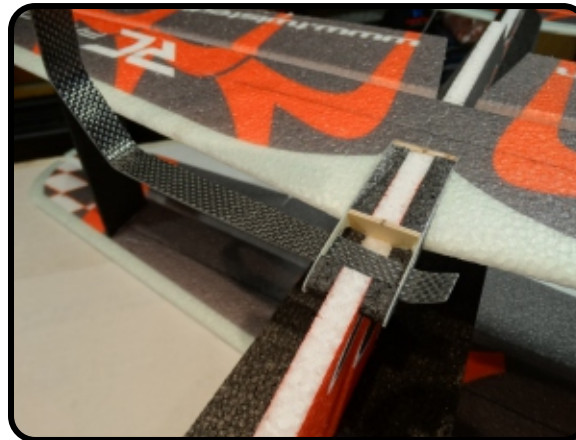
Side view showing the exact position of how the landing gear plate should match up with the side pieces.



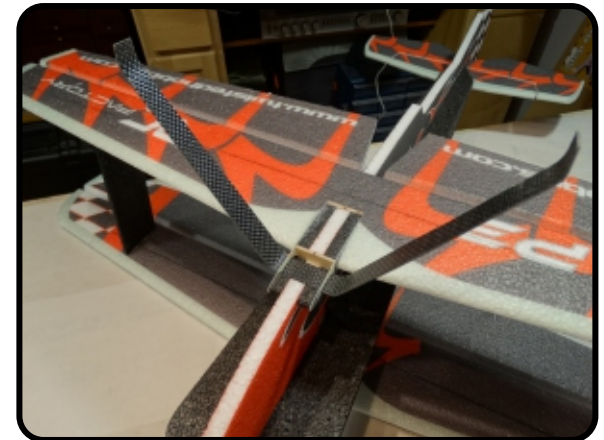
Remove the G10 plate and begin to slide the strut thru as pictured above.



Keep sliding it thru from one side.



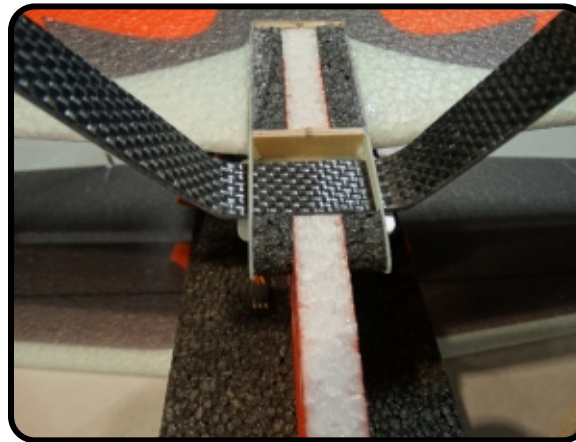
Press down a little in the foam area where it is flexible, just enough to allow the tip of the strut to pass thru the far side.



Keep pushing the strut thru until in it's final position. It will take some effort to clear the final bend, just gently and slowly work it thru while pushing down in the foam area as needed.



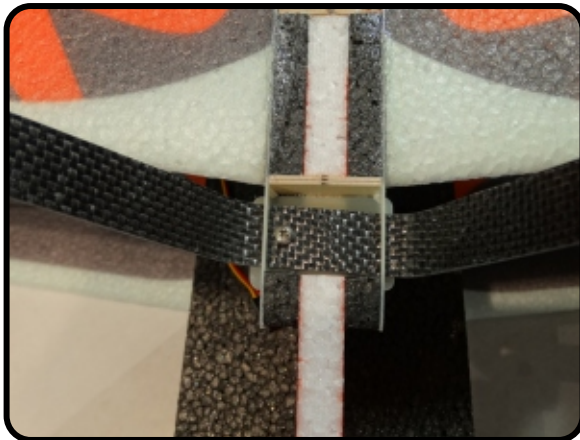
Next... slide the G10 plate back into position, under the strut, as pictured above.



Center the G10 plate between the side rails.



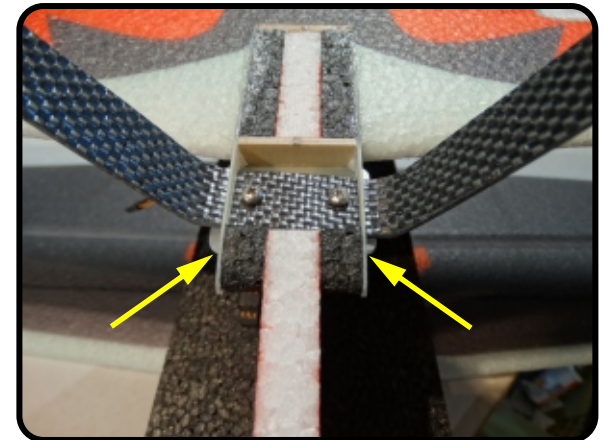
Drill a 2mm hole in the approx position shown above. Exact location not critical, just off to one side and centered on the width.



Install one of the included stubby wood screws into the hole just drilled. It will be tight, so work it in and out some for the initial installation.



Using some visual reference on the wing, align the tip of each end so that they are perpendicular. The center area where the screws are may look crooked. This is OK.



Drill another 2mm hole for the second screw and install to lock the strut into position. Put a drop of thin CA in the areas indicated by the arrows to hold everything side to side.



Locate the above parts. This is everything needed for the wheel assemblies.



Layout the parts so that you have a left and right version. Apply a skim coat of glue to the mating surface and attach them to each other.



When assembled you should have a left and right as pictured. While the glue is drying, put the parts under some weight, this will keep them nice and flat.



With a 2mm drill, enlarge the center hold of the wheel.



Rough up the ends of the long skinny G10 brace. This area will be the glue area when attaching to the wheel pants.



Pictured above the sequence of how the part will assembly. Screw-wheel-nut-washer-G10 brace-wheel pant.



The wheel assembly will be attached to the pant with medium CA and Kicker. Apply a drop of CA to each end of the G10 brace and spray Kicker on the mating surfaces of the pant.



Bring the two pieces together. Hold them in position for about 10 or 15 seconds. This should be enough time for the CA and Kicker to react with each other.



Next, take that assembly and stick the screw thru the hole in the end of the landing gear as shown above.



Install a washer and nut, tighten everything down. Make sure the wheel pant is level with direction of flight.



Repeat the whole process with the other side. Make sure both wheel pants line up with each other as pictured above.



Locate the tail skid and cut a small slit approx as shown above.



Install into the slit you just cut and secure with thin CA and Kicker.



Locate the SFGs and remove them from their foam tree.



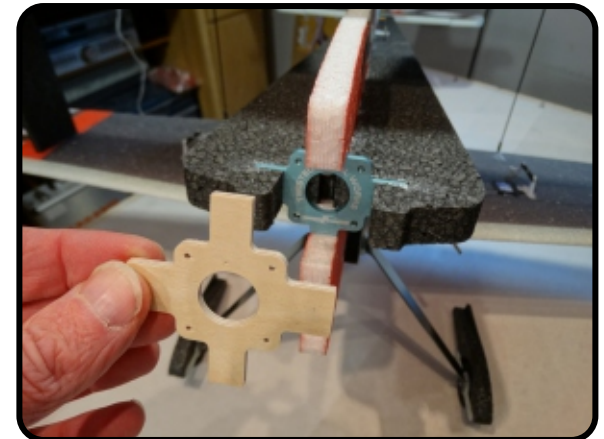
All the SFGs are the same. Attach them to the wings in their respective pre-tabbed areas.



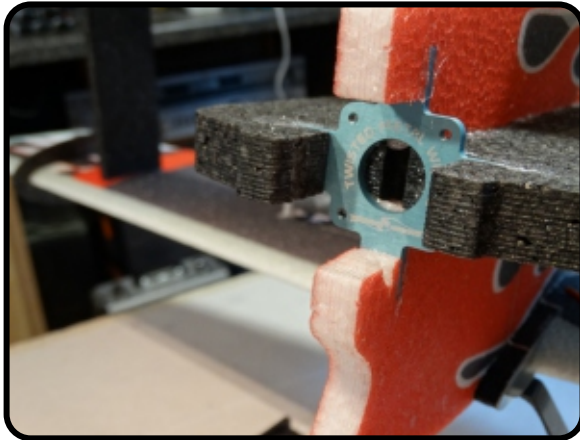
Make sure that the SFG is fully seated and flush with the profile of the wing, then secure to the wing with thin CA and Kicker. Repeat for the other three.



If you have not already done so, attach the "X" mount to the back of the motor. Use the small flat head screws provided with the motor. Also, remember to use loctite.



If using the wooden mount, you will need to supply your own stubby 3x8mm wood screws.



This build used the upgrade alum. motor mount, so use the 3mm machine screws that were included with the mount, and attach the motor.



Motor attached with the wires on the side of the fuselage where the ESC and Receiver will be installed.



All the electronics installed. Position battery in a convenient spot that will give the proper CG, see page 43.



Balance the prop you will use. This is important, omitting this step may cause vibration that will shorten the life of the motor and airframe, as well as eat up un-necessary battery power.



Test all the control surface directions and control throws. Set all control surfaces per page 43, but watch that you do not stall the servos.





Dress your Revo P3 up with a spinner if you have one laying around, charge some batteries and head out to the park!!

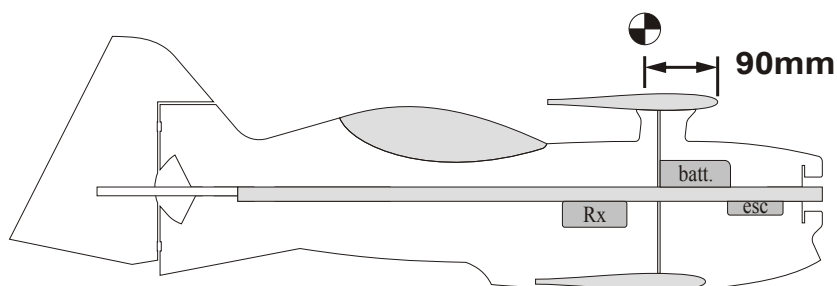
This completes the build, it's design and construction should give you many hours of flying enjoyment. This airplane will serve you well, whether you are relatively new to 3D flying or are a seasoned veteran.

Please visit www.TwistedHobbys.com for other accessories and aircraft.

There are several online resources and forums for this model as well. It is suggested that you visit the RC Groups Thread for this model for additional information, it is a great resource for questions and insight to this aircraft.

CENTER OF GRAVITY

C.G. - 90mm from LE of top wing



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, balance for level flight upright and inverted with little to no elevator input. Also power off down line should be straight down without any pull or tuck.

CONTROL THROWS

Extreme & 3D

Ailerons: +/- 40 deg
Rudder: +/- 45 deg
Elevator: +/- 50 deg
Expo to suit (40% to 60%)

Beginner & Sport

Ailerons: +/- 20 deg
Rudder: +/- 20 deg
Elevator: +/- 20 deg
Expo to suit (15% to 30%)

In order to achieve the control throws as described for "Extreme and 3D", it is imperative that the control surfaces, 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



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.

PREFLIGHT Checks

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 Semi Scale Stunt Plane is a full 3D 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, FoamTac or CA. Many pilots prefer Welders or FoamTac because they remain flexible after drying. CA however, is more suited for the “quick” repair.

This aircraft can be flown indoors or outdoors. It is however designed specifically for outdoor flying and will be right at home at the local park or baseball diamond.

STORAGE

This EPP plane should be stored resting it's landing gear or hung from the prop. 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 AND 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.