



EDGE 540 - V3 SERIES

MOTOR: 1x 50-72g / 900-1200kV Outrunner
ESC: 1x 20A (58g motor) / 30A (72g motor)
SERVOS: 4x 10g-16g Metal Gear Servos
PROP: 1x 10x3.8-10x4.7 for 58g motor
 11x5.5 for 72g motor
BATTERY: 3s 800mAh-1500mAh



RADIO: 4 channel
WINGSPAN: 39"
LENGTH: 41"
AUW: 400g to 500g
 depending components used

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 manufactures' 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

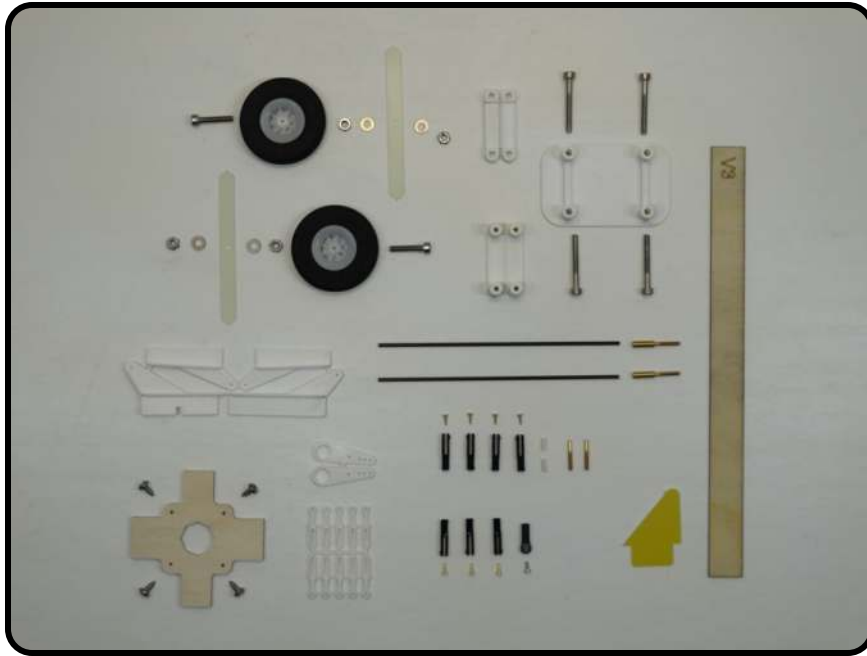


Fuselage Parts

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



Landing Gear and Misc 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

POWER COMBOS



Light Weight Combo



High Energy Combo

There are many different combinations of servos, motors, escs, props, etc. Above are the two offerings from Twisted Hobbys. Slow and Floaty on the LEFT and Ballistic and Insane on the RIGHT.

*** THESE ARE OPTIONAL ITEMS - THEY ARE NOT INCLUDED IN THE KIT ***

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

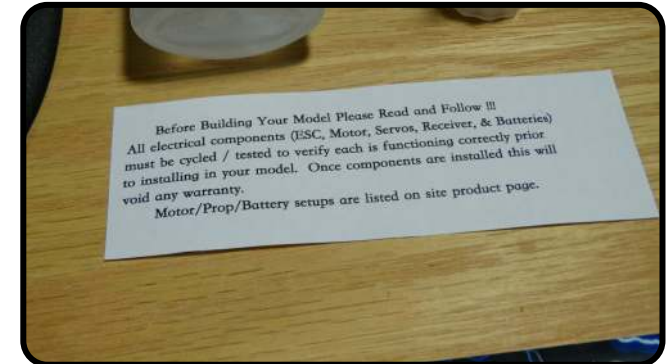
- **Lighter**
- **Small Drill Bits**
- **Tape Measure and Ruler**
- **Black Sewing Thread**
- **Welders or Foam Tac Glue**
- **Hobby Knife w/new Blade**
- **Needle Nose Pliers**
- **Wire Cutters**
- **Low Temp Hot Glue Gun**
- **Course Sand Paper**
- **Scissors**
- **Small Phillips Screw Driver**
- **Thin 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 electronics that will be used on this model
- ☐ 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.

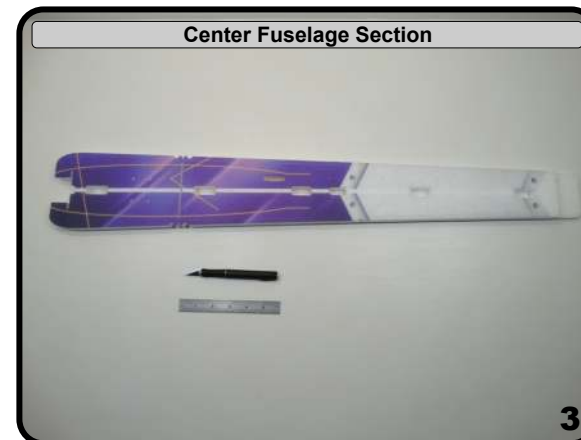
Do Not Over Bend - flex carefully



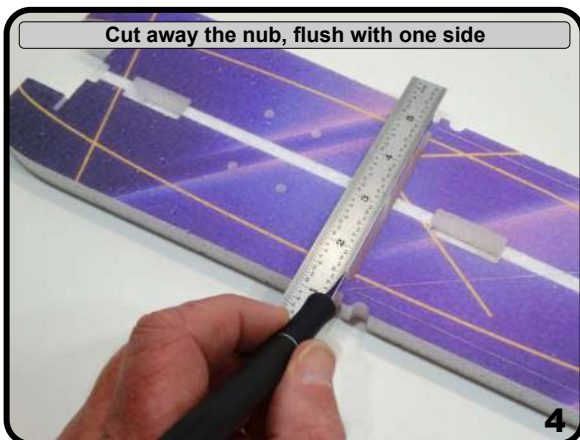
Always start your builds with a fresh Blade



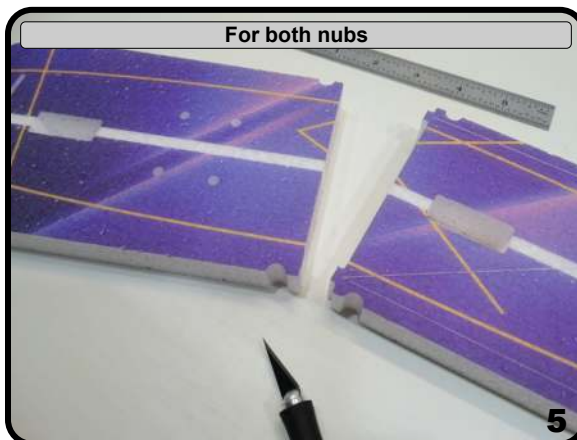
Center Fuselage Section



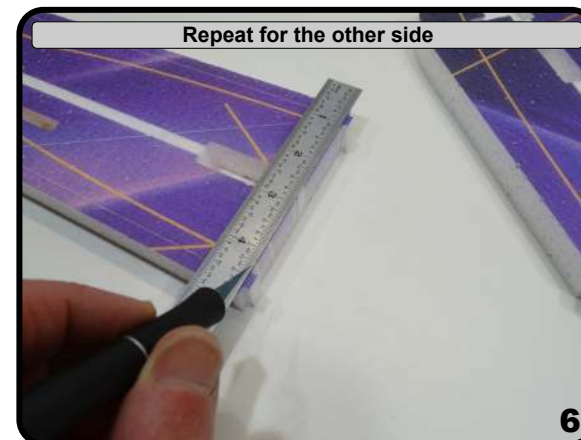
Cut away the nub, flush with one side



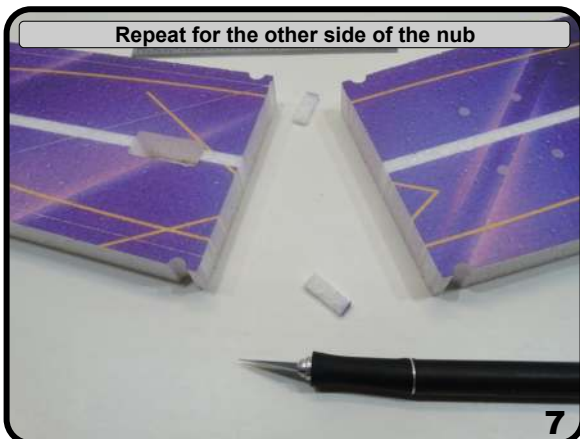
For both nubs



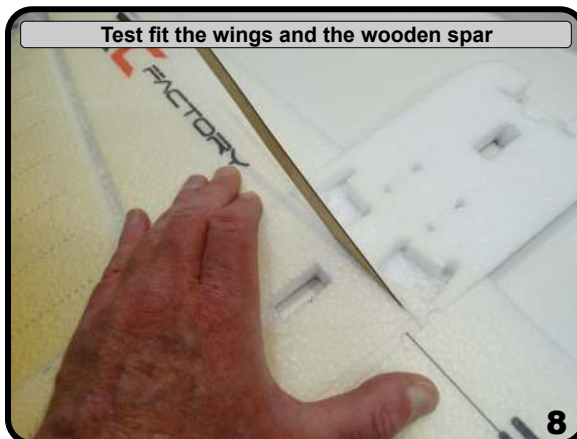
Repeat for the other side



Repeat for the other side of the nub



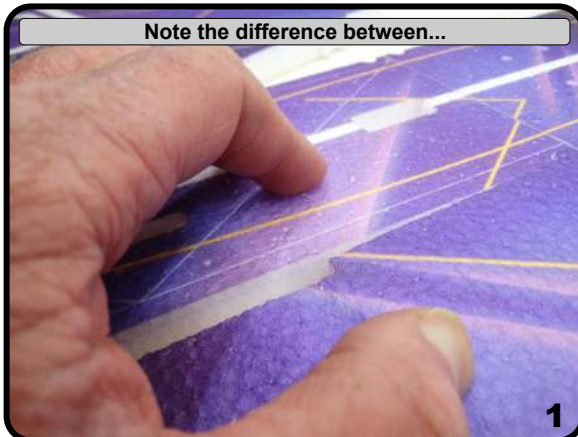
Test fit the wings and the wooden spar



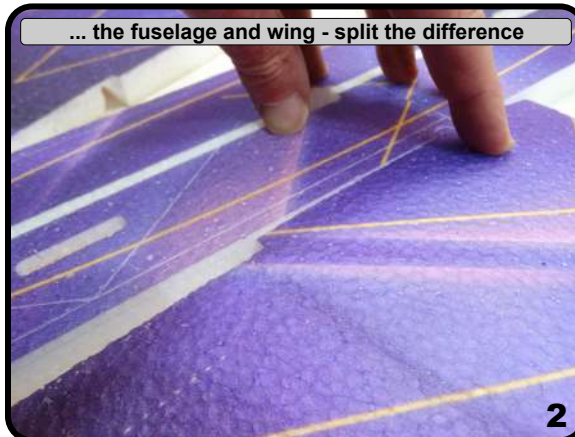
Center wing trailing and leading edges



Note the difference between...



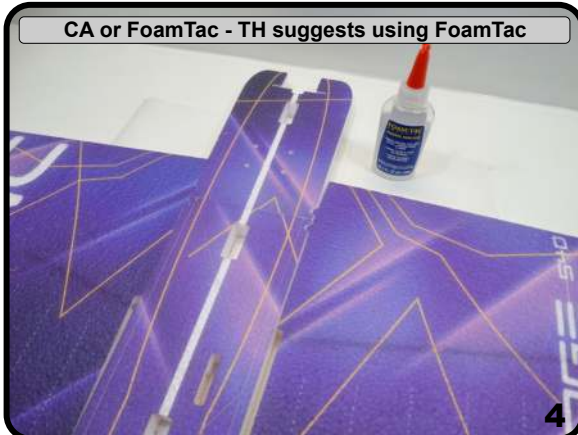
... the fuselage and wing - split the difference



Top Side Orientation



CA or FoamTac - TH suggests using FoamTac



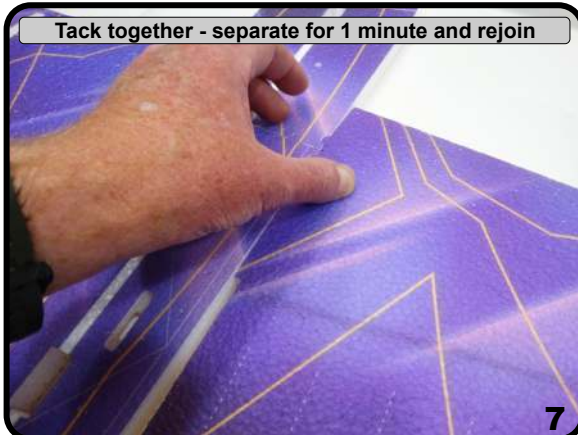
Apply glue to the wing core and all...



...the contact points, keep spar area free of glue



Tack together - separate for 1 minute and rejoin



Do the same for the other wing



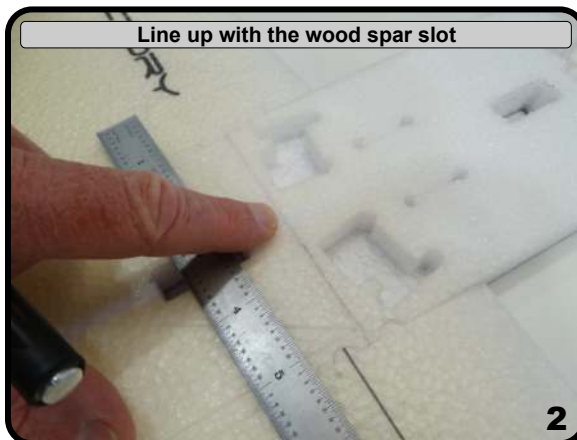
Tack up separate - rejoin in like other wing



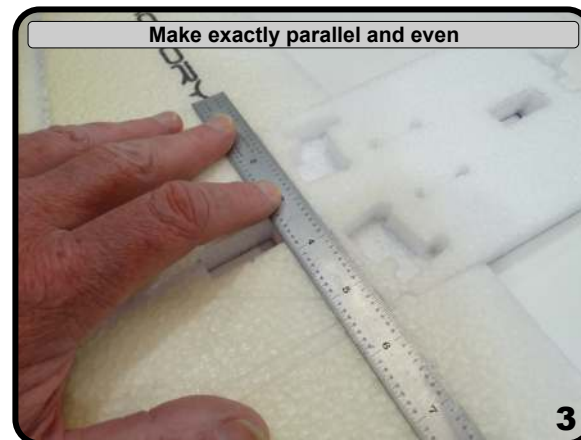
Carbon Wing Spar Cut - 1/8 inch deep



Line up with the wood spar slot



Make exactly parallel and even



Cut 1/8 inch deep from wing tip to wing tip



Also do this in the top side of the wing



Locate the wood spar again



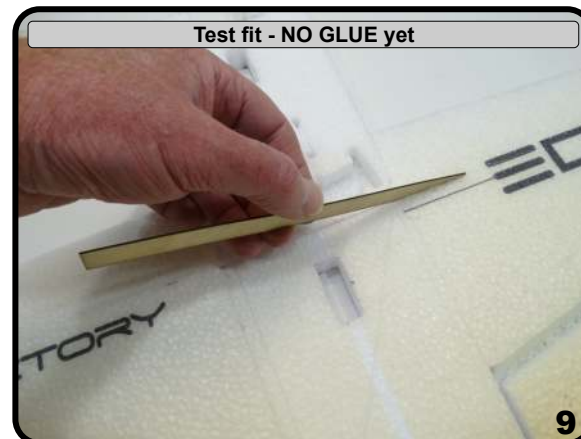
Installs in this slot, full depth will need extended



Make the extension cuts all the way thru the wing



Test fit - NO GLUE yet



Press in carefully



Center in thickness of wing - and length of wing



Locate the two 1000x1.5mm round carbon rods



Lay directly over wood spar and 1/8" deep cut slot



Flush up with one of the wing tips



There should be a little extra length



Use a pair of snips and cut just shy of the wing tip



Repeat for the top side



Clean the spars with alcohol



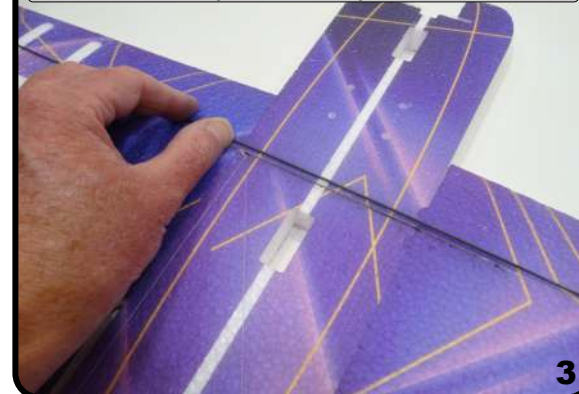
Press the round rod into the slot so that it is flush



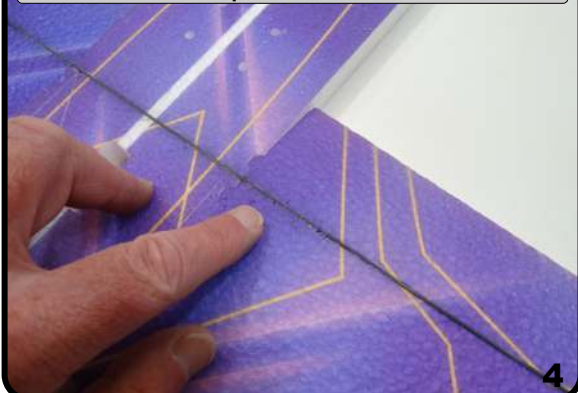
Do this for the full wing span



Repeat for the top side



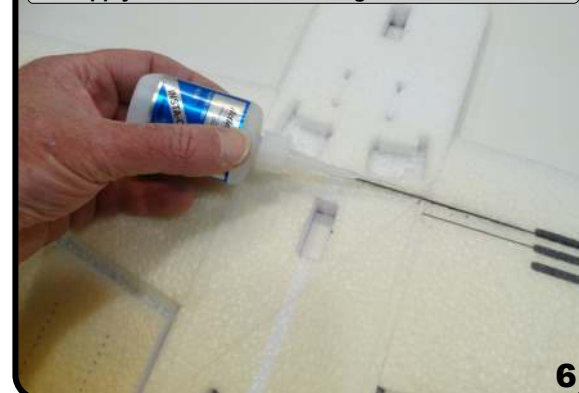
Near center wood spar and carbon are sandwiched



Check the bottom wood and carbon spar sandwich



Apply thin CA to the full length - let it soak in



Do the same on the top - CA - No Kicker



Elevator and 3x1x250mm carbon rectangle



Wipe with alcohol



Test fit into the pre-cut slot



Make sure that it is flush with the foam



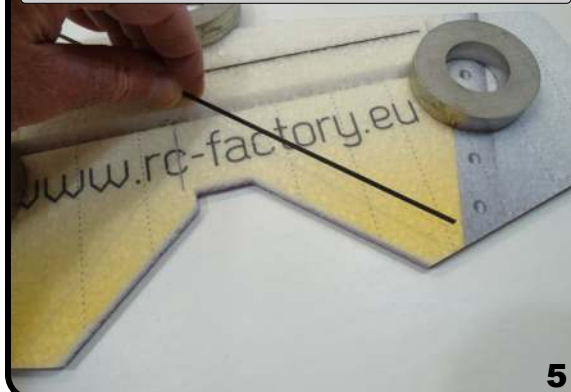
Constrain the assembly flat and secure with CA



Locate the 3x0.5x250mm spar



It will need to be cut in half



Cut exactly in half



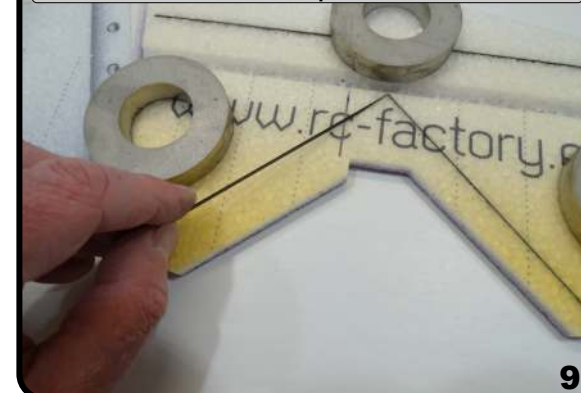
Wipe with alcohol



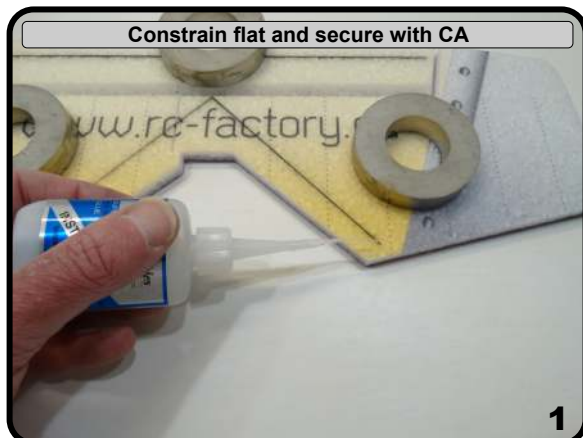
Test fit into the slot



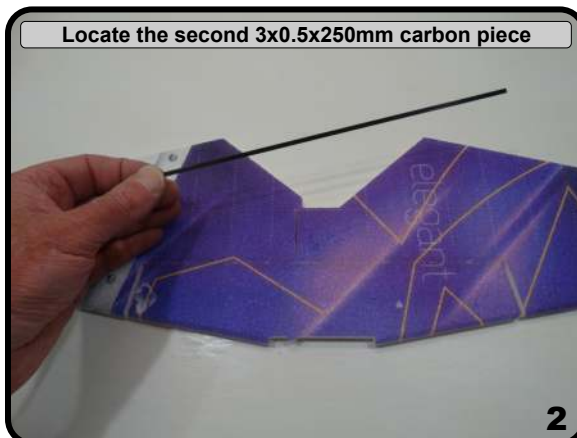
Do both pieces



Constrain flat and secure with CA



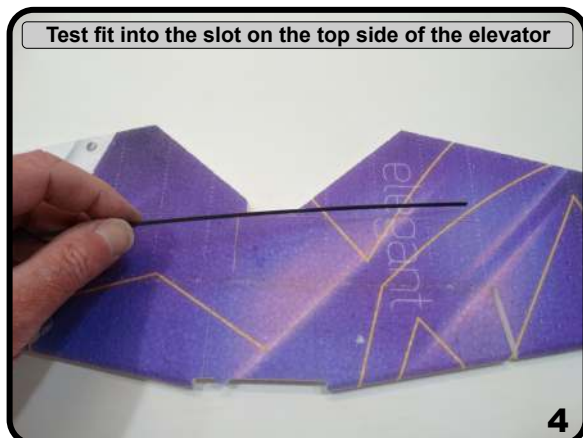
Locate the second 3x0.5x250mm carbon piece



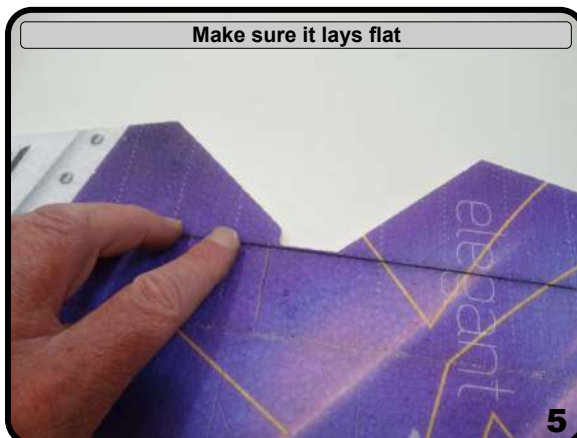
Wipe with alcohol



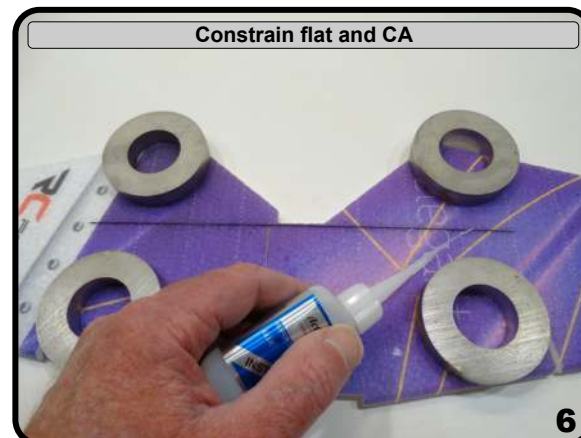
Test fit into the slot on the top side of the elevator



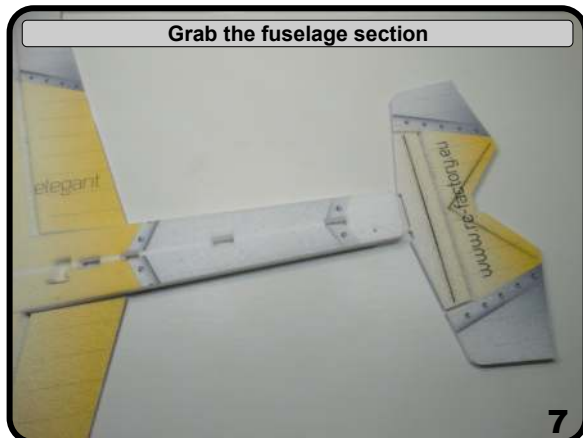
Make sure it lays flat



Constrain flat and CA



Grab the fuselage section



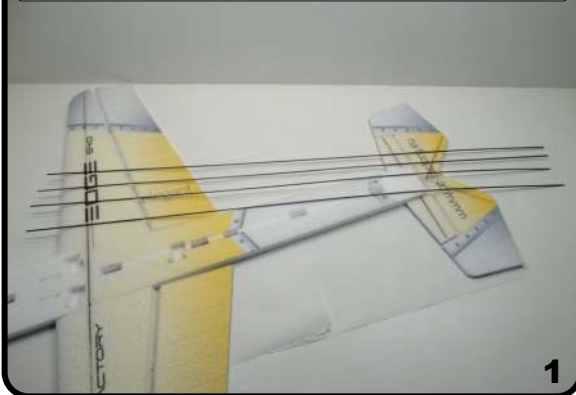
With the underside FACING UP



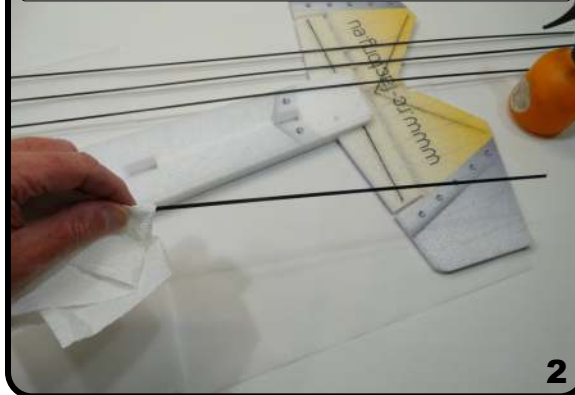
Attach the two pieces with FoamTac



Locate the 4 pieces that are 3x0.5x1000mm



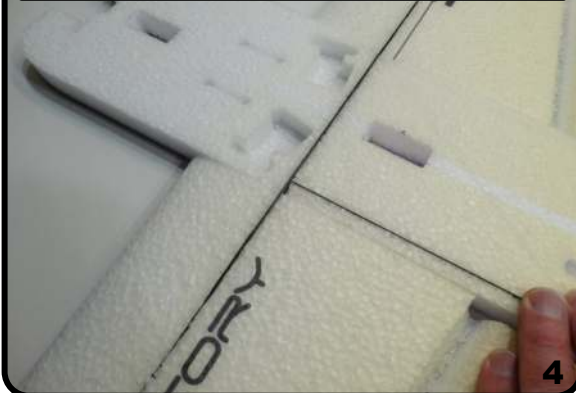
Wipe them all down with alcohol



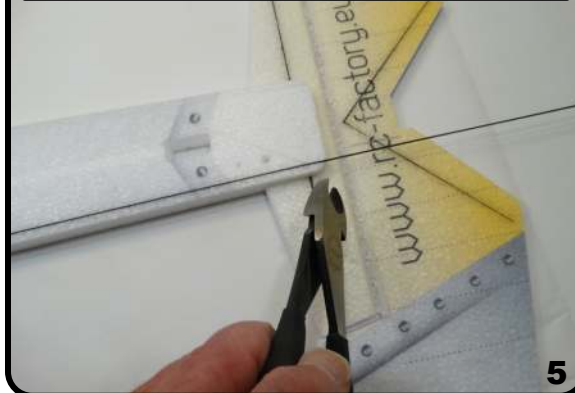
With the bottom facing up - start with the long piece



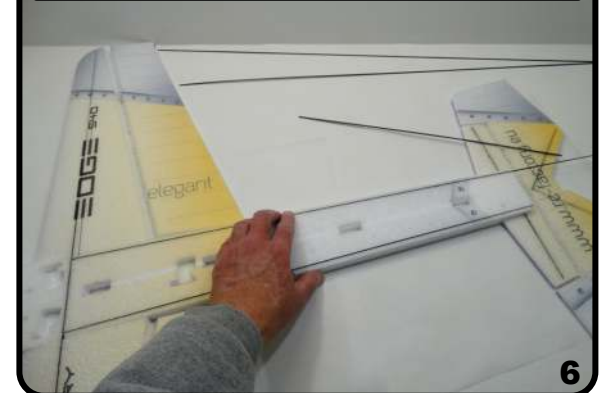
Make one end flush with the main wing spar



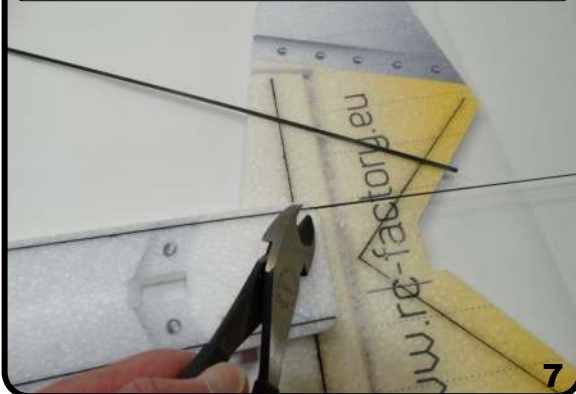
Trim to length at the tail



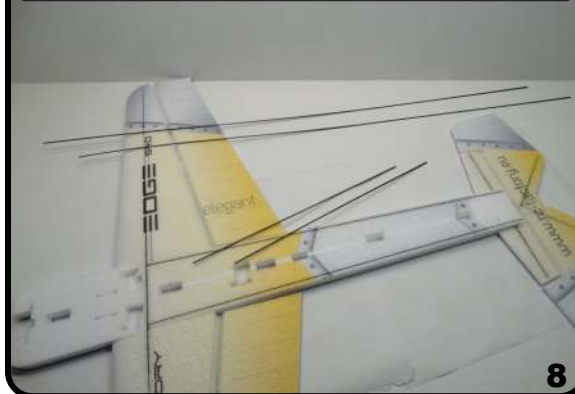
Lay in the other edge



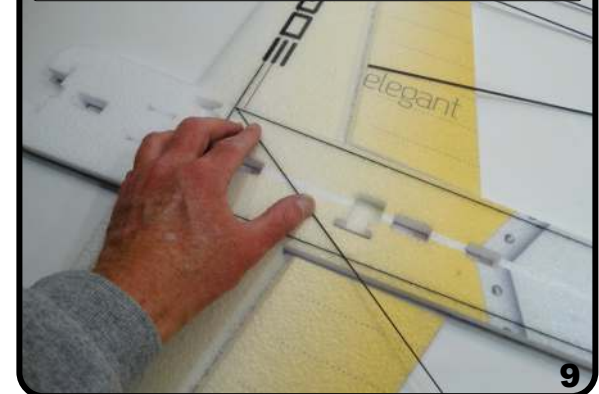
Cut it to length like was done with the other side

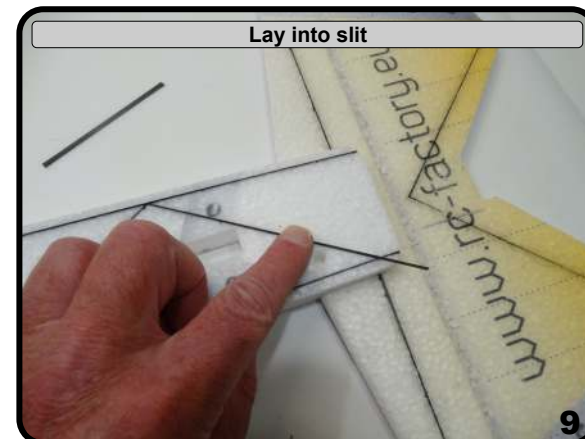
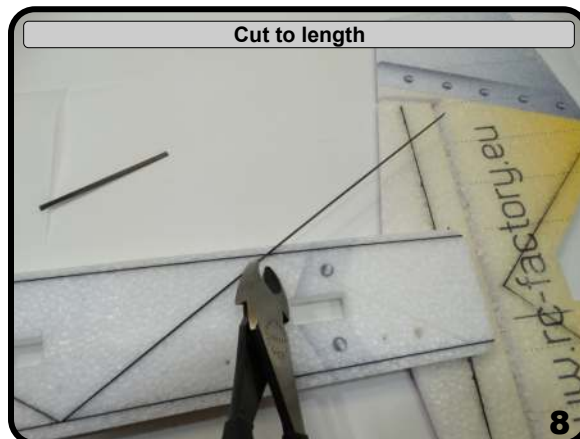
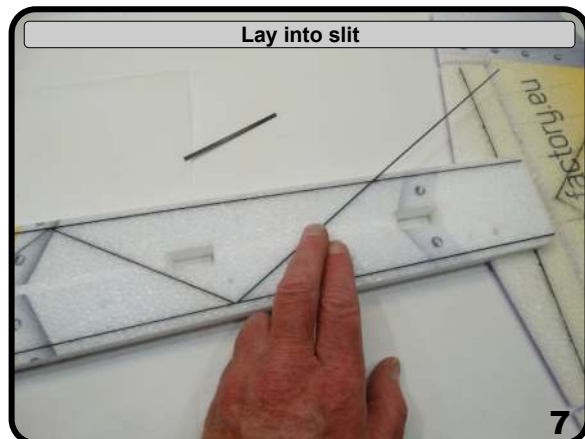
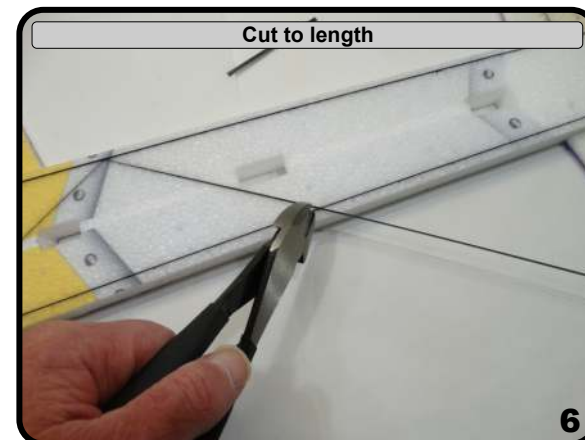
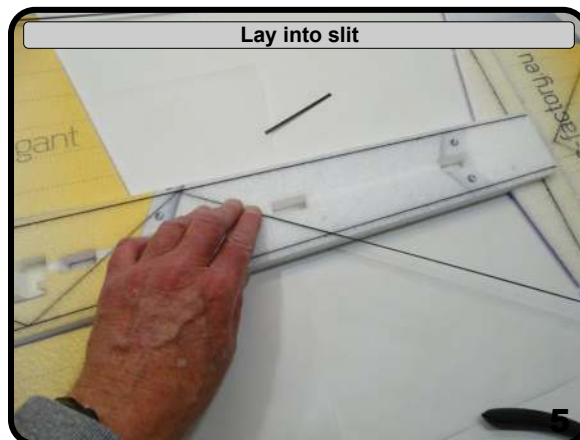
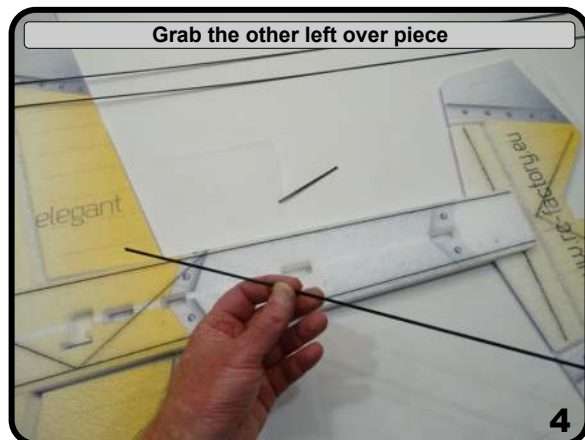
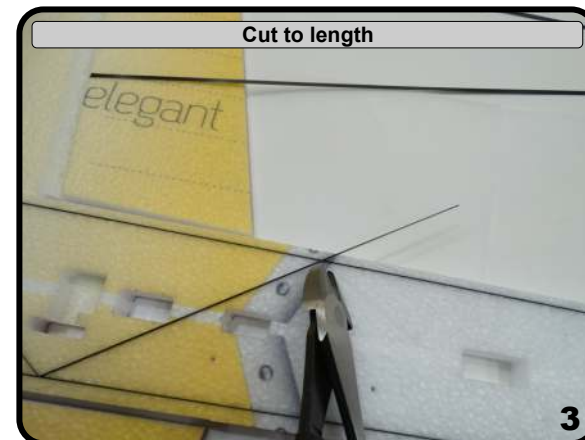
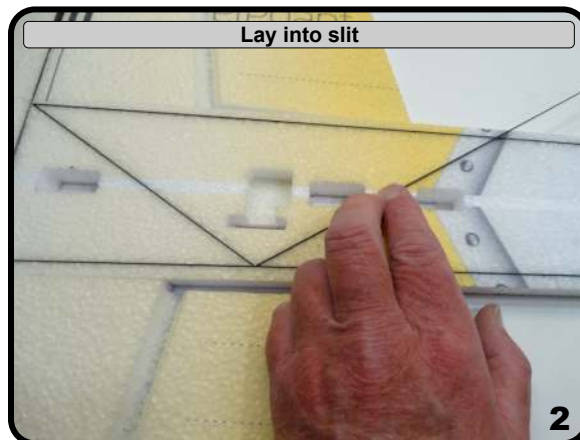
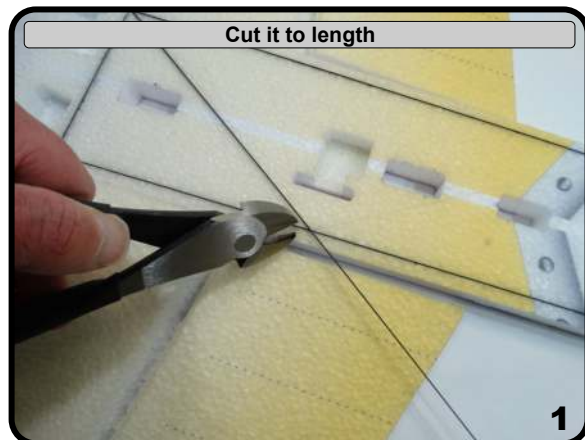


The two shorter leftovers will be used for the zigzag

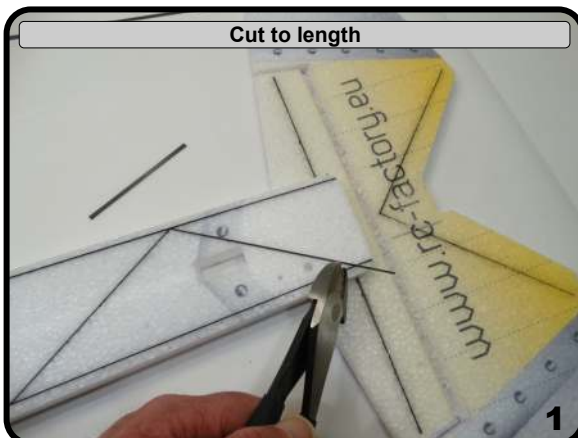


Lay into the slot - flush with the wing and side spars

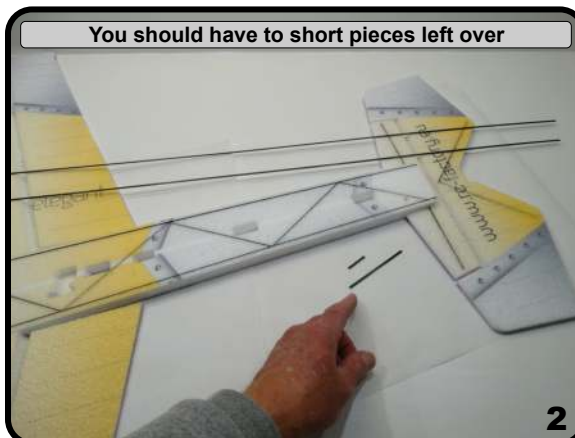




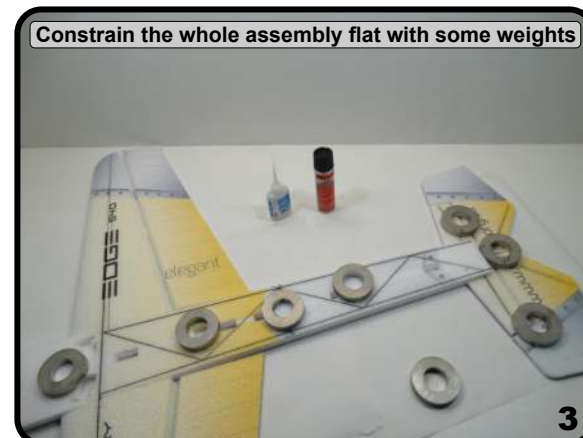
Cut to length



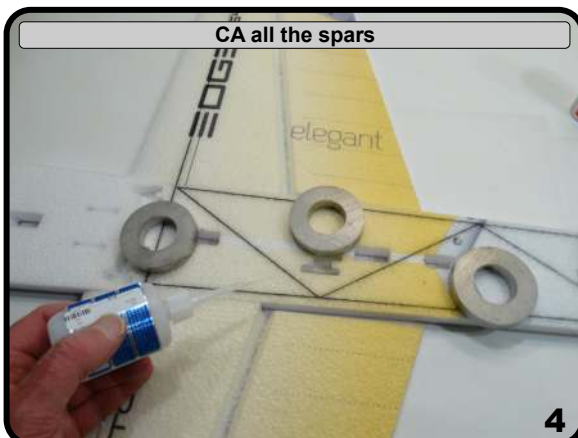
You should have to short pieces left over



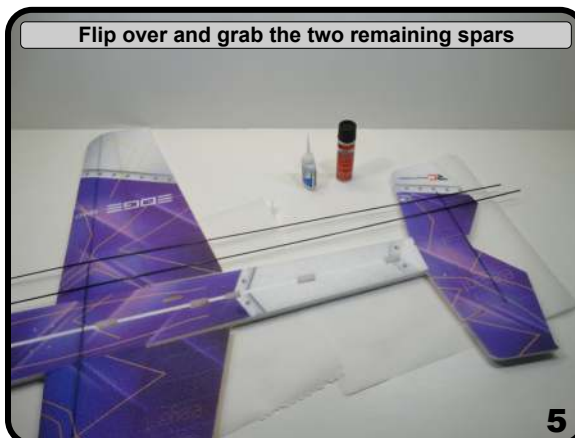
Constrain the whole assembly flat with some weights



CA all the spars



Flip over and grab the two remaining spars



Make flush and wing spar and cut to length at tail



Repeat the whole process on top and CA all spars

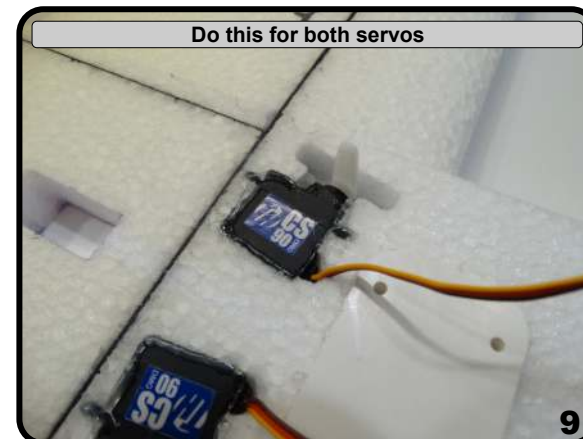
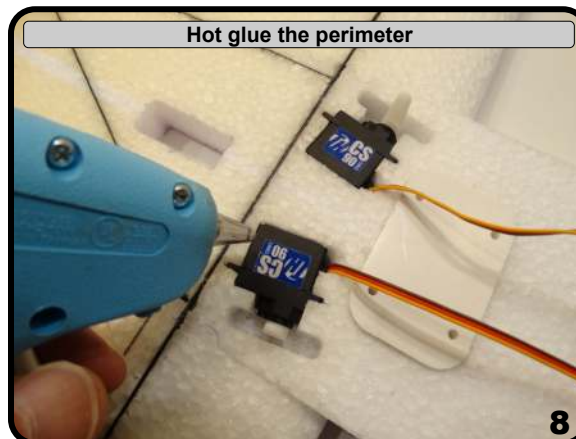
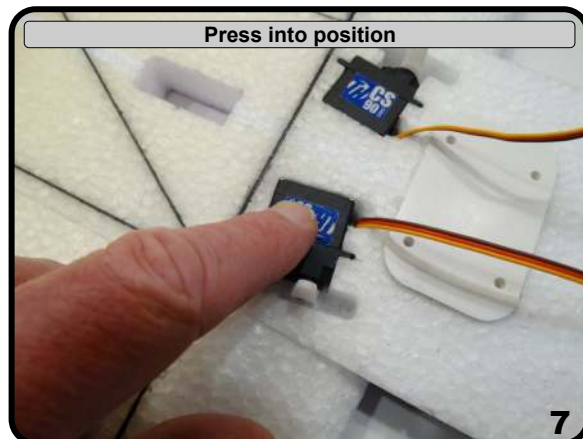
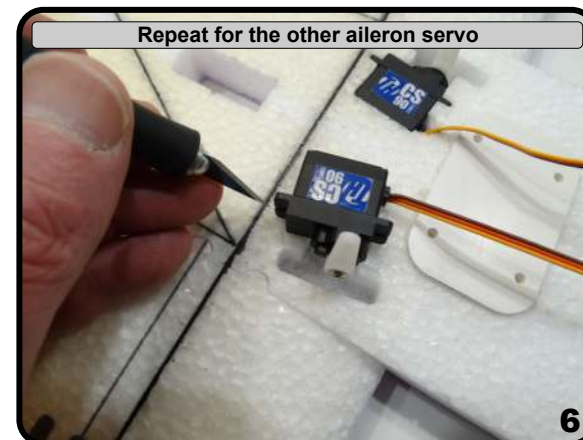
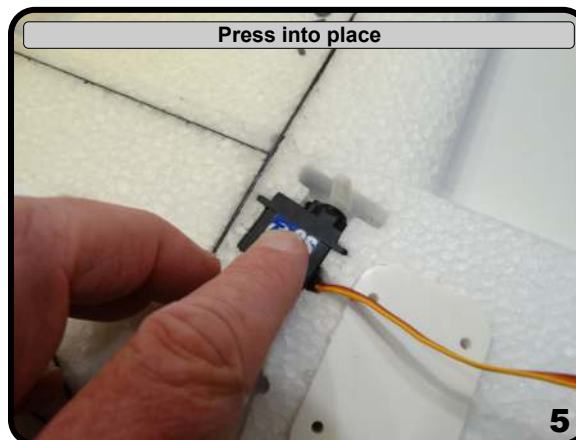
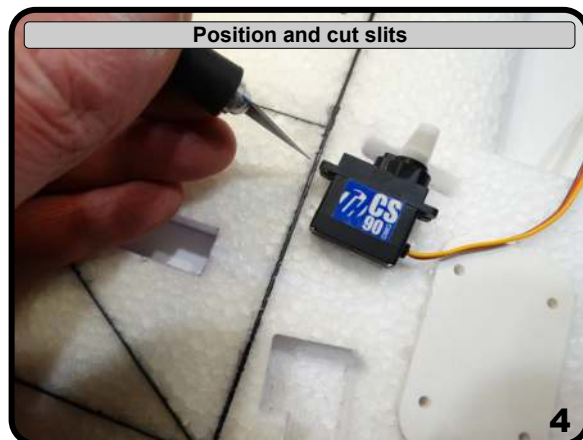
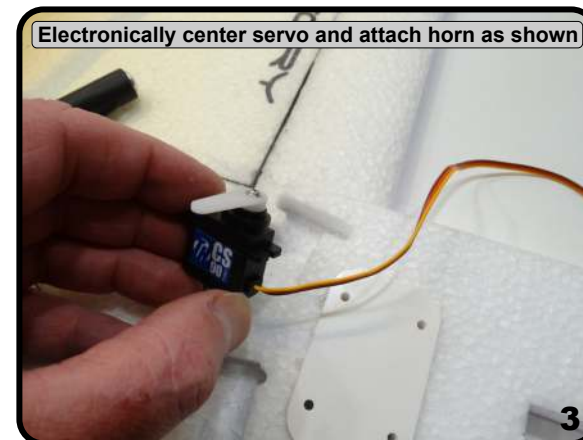
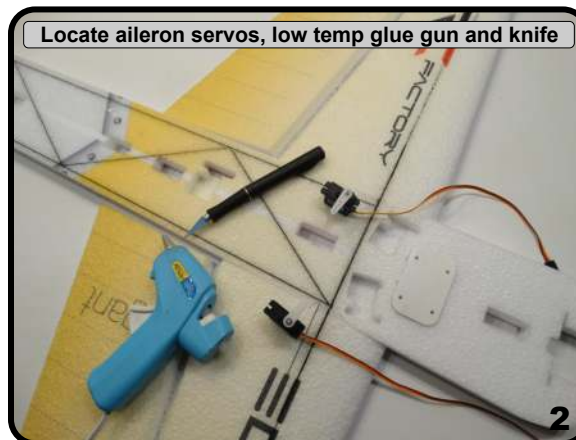
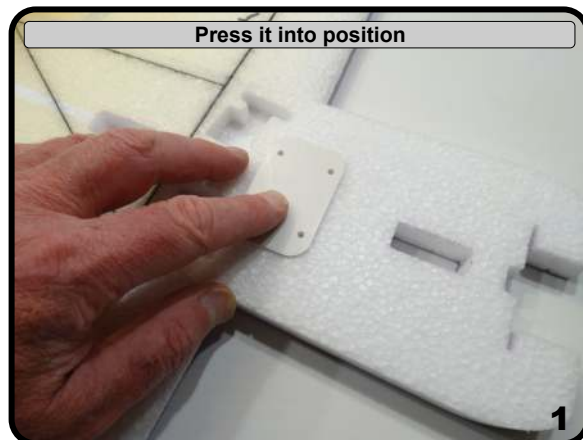


Locate the landing gear plate

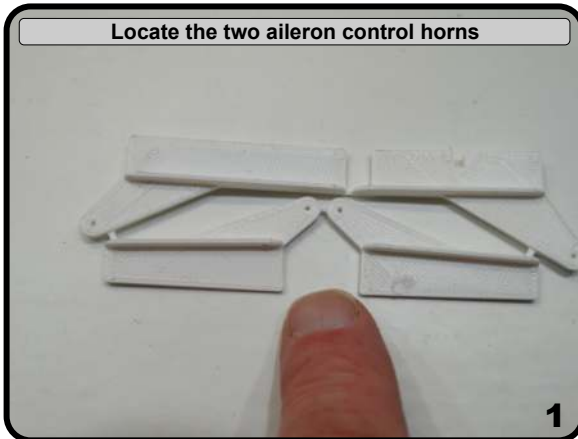


Apply a generous amount of FoamTac



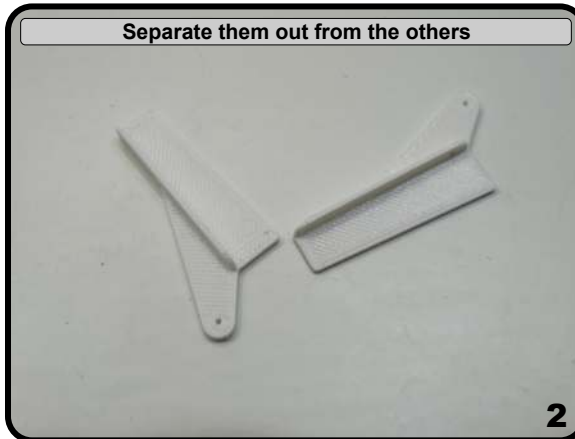


Locate the two aileron control horns



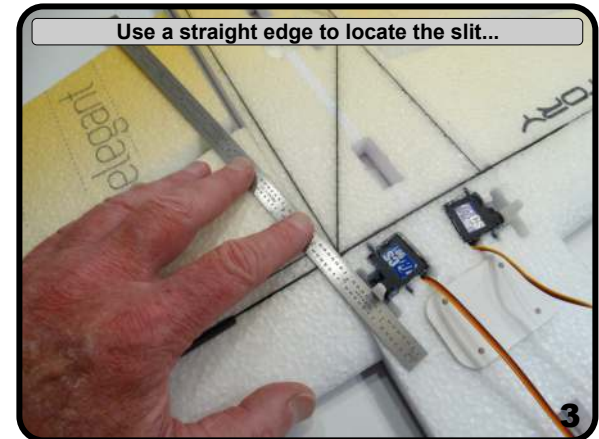
1

Separate them out from the others



2

Use a straight edge to locate the slit...



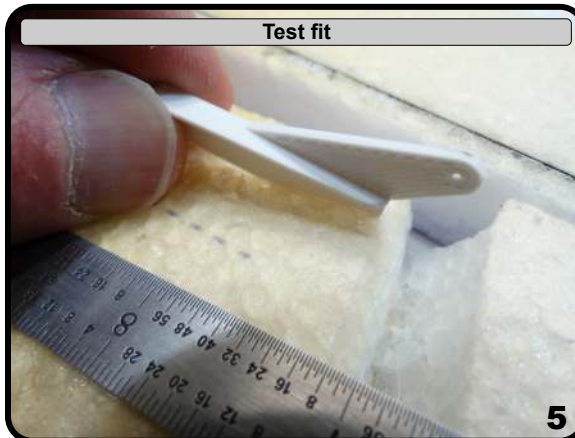
3

Cut a slit for the tab on the horn



4

Test fit



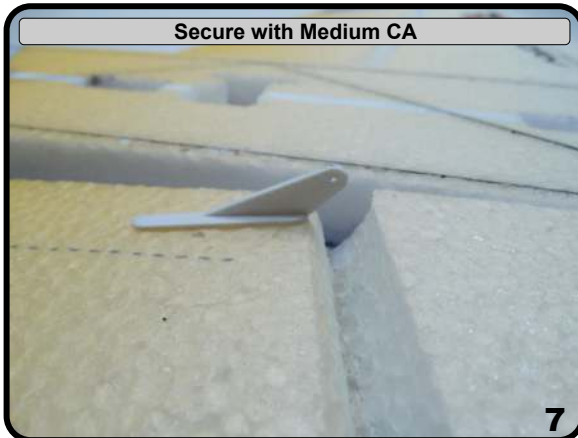
5

Locate as shown



6

Secure with Medium CA



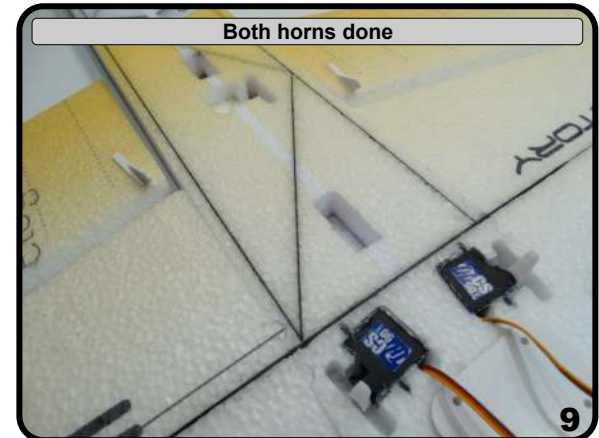
7

Repeat for the other side



8

Both horns done

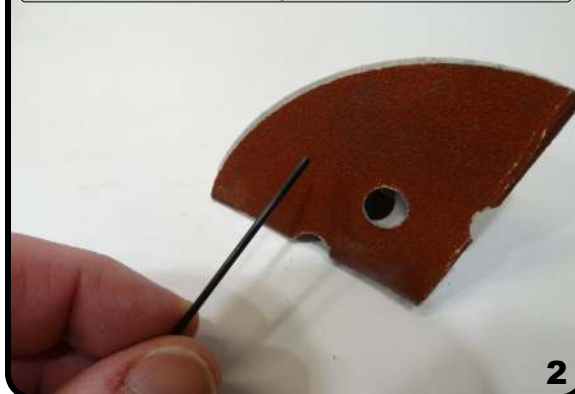


9

Locate - 1.8x110mm rounds and link parts shown



Dress up the end...



...so that it will fit into the clevis link end



Press all the way in and secure with thin CA



Repeat for the other 1.8x110mm round



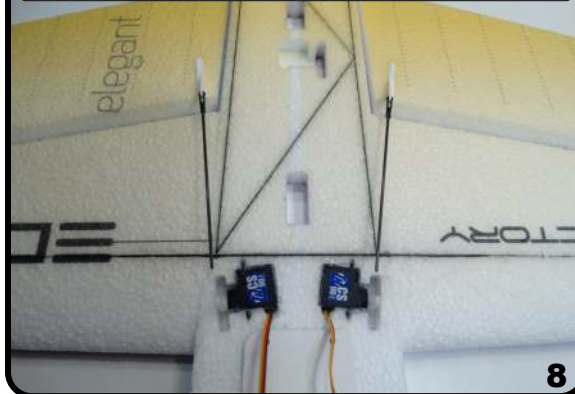
Attach the rod & link assy to the control horn



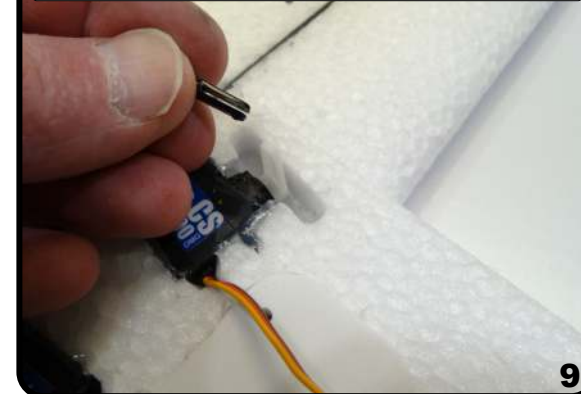
Squeeze flush and make sure pin is fully seated

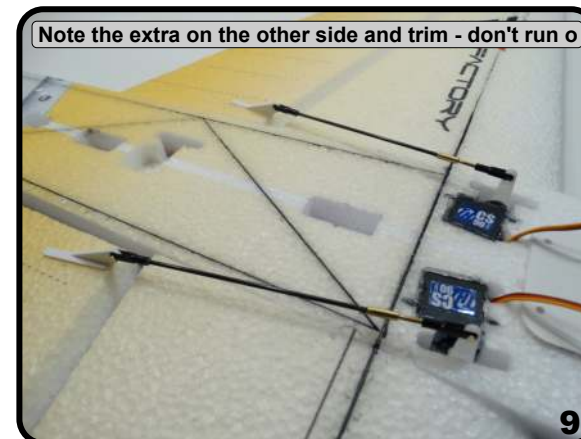
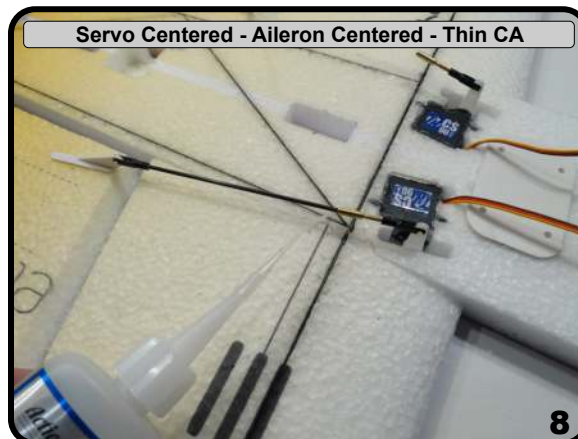
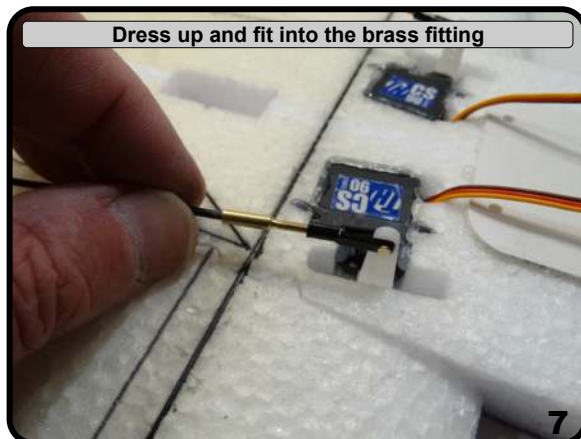
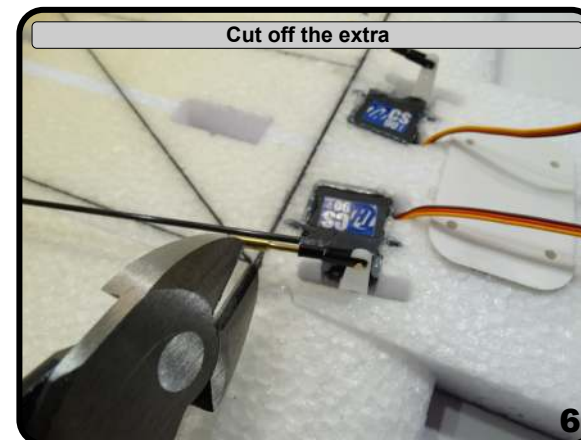
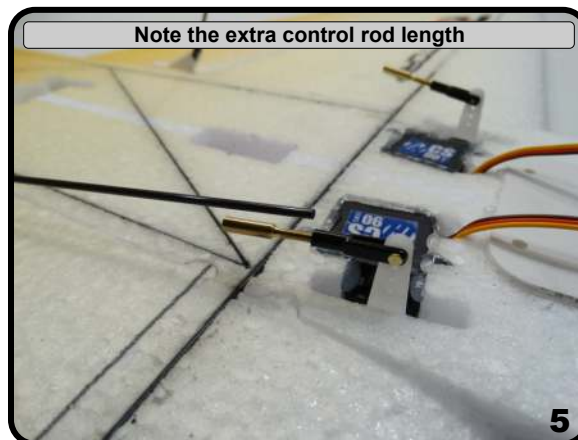
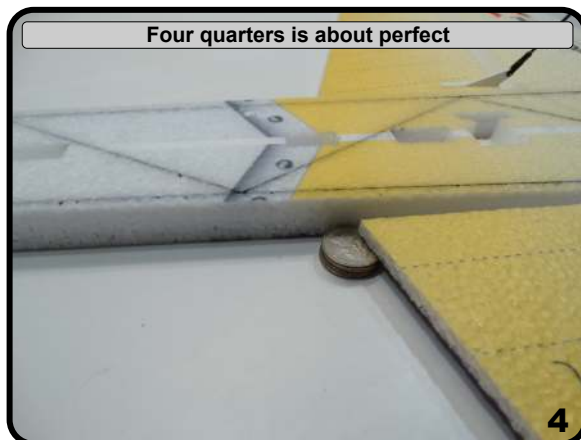
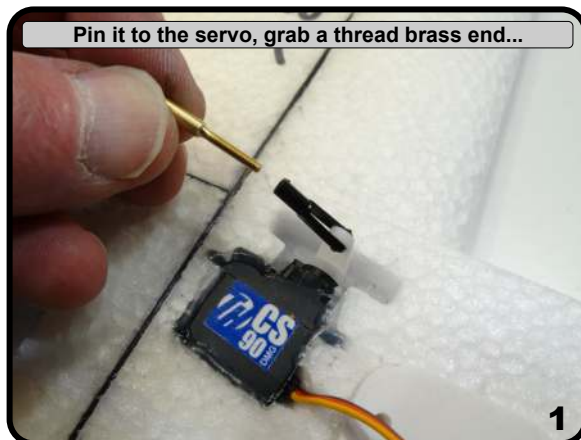


Repeat for the other side



Locate another clevis

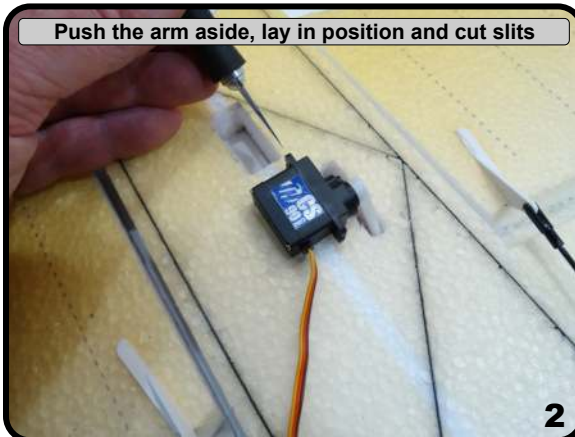




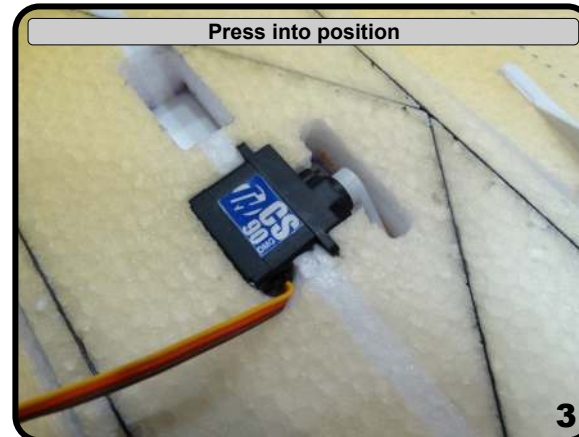
Electronically center servo and attach horn as shown



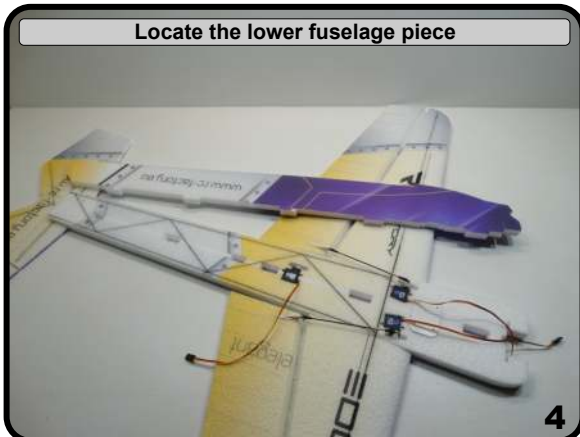
Push the arm aside, lay in position and cut slits



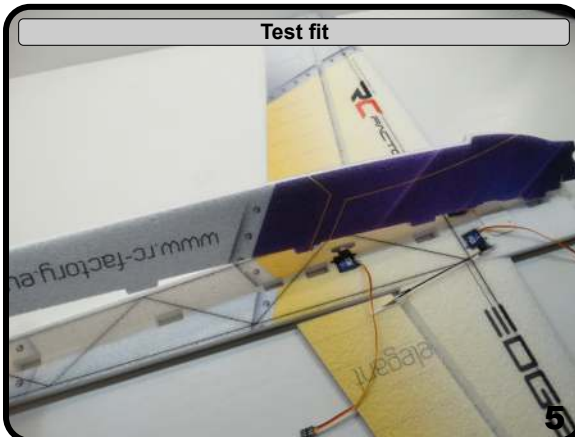
Press into position



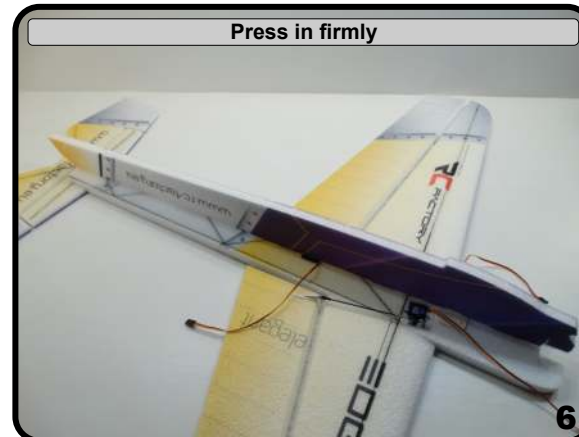
Locate the lower fuselage piece



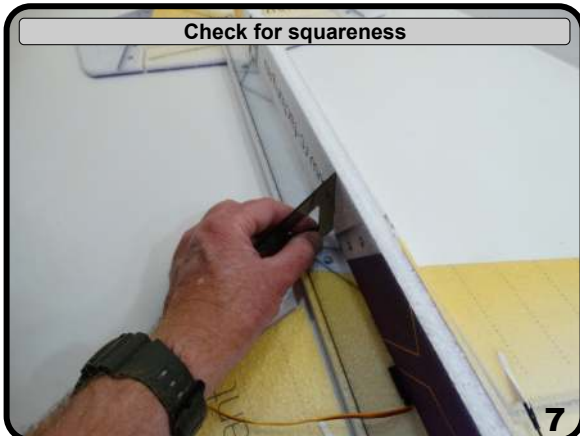
Test fit



Press in firmly



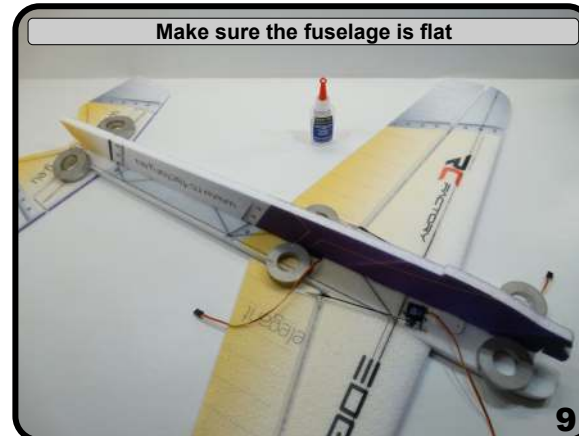
Check for squareness



When happy with test fit - secure with FoamTac



Make sure the fuselage is flat



Press it firmly into position



1

Make sure everything is still nice and square



2

Eyeball down the center make sure it is all straight



3

Locate all the landing gear components shown



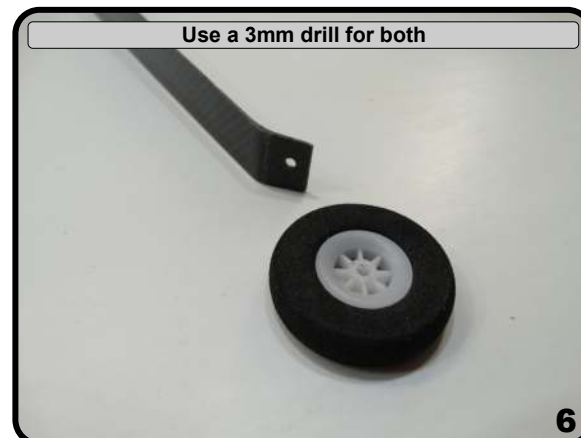
4

Add holes to the struts and resize the wheel hubs



5

Use a 3mm drill for both



6

Locate the strut mounting hardware



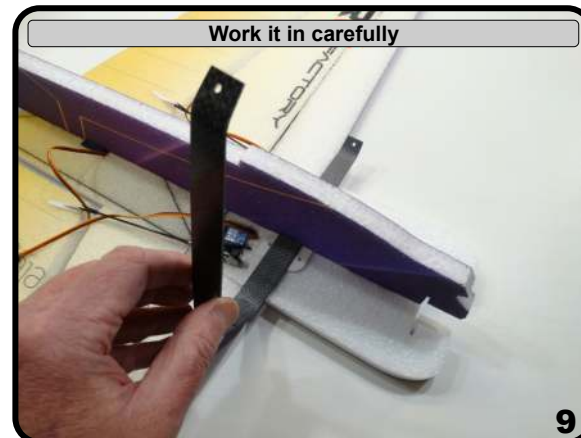
7

Start to slide the strut thru the slot in the fuselage



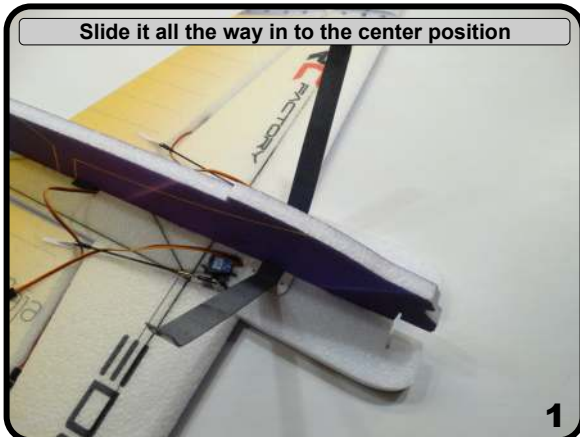
8

Work it in carefully

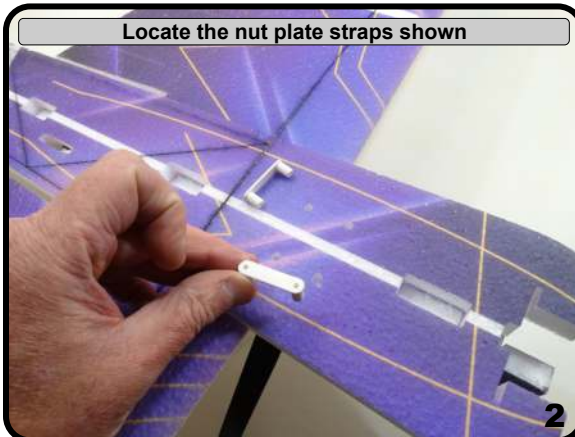


9

Slide it all the way in to the center position



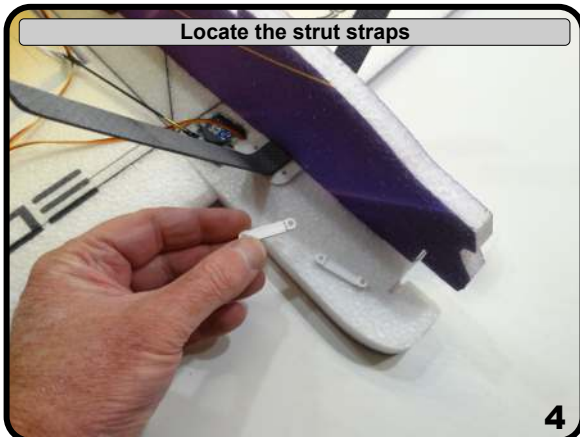
Locate the nut plate straps shown



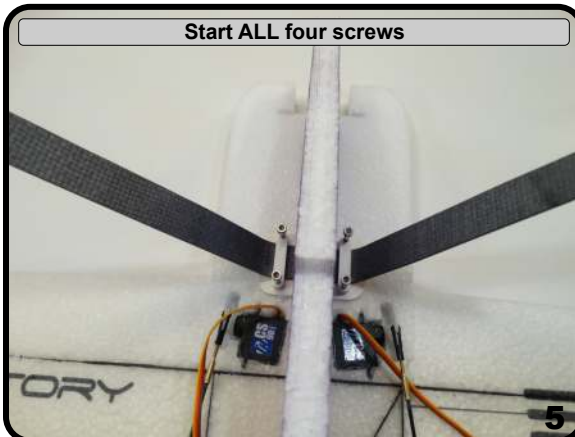
Press them into position with a little FoamTac



Locate the strut straps



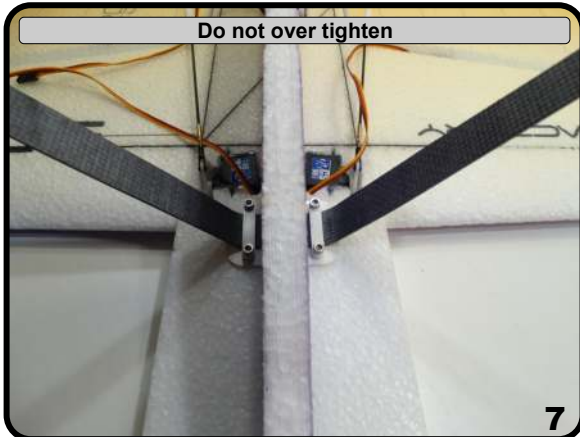
Start ALL four screws



Tighten them all up equally



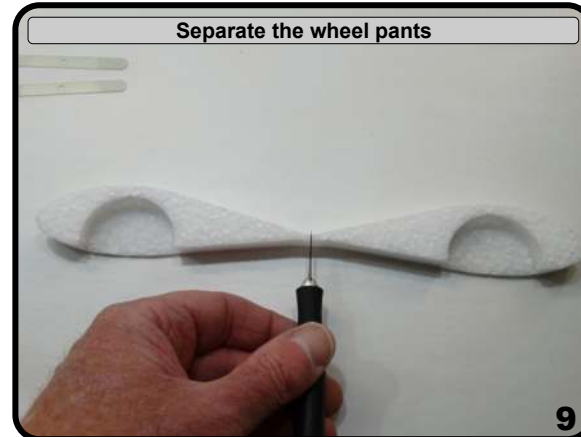
Do not over tighten

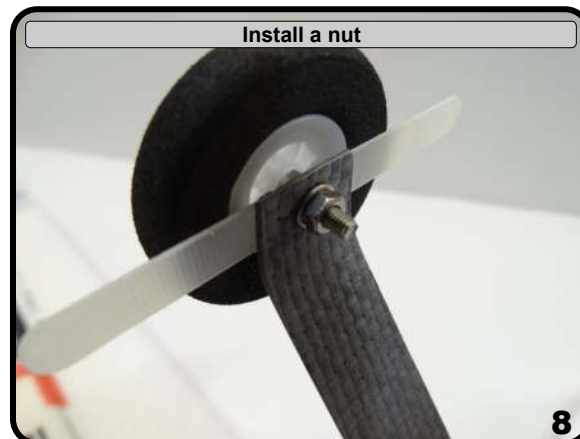
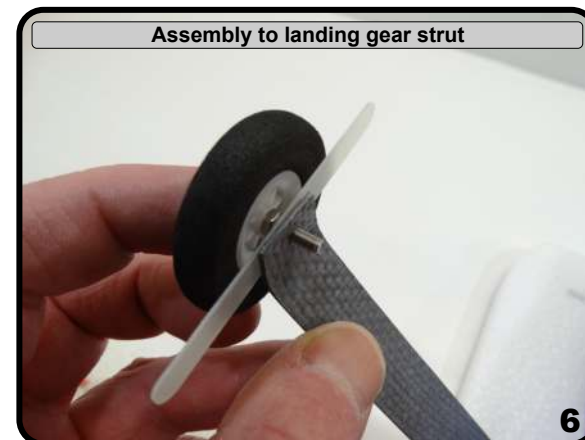
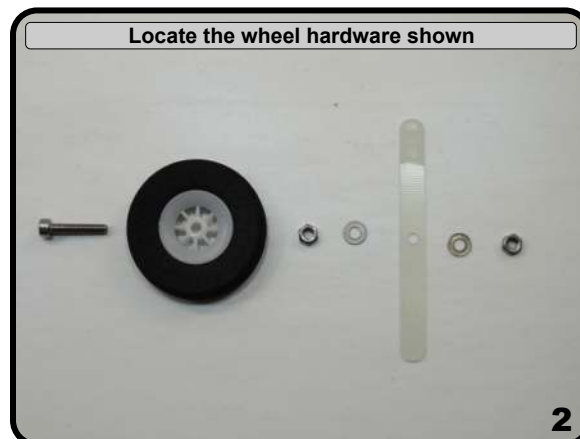
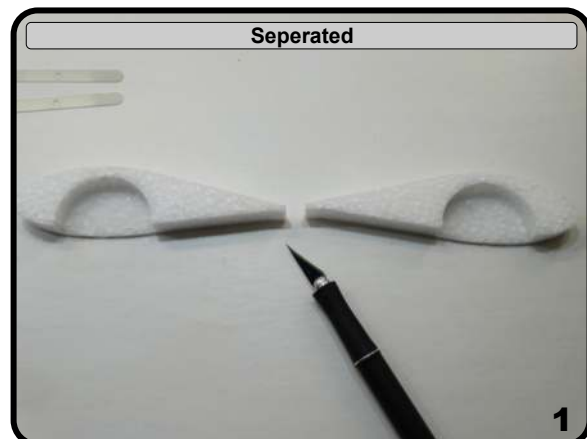


Locate pant straps and drill center hole to 3mm

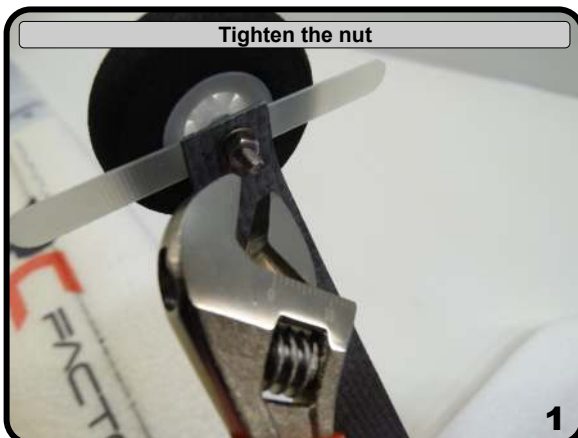


Separate the wheel pants





Tighten the nut



1

Adjust inner nut if needed



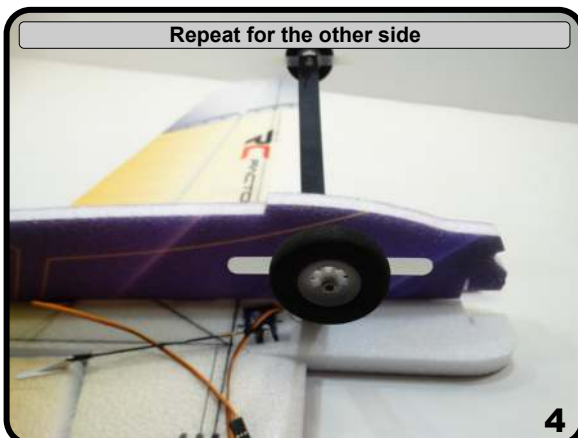
2

Make strap level



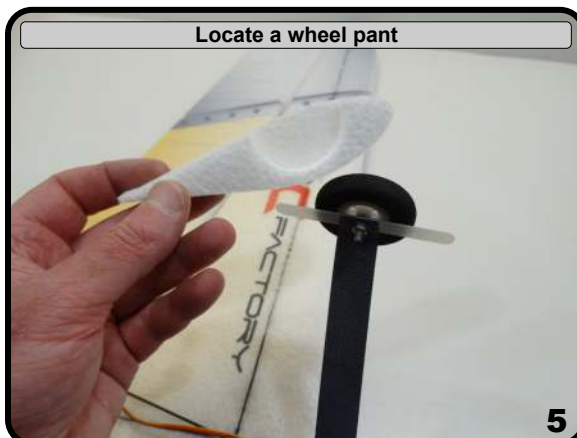
3

Repeat for the other side



4

Locate a wheel pant



5

Attach with Med CA and Kicker



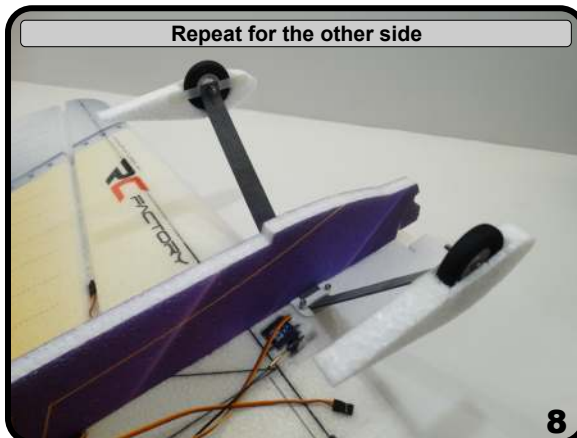
6

Should still be level - adjust a little if needed



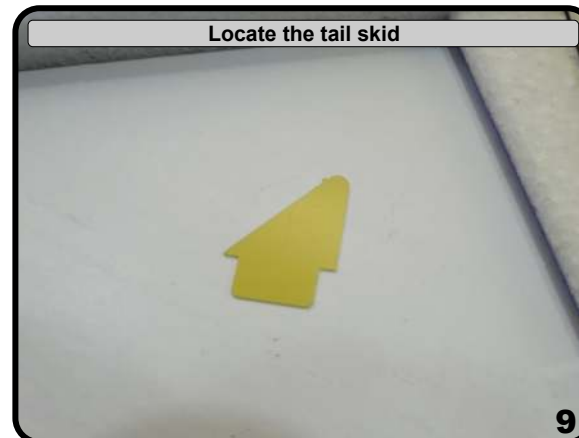
7

Repeat for the other side



8

Locate the tail skid



9

Roughen up the tab for glue to stick



1

Estimate position



2

Cut a slit to fit the skid tab



3

Press into position



4

Secure with thin CA



5

All landing gear components installed



6

Flip over in prep for following steps



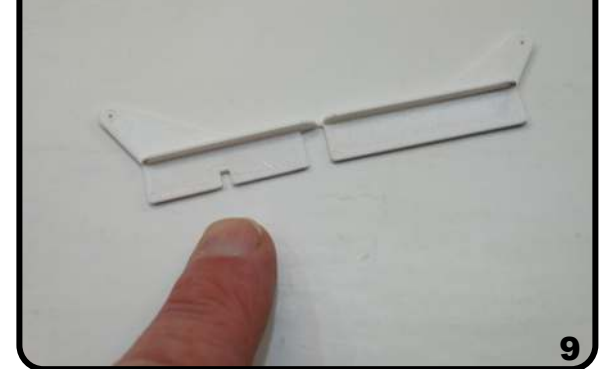
7

Locate two remaining horns and guides as shown



8

The one with the notch is for the elevator

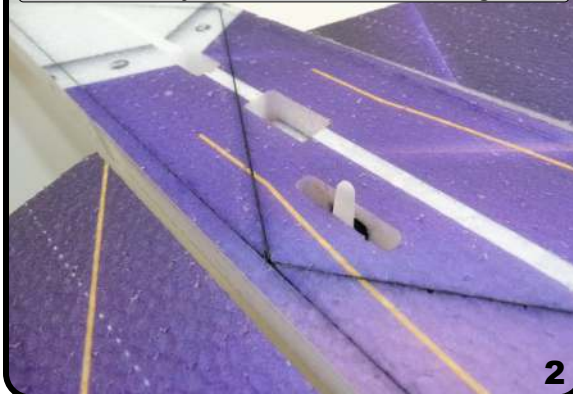


9

Separate the elevator horn and five guides



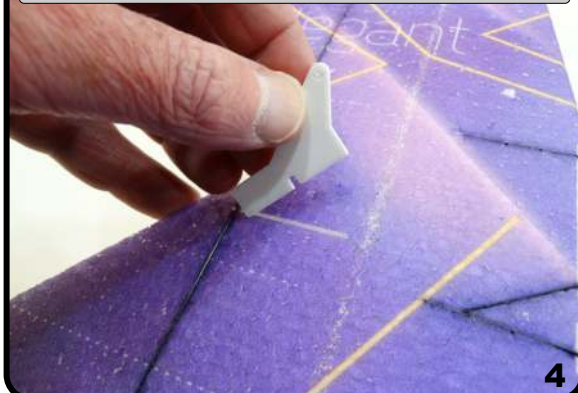
Electronically center servo - horn at 90 degrees



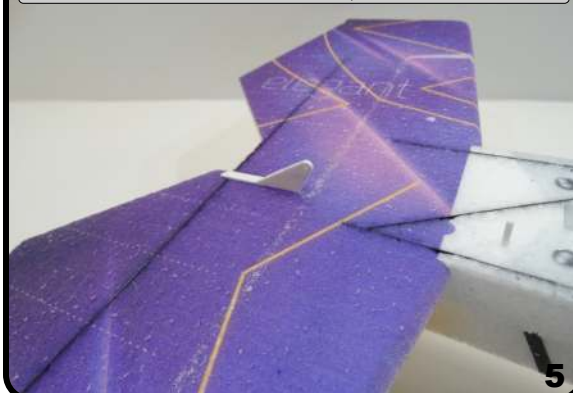
Place guides into holes - No glue at this time



Insert elevator horn



Make sure it is flush, then CA



Locate a clevis and white spacer as shown



Start the spacer into the end of the clevis



Gently tap it in to approx position shown



Locate a 1.0x1000mm round rod



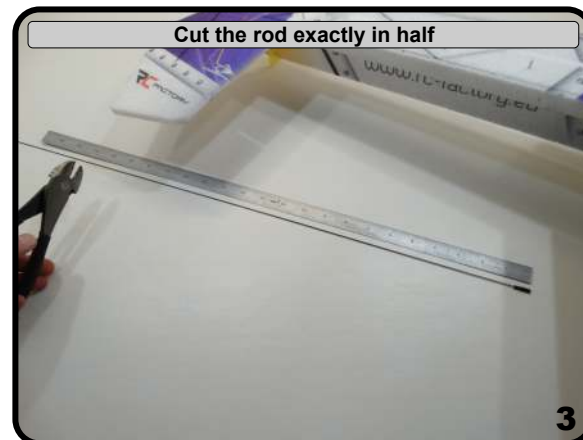
Install one end of the rod into the clevis



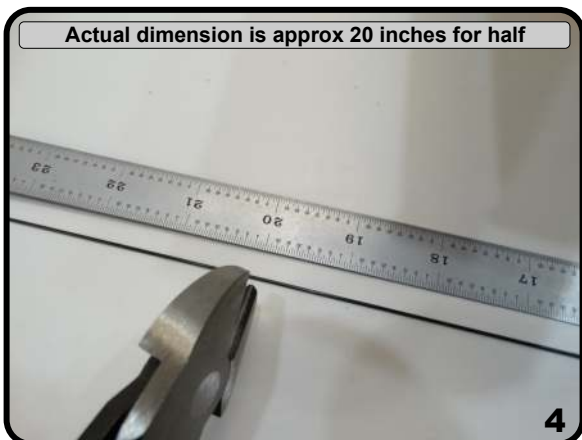
Secure with thin CA



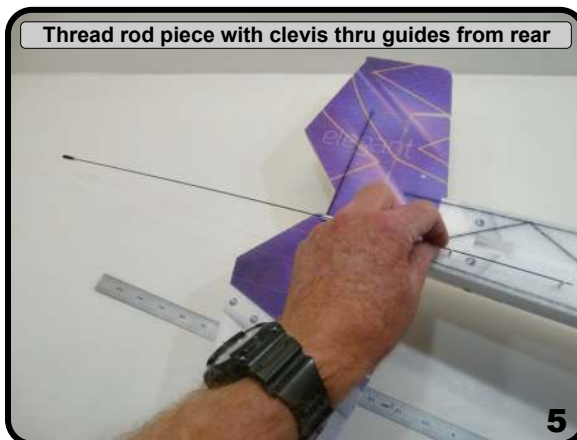
Cut the rod exactly in half



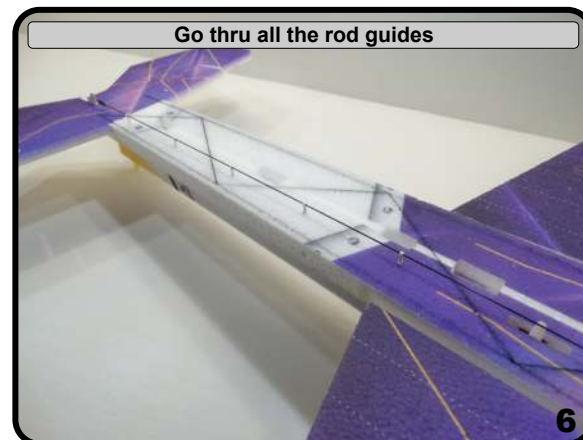
Actual dimension is approx 20 inches for half



Thread rod piece with clevis thru guides from rear



Go thru all the rod guides



Locate a clevis and threaded brass end

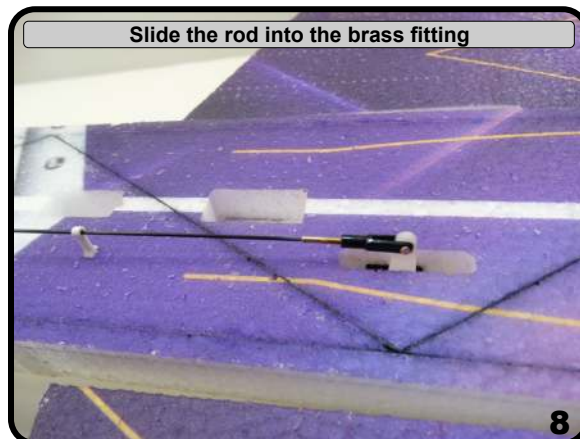
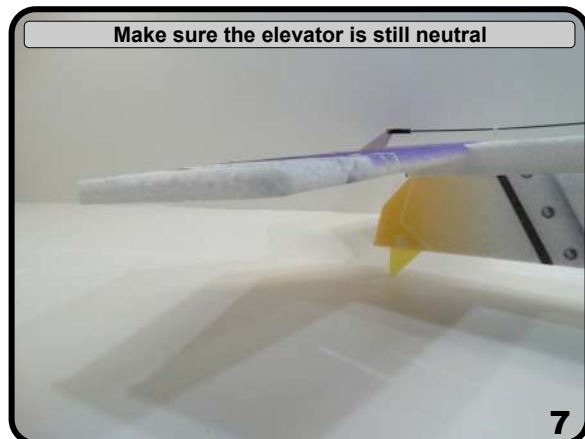
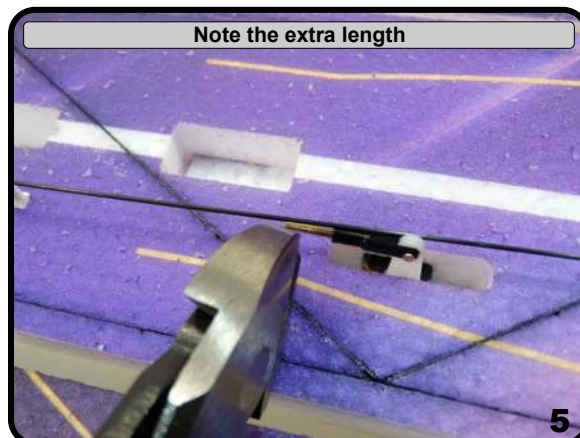
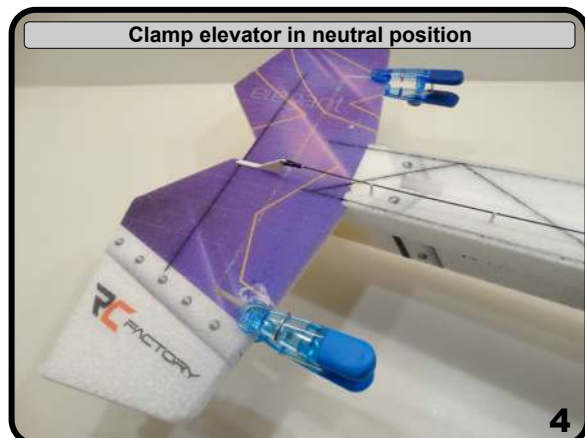
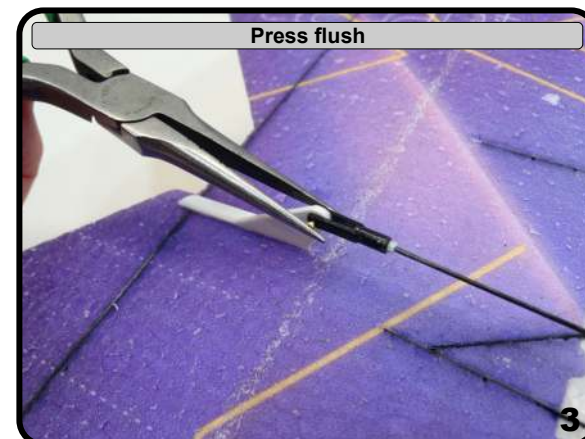
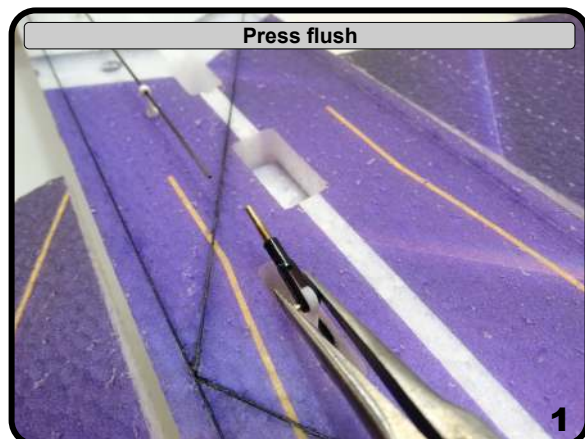


Thread the end into the clevis as far as shown

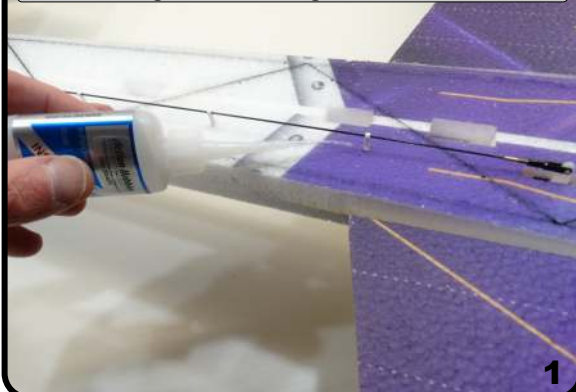


Pin the clevis to the outer most servo horn hole





Press rod guides in - straighten them - CA bases



Locate rudder servo and ball link



Attach ball link as shown. Use thread locker



Electronically center the servo and arm at 90 degrees



Will fit in this pocket, but first...



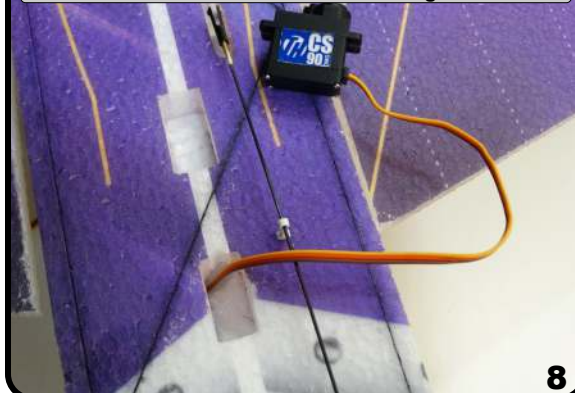
... cut out clearance for the wires



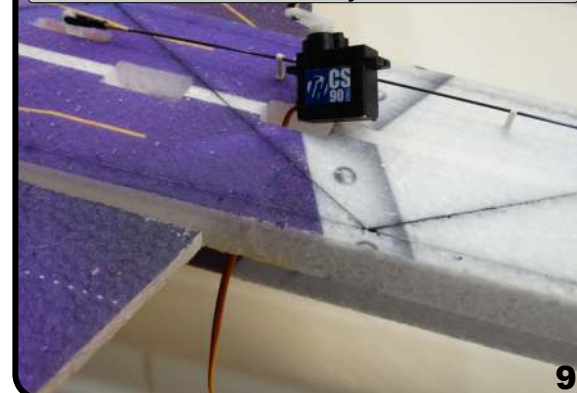
Passage cut



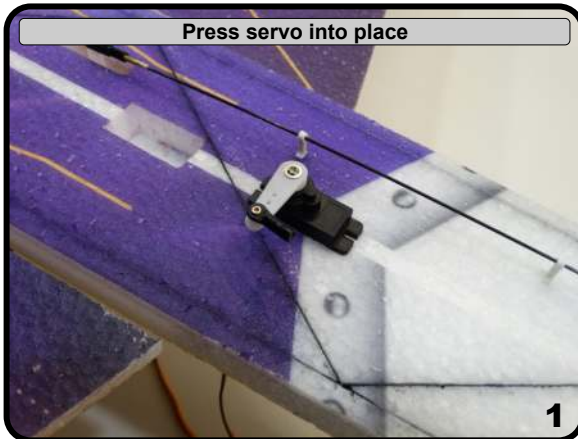
Thread the servo lead through



All the way



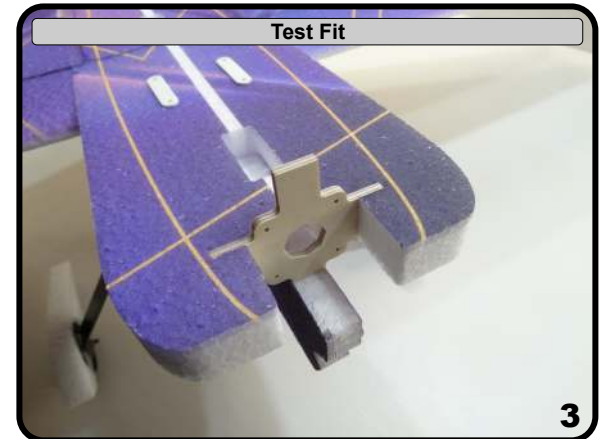
Press servo into place



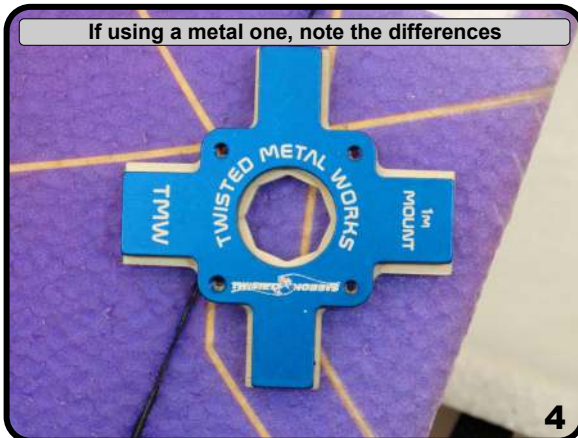
Wood mount stock - Metal mount optional



Test Fit



If using a metal one, note the differences



Test fit - metal one used in this build



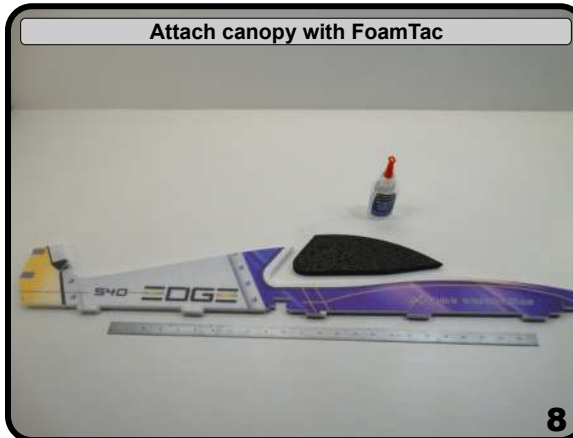
Add FoamTac to all the contact points



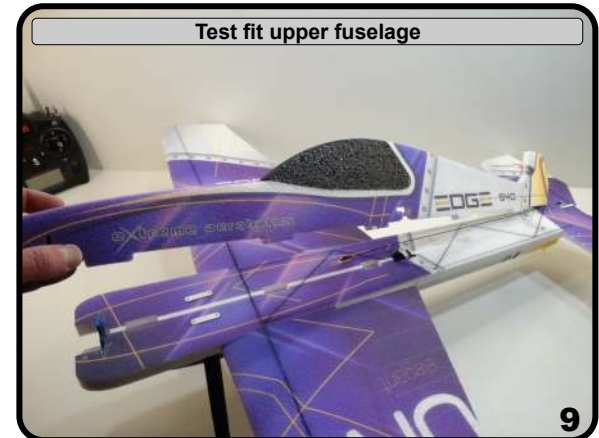
Install mount, wipe away all the extra glue



Attach canopy with FoamTac



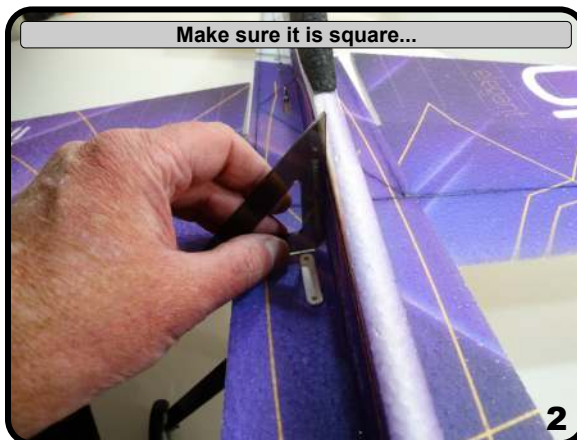
Test fit upper fuselage



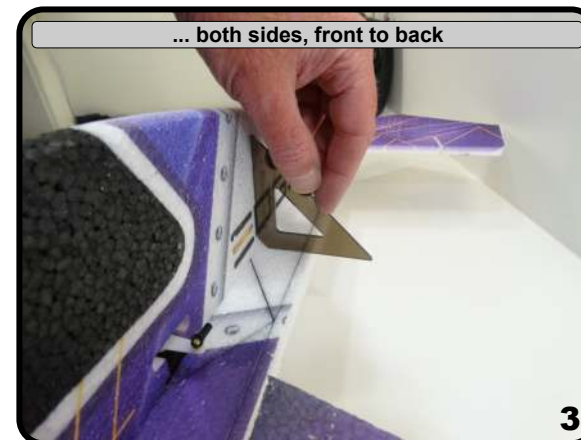
Attach with FoamTac



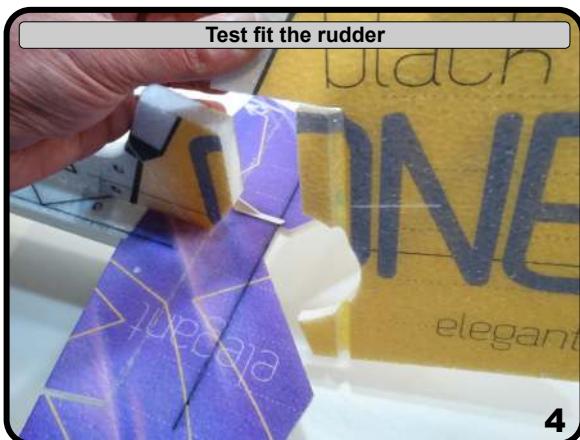
Make sure it is square...



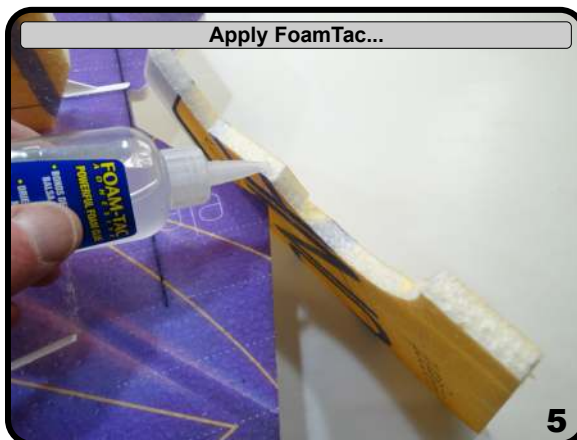
... both sides, front to back



Test fit the rudder



Apply FoamTac...



... and attach



Locate the remaining five push rod guides



Break them apart and stick into holes - no glue



Locate the rudder control horn



Install it into it's precut slot. Secure with CA



Locate clevis and little white spacer



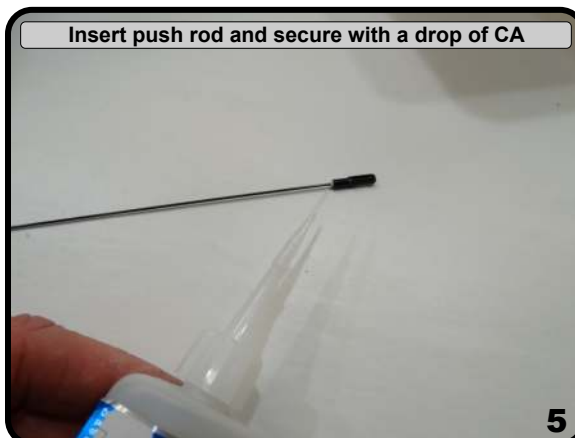
Finger start the tube into the back of the clevis



Gently tap into approx position shown



Insert push rod and secure with a drop of CA



Feed the rod thru from the rear of the aircraft



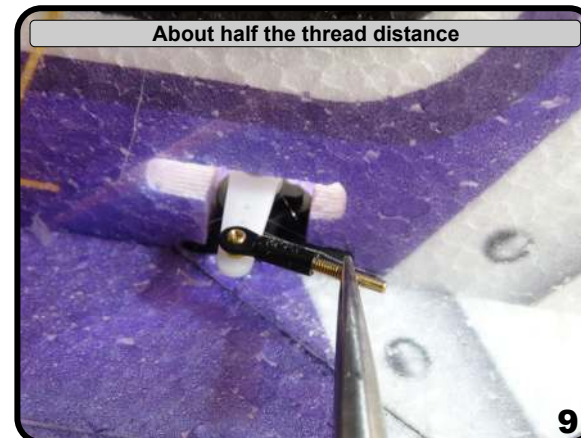
Locate the remaining threaded brass rod end



Thread it onto ball link attached to the rudder servo



About half the thread distance



Snap the brass pin into the rudder horn



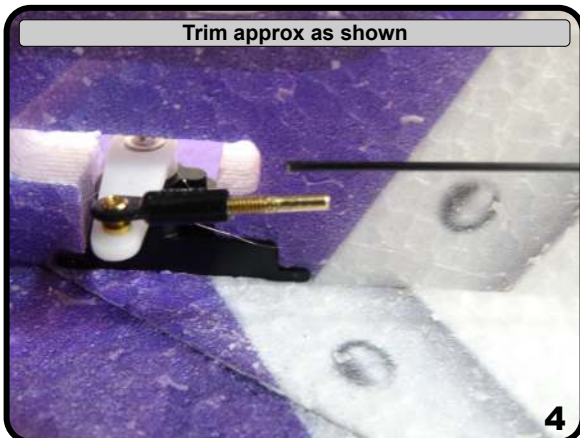
Constrain the rudder in a neutral position



With the servo centered take note of extra rod length



Trim approx as shown



Insert and CA into back of brass threaded fitting



Straighten, push in flush and CA bases of rod guides



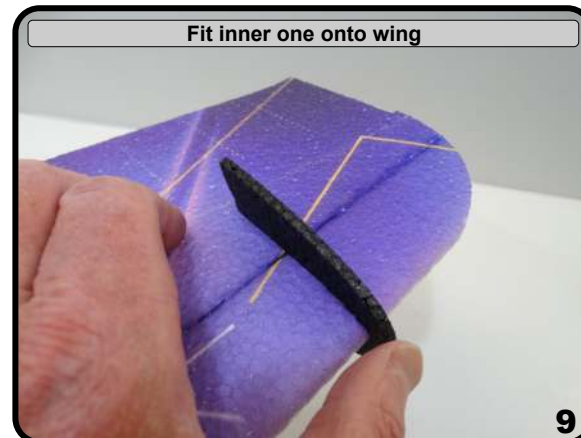
Locate the Side Force Generators (SFGs)



Cut them all apart from one another



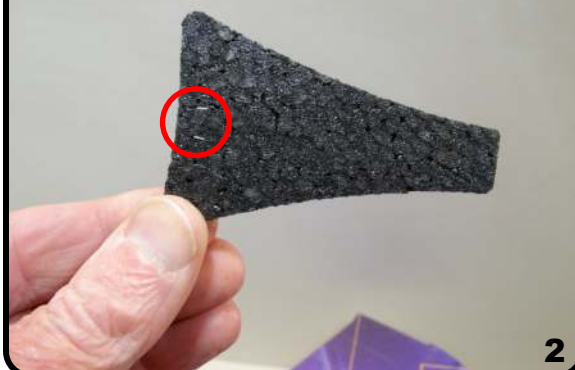
Fit inner one onto wing



Secure with thin CA



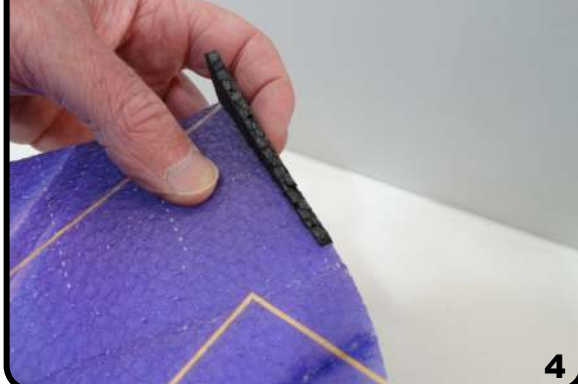
Locate end SFG. Note the alignment holes



Coat the mating area with FoamTac



Press and hold in position for glue to set



Repeat for the other side



Locate the motor being used and mounting hardware



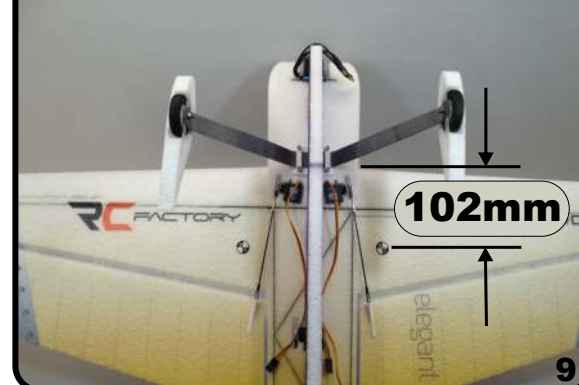
Mount the back plate with thread locker



Attach to the firewall



CG = 102mm back from leading edge of wing



Locate the rest of the electronics that will be used



1

Mount a prop and spinner if desired



2

Locate the electronics



3

ESC location



4

ESC location



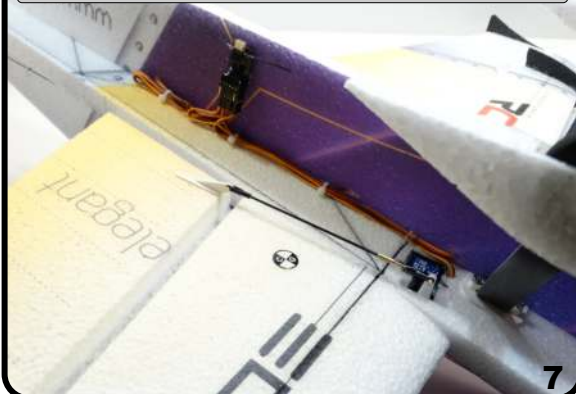
5

Receiver location



6

Receiver location



7

Double check the CG



8

Program your radio



9



Find yourself a park that is out of the way with a little open space and tear it up, this plan is the perfect size..!!

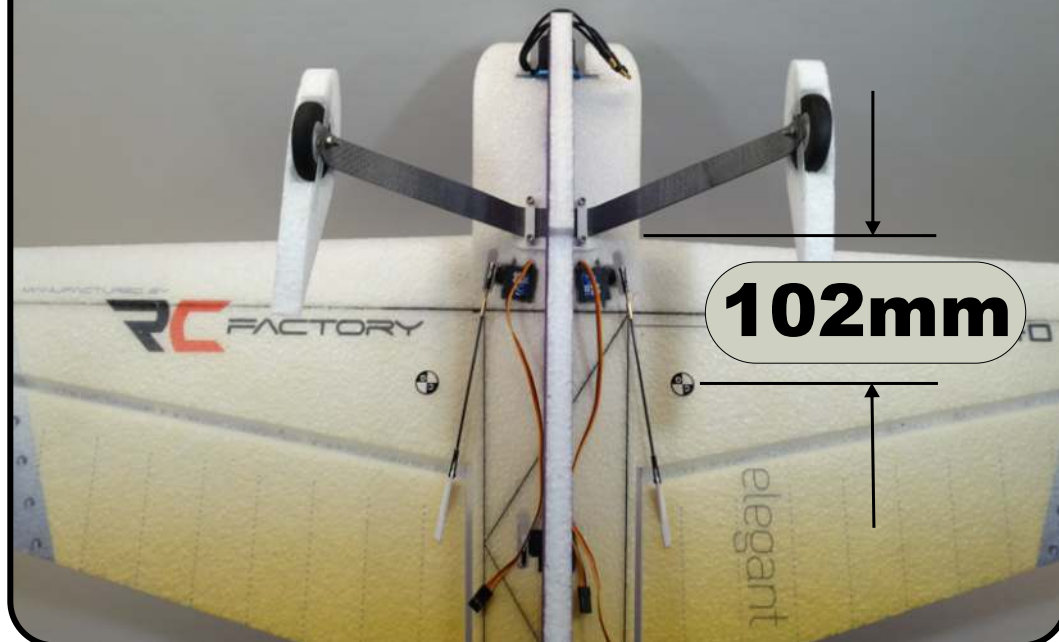
This completes the build, it's design and construction should give you many hours of flying enjoyment. This airplane will serve you well, whether you are new to 3D flying or are a seasoned veteran.

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 AND CONTROL THROWS

CENTER OF GRAVITY



C.G. - 102mm from LE of wing

Locate all the electronics 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.

Control Throws

Ailerons: +/- 40 deg

Rudder: +/- 50 deg

Elevator: +/- 50 deg

**Expo and
Dual Rates to suit**

Control Throws should be adjusted to flying style and adjusted to work with in the boundaries of the setup. For extreme flying max throws should be used. For sport and novice flying decrease throws by approx half on all surfaces



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 Foamie Plane is a high 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 3D Extreme flying and will be right at home in the local park with a little open space

STORAGE

This EPP plane should be stored resting it's landing gear, or hanging directly from it's 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!

TIPS AND TRICKS

A good building surface is a “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 assemble 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.

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 -