

CRACK YAK XL

BUILD MANUAL V2



V1 & V2 HARDWARE COVERED

MODEL SPECIFICATIONS

Wingspan	43 in
Length	44 in
Flying Weight	27-30 oz
Motor	70-100 g / 250-450 W
ESC	30-45 A
Battery	3S 1350-2200 mAh
Propeller	12 x 6 in
Radio	4+ channels



**BUILD PHOTOS SHOW BOTH
HARDWARE VERSIONS**

Follow the V2 callouts for current kits.



Rev: 2026.06 V2



www.twistedhobbys.com

page 1

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.



Website: www.twistedhobbys.com | Email: sales@twistedhobbys.com

Thank you for purchasing a Twisted Hobbys model. Read the entire manual before beginning assembly. Contact us if you have any questions.

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 at approved flying sites. Do not overlook warnings included with this kit or those provided by other manufacturers. If you are not an experienced pilot or modeler, seek assistance from an experienced pilot or authorized flight instructor.

These instructions are suggestions for assembling this model. Other methods may also be suitable. Twisted Hobbys has no control over final assembly, the materials or accessories used, or the manner in which the completed model and electronics are operated and maintained. No liability is assumed for damage resulting from use of the assembled aircraft or this manual, including direct, indirect, incidental, special, or consequential damages. By using this user-assembled product, the user accepts all resulting liability. Twisted Hobbys' liability shall not exceed the original purchase price of the kit.

SHIPPING DAMAGE

Twisted Hobbys checks each plane before shipping to ensure the kit is in good condition. Inspect all components immediately upon receipt. Damage caused by use, modification, or assembly is not covered. If any part is damaged or missing, contact Twisted Hobbys before beginning assembly. Parts on which assembly has begun may not be accepted for return or replacement. Twisted Hobbys reserves the right to update this policy 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 the products we sell. Our online store is designed to provide a safe and secure environment for browsing our product catalog.

Thank you for shopping with Twisted Hobbys!

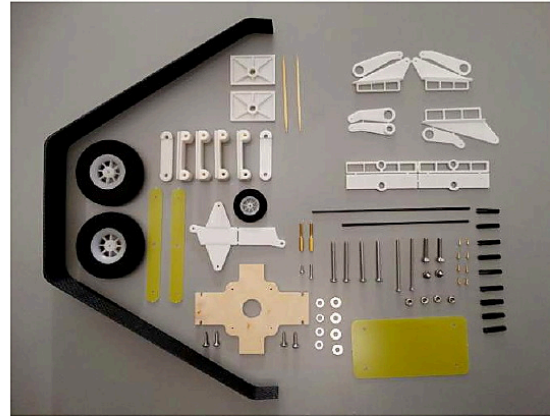
KIT CONTENTS



Airframe Parts

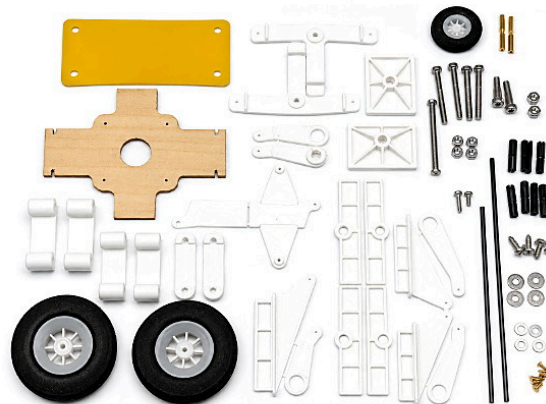
V1 Hardware Parts Reference

Older version shown for comparison



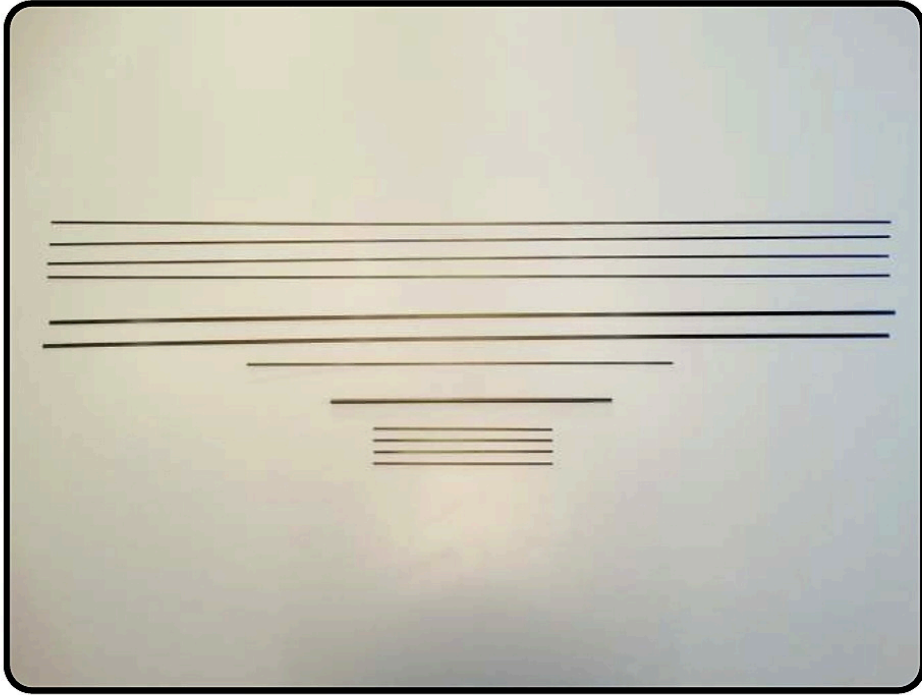
V2 Current Hardware Parts

MOST UPDATED VERSION - USE AS PRIMARY REFERENCE



Confirm that your kit includes the airframe and hardware shown above.
V1 is included for comparison. Use the V2 hardware photo as the current reference.

KIT CONTENTS & ELECTRONICS



Carbon Fiber Strips

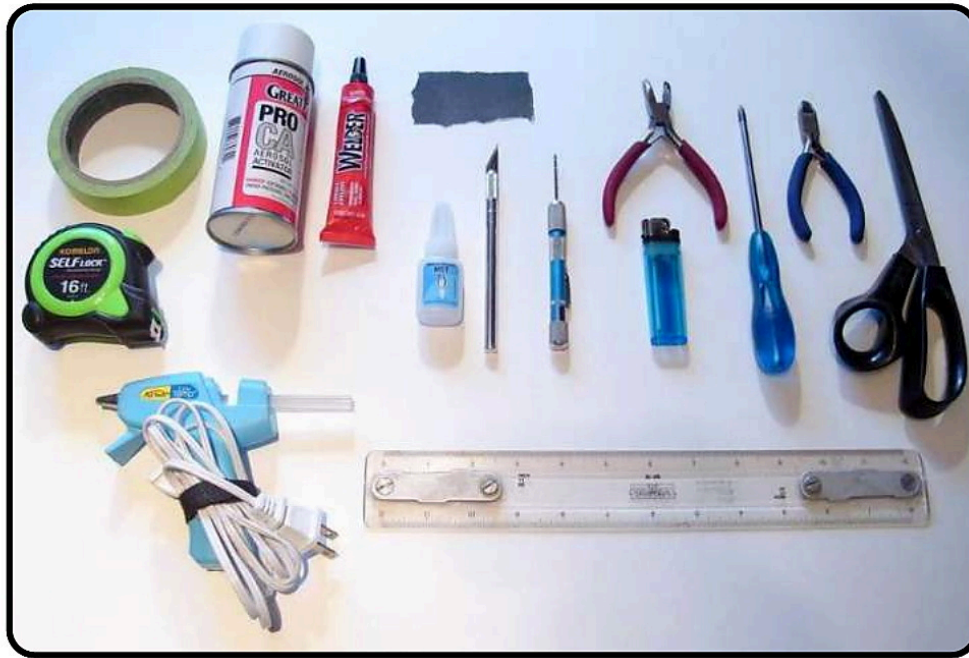


Recommended Components

There are many different combinations of servos, motors, escs, props, etc. Above-Right is a suggestion offered from Twisted Hobbys for good durability and weight management.

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

TOOLS & ADHESIVES



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

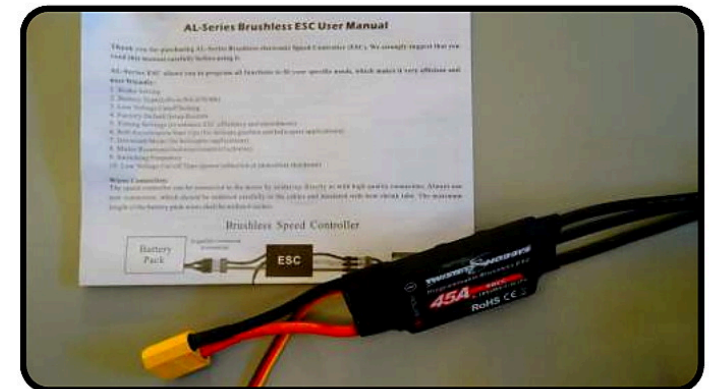
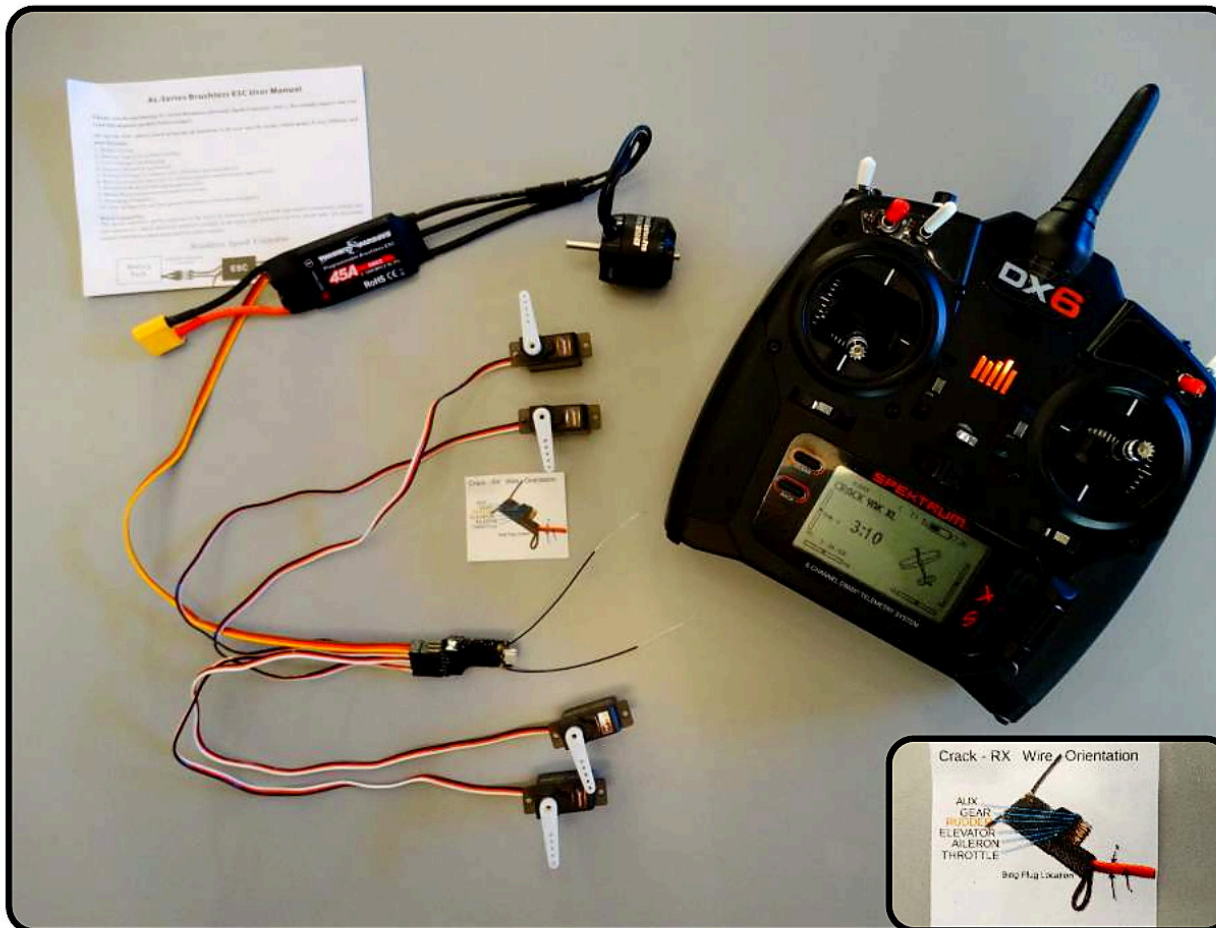
- **Lighter**
- **Small Drill Bits**
- **Tape Measure and Ruler**
- **Black Sewing Thread**
- **Welders or Foam Tac Glue**
- **Hobby Knife w/new Blade**
- **Needle Nose Pliers**
- **Wire Cutters**
- **Low Temp Hot Glue Gun**
- **Course Sand Paper**
- **Scissors**
- **Small Phillips Screw Driver**
- **Thin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

BEFORE YOU 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.

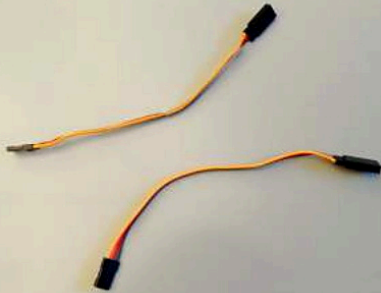
Welders or FoamTac glue is used for FOAM TO FOAM joints. Thin and Medium CA can be used on the PLASTIC TO FOAM and CARBON TO FOAM joints. **When using the Welders or FoamTac glue for a butt joint, apply a thin film to each surface, allow to sit briefly per mfg instructions, then assemble.** Note that 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,** simple 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.

BEFORE YOU START

#1 you will need 2x 6inch extensions if using the TH Power Combo



1

BEFORE YOU START

#2 Some fresh blades for your hobby knife for smooth cuts



2

BEFORE YOU START

#3 Fresh bottles of FoamTac and CA



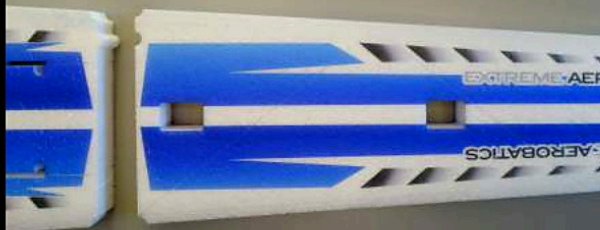
3

Start the build by locating the two fuselage pieces



4

Note that they are keyed and the Text is the top side



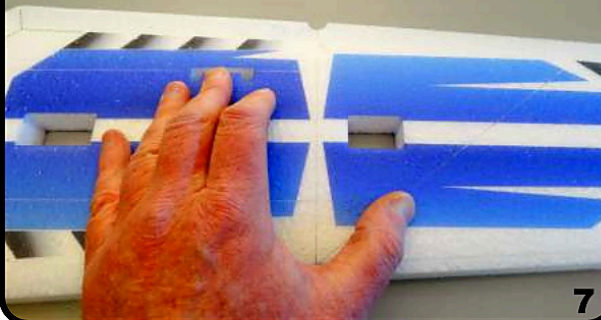
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Run a bead of glue down the center of the thickness



6

Using the Tack Up Method - join the two pieces



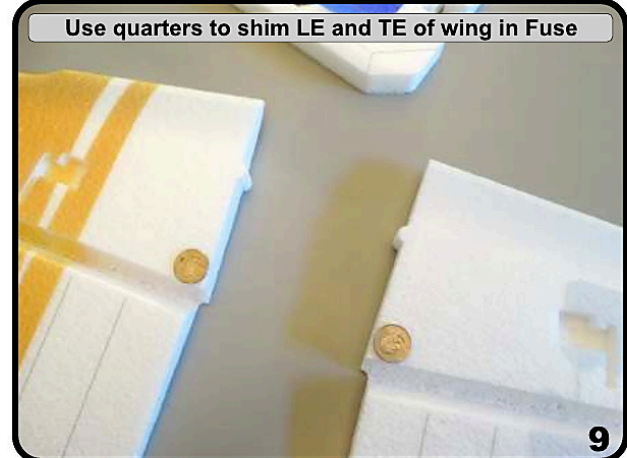
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Locate the wings

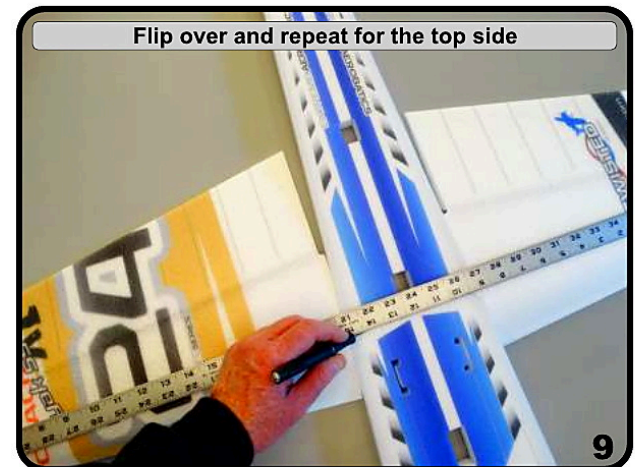
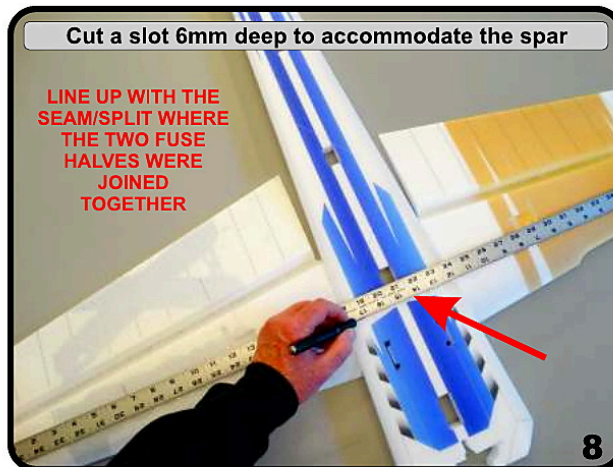
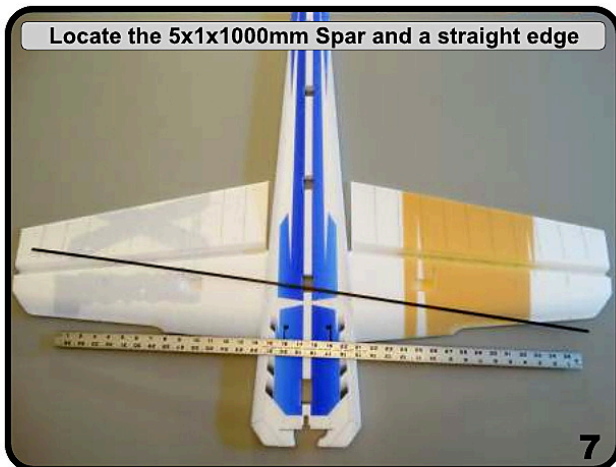
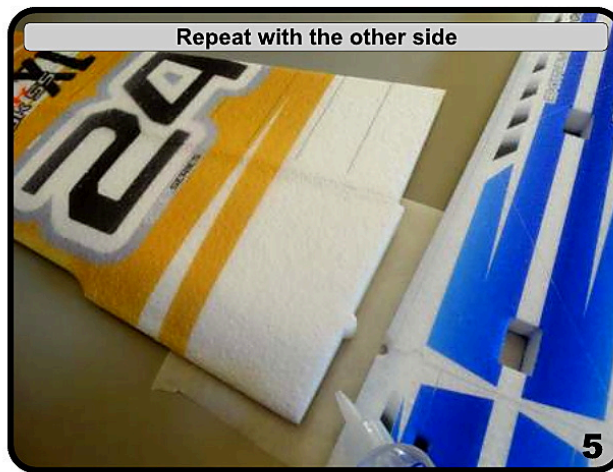
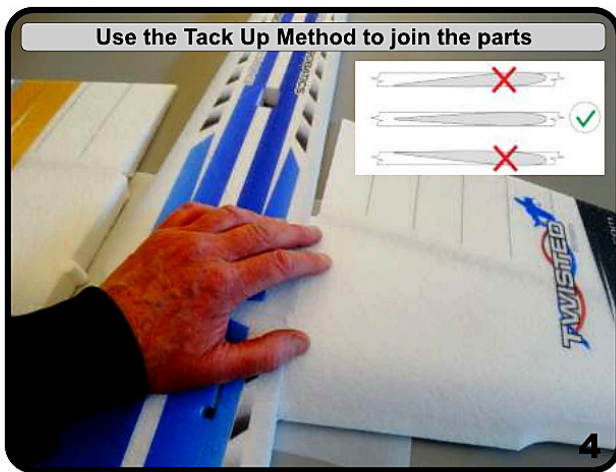


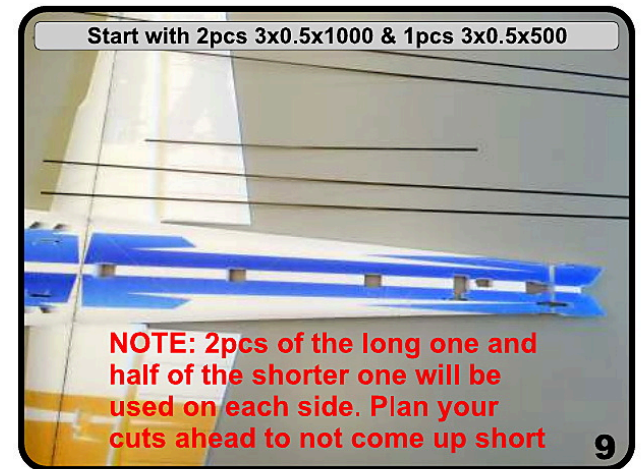
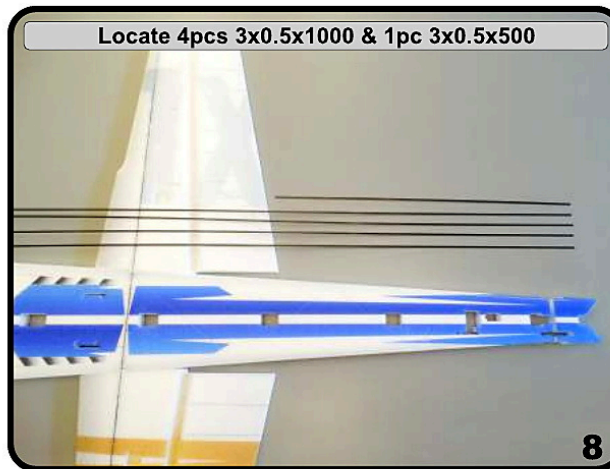
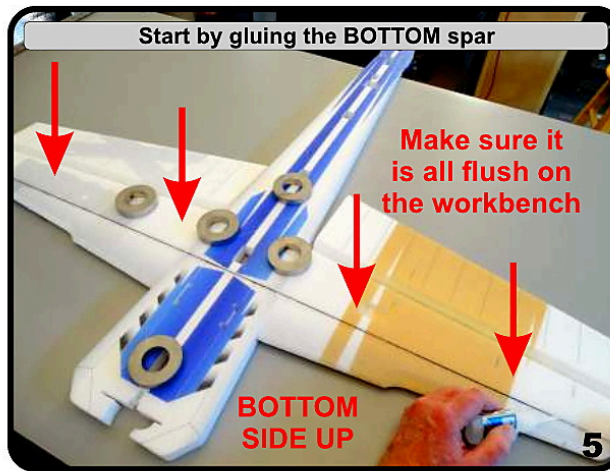
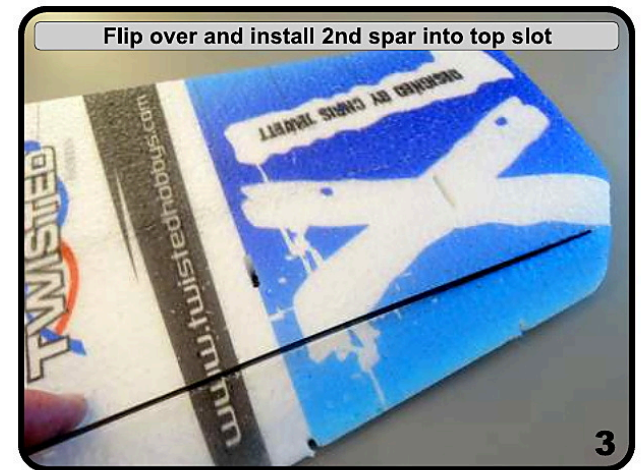
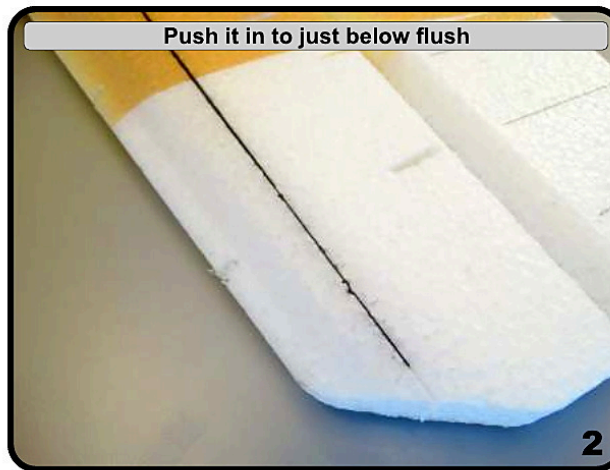
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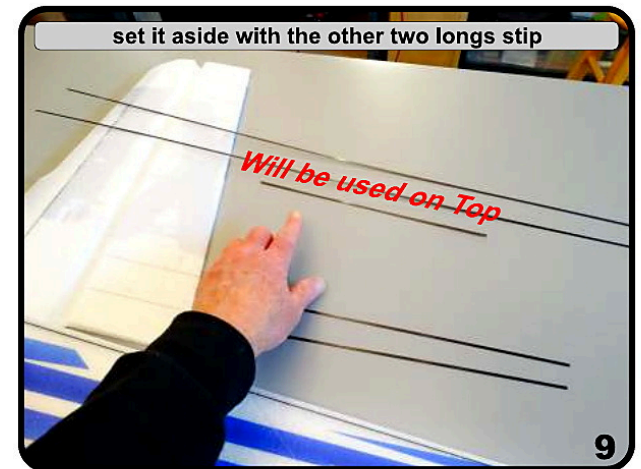
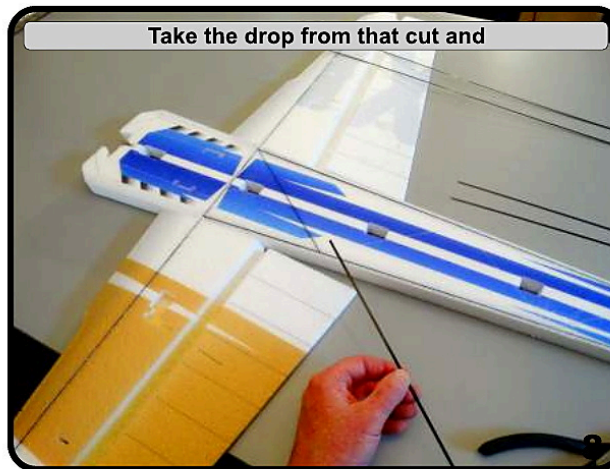
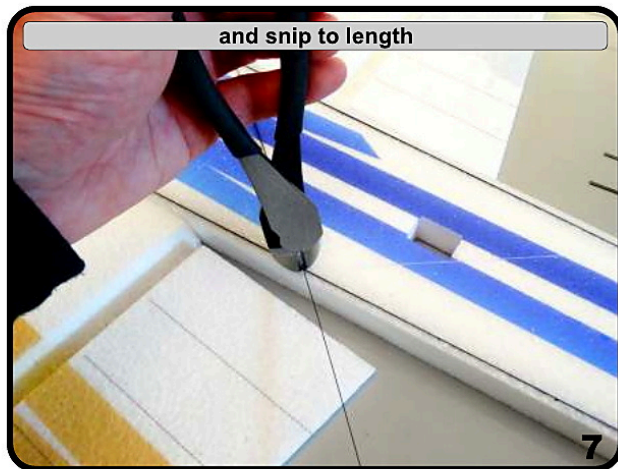
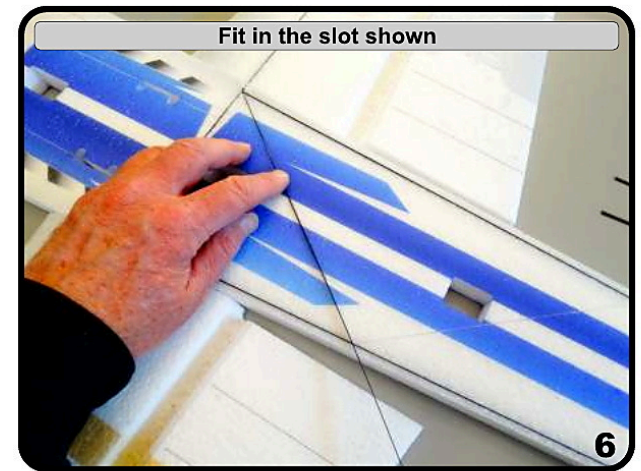
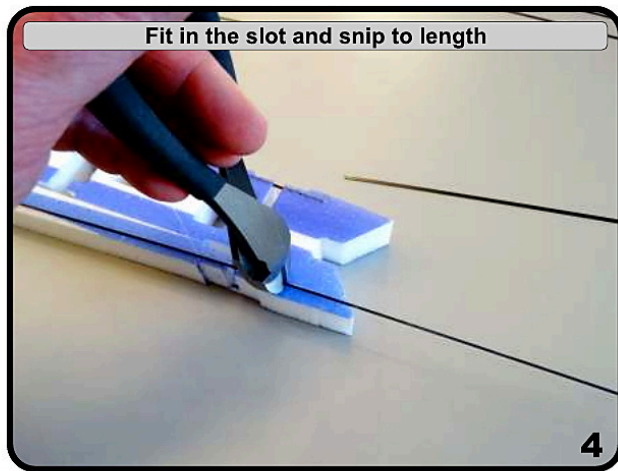
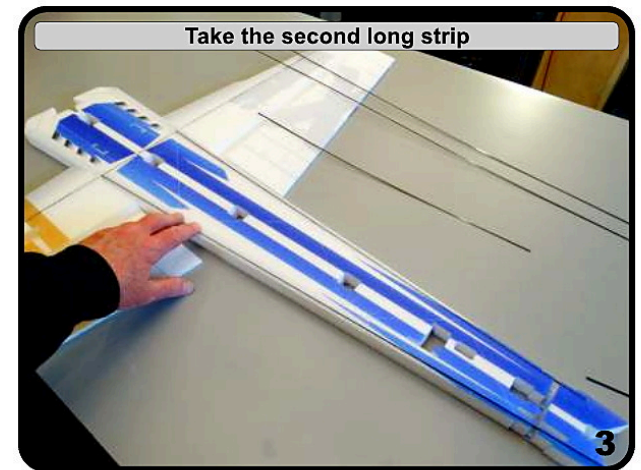
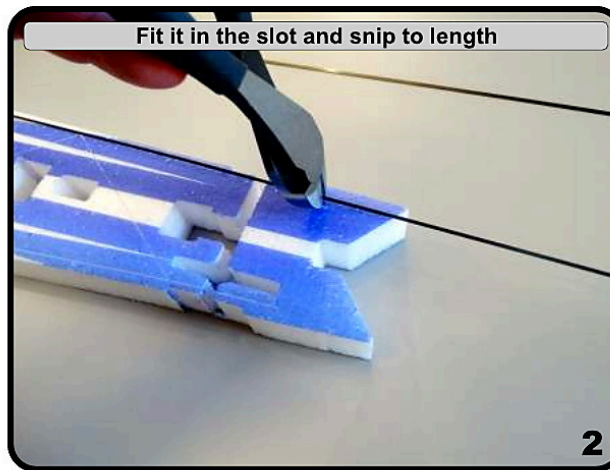
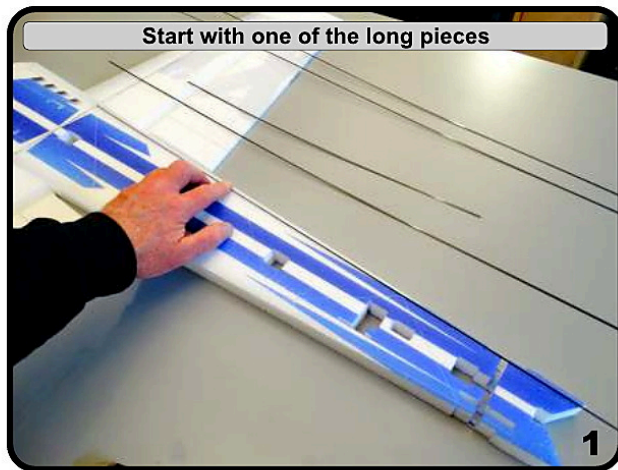
Use quarters to shim LE and TE of wing in Fuse

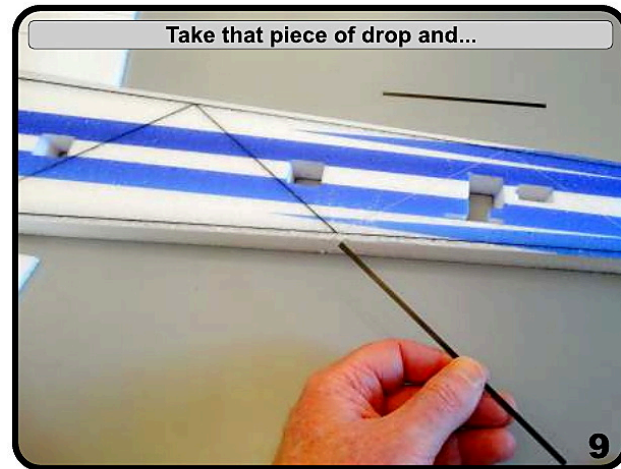
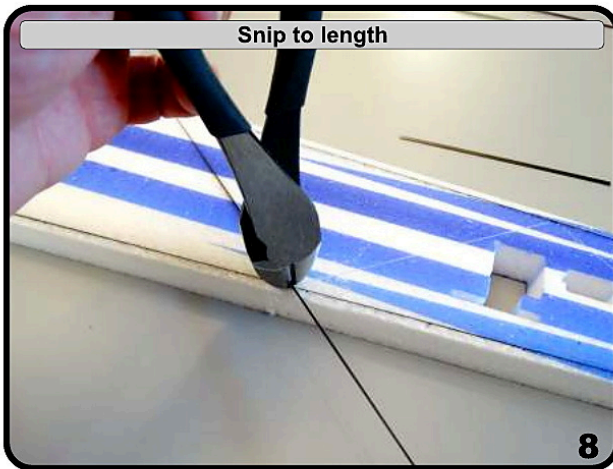
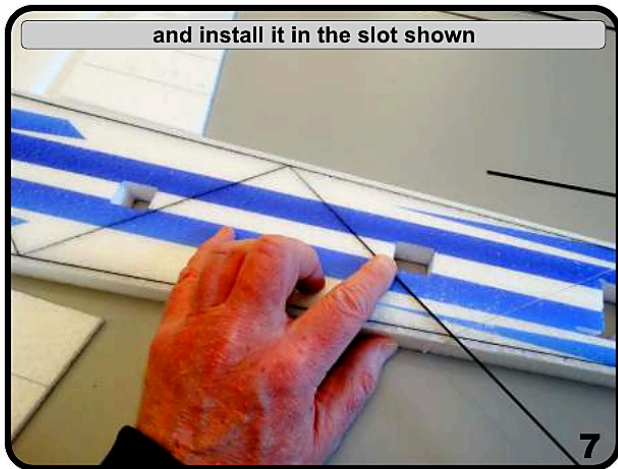
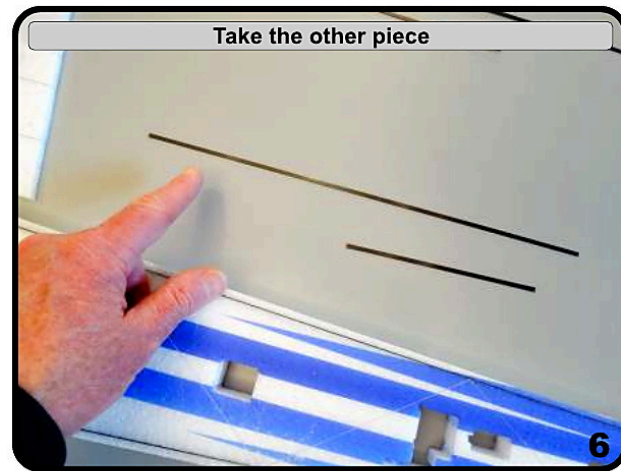
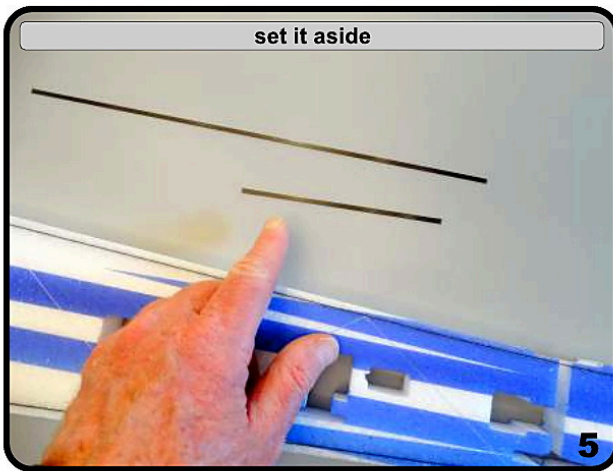
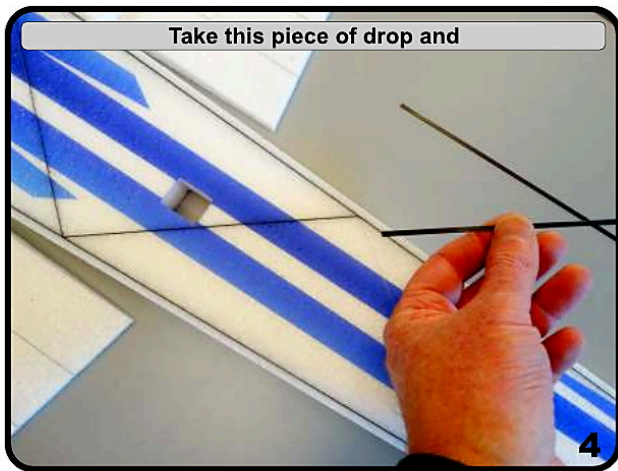
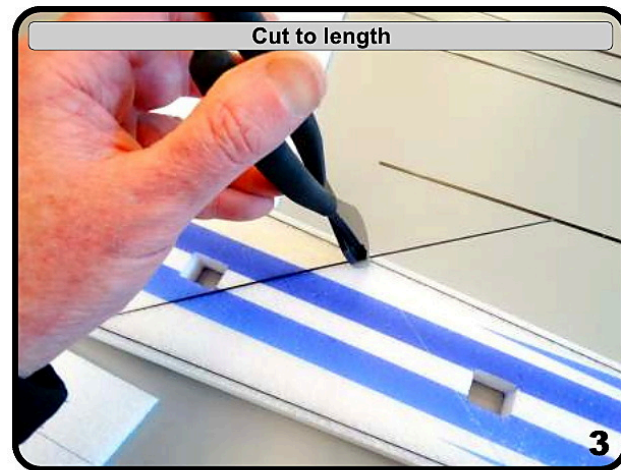
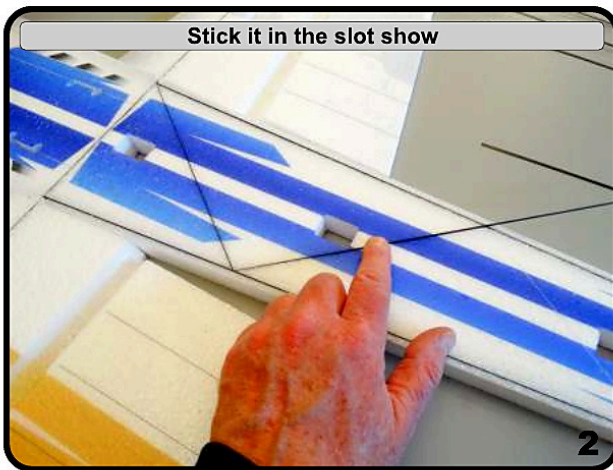


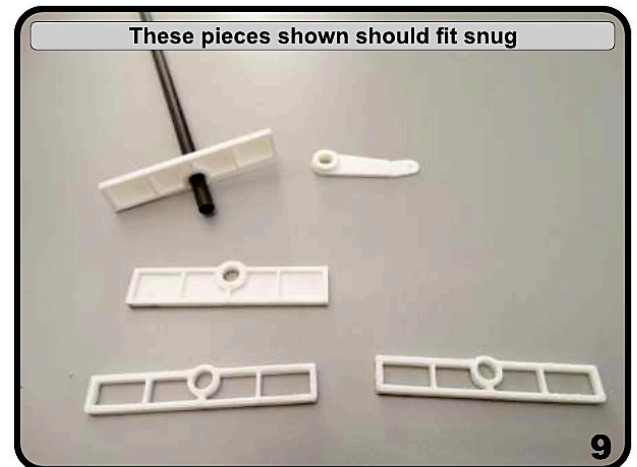
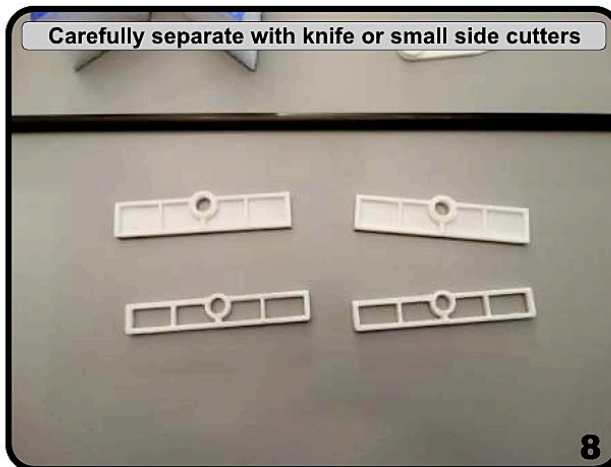
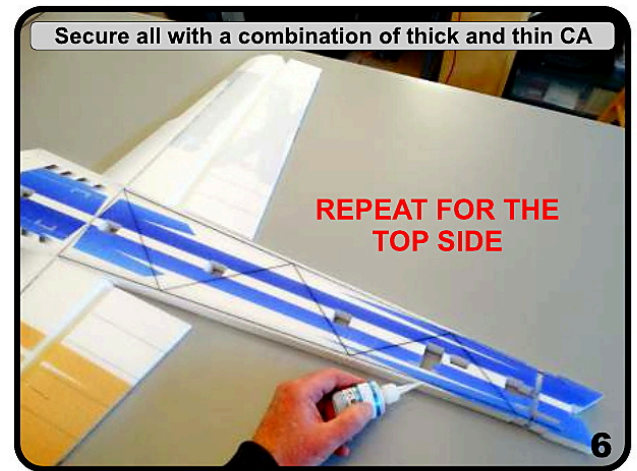
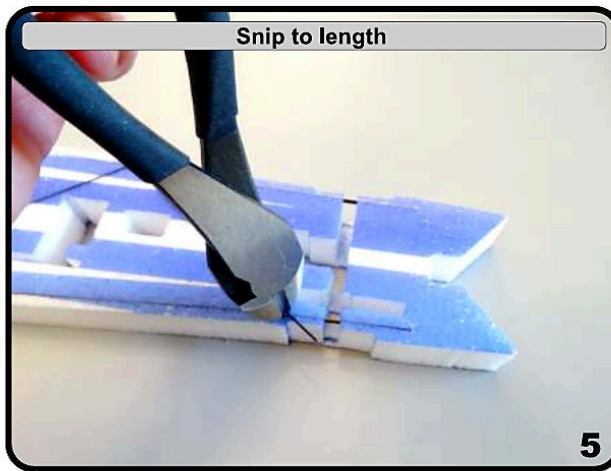
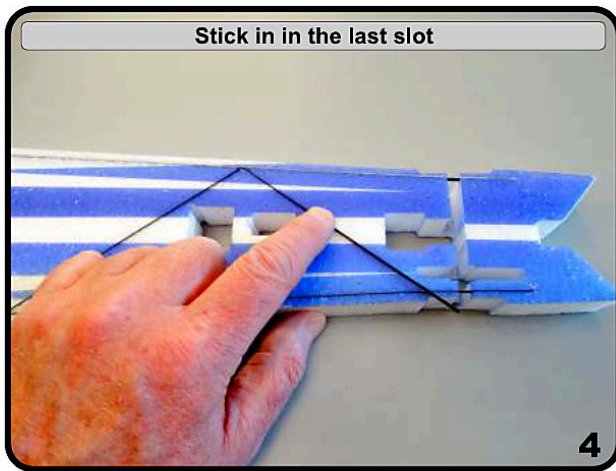
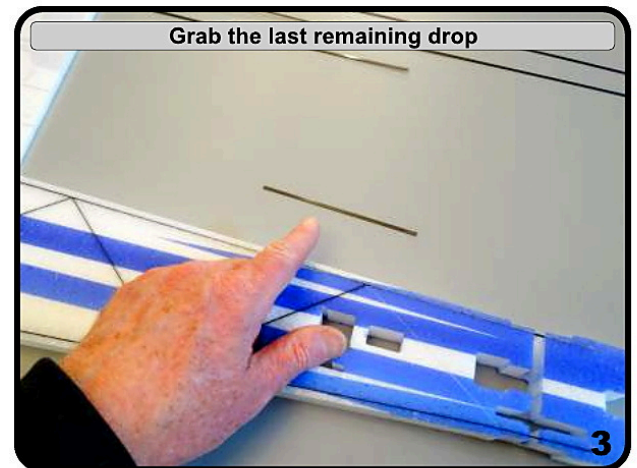
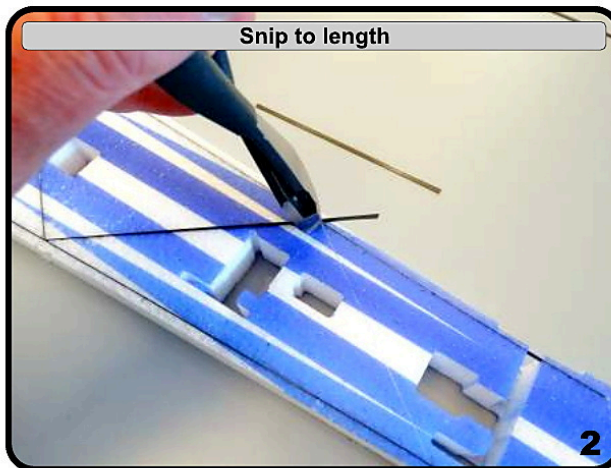
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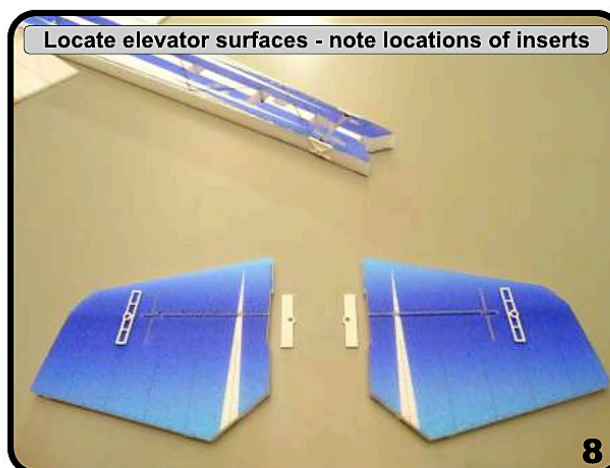
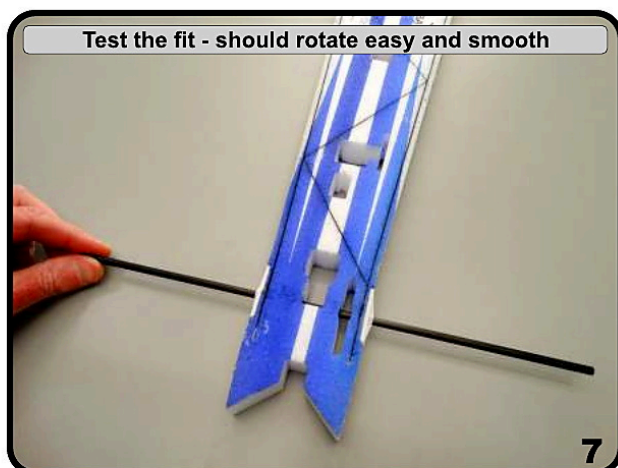
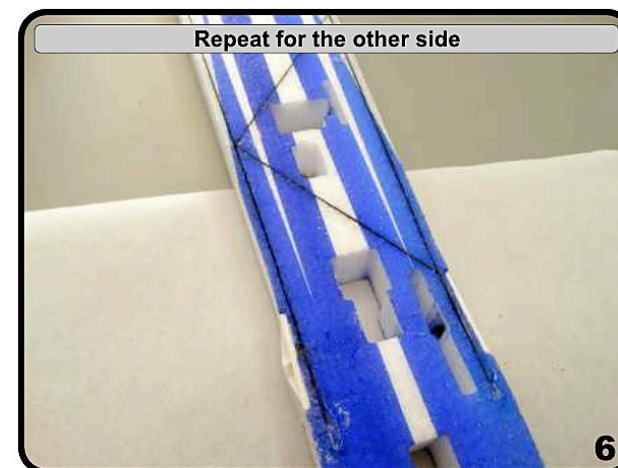
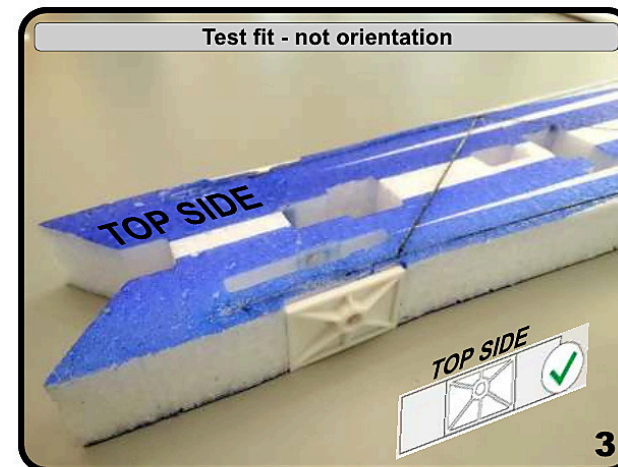
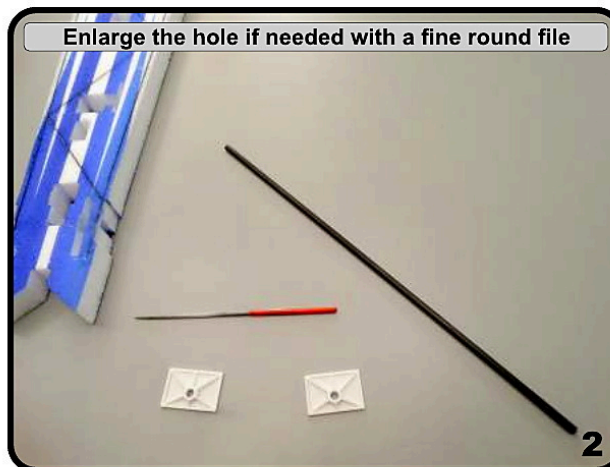
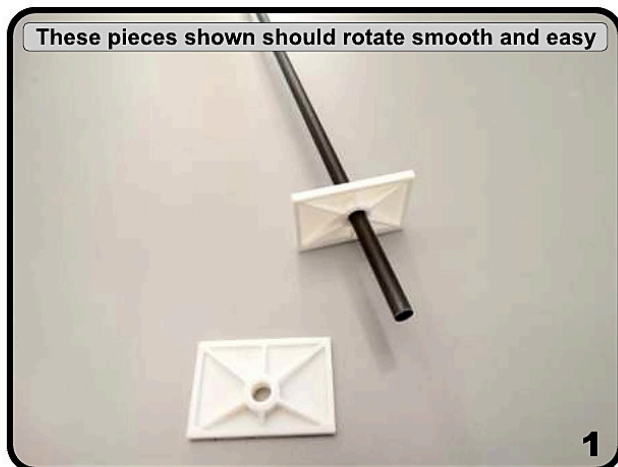




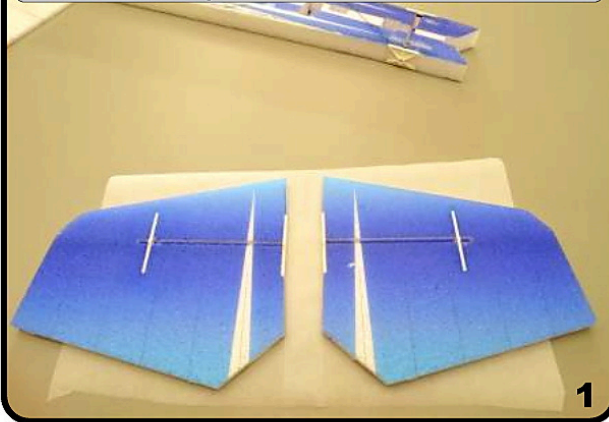




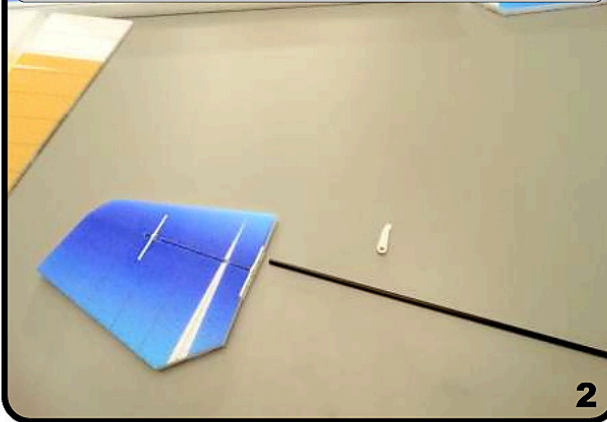




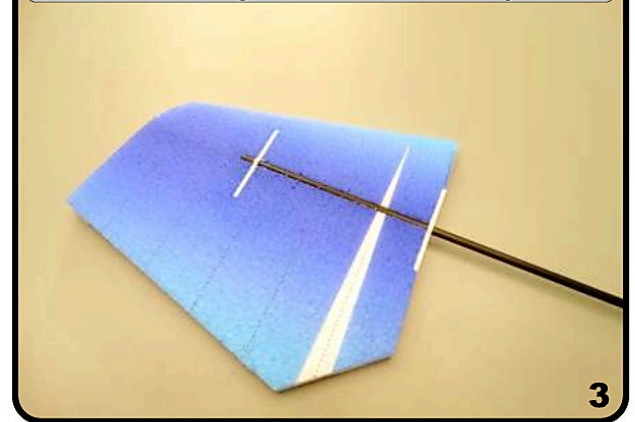
Repeat for the other side



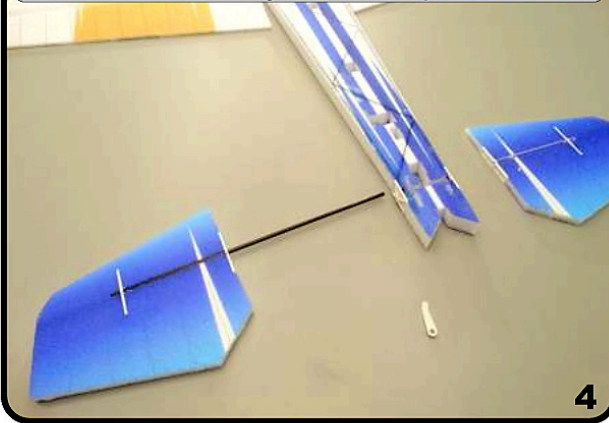
Locate the rod and horn



While rotating, slide the rod all the way in



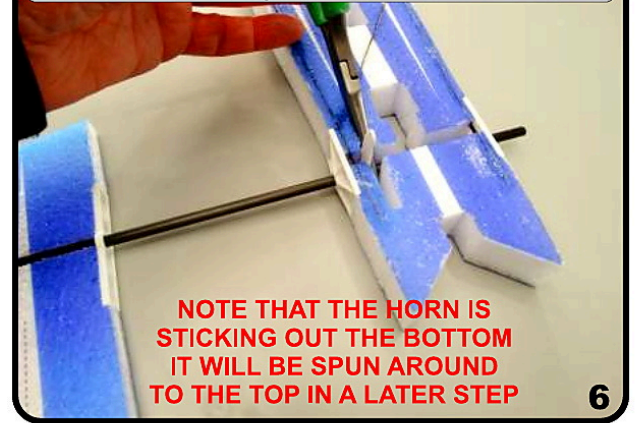
Start the assembly into the first pivot block



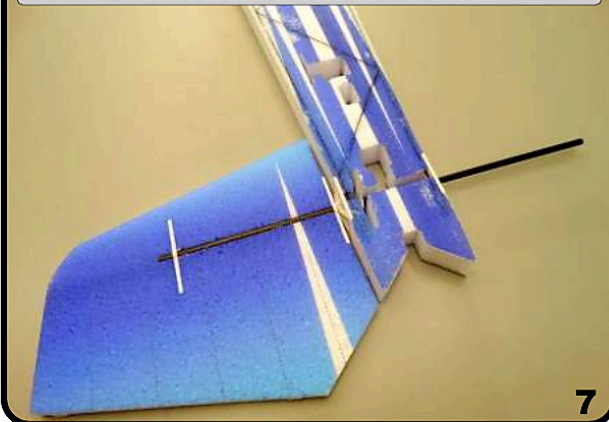
Push part way in then install horn noting orientation



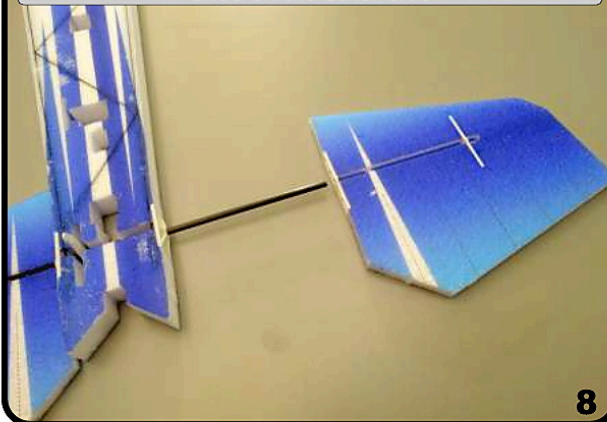
Hold the horn in place and slide the rod thru



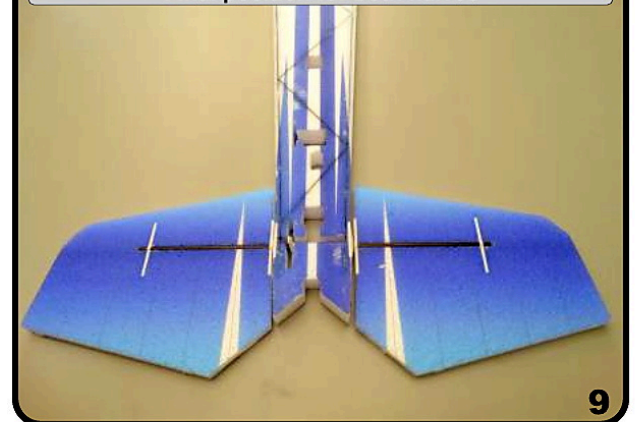
Final location should be like shown

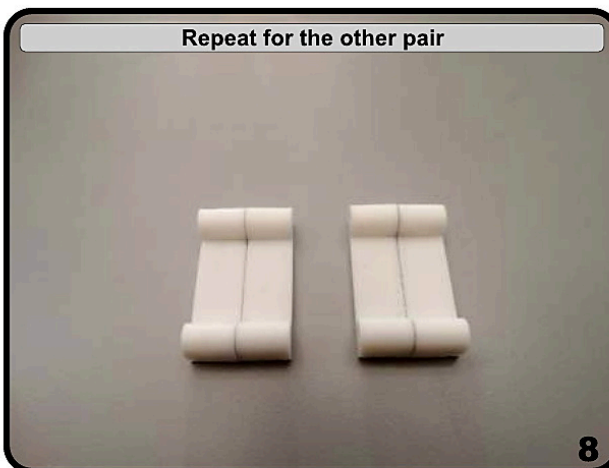
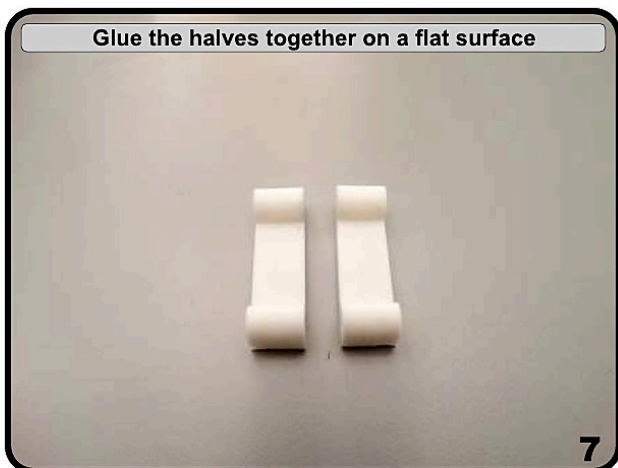
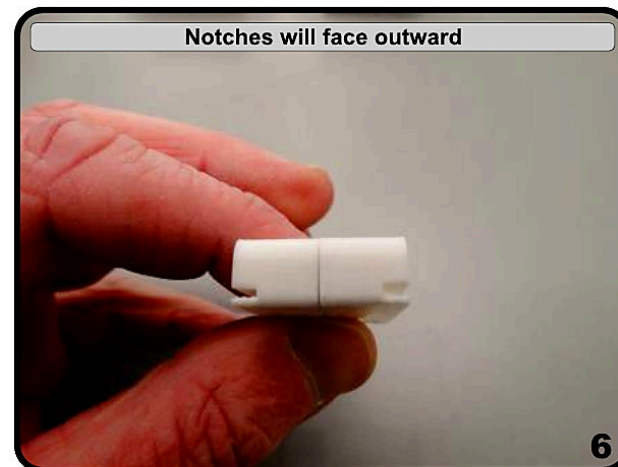
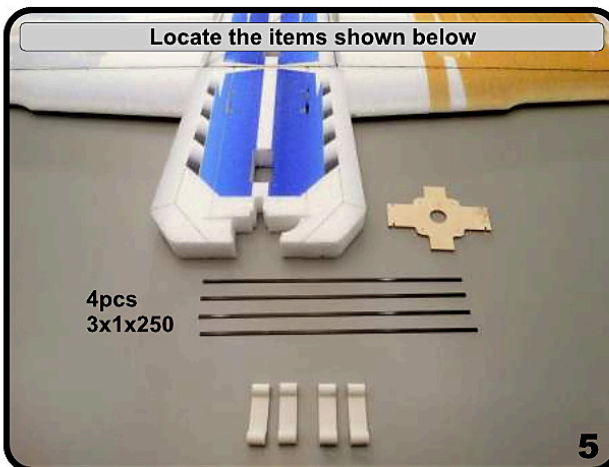
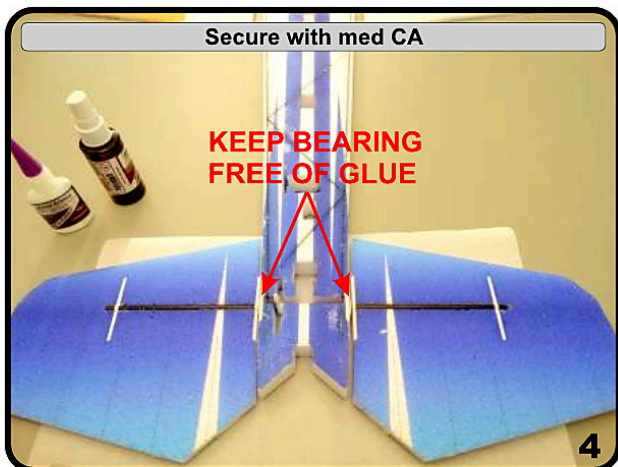
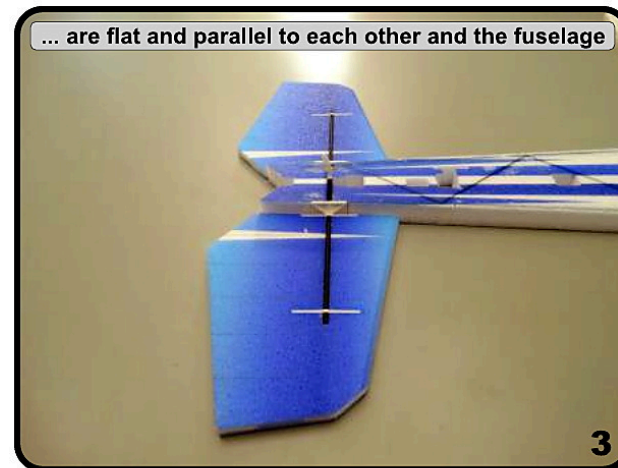
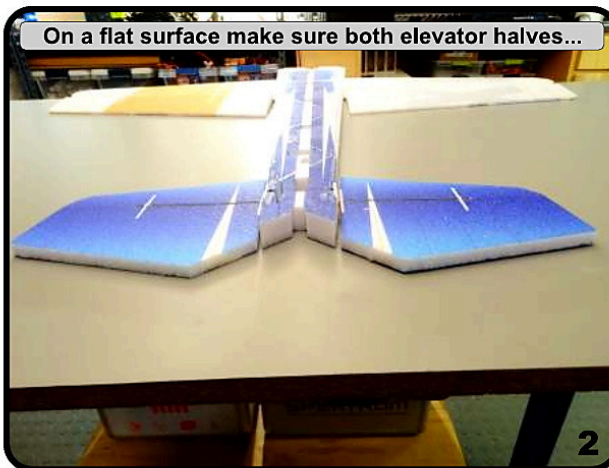


Slide on the other side

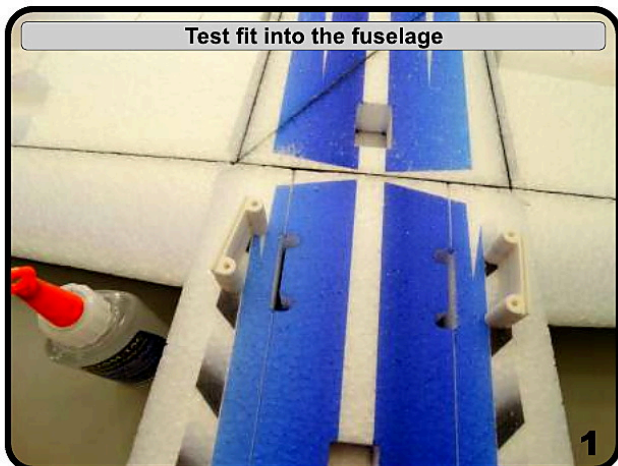


Final position for both halves

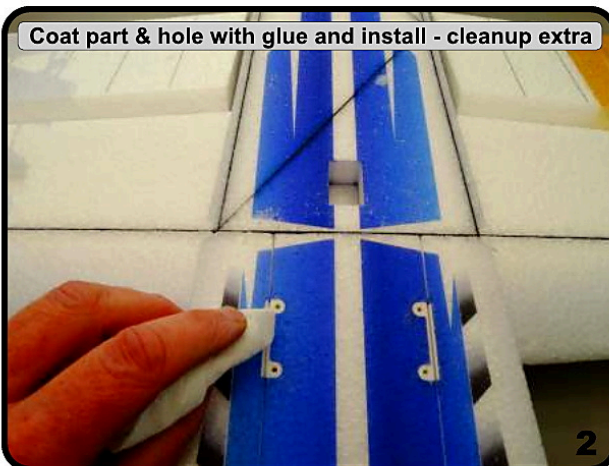




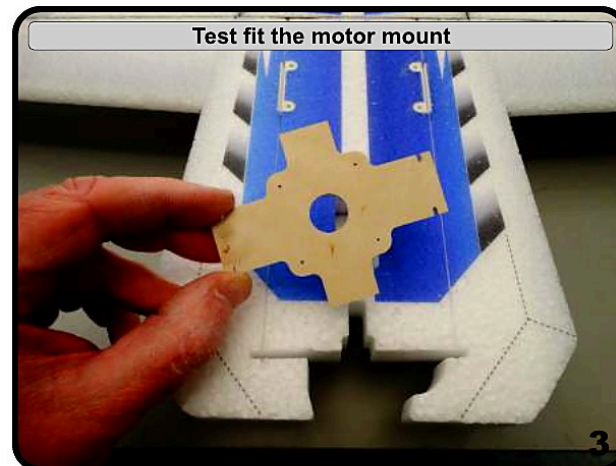
Test fit into the fuselage



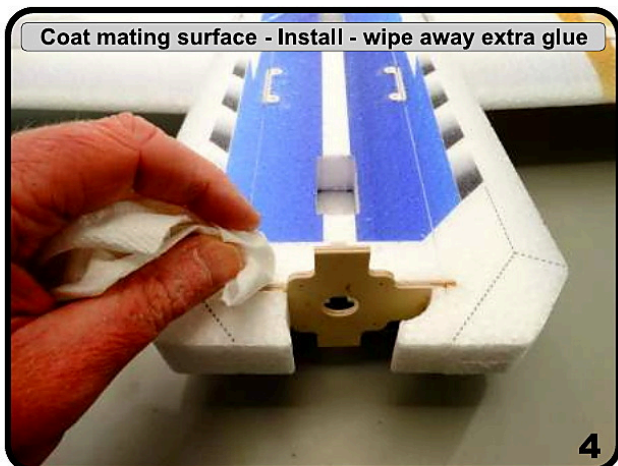
Coat part & hole with glue and install - cleanup extra



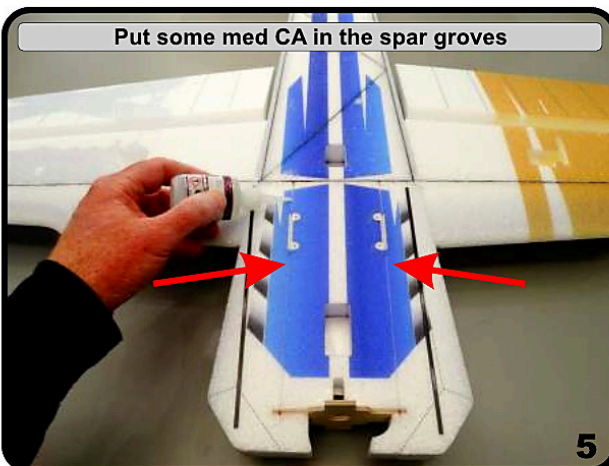
Test fit the motor mount



Coat mating surface - Install - wipe away extra glue



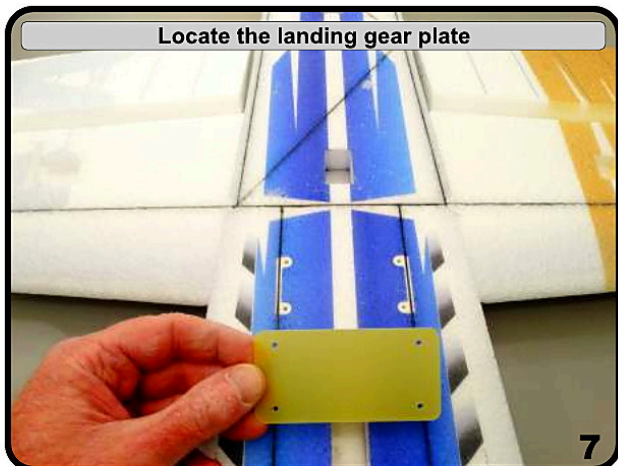
Put some med CA in the spar grooves



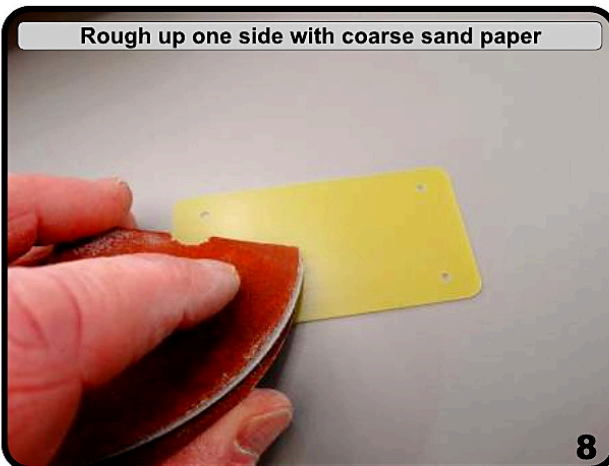
Install the spars and hit with kicker



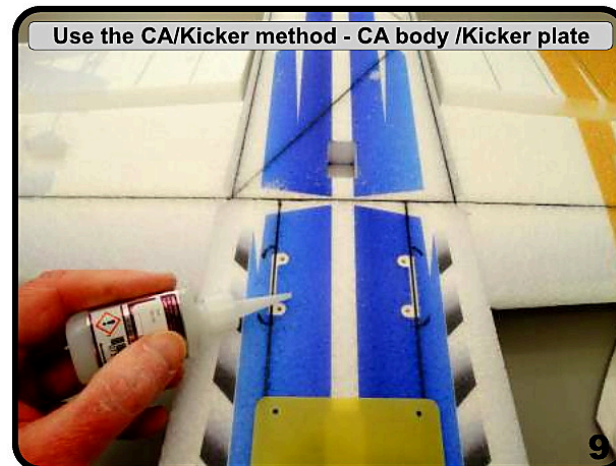
Locate the landing gear plate

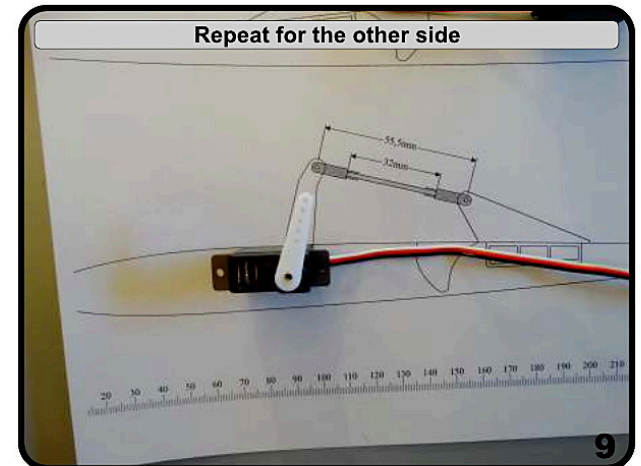
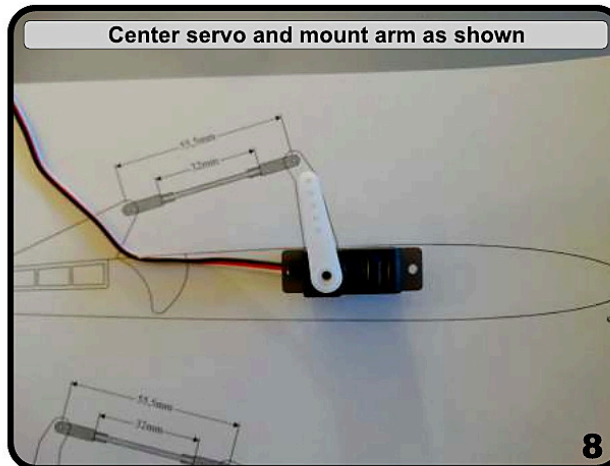
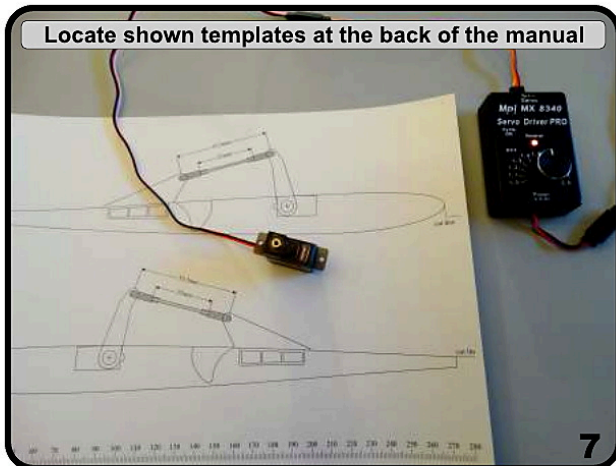
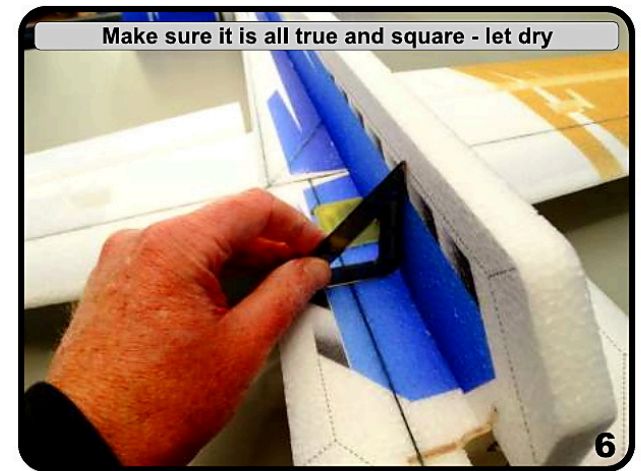
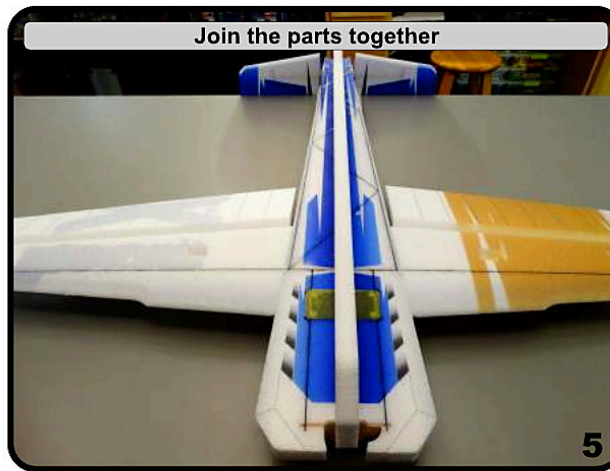
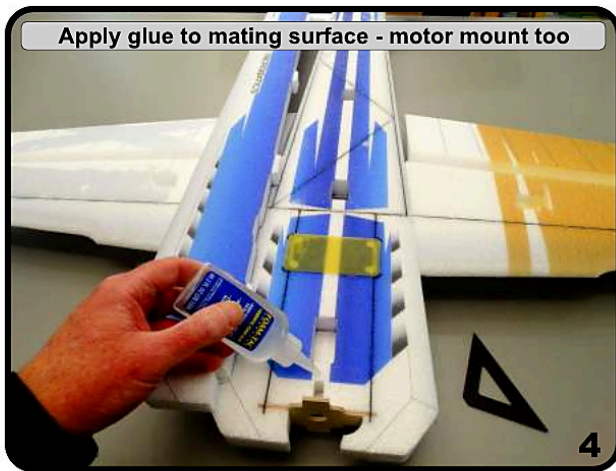
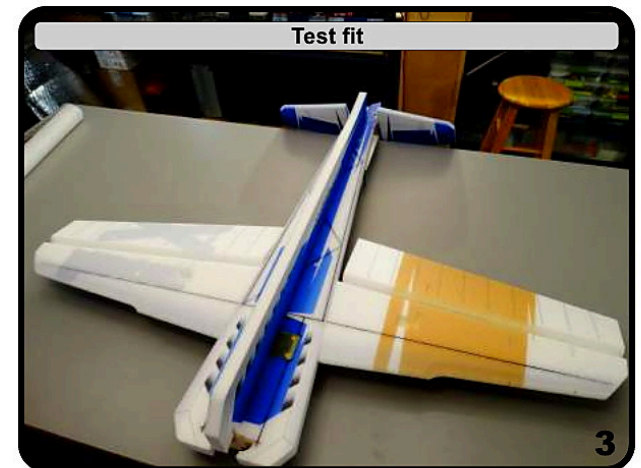
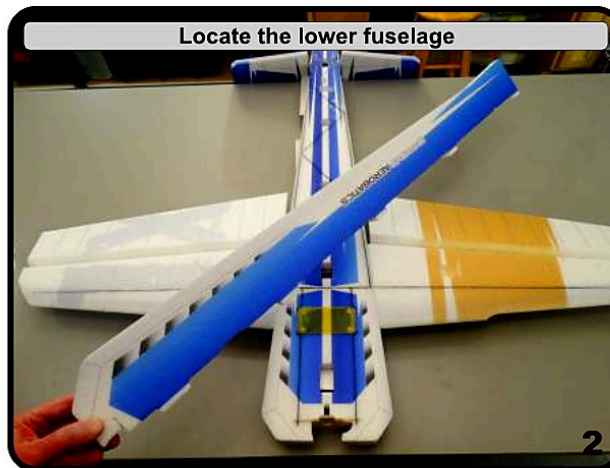
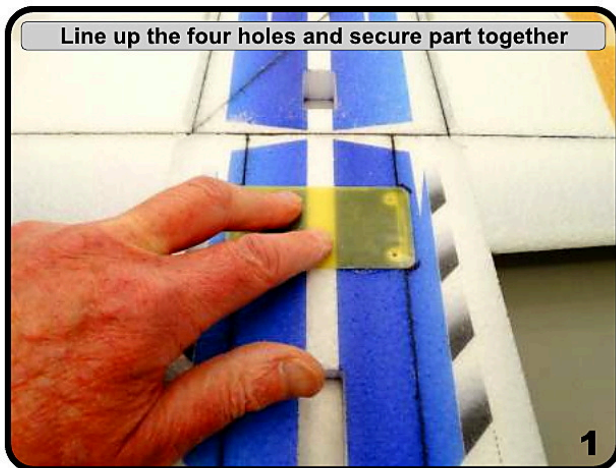


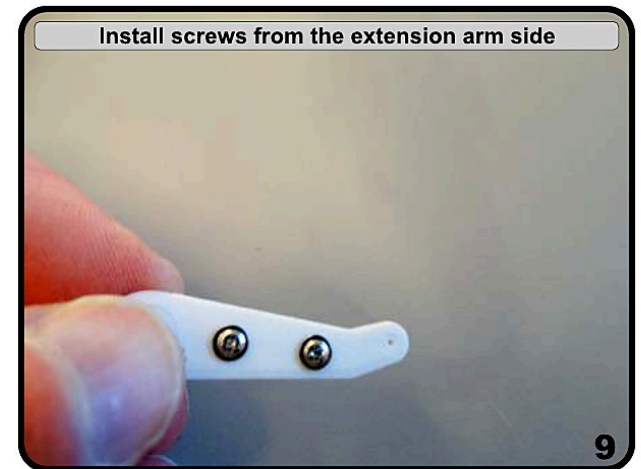
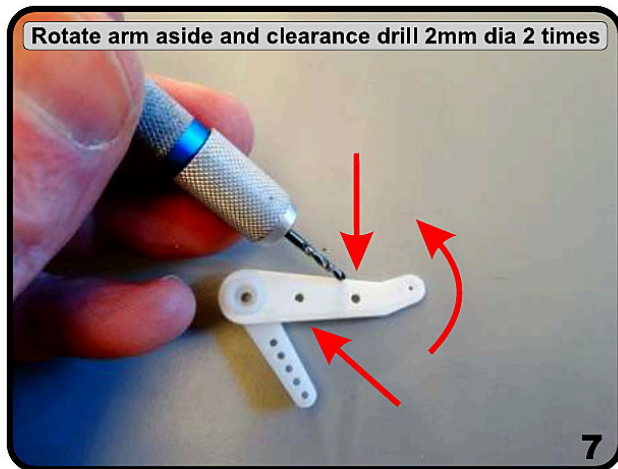
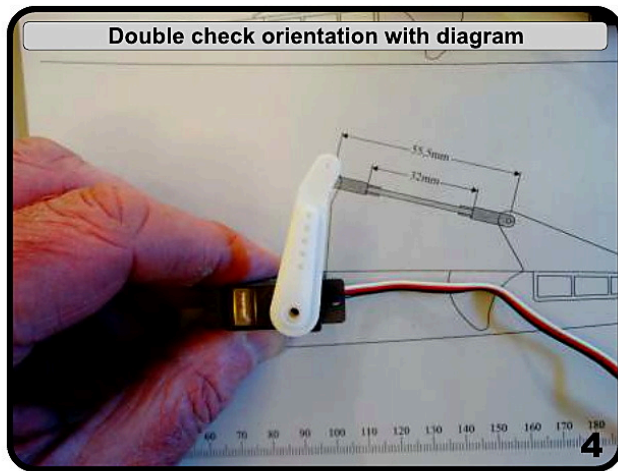
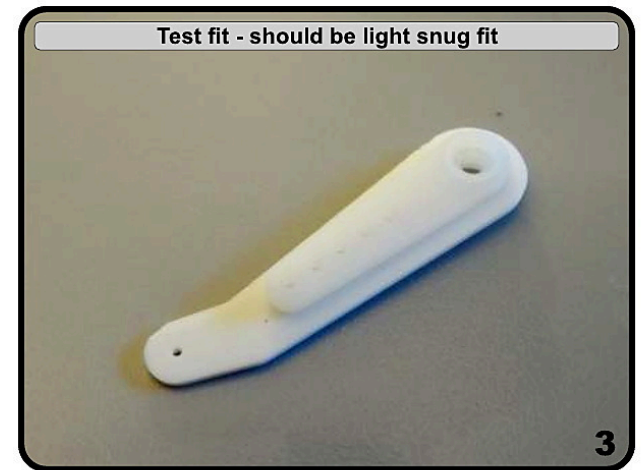
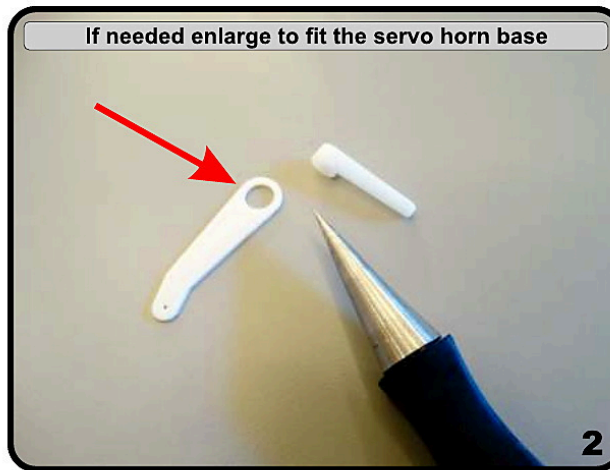
Rough up one side with coarse sand paper



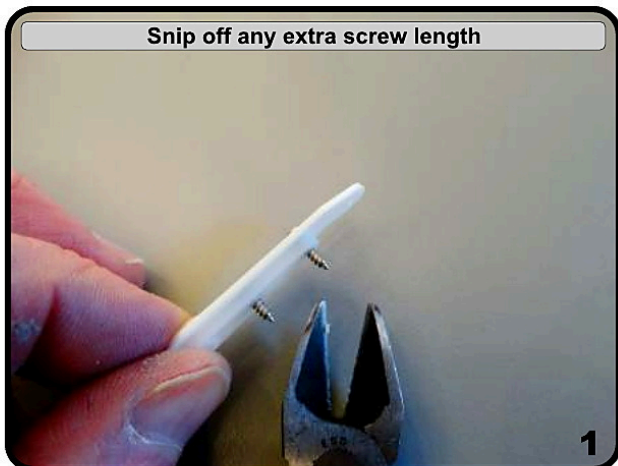
Use the CA/Kicker method - CA body /Kicker plate



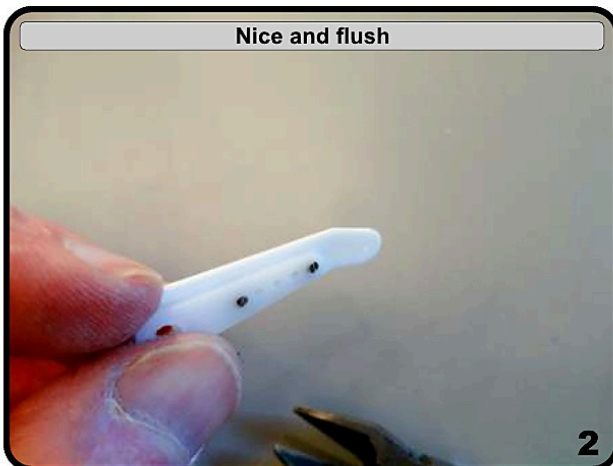




Snip off any extra screw length



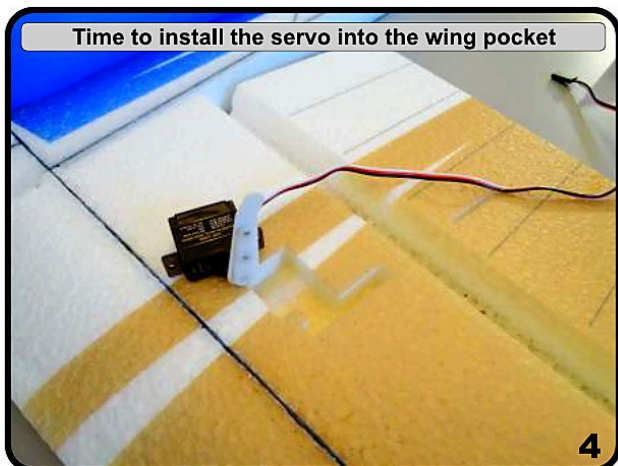
Nice and flush



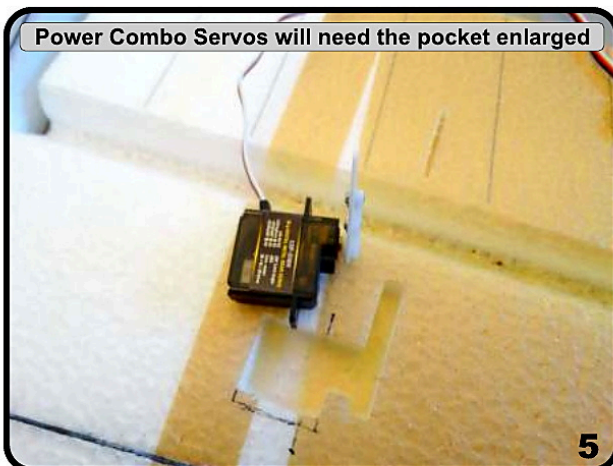
Repeat for the other aileron servo/servo arm



Time to install the servo into the wing pocket



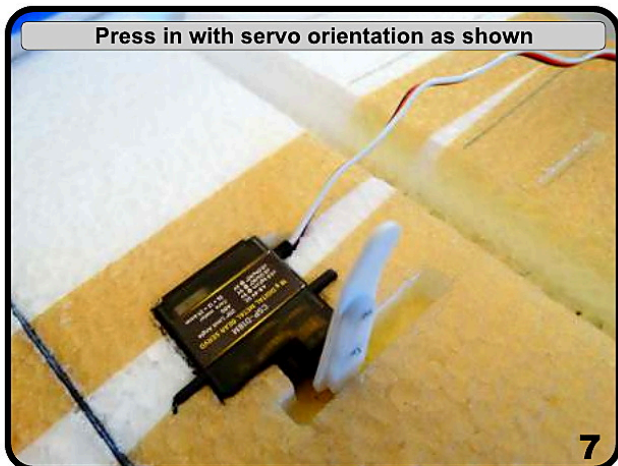
Power Combo Servos will need the pocket enlarged



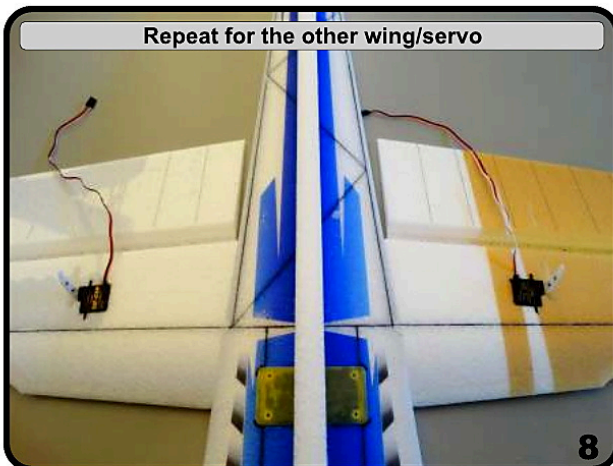
Mark and cut for snug fit



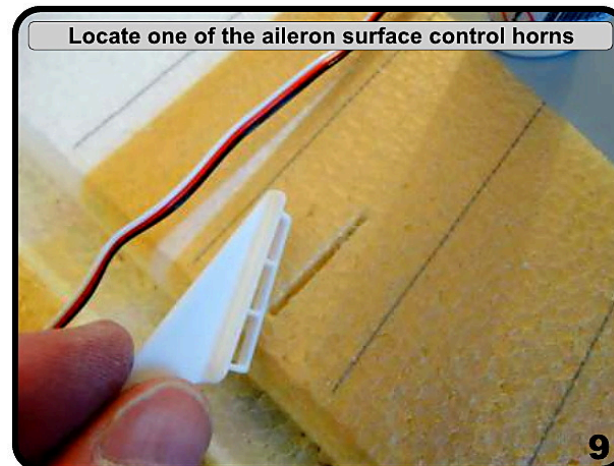
Press in with servo orientation as shown

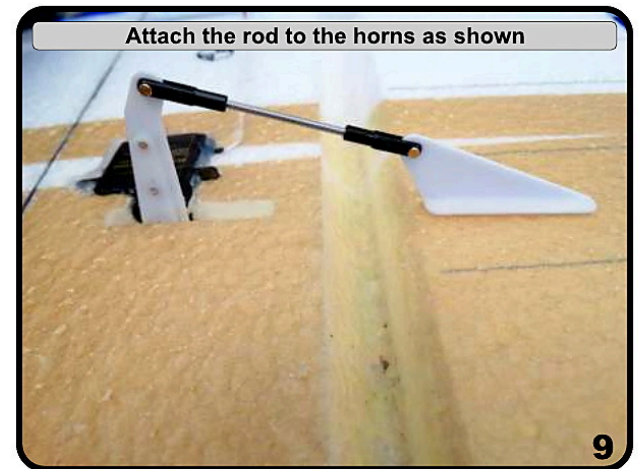
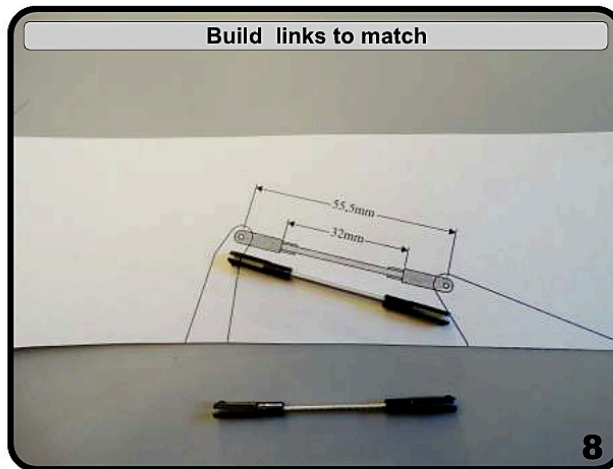
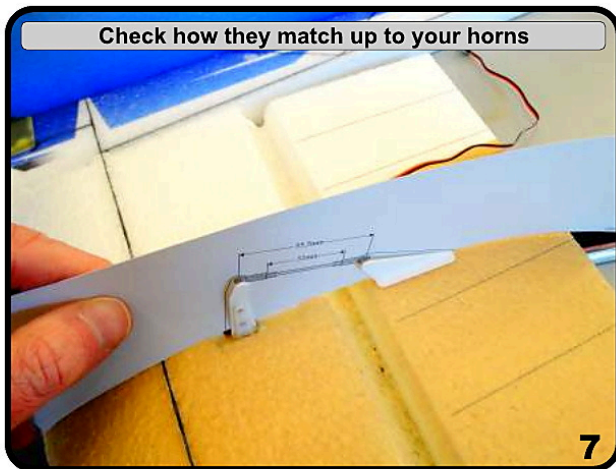
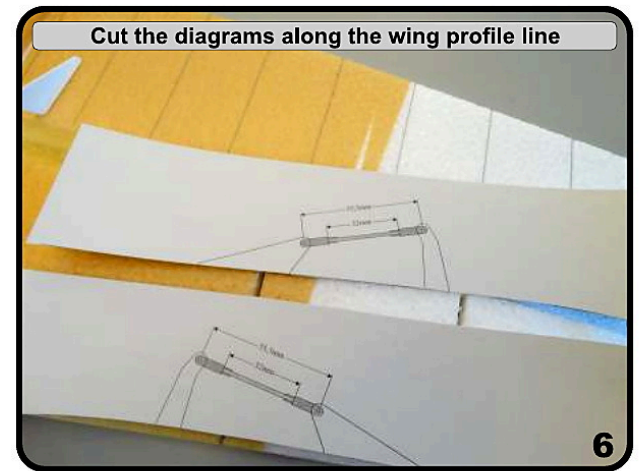
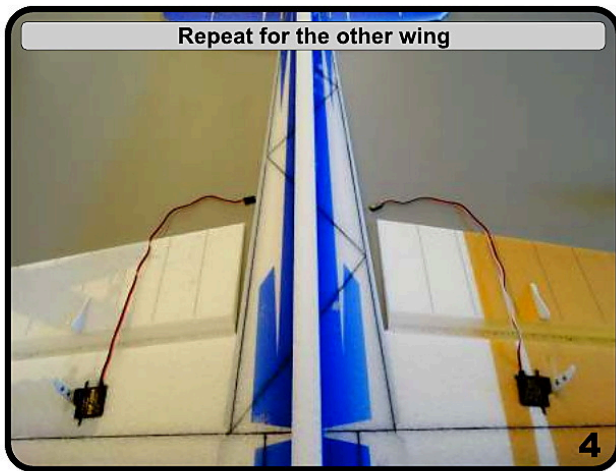
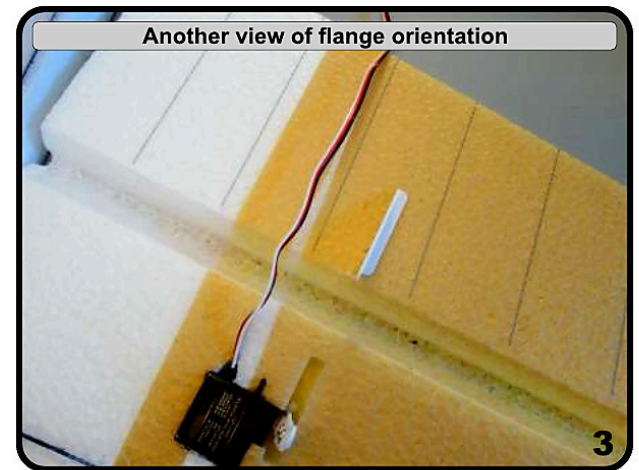
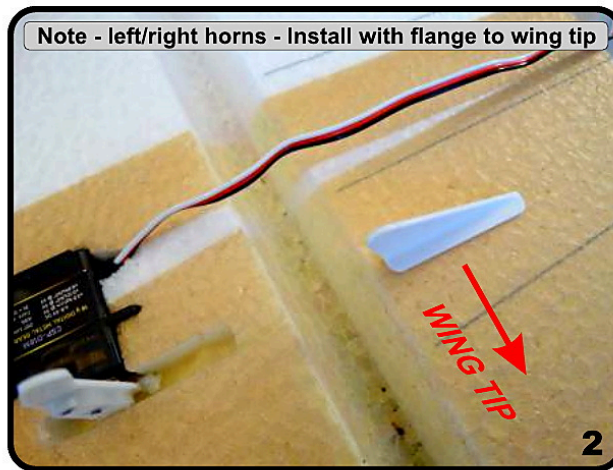


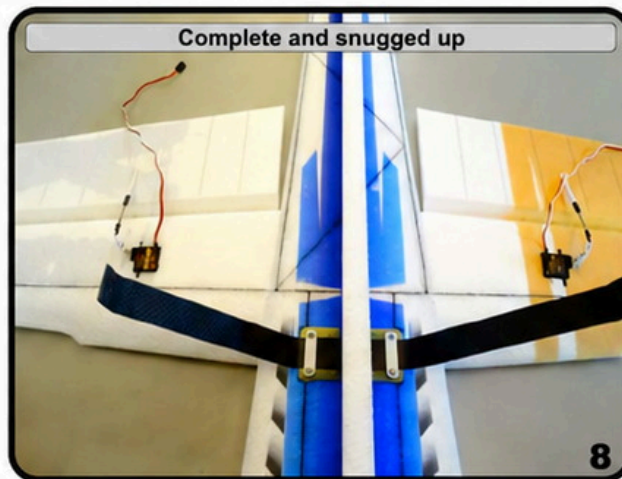
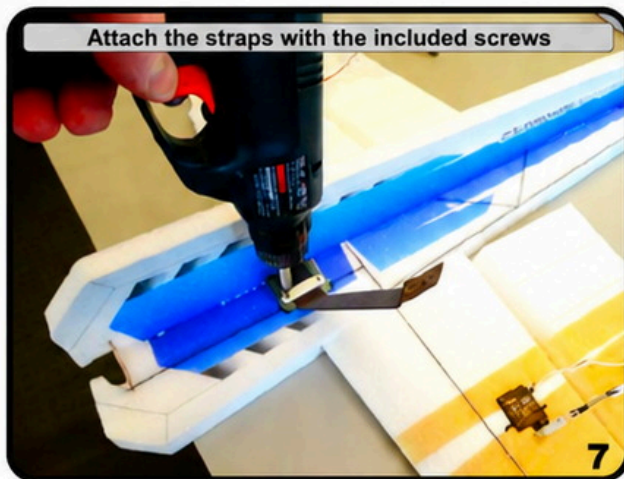
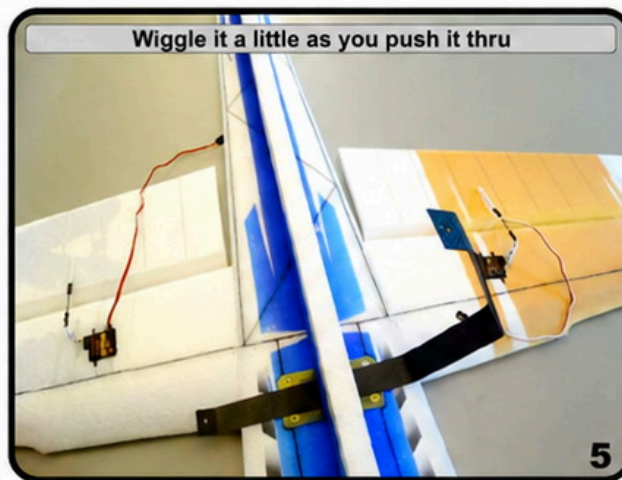
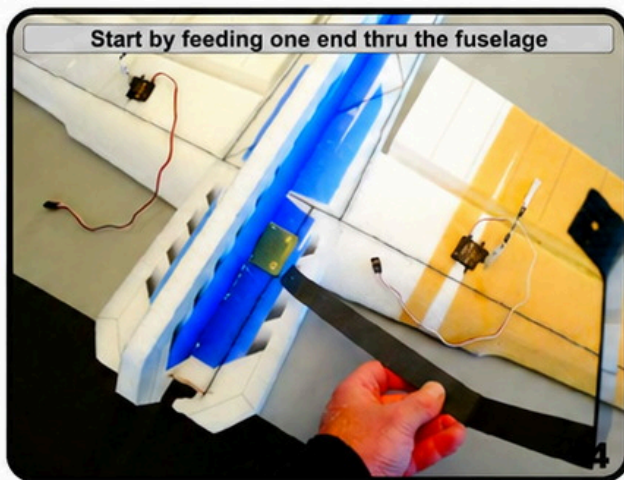
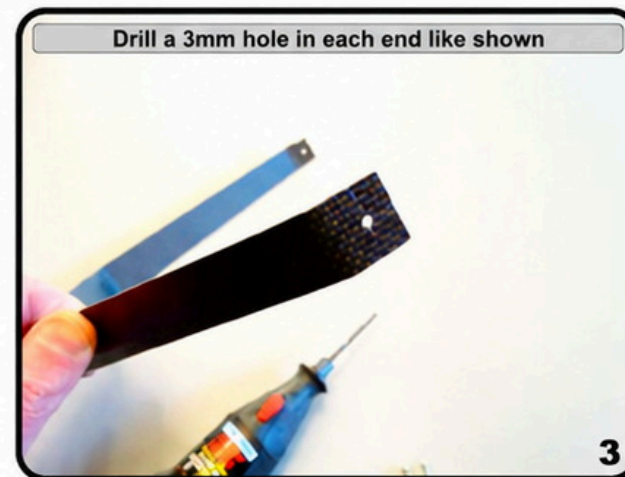
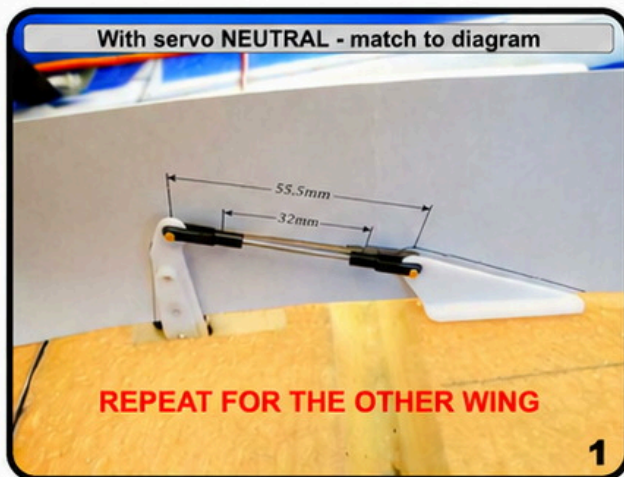
Repeat for the other wing/servo



Locate one of the aileron surface control horns

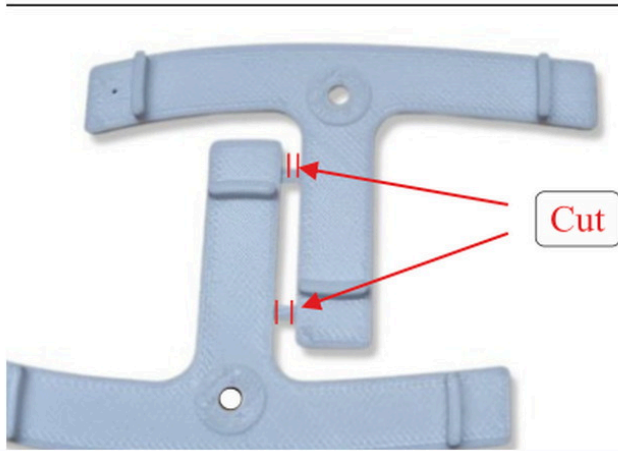






UPDATED V2 WHEEL PANT INSTRUCTIONS

Cut the center support as shown



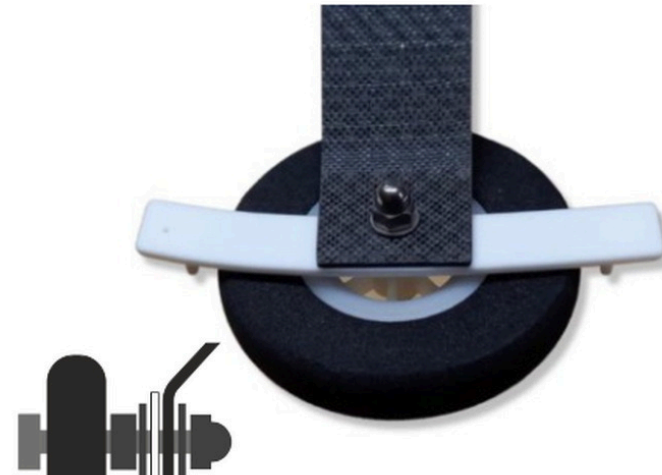
Drill both brackets to 3 mm



Assemble both wheel units



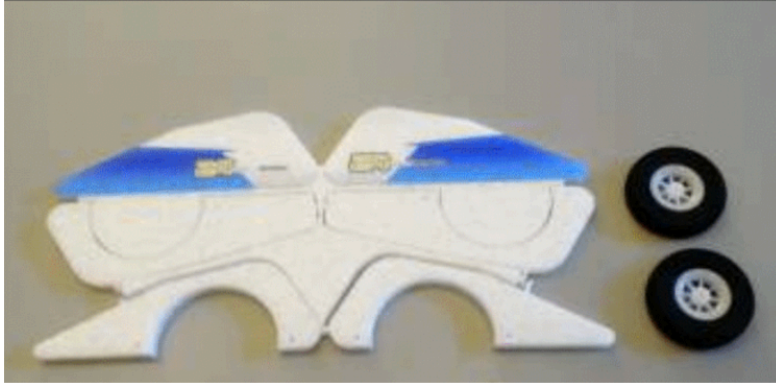
Confirm washer and nut orientation



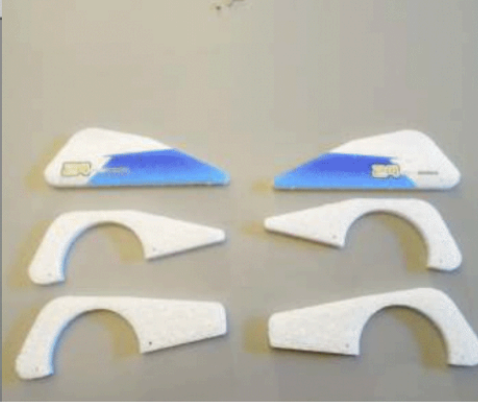
Continued on the next page.

UPDATED V2 WHEEL PANT INSTRUCTIONS

Locate the wheels and wheel pant parts



Separate all the wheel pant foam parts



Line up the edges and laminate as shown



Install the wheel assembly into the pant



Apply Medium CA at all contact points



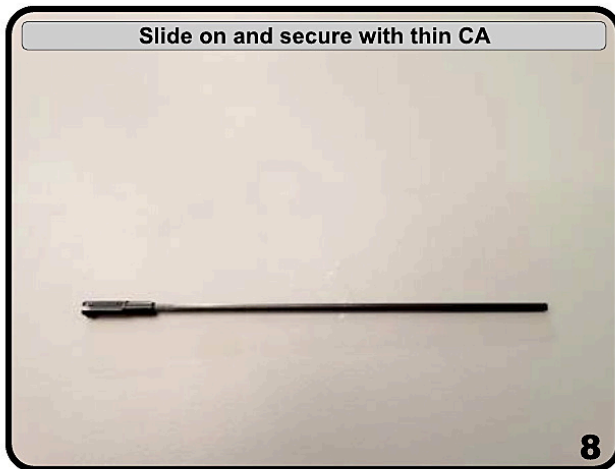
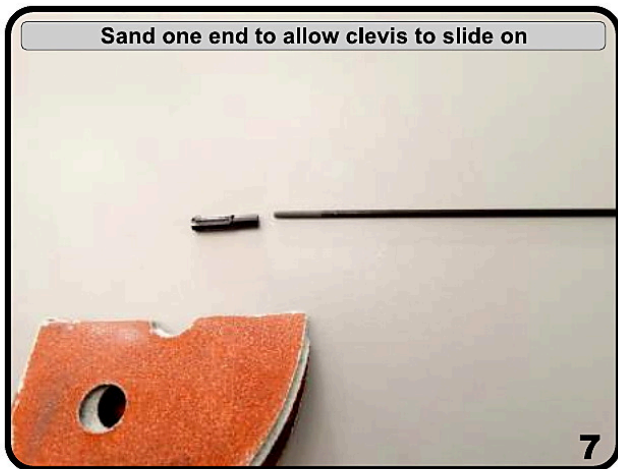
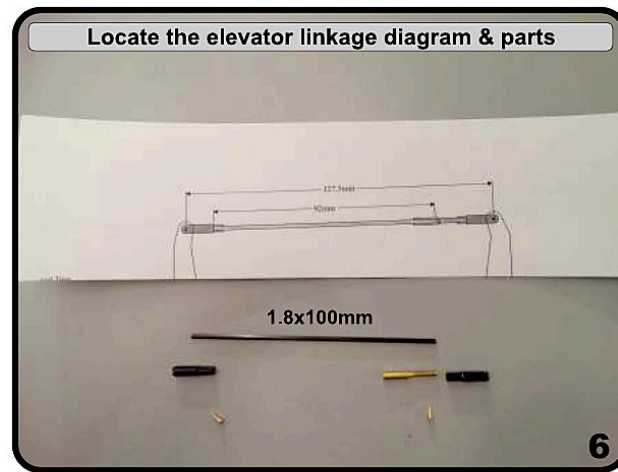
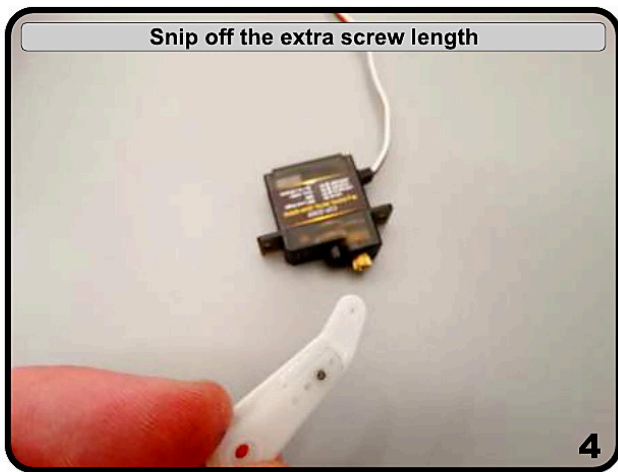
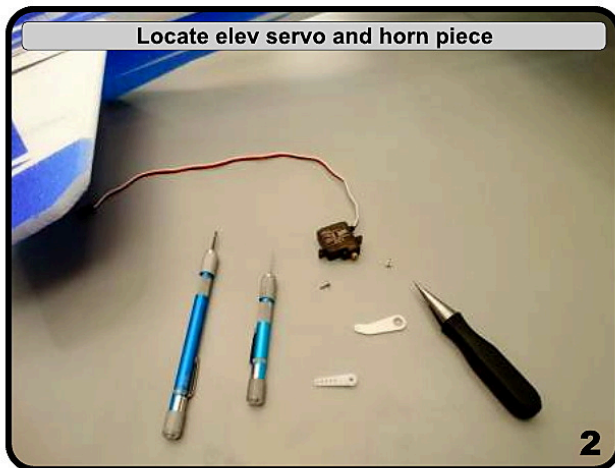
V2 WHEEL PANT ASSEMBLY COMPLETE

Continue with the next build step at right.

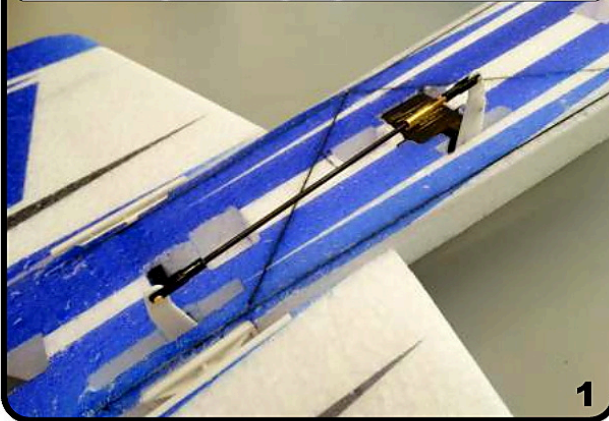
The remaining build steps stay the same.

Continue with the next build step

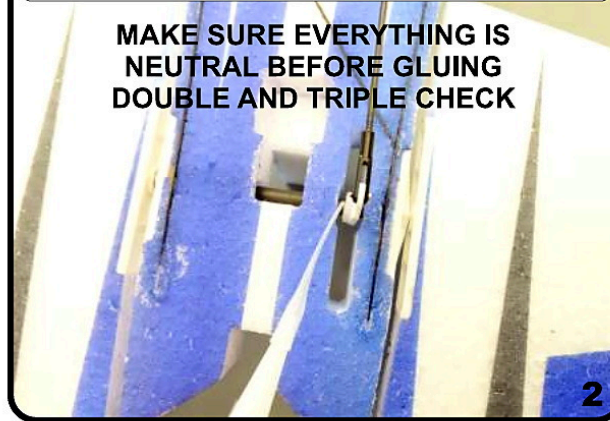




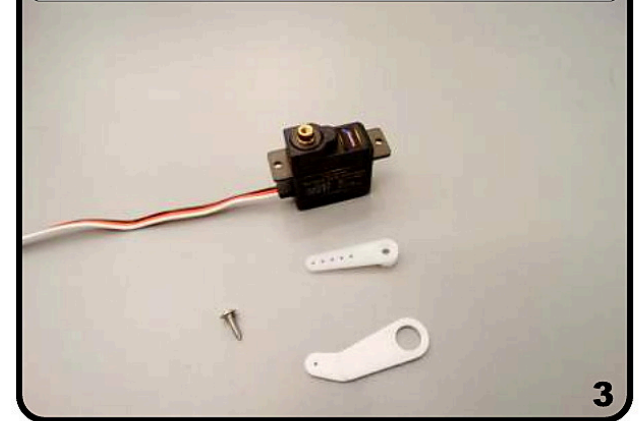
With linkage matching diagram - center elevator



Secure horn to rod with a med CA fillet



Locate the rudder servo arm like shown



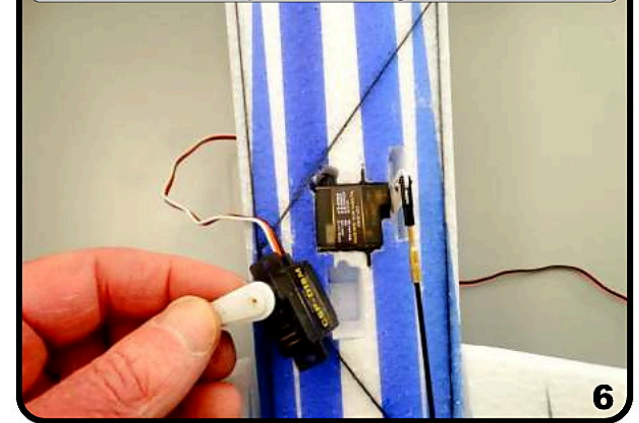
Attach it like was done with aileron horns



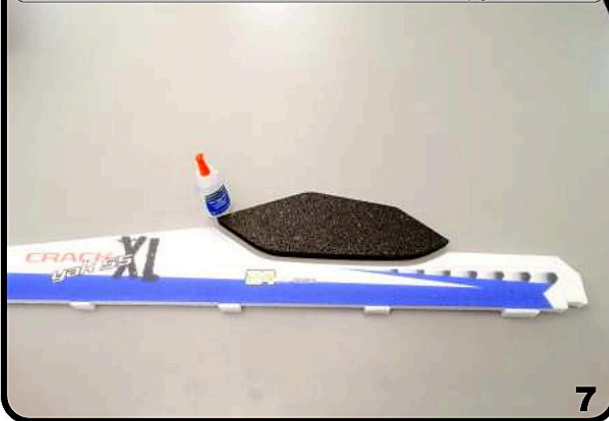
Snip off the extra



Fit into the pocket - enlarge if needed



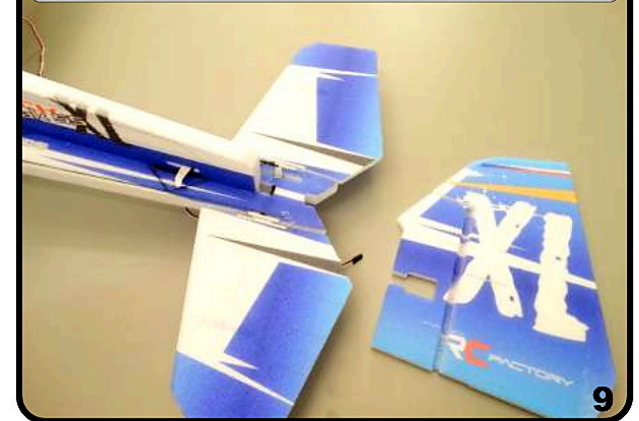
With FoamTac - attach the canopy

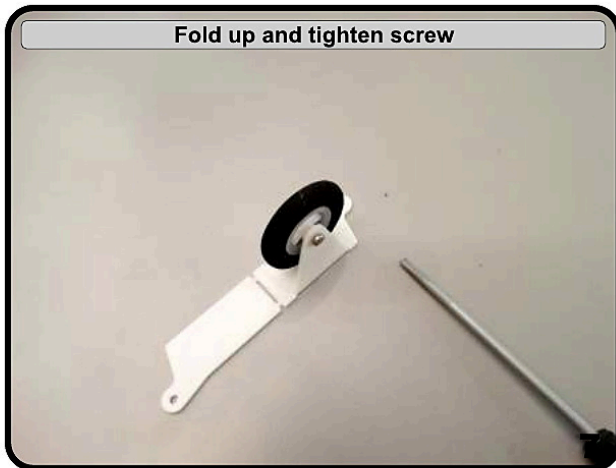
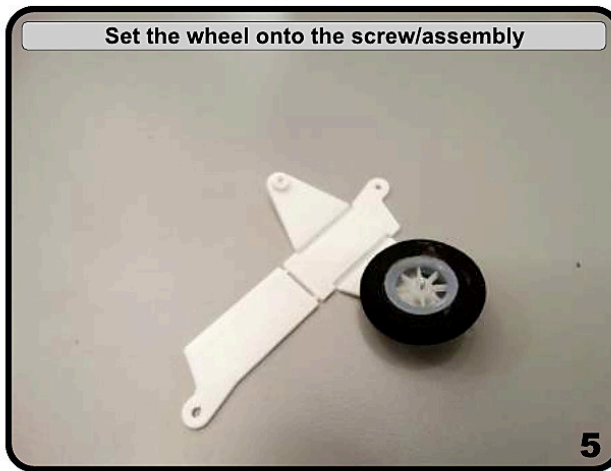
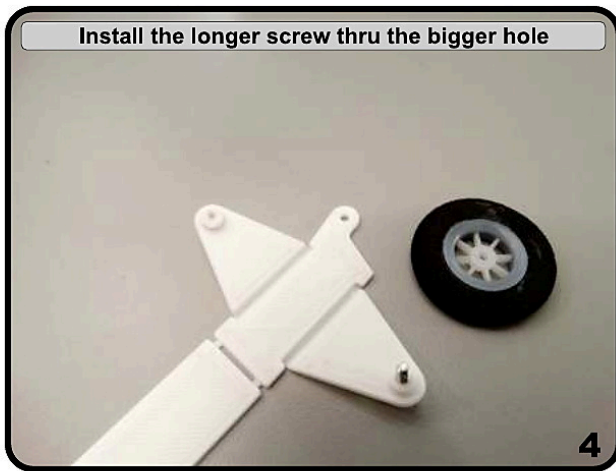
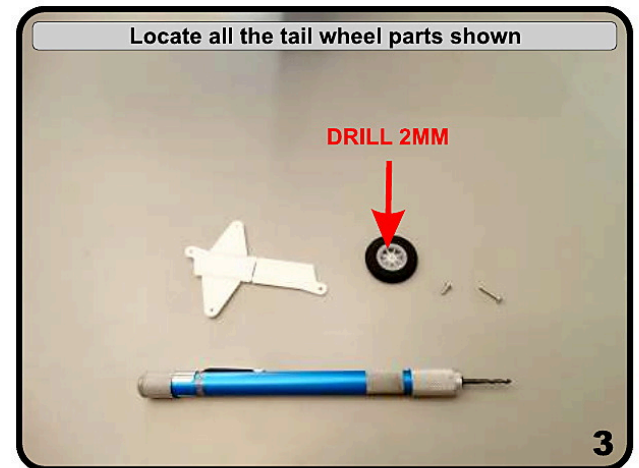


Test fit and glue the top fuselage on - make square



Locate the Rudder





Attach like shown - Orientation is critical



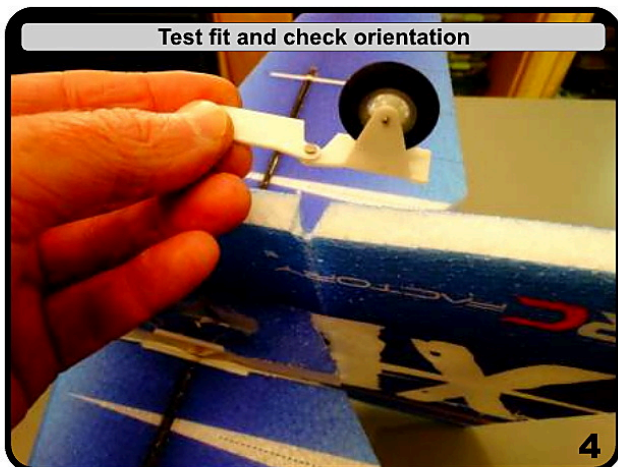
A drop of med CA on the back side to secure screw



Close up of CA securing the back of screw



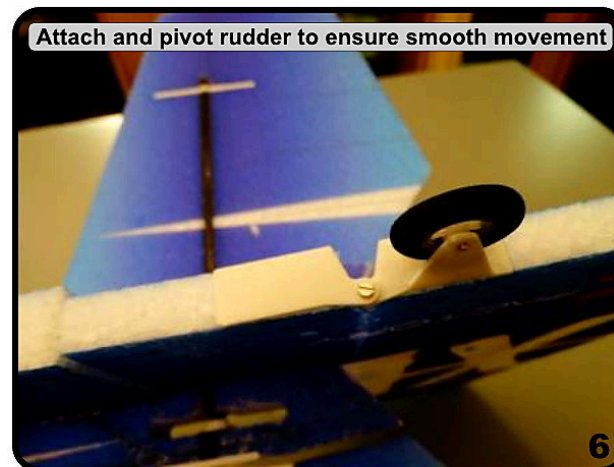
Test fit and check orientation



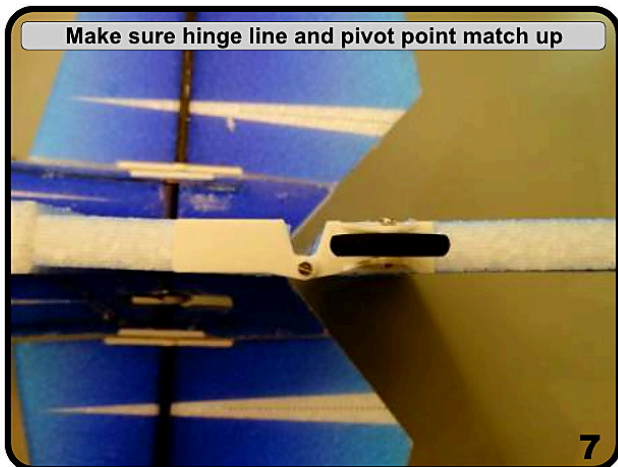
Apply FoamTac to mating surfaces



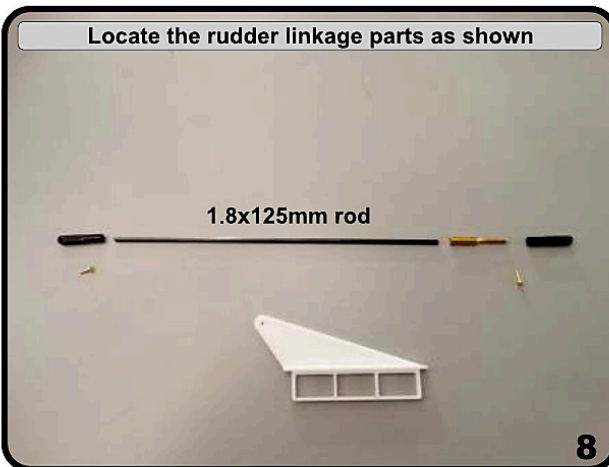
Attach and pivot rudder to ensure smooth movement



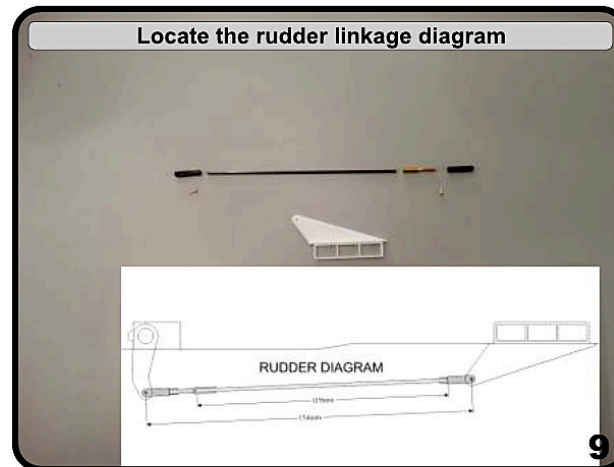
Make sure hinge line and pivot point match up

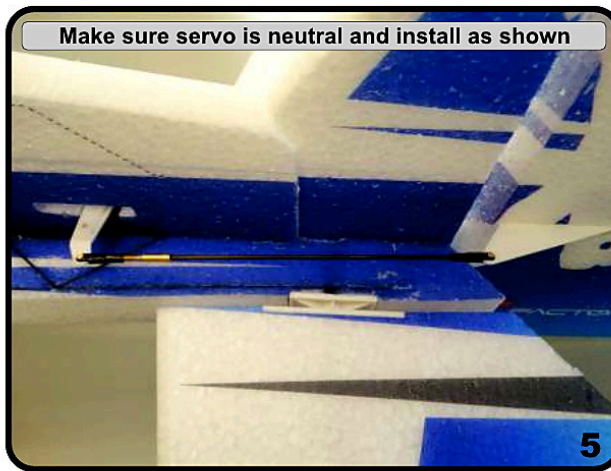
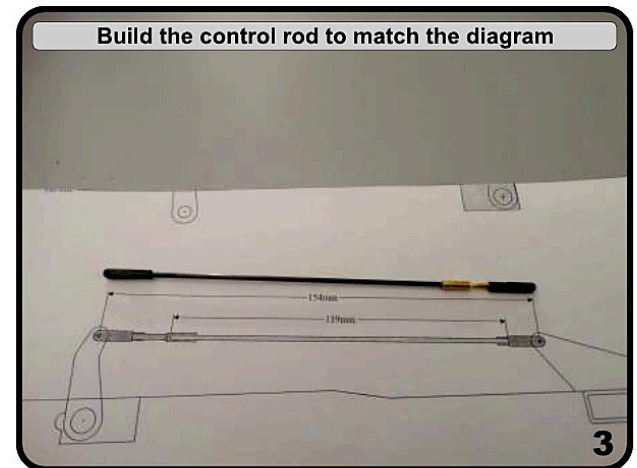


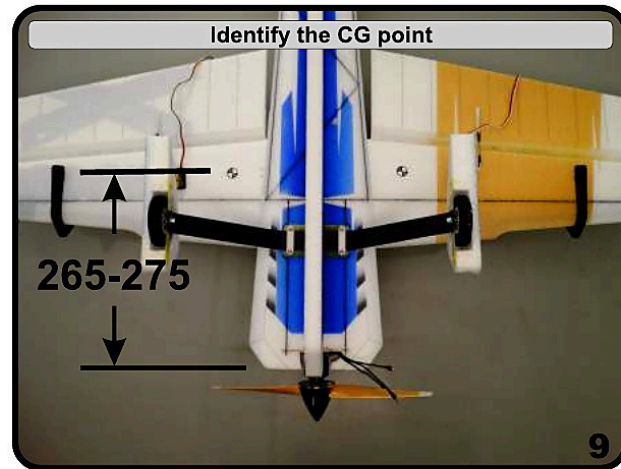
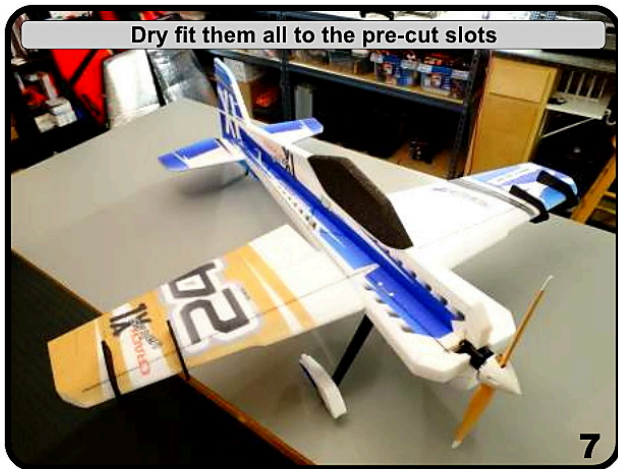
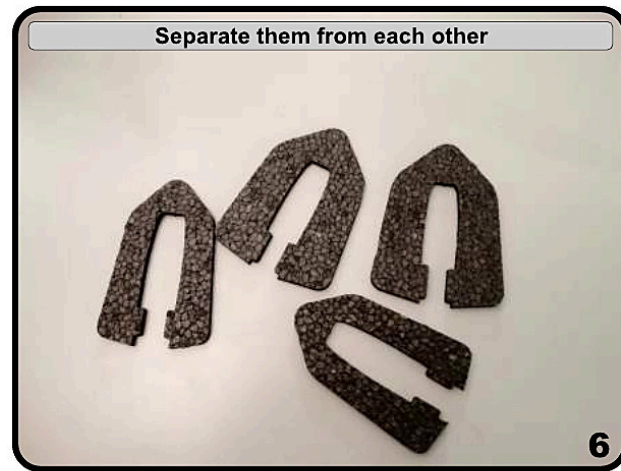
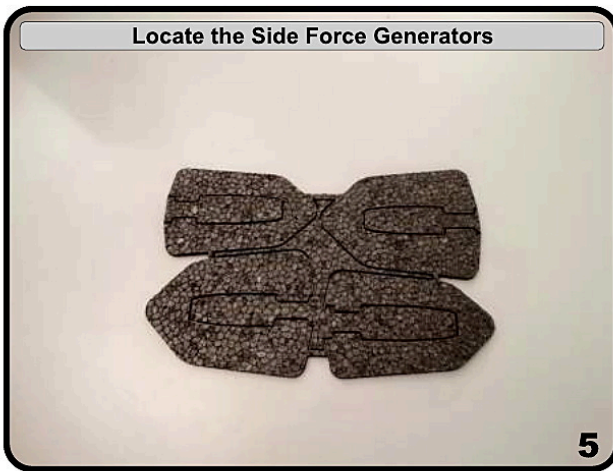
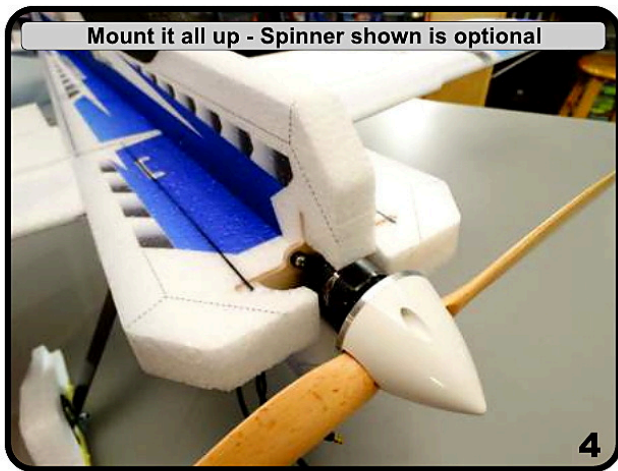
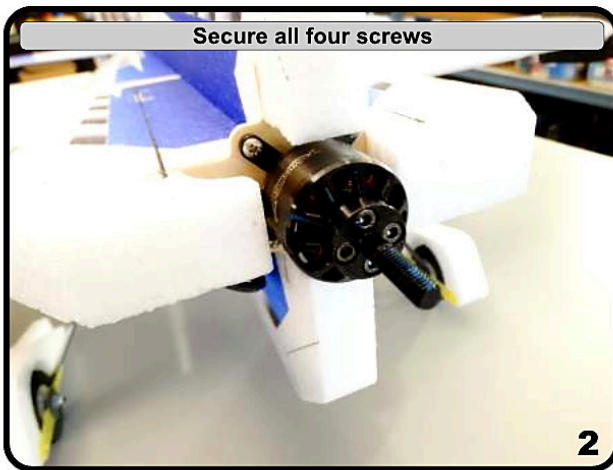
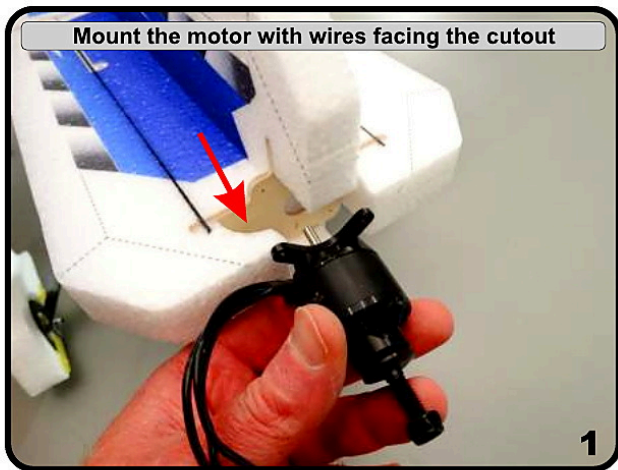
Locate the rudder linkage parts as shown

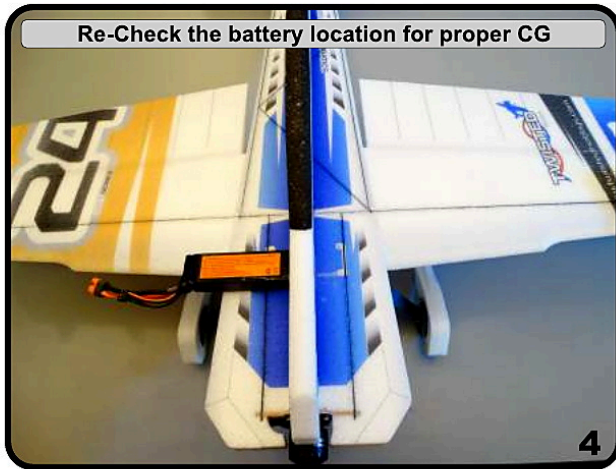
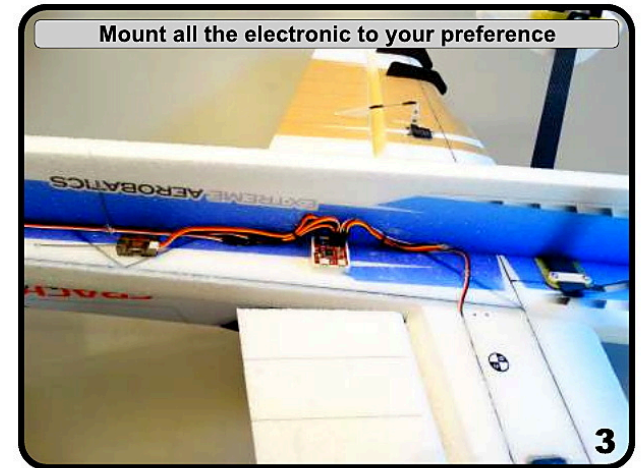
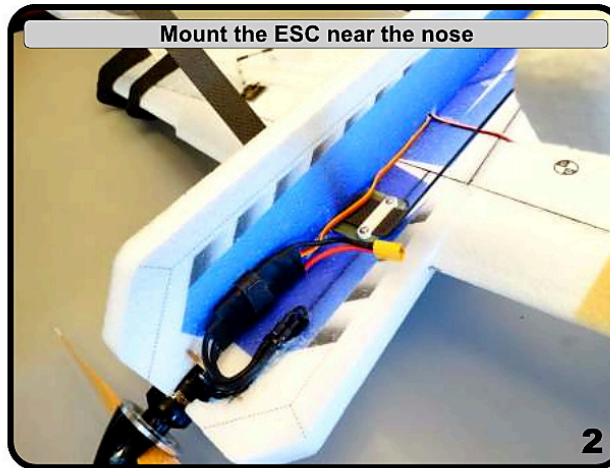
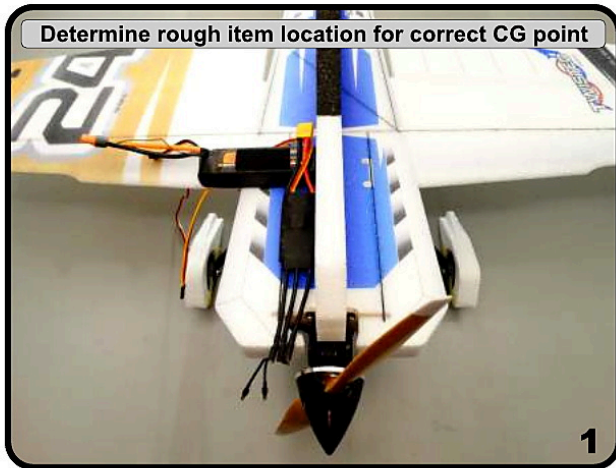


Locate the rudder linkage diagram

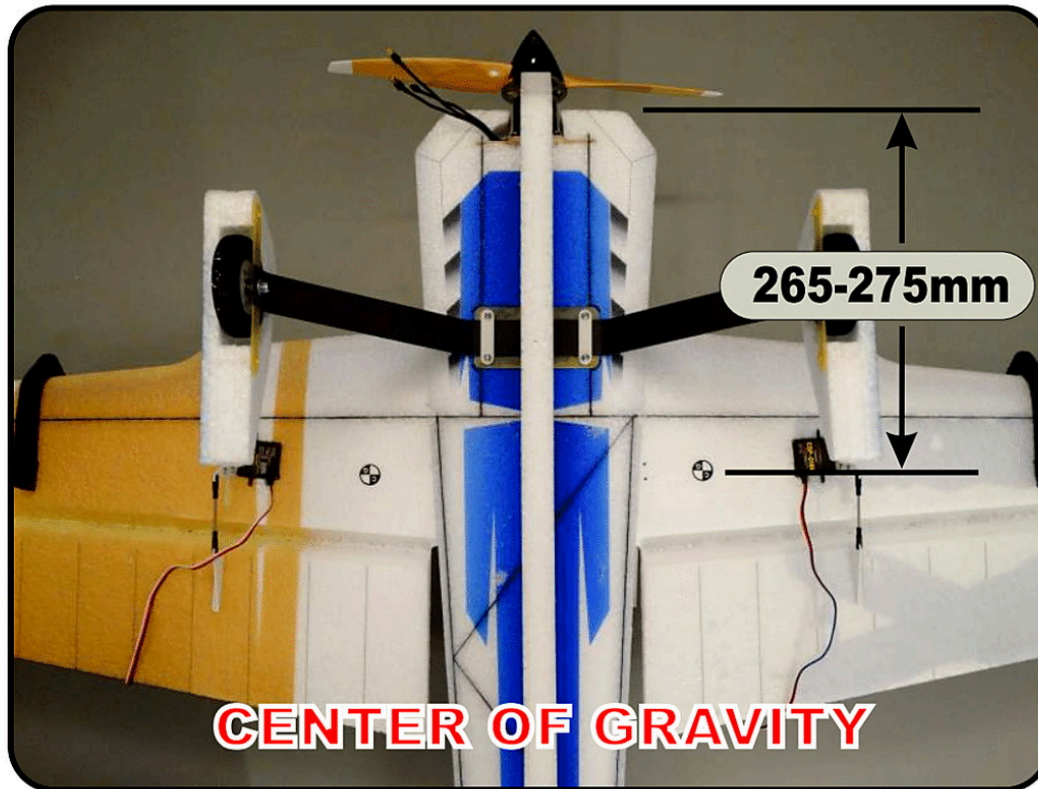








CENTER OF GRAVITY & CONTROL THROWS



C.G. - 265-275mm from nose

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: +/- 60 deg

Rudder: +/- 50 deg

Elevator: +/- 60 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 to approx 25% of max on all surfaces



PREFLIGHT & 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 style flying and will be right at home at the local park or flying field.

STORAGE

This EPP plane should be stored hanging directly from it's prop. Storing in other fashions, including on it's landing gear, will 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 & 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.

NOTES & SETUP 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 -

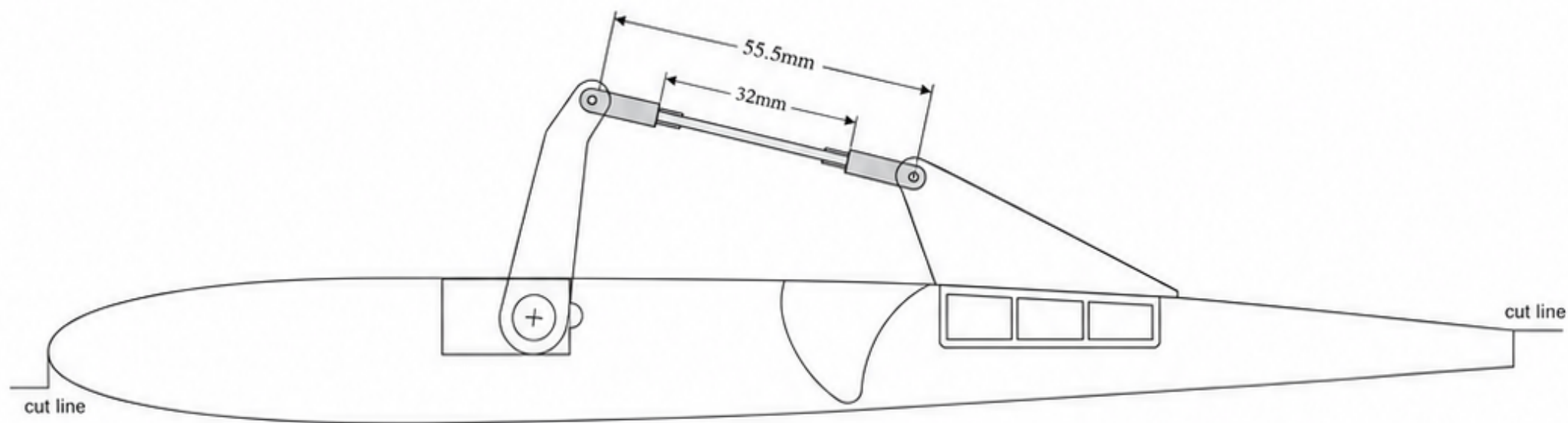
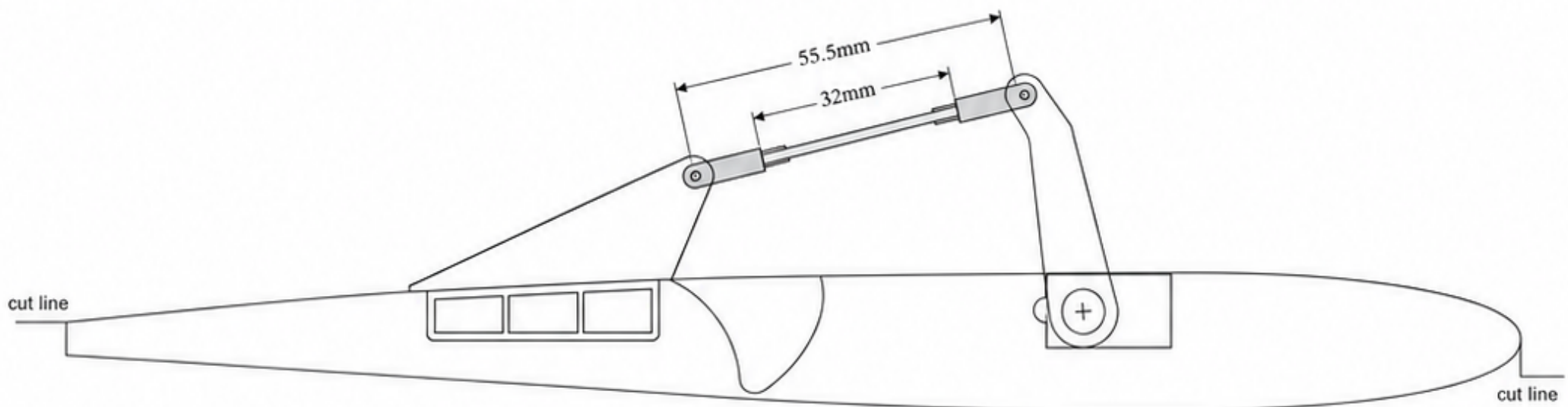
Battery -

motor -

ESC -

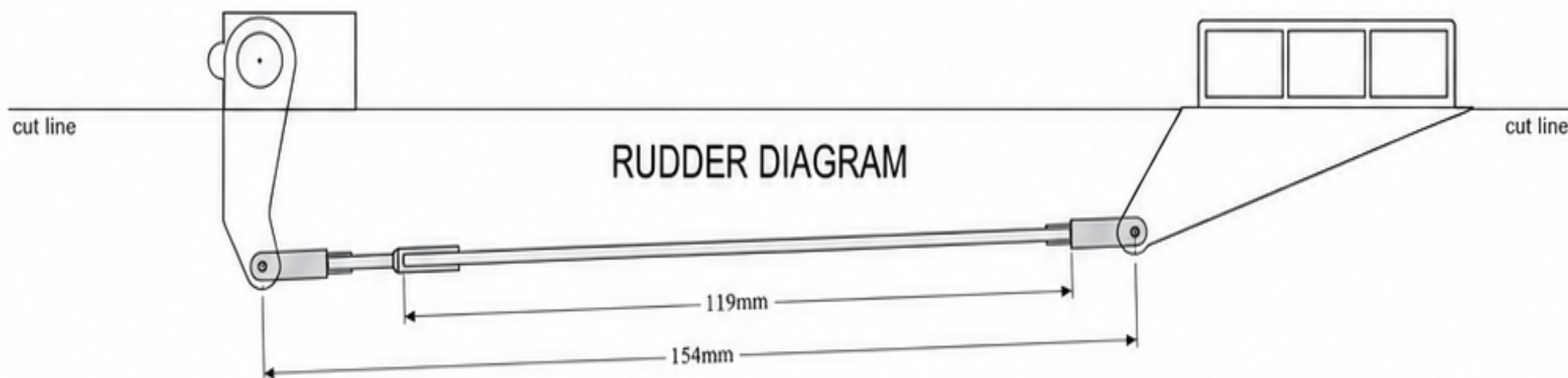
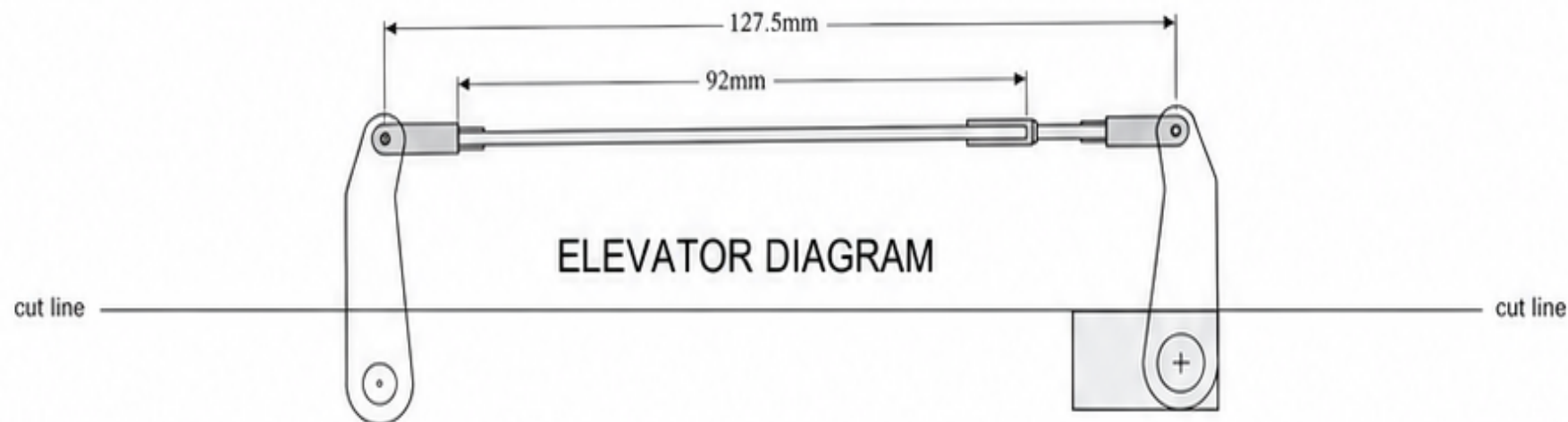
Propeller -

AILERON LINKAGE DIAGRAMS



MAKE SURE YOU PRINT 1 TO 1 / CHECK SCALE BELOW AFTER PRINTING TO VERIFY





MAKE SURE YOU PRINT 1 TO 1 / CHECK SCALE BELOW AFTER PRINTING TO VERIFY

