EXTREME FLIGHT RADIO CONTROL™

STATE-OF-THE-ART R/C AEROBATIC AIRCRAFT AND ACCESSORIES

74” LASER EXP ARF

Instruction Manual
V2 Addendum - Page 42



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Please take a few moments to read this instruction manual before beginning assembly. We have outlined a fast, clear and easy method to assemble this aircraft and familiarizing yourself with this process will aid in a quick, easy build.

Please read the following paragraph before beginning assembly of your aircraft!

THIS IS NOT A TOY! Serious injury, destruction of property, or even death may result from the misuse of this product. Extreme Flight RC is providing you, the consumer, with a very high quality model aircraft component kit, from which you, the consumer, will assemble a flying model. It is beyond our control to monitor the finished aircraft you produce. Extreme Flight RC will in no way accept or assume responsibility or liability for damages resulting from the use of this user assembled product. This aircraft should be flown in accordance with the AMA safety code. It is highly recommended that you join the Academy of Model Aeronautics in order to be properly insured and operate your model at AMA sanctioned flying fields only. If you are not willing to accept ALL liability for the use of this product, please return it to the place of purchase immediately.

Extreme Flight RC, Ltd. guarantees this kit to be free of defects in materials and workmanship for a period of 30 DAYS from the date of purchase. All warranty claims must be accompanied by the original dated receipt. This warranty is extended to the original purchaser of the aircraft kit only. Extreme Flight RC in no way warranties its aircraft against flutter. We have put these aircraft through the most grueling flight tests imaginable and have not experienced any control surface flutter. Proper servo selection and linkage set-up is absolutely essential. Inadequate servos or improper linkage set up may result in flutter and possibly the complete destruction of your aircraft. If you are not experienced in this type of linkage set-up or have questions regarding servo choices, please contact us at info@extremeflightrc.com or 770-887-1794. It is *your* responsibility to ensure the airworthiness of your model.

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Congratulations on your purchase of the Extreme Flight RC 74 inch LASER EXP!
This aircraft is unique in that it is being offered in two versions: A gas version and a dedicated electric version to satisfy the growing legions of electric power enthusiasts. There are subtle differences in the construction of these two versions to accommodate the installation of the chosen power systems. The gas version can be effectively powered by a 30cc-40cc gas engine. The electric version will perform best when powered with a 2500-3500 Watt power system on 8S-12S Lithium Polymer batteries. Either version will allow you to perform aggressive 3D maneuvers with an economical power plant, allowing you to experience the performance and stability of a much larger aircraft at a considerable savings.

The Extreme Flight LASER EXP is loaded with unique features, including first rate hardware, components and thorough instructions to ensure a trouble free assembly and set-up. Weight saving components are used throughout, such as carbon fiber structural reinforcement, carbon fiber wing and stab mounting tubes, carbon fiber landing gear, titanium pushrods and a carbon fiber tail wheel assembly, all ensuring the lightest, most high performance aircraft possible. You will notice there is a box built into the bottom of the gas version of the LASER EXP fuselage. This is a pipe tunnel and will accommodate most canister mufflers and tuned pipes sold for the current makes of 30-40cc gas engines.

Like all of the EXP series, the Laser excels at both 3D and precision maneuvers. It shares the long tail moment of the Extra and Edge which gives it great stability in high speed precision maneuvers and it also features that famous EXP elevator that allows for crazy pitch authority and great stability in high alpha maneuvers. When the CG is properly set the Laser has minimal coupling and is a very neutral aircraft.

We have spent a great deal of time and effort to provide you, the discriminating aerobatic enthusiast, with the highest quality, most complete package possible. We are very proud of the end result of our labor and wish you great success with the assembly and flying of your Extreme Flight RC 74 inch LASER EXP!

Ultracote color codes for the Laser are as follows:
Red/White classic color scheme:
True Red HANU866 White HANU870

Yellow/Blue/White color scheme:
Bright Yellow HANU872 White HANU870 Midnight Blue HANU885

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Items needed for completion:

- ✓ **Masking tape.**
- ✓ **Hobby knife with #11 blades.**
- ✓ **Thin and medium CA. We highly recommend Mercury M5T thin and M100XF medium formulas as well as the Mercury glue tips.**
- ✓ **30 minute epoxy. Mercury Adhesives Epoxies have worked very well for us.**
- ✓ **Blue Loctite.**
- ✓ **Electric drill with an assortment of small drill bits.**
- ✓ **Small flat head and Phillips head screw drivers.**
- ✓ **Standard and needle nose pliers.**
- ✓ **Side cutter**
- ✓ **Metric ball driver or allen key set.**
- ✓ **Sanding block and sandpaper.**
- ✓ **5 x METAL GEARED servos with a minimum of 300 oz. in of torque.**
- ✓ **Aluminum Servo Arms – 2 x 1.5"single arms, 2 x 2" single arms and 1 x 3.5" double arm.**
- ✓ **2 x 6" Servos Extensions**
- ✓ **2 x 12" Servo Extensions**
- ✓ **2 x 24" Servo Extensions**
- ✓ **76mm Spinner**

Gas Version

- ✓ **30cc-40cc gas engine**
- ✓ **20x8-21x8 prop**

Electric Version

- ✓ **2500-3500 Watt Brushless Power System**
- ✓ **80 to 120 amp HV ESC**
- ✓ **8S to 12S Lithium Polymer batteries**
- ✓ **Recommended prop for your chosen power system**

Please note: The LASER EXP assembles in the same manner as our other similar sized models. As a result some of the photos in this manual may be of other aircraft if we determined they better illustrated the assembly step.

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Tips for Success:

1. **Before starting assembly, take a few minutes to read the entire instruction manual to familiarize yourself with the assembly process.**

2. **Please take a few minutes and go over all the seams on the aircraft with a covering iron on a medium heat setting. Due to climate changes that the airframe experiences on the way over from China, wrinkles may develop in the covering. These are easily removed with a little bit of heat. Use a 100% cotton tee-shirt or a microfiber cloth and your heat gun and heat the covering while gently rubbing the covering onto the wood. Be careful not to use too much heat as the covering may shrink too much and begin to lift at the edge. Take your time, and a beautiful, paint-like finish is attainable.**

3. **Take a few minutes and apply CA to high stress areas such as servo mounting trays, landing gear mounts, anti-rotation pins, and motor box joints.**

4. **By the time your aircraft arrives at your door step, it will have been handled by a lot of people. Occasionally, there are small dings or imperfections on some of the surfaces. An effective method to restore these imperfections to original condition is to use a very fine tipped hypodermic needle and inject a drop of water under the covering material and into the ding in the wood. Apply heat to the area with a sealing iron and the imperfection will disappear. Deeper marks may require that this process be repeated a couple of times to achieve the desired result, but you will be surprised at how well this technique works.**

5. **Use a high quality epoxy for installing the composite control horns and hinges. We highly recommend the new Mercury Adhesives 30 minute Epoxy as well as Pacer Hinge Glue. We are very pleased with the results and ease of application and cleanup of these products.**

6. **When applying decals, first clean the area where the decal will be applied with alcohol. Mist the area lightly with Windex or Rapid Tack before applying the decal which will allow you to properly position it, and then use a rubber squeegee to push all of the liquid from under the decal. This will result in very few air pockets trapped under the decal.**

7. **Take the time to properly balance and trim your aircraft and set up rates and exponential values. Your flying experience will be greatly enhanced once your plane is properly dialed in.**

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Let's begin!

Elevator Assembly

1. **Locate the horizontal stabilizer/elevator assemblies as well as the composite control horns and base plates from the elevator hardware package. Use a sharp #11 blade or soldering iron to remove the covering over the 2 slots for the elevator control horns on the bottom of the elevator surface.**

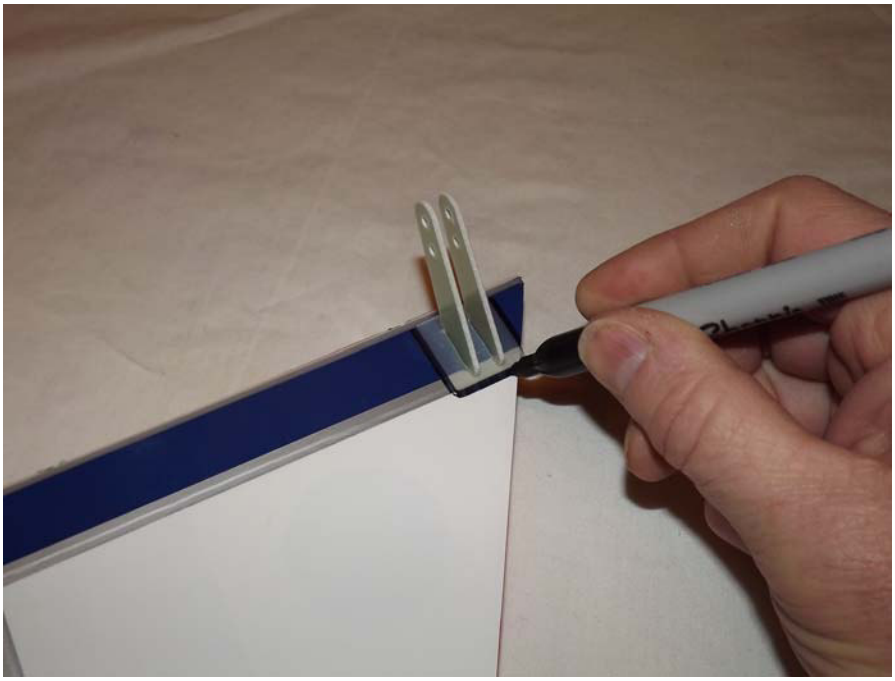


2. **Insert the 2 control horns into the base plate and trial fit the horns into the slot, making sure they seat properly against the base and elevator surface. If necessary, sand the bottom of horns to ensure proper fit in the elevators.**

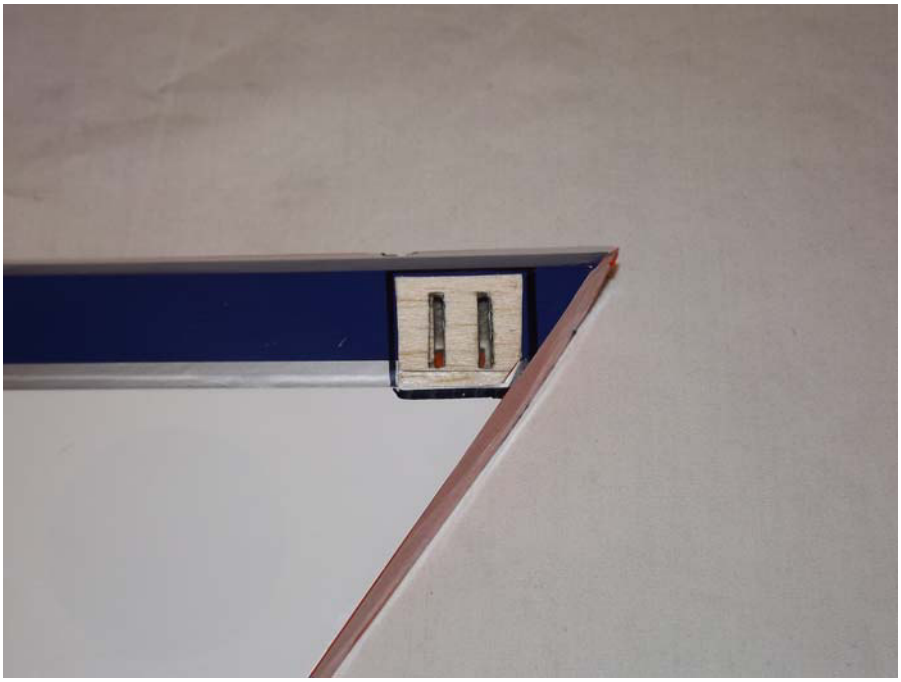


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3. **Trace around the base plate with a felt tipped marker.**

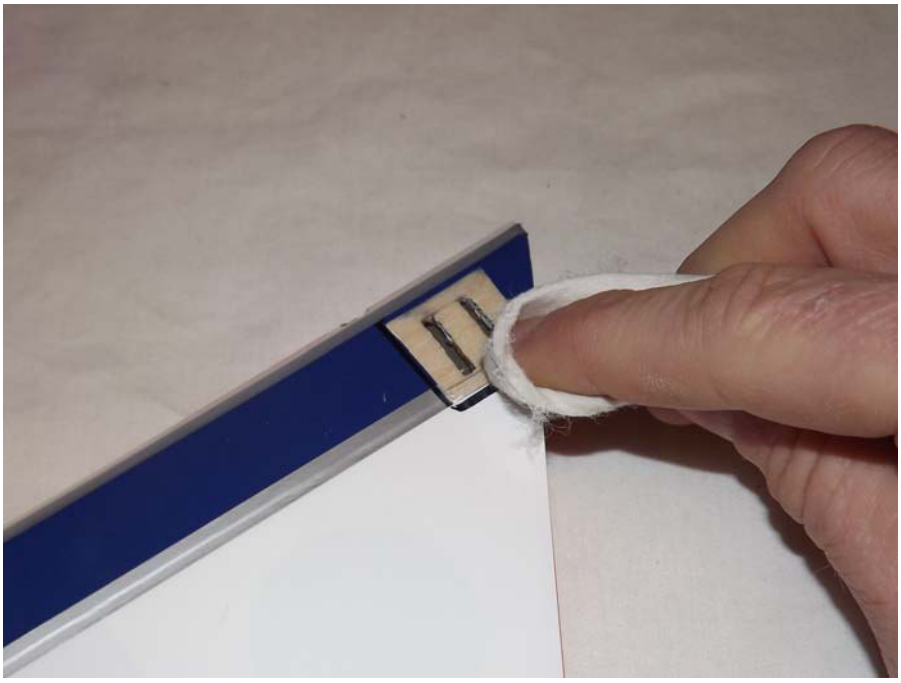


4. **Remove the horn assembly and use a #11 blade to remove the covering from inside the ink line you traced around the control horn base.**

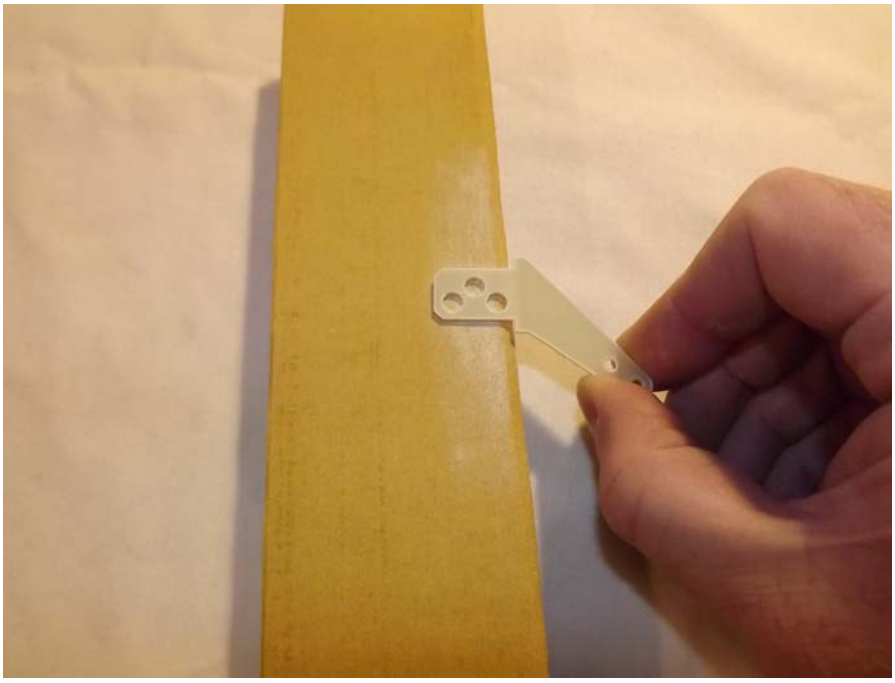


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5. **Wipe away the ink line with a cotton cloth or paper towel soaked in denatured alcohol.**

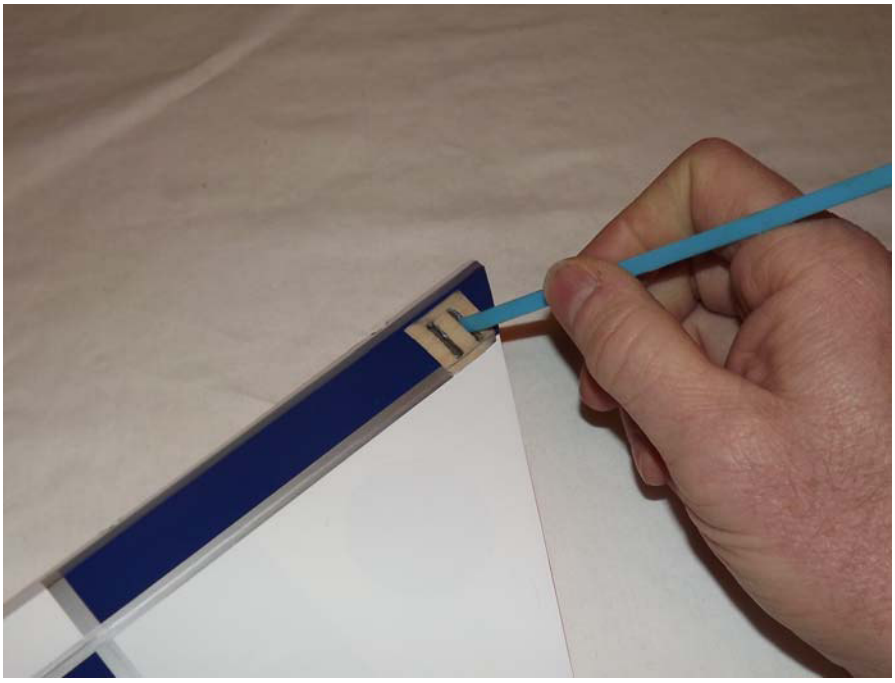


6. **Use sandpaper to scuff the portion of the horns and base plate that will be inserted into the elevator.**

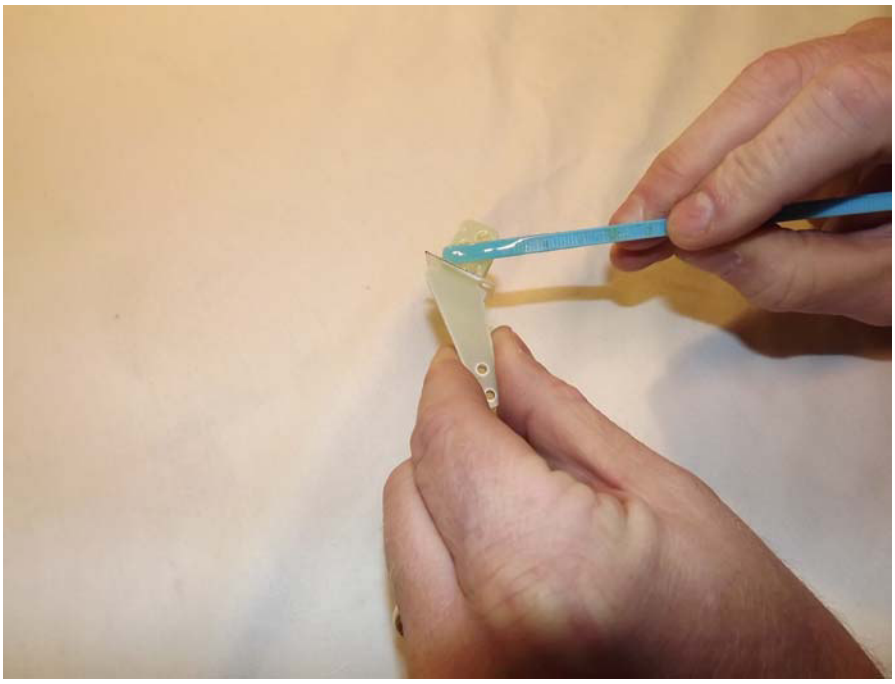


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7. **Apply 30 minute epoxy to the elevator slots using a zip tie to ensure the slots are filled will epoxy.**

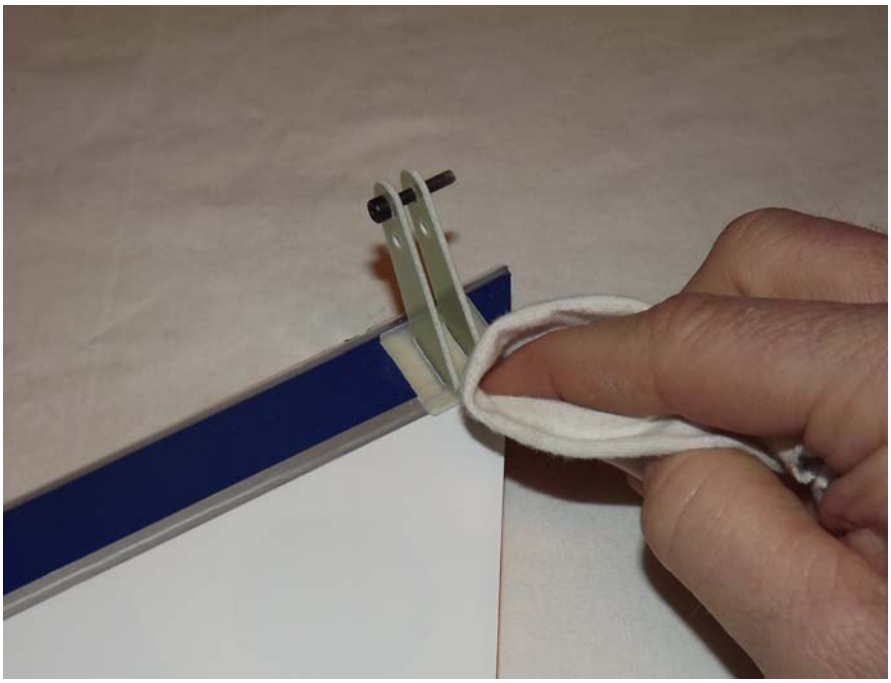


8. **Apply a generous amount of epoxy to the bottom of the G-10 control horns and base plate.**



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9. Reinsert the assembly into the elevator and wipe away any excess epoxy with a cloth and denatured alcohol. Place a 3mm bolt through the horns to help insure proper alignment and set aside to dry. Repeat for the other elevator half.



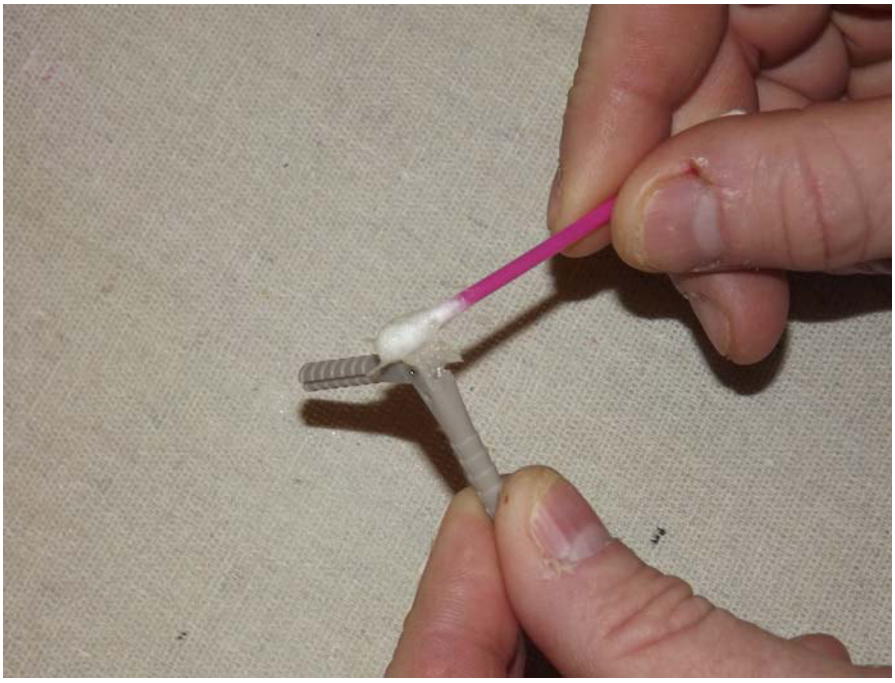
10. Next remove the pin hinges from the horizontal stabs. Take note that one pin is shorter than the others - this is to allow for clearance of the stab tube.



Note: There are several methods and adhesives that can be used for installing the hinges. We will describe the way we do it as this method has proven itself over many years of model building.

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11. Use a cotton swab to apply petroleum jelly ONLY to the knuckle of the hinge. This will keep the epoxy from getting into the hinge which can cause it to bind.

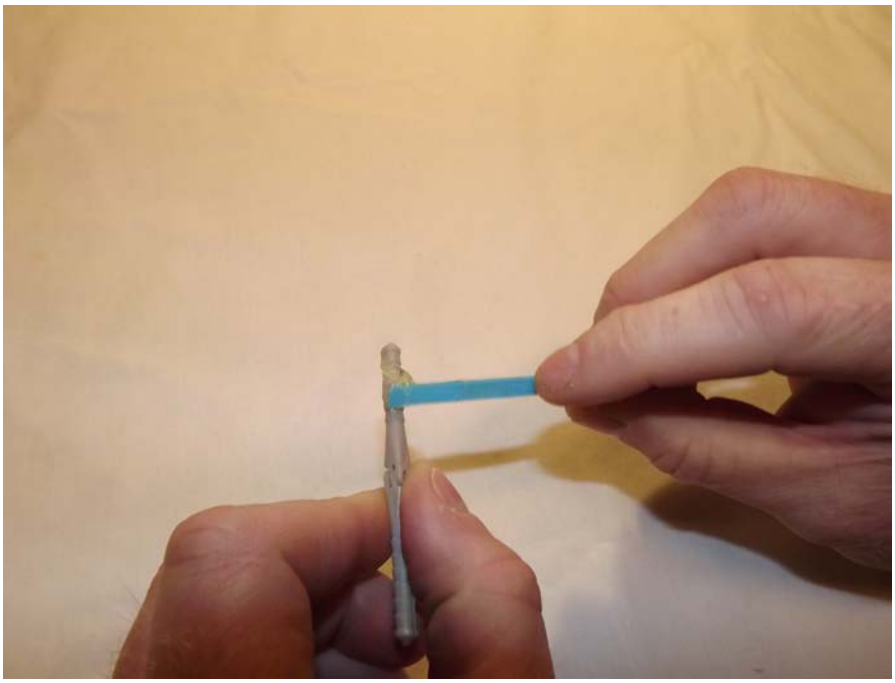


12. Mix a generous batch of 30 minute epoxy. Use a zip tie or an old pushrod to thoroughly coat and fill the hinge holes on the stab with epoxy.

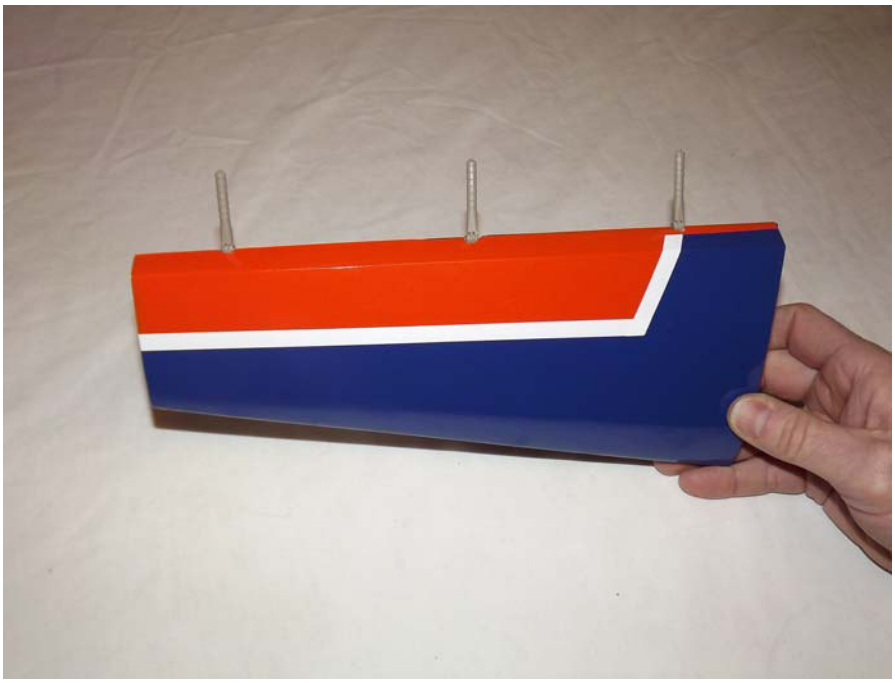


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13. Next, coat one side of all 4 hinges with epoxy and push the hinges into the holes of the horizontal stab. Remember the short hinges go in the hole closest to the fuse.

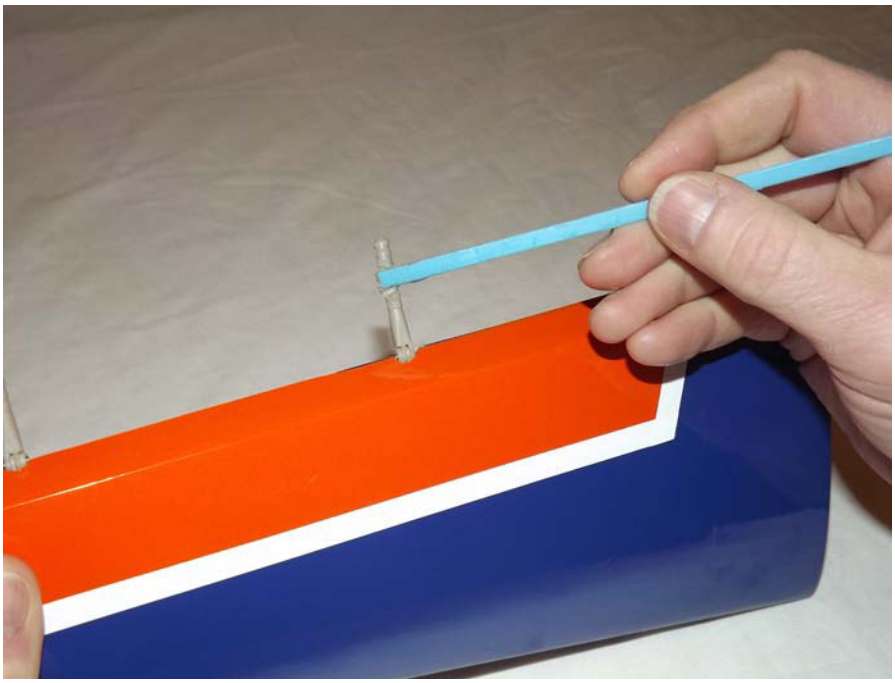


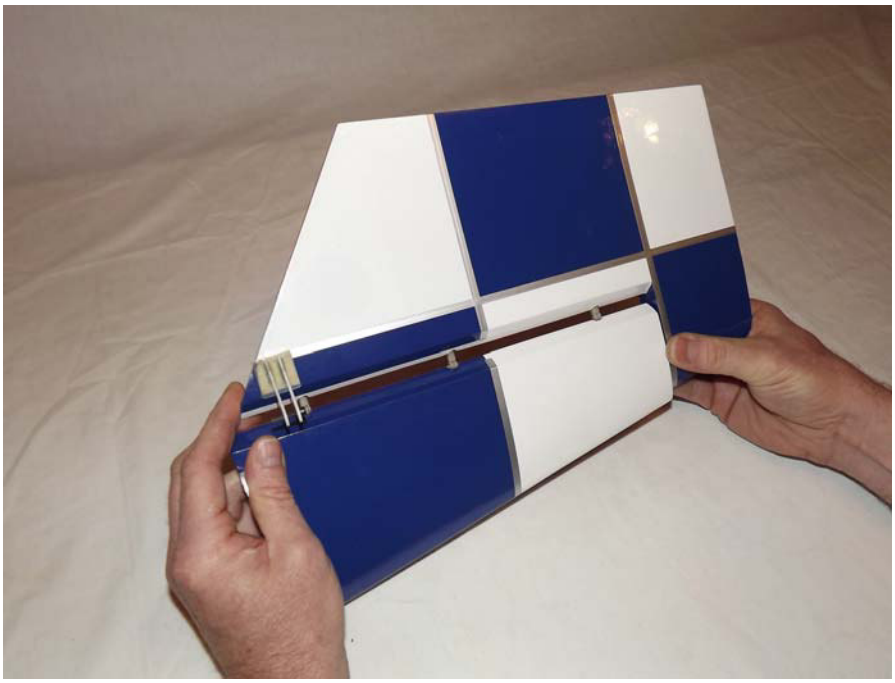
14. Make sure the hinge pins are centered in the hinge gap and that they pivot 90 degrees to the stab.



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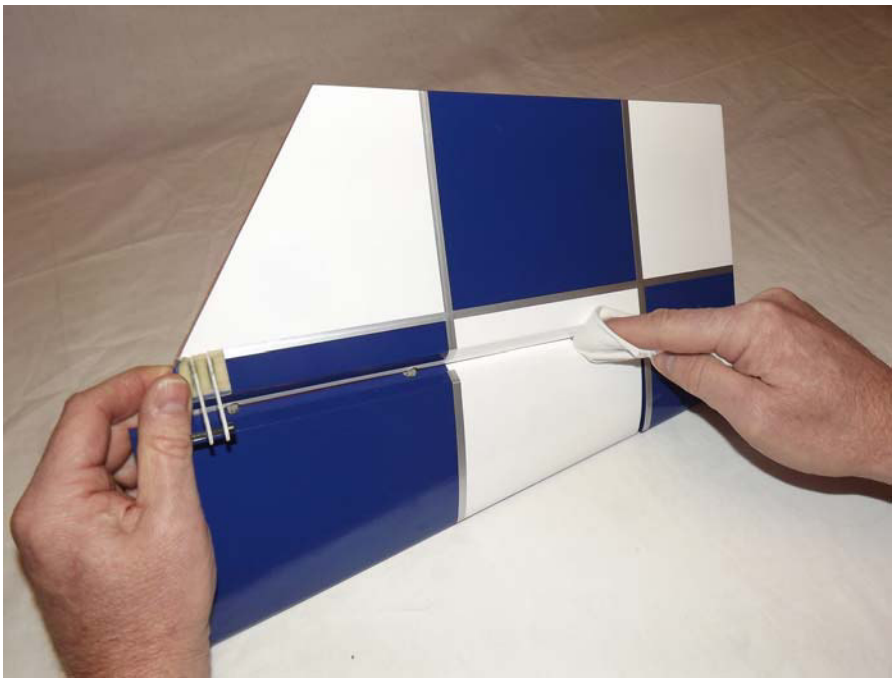
15. Now coat the other side of the hinges as well as the hinge holes in the elevator with epoxy and install the elevator into the stab. Don't forget to apply epoxy in the hinge holes on the stab before installing the stab to the elevator.





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16. Use denatured alcohol and a cloth to remove all excess epoxy, especially on the hinge pin. Make sure you have full deflection in both directions – once satisfied with the results, set the surface aside to dry. After the hinges have dried thoroughly, pull on them to make sure they are properly installed.





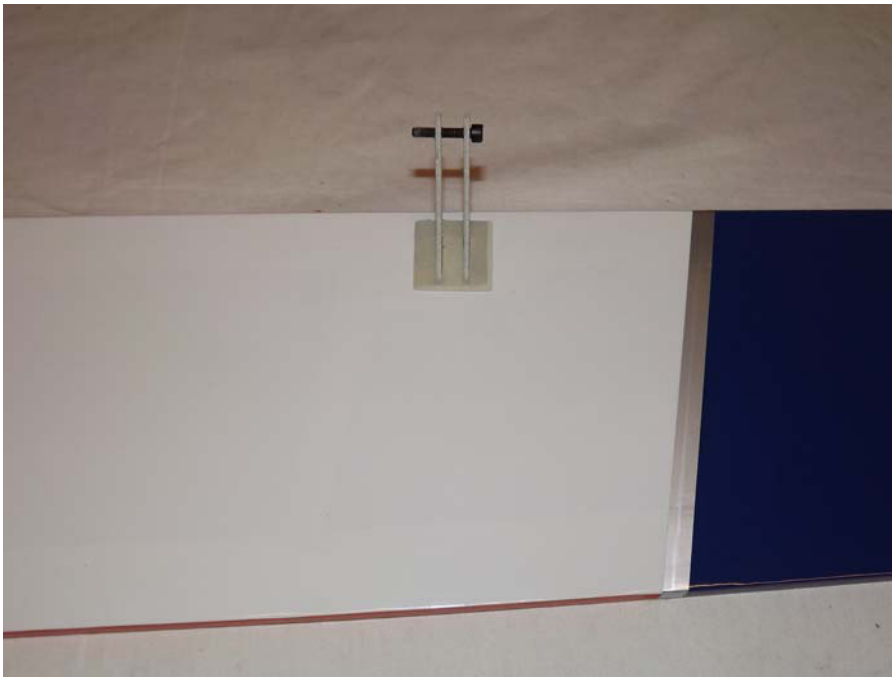
Note: Now is a good time to seal the hinge gap with a strip of Ultracote or Blenderm tape.

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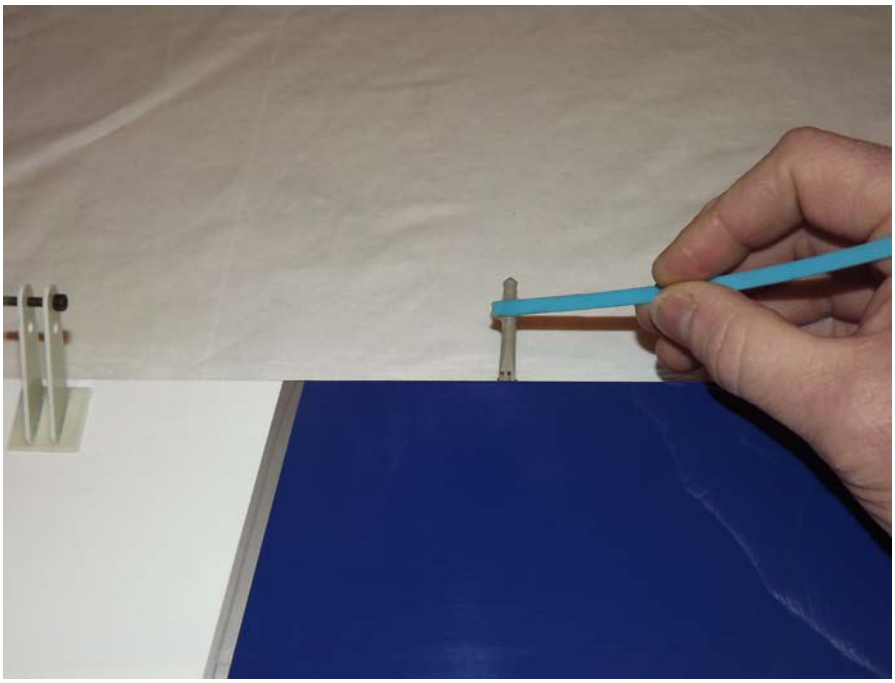
Wing Assembly

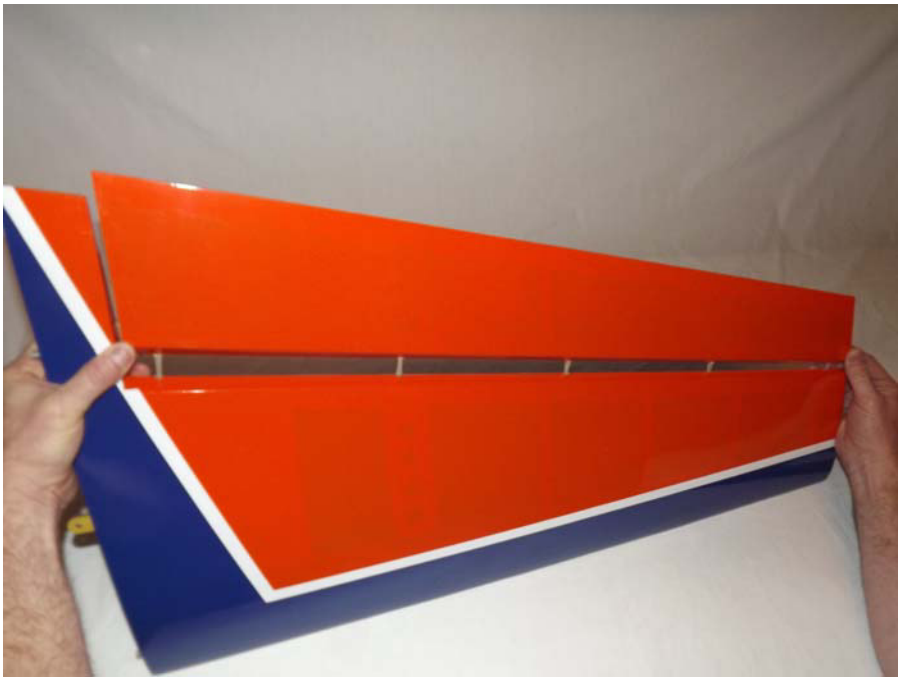
17. Locate the wing/aileron assemblies as well as the composite control horns and base plates from the wing hardware package. Following the same procedure as outlined with the elevator/stabs, install the control horns and hinges for both wings. Each wing has 5 hinges so it's best to install the hinges in the aileron first then mix a second batch of epoxy to install the aileron hinges to the wing.





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Note: Before moving to the next step – it would be a good time to seal the hinge gap with a strip of Ultracote or Blenderm tape. Be sure to fully deflect the control surface when sealing the gap to allow for full deflection once the gap is sealed.

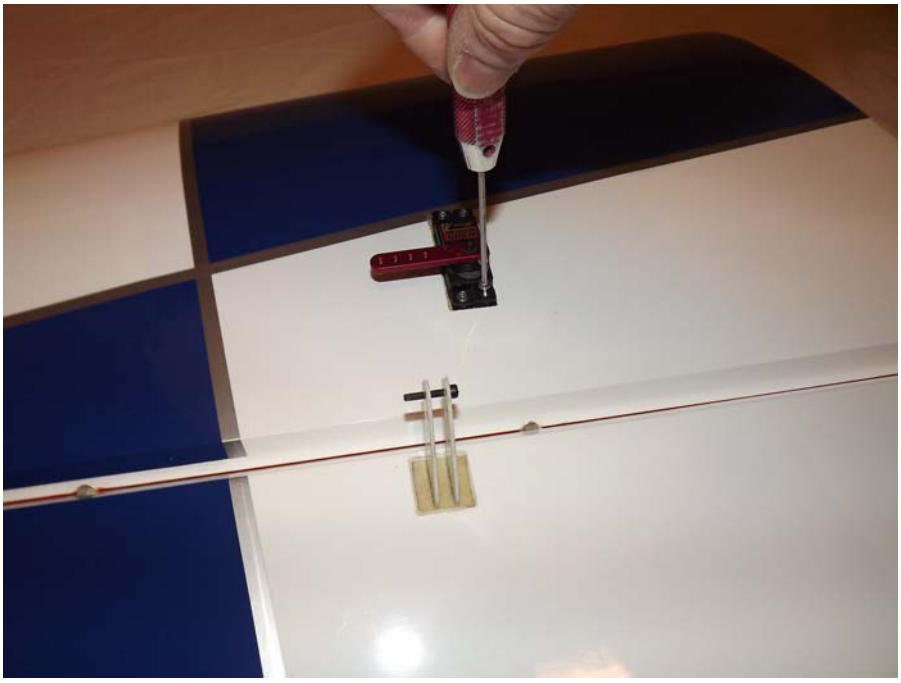
Also, take a few minutes to go over the wings with a trim iron on a medium heat to seal all the trim seams and remove any wrinkles in the covering. Use caution and avoid excessive heat as you may cause the Ultracote to shrink too much and lift at the seams.

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18. Locate the aileron servo mount and remove the covering from this area. Use a sealing iron to seal the edges of the covering to the sides of the servo opening. Take a few minutes to apply some CA to the joints of the servo rails and the ribs.



19. Attach a 6" servo extension to your servo and secure with thread or heat shrink tubing. Attach the recommended 1.50" SWB Servo arm and electronically center the servo arm. Use the manufacturer supplied mounting hardware to install the servo with the output shaft toward the trailing edge of the wing.

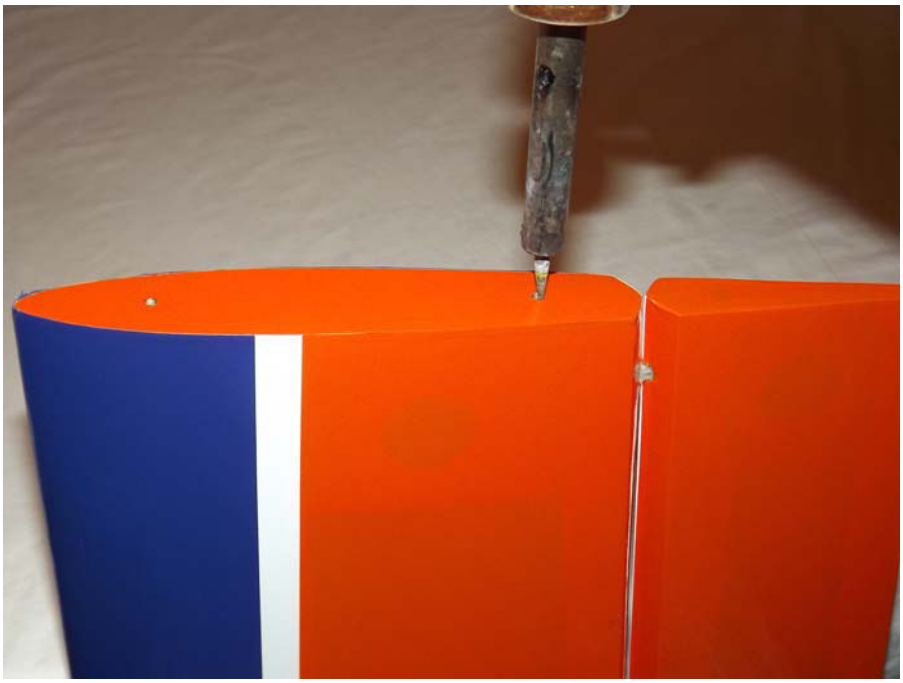


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20. Locate and attach the 2 ball links onto the titanium turnbuckle pushrod. Secure the pushrod to the control horns and servo arm using the supplied 3mm bolts, washers, and nylon insert locknuts as shown in the picture below. As always, use blue Loctite on ALL bolts!



21. Use a soldering iron or a sharp #11 blade to remove the covering from the blind nuts on the wing tip. This is for attaching the SFG's.



Note: Repeat this process for the other wing. Clean the wings with Windex and set them aside.

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Rudder and Tailwheel Assembly

22. Locate the rudder, the rudder control horns and the 2 slotted base plates. As with the elevators, use a sharp #11 blade to remove the covering from the 2 pre-cut slots in the rudder.

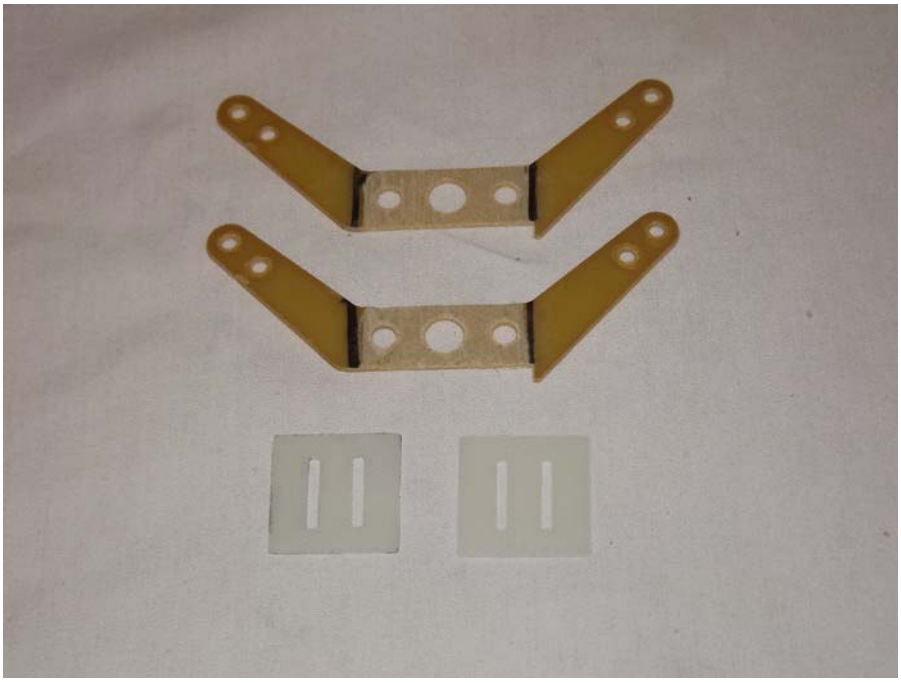


23. Temporarily install the control horns and base plates without epoxy. Ensure that the control horns center in the rudder properly. Mark the side of the control horn with a felt tipped marker as a reference point for preparing the control horns for installation.

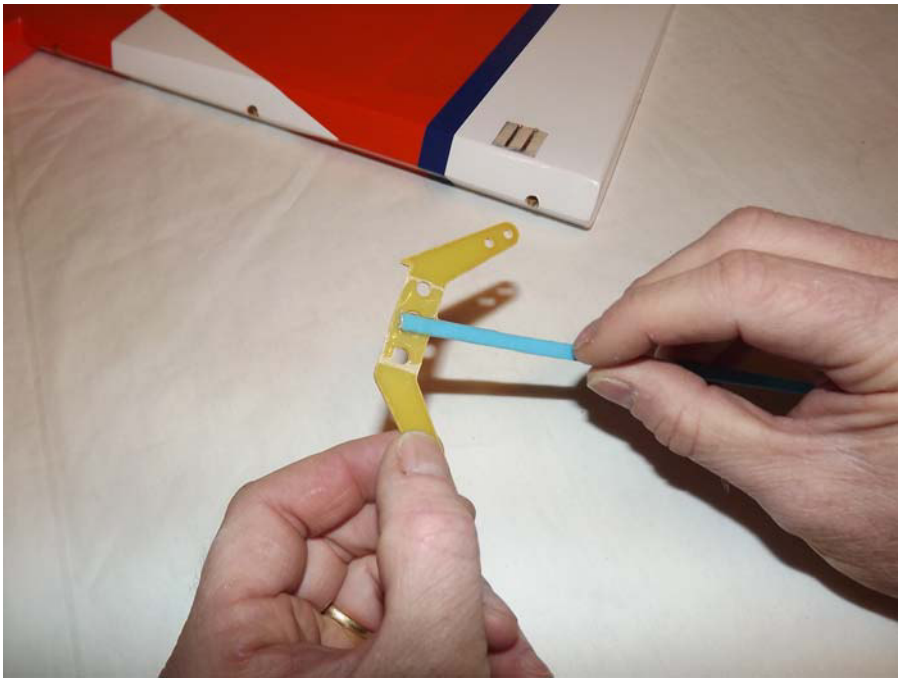


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24. Scuff both sides of the middle section of the horns between the reference marks made in the previous steps. Also scuff one side of both base plates as well.

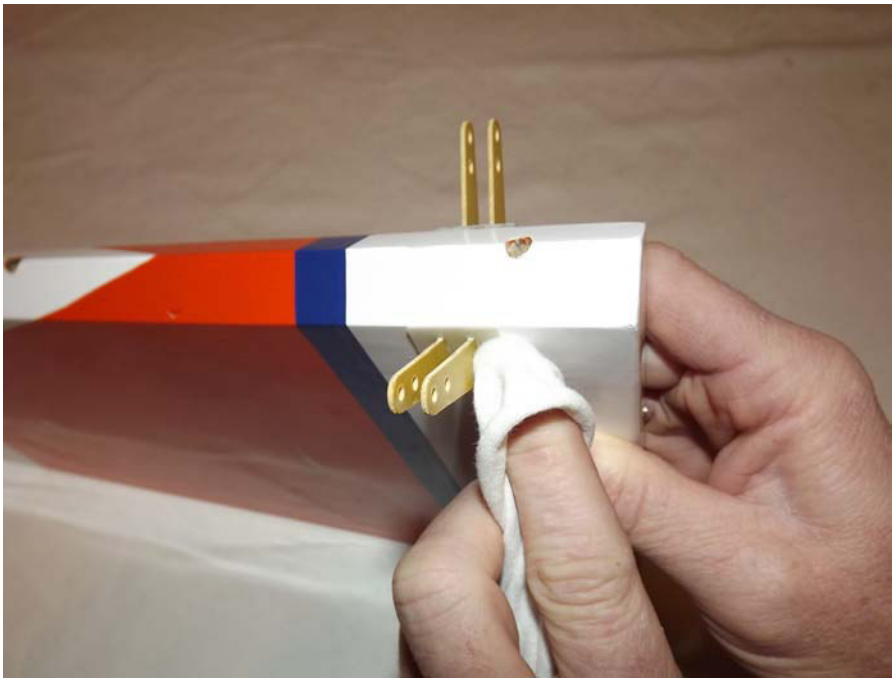


25. Mix a generous batch of epoxy and completely fill the two slots as well as the areas on control horns and base plate that will glue into the rudder.

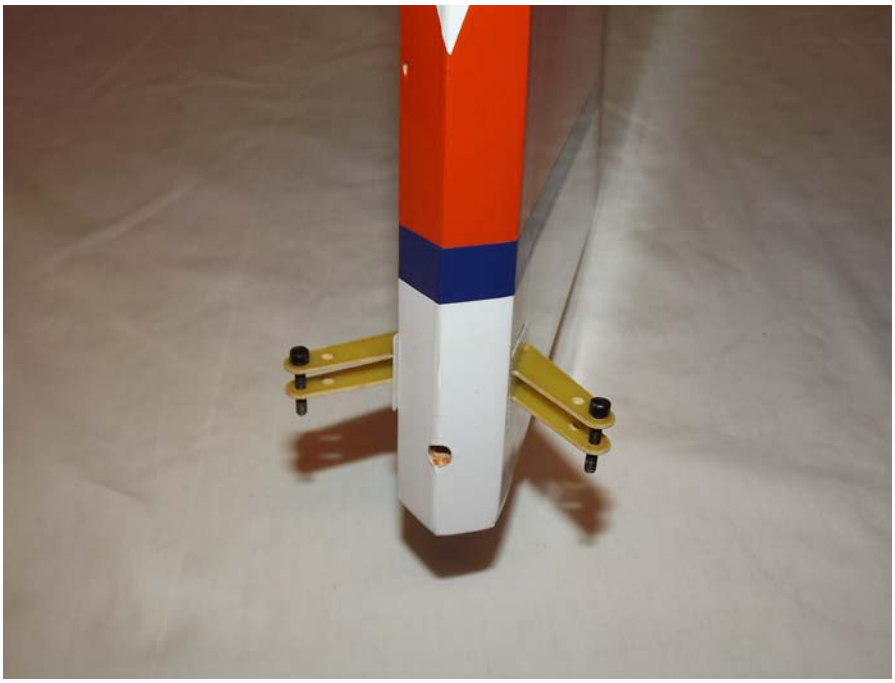


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26. Slide the rudder horns back into their proper position. Clean the excess epoxy from the horns, and then install the base plates.



27. Carefully check alignment to insure proper positioning. Remove any excess epoxy from the rudder, re-check the alignment one more time and set the assembly aside to dry.



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28. Locate a 2mm ball link from the hardware bag. Measure 3" back from the leading edge of the rudder and drill a hole to accept the shank on the ball link. Scuff the shaft of the ball link and glue it in the hole as shown in the picture below.

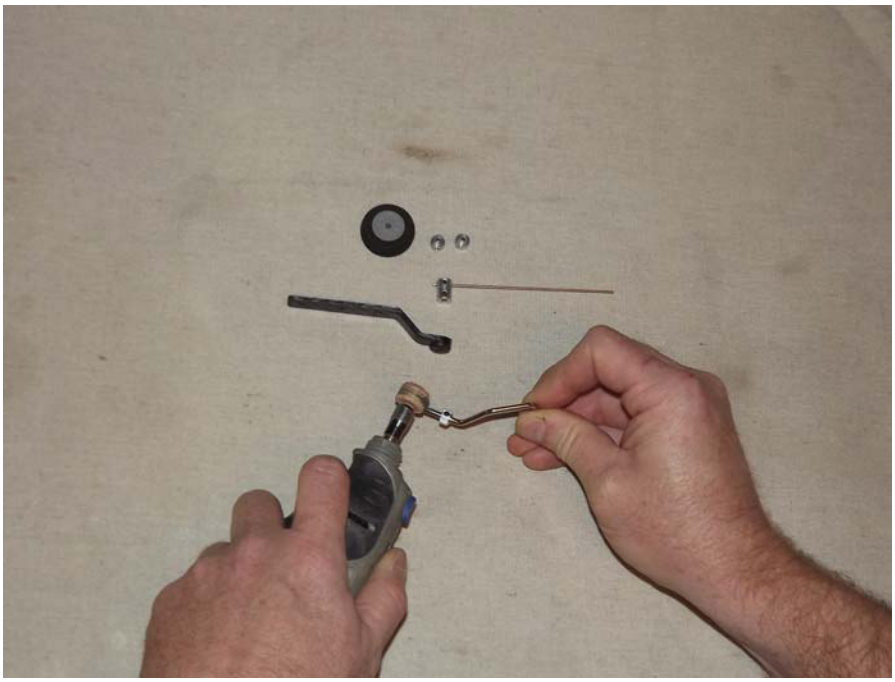


29. Next install the rudder hinges using the same procedure as with the Ailerons and Elevators.



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30. Disassemble the tailwheel assembly and use a rotary tool or a small file to create a flat spot on the tailwheel wire for the set screws in the aluminum cap to seat against. Reassemble the unit and apply Loctite to the threads on the setscrews. Slide the tailwheel onto the wire and secure with the included wheel collars.



31. Position the tailwheel assembly on the rear bottom of the fuselage, making sure the tailwheel wire is aligned with the rudder hinge line. Use some blue painters tape to hold the assembly in place while you drill 3 holes with a 1/16" drill bit. Apply a few drops of thin CA to the holes and secure the assembly to the bottom of the fuselage with the 3 provided coarse thread wood screws.



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32. Install the rudder servo using the supplied hardware with the output shaft toward the rear of the plane. Also, install the recommended SWB 3.5" offset rudder arm and electrically center the servo.



33. Next, install the pull-pull rudder cables. Assemble one end of the linkage by inserting the pull-pull cable into one of the aluminum crimp tube, through the hole in the brass pull-pull fitting and back through the crimp tube. Loop the cable back through the crimp tube a second time and crimp with side cutters.



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34. Insert the bare end of the cable into the slot in the rear of the fuselage and feed it forward into the canopy area. Make the same type of linkage as done previously. Electronically center the servo and secure the linkage at both ends with a 3mm bolt and nylon insert lock nut. Repeat for the other side.





Note: When routing the pull-pull cables through the fuse, they should cross like an "X". Also, the tension on the wires should taut but not overly tightened.

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Fuselage Assembly

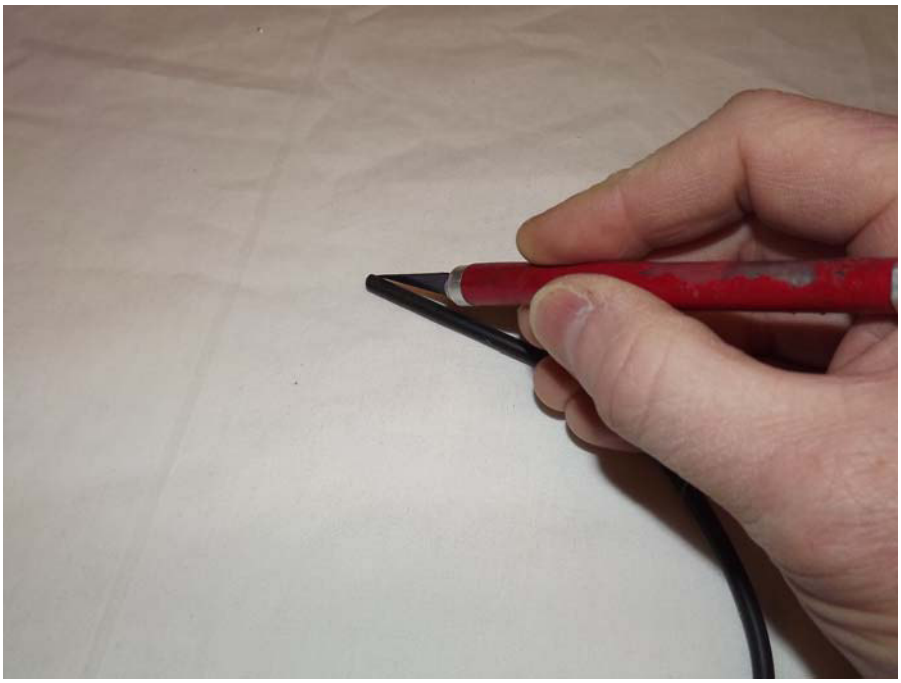
35. Locate the Carbon Fiber main landing gear, 4 x 4mm bolts, lock nuts and washers. Place the gear onto the landing gear plate and align the 4 holes. Use a long allen wrench and insert the 4 x 4mm bolts from inside the fuse. Attach the 4 washers and lock nuts to each bolt and tighten.





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36. Prepare the landing gear fairings by slitting the supplied black neoprene tubing length wise with a sharp hobby knife. Push the tubing onto the rim of the fairing and secure with CA.



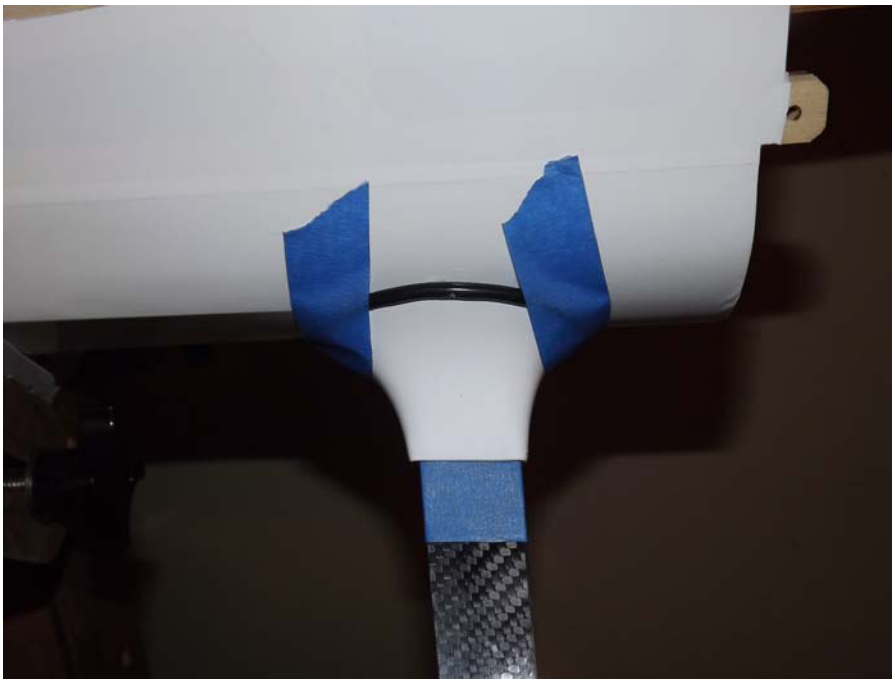


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37. Temporarily slide the fairing onto the gear and up against the fuselage. Place some blue painters tape at the bottom of the fairing to mark the location on the gear. Lightly sand the gear leg where the fairing will attach.

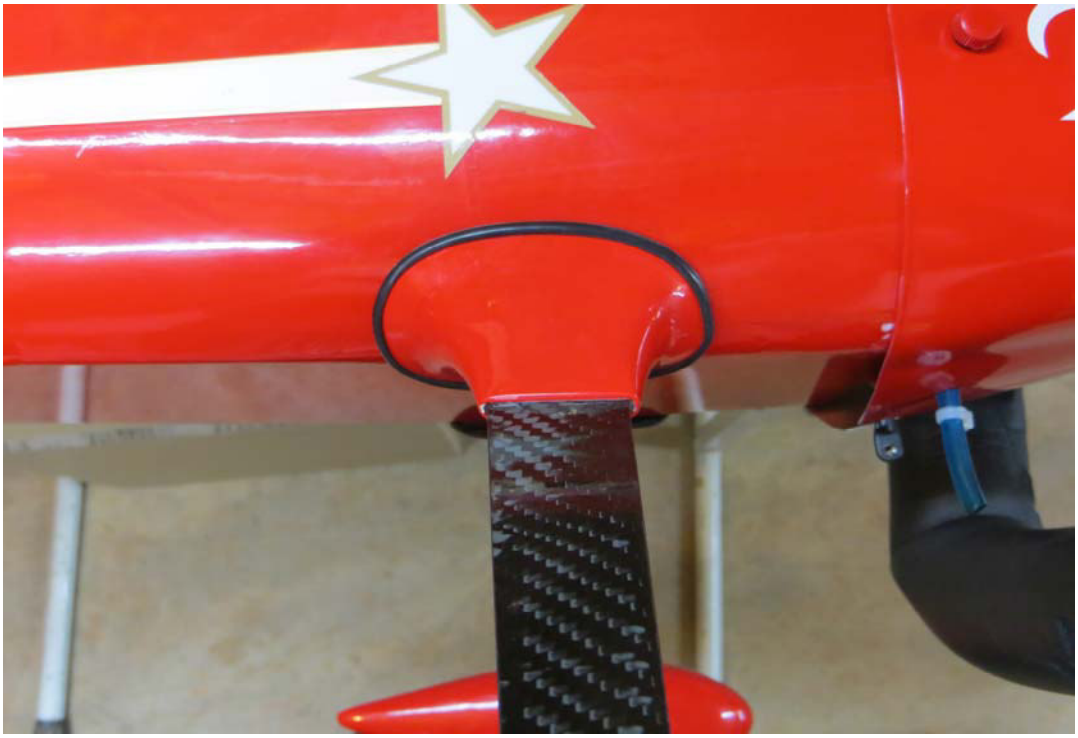


38. Secure the fairing to the gear with "Goop" silicon glue and use additional blue painters tape to hold the fairing in place while the glue dries.



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39. Once the silicon glue has thoroughly cured, remove the blue painters tape and clean up any residual glue using denatured alcohol.



40. Locate the 2 axles, 2 locking nuts, 2 washers, 2 wheels, 4 wheel collars and 2 wheel pants. Place the threaded portion of the axle through the hole in the landing gear, place a washer onto the axle and secure the axle with a locking nut. Repeat this process for the second wheel axle.



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41. Slide one wheel collar on the axel all the way to the base. Next, slide the wheel onto the axel and secure the wheel with the second wheel collar. Make sure the wheel is centered in the wheel pant. Repeat this process for the remaining wheel.

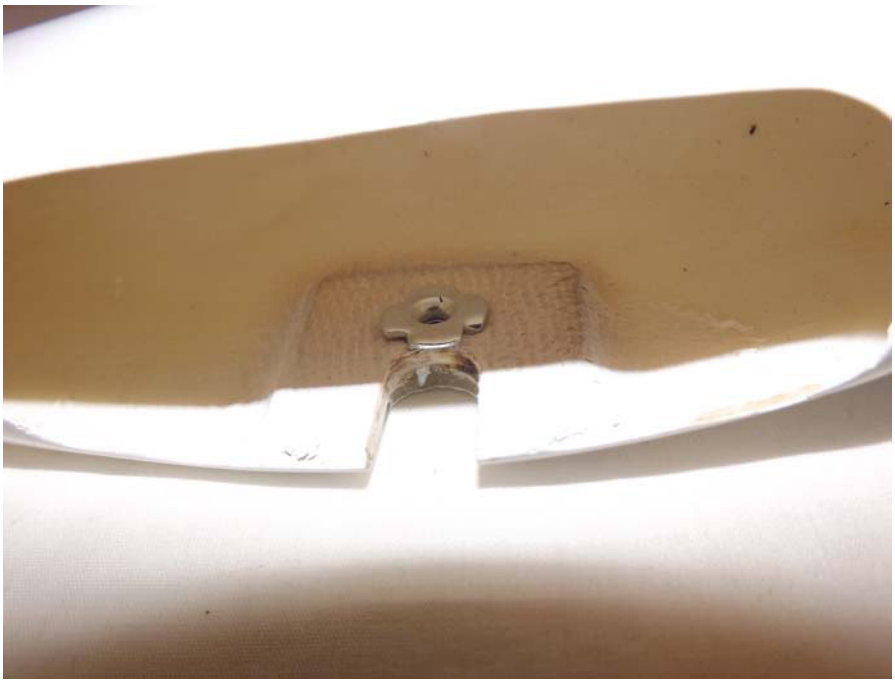


42. Slide the wheel pant into position over the axle. When satisfied with the position of the wheel pant, drill 1 hole through the plywood plate that is glued inside the pant at the location of the hole in the landing gear.

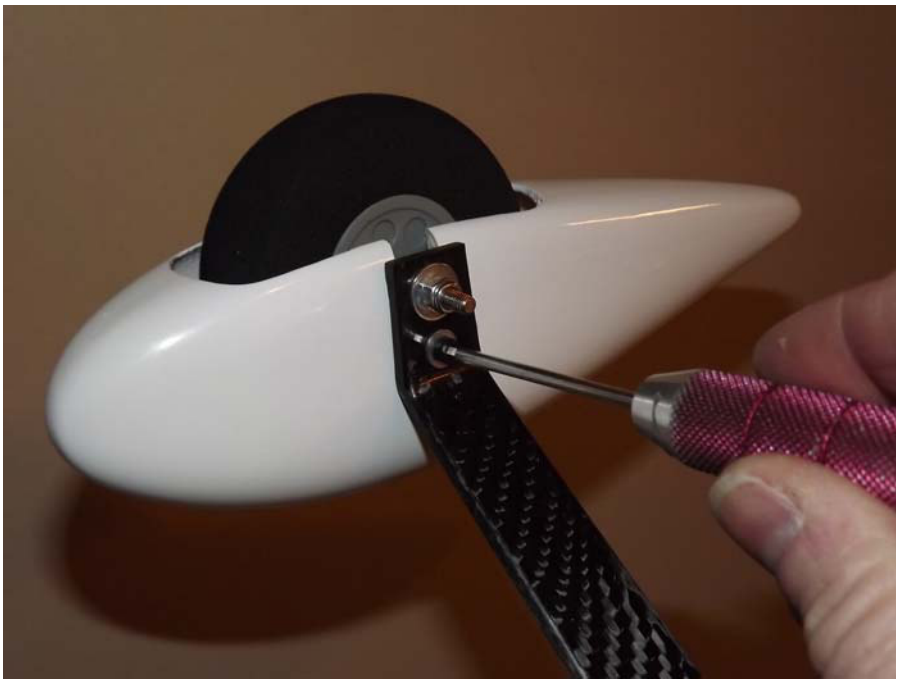


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43. Insert the blind nut inside the wheel pant as shown in the picture below. Apply a small amount of CA to hold the blind nut in place until the wheel pant is secured to the gear.

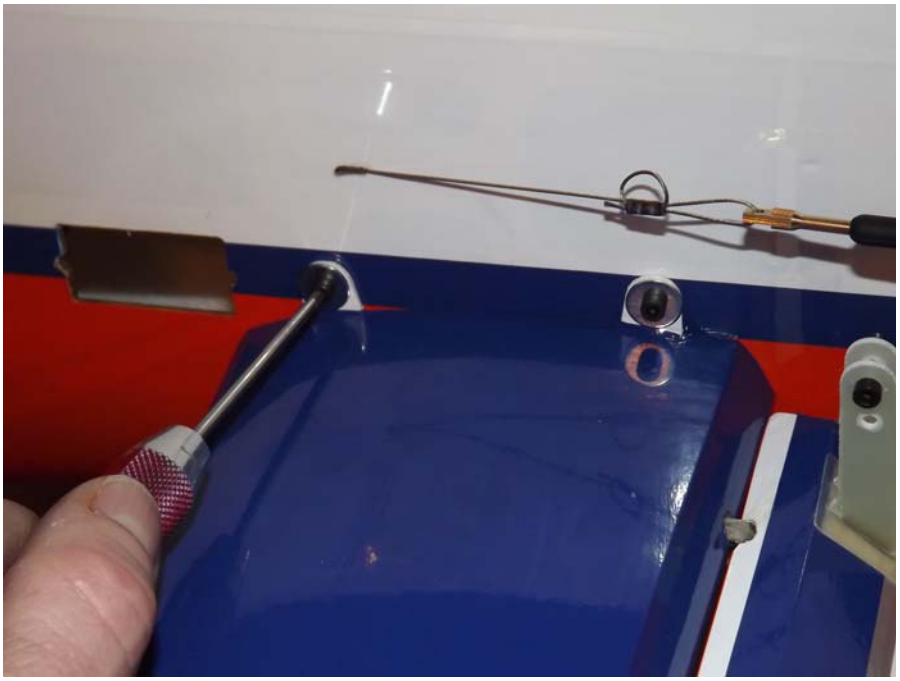


44. Secure the pant in position with the provided 3mm bolt and blind nut. As always, use blue Loctite on ALL bolts! Repeat this process for the remaining wheel pant.



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45. Slide both stab/elevator assemblies onto the carbon fiber mounting tube and secure with 2 3mm bolts. Insert the bolts through a washer and the mounting tabs and into the corresponding blind nuts already installed in the fuselage. Apply blue Loctite to these bolts!



46. Install the recommend SWB servo arms to the elevator servos and electronically center each servo. For this aircraft we use 2" arms.

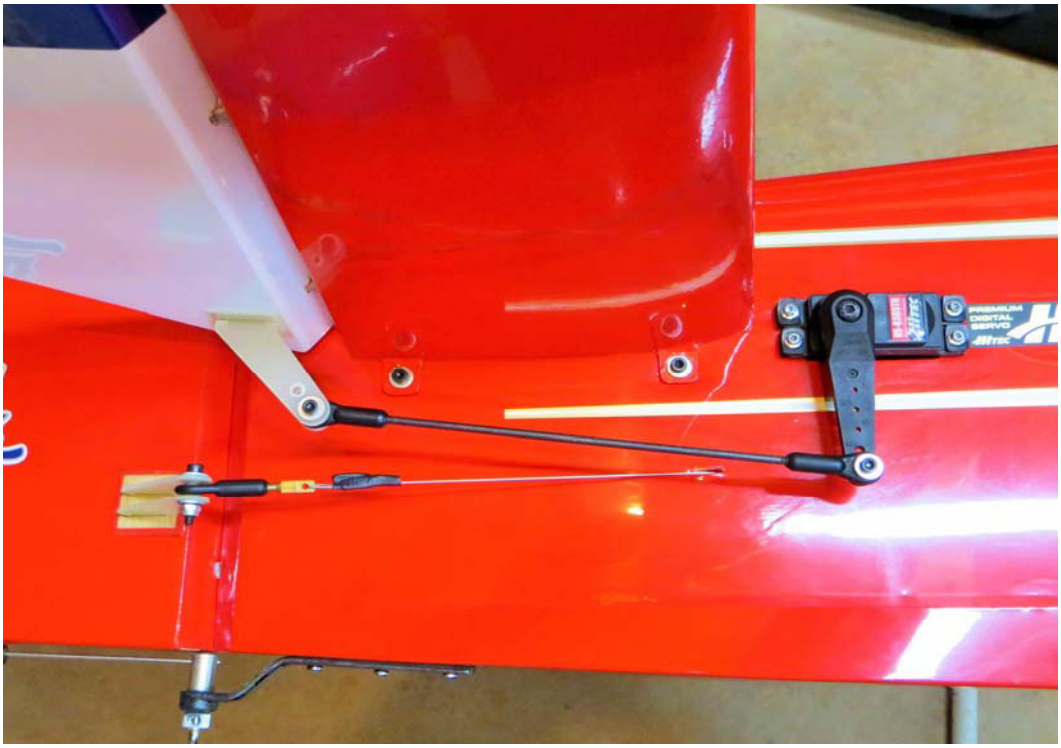


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47. Attach a 24" extension to each servo lead and install both elevator servos. Using the manufacturer supplied mounting hardware; mount both servos with the output shaft toward the rear of the fuselage as shown in the picture below.

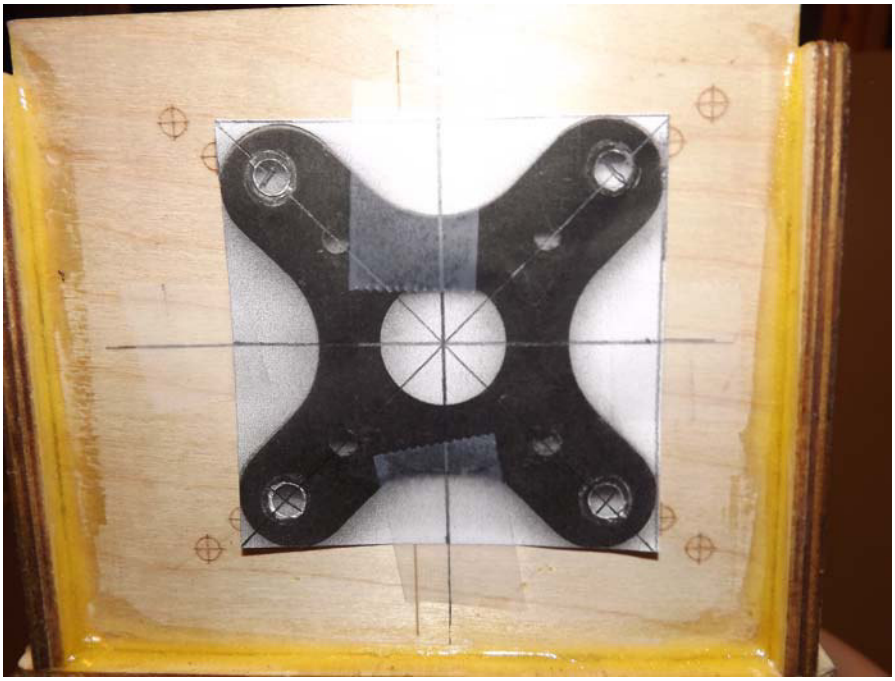


48. Thread a ball link on each end of the steel pushrod and secure to the servo arm and elevator control horns with 2 x 3mm bolts, washers, and nylon insert locknut as shown in the picture below. Be sure to use a drop of blue Loctite on all bolts!!! Repeat the process for the other elevator.

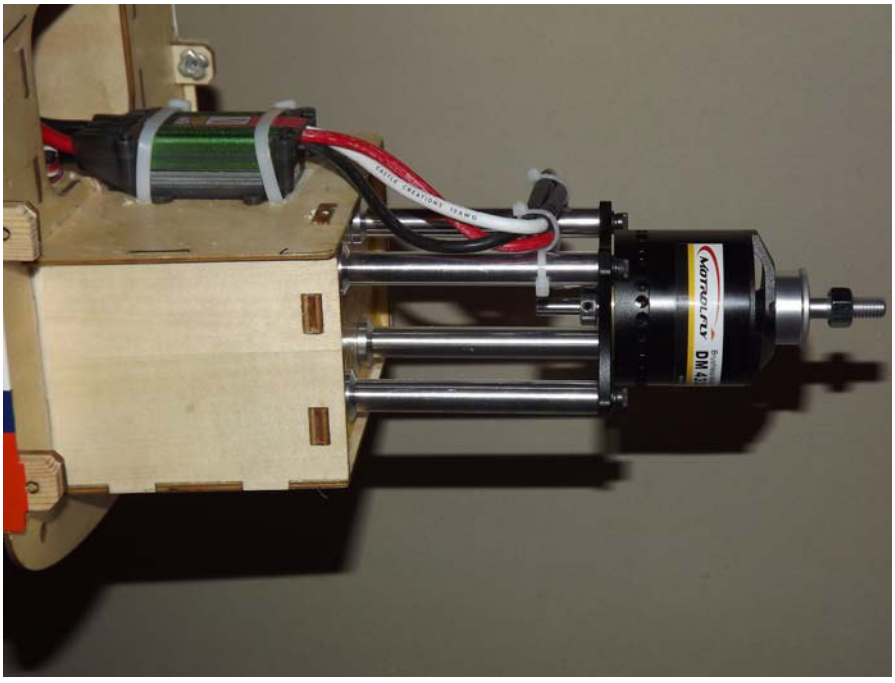


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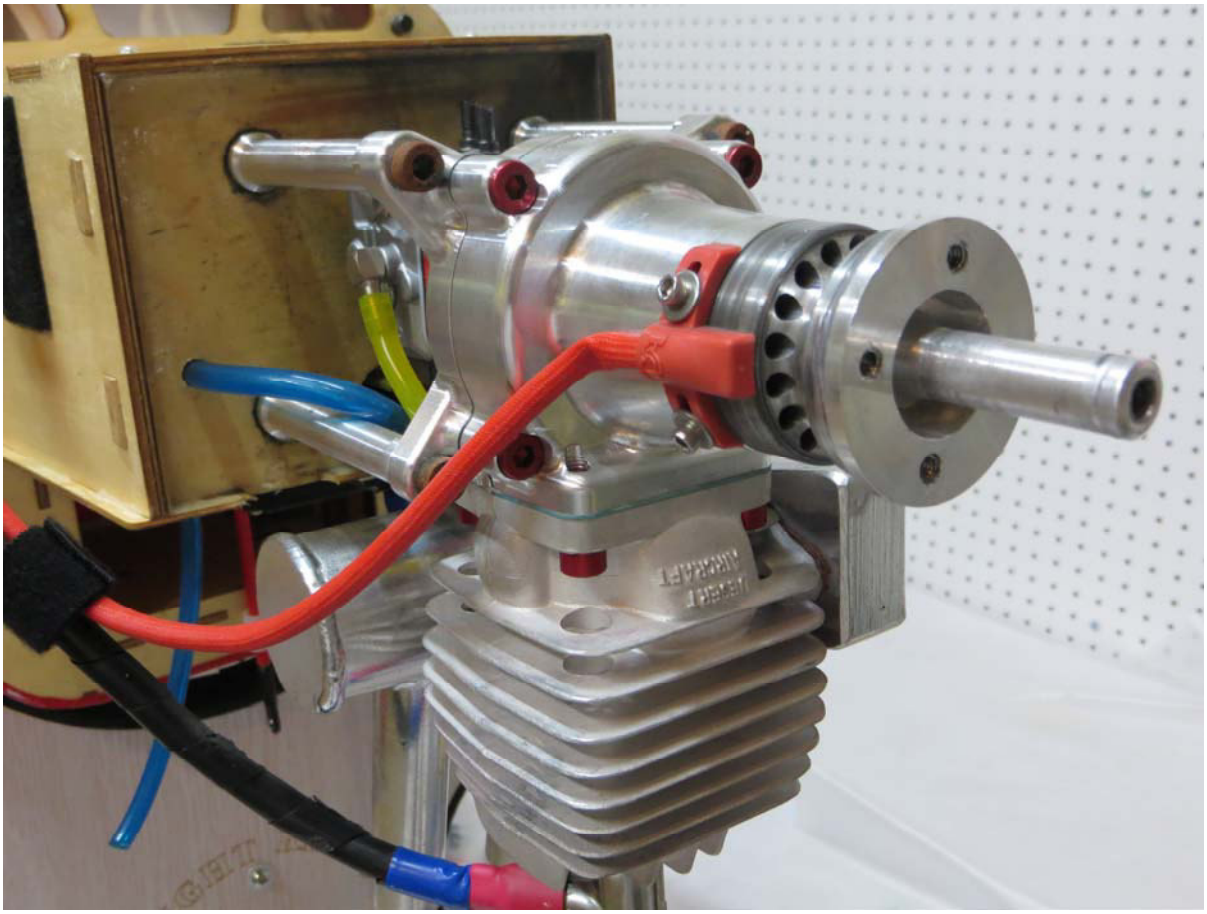
49. **Next, install the motor/engine. The center and offset marks have been scribed into the front of the firewall with a laser. Use a mounting template and align with the marks on the firewall. Be sure to use the offset line to the right of the vertical center line to accommodate for the motor offset due to the built in right thrust angle in the motor box. Note: this same procedure can be used for mounting a gas engine.**



50. **The distance from the front face of the motor box to the motor drive washer is 6 3/8". Use standoffs in conjunction with your motor to achieve this length. To ensure proper cooling, the recommended location for mounting the ESC is on the bottom of the motor box as shown in the picture below.**



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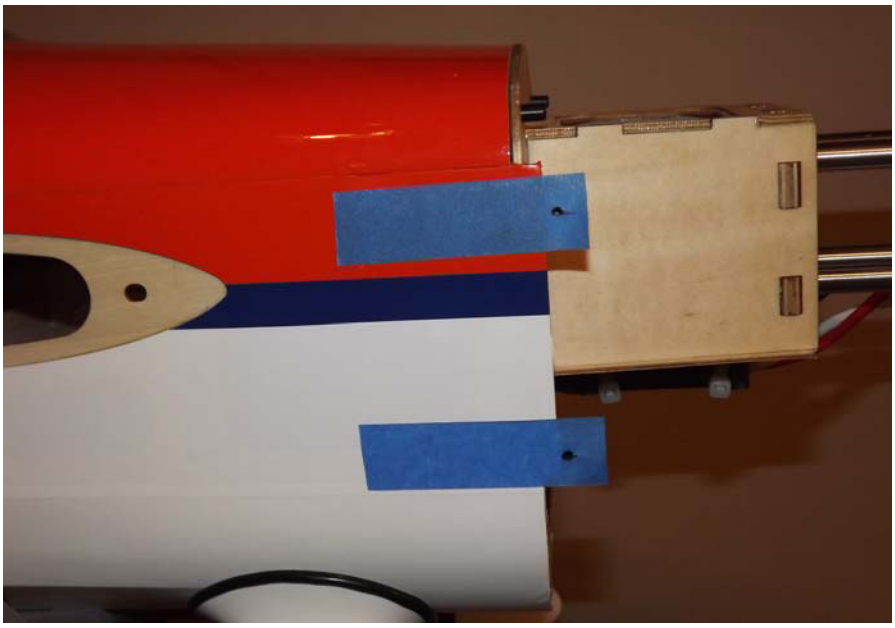
Desert Aircraft DA-35 with Pitts muffler mounted on the Laser.

51. Attach the top of the motor box using the 4 supplied wood screws.

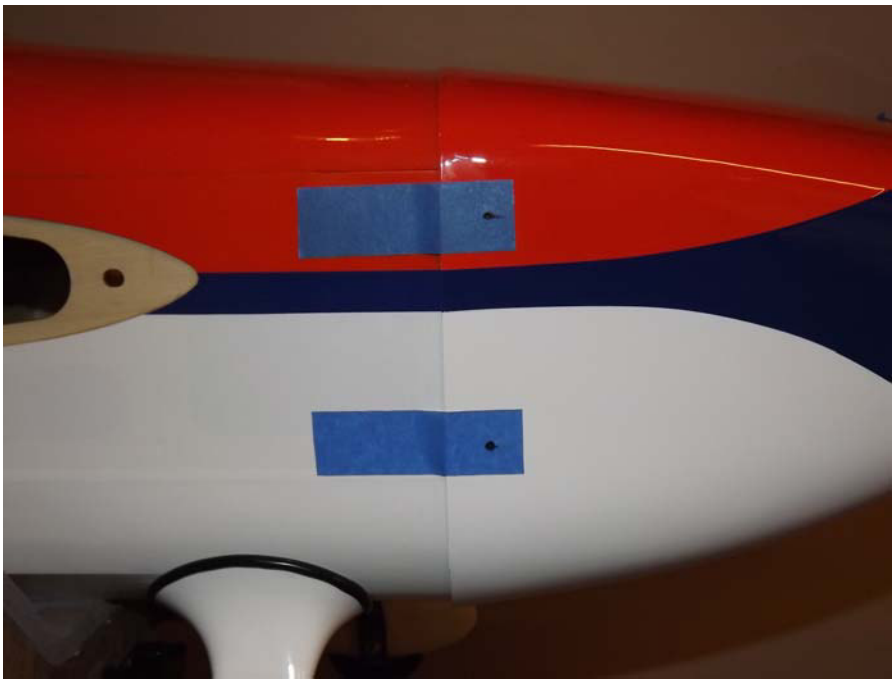


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52. Tear 4 short pieces of blue painters tape from a roll. Place each piece of tape on the side of the fuselage so that each piece corresponds with one of the 4 cowl mounting tabs. Use a fine tipped marker to mark the location of the pre-drilled holes in the center of each mounting tab.

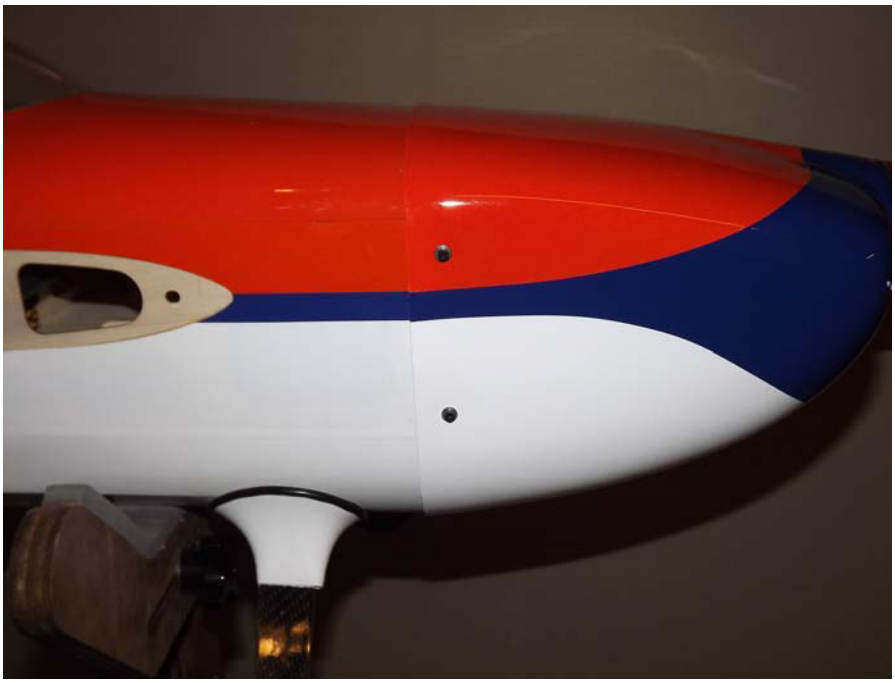


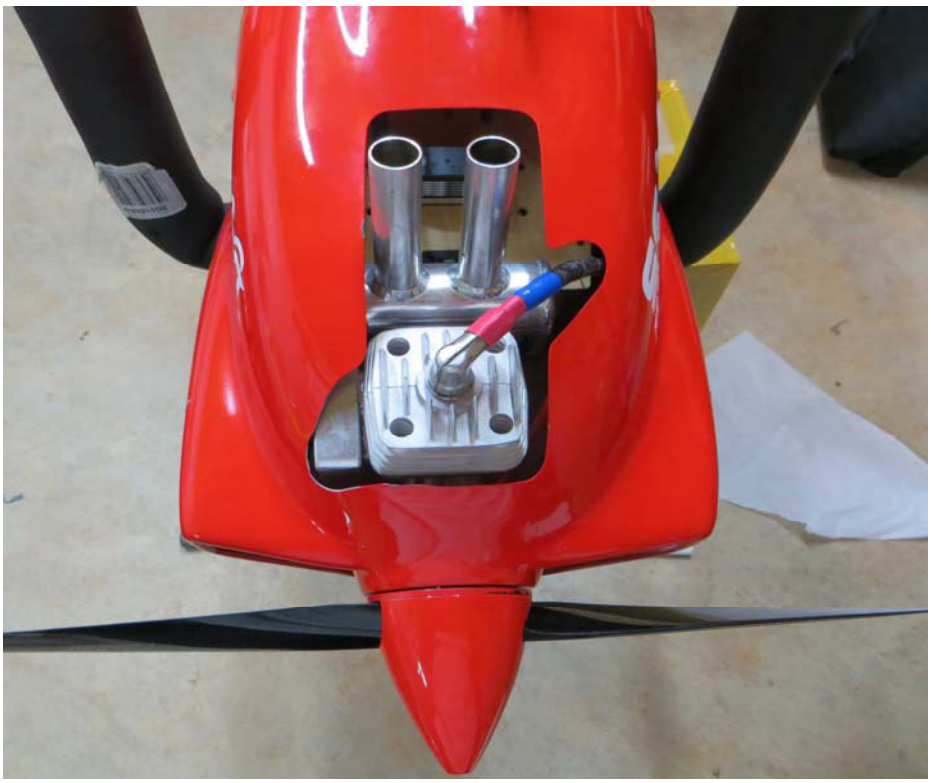
53. Roll the tape back and slide the cowl into position. Install the spinner onto the motor shaft for reference and once satisfied with the cowl position roll the tape back into place and secure the cowl. Use a 1/8" drill bit to drill a hole at the location of the dot on each piece of tape.



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54. Remove the tape and secure the cowl with 4 x 3mm bolts and washers as shown in the picture below. Be sure to use a drop of blue Loctite on all bolts!!!





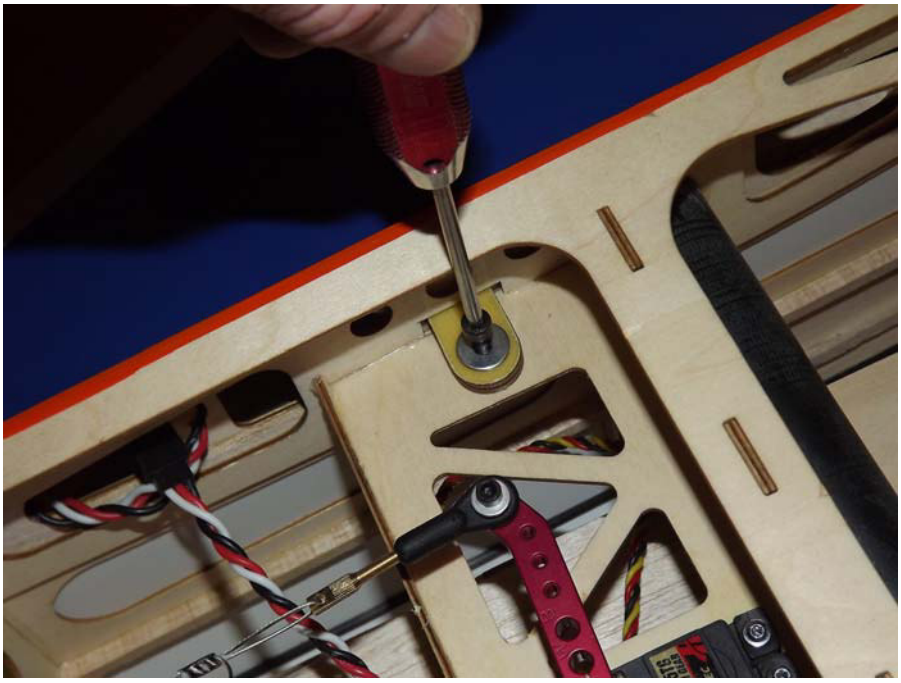
This photo shows how we have cut the bottom of the cowl for engine and muffler clearance.

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55. If you're assembling the electric version, now is a good time to remove the covering on the bottom of the fuse just behind the turtle deck. This will allow an escape for the incoming air that cools the batteries.



56. The wings are retained by inserting the 4MM Bolt and Washer through the wing tab as shown in the picture below.



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57. Also, included with your Laser EXP is a set of side force generators (SFGs). They are secured to each wingtip by inserting 2 x 3mm thumb bolts through the SFG, a clear plastic spacer, and into pre-installed blind nuts in each wing tip.



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Set-up and trimming

The center of gravity range for the 74 inch Laser EXP begins at 5" from the leading edge of the wing measured at the root and extends back to 6". CG is determined with the Laser in the upright position. One of the best ways to dial in the proper CG for your aircraft is the 45 degree line test. Fly the aircraft in front of you from left to right (or right to left if you prefer) at full throttle. Pull the aircraft into a 45 degree up line and establish this line. Roll the aircraft inverted, neutralize the elevator and pay close attention to what the plane does. Ideally the plane will continue on this line for several hundred feet before it starts to slowly level off. If the airplane immediately drops the nose and dives toward the ground it is nose heavy. If it begins to climb inverted toward the gear it is tail heavy. There is no need to have the Laser excessively tail heavy to perform 3D maneuvers. At this time you will also want to balance your plane laterally. Add a small amount of weight to the wingtip to achieve proper lateral balance.

Control surface throws

I highly recommend that you purchase a throw meter that measure in degrees. There are several units available commercially. These units are a great aid in set-up and definitely beat the "that looks about right" method. The following control surface travels are what I use on my own Laser and are a good starting point but are by no means the only way to set up the aircraft. Start here and then adjust to fit your own preferences and style of flying.

Elevator: 8-10 degrees low rate, 18-20% exponential; all you can get high rate, 60-65% exponential

Aileron: 20 degrees low rate, 30-40% exponential; 38 degrees high rate, 65-70% exponential

Rudder: 20 degrees low rate, 50% exponential; all you can get for high rate, 80-90% exponential.

Again, this is just a starting point. Adjust to your liking.

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This completes the assembly of the 74 inch Laser EXP. As a final step clean the entire aircraft with glass cleaner, then apply a coat of spray-on wax and buff the finish to a high gloss. My favorite product for this is Eagle One Wet Wax AS-U-DRY, available in the automotive section of most Wal-Marts, K-marts, Sears, Targets, etc. People often ask me at trade shows how I get the planes to look so shiny, this is my secret. You may wish to apply all of your graphics before applying the coat of wax.

Thanks again for your purchase of the Extreme Flight RC 74 inch Laser EXP ARF. I hope you enjoy assembling and flying yours as much as I have mine.

See you at the flying field!
Chris Hinson
Extreme Flight RC



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Extreme Flight 74" Laser EXP V2 Assembly Manual Addendum

Congrats on your purchase of the version 2 of the Extreme Flight 74" Laser EXP. A few steps in the assembly process differ from the assembly of the original version and we will outline those steps here.

1. The biggest difference in the V2 is the change to a single servo operated elevator. This makes setup a bit easier and reduces weight. The horizontal stab has a self centering feature that makes installation much easier, although we still recommend confirming alignment before final assembly. Slide the horizontal stab into place and confirm alignment by comparing it to the position of the main wing carbon fiber wing tube. Once satisfied with alignment, apply 30 minute epoxy to both the fuselage and horizontal stab and slide the stab into position, making sure it is pushed as far forward into the slot as possible. Once again confirm proper alignment. Wipe away any excess epoxy with a paper towel or shop rag soaked in denatured alcohol then set aside while the epoxy cures.



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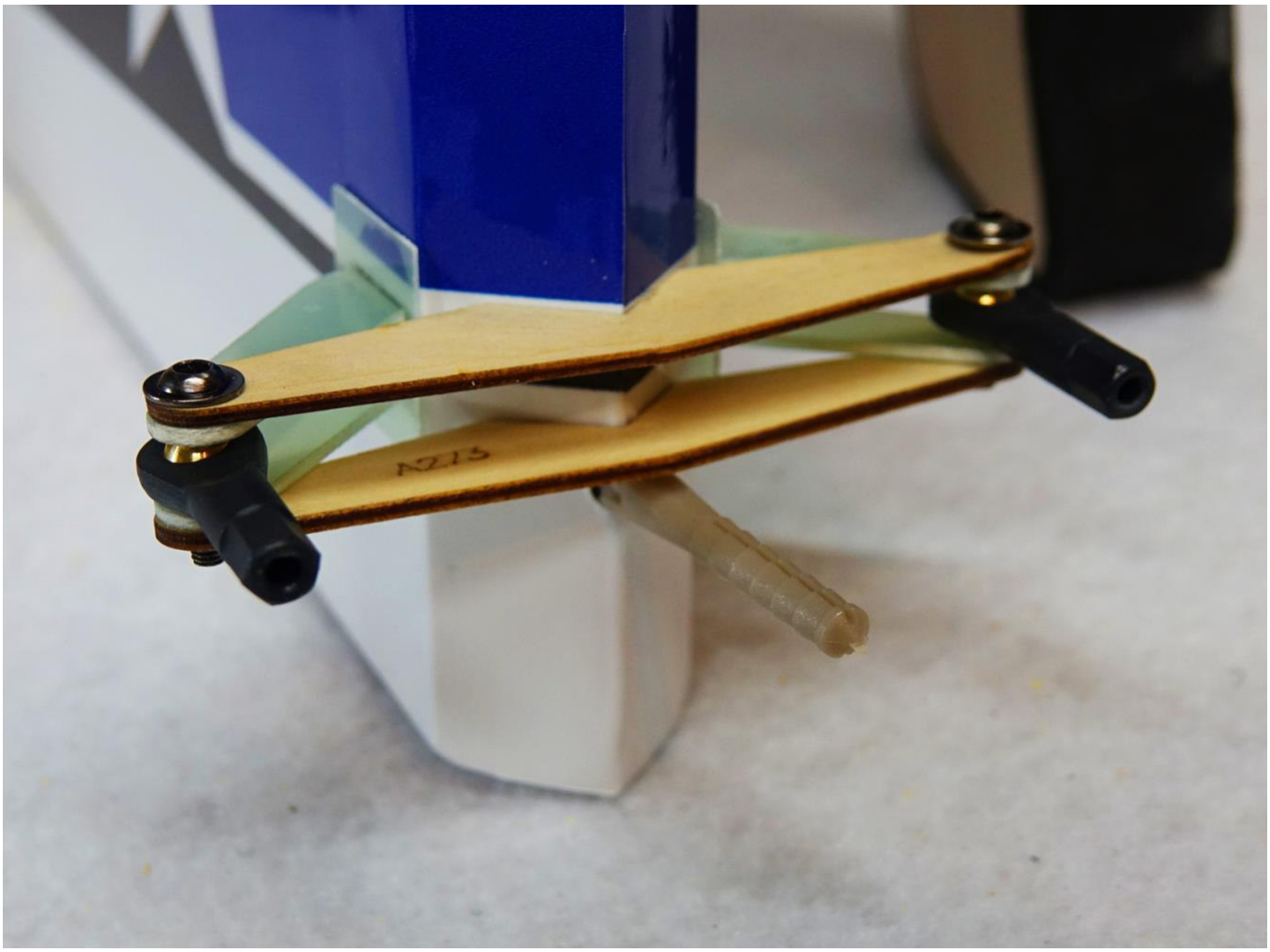


2. Once the epoxy has cured and the elevator has been hinged glue the pre-covered balsa filler block into place behind the stab/elevator assembly.



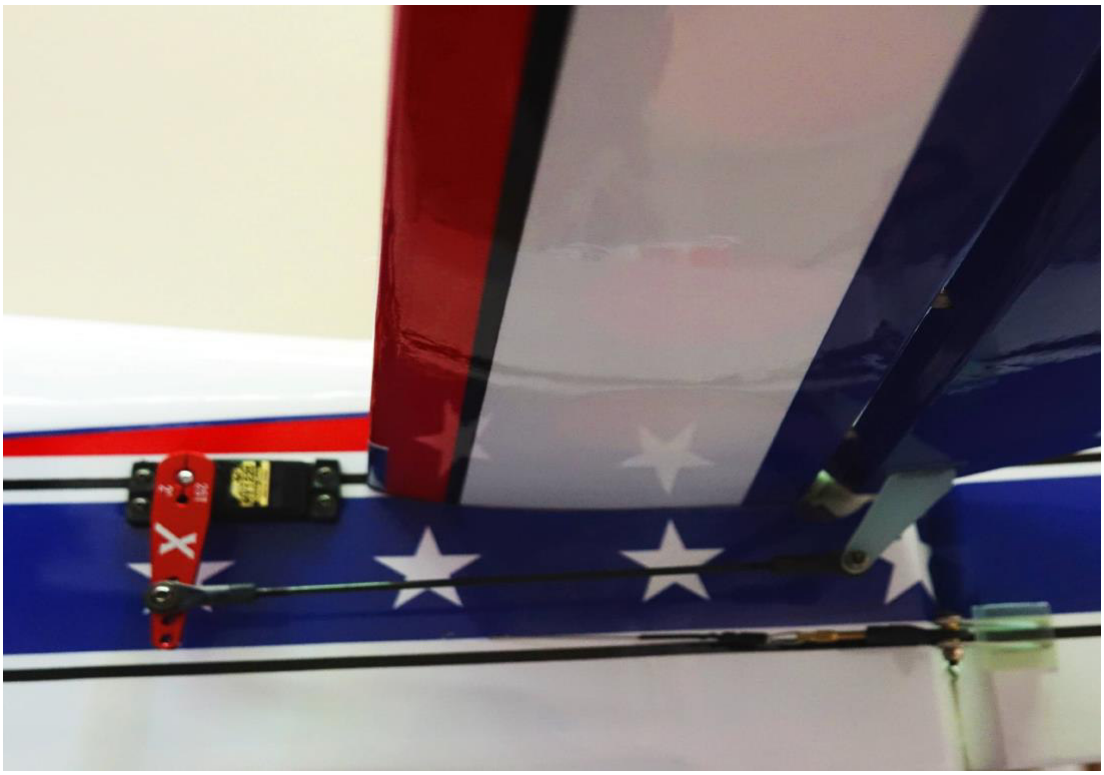
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3. Our factory engineers devised a simple yet effective jig to aid in the alignment of the rudder control horns. Use 30 minute epoxy to secure the G10 horns in the provided slots in the lower part of the rudder. Once glue has been applied assemble the jig as shown and then wipe away any excess epoxy with an alcohol soaked rag or paper towel and set aside to dry. Once dry remove the jig before gluing the rudder into place.

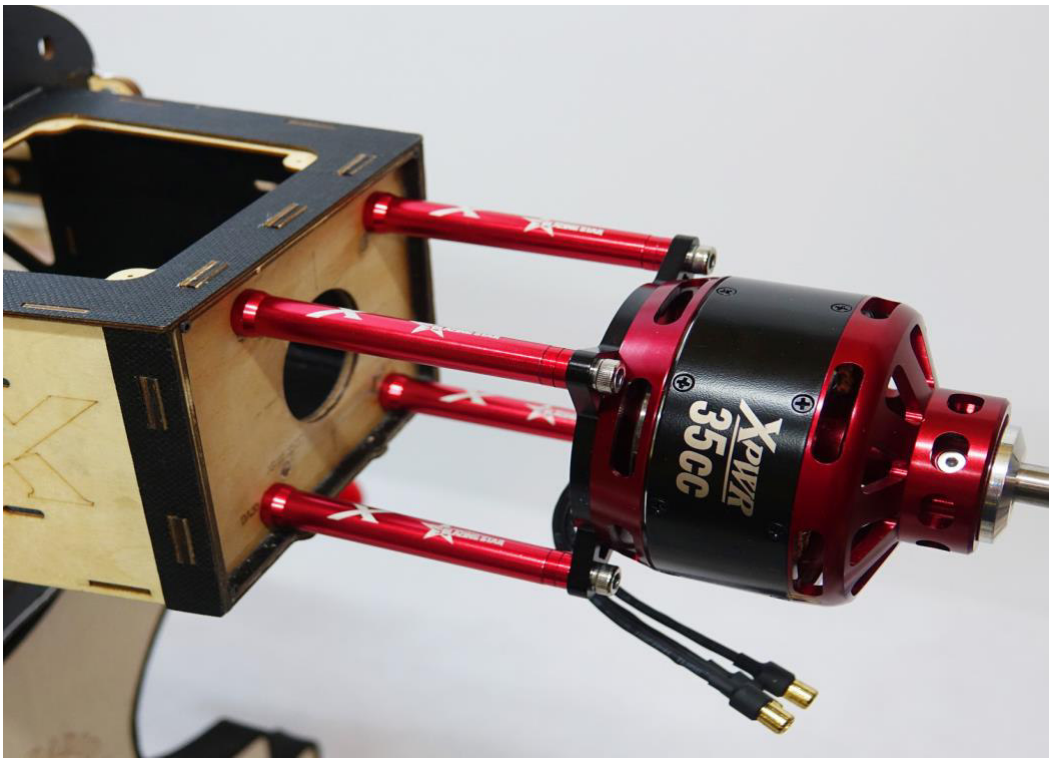


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4. The elevator servo is installed in the slot just ahead of the horizontal stab on the left side of the fuselage (pilot's perspective) and uses a 1.5" servo arm for maximum throws (2" shown in picture due to stock status at the time of assembly).

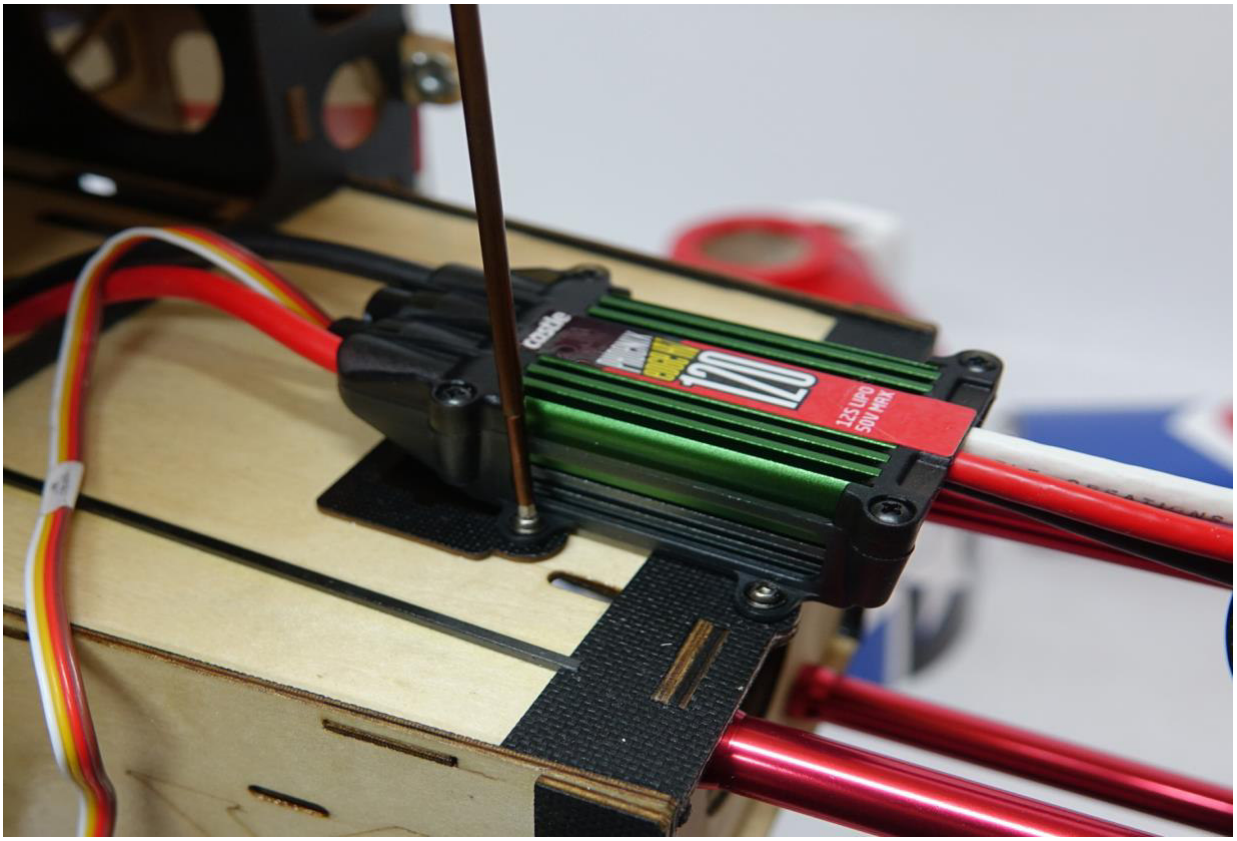


5. Installation of the recommended Xpwr 35 brushless outrunner motor and Castle Creations HV 120 ESC or DA-35 gas engine has been made very easy. Drill at the locations marked on the firewall for your choice of power plant and install using the recommended fasteners. If using the Xpwr 35 we highly recommend the use of the Blazing Star Standard XL standoff set for ease of installation.

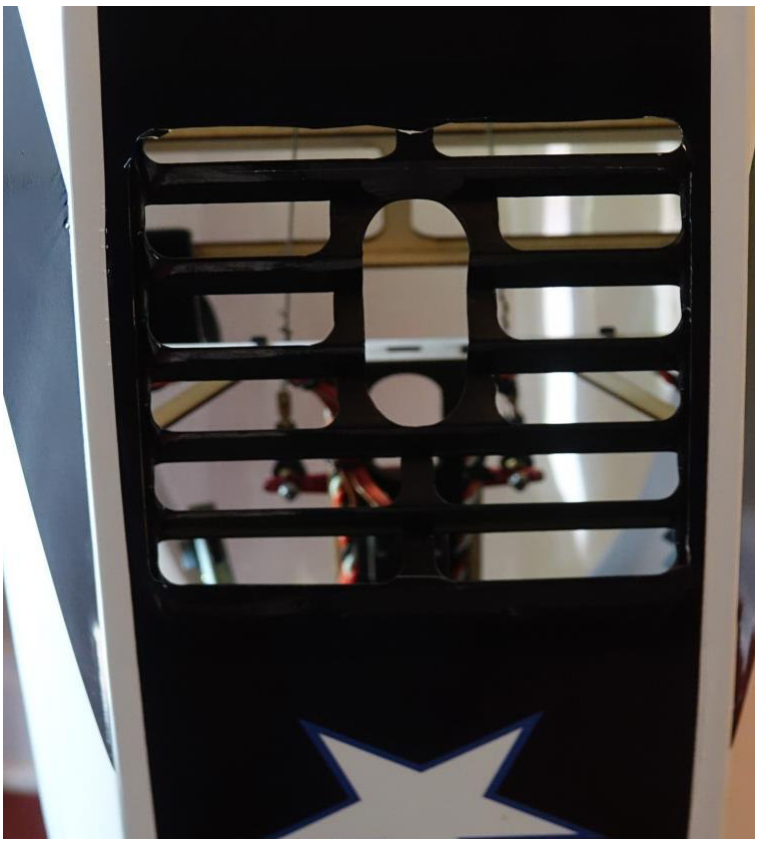


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6. Install the Castle Creations 120 HV in the provided location on the bottom of the motorbox as shown.

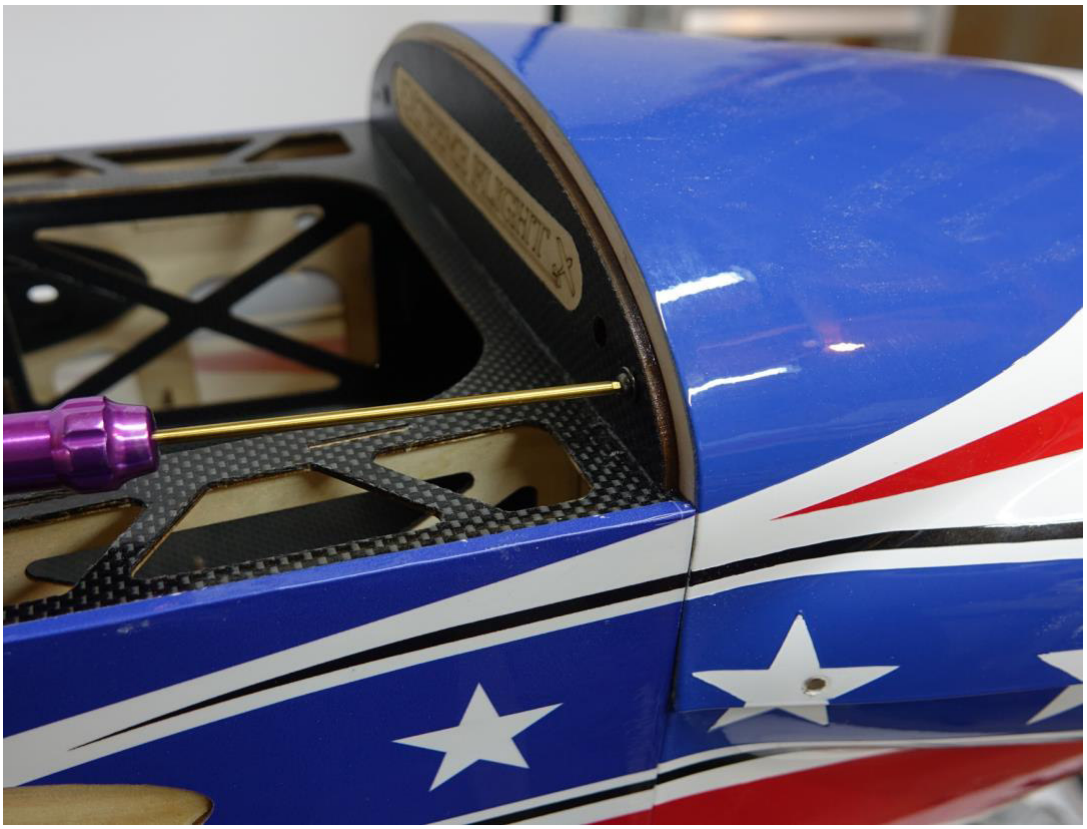


7. There is a plastic vent assembly included in the kit that is meant to be installed if using an electric motor for power. To install simply remove the covering from the bottom of the fuselage in the location shown and glue the vent in place with medium CA.



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8. The cowl for the V2 Laser is now installed using 3 3mm bolts. Two bolts are inserted from inside the fuselage through the front former and into the blind nuts in the cowl ring. The 3rd bolt is installed through the bottom of the cowl and into the blind nut in the tab. Be sure to use blue Loctite on all bolts!





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