SLICK 580 EXP

52 inch

Electric ARF



EXTREME FLIGHT

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Greetings and congratulations on your purchase of the Extreme Flight RC 52" Slick 580 EXP ARF!

This new Slick 580 EXP is the second model in a series of midsized electrics built around the new Xpwr T3910 brushless outrunner. This size aircraft delivers big plane performance in a package that is easy to transport and maintain at a very reasonable price point.

The 52" Slick takes the groundbreaking tech first brought to market in the 48" EXP models to a new level, including generous use of fiberglass and carbon fiber material to add strength while keeping overall weight very low. The result is a very robust airframe capable of handling most aerodynamic loads while remaining lightweight for superior performance. The Slick excels in all modern aerobatic flight regimes including low and slow 3D, fast and aggressive XA and ultra precise precision flight.

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.

3. Use a fresh bottle of thin CA with a fine glue tip when attaching the CA hinges. This will ensure that the proper amount of CA wicks into the hinge and surrounding balsa wood and creates a proper bond between the wood and hinges.

4. Apply a couple drops of CA to high stress areas such as anti-rotation pins, landing gear mounts, servo trays and motor box joints .

5. When applying decals, first clean the area where the decal will be applied with alcohol. Mist the area lightly with Windex before applying the decal which will allow you to properly position it, 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.

6. Take the time to properly balance and trim your aircraft and set up rates and exponential values. Your flying experience will be greatly enhanced by doing this.

Please note: The assembly of the 52" Slick is almost identical to the assembly process of the previously released EXP models. Some photos may show the previous model component assembly steps.

Items needed for completion

-Masking tape

-Hobby knife with #11 blades

-Razor saw

-Fresh bottle of thin and medium CA

-Silicon based glue (Shoo Goo, Zap-a-Dap-a-Goo)

-Blue Loctite.

-Electric drill with an assortment of small drill bits.

-Small flat head and Phillips head screw drivers.

-Standard and needle nose pliers.

-Metric balldriver or allen key set.

-4 micro metal geared servos. All flight testing was performed with Hitec HS-5087MH digital servos.

-Xpwr T3910 Brushless Outrunner motor.

-Airboss Elite 80 Amp ESC (Timing must be set to high with the Xpwr 3910 motor).

-4S 2500-3300 mah LiPo battery.

-XOAR 14x8 or 15x7 PJN propeller.

-57mm Extreme Flight spinner.

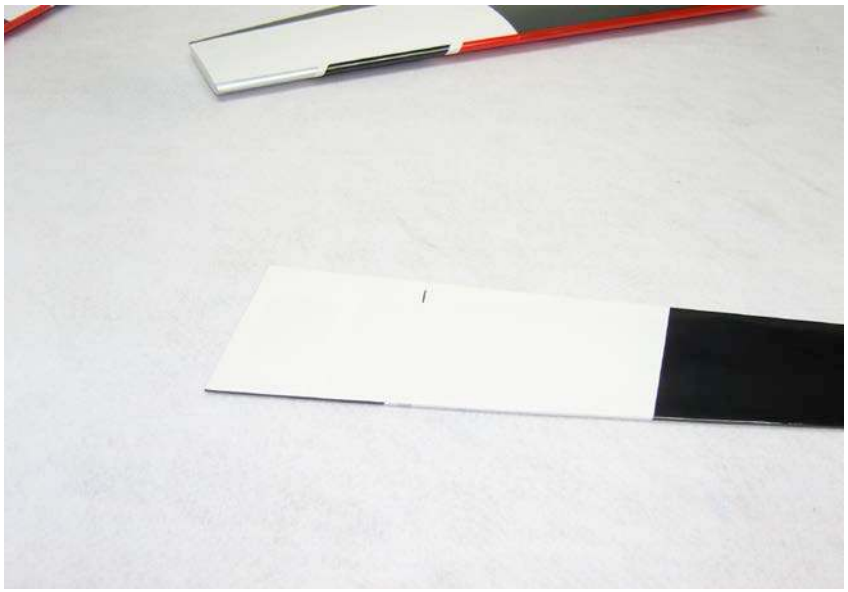
-2 Extreme Flight 28awg 18"extensions for the 2 rear servos and 2 6"extensions to go between the receiver and the aileron servo leads.

-Adhesive backed Velcro and Velcro strap for ESC mounting and battery retention.

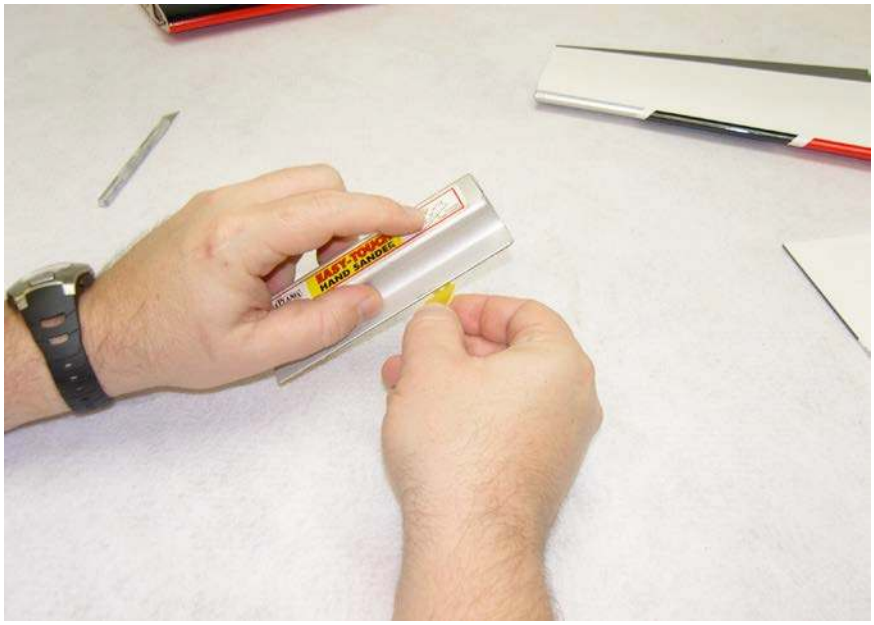
-3 Three stock servo arms for ailerons and rudder, a G10 arm is included for elevator.

Let's begin!

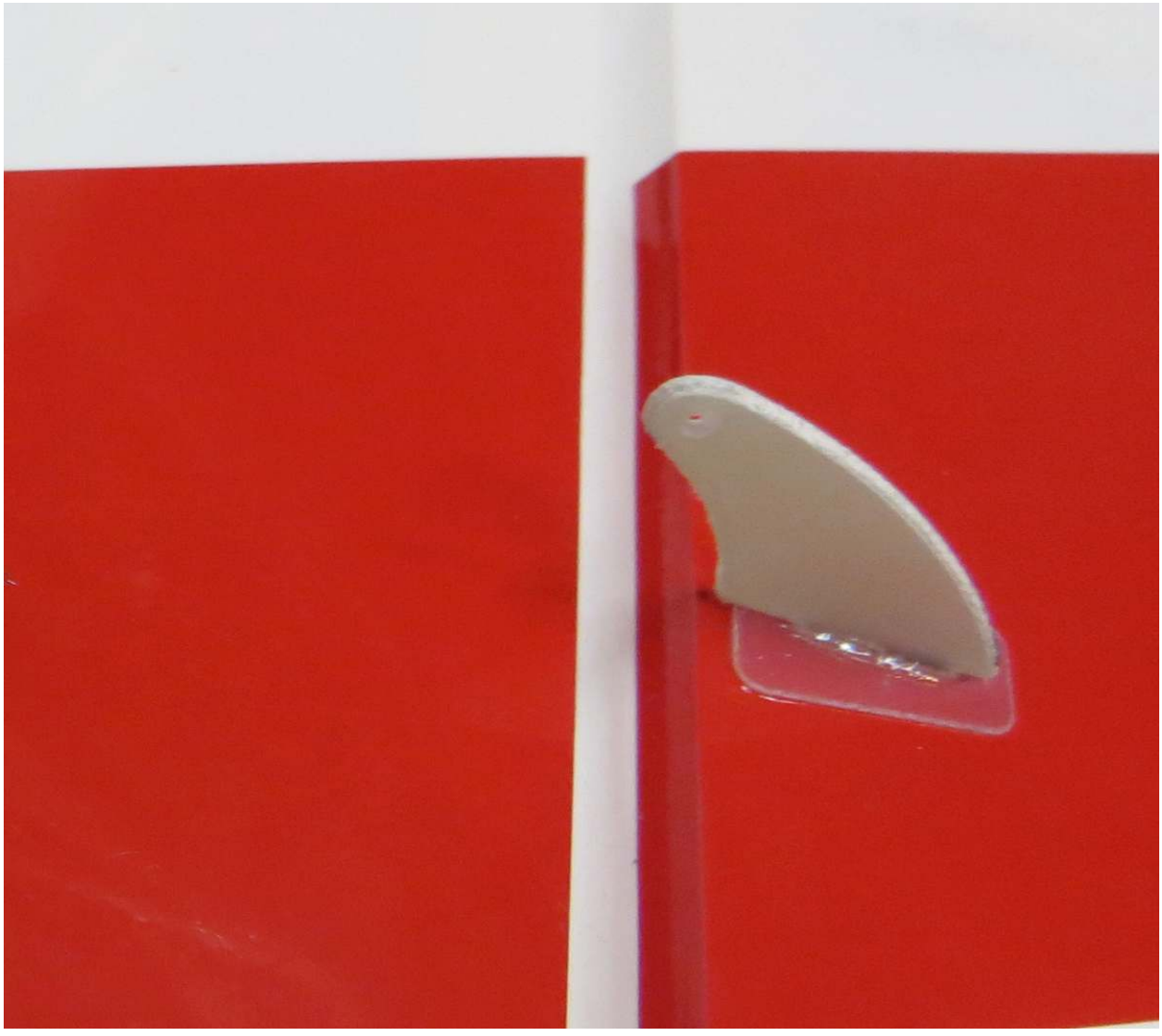
1. Locate the 2 wing panels with ailerons as well as the 2 G10 aileron control horns and base plates. Remove the ailerons from the wing and remove the covering over the slot for the aileron horn on the bottom of the aileron with a sharp hobby blade. Make sure you are doing this on the <u>bottom</u> of the aileron!



2. Scuff the portion of the control horn that will be glued into the aileron with sandpaper.



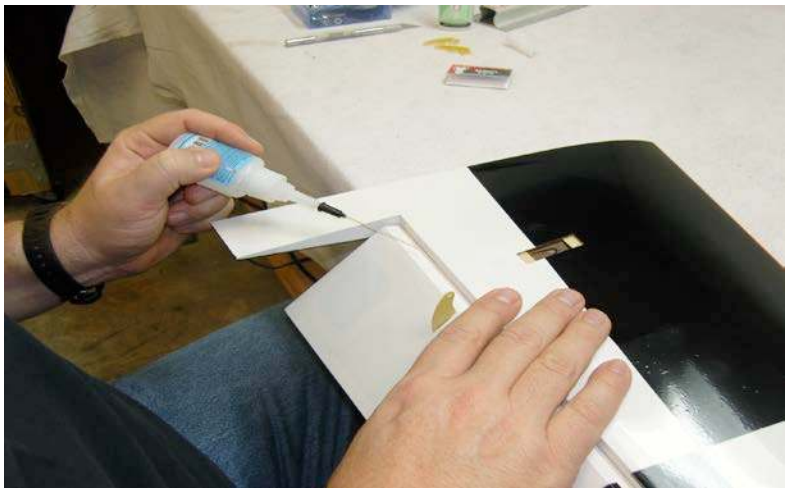
3. Use a glue tip on your bottle of medium CA and apply glue to the slot as well as to both sides of the control horn. Insert the control horn into the baseplate and then into the slot and make sure it seats properly against the surface of the aileron. Wipe away any excess glue with a soft cloth soaked in Acetone.



4. Remove the covering from the aileron servo location.



5. Slide the aileron into position on the hinges and secure with several drops of <u>fresh thin CA</u>. This process is much easier and more effective if a fine glue tip is used. Make sure to deflect the surface as pictured while applying the CA.



6. Use the screws provided by the servo manufacturer to secure the aileron servo in the designated location. Make sure the output shaft is positioned toward the leading edge of the wing.



7. Locate 2 of the threaded pushrods and 4 micro ball links along with 4 2mm screws, nuts and washers. Thread the ball links onto each end of the pushrods and secure to the servo arm and control horn with the 2 mm hardware as shown in the picture. We recommend the use of the Extreme Flight lightweight electric servo arms as shown. Please note the orientation of the pushrod in relation to the control horn.

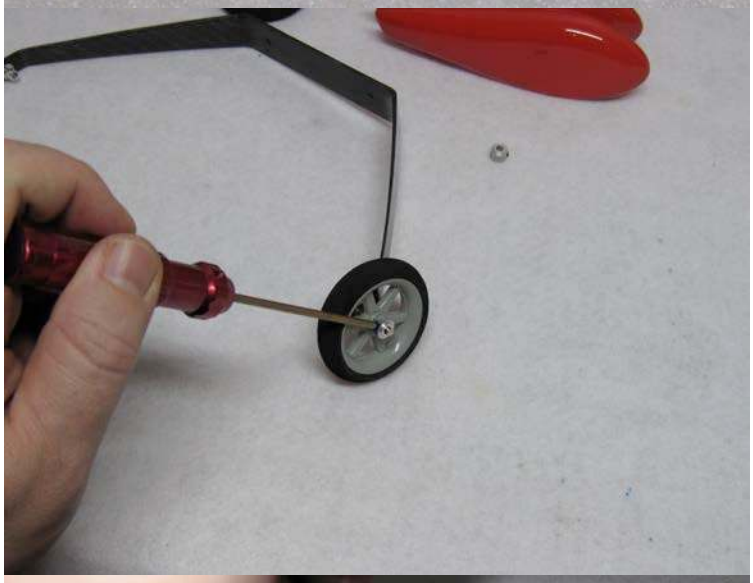


Repeat this process for the other wing half.

8. Locate the carbon fiber main landing gear, 2 axles, 2 locking nuts, 2 wheels, 2 wheel collars, 2 wheel pants and 2 landing gear mounting bolts and washers from the hardware package. Place the threaded portion of the axle through the hole in the carbon gear and screw the lock nut onto the axle, but do not tighten completely. Place the wheel onto the axle and secure with a wheel collar. There is a slot pre-cut in the wheel pant to allow it to fit over the axle. Before installing the wheel pant place a drop of silicon based glue onto the wheel pant just above the pre-cut slot. This will prevent the wheel pant from rotating, but allow it to move in the case of a mishap which may help to prevent damage. Slide the wheel pant into position over the axle and tighten the nut on the axle, taking care to make sure the wheel pant is positioned properly. Repeat this process for the remaining wheel pant. Again this is probably better explained in the following series of pictures.





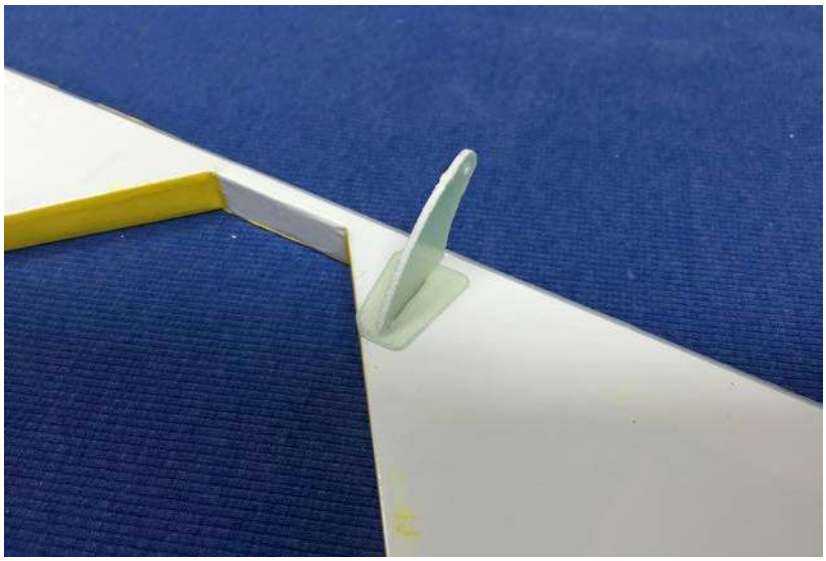




9. Locate the fuselage, 2-3mm socket head cap bolts and 2 washers. Secure the landing gear to the fuselage by inserting a 3mm screw into a washer, through the carbon fiber gear and into the pre-installed blind nut in the fuselage. Make sure to use a drop of blue Loctite on each screw to prevent them from backing out.



10. Remove the covering over the right slot on the bottom of the elevator. Scuff the portion of the control horn that will insert into the elevator with sandpaper. You may also need to trim the corner of the baseplate to match the elevator shape as shown. Slide the horn into the baseplate and secure the control horn with medium CA.



11. Insert the stabilizer into its slot and the carbon fiber wing tube into the plastic sleeve. Use a ruler to insure that the stabilizer is centered in its slot and compare the stabilizer to the wing tube to make sure it is properly aligned. The horizontal stab design makes the alignment process much easier as it keys into the fuselage. Sand or shim the slot if necessary to ensure proper alignment. Secure the stabilizer with CA.





12. Slide the elevator onto the hinges in the stabilizer and secure with thin CA. Again a fresh bottle of CA and a fine glue tip work best here.



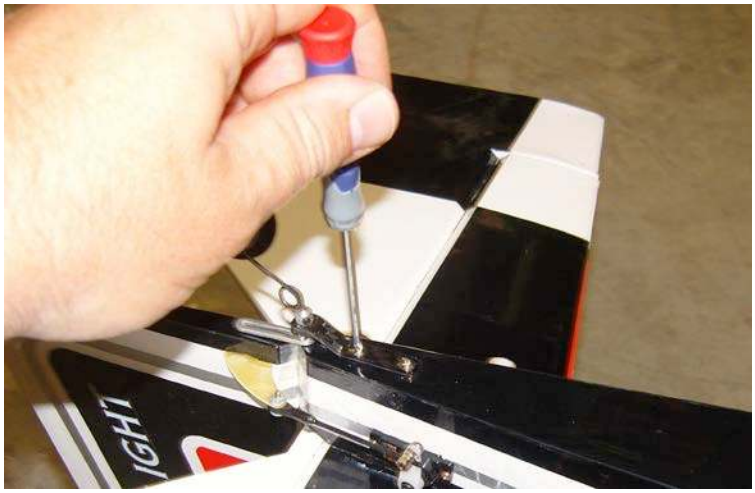
13. Remove the covering over the slot in the lower right side of the rudder where the rudder control horn will be installed. Scuff the portion of the control horn that will glue into the surface and slide it through the baseplate. Secure the rudder control horn with medium CA.



14. Using the same process as with the ailerons and elevator, slide the rudder onto the hinges and secure to the vertical stabilizer with thin CA.

15. Locate the carbon fiber tailwheel assembly in the hardware package. Secure the tailwheel bracket to the bottom rear of the fuselage with the provided wood screws. Make sure the pivot point of the assembly is over the hinge line of the rudder for best results.





16. Secure the tiller using the provided screw, but do not over tighten as the tiller should be able to move on the screw as the rudder is deflected.



17. Place the tailwheel wire in the proper position, aligned with the rudder and lock into place with the 2 set screws.

18. Attach two Extreme Flight 18" 28 AWG servo extensions to the servo leads and secure with heat shrink tubing or tape. Use the hardware provided with the servos to install the rudder and elevator servos in their respective location in the rear of the aircraft. From the pilot's perspective the rudder servo mounts on the right side of the fuselage and the elevator servo mounts on the left side. Both servos should have the output shaft oriented toward the front of the aircraft.

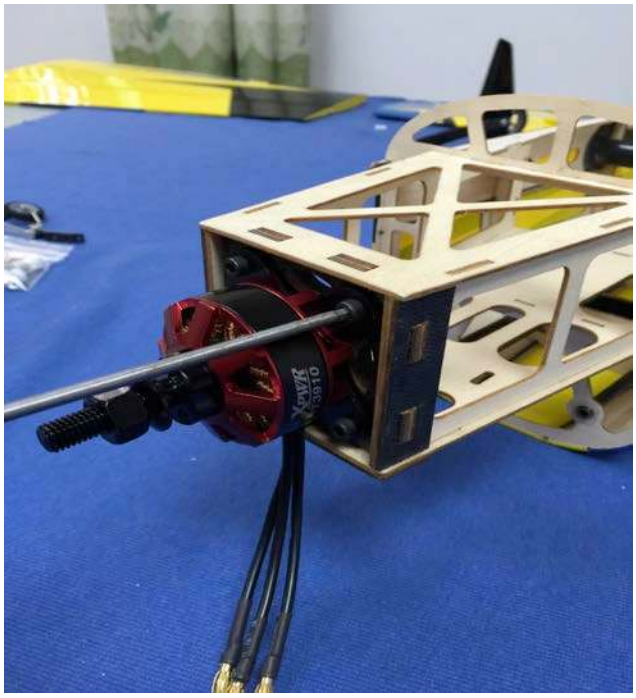
19. The rudder and elevator servo linkages assemble and are installed just like the aileron linkage. For maximum elevator and rudder travel we have included two G10 control horns which are bolted to the stock servo arm provided with the servo. We have found it easiest to tack glue the G10 arm to the nylon arm and then using the holes in the nylon arm as a guide, drill through the composite arm. Secure the arm with a small bolt and nut. The remaining portion of the linkage installation is the same as the other control surfaces. Alternately you can use the Extreme Flight lightweight electric servo arm for the rudder servo, however there is not enough room below the bottom of the stab to use this arm for the elevator.



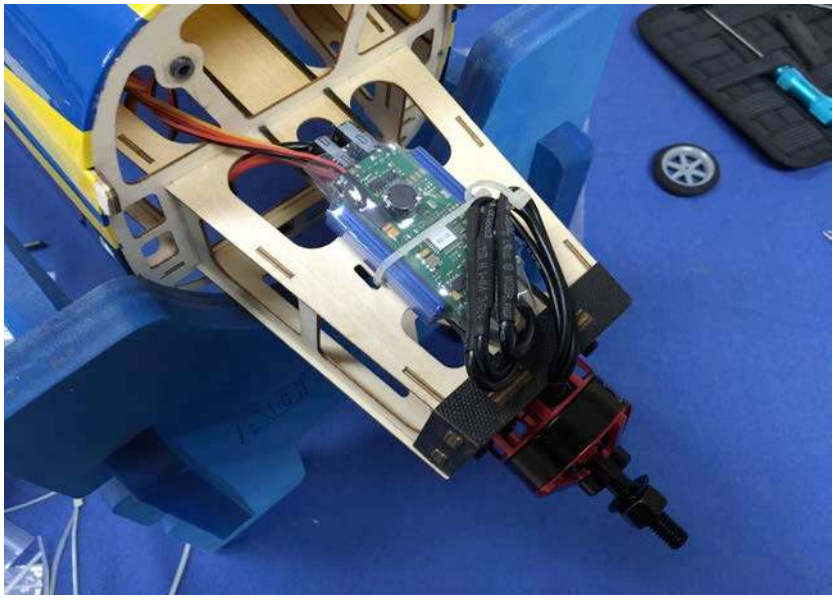


20. Next lets mount the Xpwr T3910 motor to the airframe. <u>First go over all of the motorbox joints with thin CA!</u> Secure the radial X mount and prop adapter to the motor with the supplied hardware. Use the supplied 4mm socket head cap bolts and washers to secure the motor to the front of the motor box. <u>Be sure to use Loctite on all bolts!</u>

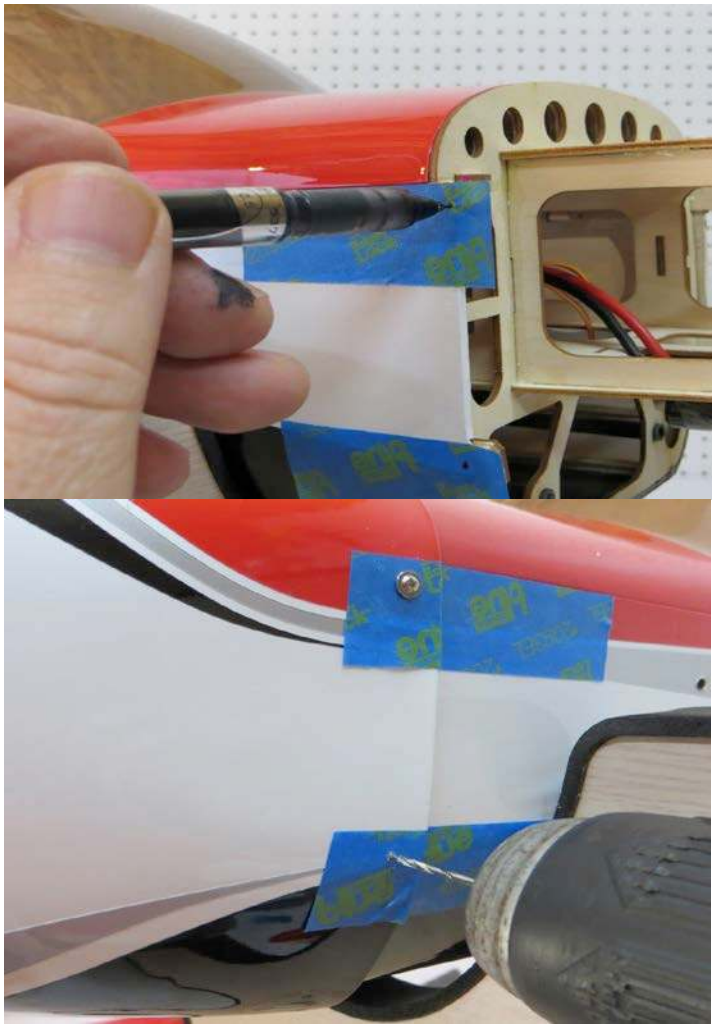




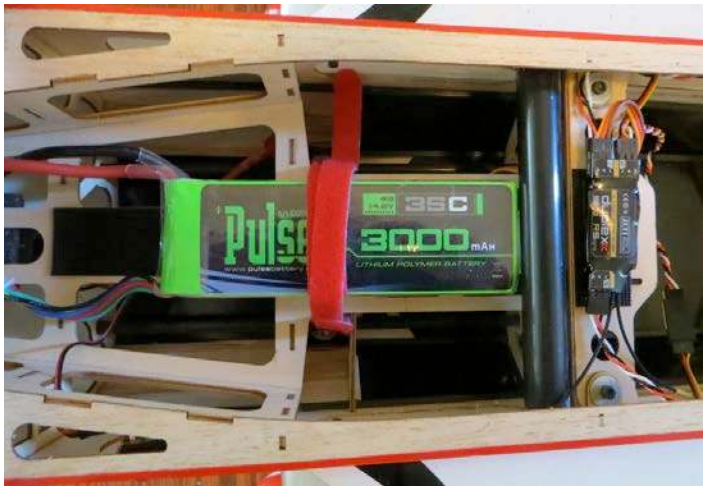
21. Mount the ESC to the bottom of the motor box using Velcro straps or nylon cable ties. Secure the motor/esc wires with cable ties so they do not flop around during maneuvers.



22. For quick, easy and accurate mounting of the cowl we recommend the following method. Tear 4 short pieces of masking 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 center of each mounting tab. Roll the tape back and slide the cowl into position. Install an Extreme Flight 57mm 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 1/16" drill bit to drill a hole at the location of the dot on each piece of tape. Remove the tape and secure the cowl with 4 of the included small wood screws that have integrated washers. Very simple! Now install the prop and spinner.



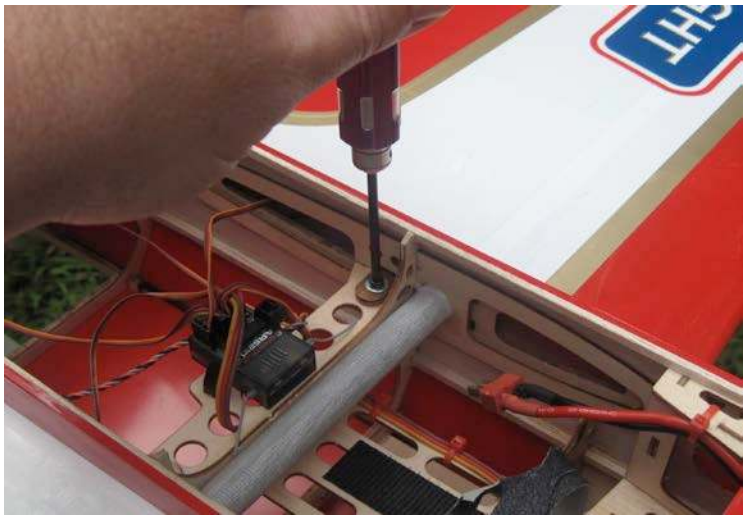
23. Place a strip of Velcro onto the battery tray and onto your battery and use a Velcro strap around the battery and tray to prevent the battery from being ejected during high G maneuvers. Mount your receiver on the wing retention cross brace.



24. If using the included Side Force Generators now is the time to mount them. Each SFG mounts using 2 3mm thumb screws and 2 rubber O-rings. There is also a clear spacer that fits between the wing tip and SFG to prevent the SFG from interfering with the aileron movement. There are 2 laser cut holes in each SFG which correspond with 2 laser cut holes in the tip of each wing. Insert the bolts into the rubber O-rings and through the laser cut holes in the SFG and the holes in the clear spacer. Mount the SFG onto the wing tip by inserting the 2 bolts into the pre-installed blind nuts in the tip of the wing.



25. Slide the carbon fiber wing tube into the fuselage and the wings onto the tube. Secure to the fuselage using the 2 3mm bolts and washers inserted through the tabs and into the pre-installed blind nuts. Plug the aileron leads into the receiver.



Set-up and flying tips

The CG range for the 52" Slick 580 EXP starts at the front of the wing tube and extends to the rear of the wing tube. There is plenty of room on the battery tray to move your battery to achieve this CG location. Depending on your flying style you can adjust the position of the battery to alter the CG to accommodate your preferences. For this type of aircraft where I am going to predominantly fly aggressive 3D I typically set the airplane up with a neutral CG, meaning that when the aircraft is flown inverted straight and level it requires no down elevator to maintain altitude. If your flying style leans more toward precision aerobatics then I recommend setting your CG using the 45 degree line test. Fly the aircraft from left to right or right to left, whichever direction you are more comfortable with at 3/4 to full throttle. Pull the aircraft to a 45 degree up line and establish this line and immediately roll the aircraft inverted. Establish this line and let go of the elevator stick. Ideally the aircraft will continue to track on that 45 degree line for several hundred feet before slowly starting to level off. Adjust the position of your battery to achieve this flight condition. I also highly recommend taking the time to properly set up your rates and exponential settings. Setting up low rates for precision maneuvers and high rates for aggressive aerobatics and (continued)

3D flight will allow you to experience the best attributes of the Slick 580 EXP or any aircraft for that matter. The included elevator servo arm will allow for close to 80 degrees of throw! While this is great for really aggressive tumbling maneuvers, positive and negative waterfalls and straight down dropping elevators, it can wreak havoc on stable harriers, especially if you are just learning the maneuver. If your radio will allow I suggest setting up 3 elevator rates or a flight condition that will allow you a rate for precision flying, another for harriers and the majority of 3D maneuvers and a final rate with as much travel as you can get for the crazy tumbles and flips.

Here are some suggested rates to get started with. These are the rates and exponential values I feel comfortable with. They may feel awkward to you and if so please adjust to your taste.

Elevator: Low rate-8-10 degrees; 15-20% Exponential

3D rate-45-50 degrees; 40-50% Exponential

Insane tumble rate: As much as possible! 65-70% Exponential

Rudder: Low rate-20 degrees; 45-50% Exponential

3D rate- As much as possible; 60-70% Exponential

Aileron: Low rate-15-20%; 40-45% Exponential

3D rate- As much as possible; 50-60% Exponential