



*Super*  
**CHIPMUNK**  
EXTREME FLIGHT X

**ARF**

## ASSEMBLY GUIDE



**80in/2M**  
**6S 750-850G LIPO**  
**(APPROX 5000-6000MAH)**



**LEGACY**  
**AVIATION**

Please read the following paragraphs 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 to the AMA safety code. It is highly recommended that you join the Academy of Model Aeronautics in order to be properly insured, and to 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.

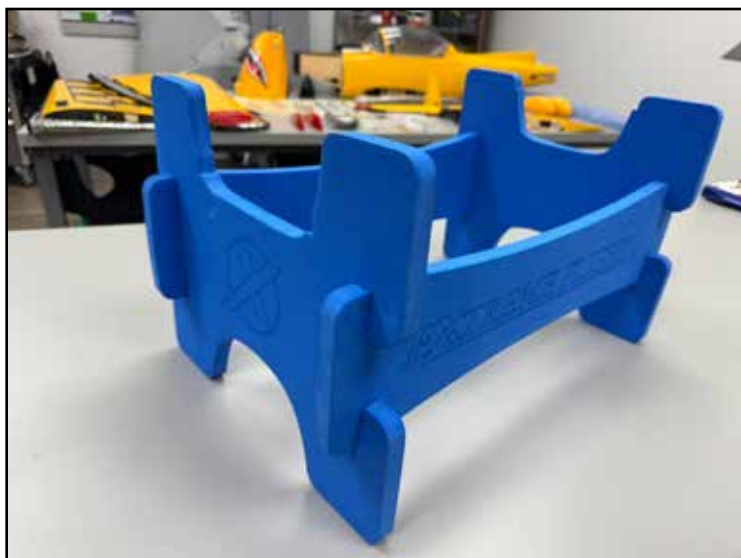
Extreme Flight RC guarantees this kit to be free of defects in materials and workmanship for a period of 30 DAYS from the date of purchase. All warranty claims must be accompanied by the original dated receipt. This warranty is extended to the original purchaser of the aircraft kit only.

**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.

For any needed assistance, please contact us at [info@extremeflightrc.com](mailto:info@extremeflightrc.com) or 770-887-1794. It is your responsibility to ensure the airworthiness of your model.

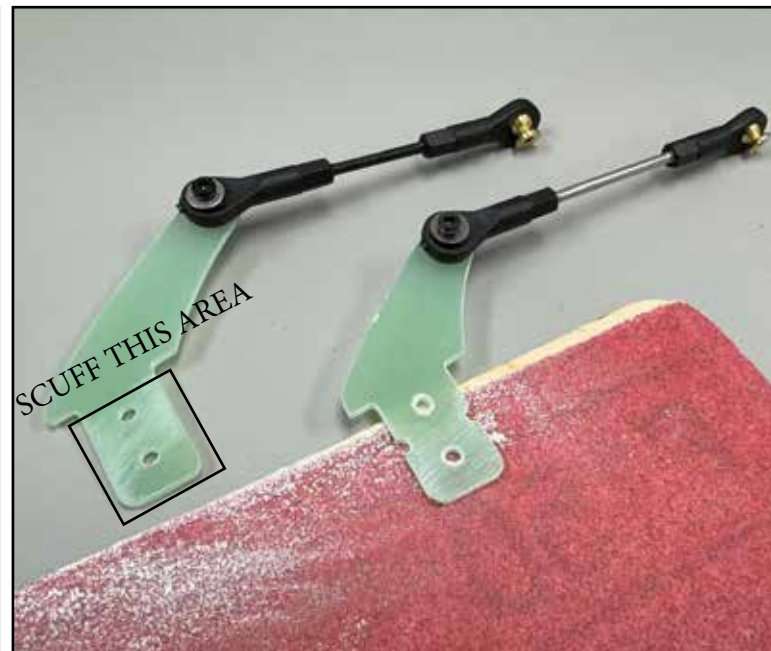
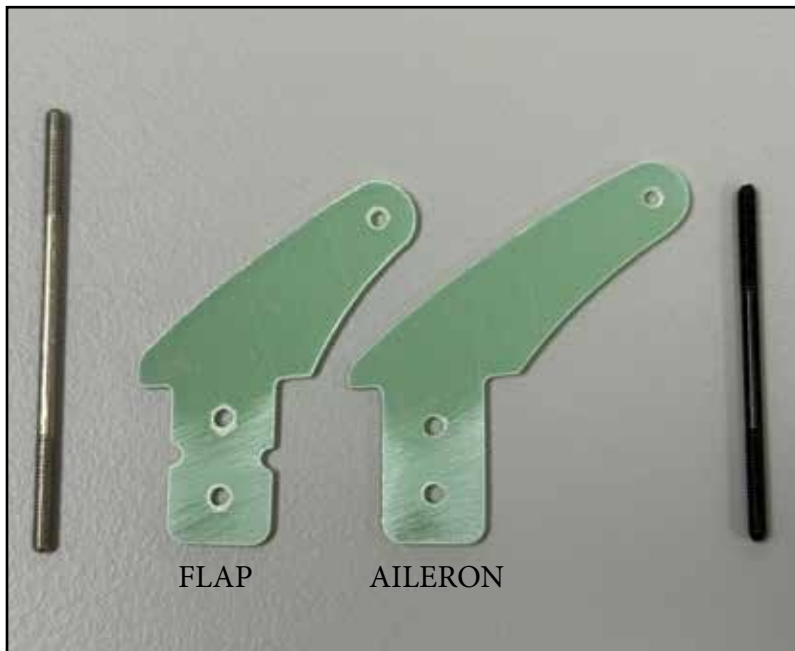


1. Carefully unpack your Chipmunk. We'll begin assembly with the work/transport cradle. Slip the foam pieces together as shown. The cradle supports the fuselage as shown during work, storage or transport.



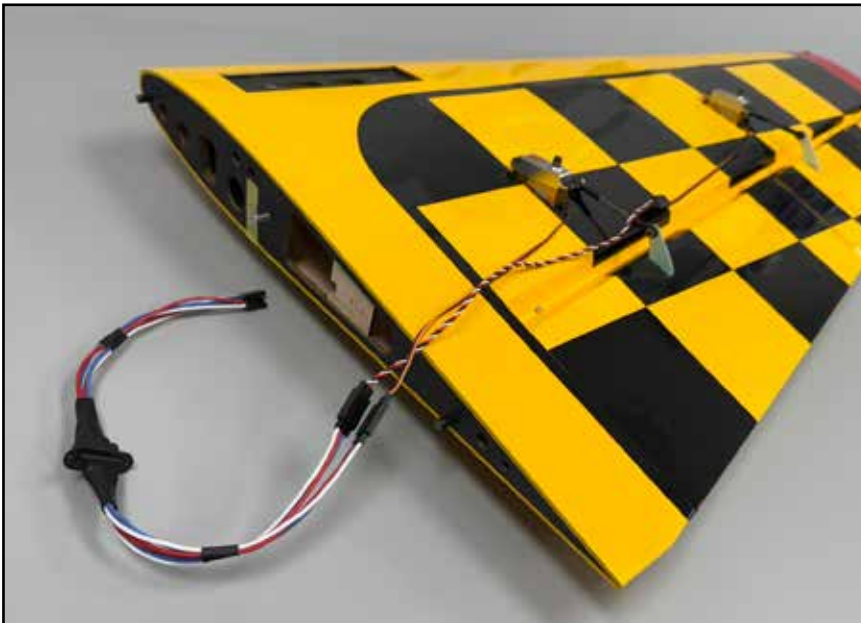
# 2.

Locate your wing hardware. Note that there are two different sizes of control horns. The smaller/shorter is for the FLAPS and the larger/longer are for the AILERONS. Use the shorter pushrods on the ailerons and the longer pushrods on the flaps as shown. Assemble the pushrods by screwing the ball links onto the rods. Note there are two different kinds of ball links. The ones which mount to the servo arm have triangular pedestals integrated into them. Mount the pushrods to the horns with 2mm bolts, washers and locking nuts as shown. Use sandpaper to scuff the lower part of the horn which inserts into the control surface. Do this for all horns on your aircraft.



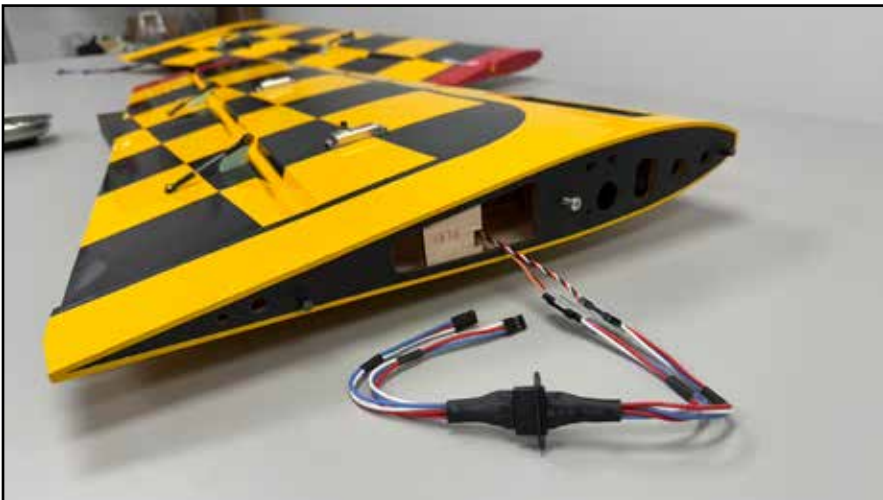
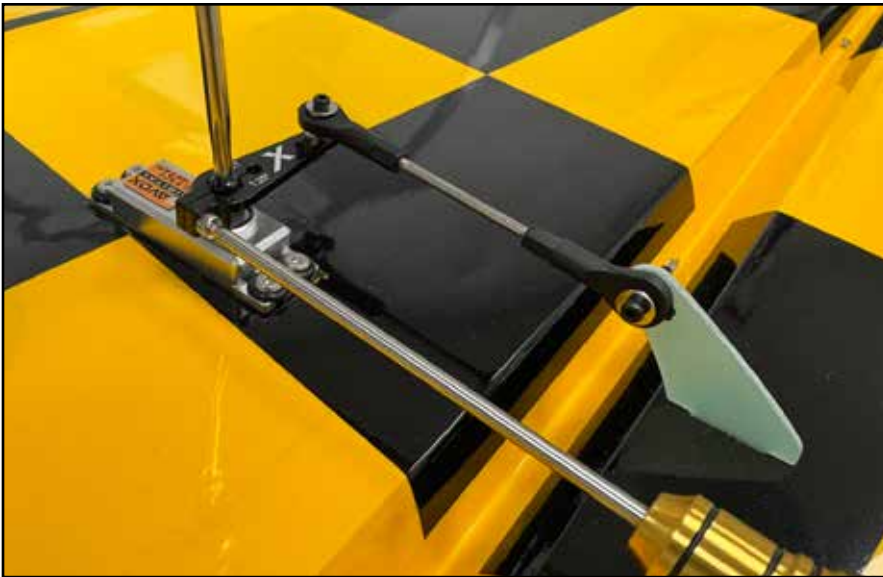
3.

Glue the horns into the surfaces using 5-15 minute epoxy or medium CA. Lay the servos onto the wings and determine the correct servo extensions, use connectors locks on every servo wire connection on your aircraft to prevent unplugging in flight. Apply a drop of thin CA to the servo screw holes as shown to harden the screw holes. Allow to dry.



4

Feed the servo wires through the wings and install the servos. Here we are using Extreme Flight hex-head servo mounting screws. Mount the pushrods to the servo arms as shown using 2mm bolts, washers and locking nuts. Note the orientation of the ball-link pedestals. We like to start with the links mounted to the 2nd hole from the outside of the arm. Mount the arms on to the servos. **OPTIONAL BUT RECOMMENDED:** Use an Extreme Flight 2-wire MPX connector on the wing servos.



5.

Locate the vertical stab/rudder and its hardware. Assemble the pushrod as before, scuff the horn as before and install as before. Harden the servo screw holes inside the stab and install the servo. Install the arm and tighten all screws.



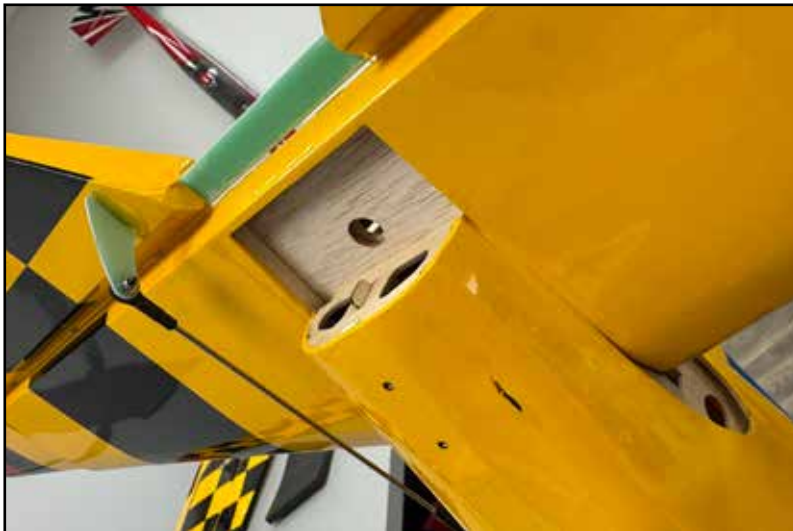
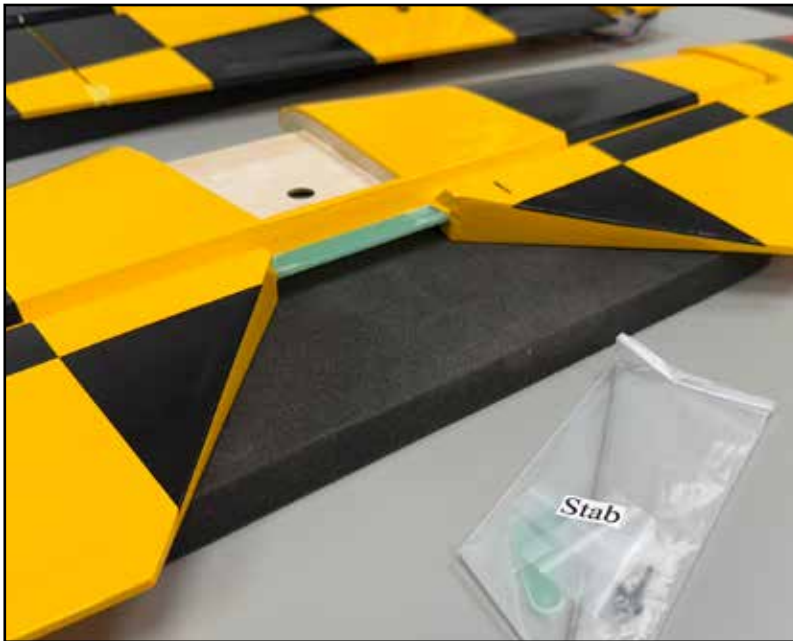
6.

Locate the carbon tube spar for the vertical stab and slide into the fuse. Locate the vertical fin strake extension and glue onto the top of the fuselage as shown with epoxy or medium CA. The rudder uses a 24" extension, ADD a 6" extension to that if you wish the stab to be removable for transport. Slide the stab down onto the tube and bolt in place with the 3mm bolt as shown. Tape the strake in place as it cures. For this build, we elected to make our stab removable and so in later steps it is sometimes re-moved.



# 7.

Locate the horizontal stab/elevator, assemble the pushrod and prepare/install the horn as before. Test-fit the horizontal stab into its slot (make sure it's correct side up!) and when fit is verified, glue the stab in place with 5-15 minute epoxy or medium CA glue. Be sure to slide it ALL the way forward in its slot.



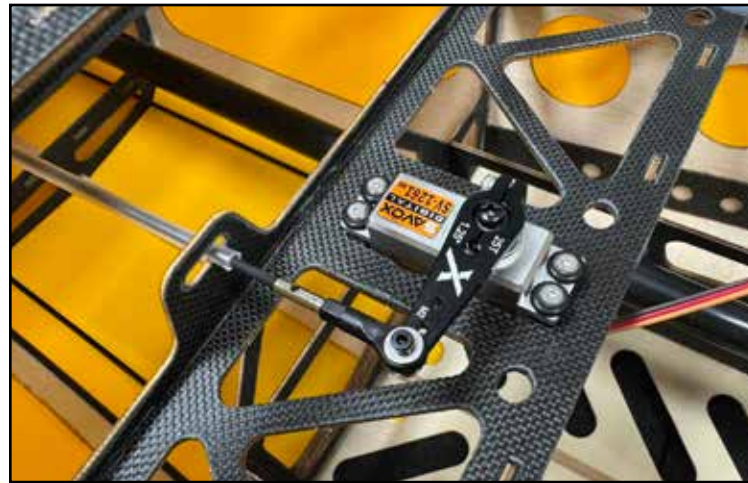
8

Trial-fit the tail cone. Once fit is verified, glue in place with 5-15 minute epoxy or medium CA. Tape in place until dry. Harden the tailwheel-servo mounting holes with thin CA as shown. Mount the servo as shown. Trim the pushrod tube to 3-4mm clear of the former as shown for smooth operation.



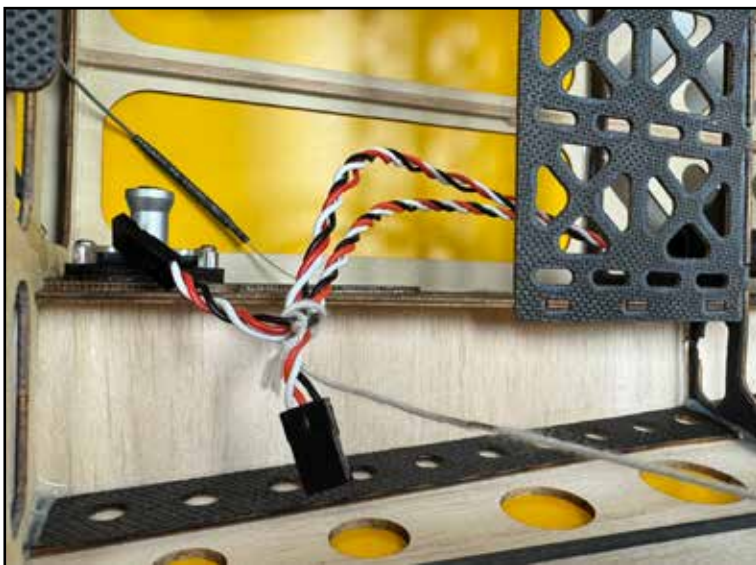
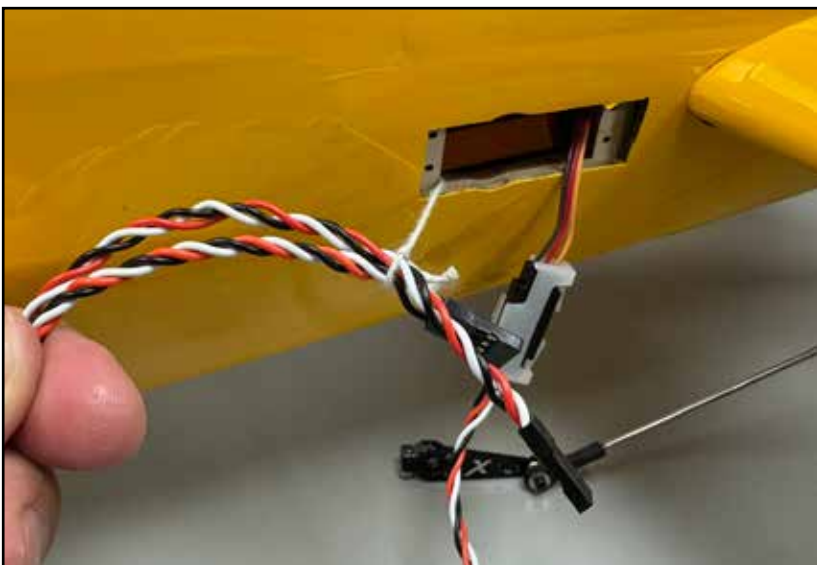
9.

Locate the tailwheel and hardware. Mount the tailwheel with threadlocker. Locate the pushrod (packed with the carbon tubes). One end of the pushrod is pre-finished at the factory. Feed the pushrod into the pushrod tube as shown. Assemble the other end by screwing the ball link completely onto the thread, then glue onto the bare pushrod end with epoxy or medium CA glue. Attach the ball links to the servo arm and tailwheel tiller arm with 2mm bolts, washers, and locking nuts as shown.



10.

Harden the mounting holes for the elevator servo with thin CA. Use the pull string to feed the 24" elevator extension wire through the fuselage tube as shown. Use a servo wire lock on the elevator wire connection. Mount the elevator servo and connect the pushrod and arm as shown.

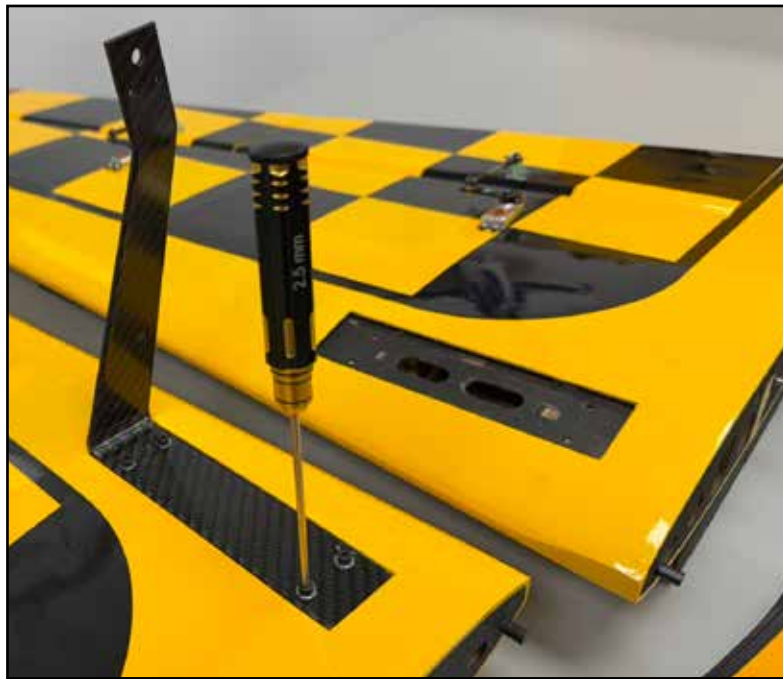


# 11

Locate the landing gear parts. There are three types of screws packed for your landing gear. Long with separate washers for the gear leg to the wing. Long with integrated washers for the cuffs/fairings to the gear leg, and short with integrated washers for the pants to the gear leg. All of these require blue threadlocker.



Attach the gear legs to the wing mount so that the gear sweeps FORWARD. Use blue threadlocker. Install the cuff/fairings as shown with threadlocker. Install the axles with washers and locking nuts, point the flat spot on the end of the axle DOWN toward the runway. Install the wheel and the wheel collar, tightening the set screw against the flat with threadlocker. Install the wheel pants as shown, using threadlocker.



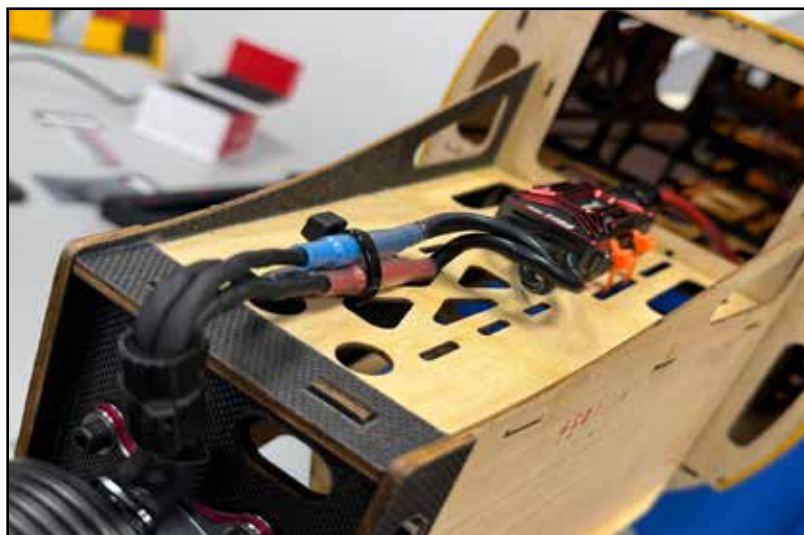
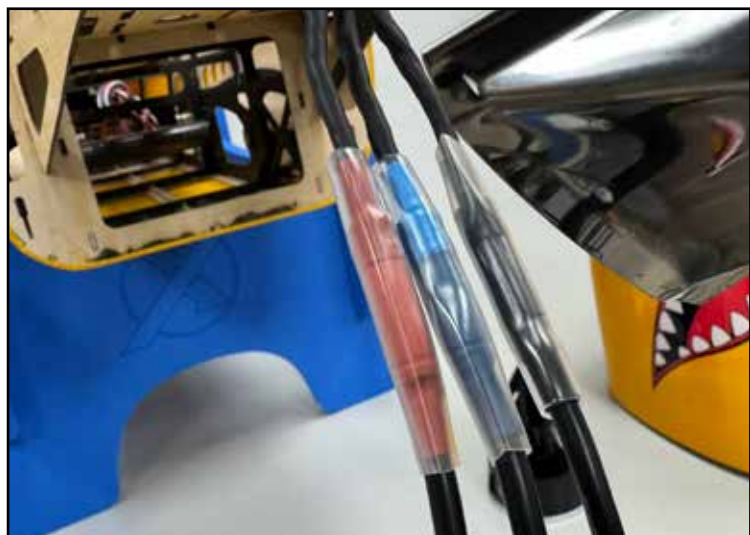
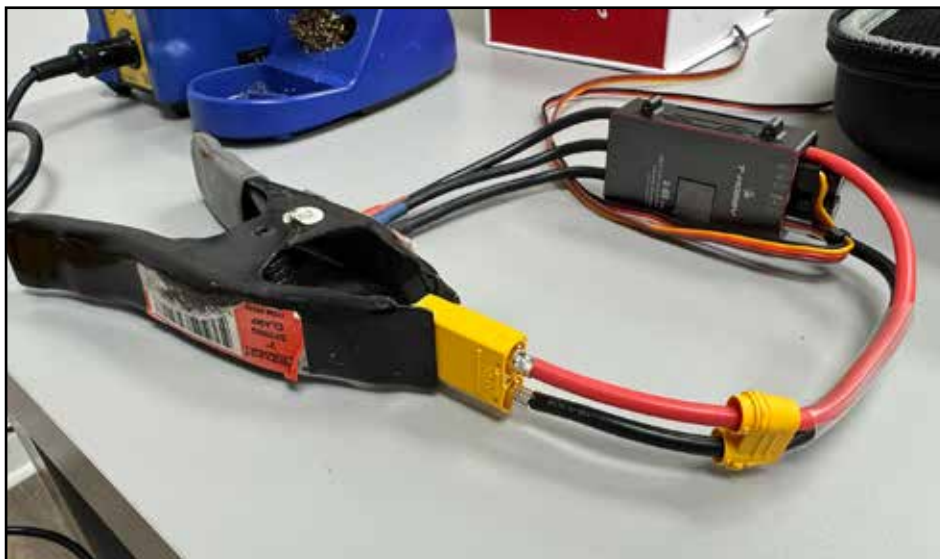
# 12.

The wingtips are bolted to the wings with 3mm bolts and clear plastic spacers as shown. Removing the tips allows you to mount night-flying lights as shown.



13.

Install the AM670 motor by first installing the mount as shown using blue threadlocker. Install the motor and tighten the motor-to-mount screws with blue threadlocker (this step is often overlooked!). Solder your preferred battery connector to your ESC, plug in to the motor and add heat-shrink tube to these connections. Mount your ESC as shown on the bottom of the motor box with zip-ties and make sure the motor wires are protected from any chafing on airframe parts and edges.



14.

The cowl installs with hooks and screws as shown. Install the prop and spinner and check for spacing. The T-Hobby AM670 Motor includes spacing washers to get the perfect (approx 2mm) spacing between your spinner backplate and the cowl. Note the spinner backplate has a forward side, and a spacer ring (Included inside the spinner) is required for proper fit of the backplate onto the motor shaft.

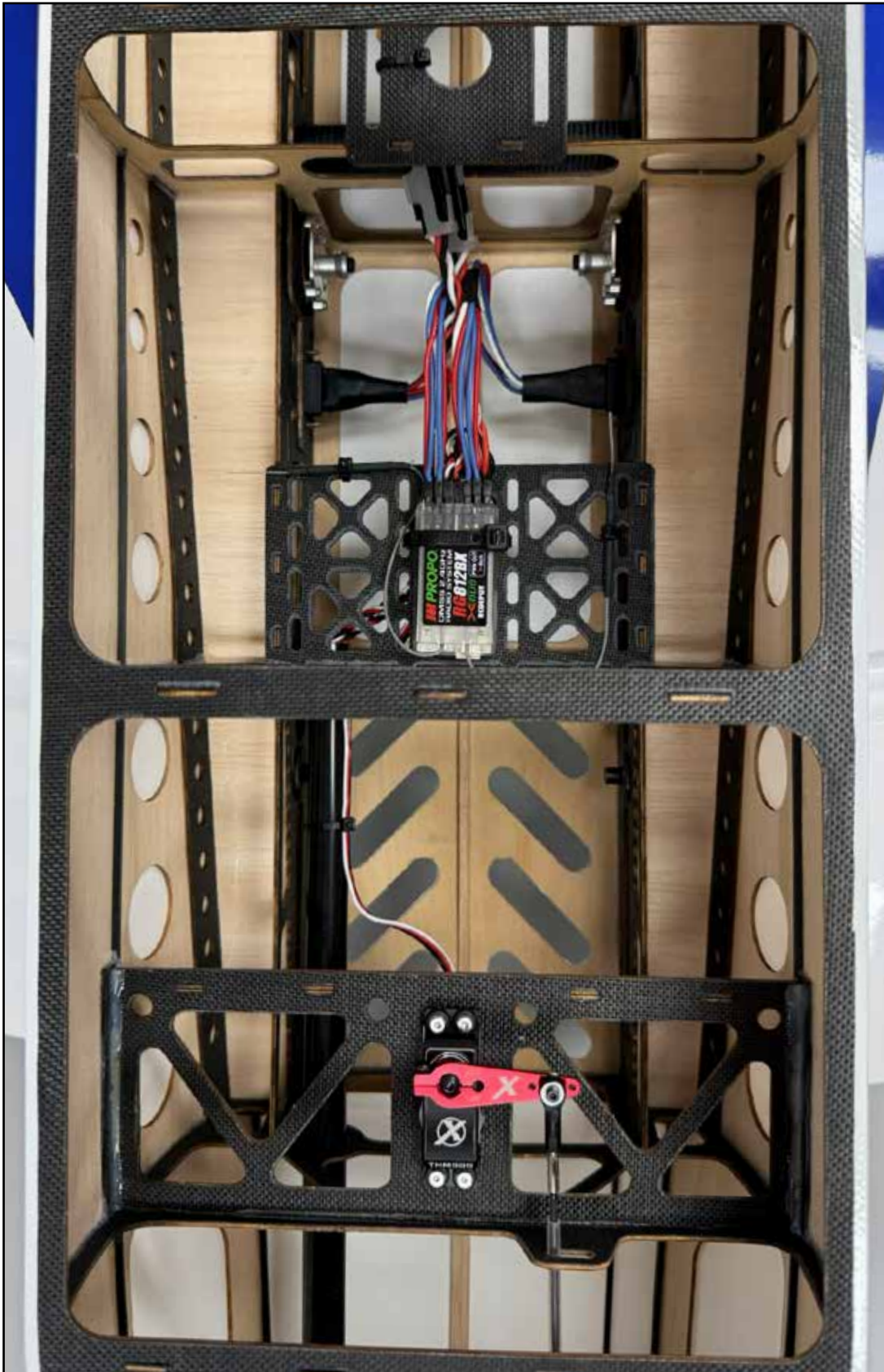


# 15.

OPTIONAL: Extreme Flight offers 145mm size pilots which fit the Chipmunk, in PilotX or PilotX2 styles. Cut the foam cockpit floor along the perforation as shown. Mount the pilot with its included thumbscrews and blue threadlocker. Tape the cockpit floor back in place.



16. Install your receiver as shown and tie all wires and extensions. Note that here we are using the 2-wire MPX style connector for the wing servo wires.



# 17.

Locate the main wing spar carbon tube and slide into the fuselage. Open the wing latches (KNOB LIFTS OUT AND MOVES UP) Slide the wings on, plug in the wing servo wires, then slide all the way on and close the latches (KNOB MOVES DOWN AND DROPS INTO LOCK RECESS). Note the screws which engage the latches are threaded and can be adjusted in or out as needed.



# 18.

The Chipmunk uses a 6S lipo battery 750-850 grams weight. This usually equates to approximately 5000-60000 mah. The battery is restrained in the plane with vecro and a velcro battery strap. The CG location is indicated inside the airplane on the fuselage former as shown. Lift by the front cross-brace for the gentle/sport CG. Lift by the rear cross-brace for 3D flight. Move the Lipo battery until the plane hangs level. You can certainly use lighter Lipo batteries, but you will need to add modeling clay to the nose to balance. Be sure to get the CG location perfect before your first flight. The Chipmunk is huge and powerful and doesn't care much about total weight, but CG location is very important.



19.

Your kit includes pre-cut decals. These are “air release” type and the glue on the back side is applied in a geometric pattern. When first applied, you will be able to see this pattern. Burnish them down with a soft cloth this will begin the adhesive-settling process. Over the next few days this pattern will mostly disappear, burnish again with a soft cloth if needed.



# 20.

Before flight, use a covering iron to go over all seams on the covering. Use an iron temperature of 220-250F/104-121C.

You will need to use your iron to periodically shrink your covering material to keep it in good condition/appearance. Ultracote/Oracover begins to shrink at 300F/134C. Its maximum temperature is 350F/162C. If you go beyond this temp (such as by using a heat gun) you risk damaging the covering and needing to replace that section. Be careful when shrinking and always use the lowest temperature possible. REMOVE your plastic canopy hatch when shrinking covering near its location.

For any repairs, here are the codes for the covering material in Oracover (Europe/global) and Ultracote (USA) systems.

## Oracover colors

## Ultracote colors

### RED/WHITE Scheme

Ferrari Red #23

White #10

Dark blue #52

True Red-#HANU866

White-# HANU870

Midnight blue-#HANU 885

### YELLOW Scheme

Cub Yellow #30

Ferrari Red #23

Black #71

Cub Yellow-#HANU884

True Red-#HANU866

Black-#HANU874



# 21.

Set your control throws as indicated:

Elevator:

Low Rate 20 degrees up, 15 degrees down 15-20% expo

High Rate 50-55 degrees up, 40-50 degrees down 50-60% expo

NOTE: Elevator throw is DIFFERENT UP VS DOWN due to low wing position.

Aileron:

Low Rate 15 degrees up, 20 degrees down 40-45% expo

High Rate 20 degrees up, 25 degrees down 70-75% expo

Flaps:

Mid-Flap (for medium-speed cruising around) 20 deg

Full-Flap (for slowest flight and highest drag) 35-40 deg

NOTE - Full-flap is for very slow, minimum-throttle flight. We add approximately 10% of flap throw as down-elevator for flap compensation. If the flaps are deflected 35 deg down, we have 3-4 deg added down elevator.

For Maximum roll rate, mix flaps to ailerons for full-span ailerons. You can get up to 45 deg of flap throw using the outermost hole in your servo arm, but be careful to tune your aileron throws in full-span mode to limit roll rate to your comfort level.

Rudder:

Low Rate 20 deg 50-60% expo

High Rate 45 deg. 60-80% expo



Congratulations on your Chipmunk. We hope it gives you many happy flights. The Chipmunk is fully 3D aerobatic and capable of some very wild maneuvers, but will settle down into gentle and slow flight whenever you like. It's one of our favorite aircraft for relaxing evening flights. If you enjoy the Chipmunk, check out our other aerobatic but gentle aircraft at Legacy Aviation by Extreme Flight RC. Thanks and Happy Flying!

