FREEDOM FOX

Official Flite Test Receiver Ready Aircraft STOL EP Airplane

For a full assembly video, tips, and additional information about your Flite Test Freedom Fox, please visit: **flitetest.com/freedomfox**

The FT Freedom Fox is the result of a collaboration between FliteTest and our dear friend, Trent Palmer. Trent inspires us and thousands of other through sharing his amazing flying adventures every week on his YouTube channel. His video content not only celebrates flight, but how it connects with his family and friends. We wanted to work with Trent to create an RC model version of his beautiful Kitfox that not only flies the same as the real one but is capable of easily recreating the same iconic maneuvers and STOL landings and take offs. Both Trent and FliteTest share a passion to see the world of aviation grow and hope that the FT Freedom Fox will both be a joy to fly and a reason to dream bigger.

We cannot thank Trent enough for giving us the opportunity to bring the Freedom Fox to you in a size that can be enjoyed at your local flying field or even a small park. This aircraft is capable yet very forgiving in the air. We have also included two wind tip options that will enable you to go from a classic STOL (Short Takeoff or Landing) to sport and aerobatic flying. We are confident that the FT Freedom Fox will become a favorite for pilots of every skill level. Your support in

purchasing the FT Freedom Fox not only helps to grow the vision and mission of FliteTest but helps to support Trent in creating inspirational content that will grow the world of flight.

Sincerely,

Josh Bixler

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FEATURES/SPECIFICATIONS:

- Powerful 2814 1100kv motor
- 40 amp ESC, 3-4 cell capacity
- Easy to assemble, no glue or tape
- All servos and linkages pre-installed
- Wingspan: Sport 1100mm (short), STOL 1250mm (long)
- Length: 900mm
- Flying Weight: 1200g

REQUIRES:

- 4-6ch RC transmitter and receiver. We recommend a transmitter with programmability and dual rates
- Flight Battery: 11.1V 3S 1800mAh-2200mAh Lithium Polymer Battery (XT-60 style plug)
- 3S LiPo Battery Charger
- Small Phillips screwdriver
- Hobby Knife / Ruler
- Thread lock liquid (non-permanent)

Congratulations on choosing the FT Freedom Fox v.2 for your next RC adventure. The FT Freedom Fox v.2 was designed to recreate the same flight characteristics and capabilities of today's full-size STOL (short take-off and landing) aircraft. STOL aircraft have many common features, and the FT Freedom Fox v.2 has them all. A high-lift stable wing gives the FT Freedom Fox v.2 the ability to get off the ground quickly and remain stable in a wide range of speeds. The large soft tires, combined with the shock absorbing landing gear, allow the FT Freedom Fox v.2 to rollover diverse terrain without damage or flipping over. The scale details of the FT Freedom Fox v.2 give very similar, if not the same, flight characteristics of Trent Palmer's beautiful aircraft. Our desire is to give you the ability to recreate similar flight operations of the full-size Freedom Fox.
If you are looking for a faster more aerobatic experience, swap out the STOL wingtips for the shorter Sport wing configuration and take to the skies with more speed and agility.

IMPORTANT! Read the ENTIRE instruction guide to become familiar with the model before operating. This guide contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings, prior to assembly, setup or use, in order to operate correctly and avoid damage or injury.

NOTICE: All instructions, warranties and other collateral documents are subject to change at the sole discretion of Flite Test. For up-to-date information, visit: **flitetest.com**

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LITHIUM BATTERY WARNINGS

This airplane requires a lithium polymer (LiPo) battery. Improper handling may result in damage or injury. You are responsible for following all safety precautions as outlined in the battery's instruction manual and below:

- Very important! **Never** leave the charger and LiPo battery unattended while charging!
- **Do not** charge a LiPo battery on a flammable surface or near combustible materials.
- Never charge inside a vehicle or at a location that could be damaged in the event of a LiPo fire.
- Keep out of reach of children!
- Do not charge or use a battery that is deformed, bent, crushed or has any type of visible damage.
- Disconnect the battery and unplug the charger if the charge time exceeds 3 hours.
- Disconnect the battery and unplug the charger after the charge is complete.
- Keep LiPo batteries out of reach of animals. A punctured battery may cause a harm.
- Never disassemble or modify a battery, it's wiring, or puncture cells, as this may result in fire.
- Do not allow the battery to short circuit by touching exposed wires together.
- LiPo batteries must always be recycled or disposed of properly.

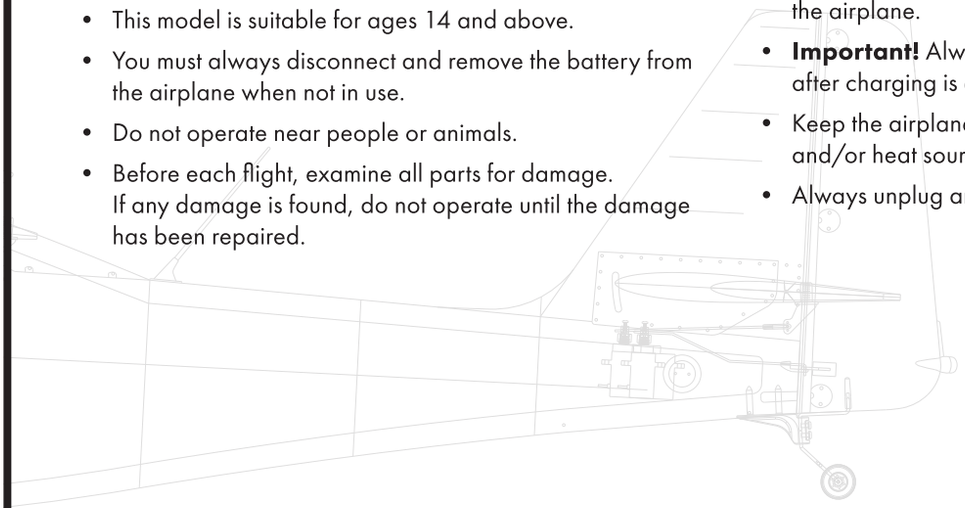
WARRANTY

Do not return your model to the store. Flite Test will repair or replace factory defects for 90 days from the date of purchase. This warranty specifically does not cover crash damage, misuse or abuse. To make a warranty claim, please contact our product support team at **flitetest.com**. This warranty applies only if the product is operated in compliance with the instructions and warnings provided.

Flite Test assumes no liability except for the exclusive remedy or repair of parts as specified above. Flite Test shall not be liable for consequential, crash or incidental damages.

SAFETY PRECAUTIONS

- Warning: Do not modify or alter this model.
- This model is suitable for ages 14 and above.
- You must always disconnect and remove the battery from the airplane when not in use.
- Do not operate near people or animals.
- Before each flight, examine all parts for damage. If any damage is found, do not operate until the damage has been repaired.
- Always remove the propellers when working on the airplane.
- **Important!** Always unplug the battery from the charger after charging is complete.
- Keep the airplane and battery away from direct sunlight and/or heat sources.
- Always unplug and remove the battery after each flight.



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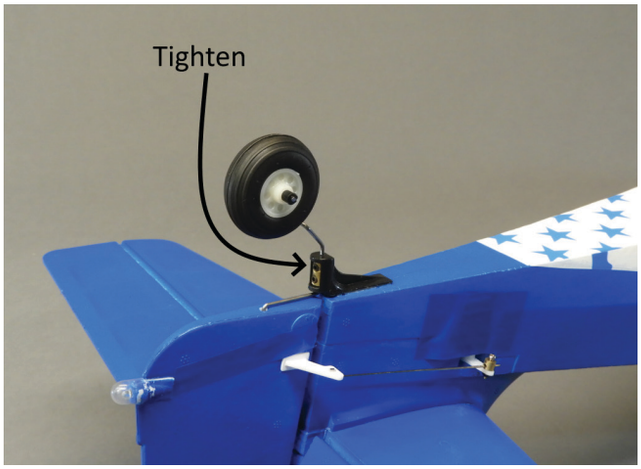
CHARGING THE LITHIUM BATTERY

This airplane requires a lithium polymer (LiPo) battery. Improper handling may result in damage or injury. You are responsible for following all safety precautions as outlined in the battery's instruction manual and below:

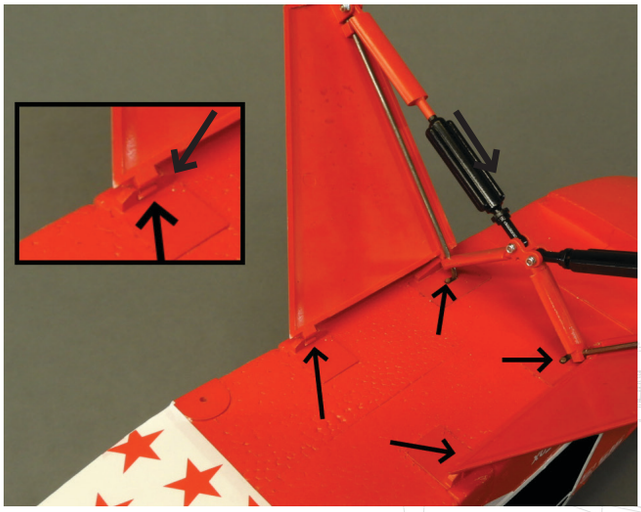
TRANSMITTER SETUP

Charge or install batteries into your transmitter. Spend some time to read its instruction manuals and get familiar with all the functions.

ASSEMBLY

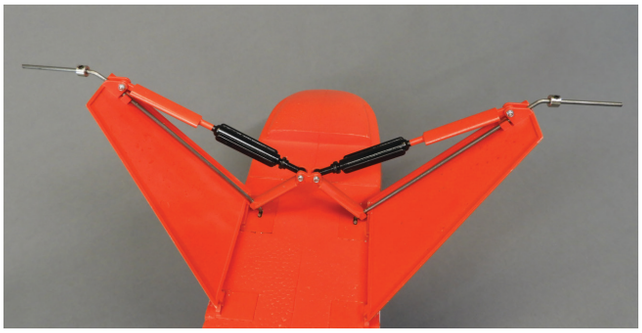


1) Install the tail wheel assembly. Important! Use thread lock on the set screw threads and reinstall tightening firmly.

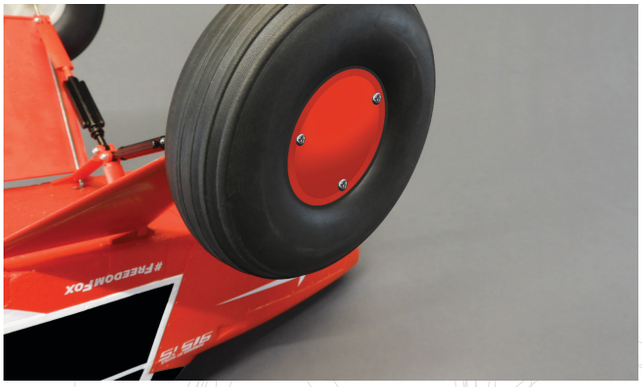


2) Line up and install the main gear assembly into the slots on the bottom of the fuselage. Be careful not to put too much pressure on the plastic parts.

3) Snap the strut covers into the fuselage.



4) Please see below for a Pro Tip. Place a wheel collar onto each wheel wire and tighten the set screw. Important! Use thread lock on the screw.



5) Install the wheels then place another wheel collar onto the wire. Be sure to use thread lock on the set screw.

PRO TIP: For extra reliability, we recommend filing a small flat spot on the wire where the set screw will sit.

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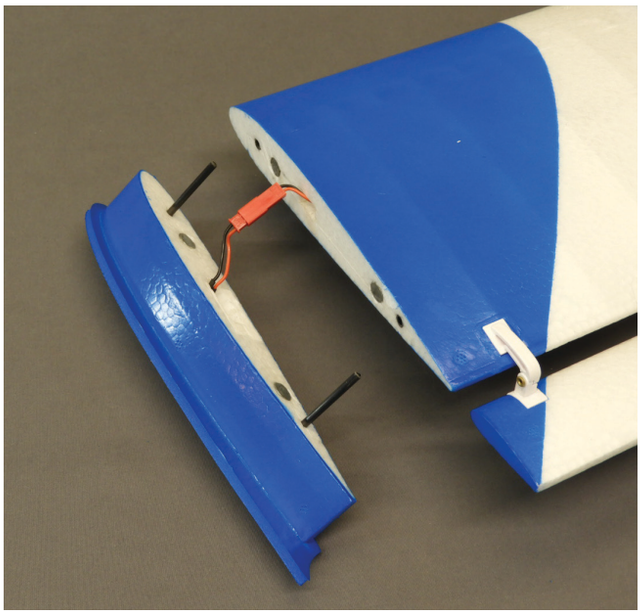
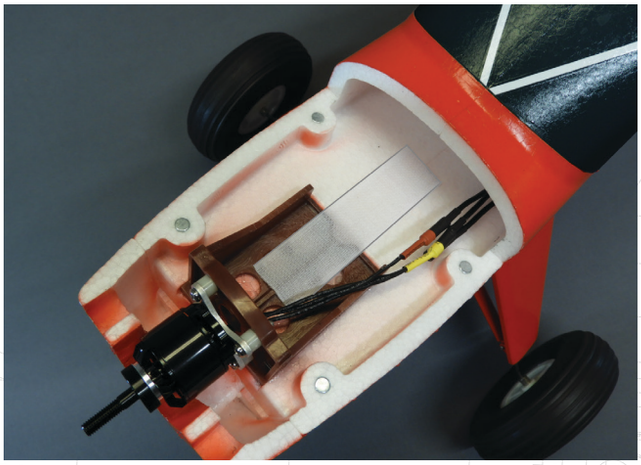
ASSEMBLY

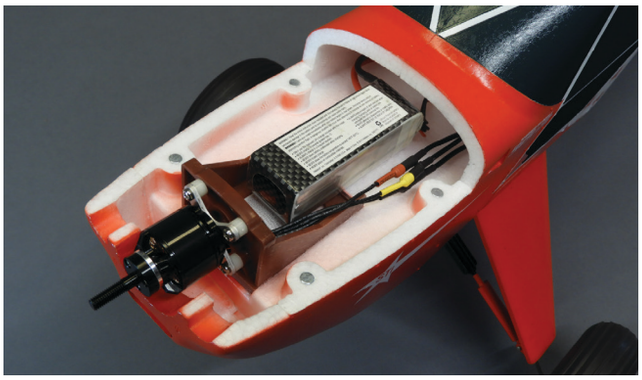


6) Plug the lights into the wing tips and insert the guide rods into the wings and snap them in place. The magnets will hold the wing tips in place.

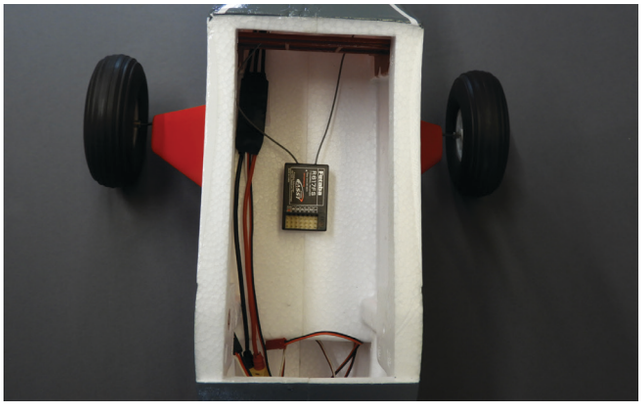
Note: There are two types of wing tips included. The smaller tips are for for quicker aerobatics and stunts. The larger tips give extra lift and slow flight performance that is perfect for STOL!



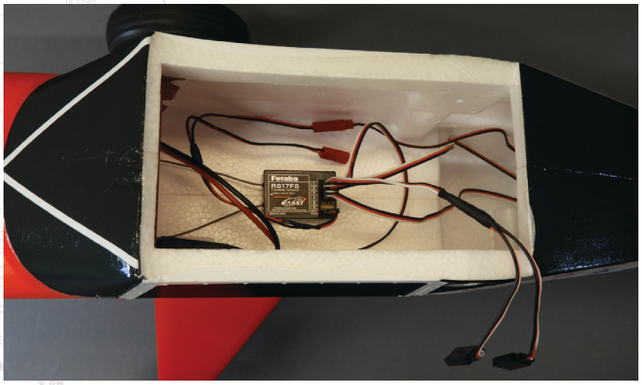
7) Remove the front hatch by gently pulling straight up. Attach the hook side of the hook and loop to the battery channel behind the motor. Attach the fuzzy side of the hook and loop to the bottom of your battery.



8) Install the battery but do not connect!



9) Using the smaller piece of hook and loop, attach your receiver to the inside of the fuselage. The location isn't critical; however you want to place it where you can easily get to the connections.



10) From inside the fuselage.

a. Attach the rudder servo lead to the rudder channel

b. Attach the elevator servo lead to the elevator channel.

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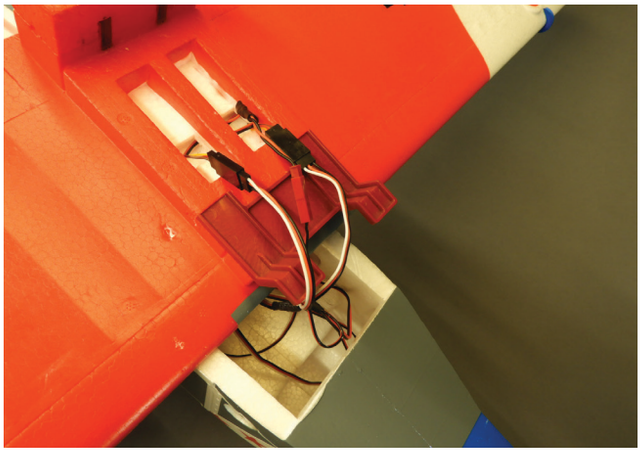
ASSEMBLY

c. Connect the ESC lead to the throttle channel.

d. Attach the 3-wire Y-harness to the Aileron channel.

e. Connect the 2-wire Y-harness to an open channel or battery open channel or to the Battery port. This is for powering the lights.

f. Plug the 2-wire (red) light connecters together.



11) Balance the wing on the fuselage and attach the ailerons to the 3-wire Y-harness and the remaining (red) connector to the 2-wire harness

.

12) Double check all connections to make sure they are fully connected. The last thing you want is a crash caused by a faulty connection.

13) Now is a good time to link your radio system and check control movement.

a. For safety, double check to make sure the propeller is not installed.

b. Turn on your transmitter.

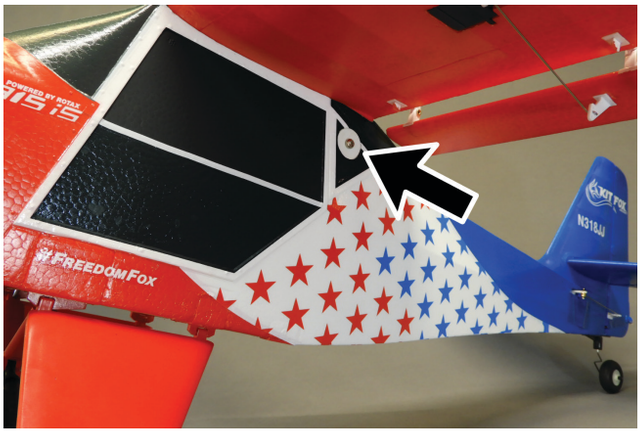
c. Set the throttle channel to reverse if using a Futaba™ or similar transmitter. Keep the throttle at normal if using a Spektrum™ or similar transmitter.

d. To power the receiver, plug in the flight battery.

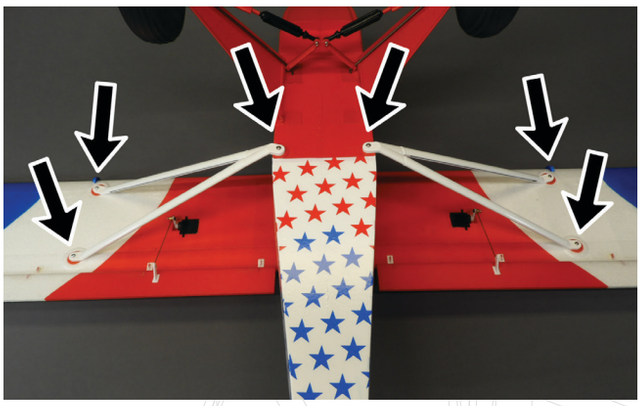
e. Following the instruction that came with your radio, link the receiver to the transmitter.

f. Follow the instructions in the CONTROLS SETUP section before attaching the wing. (Step 14)

g. **Unplug the battery when finished.**



14) Install the wing to the fuselage using two (2) thumb screws. Be careful not to pinch any of the wires!



15) Attach the wing struts using three (3) M3x12 screws on each side.
IMPORTANT! ALWAYS FLY WITH THE WING STRUTS INSTALLED.

16) Place the battery hatch in place.

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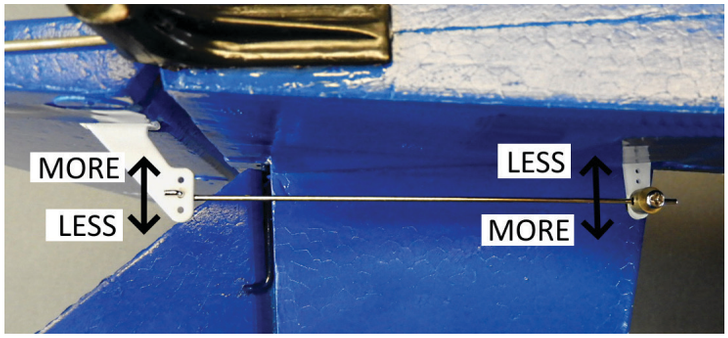
CONTROLS SETUP

Caution! When working on your aircraft with the battery installed, ALWAYS remove the propeller in order to avoid the chance of injury if the motors accidentally turn on.

1. Turn on the transmitter and put the throttle at low.
2. Remove the front hatch and plug in a charged battery. You will hear a series of beeps coming from the motors. After the long beep, the motor is armed and ready.
    a. Gently blip the throttle to check motor operation.
        i. Note: The motor should rotate anti-clockwise when viewed from the front. If the rotation is incorrect, remove the motor hatch from the fuselage to expose the ESC and switching any two of the three motor wires. This will switch the rotation direction.
3. Check the control direction and reverse the servos from your transmitter if needed.
    a. Move the rudder stick left. The rudder should deflect left.
    b. Pull the elevator stick down towards you. The elevator surface should deflect upwards
    c. Move the aileron right. The left aileron should deflect downwards, and the right aileron should deflect upwards.
4. Set the control throw amount by moving the linkage rods in or out on the control horns and servo arm.
    a. Note: All measurements are taken at the widest point of the control surface.
    b. IMPORTANT! First adjust the centering at the adjustable link. Use thread locking liquid on ALL adjusting screws. This way they will not vibrate loose and cause a crash.
    c. Check and tighten all adjustable links!
    d. High Rate:
        i. Rudder: 20mm left, 20mm right.
        ii. Elevator: 16.5mm up, 16.5mm down
        iii. Ailerons: 16.5mm up, 9.5mm down
    e. Low Rate:
        i. Rudder: 15mm left, 15mm right.
        ii. Elevator: 12.5mm up, 12.5mm down
        iii. Ailerons: 14mm up, 7mm down



5. If your transmitter allows it, we found that adding 30% expo on all surfaces will help smooth out control around center.
6. Once you are satisfied with the setup, unplug the battery.

Important Note: *Do not program flaperons to drop below 7 degrees down. Too much deflection from the flaperons will cause premature stall on the wing. Additionally, be sure to use rudder and power to fly when the flaperons are lowered.*

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CONTROLS SETUP

7. Prepare the propeller by choosing the insert that fits the motor shaft best. Press the insert into the back of the propeller.

8. Install the spinner backplate and propeller onto the motor shaft followed by the prop washer and hex nut. Tighten firmly!

   Note: *Slight reaming to the backplate may need to occur for a tight fit.*

9. Attach the spinner cone. Tighten screws until snug. Do not over-tighten.

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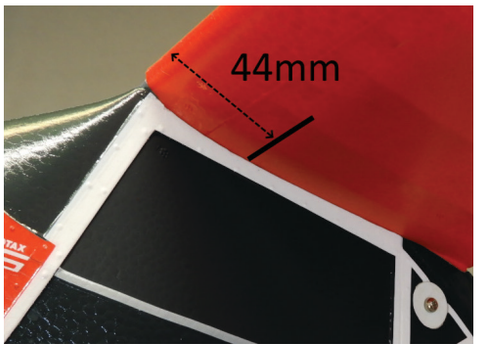
CENTER OF GRAVITY (CG)

1. **IMPORTANT!** DO NOT SKIP THIS STEP.
   Draw a small line on both sides of the fuselage, 44mm (1-3/4") back from the leading edge of the wing.



2. With the aircraft upright, use your fingertips and lift at the lines.
   a. If the nose drops, move the battery back towards the wing.
   b. If the tail drops, move the battery forward towards the propeller.
   c. If needed, add additional weight to the nose or tail (as far out as you can) to achieve balance. Stick on weights work great for this.

PREFLIGHT

1. Operation of the airplane.
   a. Turn on the transmitter. Make sure the throttle is at the low position.
   b. Make sure that all body parts are clear of the propeller, plug in and install the flight battery.
   c. The motors will emit a series of beeps followed by a long beep. The motor is now armed and ready. Be careful not to bump the throttle stick.
   d. Move each control surface to double check that everything is working properly. Do this before every flight!
   e. Fly!

FLYING

As a rule of thumb ALWAYS assume the propeller could spin at any time. Whenever a battery is installed, stay clear of the propeller!

- Choose a wide-open area away from people, buildings and power lines.
- Make sure the throttle stick is down and turn on the transmitter.
- Taking off from a runway.

  Place the aircraft on a smooth surface facing the wind. Gently advance the throttle and the airplane will slowly take off.

  Control altitude using the throttle and gentle elevator.

- Flying tips:
  - Control turning by moving the aileron stick left or right and then add in a little elevator to help maintain altitude and to pull it around.
  - For quicker turns, coordinate in small amount of rudder and elevator along with ailerons.
  - A common mistake is to over control the airplane. Gentle movements are best.
  - Keep in mind, the planes design is inherently stable and when properly trimmed, it should fly straight and level. Your job is to control it. When it is pointing where you want it to go, allow the sticks to center and let the plane fly.

Note: *Avoid flying behind the power curve with flaps lowered.*

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FLYING

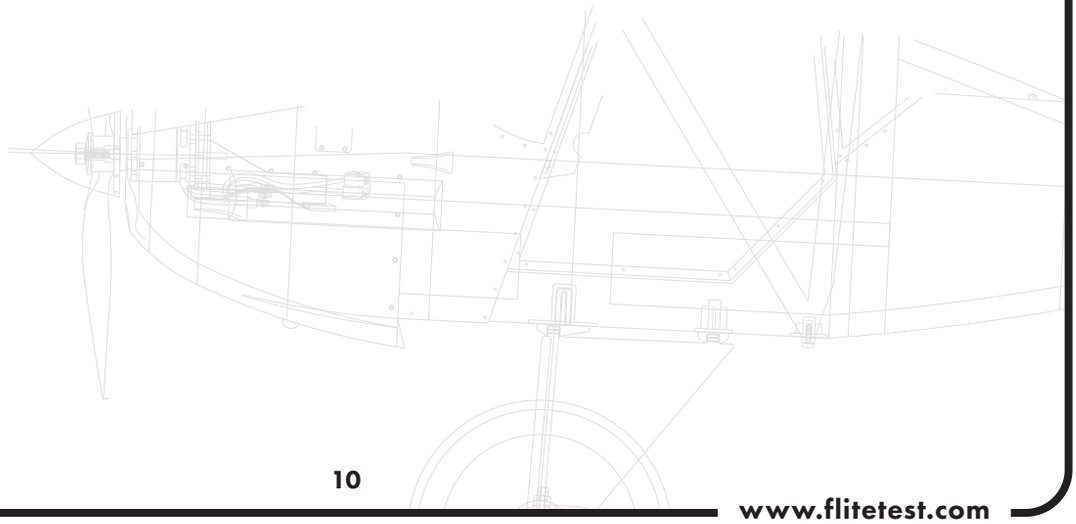
- When learning, make small inputs and then let the stick go back to center.
- When ready to land, point the plane into the wind and keep the wings as level as possible. Lower the throttle so the plane will descend. When the plane is ready to touch down, reduce the throttle to zero and add in a little elevator to raise the nose.
- Taxi back to you using the throttle and rudder.
- Stop the motor before retrieving the aircraft.

- STOL Tips:
  - Practice approaches for STOL at a higher elevation before attempting then near the ground.
  - Slow the plane by bringing the throttle to a low setting, example 1/4 throttle (not quite stopped).
  - Add in up elevator slowly. As the aircraft slows, adjust the amount of elevator and throttle to hold the plane at as high an angle as possible without stalling.
  - With some practice, you will gain a feel on how slow your can go before stalling.
  - If you feel the plane stalling (forward, left or right), immediately return the elevator to center and add in a little throttle. This will help stop the stall.
  - For STOL take off, slowly add throttle to lift the tail off the ground, then add in more throttle to quickly pop off the runway. Keep calm and no yanking of the elevator. This could result in a stall and the aircraft may crash.

- When you notice the power starting to drop, land immediately. Typically this is roughly 8 to 12 minutes depending on the battery you are using.
- **IMPORTANT!** Always remove and unplug the battery after every flight. If not, the battery may slowly discharge and be permanently damaged.
- Let the battery cool before recharging.

ESC PROGRAMING

The ESC included is preprogramed for use in this aircraft. However, the ESC does have other programming options if you ever need (Motor timing, Lipo cut off options, motor braking etc.)



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CARE AND MAINTENANCE

Caution! When working on your plane with the battery installed, always remove the propellers in order to avoid the chance of injury if the motors accidentally turn ON.

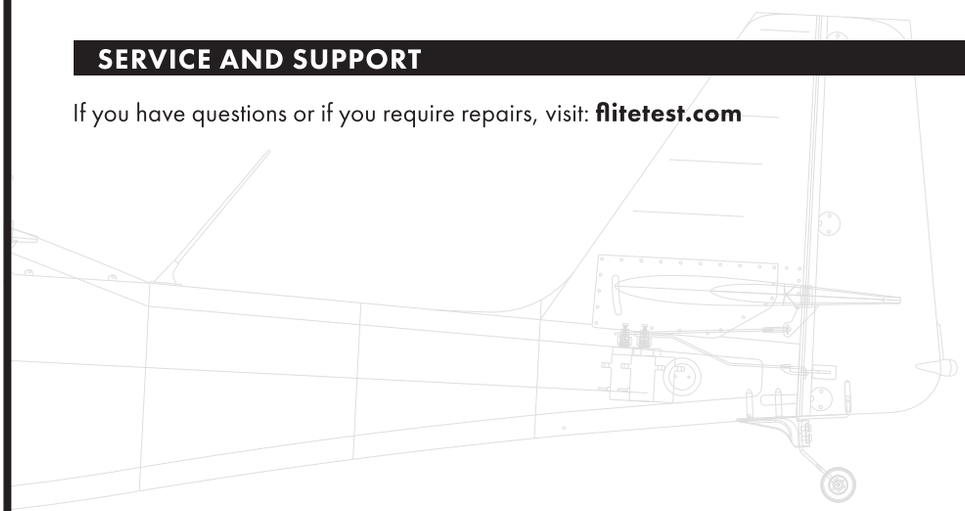
- Parts damaged beyond repair can be purchased separately. Often though, parts can be repaired easily, and you can get your airplane back into the air with a little glue and ingenuity.
- This airplane is made from durable foam which can be glued with just about anything. Most people use regular CA, or the glue that came in the box. Use tape if needed to hold the parts together until the glue dries.
- After every flight, check the plane over to make sure nothing has come loose. Check all the adjustable links to make sure they are secure.
- Periodically, check all the electrical connectors to be sure they are secure.
- Always remove the batteries from the transmitter for long term storage.

REPLACEMENT PARTS

Part no.	Description
FLT-80800	Freedom Fox PNP
FLT-80801	Freedom Fox Fuselage set (LED lights, control horns & pushrods installed; without hatch)
FLT-80802	Freedom Fox Wing set (control horns installed; without pushrods & wingtips)
FLT-80803	Freedom Fox Stabilizer set
FLT-80804	Freedom Fox wing tips (short)
FLT-80805	Freedom Fox wing tips (long)
FLT-80806	Freedom Fox wing struts
FLT-80807	Freedom Fox Hatch
FLT-80808	Freedom Fox main gear set (without wheels)
FLT-80809	Freedom Fox mail wheel set (2pcs)
FLT-80810	Freedom Fox tail wheel assembly
FLT-80811	Freedom Fox Hardware set
FLT-80812	Freedom Fox Motor set
FLT-80813	Freedom Fox servo set (9g)
FLT-80814	Freedom Fox 30A ESC
FLT-80815	Freedom Fox Propeller
FLT-80816	Freedom Fox decals (logo decals)

SERVICE AND SUPPORT

If you have questions or if you require repairs, visit: **flitetest.com**



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