



Before use, please read the explanations carefully!

ENERGY-EPP

Instruction Manual



Flying environment

In-door: Large hall or gymnasium
Out-door: Windless dawn or dusk

Specifications

Fuselage length: 885mm (35.4 in.)
Wingspan: 800mm (31.5 in.)
Flying Weight: 260~285g (with battery)
Motor: C20 or 2205 brushless motor
ESC: 18A brushless ESC
Propeller: 8040 Slow Flyer Prop
Servo: 5~8g
Radio: 4/ more channel
Receiver: 4/ more channel
Battery: 11.1V 500~800mAh Li-po

Seek Assistance

If you are new to R/C we suggest you find an experienced pilot to check out your aircraft and help you with the first few flights. This will help prevent damage to your model and will speed up the learning process and making your R/C experience all the more enjoyable. You can contact local R/C clubs or your dealer to obtain the names of experienced R/C pilots who would be willing to help you with your first few flights.

Although this is an ARF (Almost-Ready-to-Fly) kit, it does have some construction features that can be challenging to the less experienced modeler. If you encounter difficulty in any construction sequence, please feel free to contact one of our technicians, we stand ready to provide any assistance we can. Contact us at:

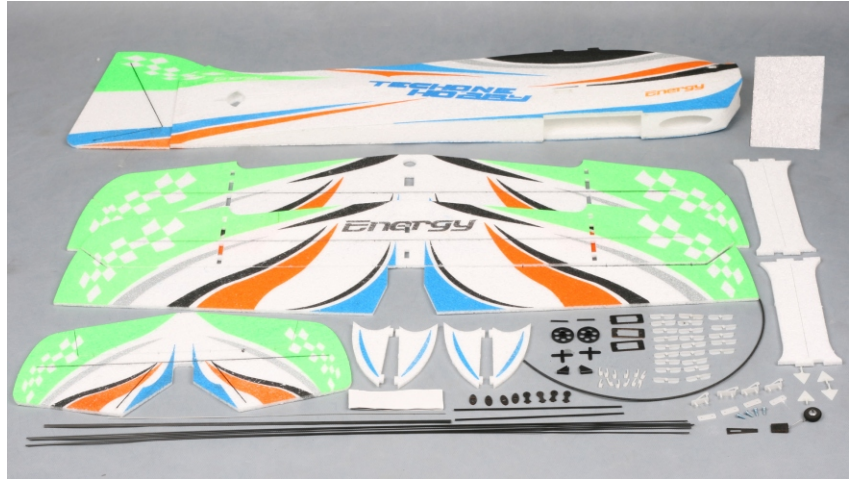
E-Mail: techonehobby@gmail.com

Warning

1. The ENERGY-EPP is not a toy and is not suitable for the flyer under 14 years. If misused, it can cause serious bodily harm and damage to property.
2. Do not fly near houses or buildings, children's play areas, road traffic, railways airports, overhead power lines and pylons. Do not fly over people.
3. Fly only in open areas, preferably AMA (Academy of Model Aeronautics) approved flying sites, following all instructions included with your radio.
4. Assemble the kit according to the sequence provided in the instruction manual.
5. Do not fly in the strong winds.
6. Do not try to catch the plane by hand when it is flying.
7. The children who are younger than 14 years old should be assisted by an experienced adult when the plane is being flown.

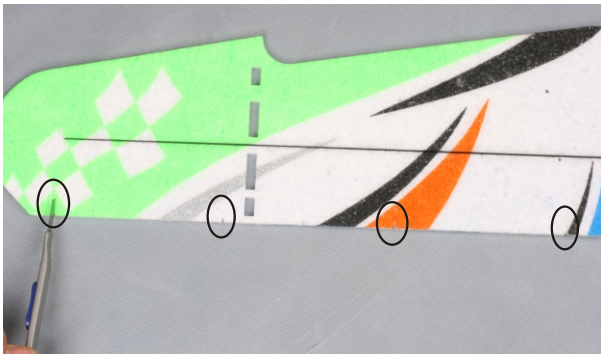
Kit Contents

1. Fuselage - 1
2. Bottom Wing with Ailerons - 1
3. Top Wing with Ailerons - 1
4. Horizontal Stabilizer - 1
5. Elevator - 1
6. Rudder - 1
7. Wing Struts - 2
8. Wing Fences - 4
9. Landing Gear Subassembly - 2
10. Wheel Covers - 2
11. Tailing Wheel Subassembly - 1
12. Control Horns - 4
13. Aileron Horns - 4
14. Pushrod Support (plywood) - 4
15. Servo Mount (plywood) - 3
16. Carbon Rods 1. 3*700 -6
17. Carbon Rods 2. 0*180 -2
18. Steel Wire 0.8*360mm -1
19. Hinges -23
22. Wood Screws - 4



20. Velcro -1
23. Clevis - 12

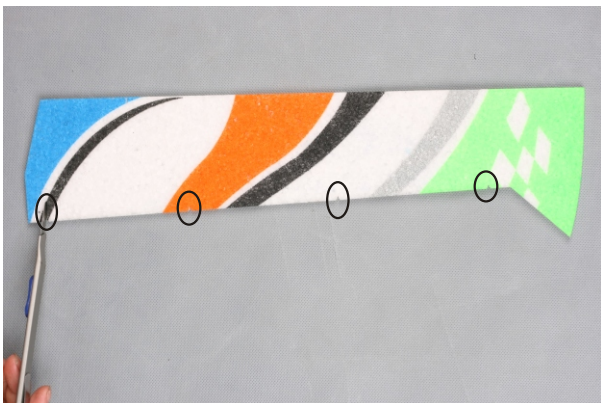
21. Heat-Shrink Tubing 1. 5*400 -1



1. Cut four slots where the hinges will be installed, we have pre-cut on the wing.



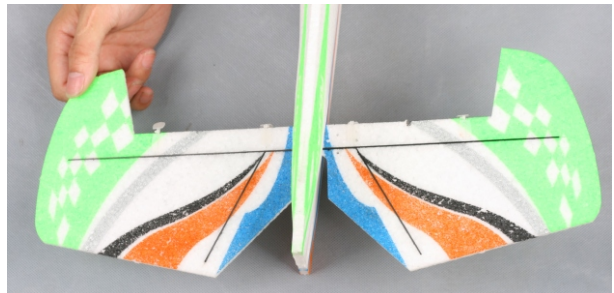
2. Insert the hinges into the slots, then glue the cut.



3. Cut the same slots on the aileron.



4. While holding the aileron tight against the wing, insert the hinges into the slots, and glue the cut.



5. Install the hinges to the elevator, using the same techniques that you used to hinge the aileron to the wing. Then Insert the elevator into the fuselage.



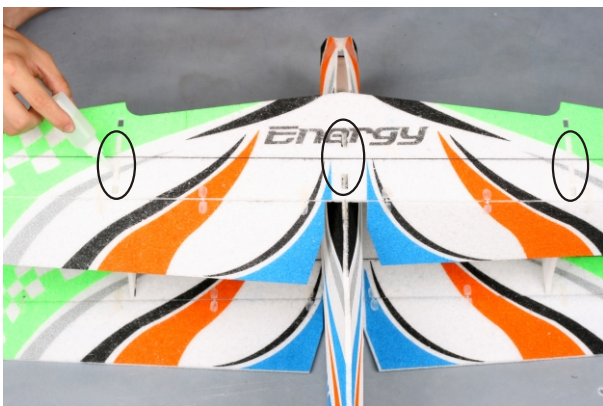
6. Insert the horizontal stabilizer into the fuselage. While holding the elevator tight against the horizontal stabilizer, insert the hinges into the slots, and glue the cut.



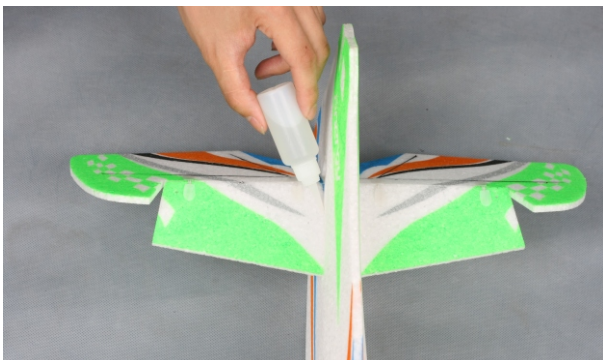
7. Key the bottom wing into the fuselage. Center the wing and glue it to the fuselage.



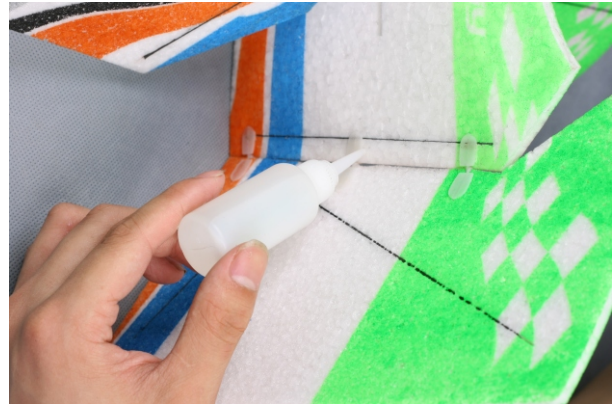
8. Glue the two wing struts to the bottom wing.



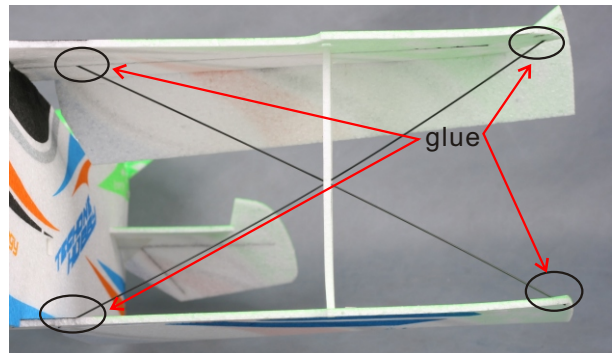
9. Key the top wing into the fuselage and the two wing struts. Center the wing and glue it to the fuselage.



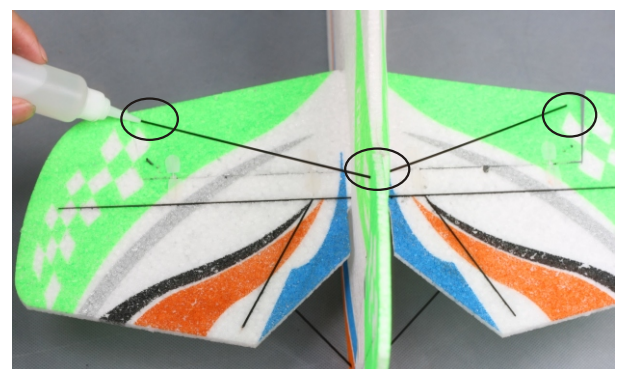
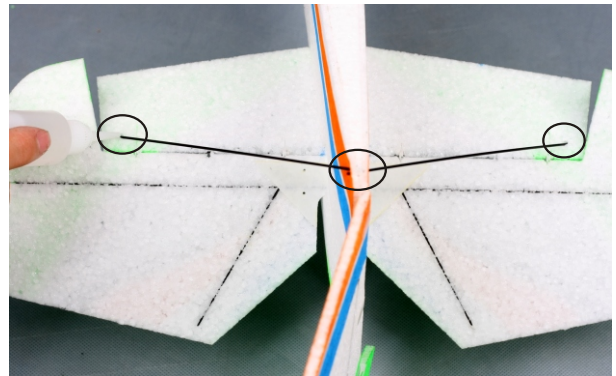
10. Center the horizontal stabilizer and glue it to the fuselage.



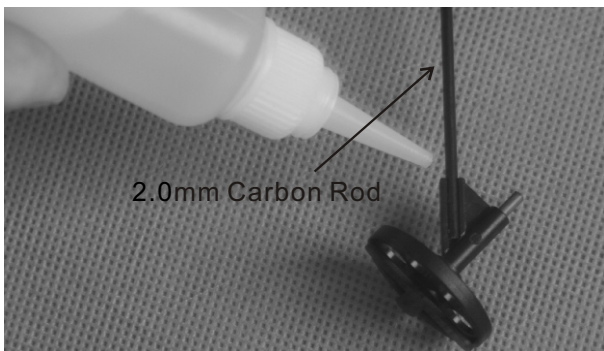
11. Hinge the rudder to the vertical stabilizer, using the same techniques that you used to hinge the aileron to the wing.



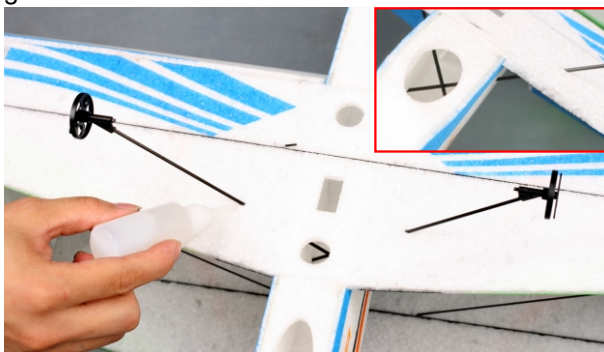
12. Cut 2pcs 1.3mm carbon rods. Then push the carbon rod down through top wing and the bottom wing as shown. And glue them to the wing.



13. Cut 4pcs carbon rods. Place one end of each rod into the fuselage and the other end of the rod into the horizontal stabilizer and glue them.



14. Install the two wheels and wheel chocks. Keep 1mm distance between wheel and its chock. Apply some foam-friendly thick C/A to glue the chocks.



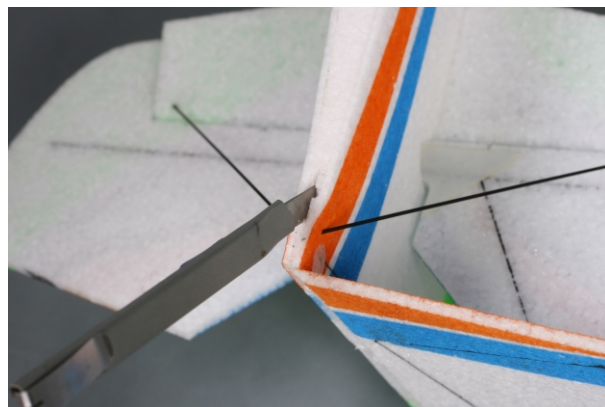
15. Push the landing gear strut into the bottom wing and the fuselage side, then twist the landing gear strut so that the axle is straight. When satisfied with the alignment, glue the landing gear strut to the fuselage side and the bottom wing.



16. Align the wheel covers, then glue them securely to the axles.



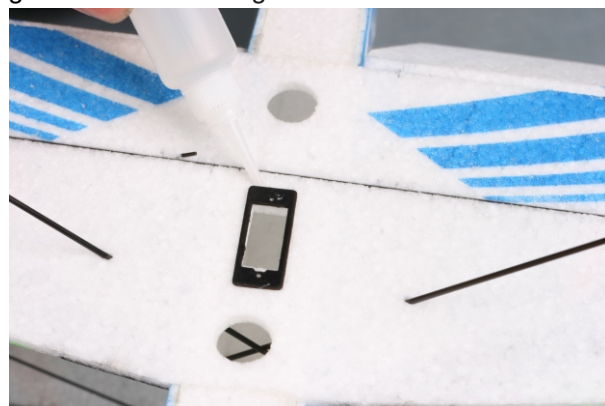
17. Glue the tailing wheel pieces together.



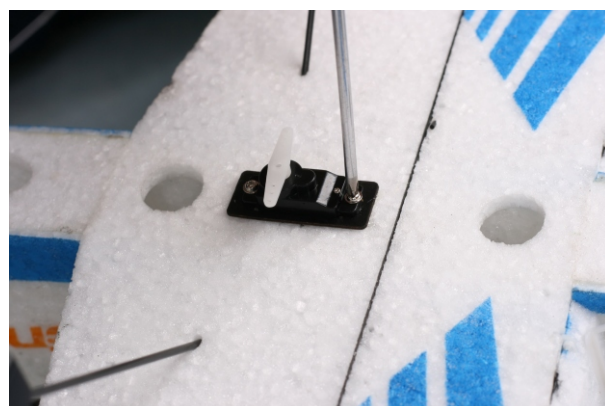
18. Cut a slot on the bottom fuselage as shown.



19. Insert the tailing wheel into the slot and glue it to the fuselage.



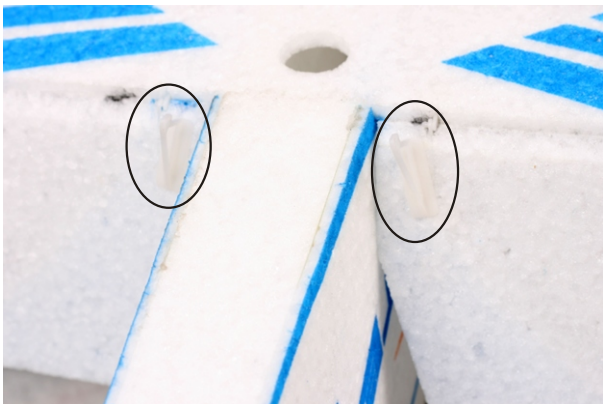
20. Glue the servo mount to the wing. Please align it with the servo holes on the wing.



21. Install the aileron servo into the servo mount using the screws provided with the servo.



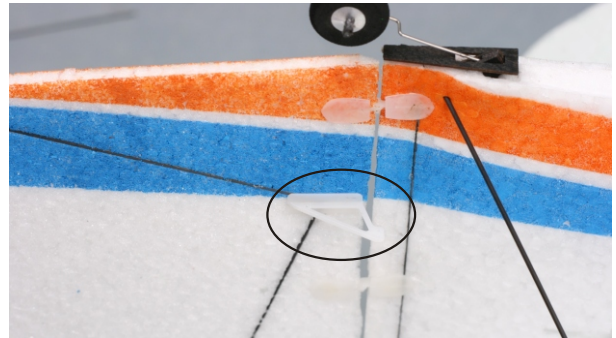
22. Install the elevator servo and the rudder servo into the servo mount.



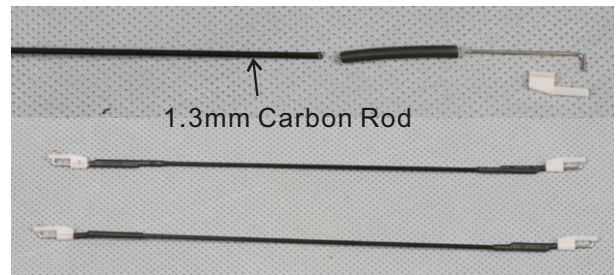
23. Install the aileron control horns.



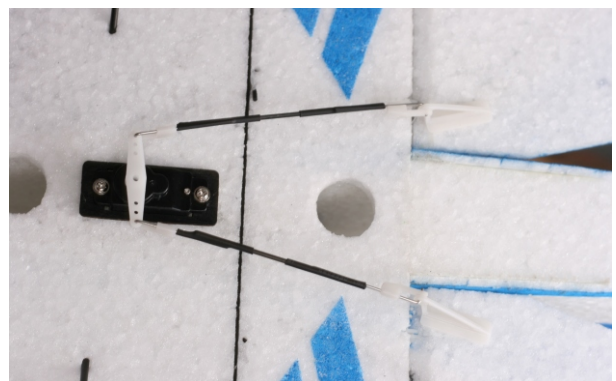
24. Install the elevator control horn.



25. Install the rudder control horn.



26. First you should make the L-bend as shown, then hold the heat shrink tubing that connects the pushrod to the L-bend and gently rotating the L-bend until the glue holding the L-bend in place has broken loose. Adjust the length by pulling or pushing the L-bend until the appropriate length is achieved, and re-glue the L-bend to the pushrod using some CA glue.



27. Install the aileron pushrod. Thread a L-bend through the control horn. And thread the other L-bend onto the outer most hole of the servo arm. Finish the servo installation by placing the servo arm onto the servo and reinstalling the servo screw.



28. Glue the pushrod support pieces together.



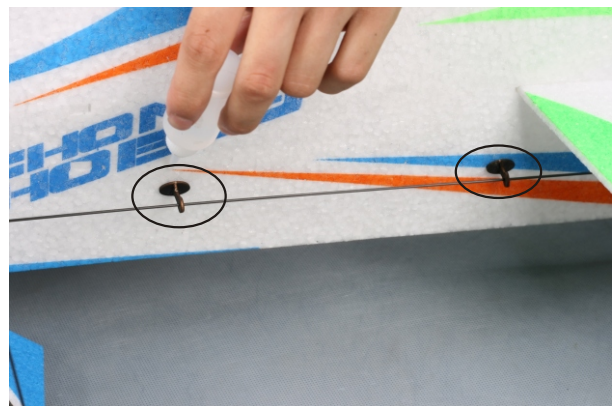
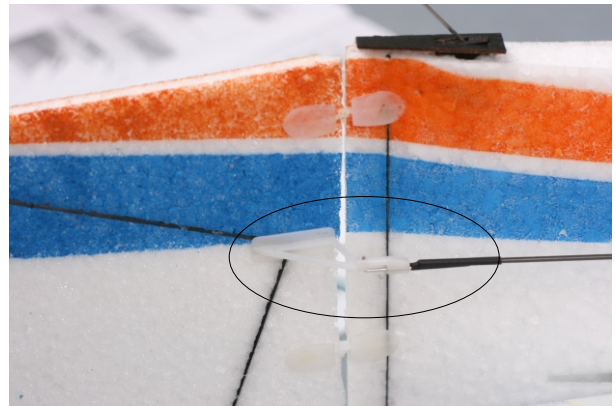
29. Slide two plywood pushrod supports over the end of the carbon rod.



30. Install the elevator pushrod, using the same techniques that you used to install the aileron pushrod.



31. Install the rudder pushrod, using the same techniques that you used to install the aileron pushrod.



32. Glue the plywood pushrod supports to the fuselage as shown.



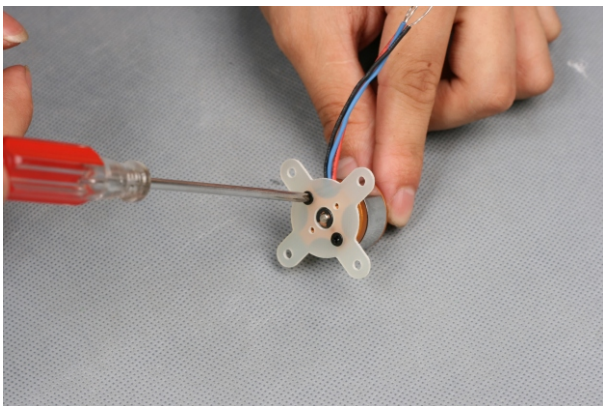
33. Glue the aileron horn to the aileron.



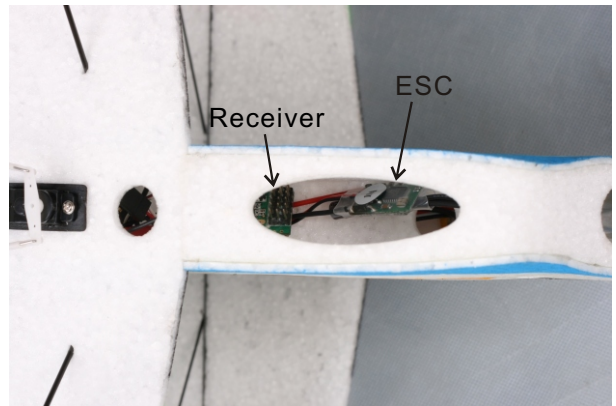
34. Install the aileron control linkage, using the same techniques that you used to install the aileron pushrod.



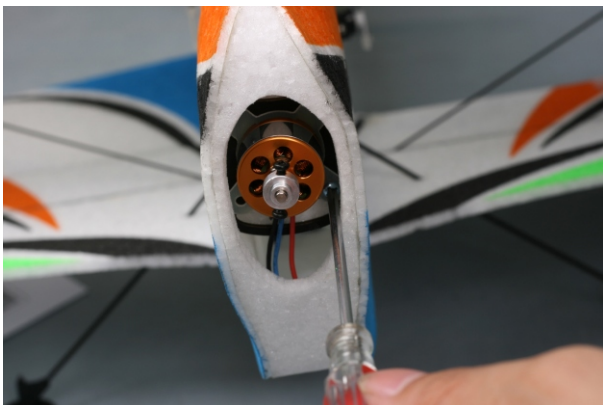
37. Glue the wing fences to the wing. Make sure they are vertical.



35. Install the motor into the motor mount using the screws provided with the motor.



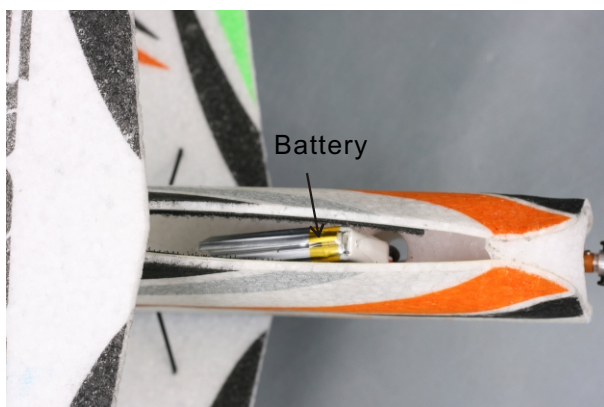
38. Put the ESC and receiver into the fuselage as shown.



36. Install the motor assembly onto the motor mount using the four wood screws provided.



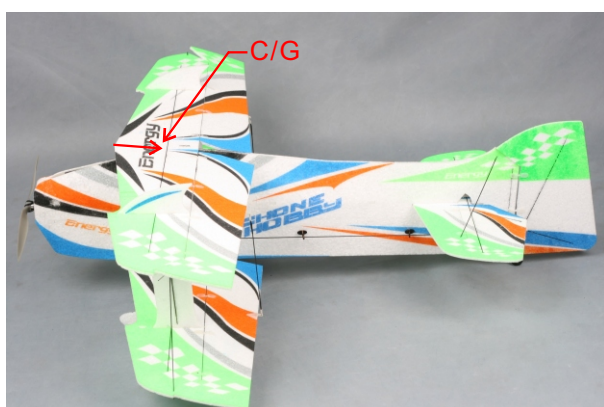
39. Cut 1pcs velcro, then fix them inside the cockpit as shown in above picture.



40. Install your battery into the fuselage, using a piece of velcro.



41. Install the propeller adaptor and propeller onto the motor.



Motor Thrust

To ensure great flight performance and to be able to trim your airplane properly, it is critical that you adjust the motor thrust as described. We suggest that you add 2 degrees of down-thrust and 1 degree of right-thrust. This can be achieved by adding a washer or two behind the top and right side of the motor (between the motor and the firewall). When set properly, the trim for the elevator and the rudder should be neutral. Fine-tune the down-thrust and right-thrust until this trim is achieved.

Balance Point

The Center of Gravity (C/G or Balance Point) is 68mm from the leading edge of the TOP wing, measured at the center of the wing.

WARNING For test flying and general sport flying, we suggest you balance the airplane at the C/G recommended above. For 3D flying, you may want to experiment moving the C/G back in small increments until you're satisfied with the result.

Control throws

Sport Flying

Ailerons: (30mm) 1. 18" Up and Down

Elevator: (32mm) 1. 26" Up and Down

Rudder: (48mm) 1. 89" Right and Left

3D Flying

Ailerons: (75mm) 2. 95" Up and Down

Elevator: (80mm) 3. 15" Up and Down

Rudder: (120mm) 4. 72" Right and Left

The control throws are measured from the widest point of the control surfaces

Exponential

Sport Flying

Ailerons: 20%

Elevator: 20%

Rudder: 20%

3D Flying

Ailerons: 35% - 50%

Elevator: 35% - 50%

Rudder: 35% - 50%

Exponential softens the response of the control surfaces around neutral stick. This makes the airplane easier to control while using such large control throws. The Exponential values shown are given as a percent. Please note that different brands of radio control systems may call for + or - Expo. Please check your transmitter's owners manual for more info.



TECHOne™

©Copyright 2009 Techonehobby

[Http://www.techonehobby.com](http://www.techonehobby.com)

Made in China