TECHone™

MALIBU-F3P

ELECTRIC MALIBU-F3P ARF
Instruction Manual
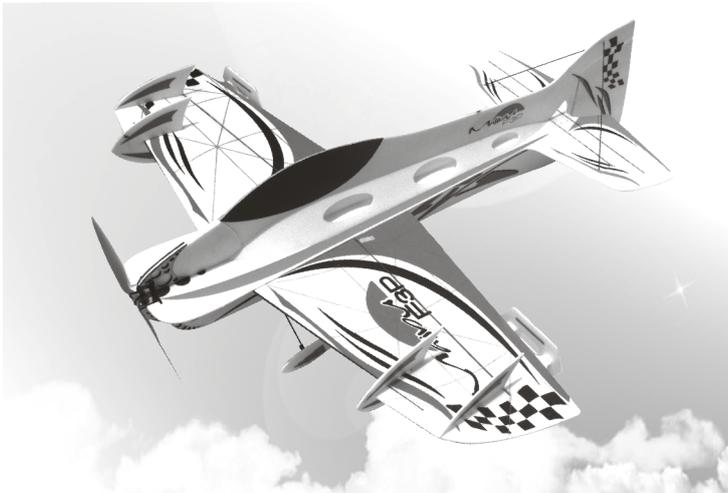
Specifications
Fuselage length: 890mm (35in)
Wingspan: 846mm (33. 3in)
Wing Area: 280 sq in (18. 0 sq dm)
Flying Weight: 160−185g (with battery)

Additional Required Equipment
Motor: 2204/54 or A20/34S
ESC: 8A
Propeller: 9060 Slow Flyer Prop
Servo: less than 5G
Radio: 4/more channel
Receiver: 4/more channel
Battery charger
Battery: 7.4V 420mAh / 500mAh Li-po

Introduction
Thank you for purchasing the Malibu−F3P indoor flyer.
The Malibu−F3P has super slow flight responsiveness so you can fly high-alpha 3D with authority. Its carbon fiber reinforced Malibu−F3P construction provides the solid, precise feel of a balsa profile plane without the weight. This allows you to fly the Malibu−F3P outside in windier conditions that would keep most other profile foamies grounded. The Malibu−F3P is another exciting addition to TECH ONE's outstanding line of electric RC aircraft and accessories.
TECH ONE uses top-quality engineering and materials in everything it makes, so you always get the maximum level of value and fun. TECH ONE backs all of its products with the best customer service and support in the hobby so your electric flight experience is always a positive one.
These assembly instructions are designed to guide you through the entire assembly process of your new airplane in the least amount of time possible. Along the way you'll learn how to properly assemble your new airplane and also learn tips that will help you in the future. We have listed some of our recommendations below. Please read through them before beginning assembly.

Warning
1.Malibu−F3P 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

Fuselage side board - 2
Fuselage main board - 1
Wing with Ailerons - 1
Horizontal Elevator - 1
Rudder - 1
Wing Fences - 4
Landing Gear Reinforcement - 2
Wheel Covers - 2
Landing Main Gear - 2
Carbon Fiber Rods 1.3mm - 5
Carbon Fiber Rods 2.0mm - 2
Plywood Pushrod Supports - 2
Plain Wires - 1
Foam Strengthen Slices - 4
Control Horns - 4
Carbon Fiber Strips -3
Heat-Shrink Tubing - 1
Wood Screws - 4
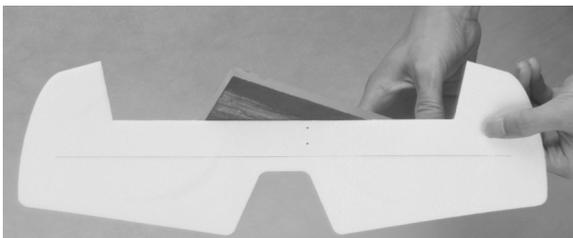Plywood Motor Mount - 1
Hook and Loop Material - 1
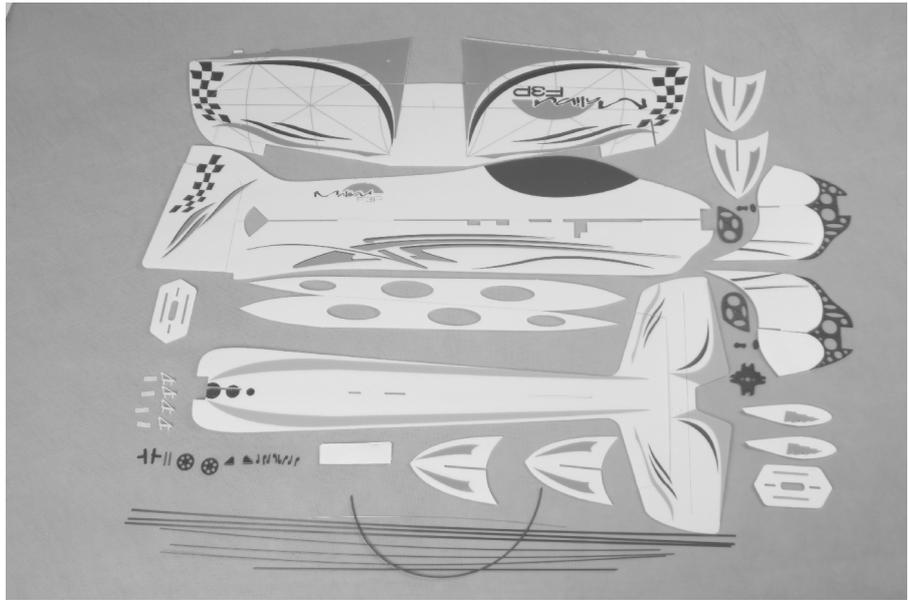
1. Airframe
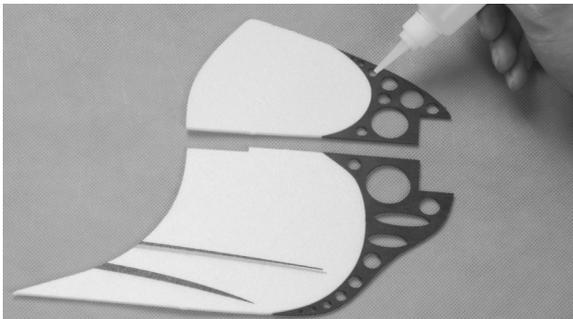
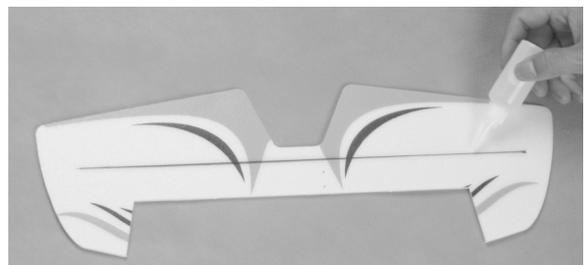Glue the foam strengthen slice to the head of fuselage side board.
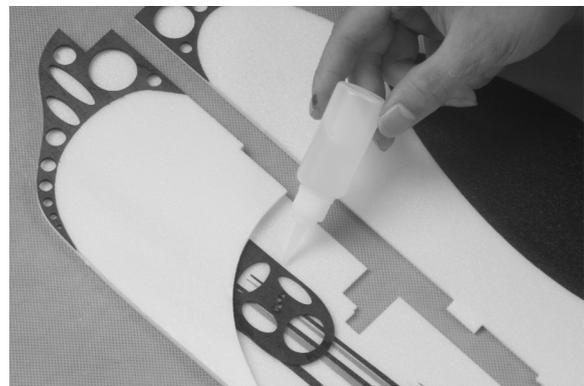
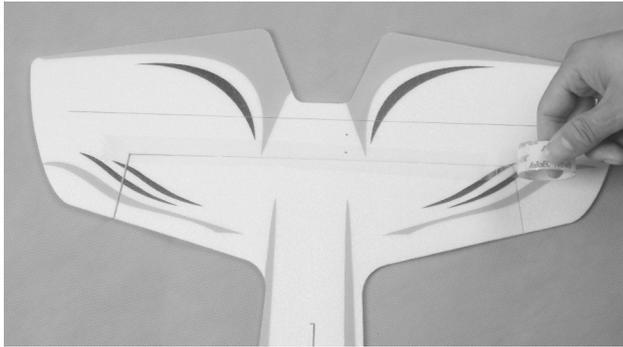Glue the landing gear reinforcement to the fuselage side board.

2. Elevator, Ailerons, Rudder

Sand a 45° bevel into the bottom leading edge of the elevator.

Cut a piece of carbon fiber strip to a length of 14-2/3" (376mm), then glue it to the below of the elevator, using some foam-friendly C/A. Make sure the elevator is flat and the leading edge is straight while the glue cures.
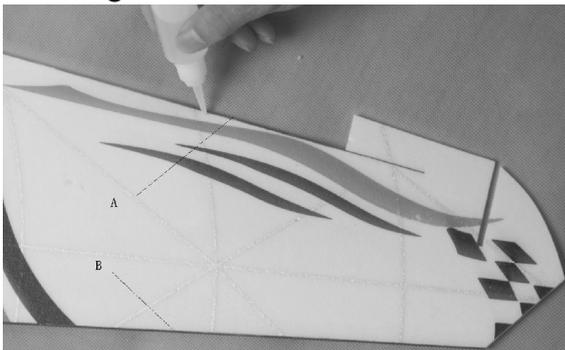
While holding the elevator tight against the stabilizer, apply a strip of clear plastic tape (not included) to the top of the hinge line on the elevator.
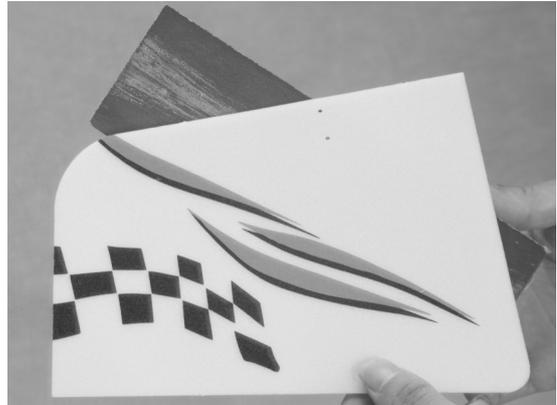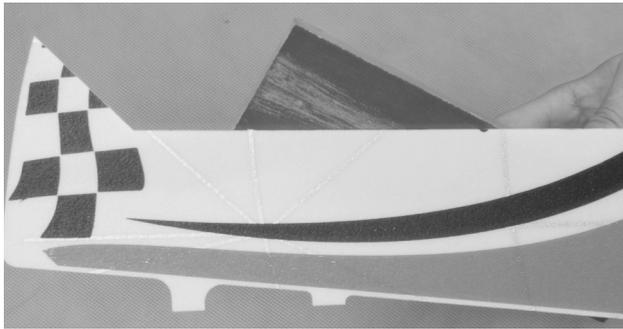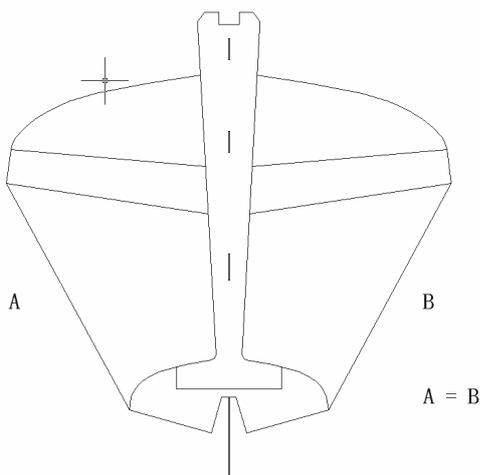
Sand a 45° bevel into the left side of the leading edge of the rudder.

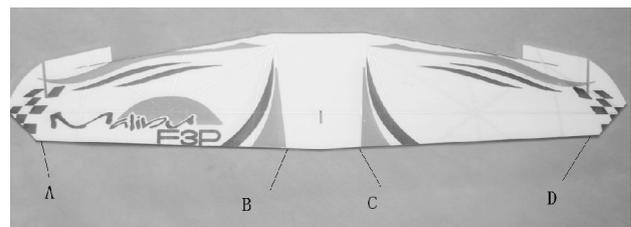Sand a 45° bevel into the bottom of the leading edge of the two ailerons.

3. Wing

Use foam-friendly C/A to glue the carbon strips to A and B to strengthen the wings.

Use some tape to wrap the carbon strips on A,B,C and D showed in the picture to avoid the carbon falling off.

A = B

Glue the wings with aileron to fuselage. Notice: Measure from the tips of the wing to the rear of the fuselage. The measurements must match from right to left. If not, adjust the position of the wing until both measurements are equal.
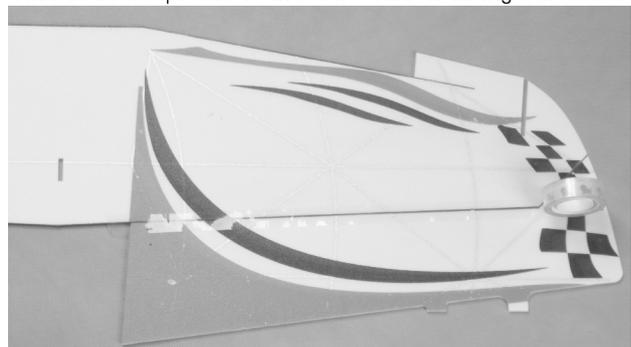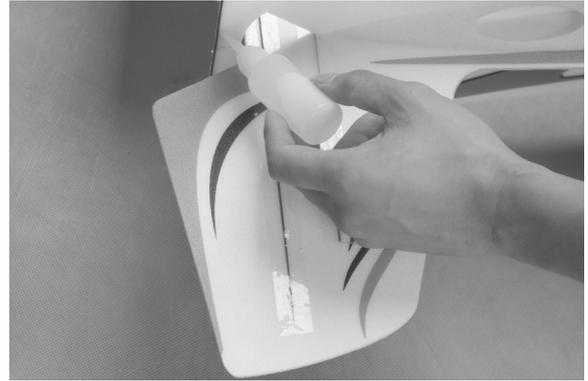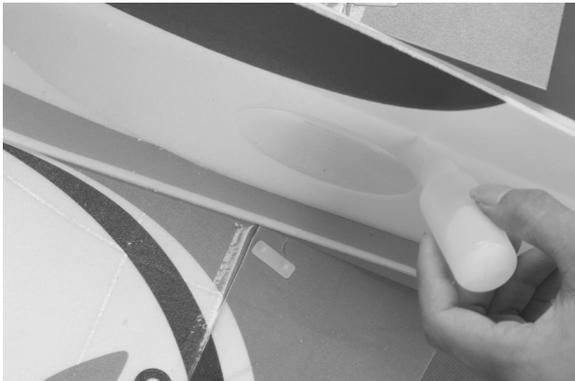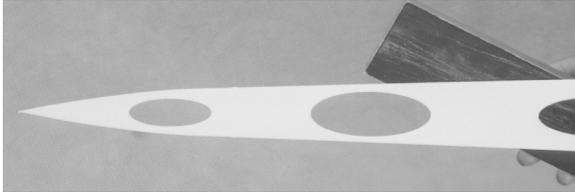
4. Fuselage

Glue the side board and main board of fuselage.
Make sure the side board is vertical to the main board.

Hinge the rudder to the back of the fuselage, using the same techniques that you used to hinge the Elevator to the stabilizer.

5. Bracing

Locate the two carbon rods. Pass the rods through the fin and stabilizer. Butt the rods together in the fin and use foam-friendly C/A to glue the rods to the fin ONLY at this time. Use a square to align the stabilizer with the fin. Once the fin is perpendicular to the stabilizer, use foam-friendly C/A to glue the carbon rod to the stabilizer. Square each side before gluing the rod on that particular side.
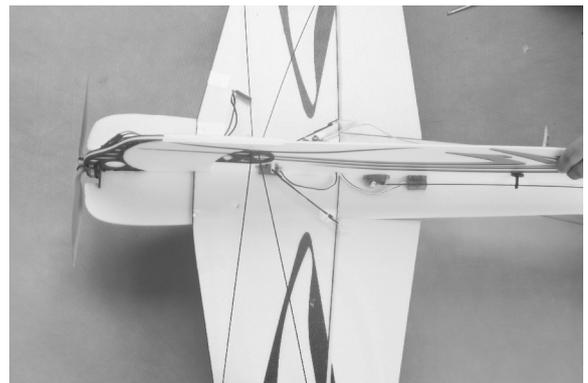

Install the wing bracing is similar to installing the fuselage bracing, as you want the rods to be glued to the carbon bracing that has been preinstalled on the wing and fuselage. The rods are staggered and fit into notches in the fuselage. Make sure the rods are straight and are not flexing the wing. The wing should be flat and parallel to the horizontal stabilizer, while also being perpendicular to the vertical fuselage.

If you think flexing the wing is not enough,do as showed in the picture to improve the flexibility.

6. Motor
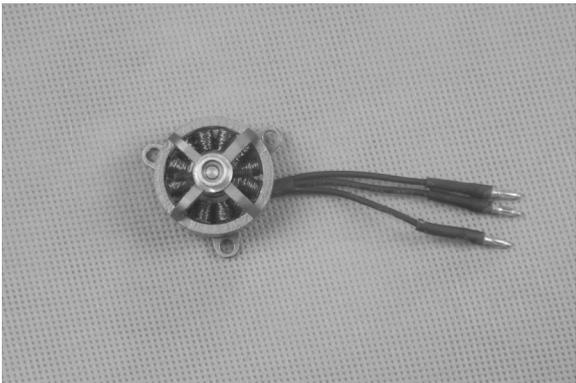
Install the propeller adapter onto your motor,using the screws provided with your motor. Install the aluminum motor mount onto your motor,using the screws provided with your motor.
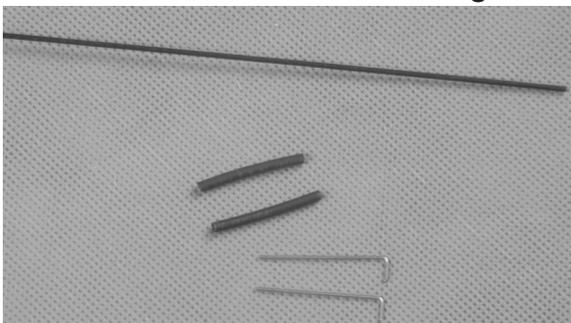
Install the motor assembly onto the firewall,using the four wood screws provided.PRO TIP After flying the airplane,you may want to add right and/or down thrust to the motor. You can do this by adding thin washers between the motor mount and the firewall.
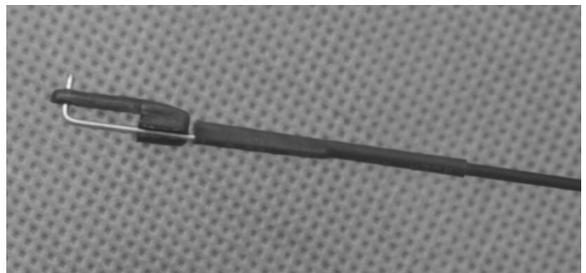
Glue the firewall to the head of the plan.

7. Servos and its connecting bar

Cut two pieces of carbon fiber rod ,then cut two pieces of heat-shrink tubing to a length of 1-1/2" (38mm). Cut two pieces of plain wire to a length of 1-1/2" (38mm), then make a L-Bend in one end of each piece of wire and a 4mm long 90° bend in the other end of each piece of wire.

Secure one piece of wire to one end of the carbon fiber rod, using one piece of heat-shrink material. The piece of wire should overlap the carbon fiber rod at least 1" (25mm). Heat the heat-shrink material with a heat gun to shrink it into place.PRO TIP For extra security,apply a few drops of foam-friendly thin C/A to the end of the pushrod and allow it to "wick" into the joint.
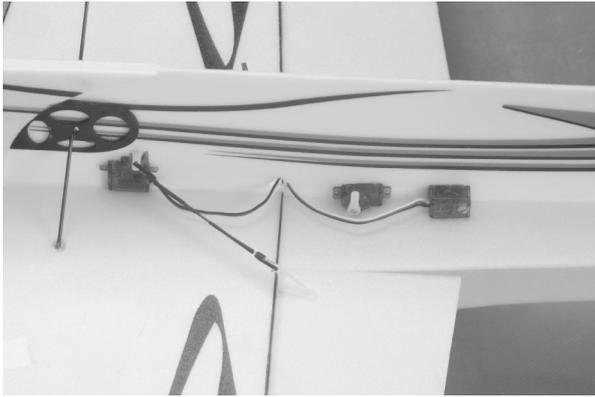
Install the elevator aileron and rudder servos into the servo mounting hole in the right side of the fuselage. Use a dab of foam-friendly thick C/A to secure them into place. Because the size of servos differs,you may need to cut the servo mounting hole larger to fit your particular servos.

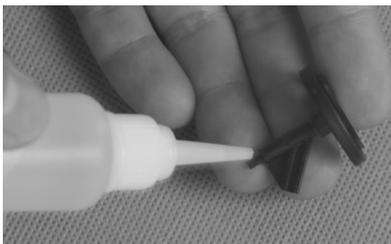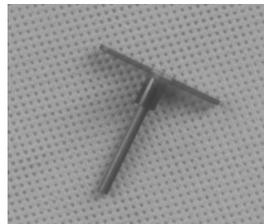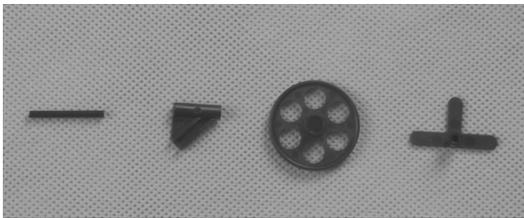Center the elevator and rudder servo,then attach the servo arm to the servo.
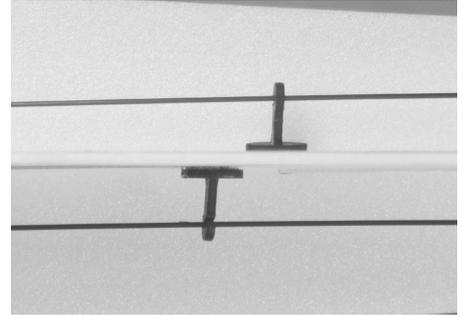
Slide one plywood pushrod supports over the end of the carbon fiber rod and temporarily push the plywood pushrod supports into the one precut slots in the fuselage.
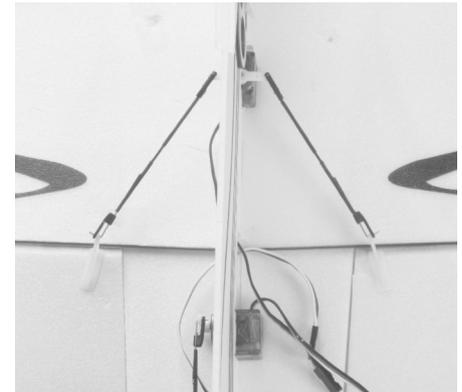
Install the horn of aileron same as the horn of stabilizer.

8. Landing Gear

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.

Make sure that both landing gear strut are even with each other(the same distance from the bottom of the wing) or else the airplane won't sit level on the ground.
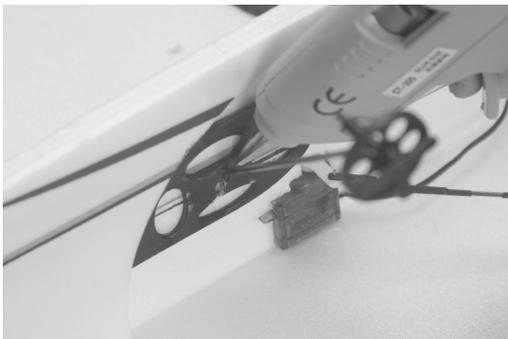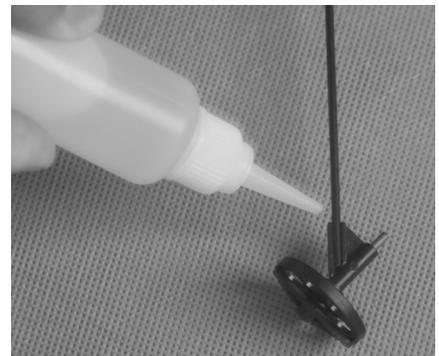
Fixed the landing gear strut with some hot glue.

Install wheel covers on the chock beside the wheel. Screw one more chock outside of the cover,glue it.

9. Fence
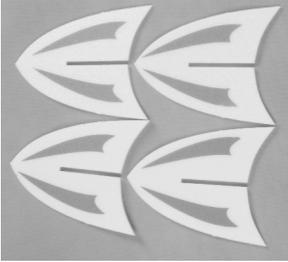
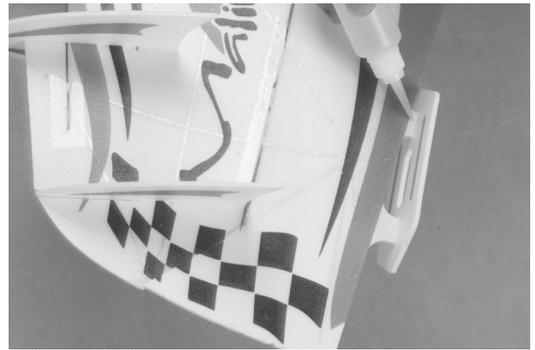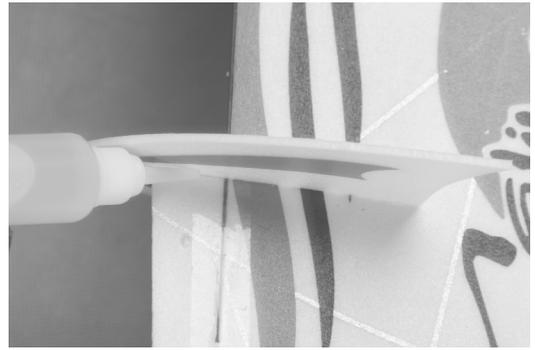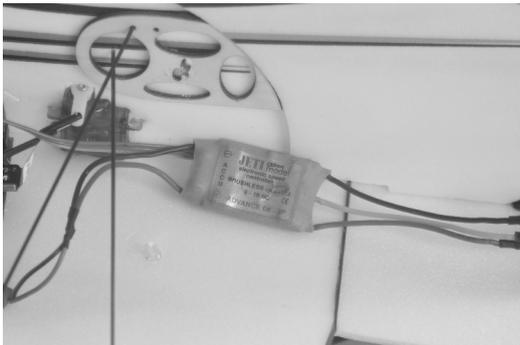Glue four wing fences to the wing, making sure that the back edge of each wing fence is even with the aileron hinge line. Use a builder's triangle to make sure that the wing fences are perpendicular to the wing.

10. Control System

Mount your ESC to the fuselage side, using a piece of double-side foam tape (not included).

Install the propeller and decals. Balance your propeller, then install it onto your motor. Using a clean cloth, wipe the airframe down completely to remove any dust, debris and oil.
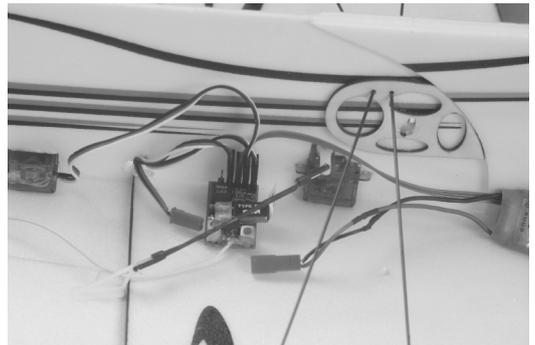
Plug the servo and ESC leads into their proper slots in your receiver, then mount your receiver to the side of the fuselage, opposite the ESC, using a piece of double-sided foam tape (not included). Run the antenna out the bottom of the fuselage and secure it along its length, using pieces of clear tape (not included). Do not cut the antenna shorter. Allow the excess to hang beyond the back of the fuselage.

Install your battery into the battery compartment, using a Piece of hook and loop material.

BALANCE POINT

The Center of Gravity (C/G or Balance Point) is 3" (77mm) back from the leading edge of the 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: 3/8" (10mm) Up and Down
Elevator: 1" (25mm) Up and Down
Rudder: 1-1/4" (30mm) Right and Left

3D Flying
Ailerons: 1" (25mm) Up and Down
Elevator: 2.5" (64mm) Up and Down
R udder: 3" (76mm) Right and Left

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

Exponential

Sport Flying	3D Flying
Ailerons: 20%	Ailerons: 35% - 50%
Elevator: 20%	Elevator: 35% - 50%
Rudder: 20%	R udder: 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.

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 degrees 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.

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

TECHone™

Made in China