



TECH ONE™

Before use, please read the explanations carefully!

MINIMALIBU-F3P

ELECTRIC MINI MALIBU-F3P ARF Instruction Manual



Specifications

Fuselage length: 774mm (30.5 in)
Wingspan: 736mm (29 in)
Flying Weight: 93g – 115g (with battery)

Additional Required Equipment

Motor: 2203 or 1804 Brushless Outrunner Motor
ESC: 8–10 Amp Brushless ESC
Propeller: 7035 Slow Flyer Prop
Servo: less than 3.6g
Radio: 4+ more channel
Receiver: 4+ more channel
Battery charger

Introduction

Thank you for purchasing the MINI MALIBU-F3P Indoor flyer.

The MINI Malibu—F3P has superb slow flight responsiveness so you can fly high-alpha 3D with authority. Its carbon fiber reinforced Depron foam construction provides the solid, precise feel of a balsa profile plane without the weight. This allows you to fly the MINI Malibu—F3P outside in windier conditions that would keep most other profile foamies grounded. The MINI 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.

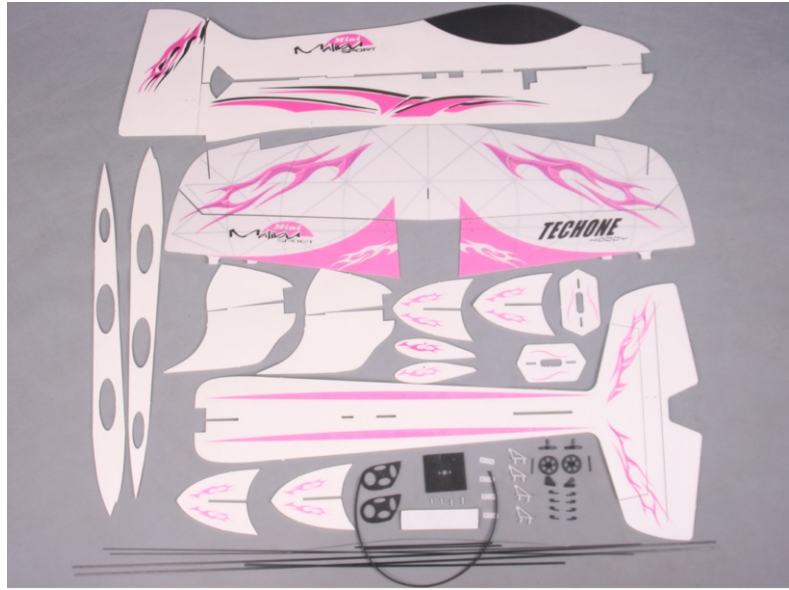
These assembly instructions are designed to guide you through the entire assembly process of your new airplane in the least amount of time possible. Along the way you'll learn how to properly assemble your new airplane and also learn tips that will help you in the future. We have listed some of our recommendations below. Please read through them before beginning assembly.

Warning

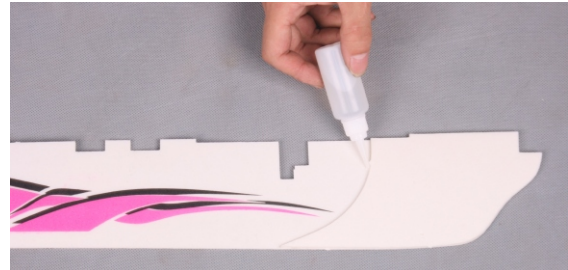
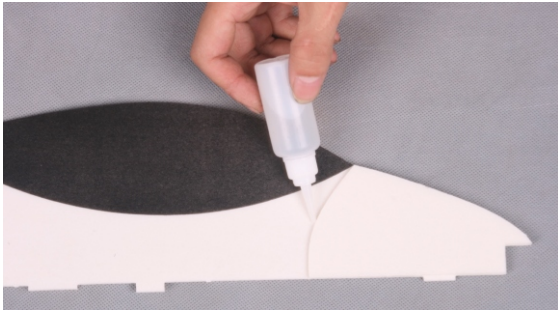
1. The MINI Malibu—F3P is not a toy and is not suitable for the flyer under 14 years. If misused, it can cause serious bodily harm and damage to property.
2. Do not fly near houses or buildings, children's play areas, road traffic, railways airports, overhead power lines and pylons. Do not fly over people.
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

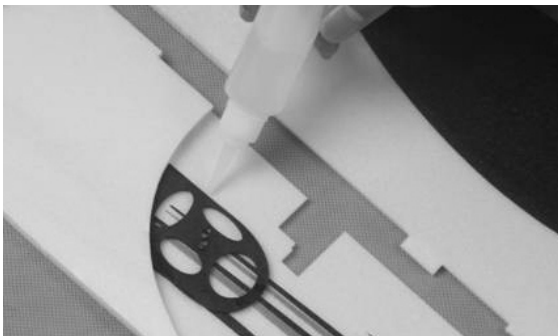
Fuselage side board - 2
Fuselage main board - 1
Wing with Ailerons - 1
Horizontal Elevator - 1
Rudder - 1
Wing Fences - 4
Landing Gear Reinforcement - 2
Doubblers with Round Hole - 2
Wheel Covers - 2
Landing Gears - 2
Carbon Fiber Rods 1.3mm - 4
Carbon Fiber Rods 2.0mm - 2
Plywood Pushrod Supports 2
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



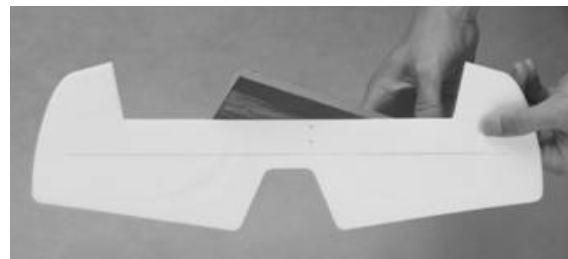
1. Airframe Assembly



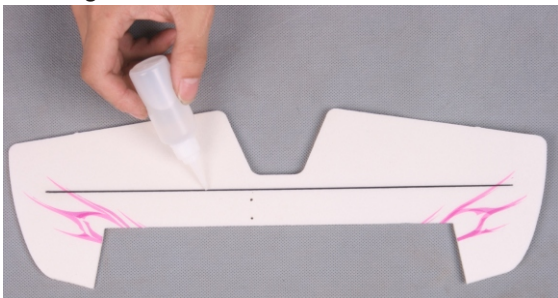
Glue the foam strengthen slice to the head of fuselage side board.



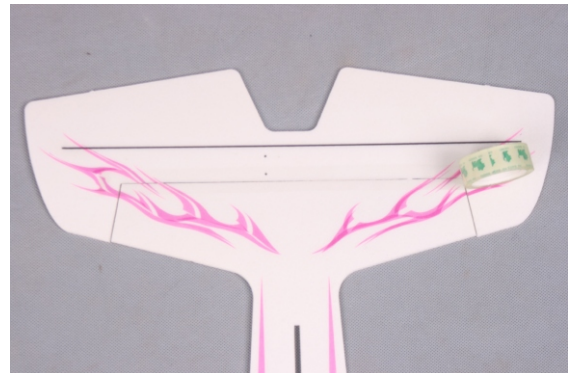
Glue the landing gear reinforcement to the fuselage side board.



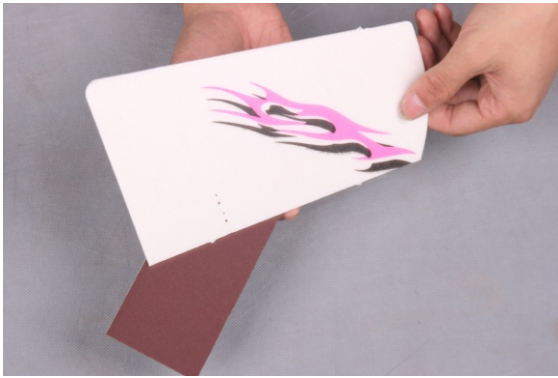
Sand a 45° bevel into the bottom leading edge of the elevator.



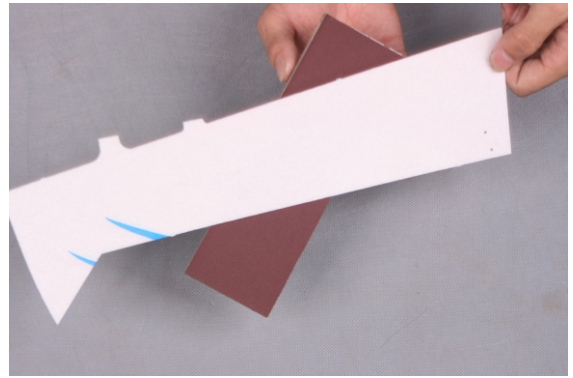
Cut a piece of carbon fiber strip to a length of 11-3/4" (300mm), then glue it to the below of the elevator, using some foam-friendly C/A.



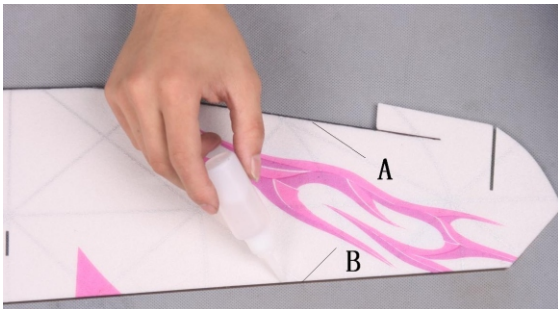
While holding the elevator tight against the stabilizer, apply a strip of clear plastic tape (not included) to the top of the hinge line on both sides of the elevator.



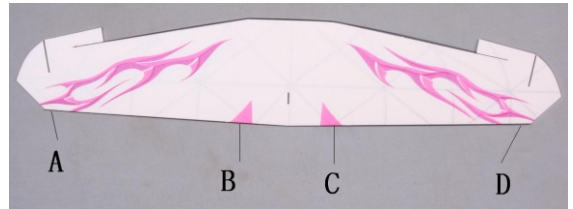
Sand a 45° bevel into the left side of the leading edge of the rudder.



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



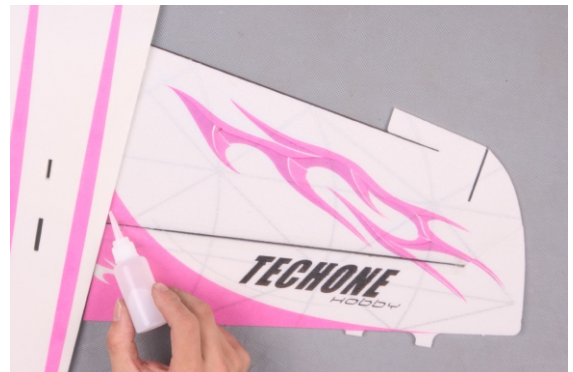
Use foam-friendly C/A to glue the carbon strips to A and B to strengthen the wings.



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



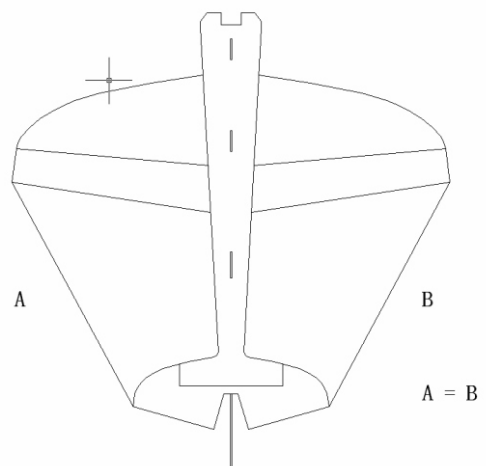
Apply some tape to adhibit the ailerons onto the back of the wing. Notice: Gap between aileron and back of the wing no larger than 1mm.



Glue the wings with aileron to fuselage.



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



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.



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

2. Installing the 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.

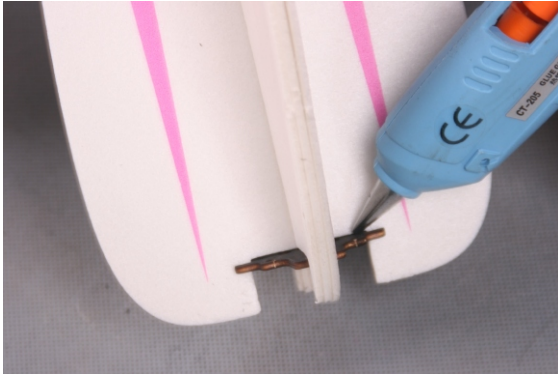


Installing the wing bracing is similar to installing the fuselage bracing, as you want the rods to be glued to the carbon bracing that has been preinstalled on the wing and fuselage. The rods are staggered and fit into notches in the fuselage. Use foam-friendly C/A to glue the rods in position. The wing 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.

3. Motor Installation



Glue the firewall to the head of the plan.

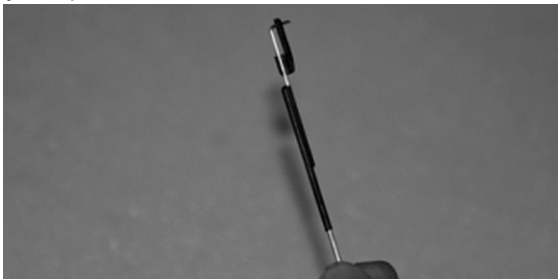


Install the motor assembly onto the firewall, using the four wood screws provided.

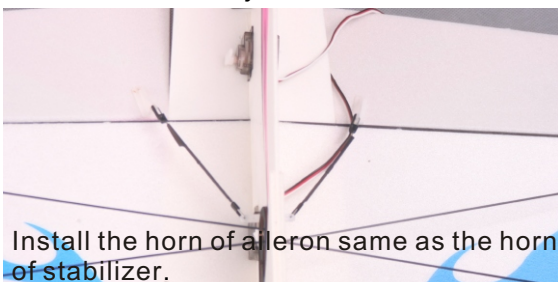
4. Control System Installation



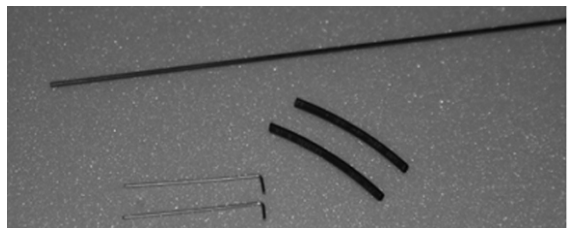
Install the elevator and rudder servos into the servos differs, you may need to cut the servo mounting hole in the right side of the fuselage. Use a dab of foam-friendly thick C/A to secure them into place. Because the size of sunting hole larger to fit your particular servos.



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. 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.

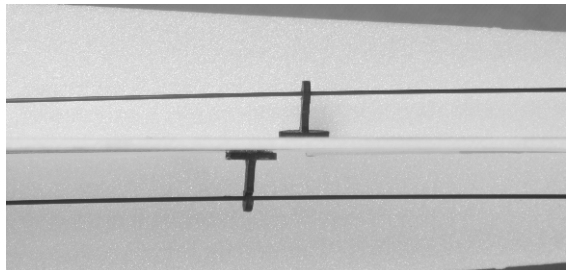


Install the horn of aileron same as the horn of stabilizer.

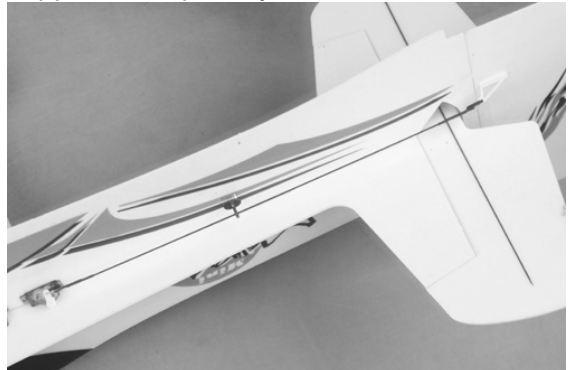


Cut two pieces of carbon fiber rod, then cut two pieces of heat-shrink tubing to a length of 1-1/2" (38mm).

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.

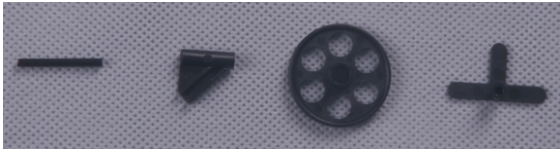


Slide the plywood pushrod supports over the end of the carbon fiber rod and temporarily push the plywood pushrod supports into the one pre-cut slots in the fuselage. Don't glue the plywood pushrod supports into place yet.



Center the elevator and rudder servo, then attach the servo arm to the servo.

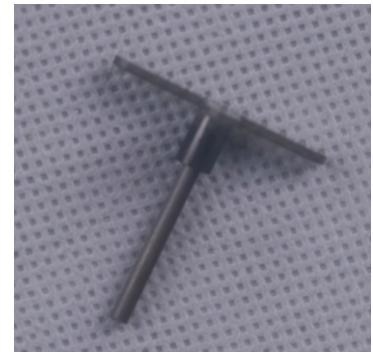
5. Landing Gear Installation



Push one landing gear strut up through the Fuselage and slide a second doubler over the end of the landing gear strut.



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



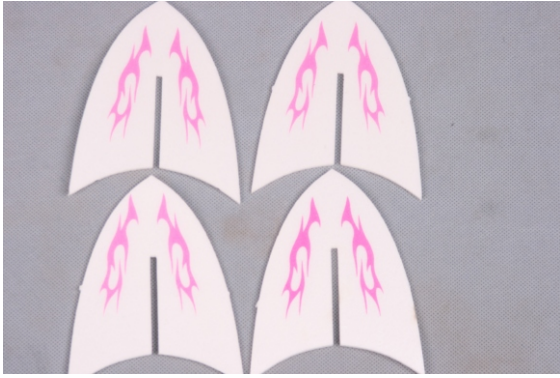
Install the two wheels and wheel chocks. Keep 1mm distance between wheel and its chock. Apply some foam-friendly thick C/A to glue the chocks.



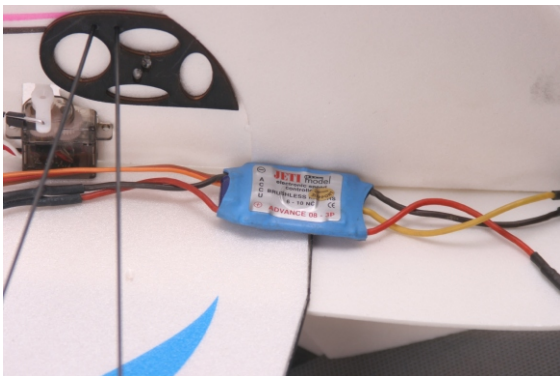
Fixed the landing gear strut with some hot glue.

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.

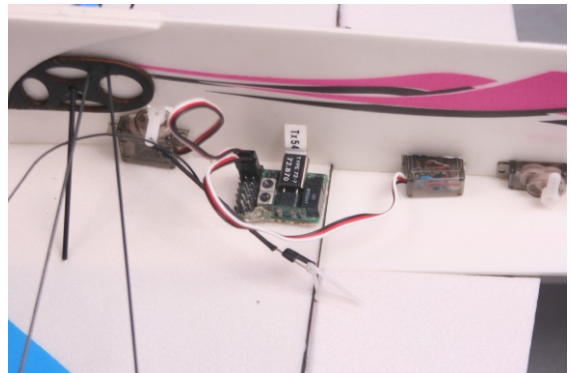
6. Final Assembly



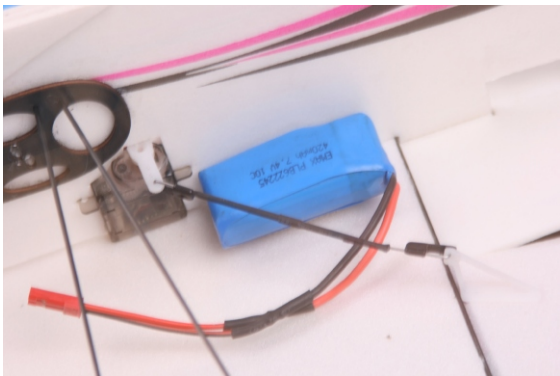
Glue four wing fences to the wing. Make sure that the back edge of each wing fence is even with the aileron hinge line.



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



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).



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



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.



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. your transmitter's owners manual for more info.

Balance Point

The Center of Gravity (C/G or Balance Point) is 3-2/3" (67mm) 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: (27.6mm) 1.09" Up and Down

Elevator: (26mm) 1.02" Up and Down

Rudder: (40mm) 1.57" Right and Left

3D Flying

Ailerons: (69mm) 2.72" Up and Down

Elevator: (65mm) 2.56" Up and Down

Rudder: (100mm) 3.94" Right and Left

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

control throws

Exponential

Sport Flying

Ailerons: 20%

Elevator: 20%

Rudder: 20%

3D Flying

Ailerons: 35% - 50%

Elevator: 35% - 50%

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.

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



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