

Before use, please read the explanations carefully!

# Mini-Yak 54

## Instruction Manual



### Specifications

Fuselage length: 458mm (18.0 in.)  
Wingspan: 418mm (16.5 in.)  
Flying Weight: 45g–53g (with battery)  
Motor: C05  
ESC: 7Amp  
Propeller: GWS 5030  
Servo: 2.5g  
Radio: 4/ more channel  
Receiver: 4/ more channel  
Battery: 7.4V 100mAh–200mAh Li-po 20C



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### Warning

1. The Mini-Yak54 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



Vertical Fuselage 2pcs  
Horizontal Fuselage 1pcs  
Wing with Ailerons 1pcs  
Horizontal Elevator 1pcs  
Rudder 1pcs  
Landing Gear Assembly 2pcs  
Wing Damping Plates 2pcs  
Doublers 1pcs  
Carbon Rods 0.7\*95mm 14pcs  
Carbon Rods 0.8\*235mm 1pcs  
Carbon Rods 0.8\*165mm 4pcs  
Carbon Rods 0.8\*180mm 1pcs  
Z-bend (Steel wire) 8pcs  
Control Horns 4pcs  
Heat-Shrink Tubing 1pcs  
Motor Mount 1pcs

## Airframe Assembly



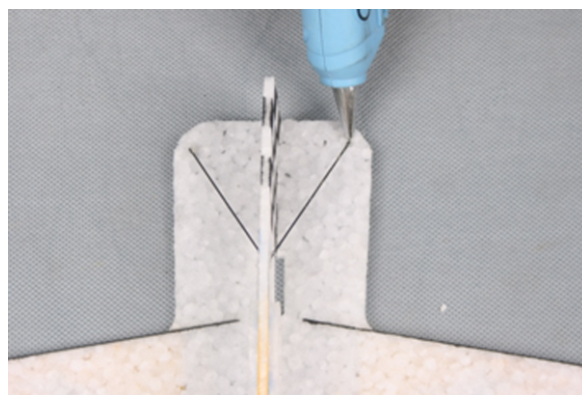
1. Glue the two fuselage pieces together.

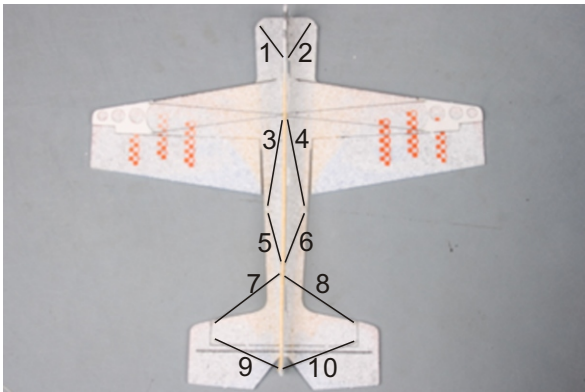
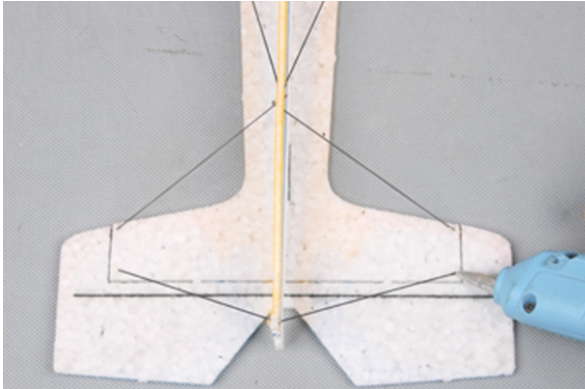
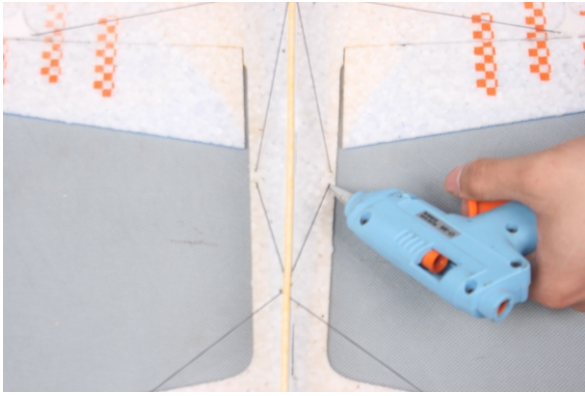


2. Key the rear of the horizontal fuselage into the vertical fuselage. Then glue the two fuselage pieces together.

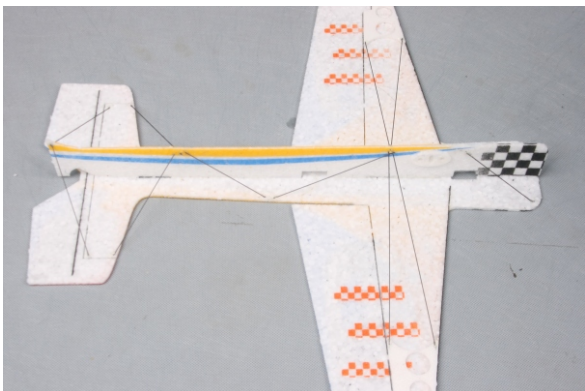


3. Locate the four carbon rods (0.8\*165mm) and insert them into the wing doublers and vertical fuselage. Apply some hot glue to fix them.

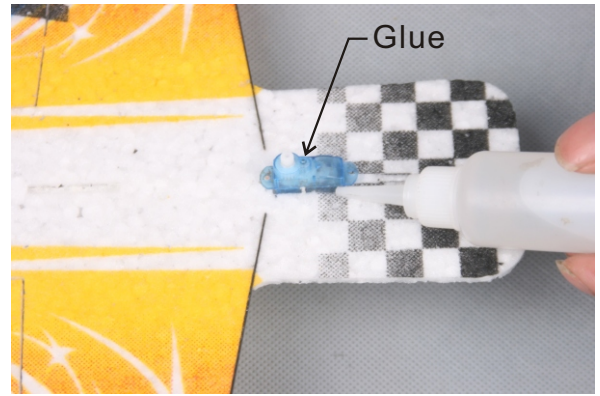




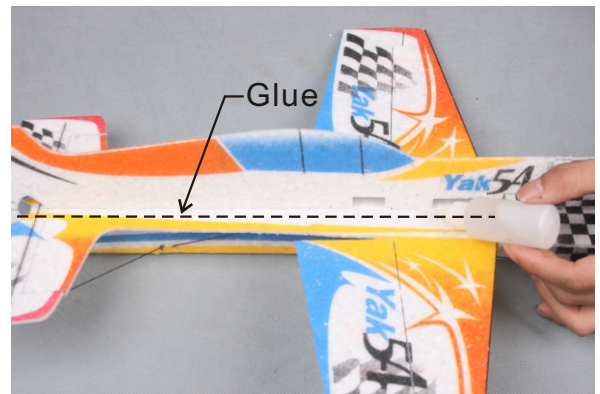
1-10: 0.7\*95mm carbon rods



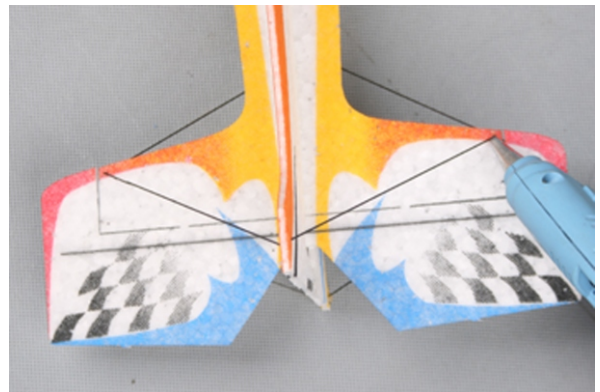
4. Locate the carbon rods (0.7\*95mm) . Place one end of each rod into the slot on the fuselage and the other end of the rod into the slot at the tip of the horizontal stabilizer. Apply some hot glue to fix them.



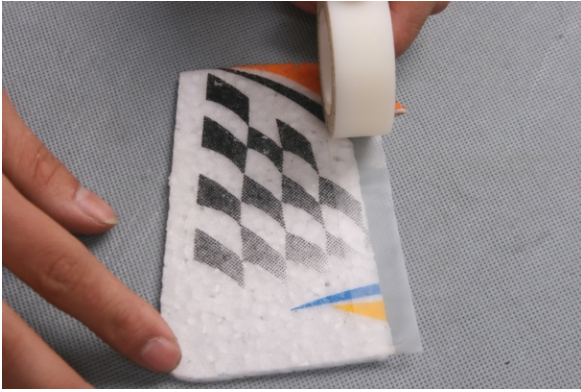
5. Install the aileron servo. Use some glue to secure the servos into place. Because the size of servos differs, you may need to cut the servo mounting hole larger to fit your particular servos.



6. Key the rear of the horizontal fuselage into the upper vertical fuselage. Then glue the two fuselage pieces together.

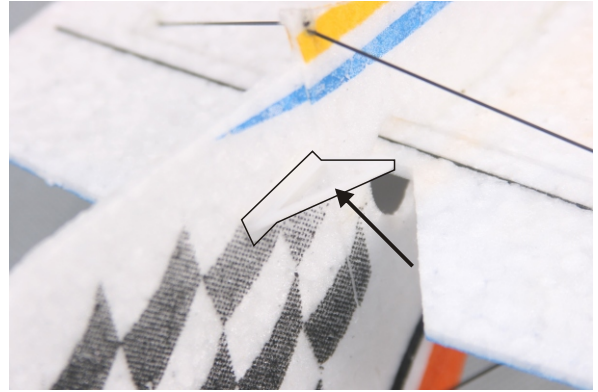


7. Locate the carbon rods (0.7\*95mm) . Then follow the steps as shown on the left.

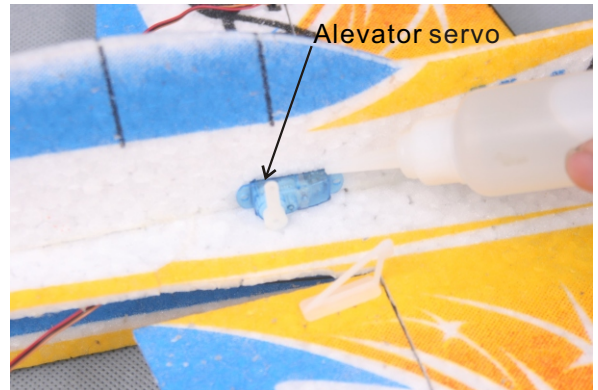
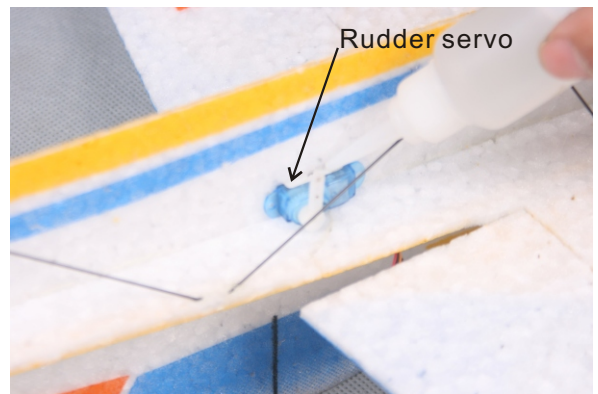


8. While holding the rudder tight against the vertical fuselage, apply some 3M Scotch Magic Tape (not included) to the top of the hinge line.

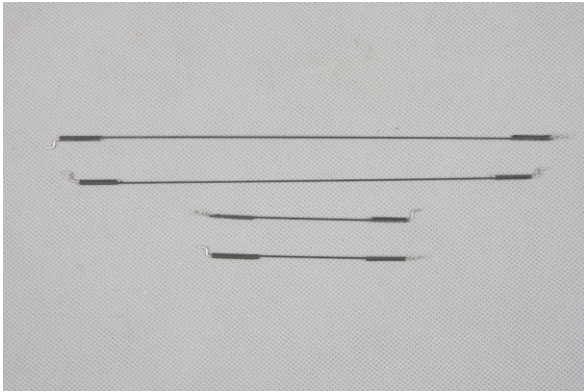
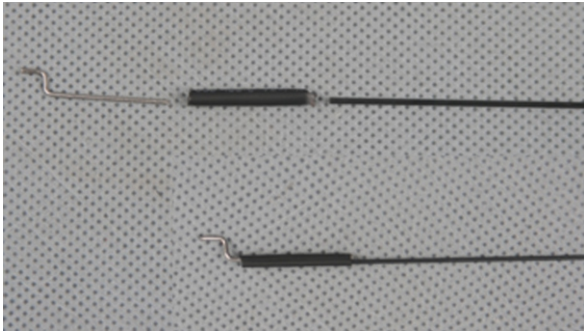
### Install the Servos and Pushrods



1. Install the ailerons control horns, elevator and rudder control horn. Use some glue to secure the control horns into suitable place as shown.

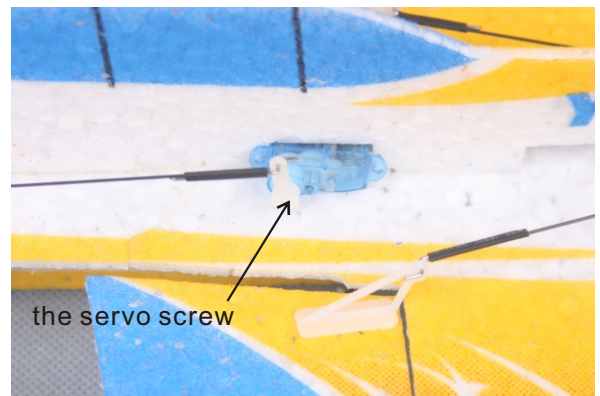
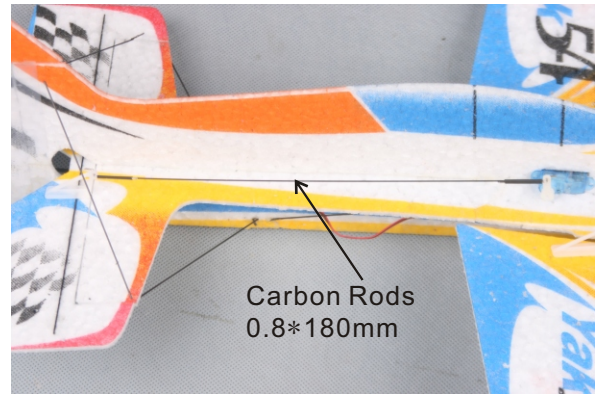


2. Install the rudder servo and elevator servo. Use some glue to secure the servos into place. Because the size of servos differs, you may need to cut the servo mounting hole larger to fit your particular servos.



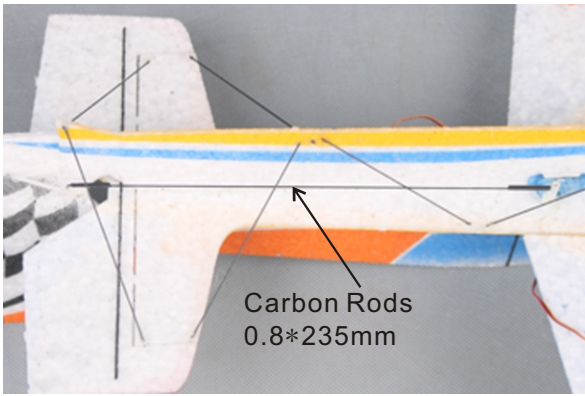
3. Heat the heat-shrink material with a heat gun to shrink it into place. For extra security, apply some CA glue to the end of the pushrod and allow it to "wick" into the joint.

If you are not using the servos we provide, or due to manufacturing tolerances, it may be necessary to change the pushrod length. This may be done by holding the heat shrink tubing that connects the pushrod to the z-bend and gently rotating the z-bend until the glue holding the z-bend in place has broken loose. Then adjust the length by pulling or pushing the z-bend until the appropriate length is achieved, and re-glue the z-bend to the pushrod using some CA glue.

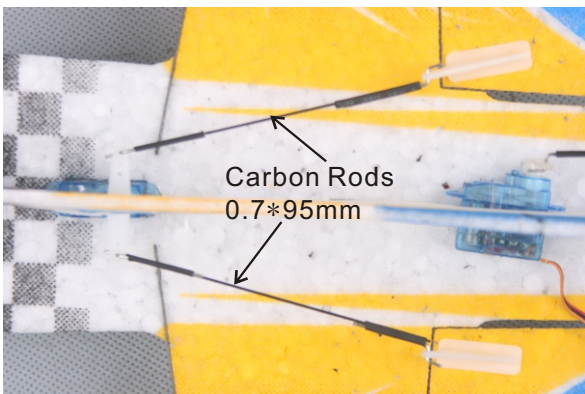


4. Thread the z-bend onto the outer most hole of the servo arm.

**Note:** When the servo arm is installed correctly the pushrod will exit closest to the fuselage, as shown. Finish the elevator servo installation by centering the servo, placing the servo arm onto the servo, and reinstalling the servo screw.

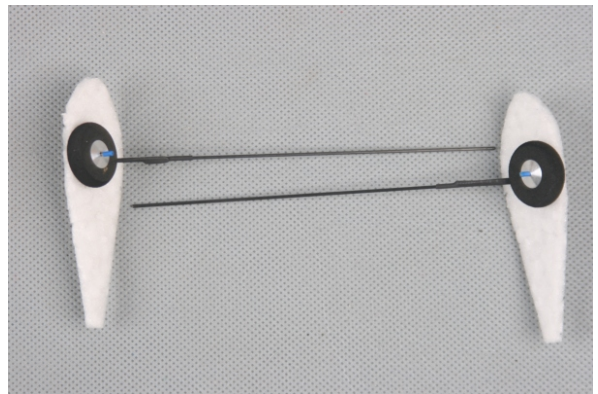


5. Install the rudder pushrods, using the same techniques that you used to install the elevator pushrod.

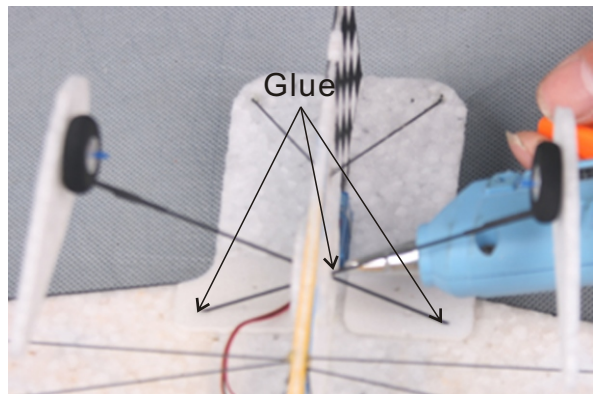
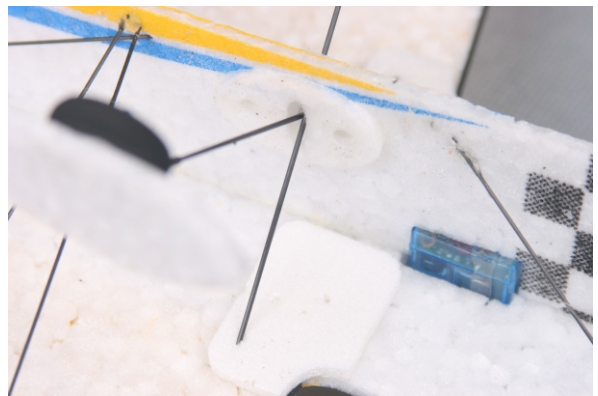


6. Install the ailerons pushrods, using the same techniques that you used to install the elevator pushrod.

## Install the Landing Gear

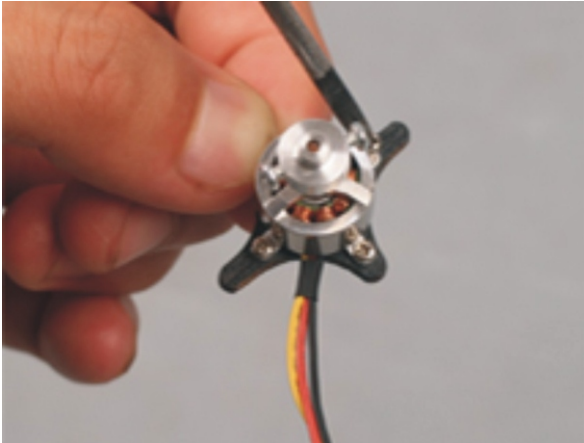


For your convenience, the landing gear have been pre-assembled as shown.



Push the landing gear strut into the pre-cut hole in the vertical fuselage, then twist the landing gear strut so that the axle is straight. When satisfied with the alignment, glue the landing gear strut to the vertical fuselage and the bottom wing.

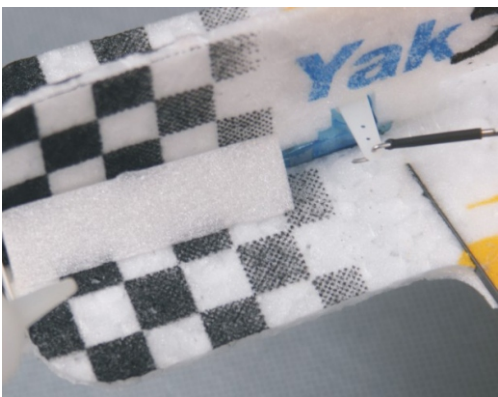
## Install the Motor and Radio Gear



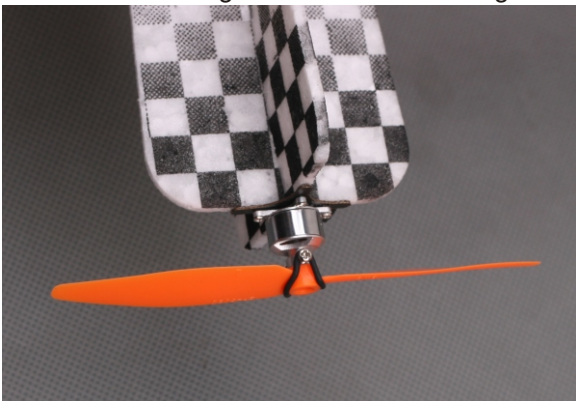
1. Install the motor mount to the motor using the screws provided with the motor.



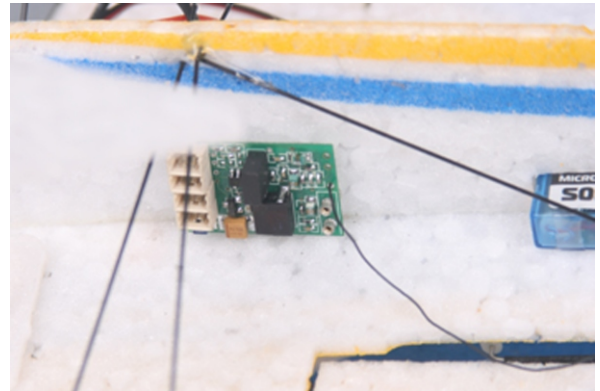
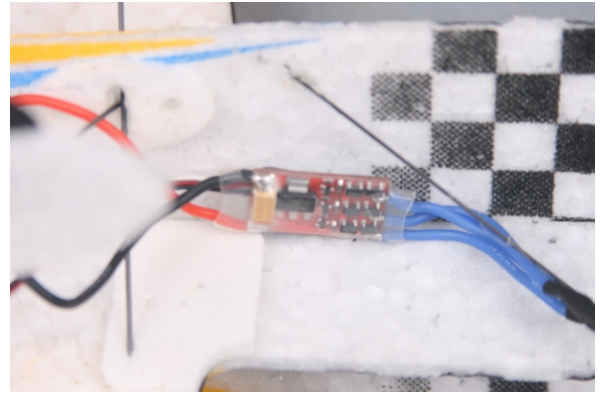
2. Glue the motor mount to the head of the fuselage. You are best to use some epoxy glue.



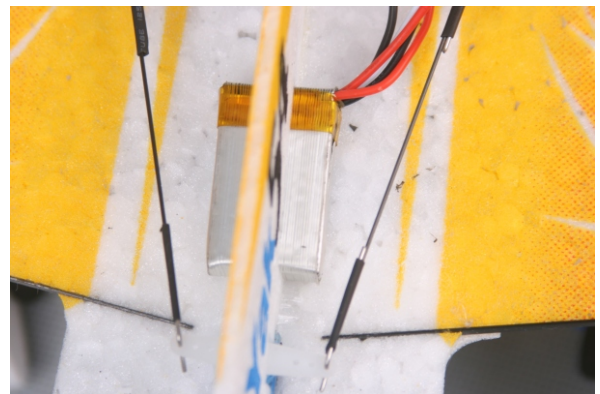
3. Glue the horizontal fuselage and vertical fuselage doublers to the underside of the horizontal fuselage and vertical fuselage.



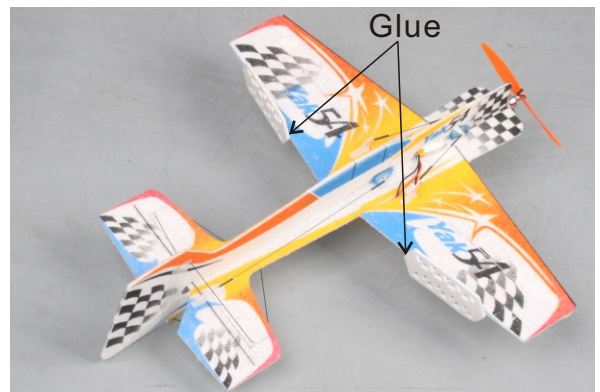
4. Install the propeller adaptor and propeller onto the motor as shown.



5. Mount your ESC and receiver to the fuselage side, using a piece of Double-sided foam tape (not included).

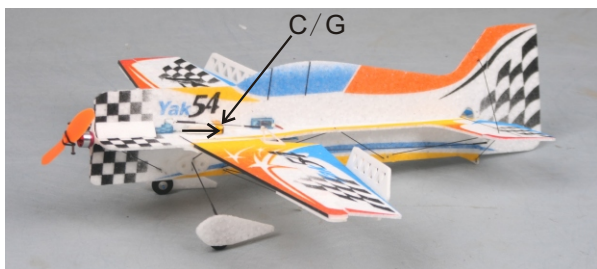


6. Assemble your battery into the battery compartment.



7. If you want to slow down the plane, you can glue the wing damping plates to the wing.

## Balance Point



The Center of Gravity (C/G or Balance Point) is 1.81" (46mm) 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: (21.2mm) 0.83" Up and Down

Elevator: (16mm) 0.63" Up and Down

Rudder: (24.8mm) 0.98" Right and Left

3D Flying

Ailerons: (58.3mm) 2.30" Up and Down

Elevator: (48mm) 1.89" Up and Down

Rudder: (74.4mm) 2.93" 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: 45% - 55%

Elevator: 45% - 60%

Rudder: 45% - 60%

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 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.

## 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](mailto:techonehobby@gmail.com)



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