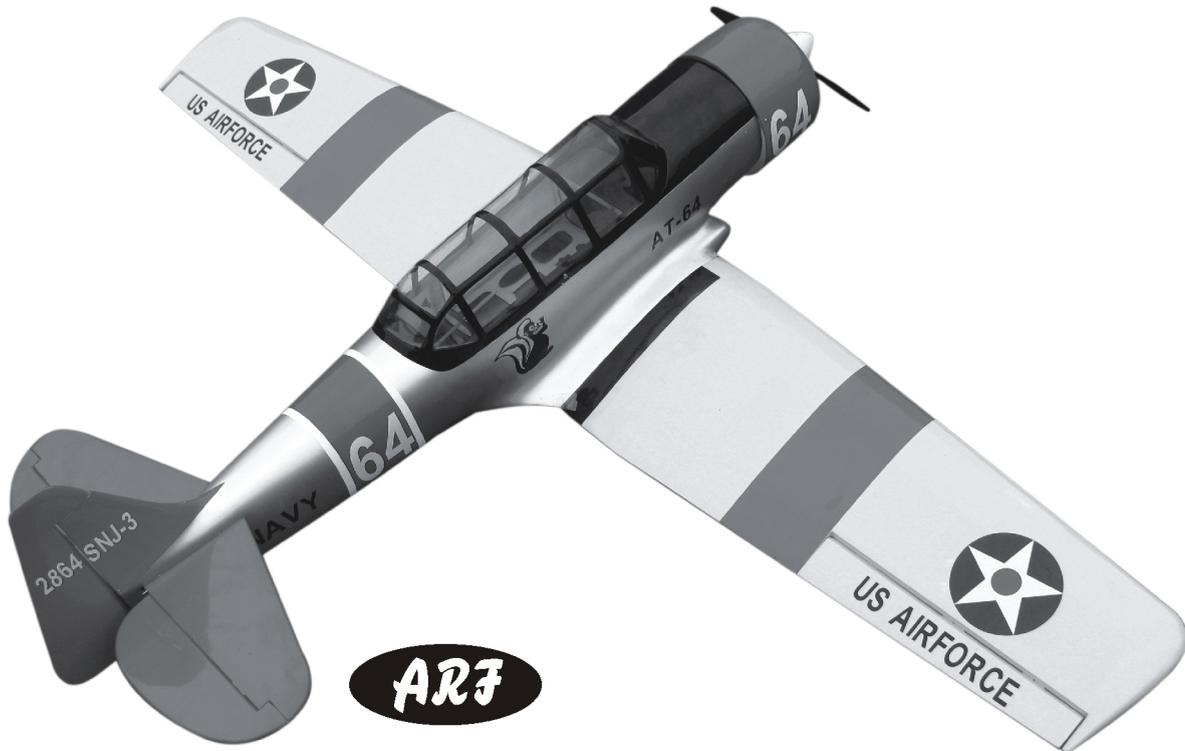


# AT6-46

## Instruction Manual



### Specifications

Wing Span:	60.7in/1540mm
Wing Area:	561 sq in/36.3 sq dm
Fuselage Length:	44.1in/1120mm
Flying weight:	6.9 Ibs/ 3100g
Power system:	46(2C0/71(4C)
Radio:	5 channel 6 servos

### **Warning! This model is not a toy!**

**This is a high performance model. Please ask for advice if you are not familiar with this type of radio controlled model. Operating this model without reading the instructions may result in serious injury. Remember, safety should be your first priority. Always keep this instruction manual handy for easy reference.**

## INDEX

**PARTS LIST**-----P.1  
**BEFORE STARTING**-----P.1  
**SAFETY PRECAUTIONS**-----P.1  
**ASSEMBLY**-----P.2-P.7

## BEFORE STARTING

1. Read through the manual before you begin.
2. Check all parts. If you find any defective or missing parts contact your local dealer. Please **DRY FIT** and check for defective parts that will require CA or Epoxy for final assembly. If you do not identify and defective parts before you begin assembling the model. It may be difficult to remove for replacement under warranty. We will gladly replace and defective parts, as long as they have not been glued in place.

3. Symbols used throughout this instruction manual include:

 Apply C-A Glue	 Pay close attention here
 Apply two-part epoxy	 Cut off shaded portion
 Drill holes with the specified diameter (here: 2mm)	 Purchase separately
 Assemble left and right sides the same way	 Ensure smooth non-binding movement while assembling

## PARTS LIST



## SAFETY PRECAUTIONS

### Warning! Important Safety Precautions

First time pilots should never fly alone. If you are a first time pilot, you should receive assistance from an experienced pilot.

Before taking off you should check all the connections for the servos and leads. Make sure the throttle arm moves in the proper direction, and all the flight surfaces are operating as they should.

This model will perform well with the recommended engine. Adding a more powerful engine may not mean better performance. In fact, a larger engine could increase the likelihood of a crash in an engine-out situation.

Do not operate this model in an area which is too small. Be sure that you have enough space to operate it without it coming close to people or property. Never allow you or anyone else to get too close to the moving propellers.

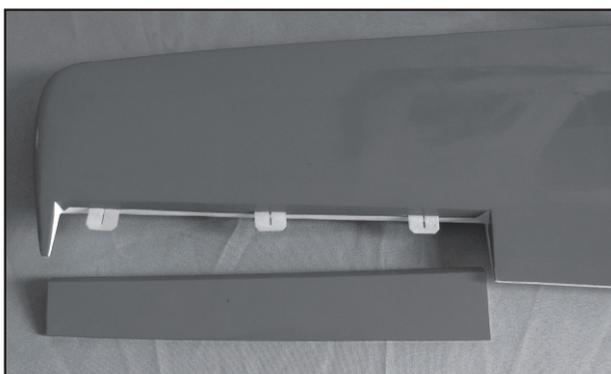
Your model is covered with a high quality covering, but weather and temperature many cause it to wrinkle over time. You can use a heat gun or an iron designed for use on covering material ( available at your local hobby store), to smooth and remove wrinkles. When doing so, always begin on the lowest temperature setting and gradually raise it until the wrinkles are removed. Beginning at a very hot temperature can result in damaging the covering.

Before use, be sure to check and tighten all factory installed screws. If necessary use lock tight.

## INSTALLING AILERONS

Begin with the left wing first so that your work matches the pictures as shown the first through. You can do one with at a time, or work on both of them at the same time. You should always dry fit each part before using CA glue, in case you make a mistake!

1. Insert 3 hinges halfway into the wing and then slip the aileron onto the hinges, make sure there is about half of the hinges in each part.
2. Test the hinges for proper range of movement and alignment. If necessary to align it, stick a pin through the middle of the hinge to move it into position. After completion, remove any pins you have inserted. You should have a slight gap between the aileron and wing barely wide enough to slide a piece of paper through, and no larger.



3. Apply six drops of thin CA to the top and bottom of each hinge, waiting about 2 minutes between each side. Do not use CA accelerator. Immediately after application, work the hinges to ensure proper movement of the surface. After the CA has fully hardened, test the strength of hinges by pulling on the aileron with moderate force.

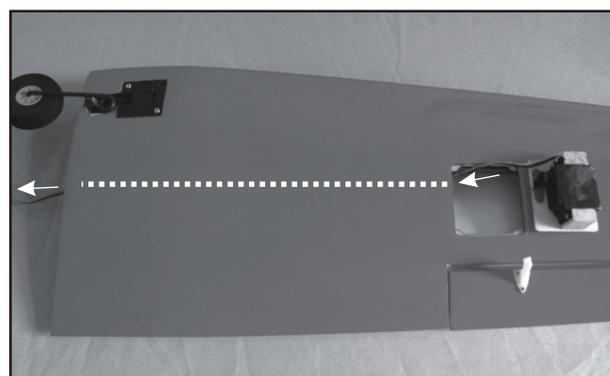
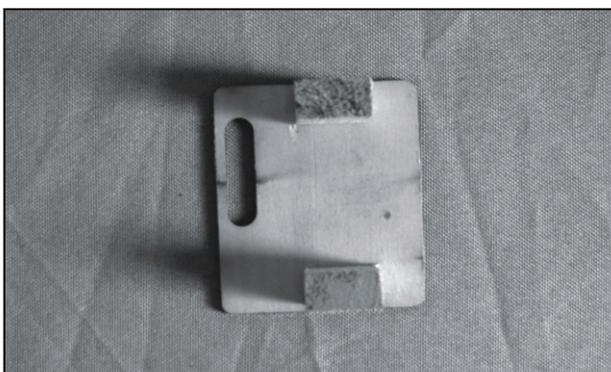
4. Repeat this procedure for installing the right aileron.

## INSTALLING AILERON SERVOS

1. You may find a servo board and two wood-block. First stick two wood-blocks on the bottom of servo board (the side without covering).

Attention: before you stock the blocks, you need put your servo on the right position, make sure the servo arm can turn left and right through the slot at the left servo board.

2. Insert servo between two stuck blocks. Fix it with sheet metal screws.
3. Pull the servo extension wires out the root of the wing.
4. Fix the servo with board on the wing with sheet metal screws.



5. Repeat these steps for installing the servos on the right wing.

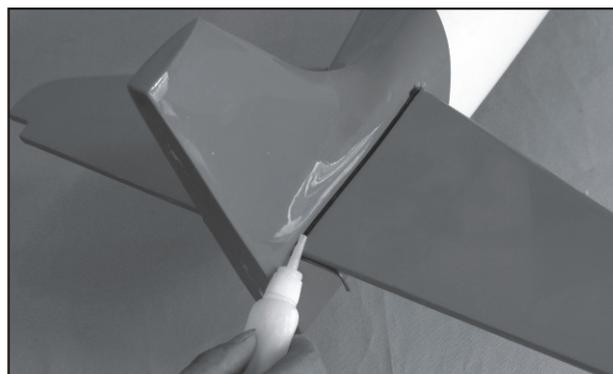
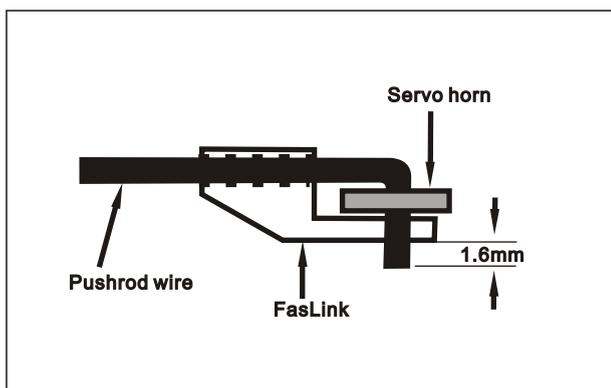
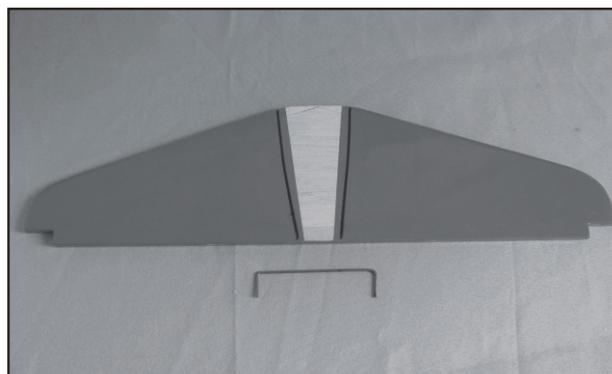
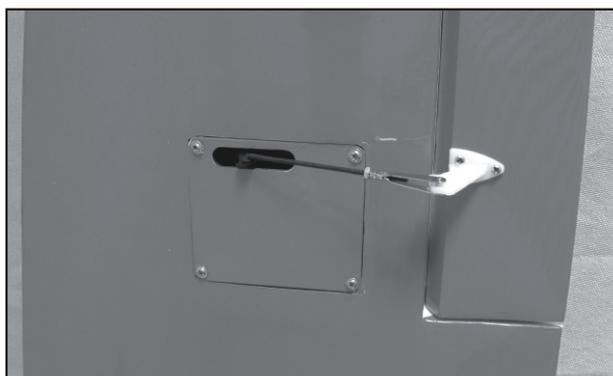
## INSTALLING AILERON PUSHRODS

1. Position a small nylon control horn on the aileron as shown in the sketch below and aligning it with the holes of the servo arm. Mark the location for the screw holes. Drill through the marks you made with a drill. Mount the nylon control horn to the aileron by inserting three machine screws through the control horn and into the nylon mounting plate on the top of the aileron.

2. Using a wire pushrod with threads on one end, attach a nylon clevis onto the threaded end of the wire and twist it 20 times. Install a silicone clevis retainer onto the clevis. Then install the clevis on the aileron control horn.

3. Be sure the aileron servo is centered. Enlarge the hole in the servo arm with a Servo Horn Drill. Center the aileron and align the wire pushrod with the hole in the end of the servo arm. Using a marker, mark the location where the wire aligns with the hole on the servo arm. Make a 90 degree bend in the wire at that mark. From the bend measure an additional 9.5mm and cut off the excess pushrod wire.

4. Insert the wire into the hole in the servo arm using a nylon linkage as shown in the sketch.

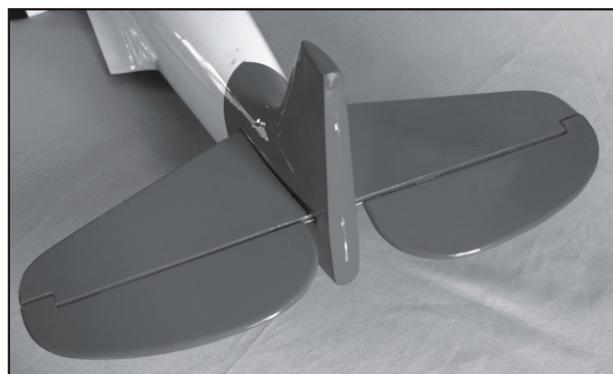
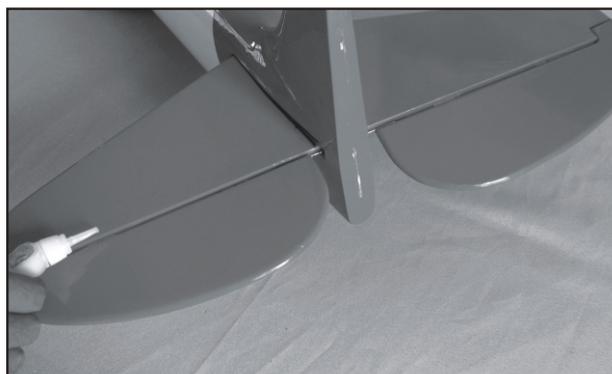


## INSTALLING ELEVATOR

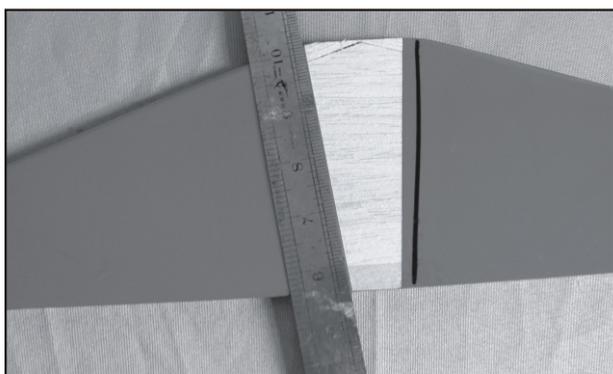


1. Insert stability-tail to the right position (right and left are balance). Then draw two line according the edge of the collection of fuselage.
2. Pull the stability out and cut off the covering inside lines. This is very important! Cut off covering making sure that you can stick stability to the right position tightly.
3. Insert and stick stability-tail to the tail of fuselage. Do not forget insert a steel connection before you insert stability-tail as shown on the next pictures.

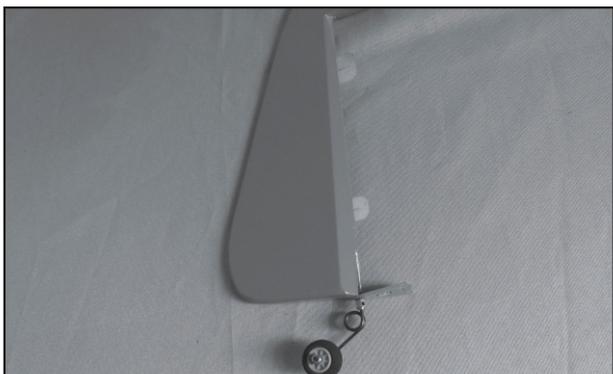
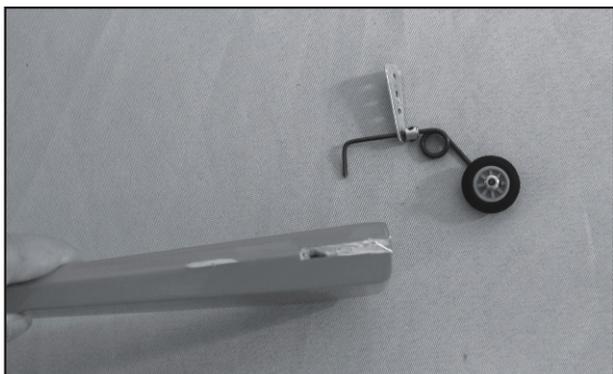
4. First insert steel joint lever to the elevator. Then use the same method used on aileron to connect elevator and stability-tail with hinges both left and right.



## INSTALLING RUDDER



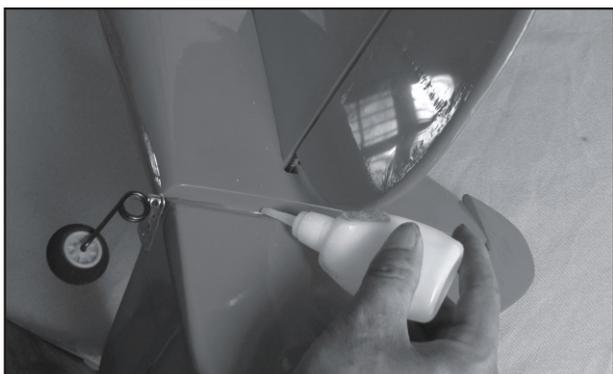
1. Before you install rudder you need fix the tail wheel first. According to the length of steel of tail wheel, drill a slot on the rudder.
2. Insert the tail wheel to the rudder. Then connect rudder with tail of fuselage with two hinges. Stick hinges and make sure the rudder can be moved smoothly.



## INSTALLING TAIL WHEEL

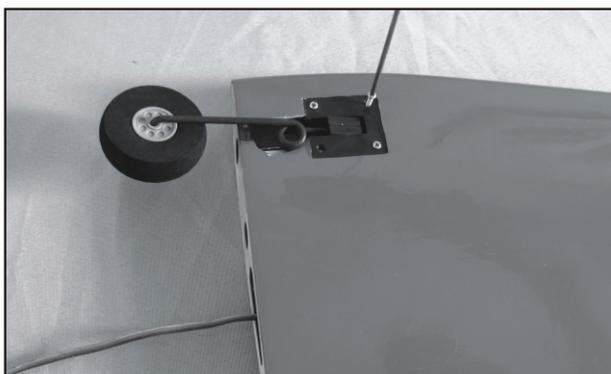
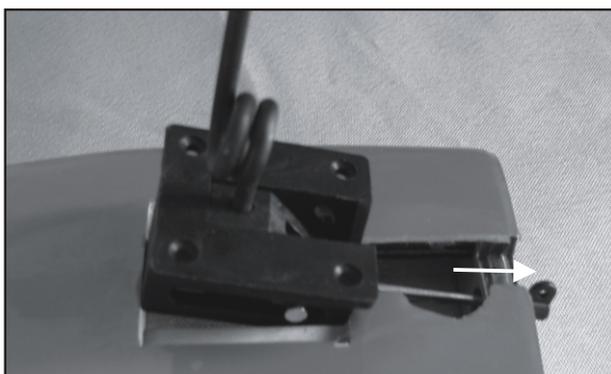
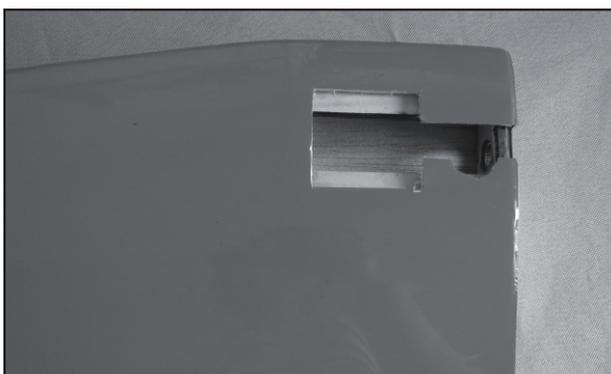
3. Turn the spacer to the tail of fuselage. According to the small slots on the spacer, make two marks on the tail of fuselage.
4. Drill two slots according to the marks. The fuselage is made by fiberglass and it is very hard. You can not use screws directly.
5. Last, fix tail landing gear on the fuselage with two sheet metal screws.

1. Inside of the fuselage you may find two plastic tubes from the engine room to the tail of fuselage. Insert two steel lines into the tubes to the tail of fuselage. Take the fuselage under the light, make marks where the steel lines are near the fuselage.
2. Drill a slot according to your marks. Pull the steel line out.
3. Use the same method used on aileron pushrod to install elevator servo pushrod and rudder servo pushrod.



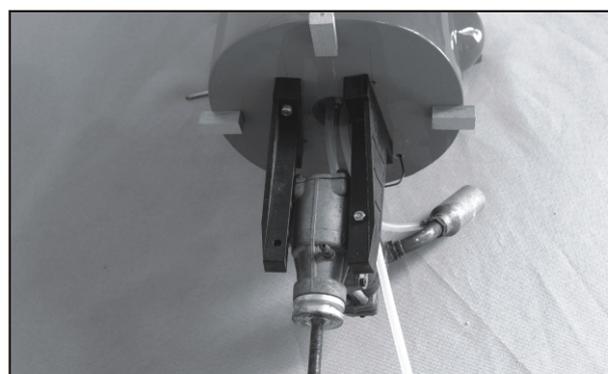
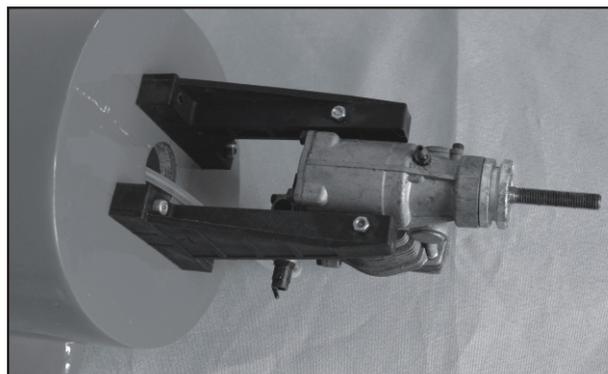
## INSTALLING MECHANICAL RETRACTS

1. The position to install landing gear is laser cut already. You need to cut off the covering with knife only.
2. This is mechanical retract. Insert landing gear month to the slot you cut off. At the same time push out the servo-connection steel at the root of wings. Please reference pictures as shown.
3. Fix landing gear month on the wing with four screws.
4. Stick plastic cover after wings and fuselage connected.



## INSTALLING ENGINE

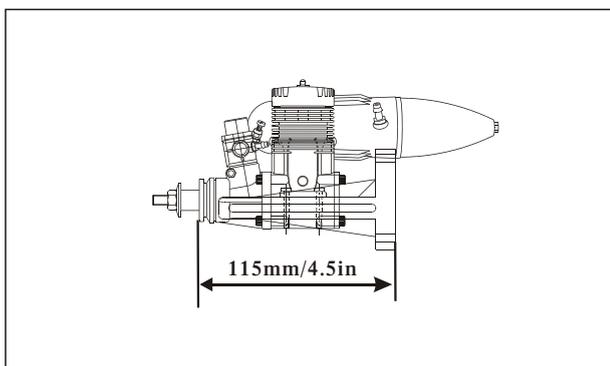
1. Molded into the firewall are lines to use as a template when mounting your engines. Using a felt-tip pen, draw through the lines, extending them further to each side of the firewall.
2. Drill four holes through each of the marks in the corners of the pattern.
3. Use four bolts with blind nuts to attach the mount to the firewall.
4. Use the parts shown below to attach the engine mounts to the firewall.



5. Position your engine onto the engine mount. With the engine resting on the engine mount rails. Center the engine and engine mount. Then tighten the engine mount bolts to the firewall. With your engine still resting on the rails, position the engine so that the distance from the firewall to the front of the engine thrust washer is 115mm. With the engine properly positioned, resting on the engine mount, slide the cowl onto the fuselage to be sure the engine is extending out of the cowl far enough to allow the propeller to clear the cowl.

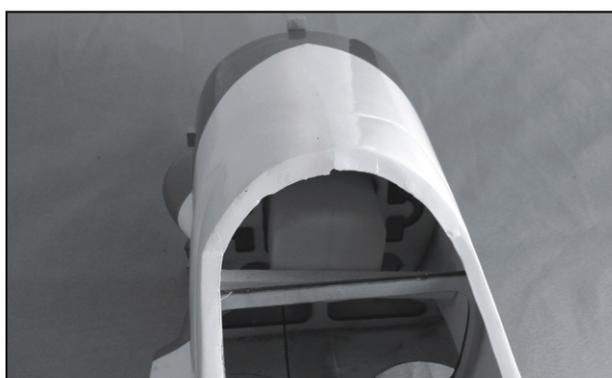
6. Using the engine as a guide, mark the four holes for the engine bolts on the engine mount. Drill four holes in the mount. Then, use a tap to thread the holes.

6. Secure the throttle servo with sheet metal screws into the provided tray. Line up the pushrod with the engine and drill a hole through the firewall large enough to allow the pushrod to pass through and be connected to the engine. Then attach the pushrod to the servo and the engine. Use the following pictures as a reference.



## INSTALLING FUEL TANK

install the fuel tank into the space provided behind the engine. Secure the fuel tank to make sure it will not come loose in flight. You can use foam or velcro strapping to do this.

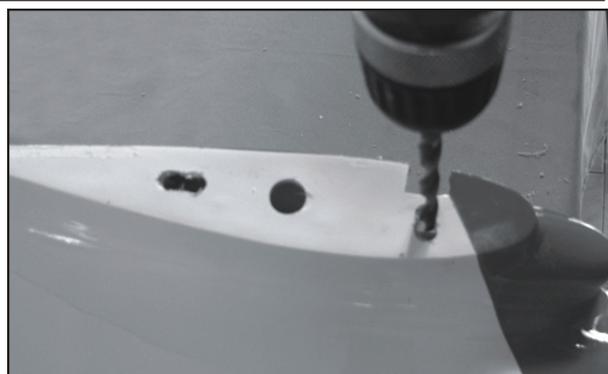


## JOINT WINGS AND FUSELAGE

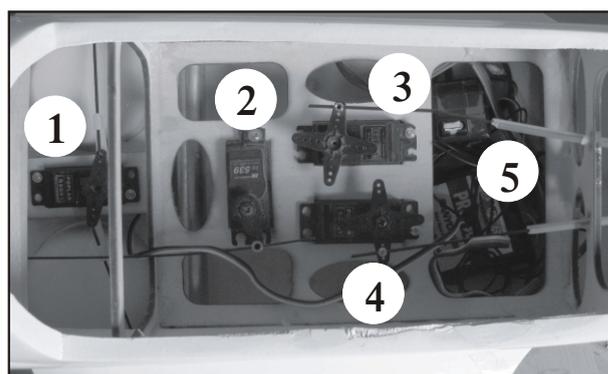
1. There are three holes at the wing root. If you think the first and third holes are small you can enlarge it by yourself.

2. Please reference pictures as shown, from the left to right, the first holes for you to pull out the aileron servo wires, the second holes for wings and fuselage connection with aluminum tube. The third hole for you to push out the mechanical retracts pushrod to connect with servo in engine room.

3. After you pull all wires to the engine room, then connect fuselage with wings tightly with CA glue.



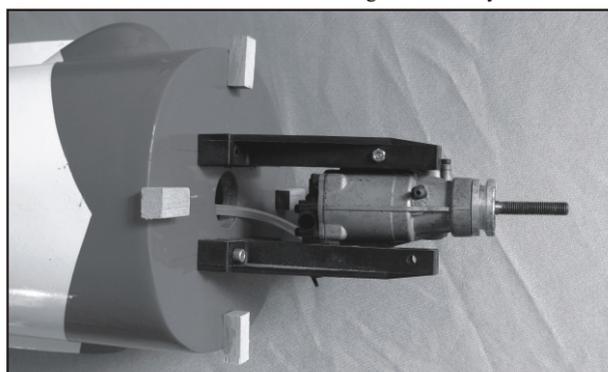
## INSTALL ENGINE FRAME



1. Mechanical retracts servo
2. Throttle servo
3. Elevator servo
4. Rudder servo
5. Receiver and battery

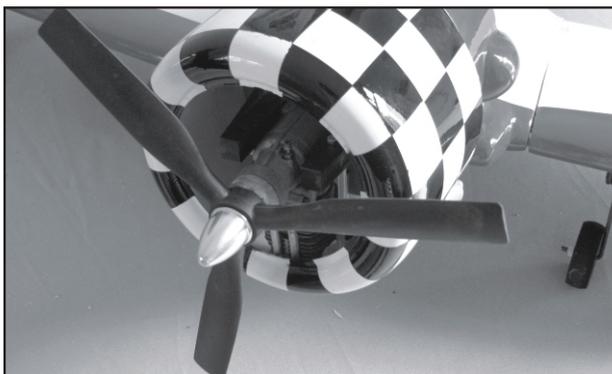
## INSTALLING ENGINE COWL

1. Stick four small wood blocks on the firewall.
2. Put the cowl on the engine, drill four small slots where you stick wood blocks.
3. Fix cowl with small screws through the slots you drilled.





## INSTALLING SPINNER



## INSTALLING CANOPY

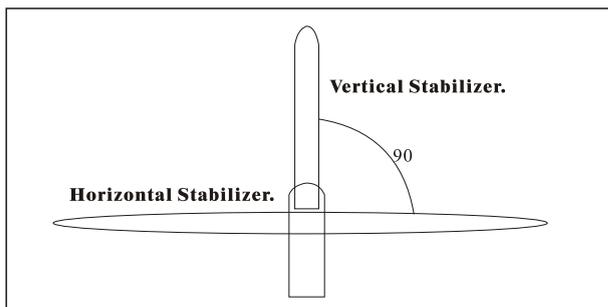
Fix canopy with small screws for security



## ALIGN FLIGHT SURFACES

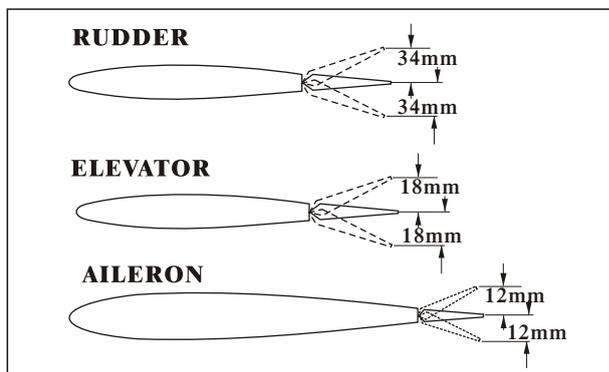
Slide the vertical stabilizer into position. Use a triangle to ensure that the vertical stabilizer is exactly 90 degrees from the horizontal stabilizer and that it is the same on both sides.

Also ensure that the wings are aligned with the horizontal stabilizer.



## CONTROL THROWS

Adjust the control throws as shown in the diagram below. These throws are good for general flying. You can adjust according to your personal preferences.



## CENTER OF GRAVITY

The ideal C.G. Position is 100mm (3.94in) behind the leading edge measured at centerline on the wing (at the top), in order to obtain the proper C.G., Add weight to the fuselage or move the battery position. Always check that the C.G. is properly positioned before flying. Failure to use the proper center of gravity is likely to result in a crash.