

# FLYINGWINGS AEROSPORT

## MINI V



The mini V is the perfect mini park flyer and can also be flown indoors in larger halls. Its very stable and suitable for training, and like all Flyingwings products, its very tough and durable.

### Parts List

#### EPP Parts

Wing 3 sections

Fuselage

Wing Top

Tail section (4 parts)

#### Ply Parts

Wing retaining plates (4 parts)

Micro Horns (x2)

Pushrod guide

Jockey wheel plate

#### Hardware

Servo adaptors (x2)

Wing Screws (x4)

Heatshrink tube (2.5mm dia)

Piano wire (x5)

O-Rings (x3)

25mm wheel

#### Carbon Fibre

4mm x 1mm strip (3 parts)

1mm rod (2 parts)

#### To complete

2 x 4.3-6g servos

1 x 800mah 2s lipo

Connectors for battery & ESC

1 x micro receiver

1 x Transmitter capable of elevon mixing

1 x Lipo compatible charger

### Super deal upgrade

Brushless motor with prop adaptor

12a Speed controller

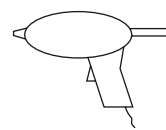
4025 propeller

Heat shrink tube

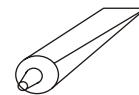
mounting screws (x3)

wiring guide

Please note that the motor provided should use a 2cell Lipo 7.4v and the propeller should not exceed 4"



HOT GLUE GUN



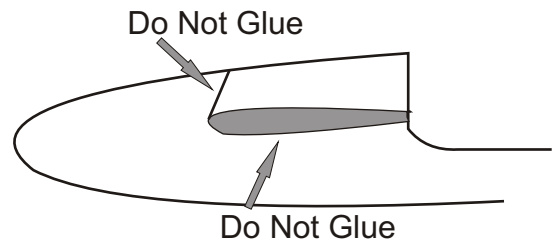
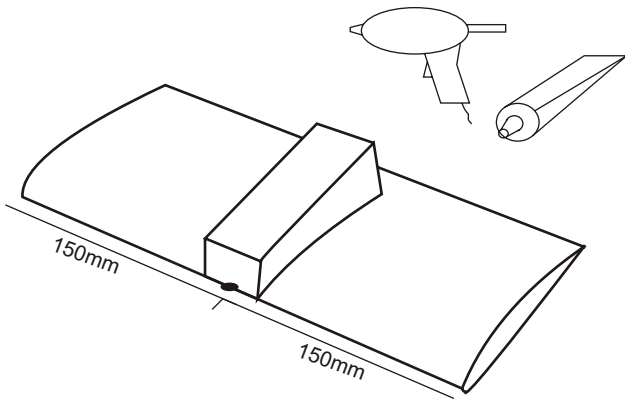
UHU POR



CA GLUE

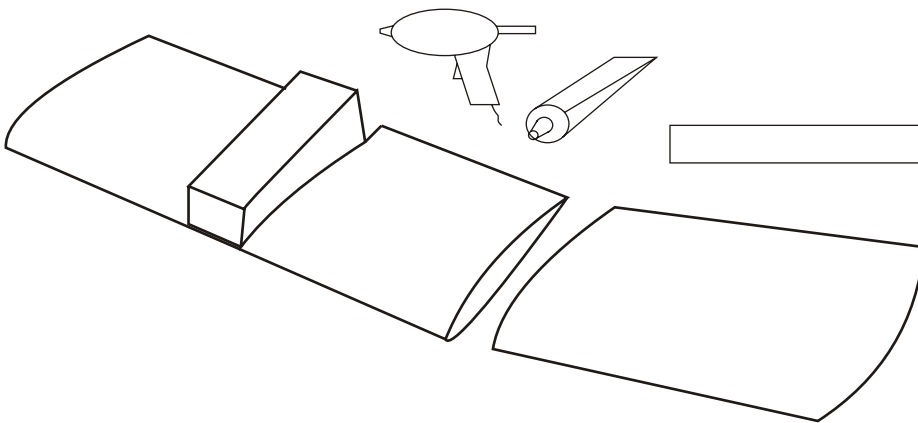
**LET'S GET BUILDING**

# STEP 1



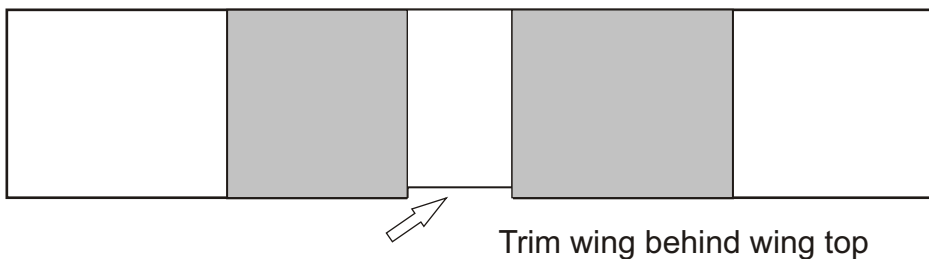
Measure the centre point of the wing, and mark front and back, dry assemble the wing to the fuselage to check position, then glue the wing top to the wing.

# STEP 2



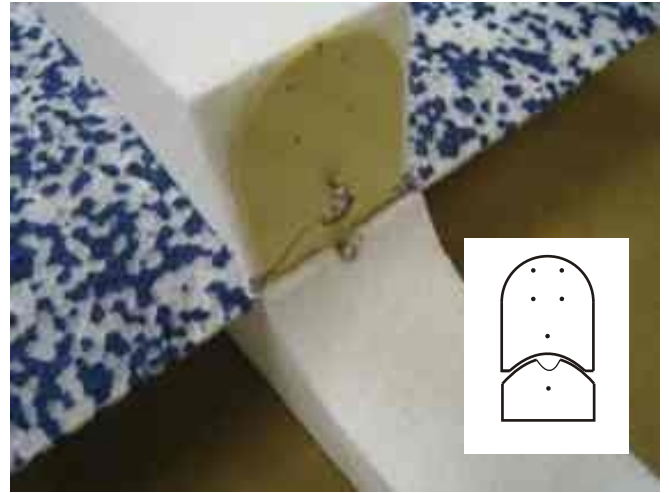
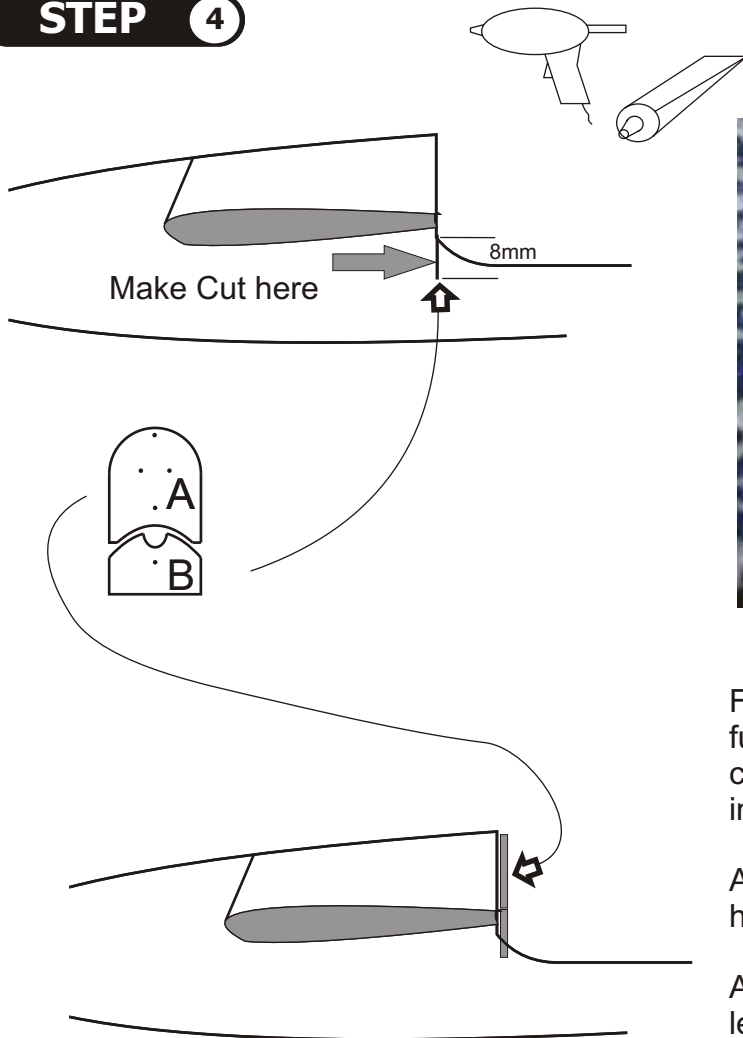
Put the centre wing section on a flat surface and glue the wing tips on, use plenty of glue.

# STEP 3



Trim wing behind wing top

## STEP 4

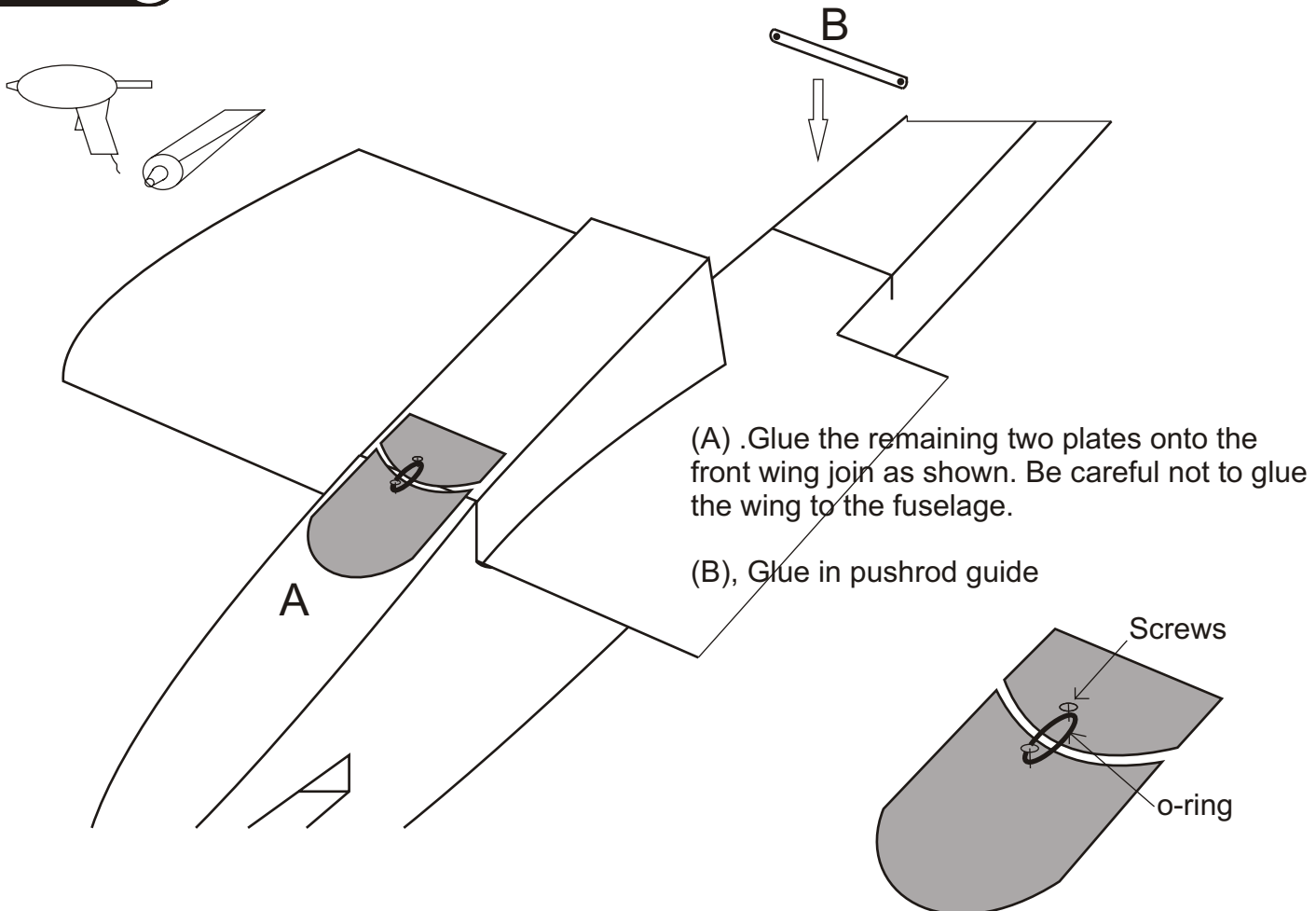


Fit the wing to the fuselage, draw a line on the fuselage at the base of the wing top, make a cut here approx 8mm deep. Insert ply part B into the cut slot, do not glue yet.

Align ply part A at the back of the wing top as high as it can go. Glue in place.

Align plate B so that it mates with part A and is level, Remove wing and glue part B in place.

## STEP 5



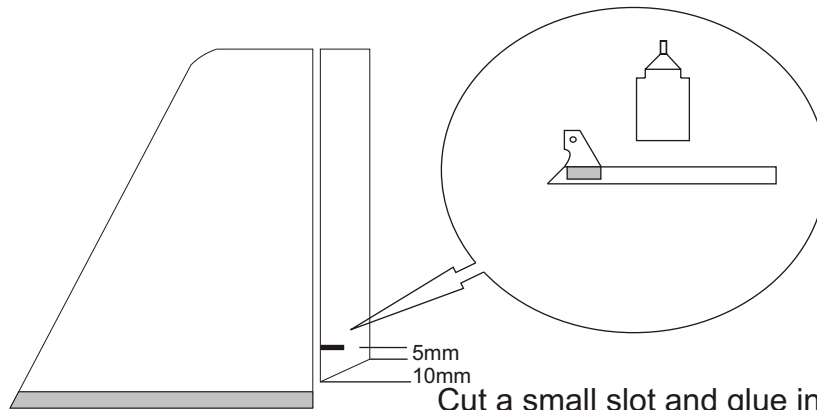
(A) .Glue the remaining two plates onto the front wing join as shown. Be careful not to glue the wing to the fuselage.

(B), Glue in pushrod guide

Screws

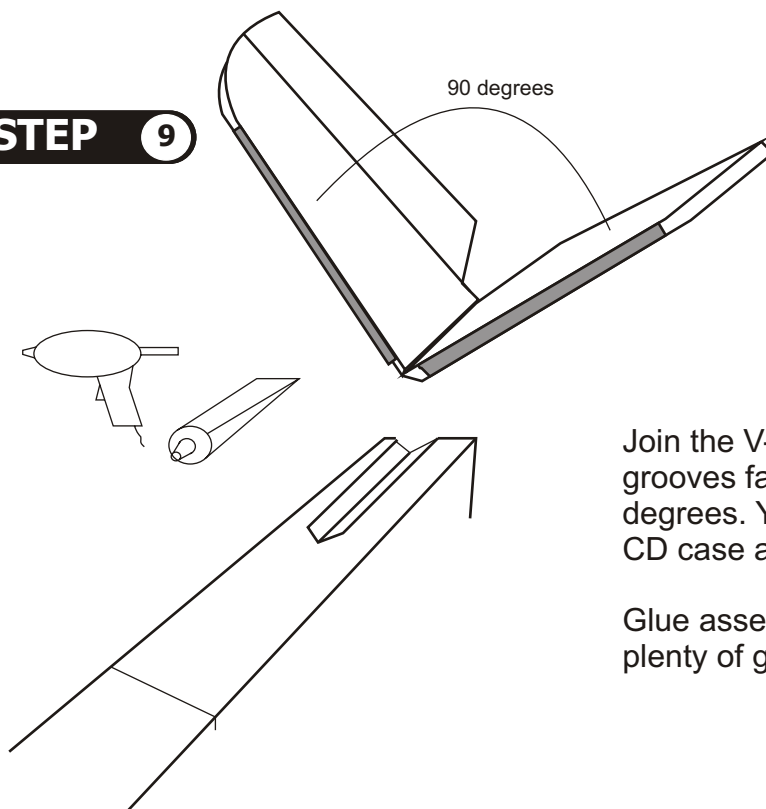
o-ring

## STEP 8



Cut a small slot and glue in horns as shown on both elevators on the side of the v channel in the hinge.

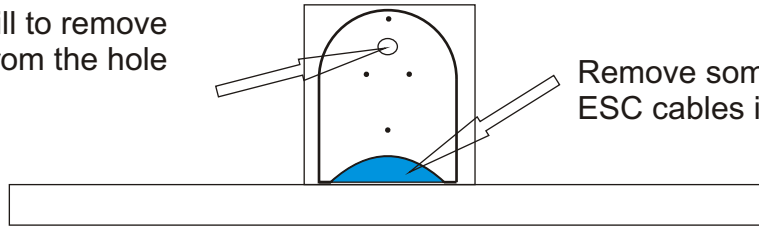
## STEP 9



Join the V-Tail together with horns and grooves facing down, glue together at 90 degrees. You can use a square object like a CD case as a guide.

Glue assembled v-tail to the fuselage, use plenty of glue, check its central and level.

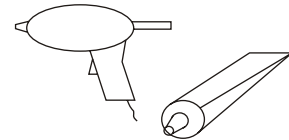
Use a 5mm drill to remove approx 6mm from the hole in the ply plate



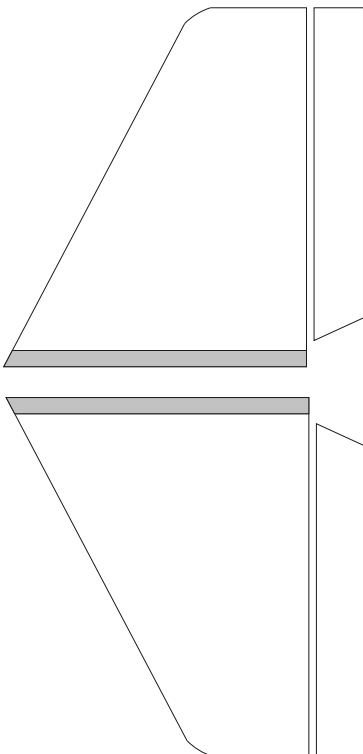
Remove some foam here to allow ESC cables into the fuselage.

## STEP 6

Use the 300mm length of Carbon strip, glue in. Check that the fuselage is not twisted and straight.

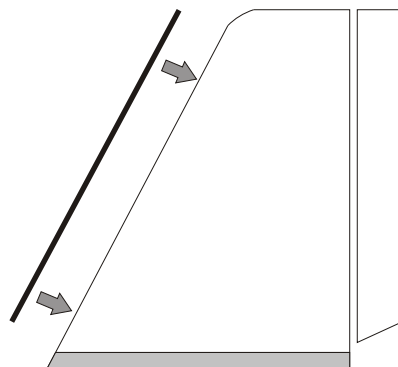


## STEP 7



Hinging elevator/rudder, make matching pair

Method , UHU Por hinge. Run a small bead of glue along the rear top edge of the tailplane and the same on the leading edge (LE) of the elevator. Allow glue to set for 5 minutes. On a flat surface bring the two edges together, the glue fuses together giving a strong flexible hinge, magic.

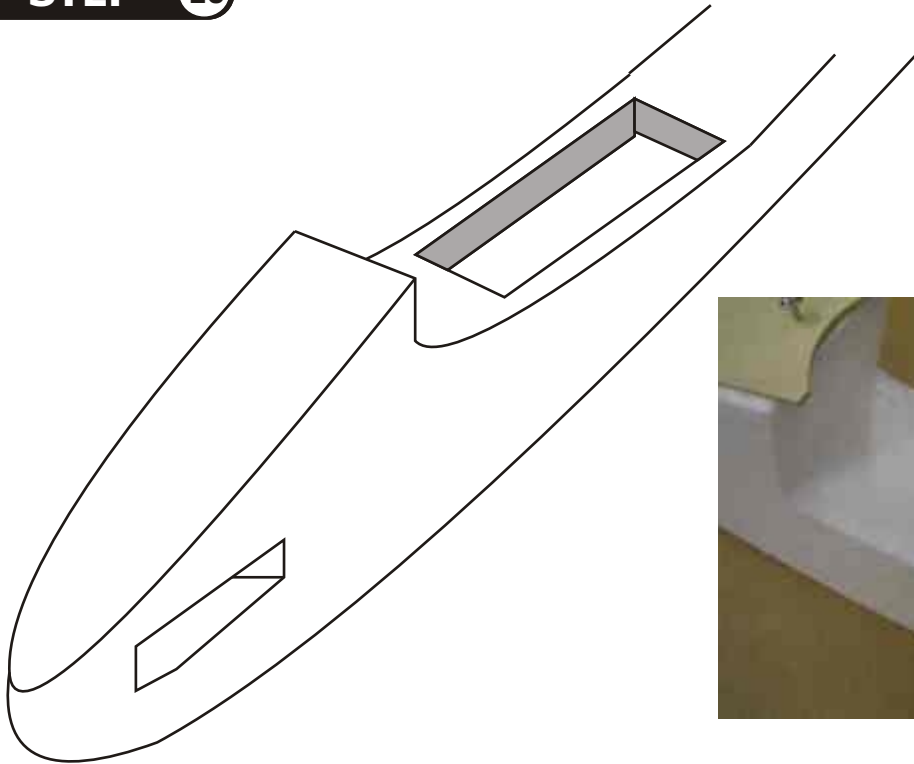


Tailplane stiffeners

Using the 2 small carbon fibre strips, smear a layer of UHU por to the front edge of each tail plane and one side of each of the strips, allow to dry for 5 minutes.

With the tailplane flat attach the strips to the centre of the front facing edge of the tail plane

## STEP 10



Put the wing aside. Now cut out the radio bay on the fuselage beneath where the wing sits. This is marked out. Follow the marked lines, the depth to cut should be around 20mm, this may vary according to the size of your receiver.



Cut around the line drawn on the fuselage, make criss cross cuts in side the pattern. Use a small screwdriver to pick out the foam, bit by bit until the receiver and ESC fit well.

## STEP 11



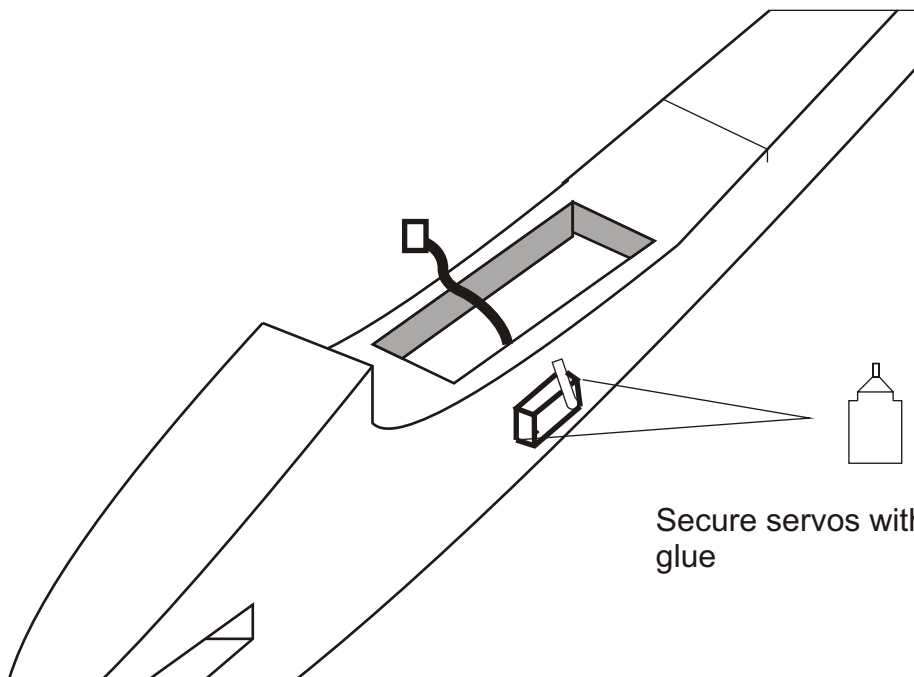
Cut out servo holes as marked in the side of the fuselage. Check fit of servo and make changes as required.

**STEP 12**

Use a small screwdriver to pierce a hole from inside the servo hole to the radio compartment made earlier

**STEP 13**

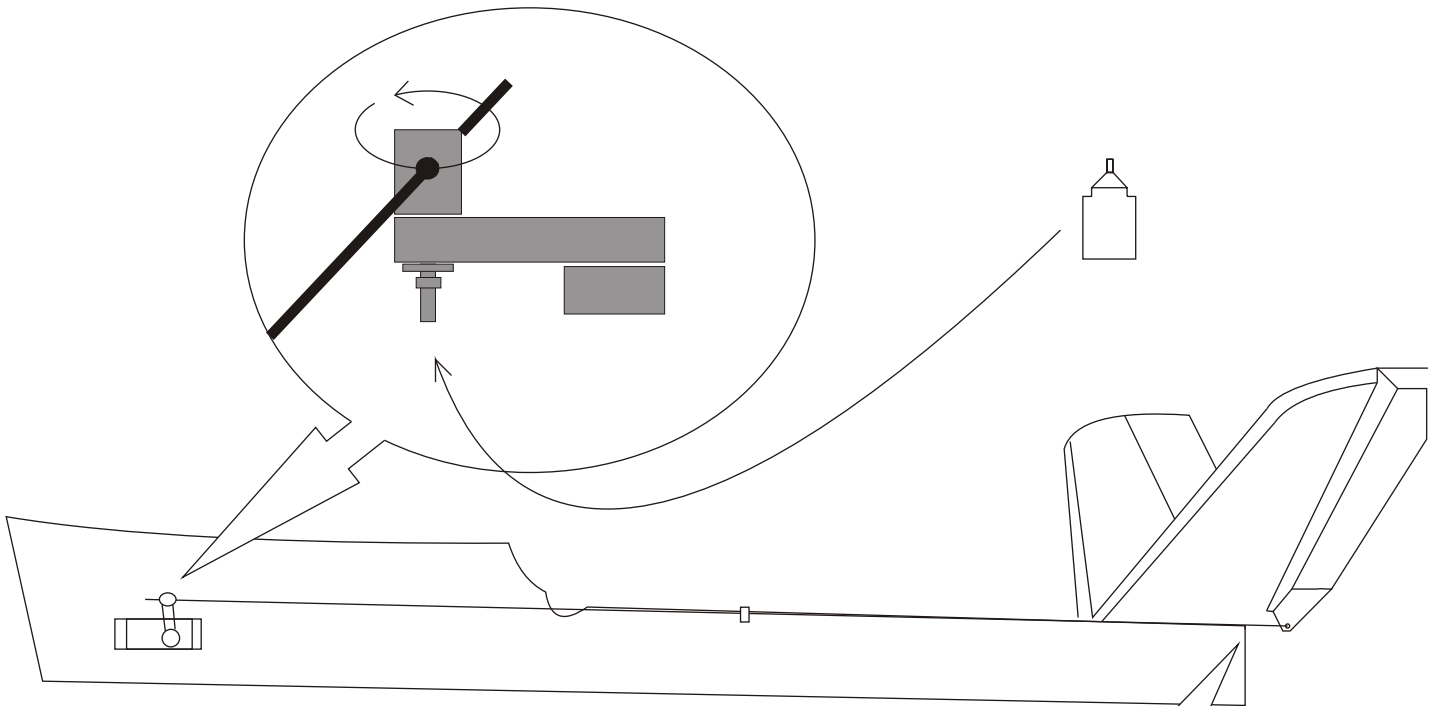
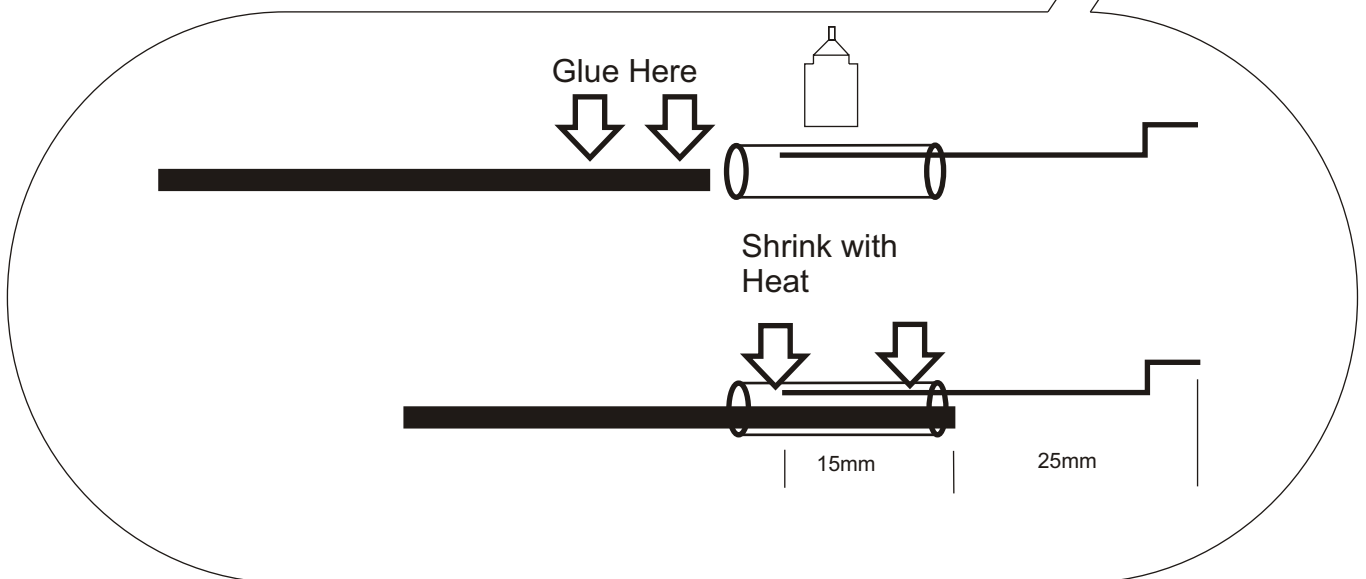
Feed the servo plug through to the radio compartment. Seat the servo in the hole and glue the lugs with CA glue.



Secure servos with a few blobs of CA glue

**STEP 14**

Attach the push rod adaptor to the servo arm, note it should be able to rotate in the arm. the adaptor should be firm but also able to rotate. Lock the small nut with thread lock or a tiny blob of CA.

**STEP 15**

Using the 1mm carbon rod, attach the piano wire with z-bend to the end of each length.

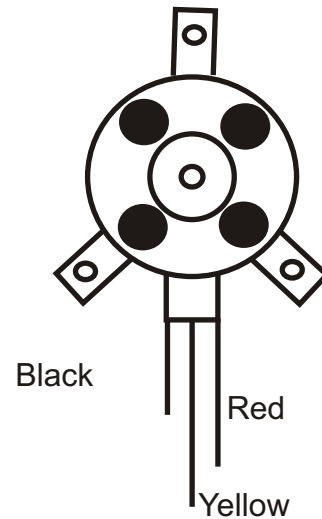
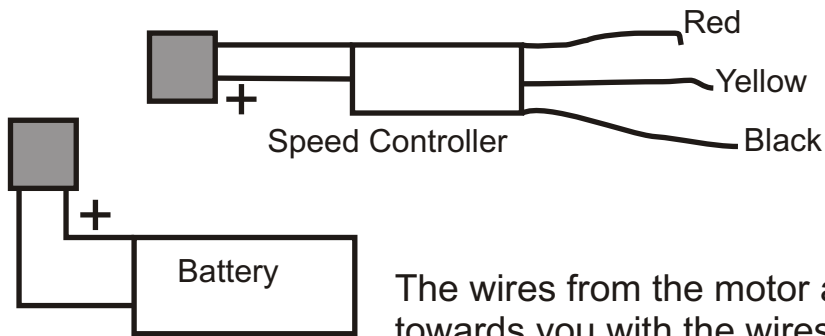
1. Cut 2 lengths of the heatshrink tube 30mm long each.
2. Smear CA glue along the end of a rod, approx 20mm in.
3. Assemble rod and piano wire as per picture, use a heat source such as a lighter to shrink the tube, allow 10mins to dry. Repeat for second rod.

You may have to lightly sand the rod for it to pass through the adaptor, slightly more than hand tight is sufficient for the screw to grip the rod.

## STEP 16

### Motor / Esc setup

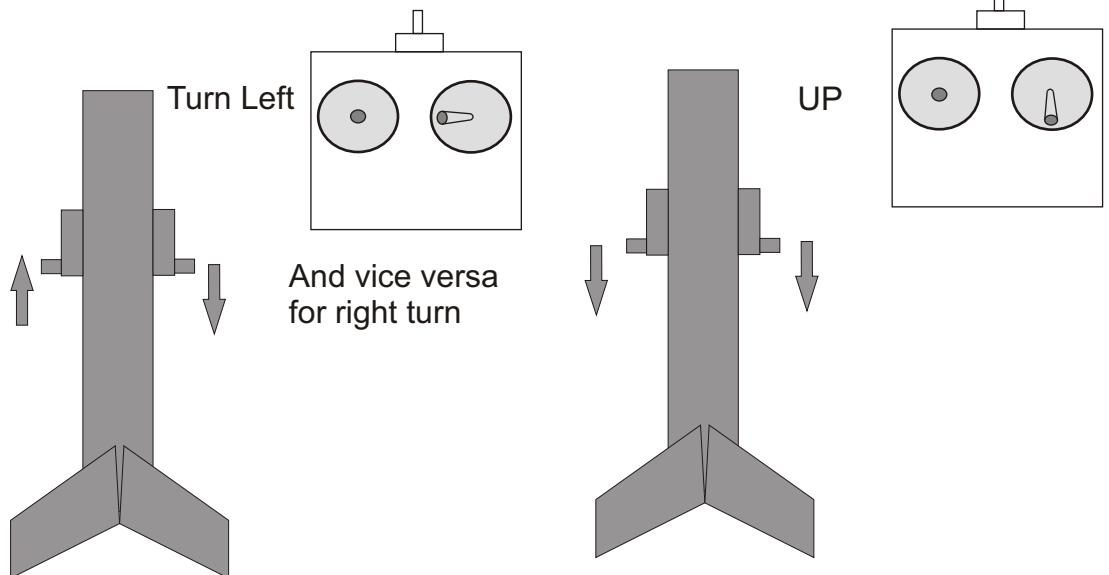
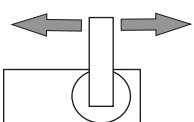
Refer's to Super Deal only



The wires from the motor are black, Face the motor towards you with the wires facing downwards. Connect the left, centre and right wire as shown . If the rotation is incorrect ie clockwise, swap the two outer wires around. Use the heat shrink to isolate each connection.

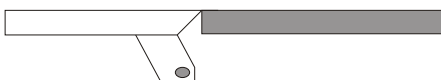
**DO NOT ATTACH THE PROPELLER UNTIL MOTOR TESTING HAS BEEN DONE**

## STEP 17



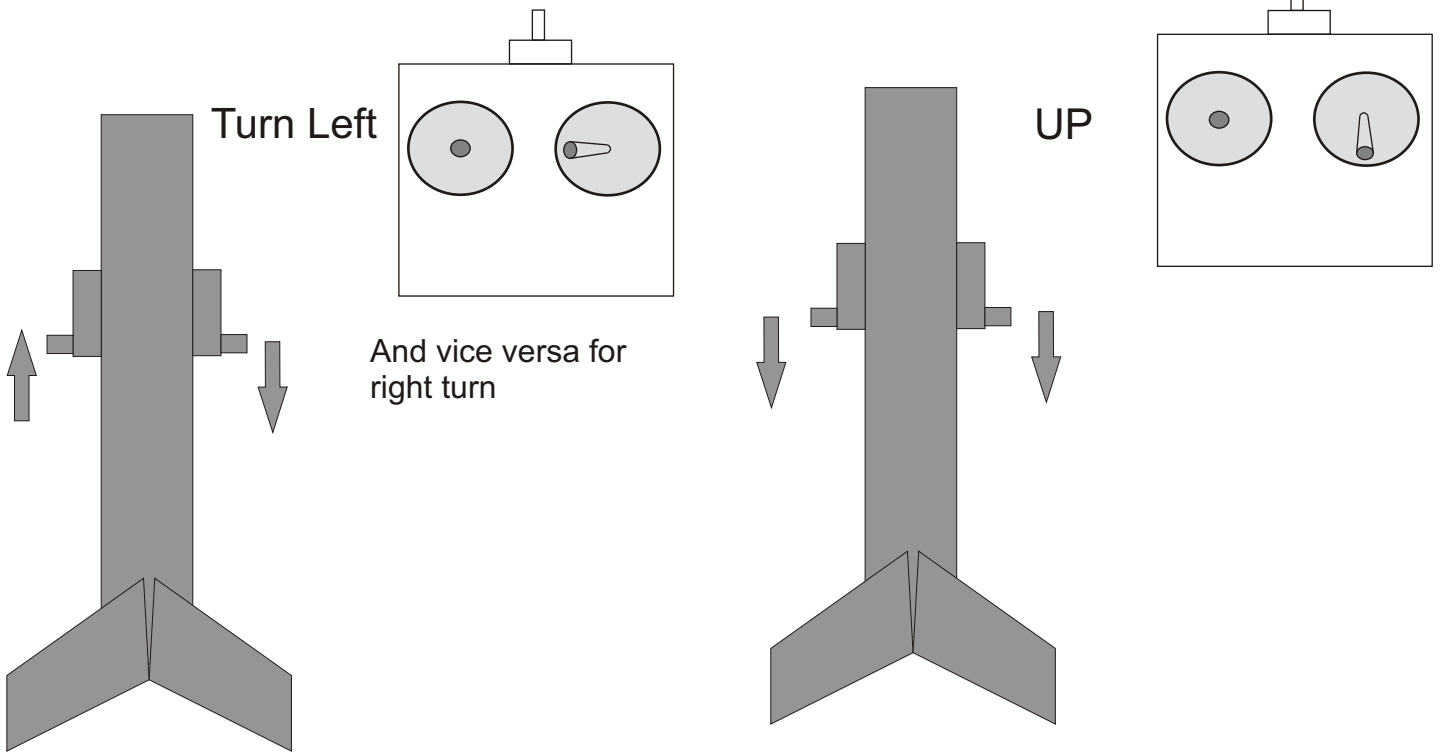
You will require a transmitter capable of V-Tail mixing, elevon or delta mixing also works. Your manual will tell you whether your transmitter has this function. If it does not, a small mixing module can be supplied.

Neutral position of elevator



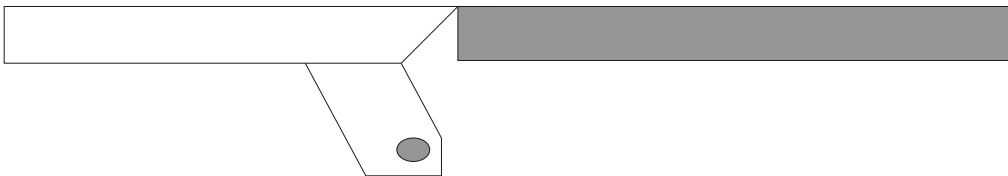
# Radio Setup

## SERVO MOVEMENT

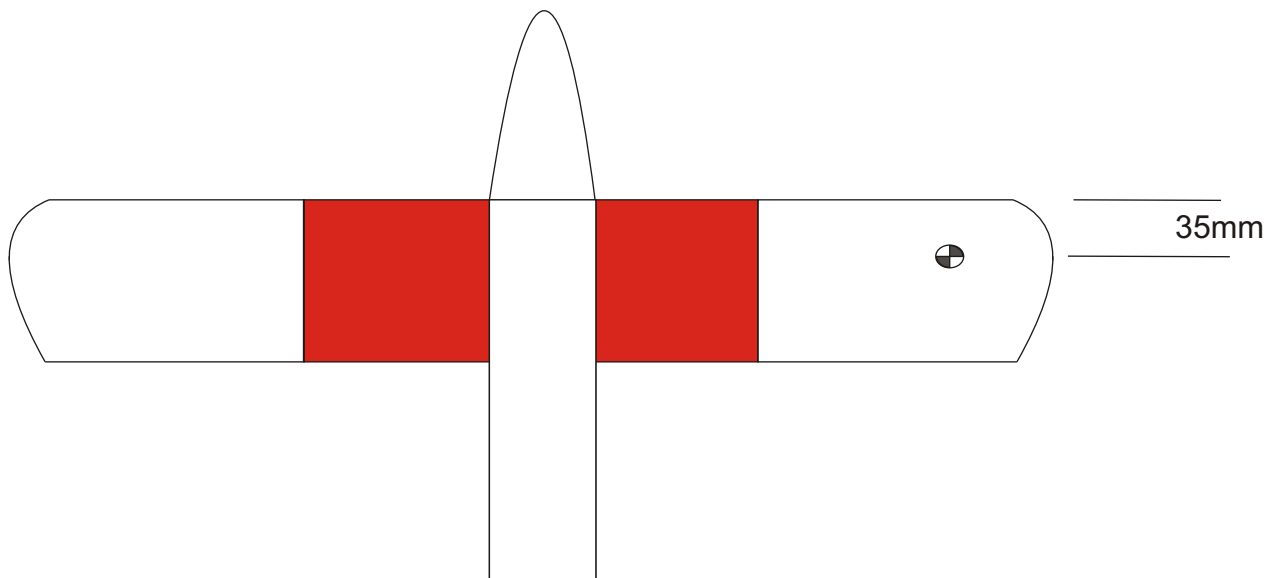


You will require a transmitter capable of V-Tail mixing, elevon or delta mixing also works. Your manual will tell you whether your transmitter has this function. If it does not, a small mixing module can be supplied.

### Neutral position of elevator



The "centre of gravity" or balance point is 35mm back from the wing leading edge.

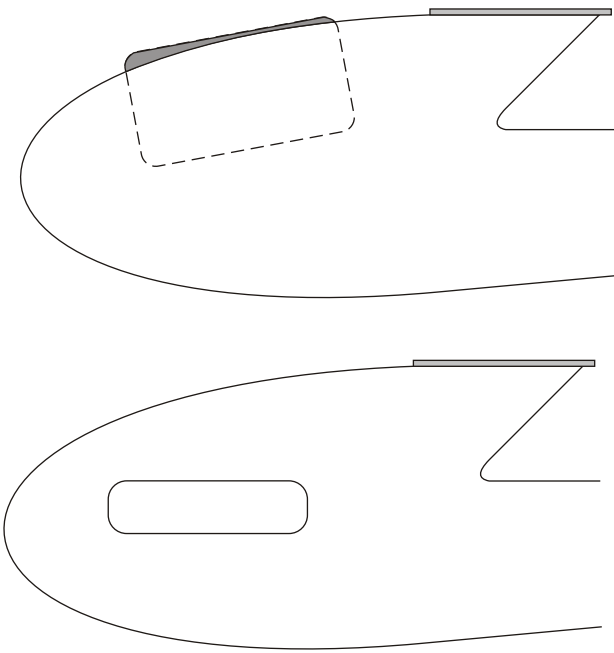


## Battery Retaining

There is 2 ways of mounting the battery.

You can cut a slot in the top front of the fuselage, or cut a slot in the side.

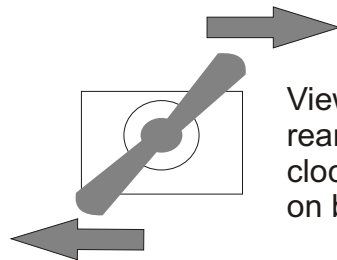
Always check battery fit as you cut.



## Flying

Double check all the controls.

1. The v-tail is operating as it should and that the neutral position is set.
2. The servos, pushrods and horns are firmly attached or screwed in.
3. The propeller is on correctly (normally writing facing forward)



Viewing the model from the rear, the motor should run clockwise with propeller put on backwards.

4. Motor rotation is clockwise when viewed from the rear.
5. "Centre of gravity" is correct.

The Mini-V is best hand launched directly into wind, you may want to try a few hand launches without power to adjust to the model, it glides quite far without power.

Slowly build up to powered launches.

Help Line 01908 615163

Email: [sales@flyingwings.co.uk](mailto:sales@flyingwings.co.uk)

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