

# SebArt *professional line*

## *KatanaS 50E*

**ARF**

### ASSEMBLY MANUAL

The new *KatanaS 50E ARF* was designed by Italy aerobatic pilot, Sebastiano Silvestri and the design is based on of his successful and famous *KatanaS* Tournament Of Champion's airplane.

This professional ARTF kit is the result of Sebastiano's long research in 3D performance. This combined with an extremely lightweight structure, the all wood airframe and the big control surfaces give the *KatanaS 50E* an impressive thrust-to-weight ratio and crisp control authority at any airspeed and flight condition....That for this small class of airplane is revolutionary!

The *KatanaS 50E* can do it all...unbelievable easy harriers, torque rolls, blenders, waterfalls and almost anything else you can dream up are waiting you!

***.....the only aerobatic limit is your fantasy!***

#### **Specifications**

Wing Span:..... 146 cm (57,84 in.)  
Length:..... 146 cm (57,84 in.)  
Wing Area:..... 49 dm<sup>2</sup> (75,95 sq.in.)  
Weight:...2.250 g. RTF less battery (79,36 oz)  
Radio:.....4-Channel with 4 standard servos

#### ***Recommended power set up:***

Motor:..... Hacker A50-14S  
ESC:..... X70 SBec-Pro  
Battery: **FlightPower** 3300-5S or 3700-5S  
Propeller: .....APC 16x8E or 16x10E

## Table of contents

Table of contents.....	2
Required radio, motor and battery.....	3
Additional required items, tools and adhesives.....	3
Warning.....	3
Before starting assembly .....	3
Using the manual.....	4
Warranty information.....	4
Section 1 – wing fillet installation.....	5
Section 2 – ailerons installation.....	5
Section 3 – aileron servo & control horn installation.....	7
Section 4 – rudder installation & tail wheel installation.....	8
Section 5 – elevator installation .....	10
Section 6 – elevator servo & control horn installation.....	12
Section 7 – rudder servo & control horn installation.....	13
Section 8 – landing gear & wheels installation.....	14
Section 9 – electric motor installation .....	16
Section 10 – glow engine installation (option).....	18
Section 11 – cowl installation.....	18
Section 12 – final radio installation .....	20
Wings installation.....	21
Decal set application.....	21
Control throws.....	22
Mixing.....	22
Rates and expos.....	22
Recommended CG.....	22
Range test your radio.....	23

## **Required radio, motor and battery**

### *Radio equipment:*

- Minimum 4-channel radio system
- 4 digital standard servo, recommended JR PROPO DS9401 or DS8301
- 2 servo extension 300mm, for elevator and rudder servos
- 2 servo extension 100mm, for aileron's servos

### *Recommended electric motor for best performance:*

- Hacker A50-14S + X70 SBec-Pro controller + APC 16x8E or 16x10E

### *Recommended Li-Po battery pack for best performance:*

- **FlightPower** EVO 25 3300mAh 5S.....for unlimited 3D
- **FlightPower** EVO 25 3700mAh 5S.....for duration and precision

## **Additional required item, tools and adhesives**

### *Tools:*

- Drill
- Drill bits: 1,5mm, 2mm, 3mm
- Phillips screwdriver
- Hobby knife
- Sanding paper
- Masking tape
- Soldering iron

### *Adhesives:*

- thin CA
- medium CA

## **Warning**

This RC aircraft is not a toy!

If misused, it can cause serious bodily harm and damage to property.

Fly only in open areas, preferably in official flying sites, following all instructions included with your radio and motor.

## **Before starting assembly**

Before starting the assembly of your KatanaS 50E, remove each part from its bag and protection for a prior inspection. Closely inspect the fuselage, wing panels, rudder, and stabilizer for damage. If you find any damage or missing parts, contact the place of purchase.

If you find any wrinkles in the covering, use a heat gun or covering iron to remove them. Use caution while working around areas where the covering material overlap to prevent separating the covers.

## **Using the manual**

This manual is divided into sections to help make assembly easier to understand and to provide breaks between each major section.

In addition, check boxes () have been placed next to each step to keep track of each step completed. Steps with two boxes indicate that the step will require repeating, such as for a right or left wing panel, two servos, etc.

Remember to take your time and follow the directions.

## **Warranty information**

SebArt guarantees this kit to be free from defects in both material and workmanship at the date of purchase.

This warranty does not cover any parts damage by use or modification, and in no case shall SebArt's liability exceed the original cost of the purchased kit.

Further, SebArt reserves the right to change or modify this warranty without notice.

In that SebArt has no control over the final assembly or material used for the final assembly, no liability shall be assumed or accepted for any damage of the final user-assembled product. By the act of using the product, the user accepts all resulting liability.

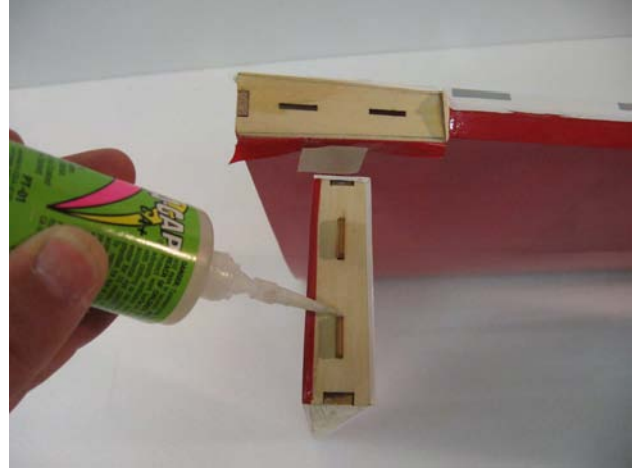
If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

SebArt di Sebastiano Silvestri  
Via Roma 83/85  
38017 Mezzolombardo (TN) – Italy  
[www.sebart.it](http://www.sebart.it)

## Section 1 – wing fillet installation

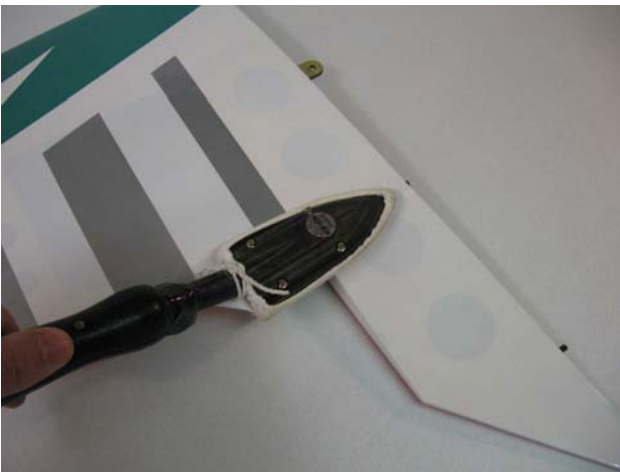
### □□ step 1

Locate the carbon tube and the wing to the fuselage. Locate the corresponding wing fillet to the wing. Test fit the fillet and his alignment with the wing panel and fuselage. Once satisfied with the fit, glue the wing fillet to the wing panel using medium CA. Use the glue carefully avoid over runs onto the area to be covered with the material.



### □□ step 2

Use the covering iron carefully, at a medium temperature, to glue the cover material down around the area of the fillet. Use caution while working around areas where the cover material overlaps to prevent separating the covers.



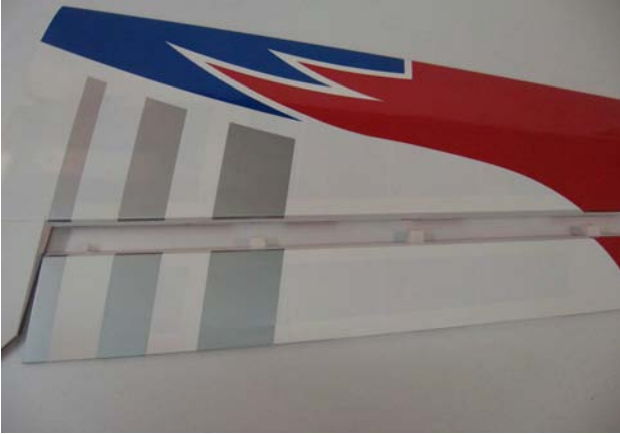
### □ step 3

Repeat steps 1 through 2 for the remaining wing panel and wing fillet.

## Section 2 – ailerons installation

### □□ step 1

Trial fit the four aileron hinges, included in the hardware pack, in their place and verify the correct position and alignment of the aileron with the wing panel.



**step 2**

Carefully glue, with some drops of thin CA, each of the four hinges in the aileron.



**step 3**

Locate the aileron and carefully glue, with some drops of thin CA, each of the four hinges into the wing panel.



**step 4**

Work the aileron up and down some times to work the hinges and check for proper movement.

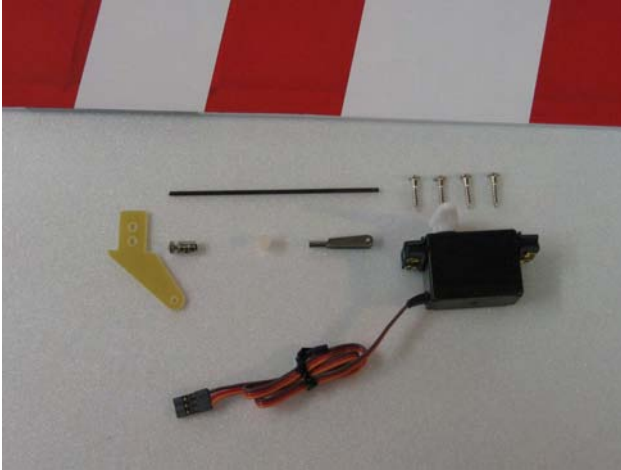
**step 5**

Repeat steps 1 through 4 for the remaining wing panel.

### Section 3 – aileron servo & control horn installation

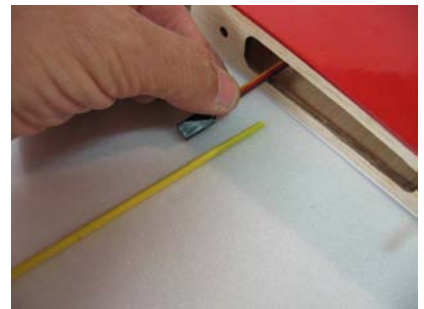
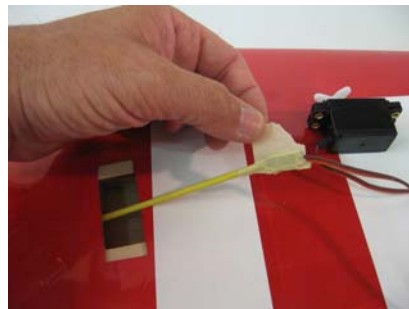
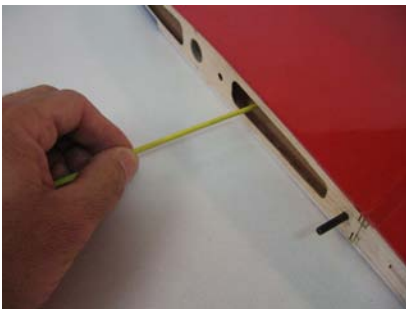
#### □□ step 1

Locate the following items included in the hardware pack and the servo (the servo is not included).



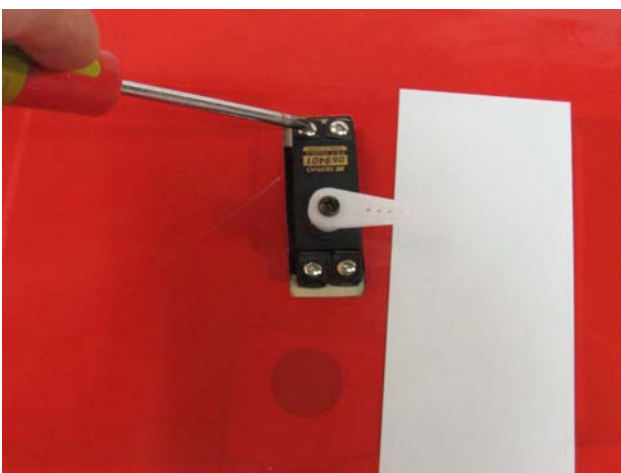
#### □□ step 2

Install the servo hardware (gommets and eyelets) and put the servo into the wing panel, as per pictures.



#### □□ step 3

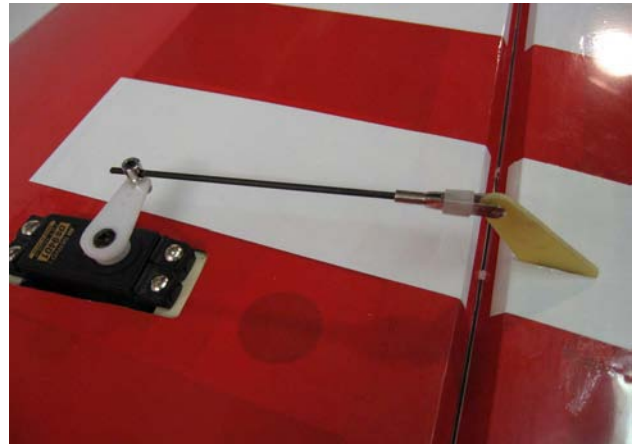
Install the servo into the wing panel using a Phillips screwdriver. Glue the fiberglass horn with medium CA into the aileron.





**□□ step 4**

Install the hardware and make the final adjustment as per picture.



**□ step 5**

Repeat steps 1 through 4 for the remaining wing panel.

**Section 4 – rudder installation & tail wheel installation**

**□ step 1**

Test fit the rudder into the fuselage, check for a correct alignment and glue it with medium CA.



**□ step 2**

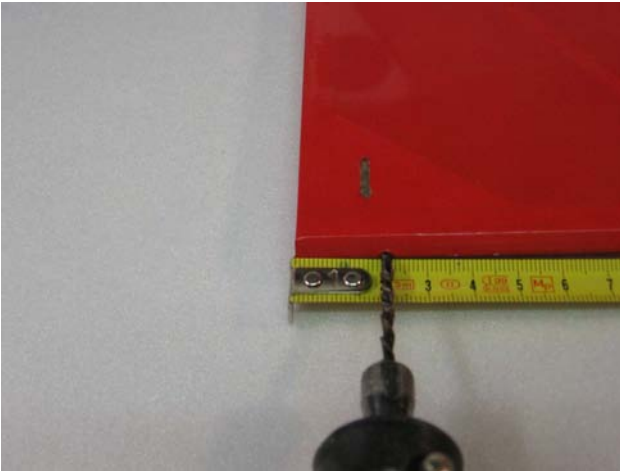
Insert the three hinges in their appropriate slots and glue them with some drops of thin CA.





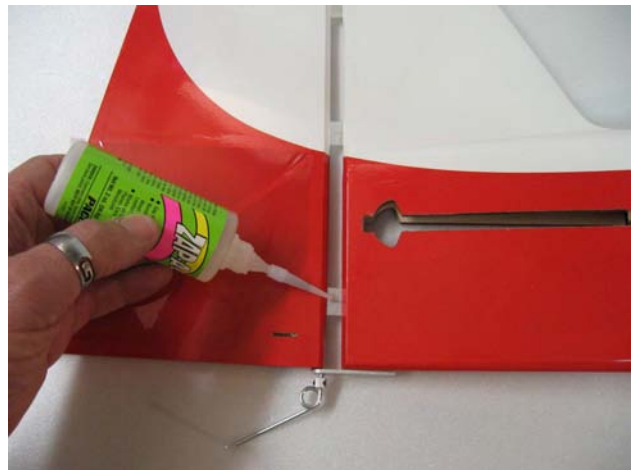
□ **step 3**

Drill in the rudder, 20mm from the bottom, the location for the tail wheel using a 2mm drill bit. Than locate the items included in the hardware pack, and assemble them as per picture.



□ **step 4**

With the hobby knife cut a groove of 20mm length into the rudder. Carefully put some drops of medium CA into the 2 mm hole and right after put in his rudder location the tail wheel. Than carefully locate the rudder and glue the hinges with some drops of thin CA.



□ **step 5**

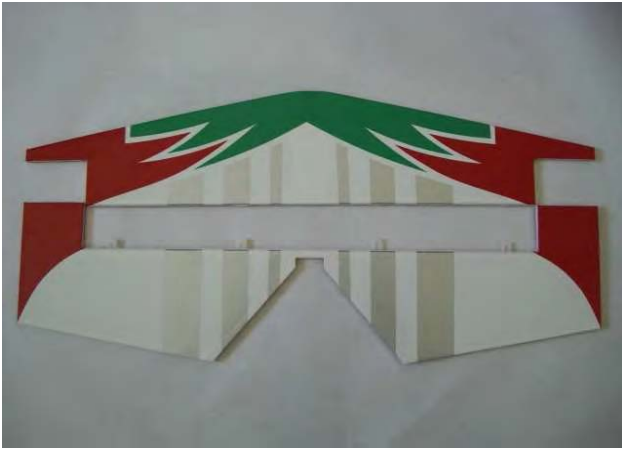
Using the hardware included and Phillips screwdriver, install the tail wheel, as per picture.



## Section 5 – elevator installation

### □ step 1

Insert in the elevator the four hinges into their appropriate slots and verify the correct position and alignment of the elevator with the stabilizer. Then carefully glue the hinges, with some drops of thin CA, in the elevator only.



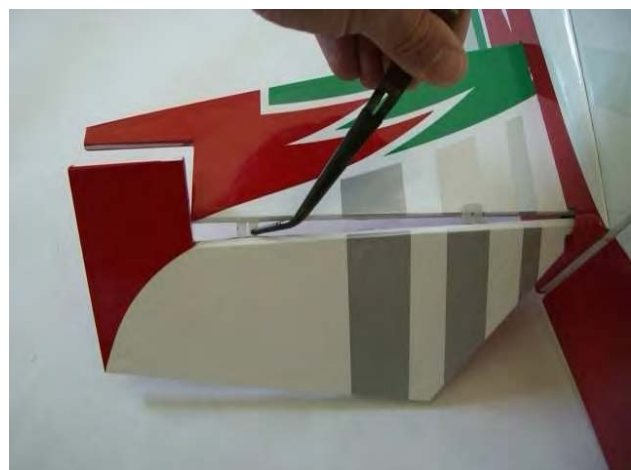
### □ step 2

Insert carefully the elevator through the fuselage.



### □ step 3

Insert the stabiliser into fuselage space and locate the elevator hinges into the stabiliser.



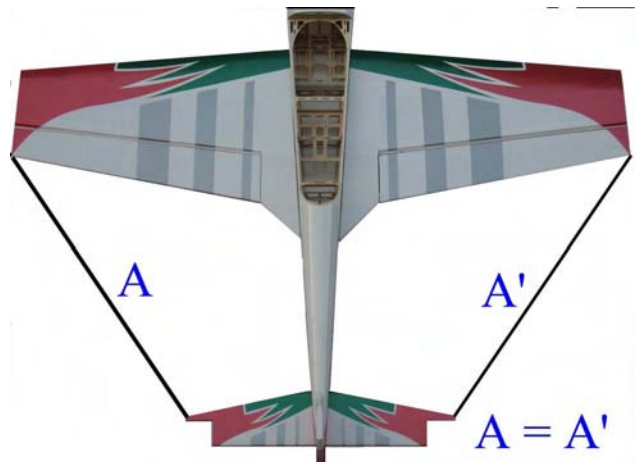
□ **step 4**

Glue carefully the hinges in the stabiliser with some drops of thin CA.



□ **step 5**

Locate the carbon tube in his position and carefully check the alignment of the stabilizer with the fuselage, as per pictures.



□ **step 6**

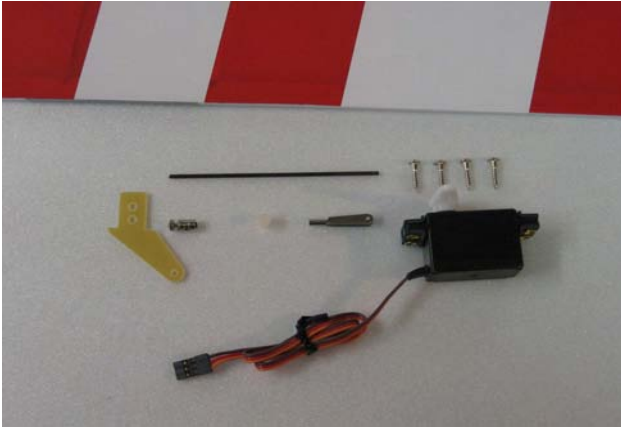
Once satisfied with the alignment, glue carefully with thin CA the stabilizer at the fuselage.



## Section 6 – elevator servo & control horn installation

### □ step 1

Locate the following items included in the hardware pack, servo extension 300mm long and servo (servo and extension are not included).



### □ step 2

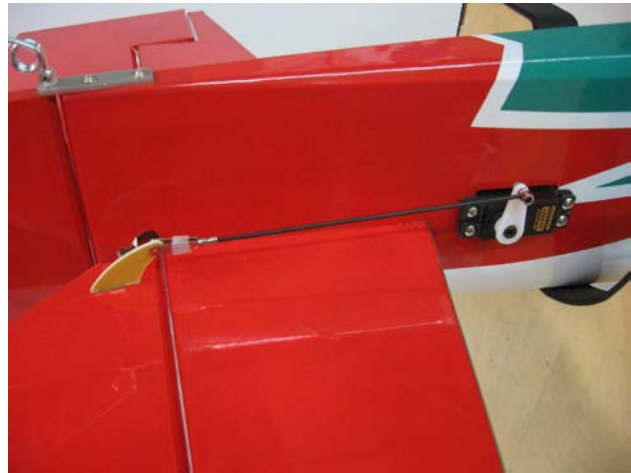
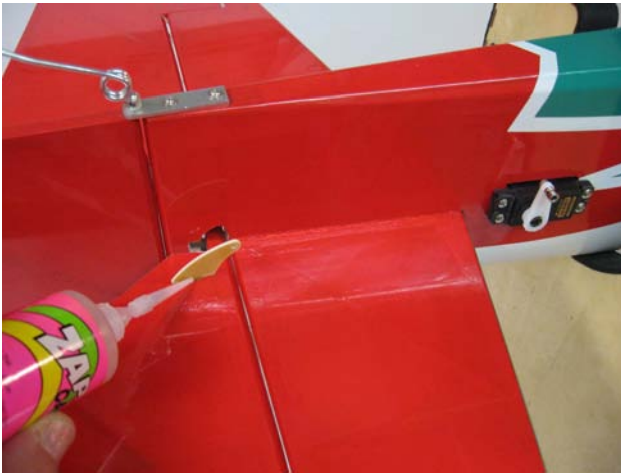
With the hobby knife open the servo bay in the fuselage. Then install the servo hardware (grommets and eyelets) and install the servos into the fuselage using a Phillips screwdriver.



### □ step 3

Glue the fibreglass horn with medium CA into the elevator. Then install the hardware and make the final adjustment as per picture.

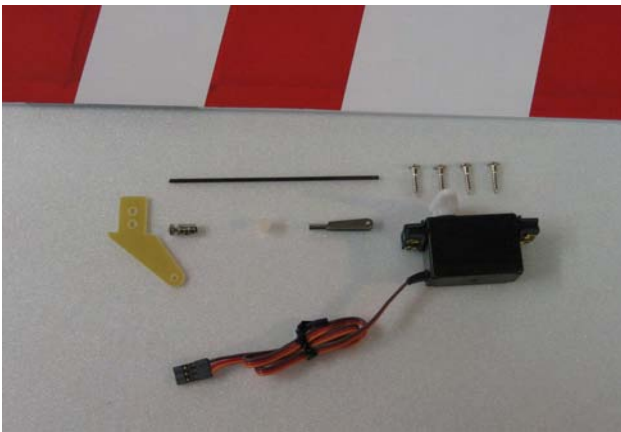




**Section 7 – rudder servo & control horn installation**

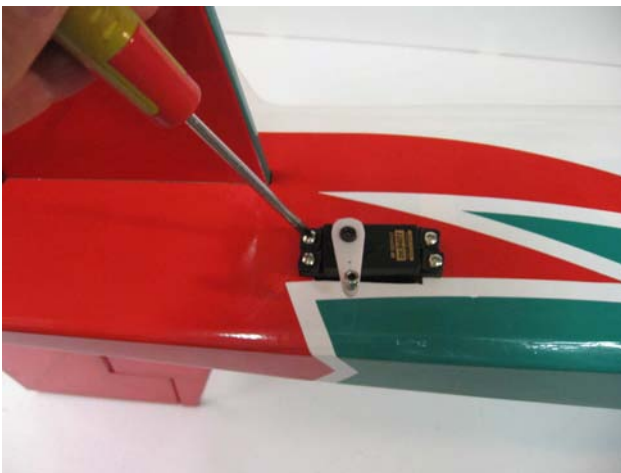
**□ step 1**

Locate the following items included in the hardware pack, servo extension 300mm long and servo.



**□ step 2**

With the hobby knife open the servo bay in the fuselage. Than install the servo hardware (gommets and eyelets) and install the servos into the fuselage using a Phillips screwdriver.



**□ step 3**

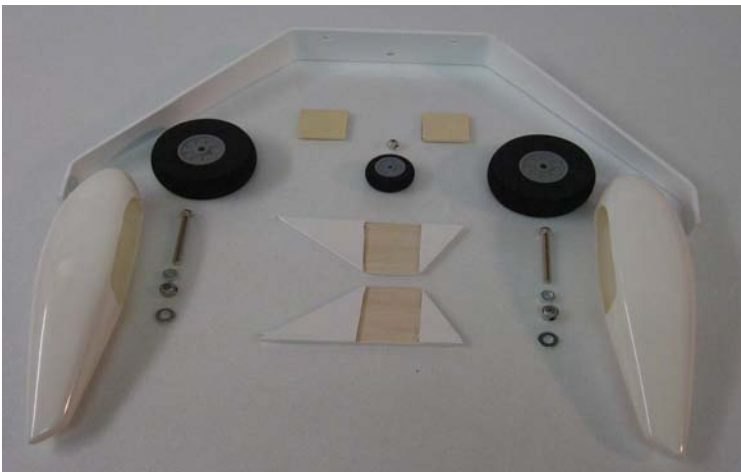
Glue the fibreglass horn with medium CA into the rudder. Than install the hardware and make the final adjustment as per picture.



## **Section 8 – landing gear & wheels installation**

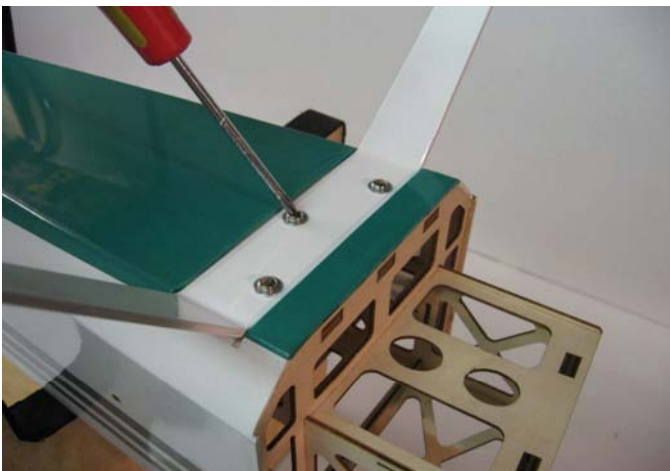
### **□ step 1**

Locate the following items included in the hardware pack.



### **□ step 2**

Locate the landing gear on the fuselage and fix it with the screws included in the hardware pack.



### **□□ step 3**

Sand with the sanding paper the inside of the wheel pant; locate the wood reinforcement, glue it with some drops of medium CA and drill the location for the wheel axis screw using a 3mm drill bit as per pictures.



□□ **step 4**

Install wheel and wheel pant as per pictures.



□□ **step 5**

Drill the location for the wheel pant fixing screw using a 1,5mm drill bit and then fix the wheel pant with the screw included in the hardware pack.



□□ **step 6**

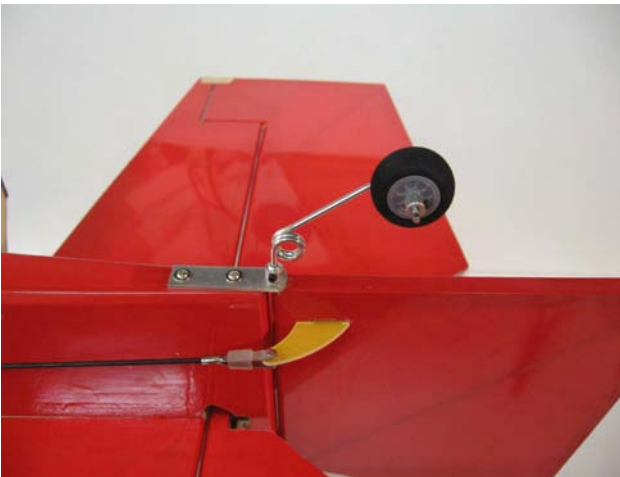
Glue carefully the landing gear fillet with some drops of medium CA, as per picture.





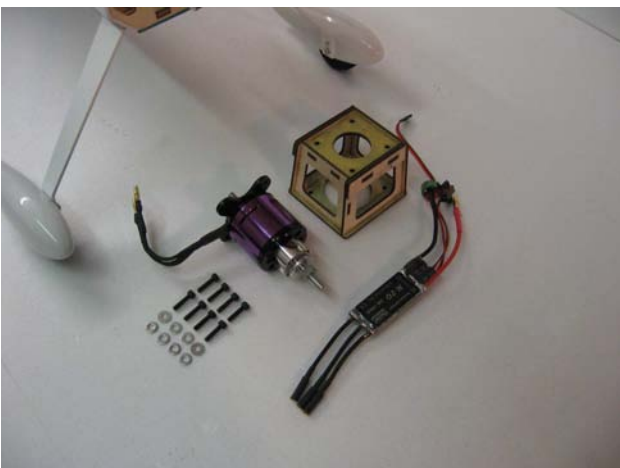
□ **step 7**

Repeat steps 3 to 6 for the other side of the landing gear and then install the tail wheel.



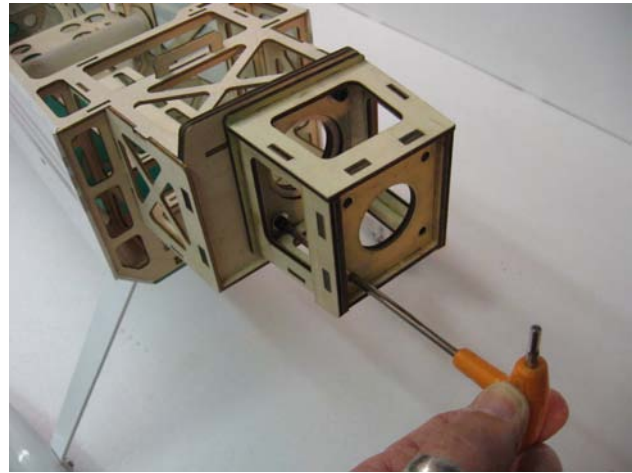
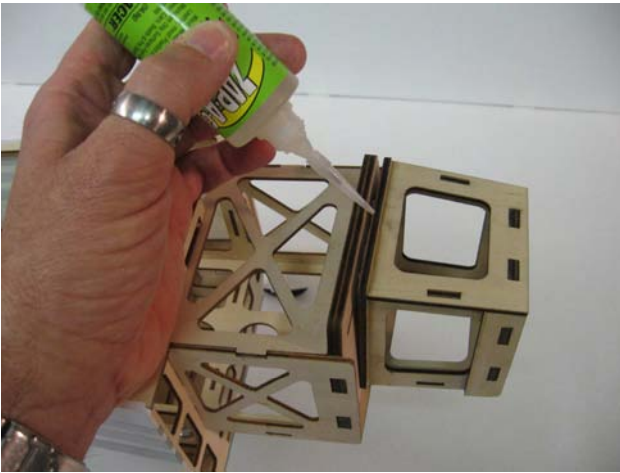
**Section 9 – electric motor installation**

For best performance, we recommend to use HACKER motor.



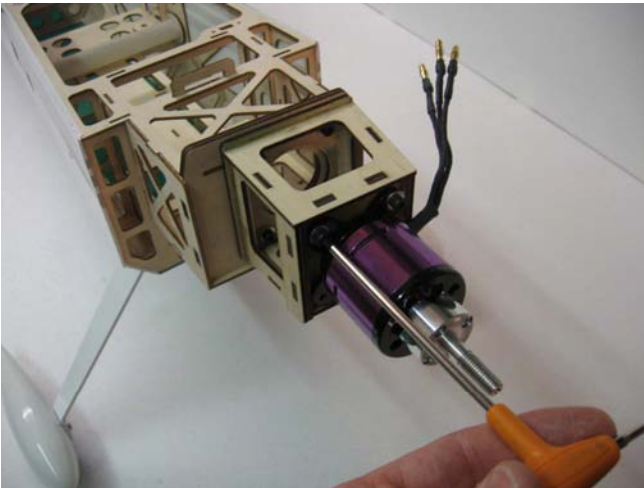
□ **step 1**

Locate the engine mount on the fuselage and glue it carefully with medium CA, than fix it using the four screws included in the hardware pack.



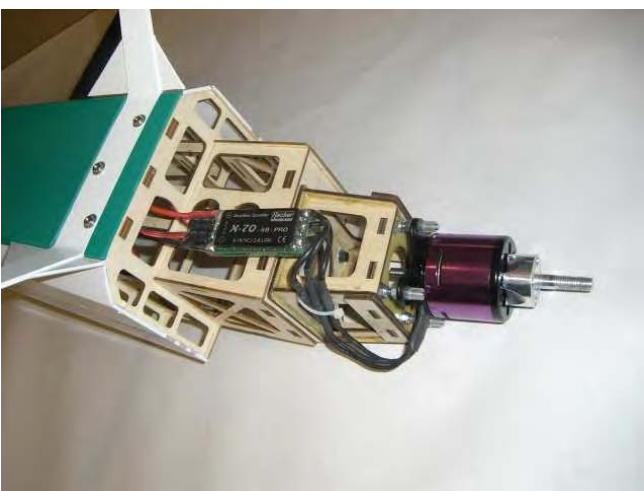
□ **step 2**

Locate the motor and fix it with the four screws included in the motor hardware pack.



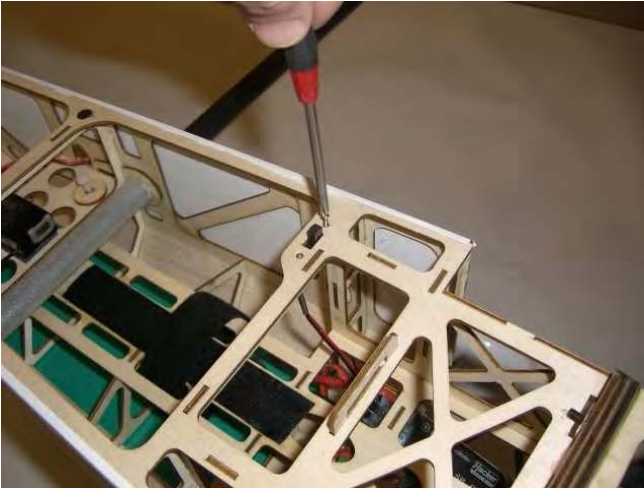
□ **step 3**

Fix the controller in the area shown in the picture.



□ **step 4**

Locate the ESC switch and fix it as per picture.



### **Section 10 – glow engine installation (option)**

If you want to install a glow engine, you need the hardware pack and the reinforcement wood parts set, that is available as optional.

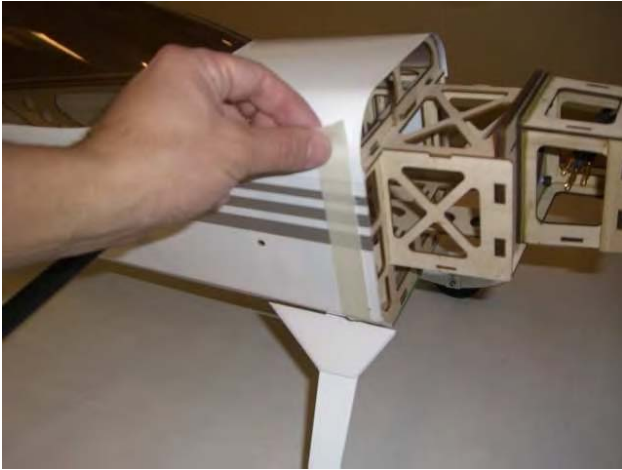
Visit the website [www.sebart.it](http://www.sebart.it) for price and for download the manual instructions for this special application.



### **Section 11 – cowl installation**

#### **□ step 1**

Apply a piece of masking tape on the line were you have to make the holes for the cowl fixing screws, than mark the position as per the picture.



□ **step 2**

Slide the cowling onto the fuselage and install the spinner back plate. Position and hold the cowl so there is 3mm gap between the back plate and the cowl. Then apply another piece of masking tape on the same line of the one applied before.



□ **step 3**

Drill the location for the four self-tapping screws using a 1.5mm drill bit. Attach the cowl using the four self-tapping screws, included in hardware pack, and a Phillips screwdriver.



□ **step 4**

Fix carefully the prop and spinner.

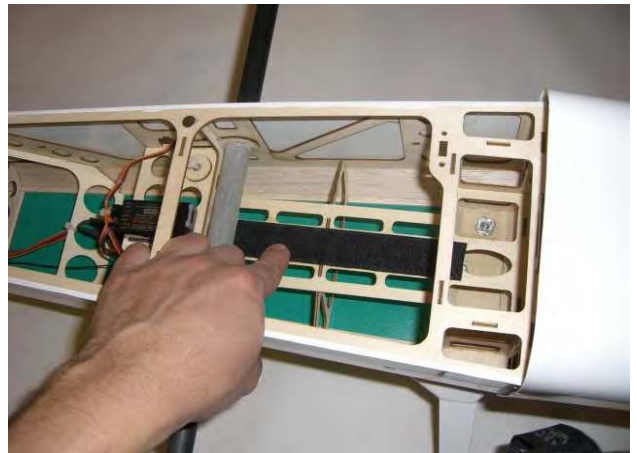




## Section 12 – final radio installation

### □ step 1

Glue with some drops of medium CA on side of the Velcro strip included in the hardware pack.



### □ step 2

With the hobby knife open the cooling holes in the fuselage as per picture.



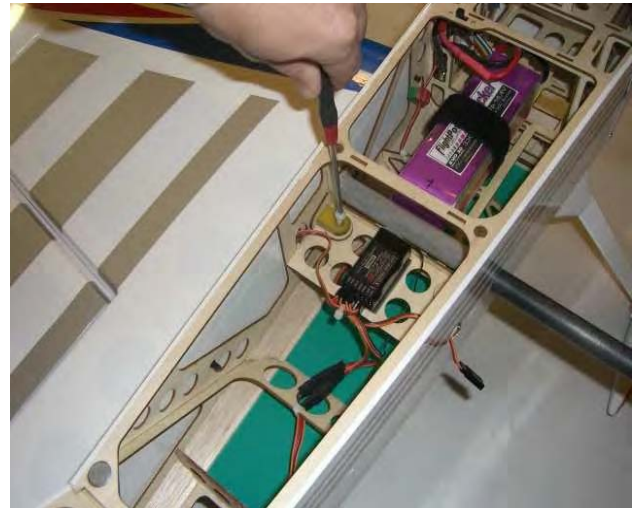
### □ step 3

Install the receiver, two extension 100mm for aileron servos and the battery pack as per the picture.



### Wings installation

Locate the wing panels and fix them using the two nylon screws, included in the hardware pack, and a Phillips screwdriver.



### Decal set application





### Control throws

Please, follow carefully the recommended linkage setups for ailerons and elevators.

For the AILERON we recommend the following throws:

**Low rate:** 20° up / 20° down      **Expo:** 40%  
**3D rate:** 45° up / 45° down      **Expo:** 80%

For the ELEVATOR we recommend the following throws:

**Low rate:** 20° up / 20° down      **Expo:** 25%  
**3D rate:** 60° up / 60° down      **Expo:** 80%

For the RUDDER we recommend the following throws:

**Low rate:** 30° left / 30° right      **Expo:** 30%  
**3D rate:** 50° left / 50° right      **Expo:** 60%

**Note:** the **Expo** is (+) for JR systems, and (-) for Futaba systems.

### Mixing

For best performance, we recommend a linear-mix\*:      **Rudder → Elevator UP**

When you give full rudder to the right or left side, the elevator have to go up (positive) approx. 8%

\* if you have a programmable computer radio.

### Rates and expos

Use the recommended expos to soften the feel of the model, especially on high 3D rates. The goal is to get the model to feel the same around neutral as it does on low rates.

*Use low rate settings for all flying, included starts and landings, and high rate for 3D aerobatics.*



For precision flying or general sport fliers, the low rate throws are perfect, even for snap rolls. When doing 3D aerobatics, flip to 3D rates just before the manouer. As soon as the manouver is done, flip back down to low rate to avoid over-controlling the model.

### **Recommended CG**

The recommended **Center of Gravity** location is **125mm** behind the leading edge of the wing against the fuselage.

- **120mm** is good for pattern flying.
- **130mm** is good for 3D flying.

Use the *FlightPower* battery pack, moving it forward or backward, to achieve the correct balance.

### **Range test your radio**

#### **step 1**

Before fly, be sure to range check your radio as manufacturer's instruction manual of you radio-system recommand.

#### **step 2**

Double-check all controls (aileron,elevator, rudder and throttle) move in the correct direction.

#### **step 3**

Be sure that your *FlightPower* batteries are fully charged, as per the instructions included with your batteries and that your radio is fully charged as per its instructions.

*Finally...*

*have a nice flight!*

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