

# ***F3A -50E-A4***

## ***ARF***

### **ASSEMBLY MANUAL**

The new ***F3A-50E-A4 ARF***, was designed in an extremely lightweight structure, the all wood airframe, and the new revolutionary Lift Generator on landing gear give the ***F3A-50E-A4*** an impressive thrust-to-weight ratio and an impressive precision at any airspeed and flight condition

The ***F3A-50E-A4*** can do it all... it is ready for any pattern sequence as for unbelievable easy torque rolls, slow speed knife-edge and almost anything else you can dream up are waiting you!

***.....without any aerobatic limit when you fantasy to do it !***

#### **Specifications**

Wing Span:.....1406 mm (55 in.)  
Length:..... 1460 mm (57 in.)  
Wing Area:..... 37.5 dm2 (59 sq.in.)  
Weight: 2200 g. RTF less battery (77,4 oz)  
Radio:.....4-Channel with 4 standard servos

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

Motor:..... Hacker A50-16S  
ESC:..... X70 SBec-Pro  
Battery: Flight Power 3300-6S or 3700-6S  
Propeller: ... APC 16x10E

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

### ***Radio equipment:***

- Minimum 4-channel radio system
- 4 digital standard servo, recommended JR PROPO DS9401 or DS8301
- 1 servo extension 600mm, for elevator servo
- 2 servo extension 100mm, for aileron's servos

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

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

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

- Flight Power EVO 3300mAh 6S...for unlimited 3D
- Flight Power EVO 3700mAh 6S...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 F3A- 50E-A4, 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 overlaps 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.

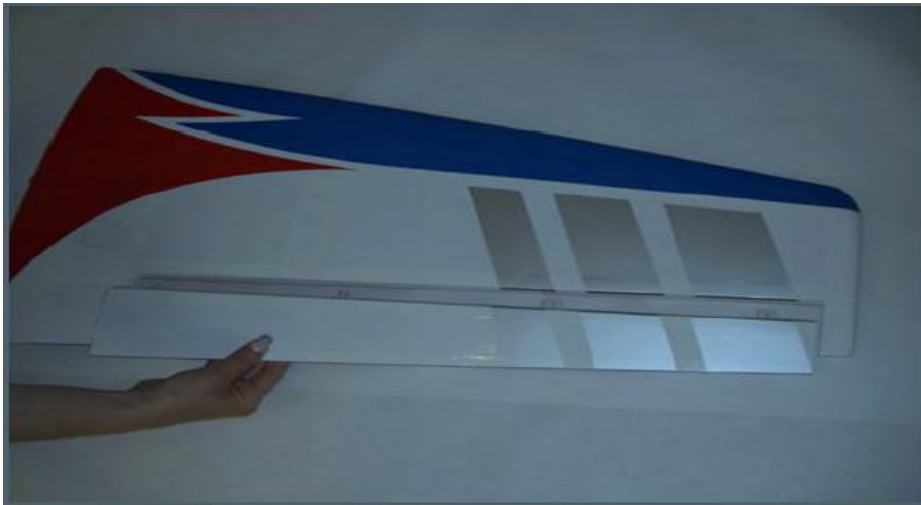
In addition, check boxes have been placed next to each step to keep track of each step completed. Steps with two boxes indicate that the step will require repeating, such as for a right or left wing panel, two servos, etc.

Remember to take your time and follow the directions.

## Section 1 – ailerons installation

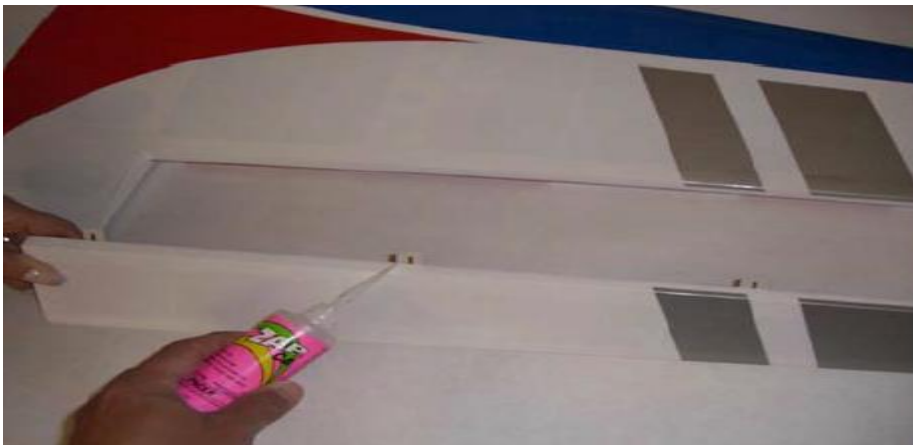
### **}} step 1**

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, the hinges into the wing panel.



**}} step 4**

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

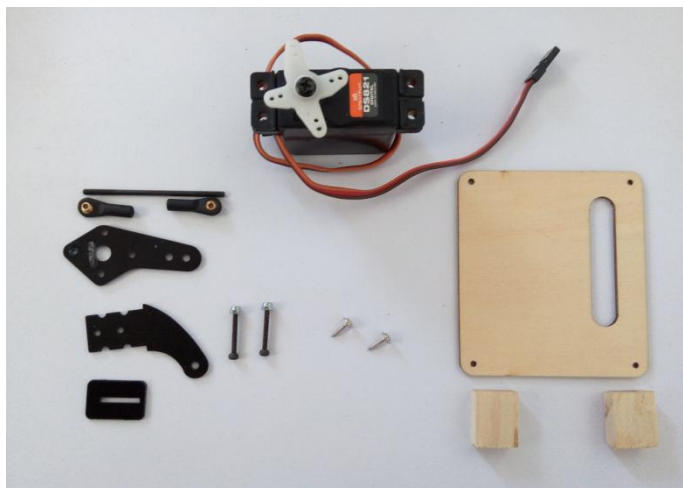
**}} step 5**

Repeat steps 1 through 4 for the remaining wing panel.

**Section 2 – aileron servo & control horn installation**

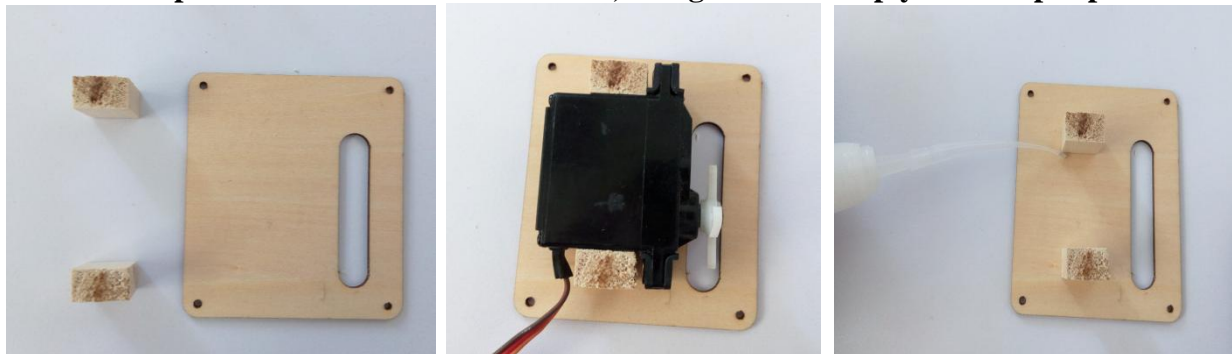
**}} step 1**

Locate the following items included in the hardware pack and the servo.



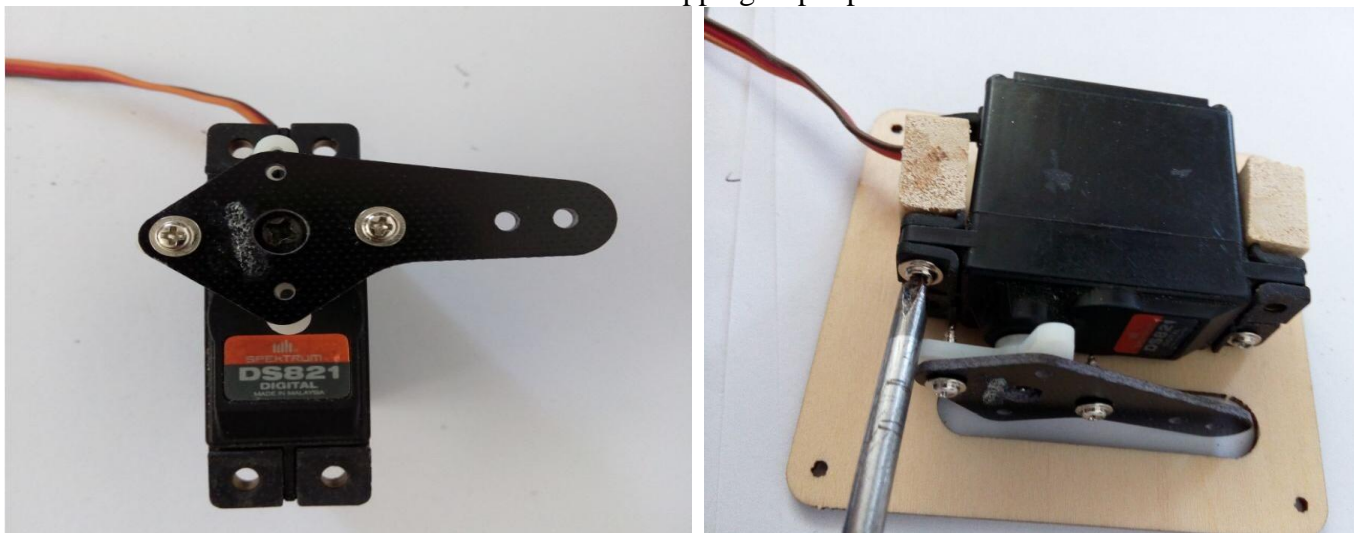
**}} step 2**

Test the best position of the servo wood block, and glue it on the plywood as per picture showed.



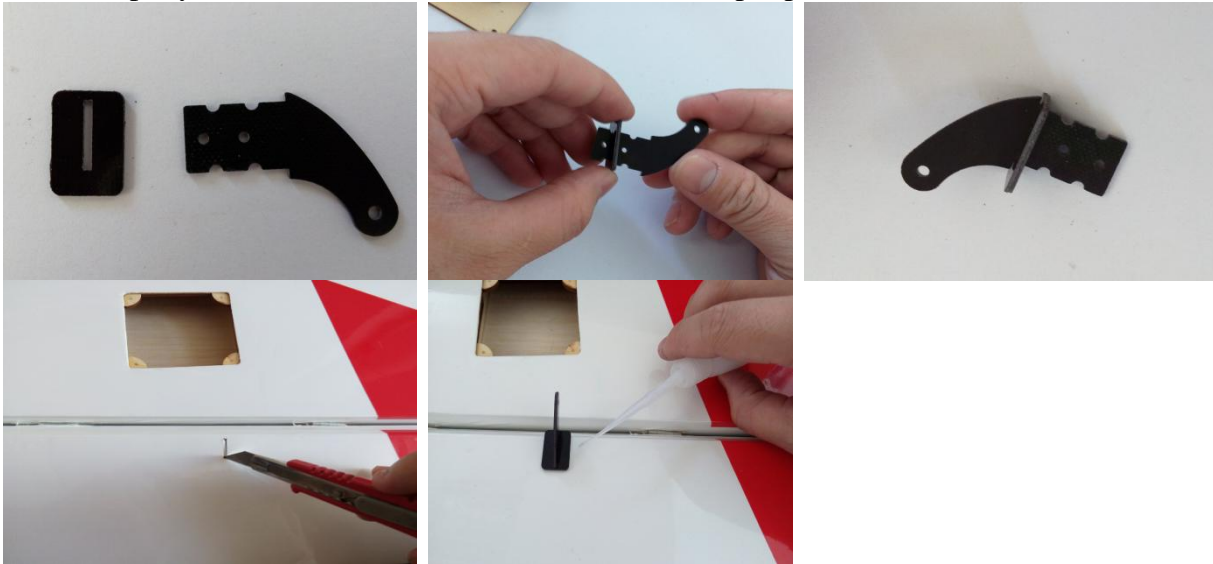
**}} step 3**

Pre-install the rock-arm and the servo with the self-tapping as per picture.



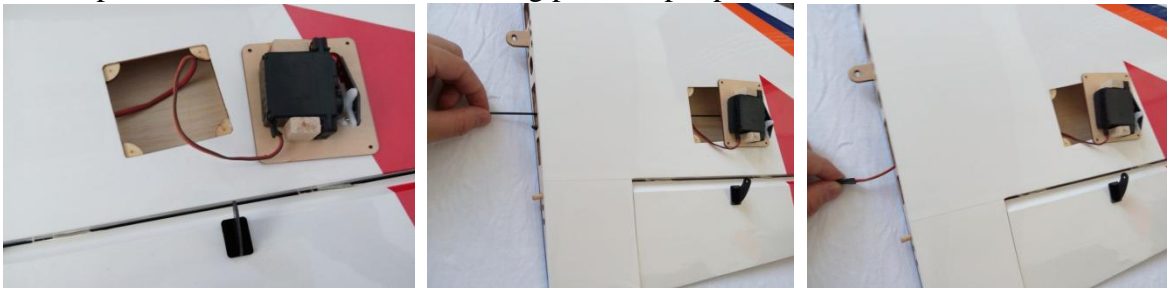
**}} step 4**

Glue the epoxy horn with medium CA into the aileron, as per picture.



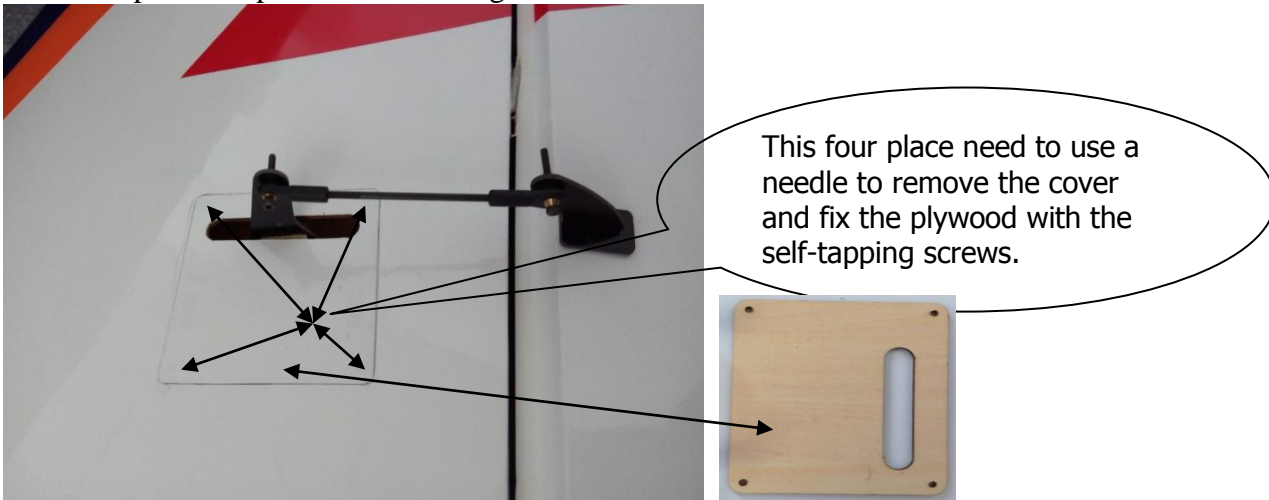
**}} step 5**

Put the pre-installation servo into the wing panel, as per picture.



**}} step 6**

Install the push and pull rod connecting rod.



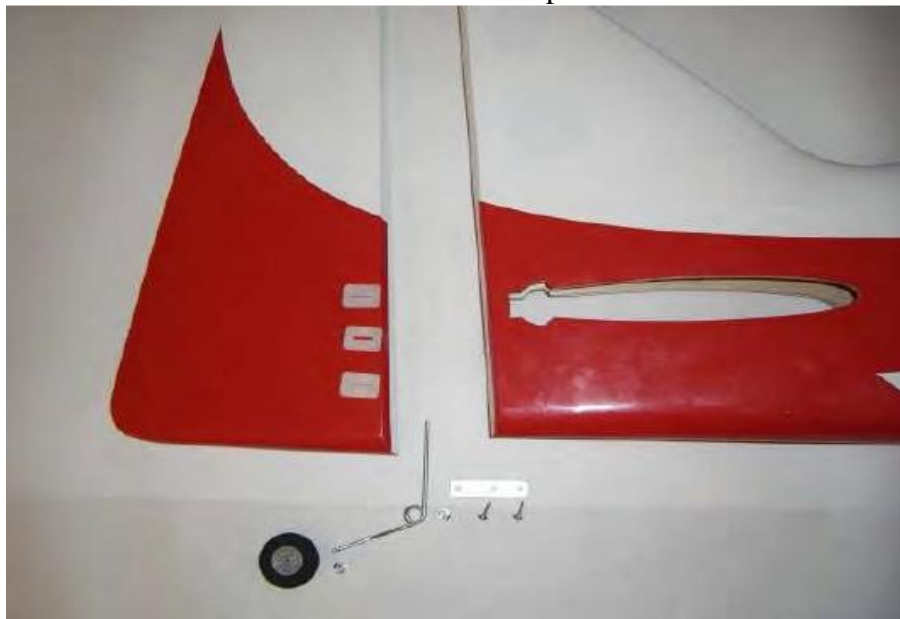
**}} step 7**

Repeat steps 1 through 6 for the remaining wing panel.

## Section 3 – rudder installation & tail wheel installation

### }} step 1

Locate the items included in the hardware pack.



### }} step 2

Drill in the rudder, 20mm from the bottom, the location for the tail wheel using a 2mm drill bit. With the hobby knife cut a groove of 20mm length into the rudder.



### }} step 3

Then locate the items included in the hardware pack and assemble them as per picture.





**}} step 4**

Drill the screw locations for the tail wheel using a 1,5mm drill bit, and install it as per picture.



**}} step 5**

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



**}} step 6**

Carefully put some drops of medium CA into the 2 mm hole into the rudder. Carefully locate the rudder and glue the hinges with some drops of thin CA.



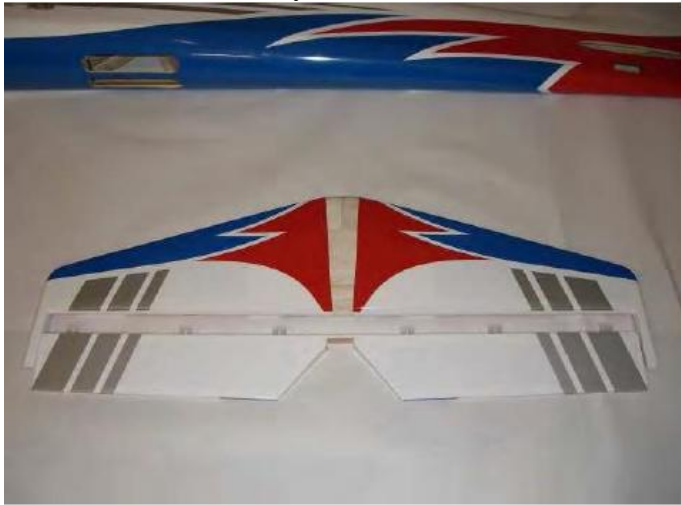
**}} step 7**

Work the rudder right and left some times to work the hinges and check for proper movement.

## Section 4 – 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.



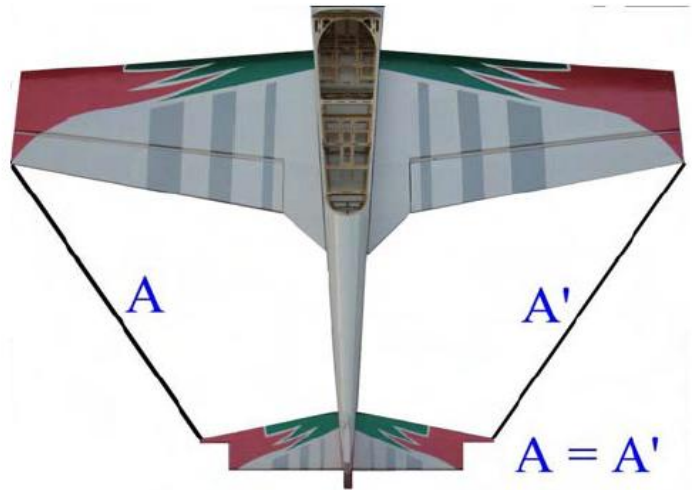
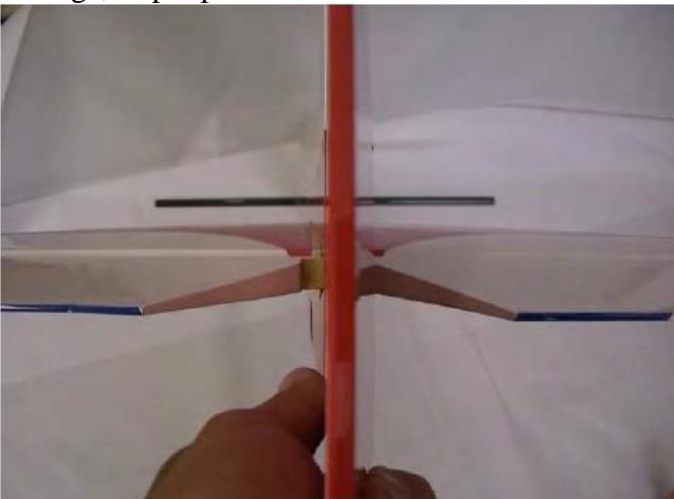
**}} step 4**

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 5 – elevator servo & control horn installation

### }} step 1

Locate the following items included in the hardware pack, servo extension 600mm long and servo.

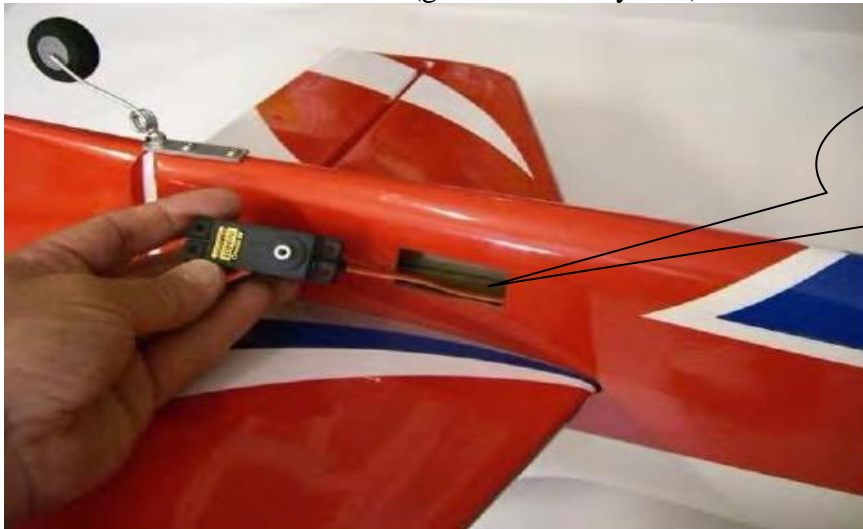


This one can use the Hexagonal Ball linkage



### }} step 2

Then install the servo hardware (grommets and eyelets) and locate the servo into the fuselage.



Before install the servo use a knife to remove the cover

### }} step 3

Drill using a 1,5mm drill bit, and install the servo into the fuselage using a Phillips screwdriver.



**}} step 4**

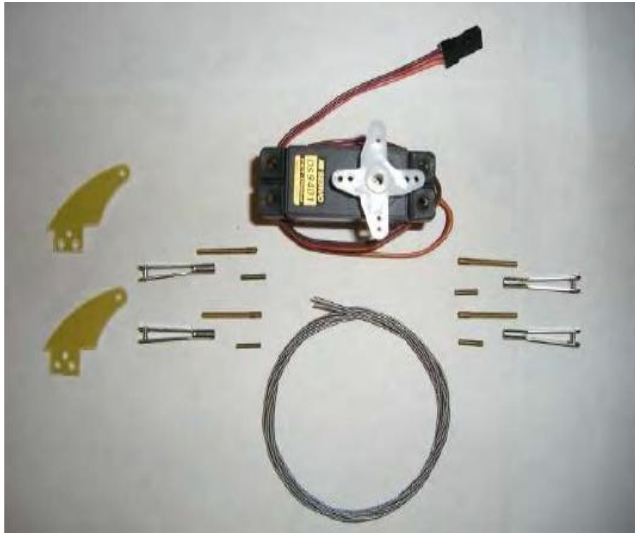
Glue the epoxy horn with medium CA into the elevator. Than install the hardware and make the final adjustment as per picture.



**Section 6 – rudder servo & control horn installation**

**}} step 1**

Locate the following items included in the hardware pack, servo extension 600mm long and servo.



or



**}} step 2**

Than install the servo hardware (gommets and eyelets), drill using a 1,5mm drill bit, and install the servo into the fuselage using a Phillips screwdriver.



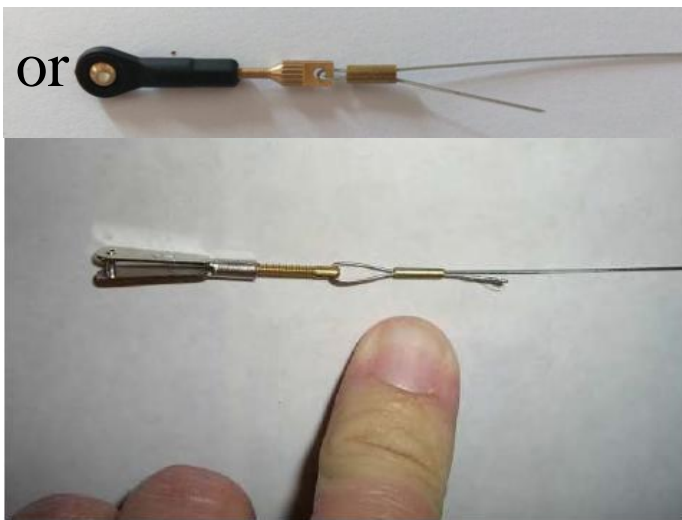
}} **step 3**

Glue the fibreglass horn with medium CA into the rudder.



}} **step 4**

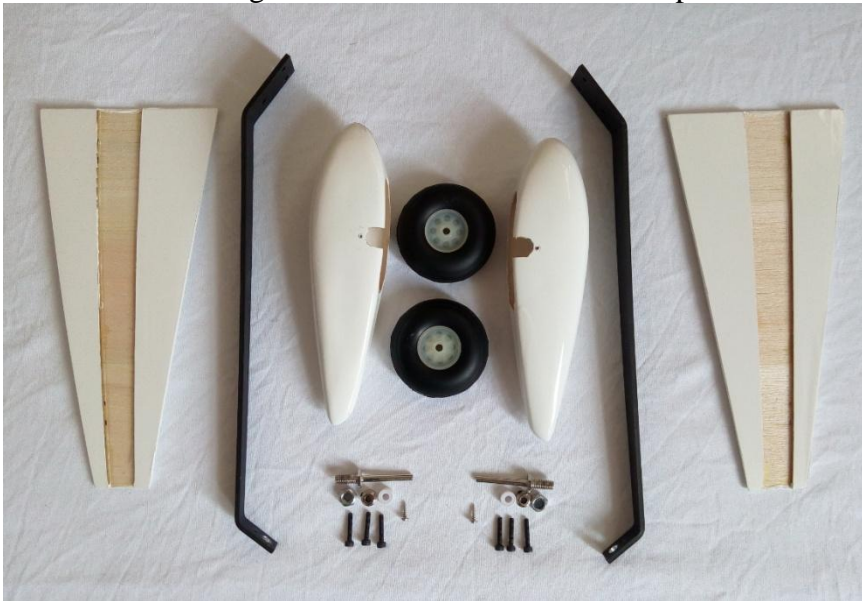
Install the hardware and make the final adjustment as per picture.



## Section 7 – landing gear & wheels installation

### }} step 1

Locate the following items included in the hardware pack.



### }} step 2

Fix the wheel on the landing gear as the per picture showed.



**}} step 3**

Locate the landing gear on the fuselage and fix it with the hexagon socket head cap screw included in the hardware pack.



**}} step 4**

Install wheel pant as per pictures.



**}} step 5**

Test fit the L.G. Lift Generator and his alignment with the fuselage.





**}} step 6**

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



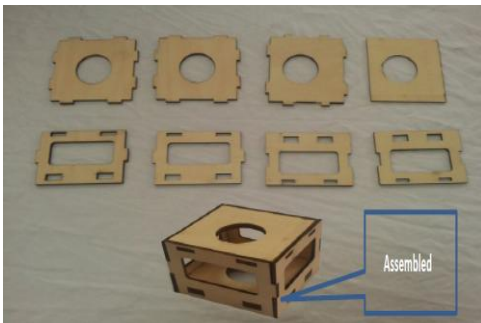
**}} step 7**

Repeat steps 3 to 6 for the other side of the landing gear.

**Section 8 – electric motor installation**

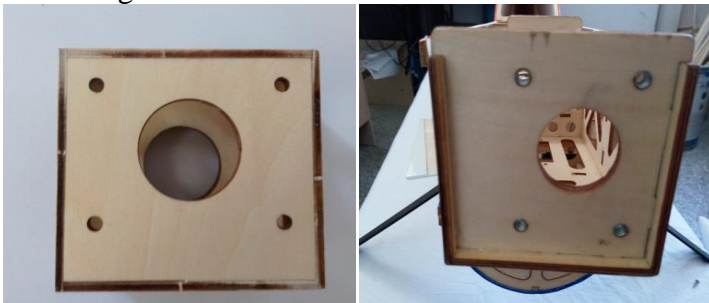
**}} step 1**

Use the CA to fix well the motor box.



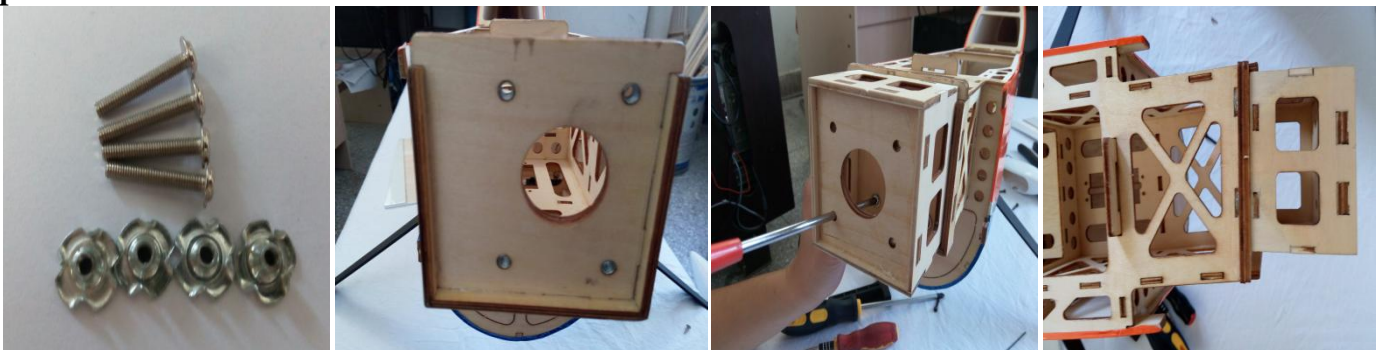
**}} step 2**

According to the motor size to drill four holes on the motor box and the fuselage head, as the picture showed.



**}} step 3**

Fix the M3 retaining nut in to the fuselage plywood and locate motor box with the M3 screws , as the picture.



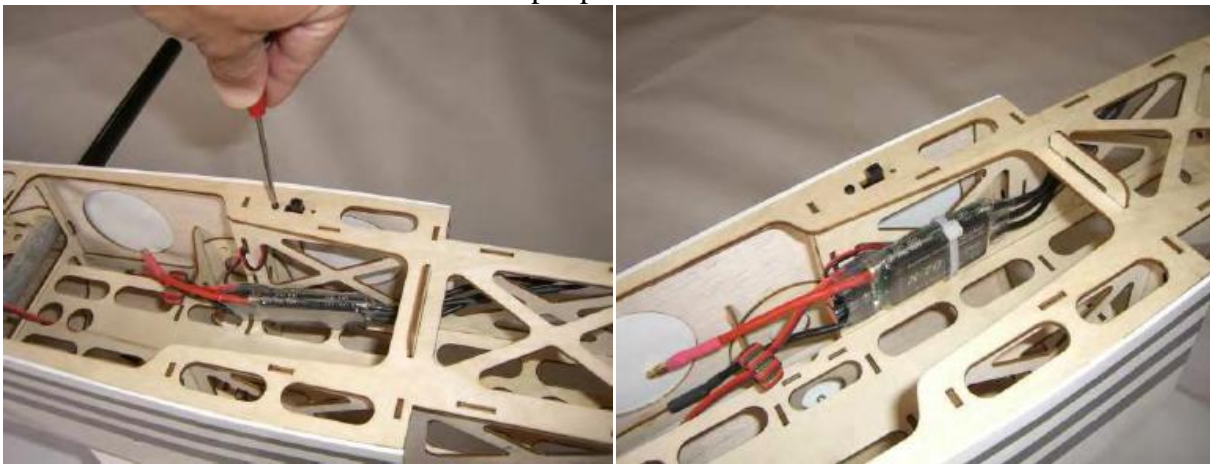
}} **step 4**

Locate the motor and fix it with the four M4 screws and retaining nuts in the hardware pack.



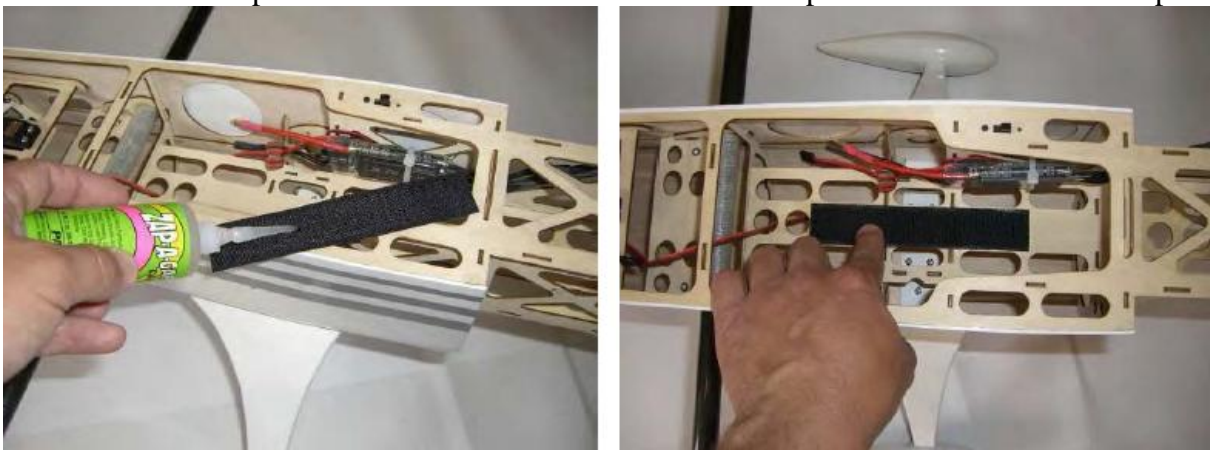
}} **step 2**

Locate and fix the ESC and his switch as per picture.



}} **step 3**

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



## Section 9 – cowl installation

### }} **step 1**

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



### }} **step 2**

Slide the cowling onto the fuselage and install the spinner back plate. Then apply another piece of masking tape on the same line of the one applied before. Drill the location for the four self-tapping screws using a 1.5mm drill bit.



### }} **step 3**

Attach the cowl using the four self-tapping screws, included in hardware pack, with a Phillips screwdriver.



**}} step 4**

Fix carefully the prop and the spinner as per picture.



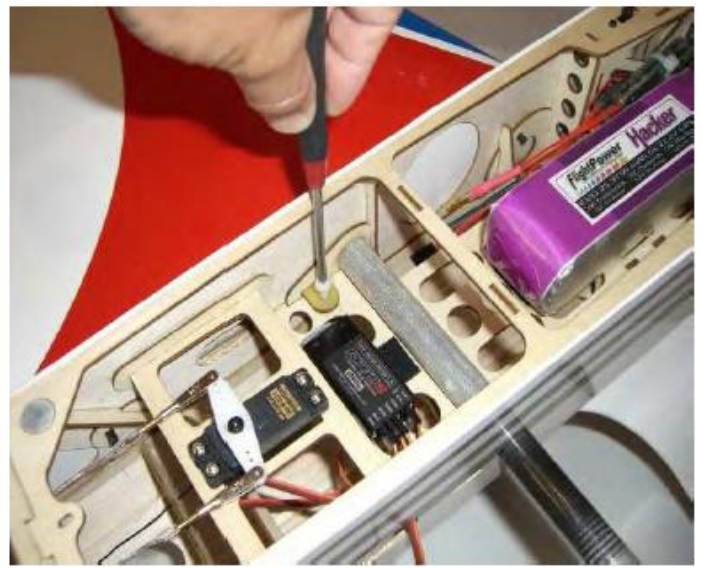
**Section 10 – final radio installation**

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%

**High rate:** 40 °up / 40 °down **Expo:** 80%

➤ For the ELEVATOR we recommend the following throws:

**Low rate:** 20 °up / 20 °down **Expo:** 20%

**High rate:** 45 °up / 45 °down **Expo:** 50%

➤ For the RUDDER we recommend the following throws:

**Low rate:** 30 °left / 30 °right **Expo:** 30%

**High rate:** 45 °left / 45 °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. 6%

\* if you have a programmable computer radio.

## Rates and expos

Use the recommended expos to soften the feel of the model, especially on high 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 snap, spins etc.

## Recommended CG

The recommended **Center of Gravity** location is **145mm** behind the leading edge of the wing against the fuselage.

Use the Flight Power battery pack, moving it forward or backward, to achieve the correct balance.

## Range test your radio

- Before fly, be sure to range check your radio as manufacturer's instruction manual of you radio-system recommend.
- Double-check all controls (aileron, elevator, rudder and throttle) move in the correct direction.
- Be sure that your Flight Power batteries are fully charged, as per the instructions and that your radio is fully charged as per its instructions.

*Finally...*

*enjoy your flight!*