SebArt *professional line*

New *Sukhoi 29S 30E*

ARF
ASSEMBLY MANUAL

The new Sukhoi 29*S 30E ARF* was designed by Italy aerobatic pilot, Sebastiano Silvestri and the design is based on of his new Tournament Of Champion's competition 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, the big control surfaces and the **new revolutionary landing gear Lift Generator** give the Sukhoi 29*S 30E* 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 Sukhoi 29*S 30E* 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:………......130 cm (51,18 in.)
Length:…........…...….130 cm (51,18 in.)
Wing Area:…...........37 dm² (57,35 sq.in)
Weight: 1.250g. RTF less battery (44 oz)
Radio:….4-Channel with 4 micro servos

Recommended power set up:
Motor:...Hacker A30-10XL
ESC:...X55 SBec Pro
Battery: *FlightPower* 2170-3S or 2500-3S
Propeller: APC 15x8E

Table of contents

Required radio, motor and battery

Radio equipment:
- Minimum 4-channel radio system
- 4 digital mini servo, recommended JR PROPO DS 385
- 2 servo extension 300mm, for elevator and rudder servos
- 4 servo extension 100mm, for aileron's servos

Recommended electric motor for best performance:
- Hacker A30-10XL + X55 BEC controller + APC 15x8E

Recommended Li-Po battery pack for best performance:
- *FlightPower* EVO 20 2170mAh 3S…..for unlimited 3D
- *FlightPower* EVO 20 2500mAh 3S…..for duration and precision

Additional required item, tools and adhesives

Tools:
- Drill
- Drill bits: 1,5mm
- Phillips screwdriver
- Hobby knife
- Masking tape
- Soldering iron

Adhesives:
- thin CA
- medium CA

Warning

This RC aircraft is not a toy!
If misused, it can cause serius 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 assebly of your Sukhoi 29*S 30E*, 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.

Rember to take your time and follow the directions.

Warranty information

SebArt garantees 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 reserve 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.

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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.
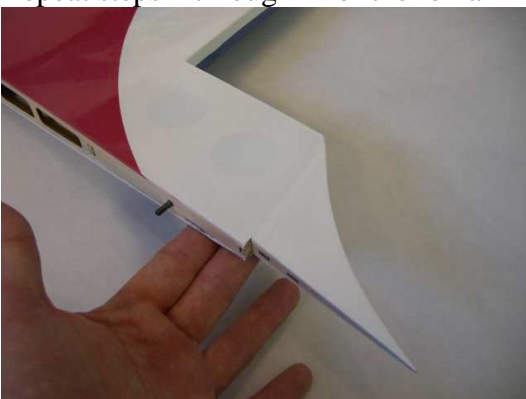

step 2

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.
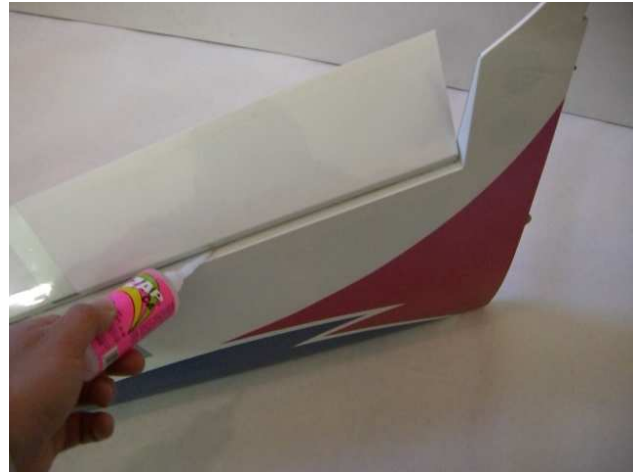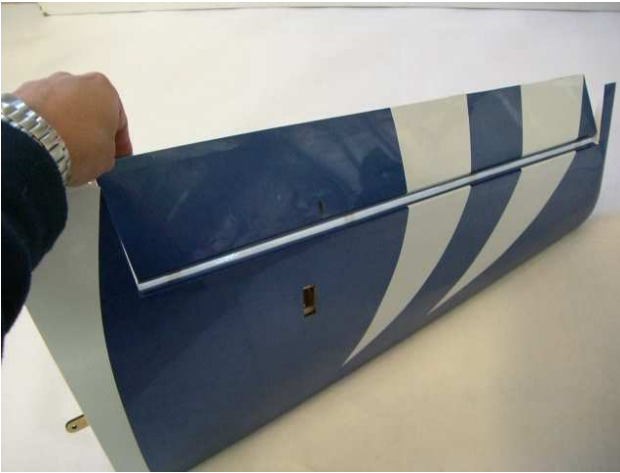

step 2

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.
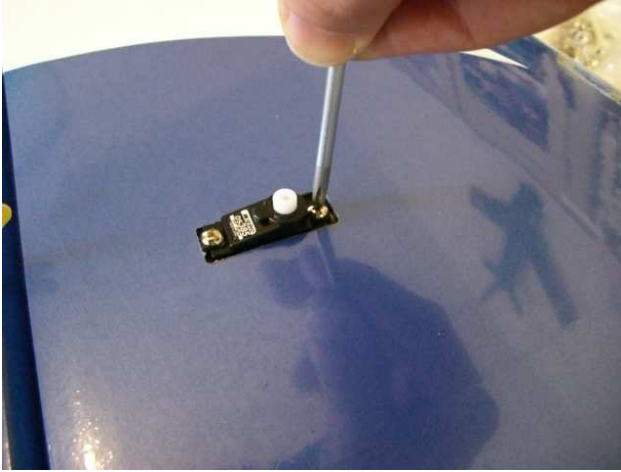
Section 3 – aileron servo & control horn installation

step 1
Locate the following items, one servo extension 100mm long and the servo (servos and extensions are not included).

step 2

Install the servo hardware (gommets and eyelets) and install the servo into the wing panel using a Phillips screwdriver. Glue the fibreglass horn with medium CA into the aileron.

step 3

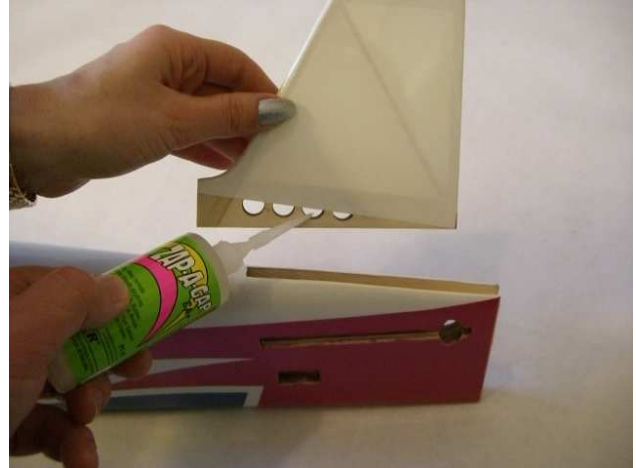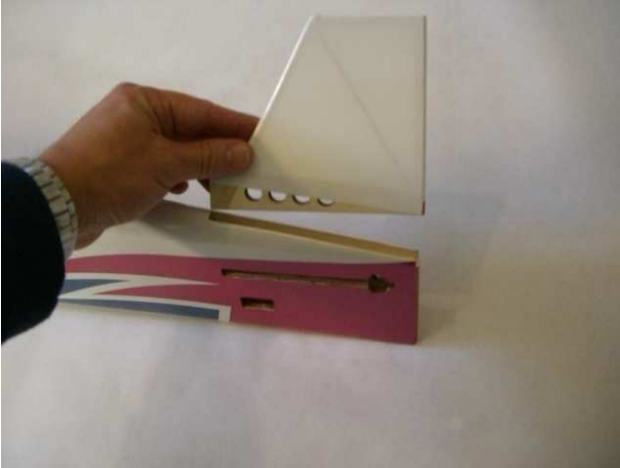Install the carbon rod, and make the final adjustment as per picture.

step 4

Repeat steps 1 through 3 for the remaining wing panel.

Section 4 – rudder installation

step 1

Test fit the rudder in his place into the fuselage, check for a correct alignment and than glue it with some drops of medium CA.
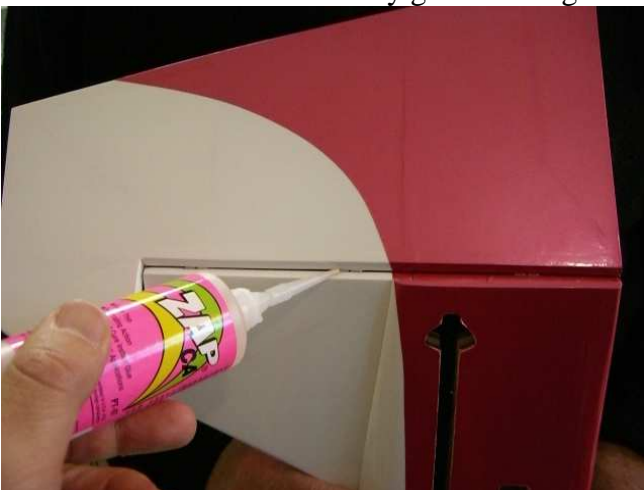

step 2

Insert the three hinges in their appropriate slots in the rudder. Verify the correct position-alignment and glue them with some drops of thin CA.
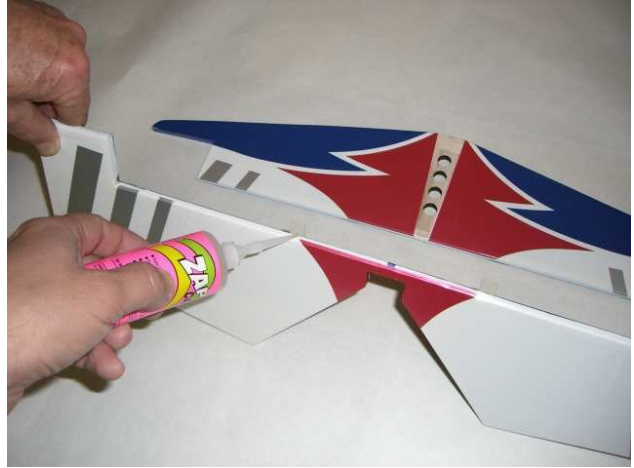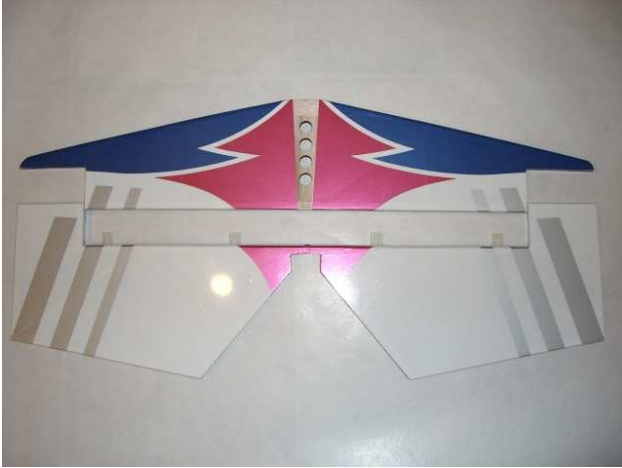

step 3

Locate the rudder and carefully glue the hinges with some drops of thin CA.

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.
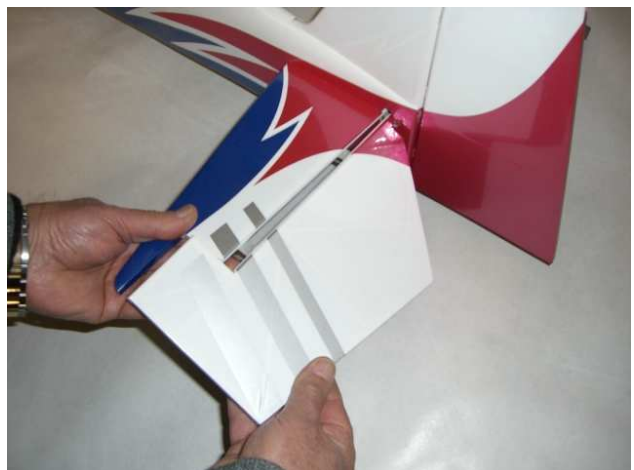
step 2

Insert carefully the elevator through the fuselage.

step 3

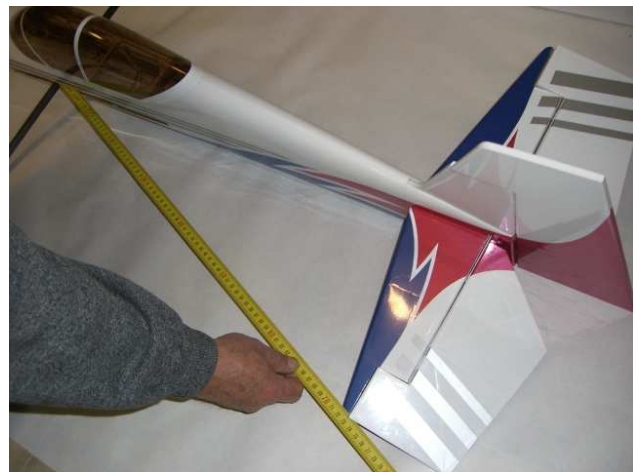Insert carefully the stabiliser into fuselage space. Locate the elevator hinges into the stabiliser.

step 4
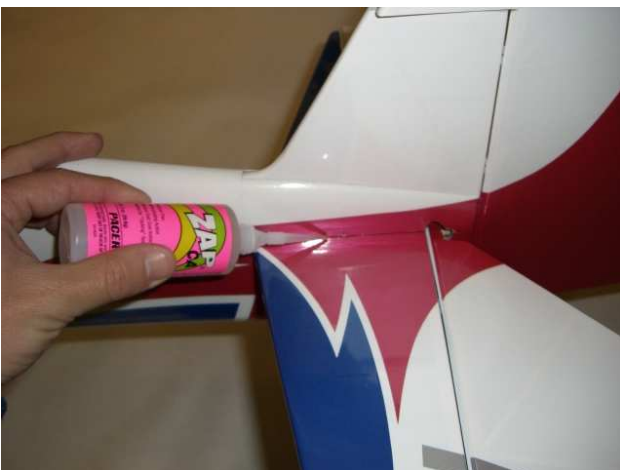Carefully glue the hinges in the stabilise with some drops of thin CA.

step 5
Locate the carbon tube in his position and carefully check the alignment of the stabilizer with the fuselage.
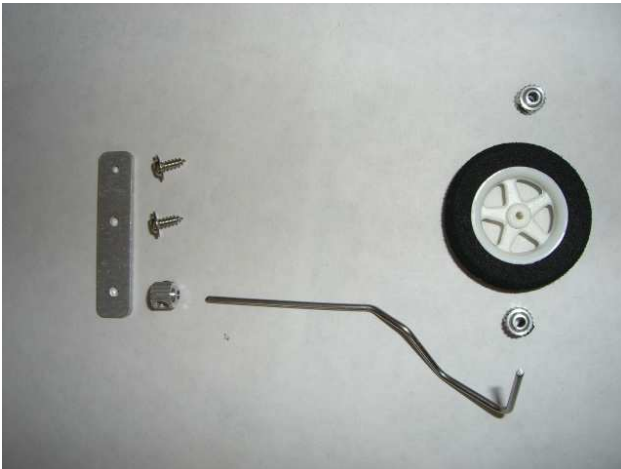

step 6
Once satisfied with the alignment, glue with some drops of thin CA the stabilizer at the fuselage.
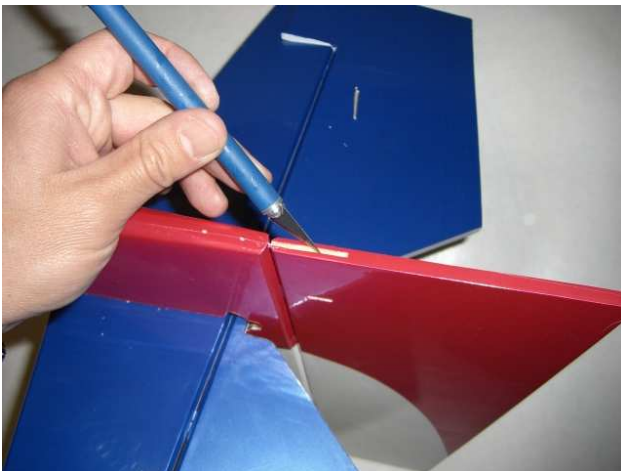
Section 6 – tail wheel installation

step 1

Locate the items included in the hardware pack, and assemble them as follow.
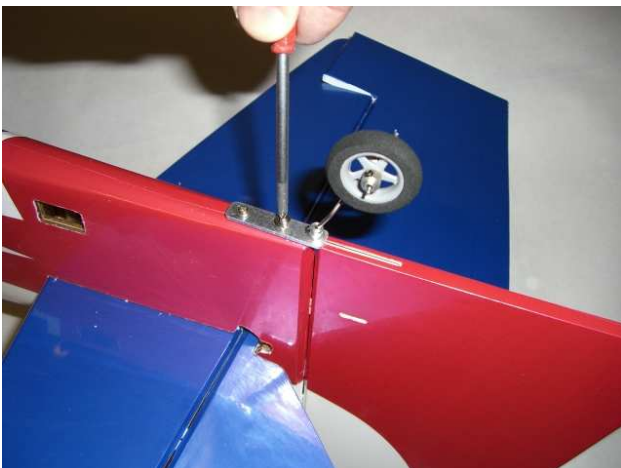

step 2

With the hobby knife cut a groove of 20mm length into the rudder.

step 3

Install the tail wheel using a Phillips screwdriver. Then carefully apply in the rudder-grove some drops of medium CA, as per picture.
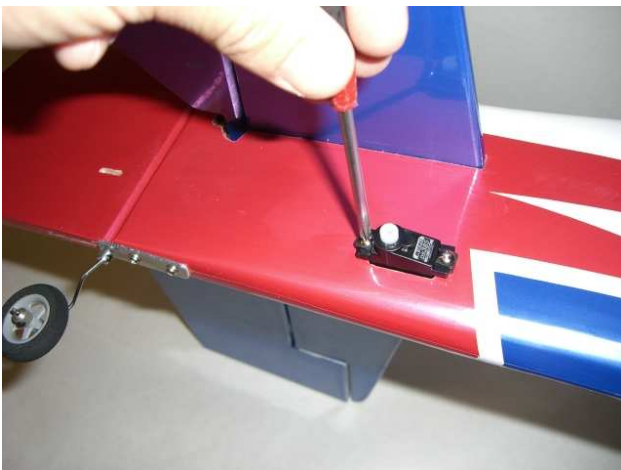
Section 7 – rudder servo & control horn installation

step 1
Locate the following items (with **long** fibreglass horn), servo extension 300mm long and the servo (servo and extension are not included).

step 2
Install the servo hardware (gommets and eyelets) and install the servo into the fuselage using a Phillips screwdriver. Glue the fibreglass horn with medium CA into the rudder.

step 3
Install the carbon rod, and make the final adjustment as per picture.

Section 8 – elevator servo & control horn installation

step 1

Locate the following items (with **SHORT** fibreglass horn), servo extension 300mm long and servo. (servo and extension are not included)

step 2

Install the servo hardware (gommets and eyelets) and install the servo into the fuselage using a Phillips screwdriver. Glue the fibreglass horn with medium CA into the elevator.
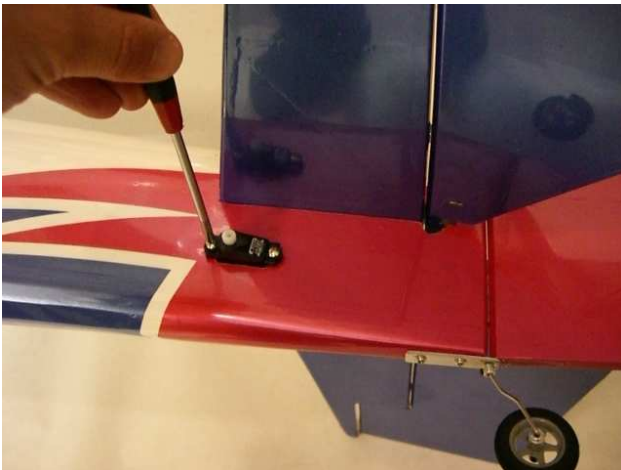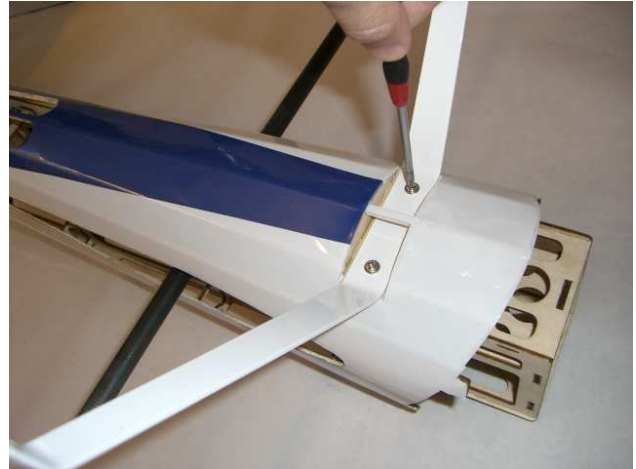

step 3

Install the carbon rod, and make the final adjustment as per picture.

Section 9 – landing gear & wheels installation

step 1
Locate the landing gear on the fuselage and fix with the two screws included in the hardware pack.

step 2
Locate all the necessary items for installing wheel and wheel pants. Than install all the items as per pictures and fix the wheel pant with some drops of thin CA at the landing gear.

step 3
Test fit the Lift Generator on landing gear and glue it carefully with some drops of medium CA, as per picture.

step 4

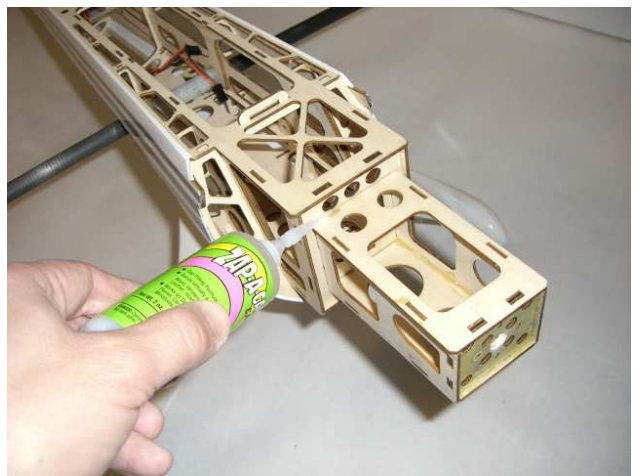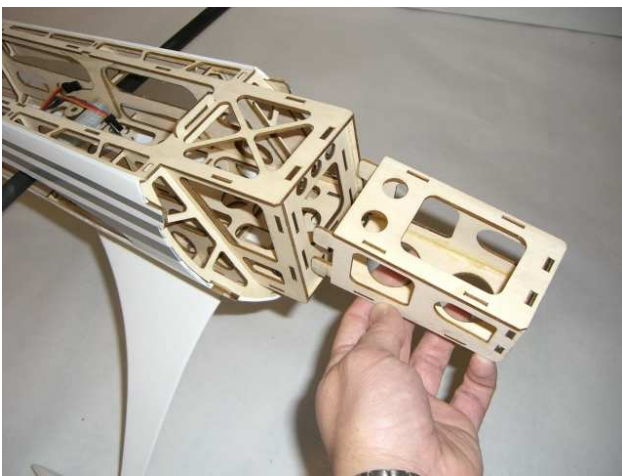Repeat steps 2 and 3 for the other side of the landing gear.

Section 10 – electric motor installation

For best performance, we recommend to use HACKER motor, in the following setup:
- Hacker A30-10XL
- X55 SBec
- APC 15x8E
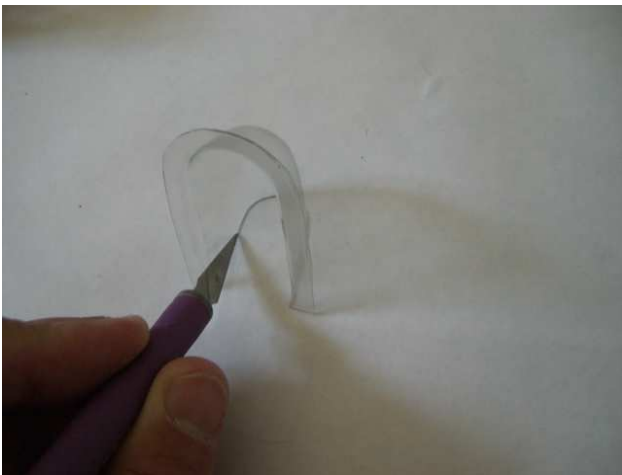- *FlightPower* EVO25-2170-3S or 2500-3S battery pack.

step 1

Locate the engine mount on the fuselage in his slots and glue it carefully with medium CA.
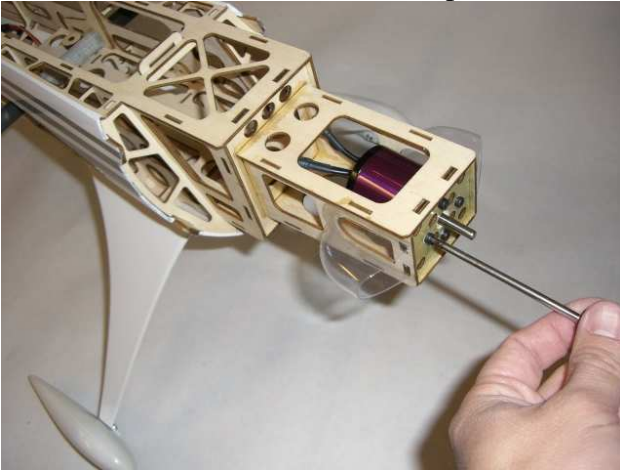

step 2

Cut the two plastic air-scoops. Locate them on the mount and glue with thin CA, as per picture.
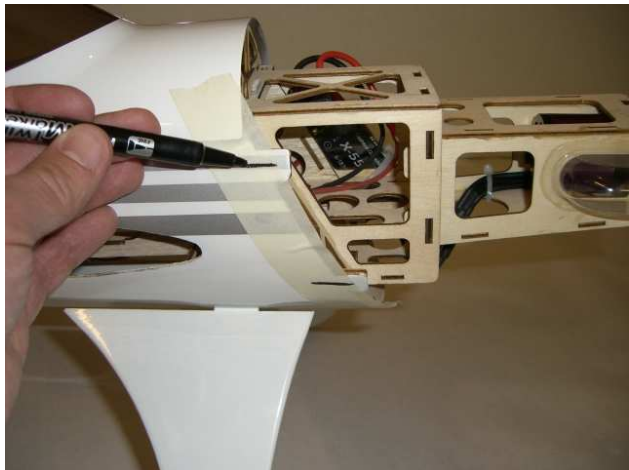
step 3

Locate the motor and fix it with the four screws included in the motor hardware pack, then fix the controller in the area shown in the picture.

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, then mark the position as per the picture.
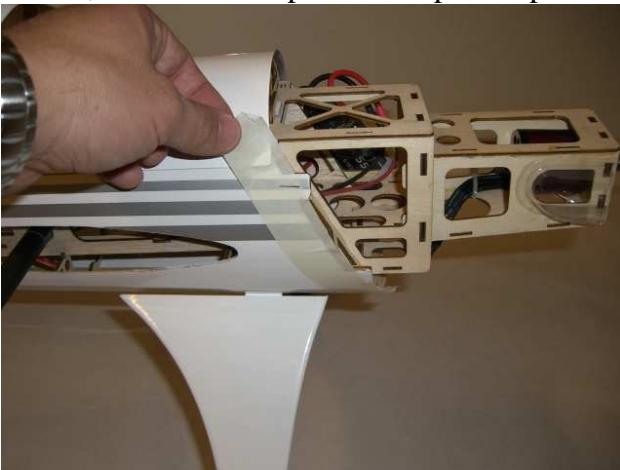
step 2

Slide the cowling onto the fuselage and install the spinner back plate. Position and hold the cowl so there is 10mm gap between the back plate and the cowl from the side view. 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

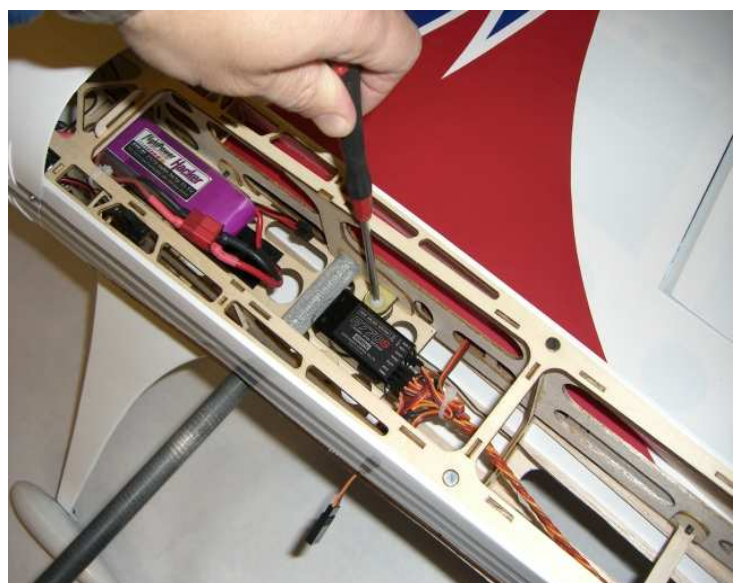Glue with some drops of medium CA on side of the Velcro strip included in the hardware pack.

v

step 2
Install the receiver, two extension 100mm for aileron servos and the battery pack as per the picture.

Wings installation

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, expecially 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 **110mm** behind the leading edge of the wing against the fuselage.

- ➢ **105mm** is good for pattern flying.
- ➢ **115mm** 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!