

SebArt *professional line*

Mig29 3D-EDF ARF

ASSEMBLY MANUAL

The real plane

The MiG-29 is a fourth-generation jet fighter aircraft designed in the Soviet Union for an air superiority role. Developed in the 1970s by the Mikoyan design bureau, it entered service with the Soviet Air Force in 1983, and remains in use by the Russian Air Force as well as in many other nations.

The MiG-29OVT “Red Star” version have thrust-vectoring engine and fly-by-wire technology. It served as a thrust-vectoring engine test-bed and technology demonstrator to show future improvement in the MiG-29 series. The two RD-133 thrust-vectoring engines, each features unique rotating nozzles which can provide thrust vector deflection in all directions. The OVT version is being demonstrated in various air shows around the world for potential export and as an aerobatic demonstrator.

Specifications:

Year Built: 1983

Primary Function: fourth-generation jet fighter aircraft

Length: 17.37 m (57 ft)

Wingspan: 11.4 m (37 ft 3 in)

Weight Empty: 11,000 kg (24,250 lb)

Max. Speed: 2.400 km/h (1,490 mph)

Engine: 2 × [Klimov RD-33](#) afterburning [turbofans](#), 8,300 kgf (18,300 lbf) each

The model

The ***Mig-29 3D EDF ARF***, was designed by the 13 times Italian Champion Sebastiano Silvestri, vice-European Champion and F.A.I World Cup winner F3A.

This professional ARF kit is the result of Sebastiano's long research, experience in F3A and his passion for jet planes. This combined with an extremely light weight foam structure and with many small aerodinamical tricks give the ***Mig-29 3D EDF*** an impressive precision and easy control at any airspeed and flight condition.

The ***Mig-29 3D EDF*** is the **first in the world in his class:** with the factory installed gyro on the rudder-thrust verktor axis it can hover very easy!

The ***Mig-29 3D EDF*** can do it all...it is ready for any pattern manouvers as for unbelievable knifeedge flights, loops, flips, harrier, flat spins, hovering... and almost anything else you can dream up from an EDF foam plane are waiting you!

.....the only aerobatic-fun limit is your fantasy!

Specifications:

Wing Span:.....92 cm
Length:..... 134 cm
Wing Area:.....21,2 dm²
Weight:.....1.640g. RTF less battery
Radio:.....7-Channel

Recommended battery pack.....3400-4S *or* 4000-4S

Required radio and battery packs

Radio equipment:

- Minimum 7-channel radio system and receiver

Recommended Li-Po battery pack for best performance:

- 3400-4S for unlimited 3D performances with approx. 3,5 minutes flight time
- 4000-4S for 3D & precision with approx. 4 minutes flight time

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, 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.

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 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.

INSTALLATION INSTRUCTION



Remove each part from its bag and protection.



Remove the canopy from the fuselage.



Locate the carbon rod, included in hardware pack, in the wing panel.



Apply the 5-minute epoxy into the slot and turn the carbon tube in his location.



Plug in the servo connector and match the polarity.



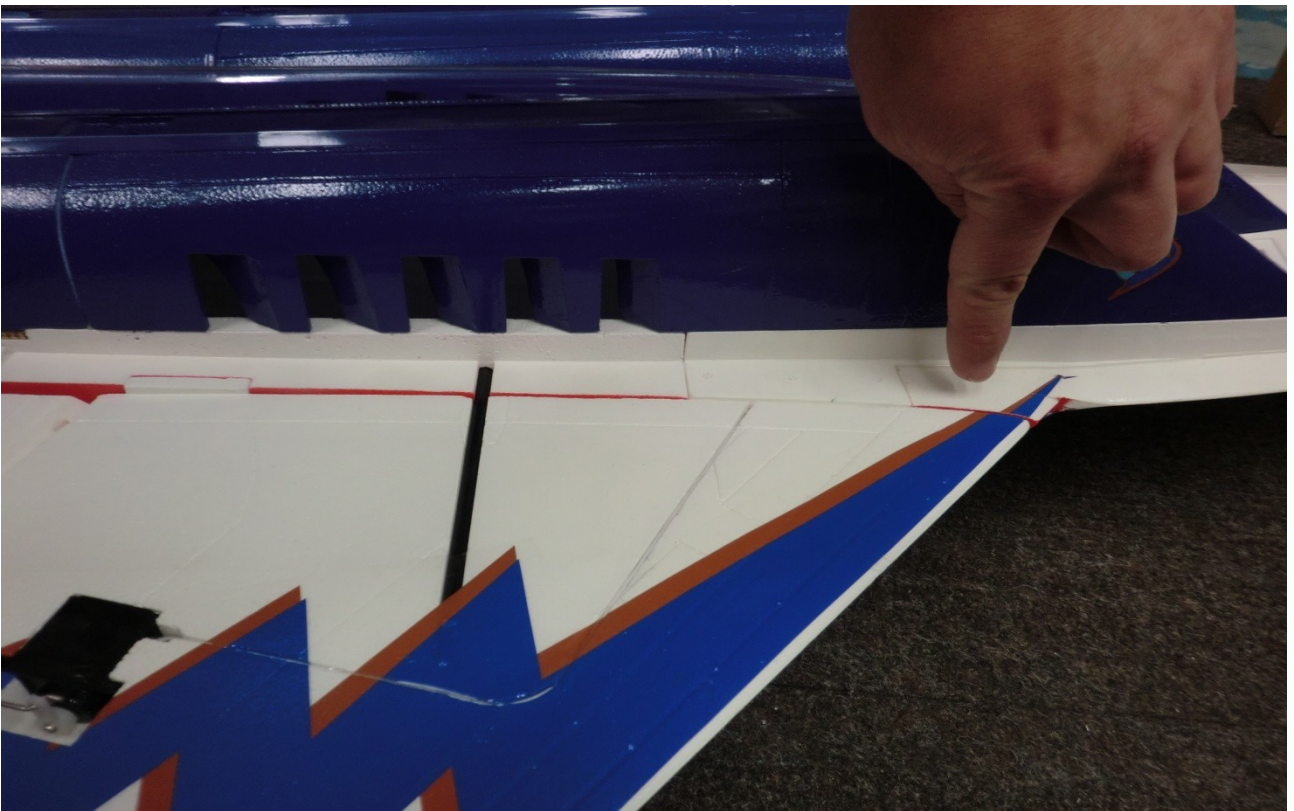
Check the alignment of the wing panel with the fuselage before glue it.



Apply a light coat of 5-minute epoxy on the wing panel.



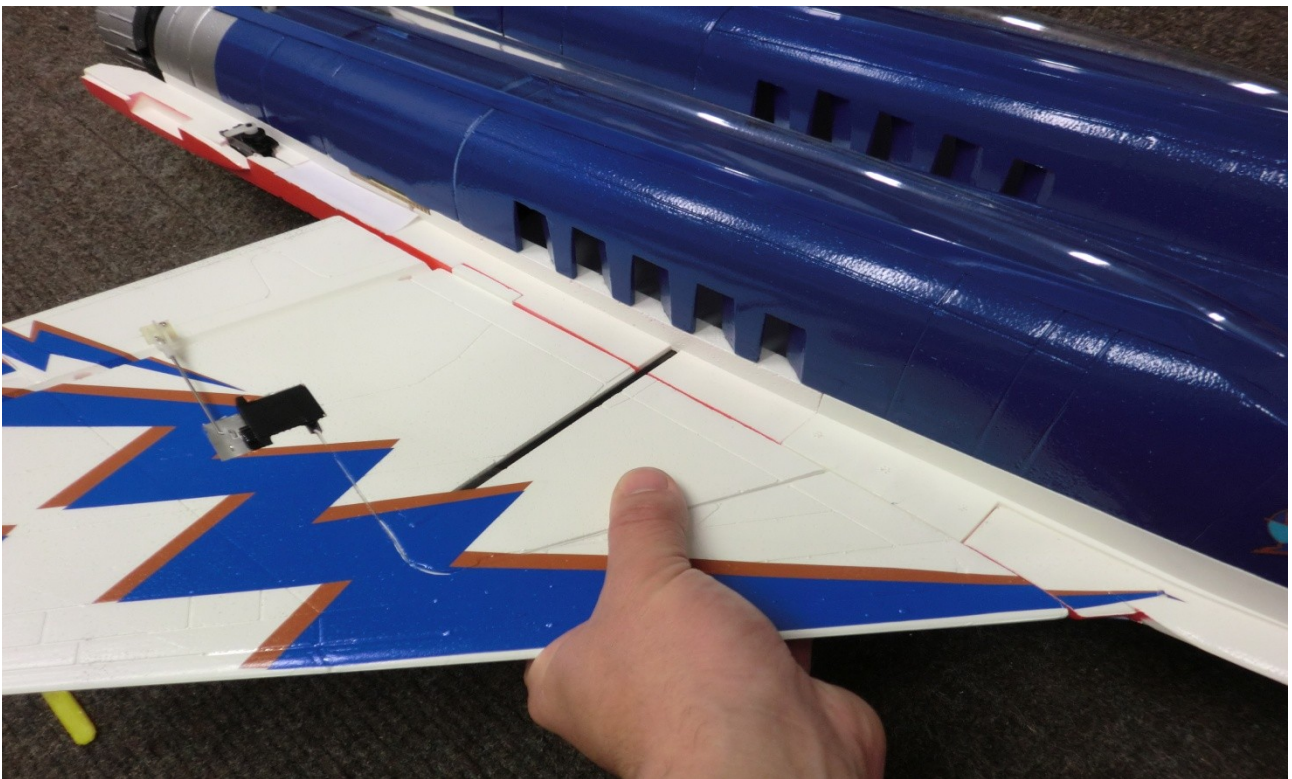
Locate the wing panel in his position on fuselage.



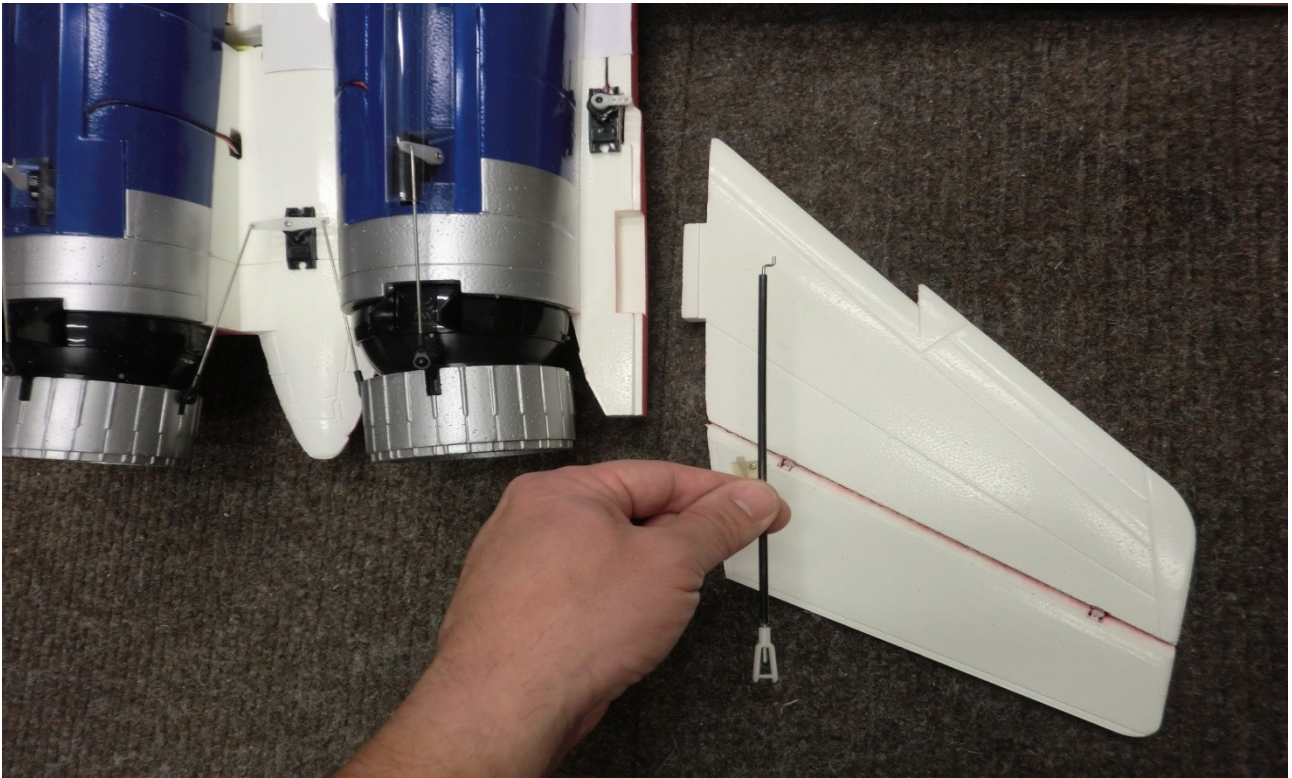
Make sure to check the alignment on the top of the wing panel to the fuselage.



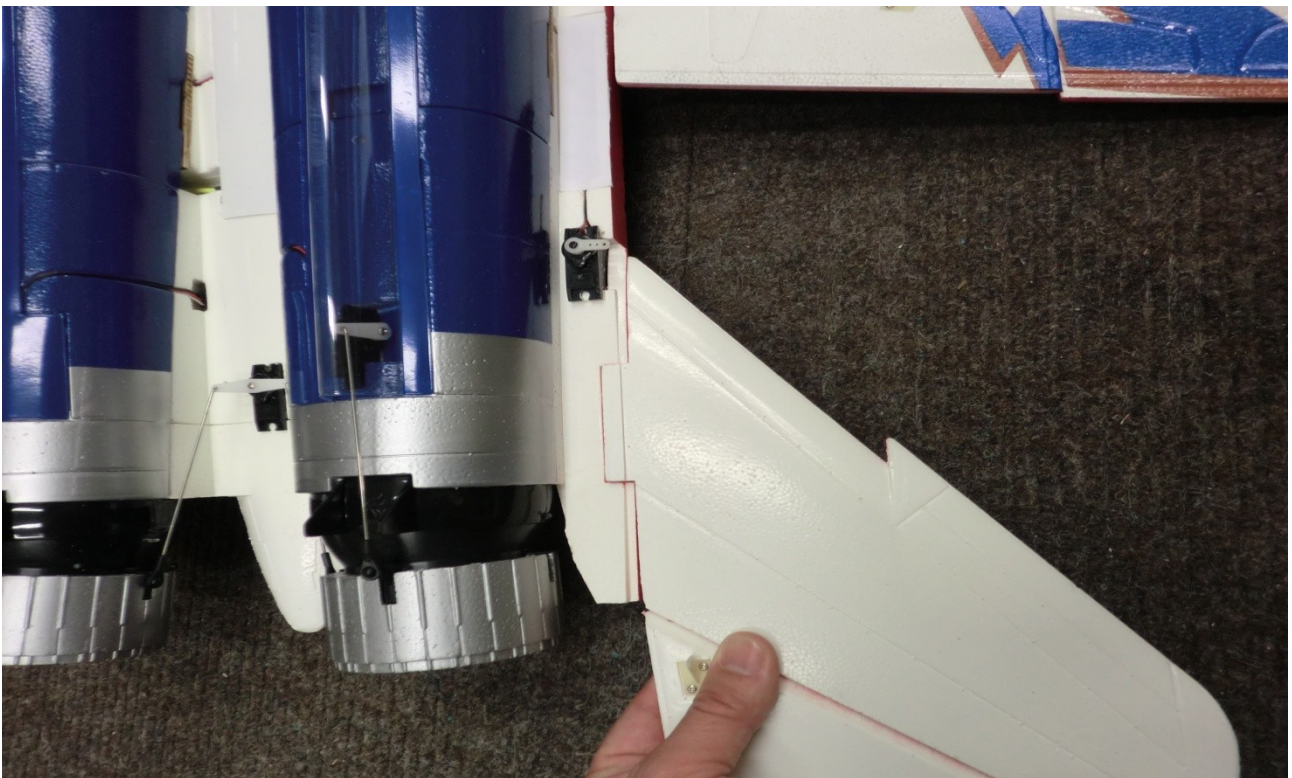
Wipe off any epoxy that squeezes out with some rubbing alcohol on a paper towel.



Hold pressed the wing panel in his position on fuselage. Repeat this steps for the other wing panel too.



Locate the stabiliser and the elevator linkage , included in the hardware pack.



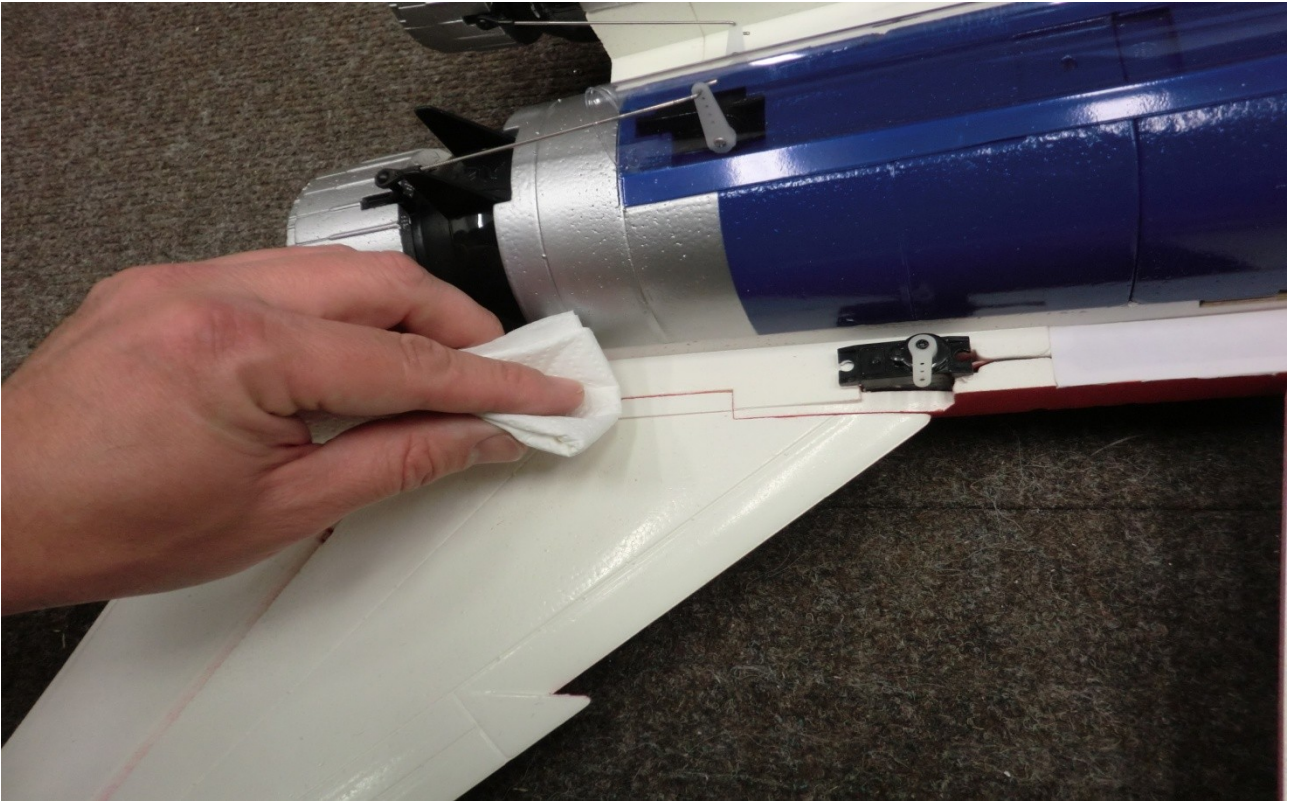
Check the alignment of the stabiliser panel with the fuselage before glue it.



Apply a light coat of 5-minute epoxy on the stabiliser panel.



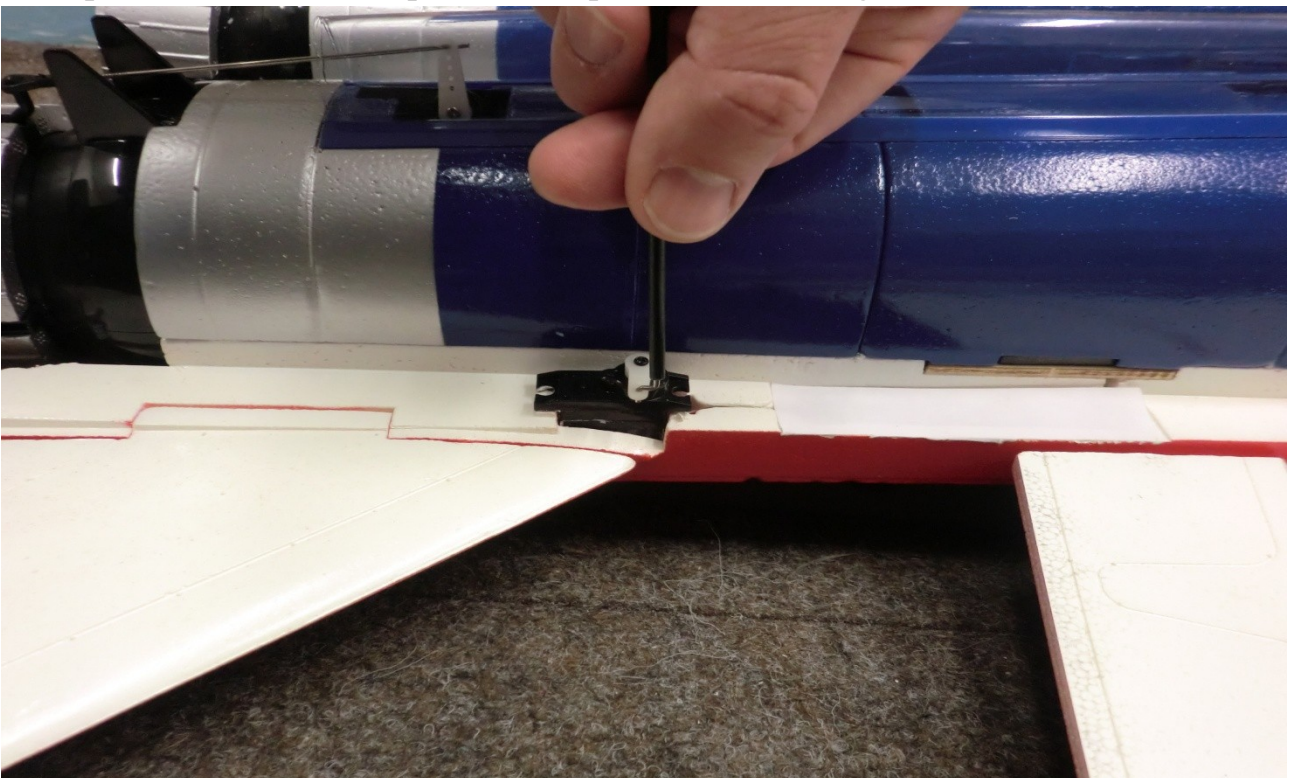
Locate the stabiliser panel in his position on fuselage and check the alignment.

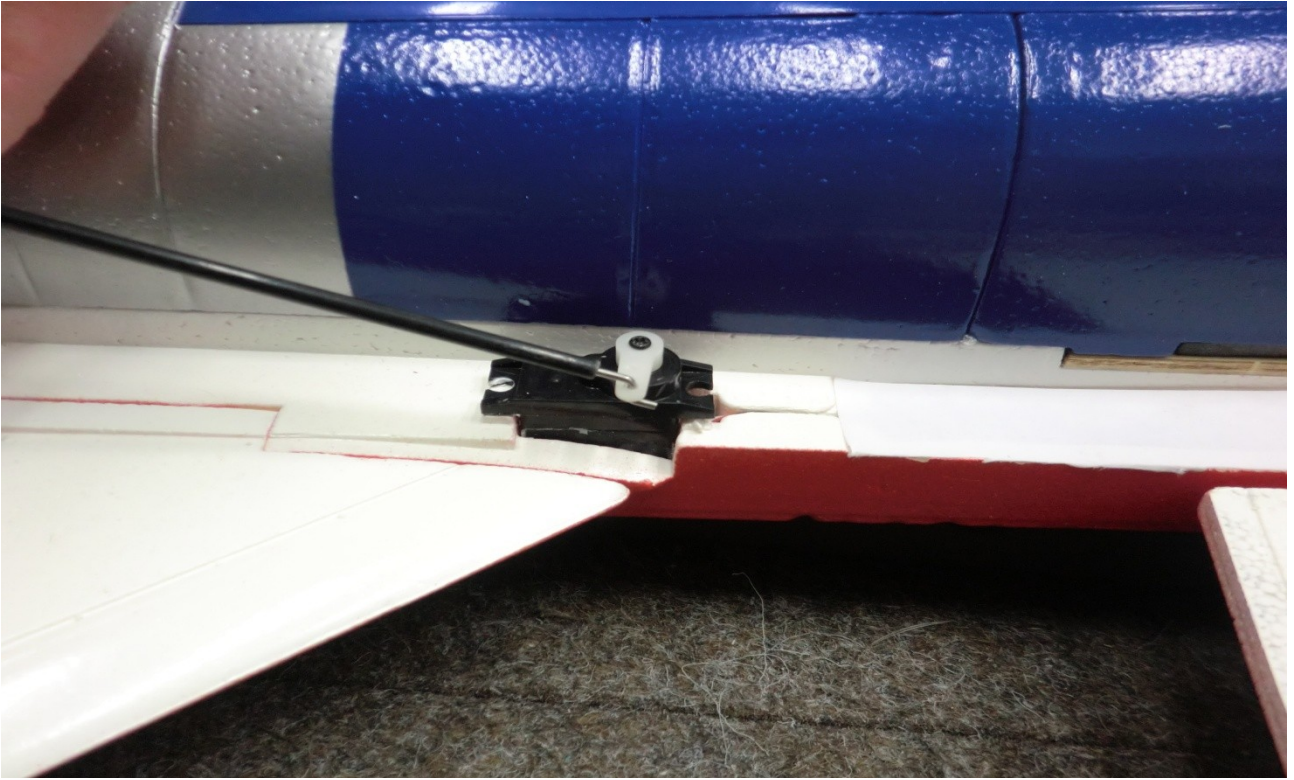


Wipe off any epoxy that squeezes out with some rubbing alcohol on a paper towel.

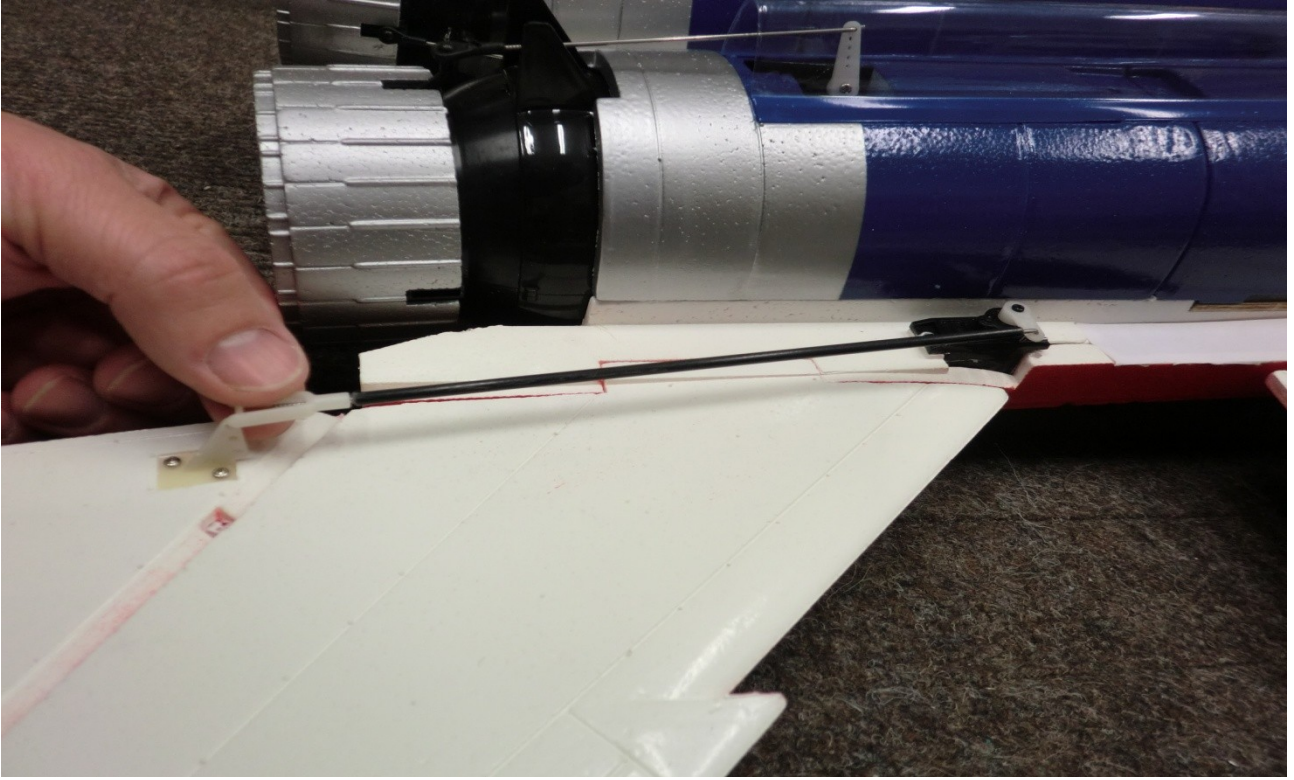


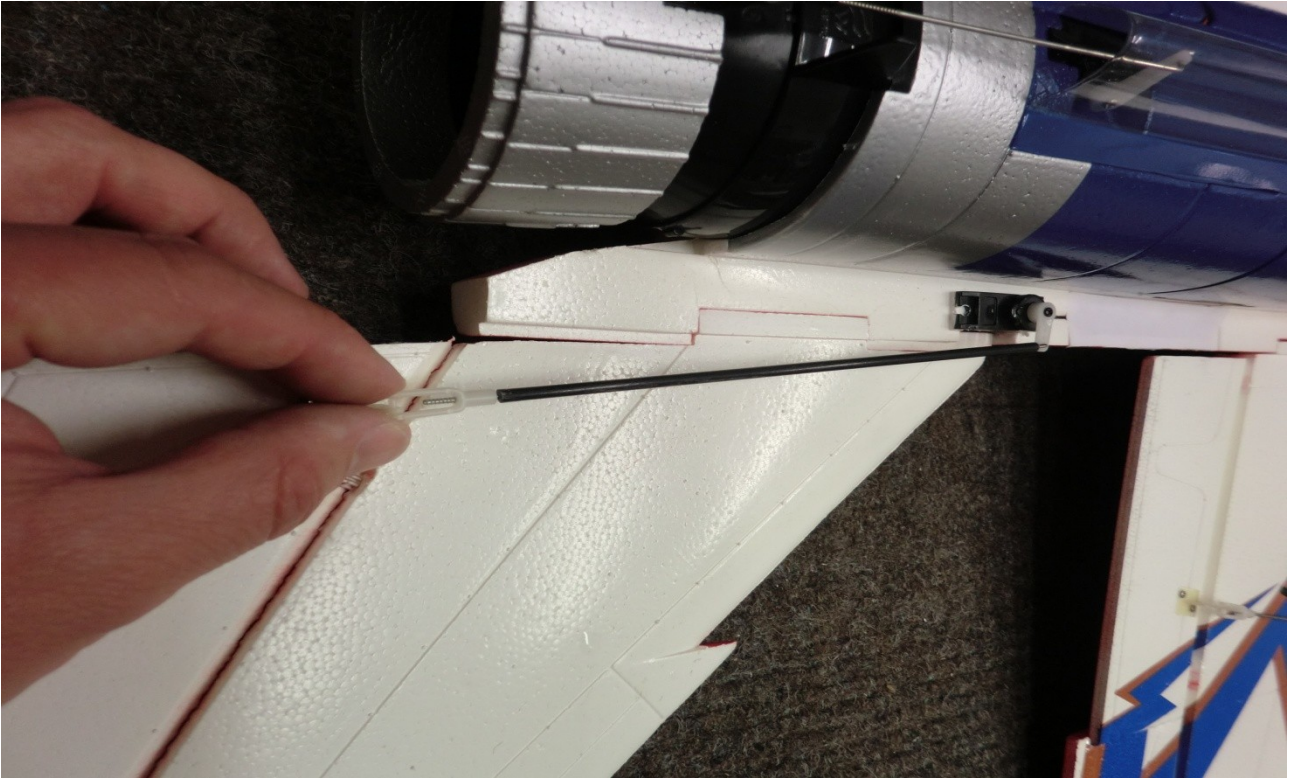
Hold pressed the stabilizer panel in his position on fuselage.





Connect the elevator linkage in servo arm.





Connect the elevator linkage at elevator horn. Repeat this steps for the other stabiliser panel too.





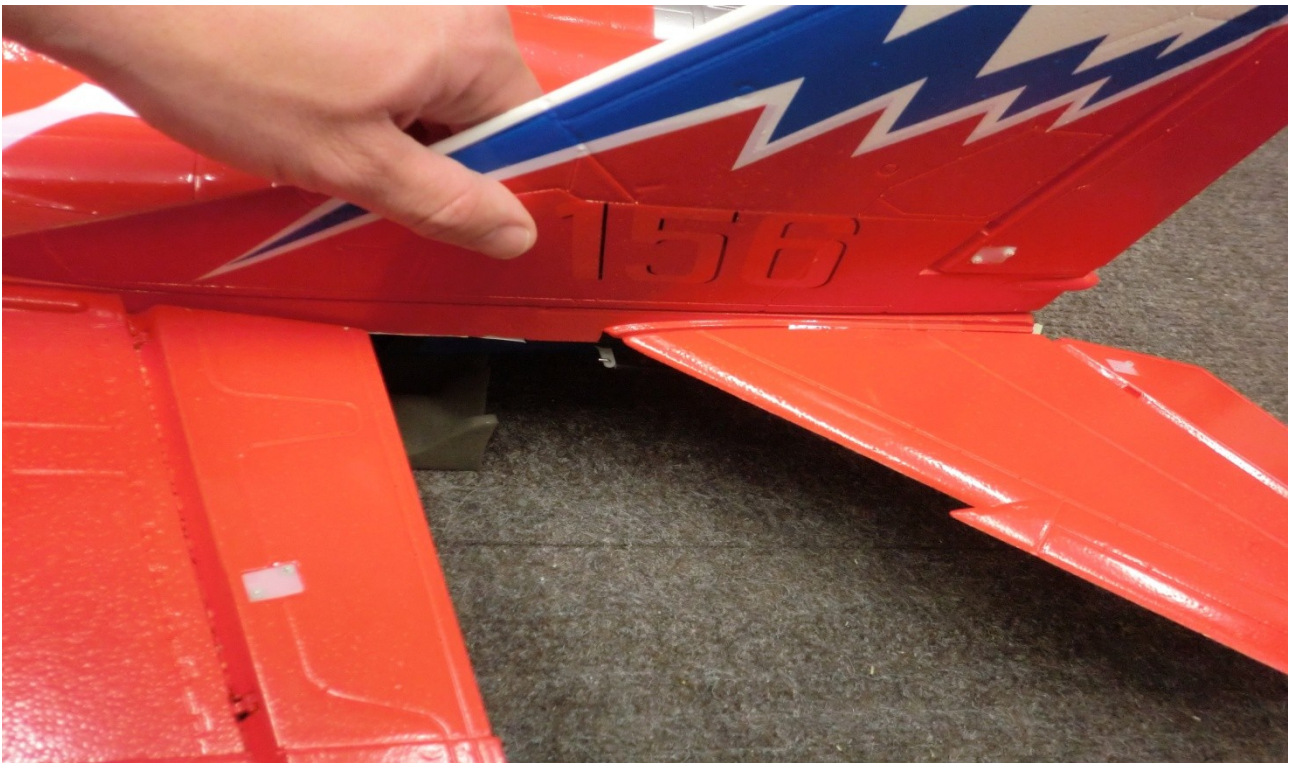
Locate the rudder and connect the rudder servo connector matching the polarity.



Check the alignment, then apply a light coat of 5-minute epoxy on the rudder panel and install it on fuselage.



Wipe off any epoxy that squeezes out with some rubbing alcohol on a paper towel.



Hold pressed the rudder panel in his position on fuselage. Repeat this steps for the other rudder panel too.



NOTE the alignment from the front view of wings, stablizers and rudders.



Install on fuselage the nose cone using 5-minute epoxy.

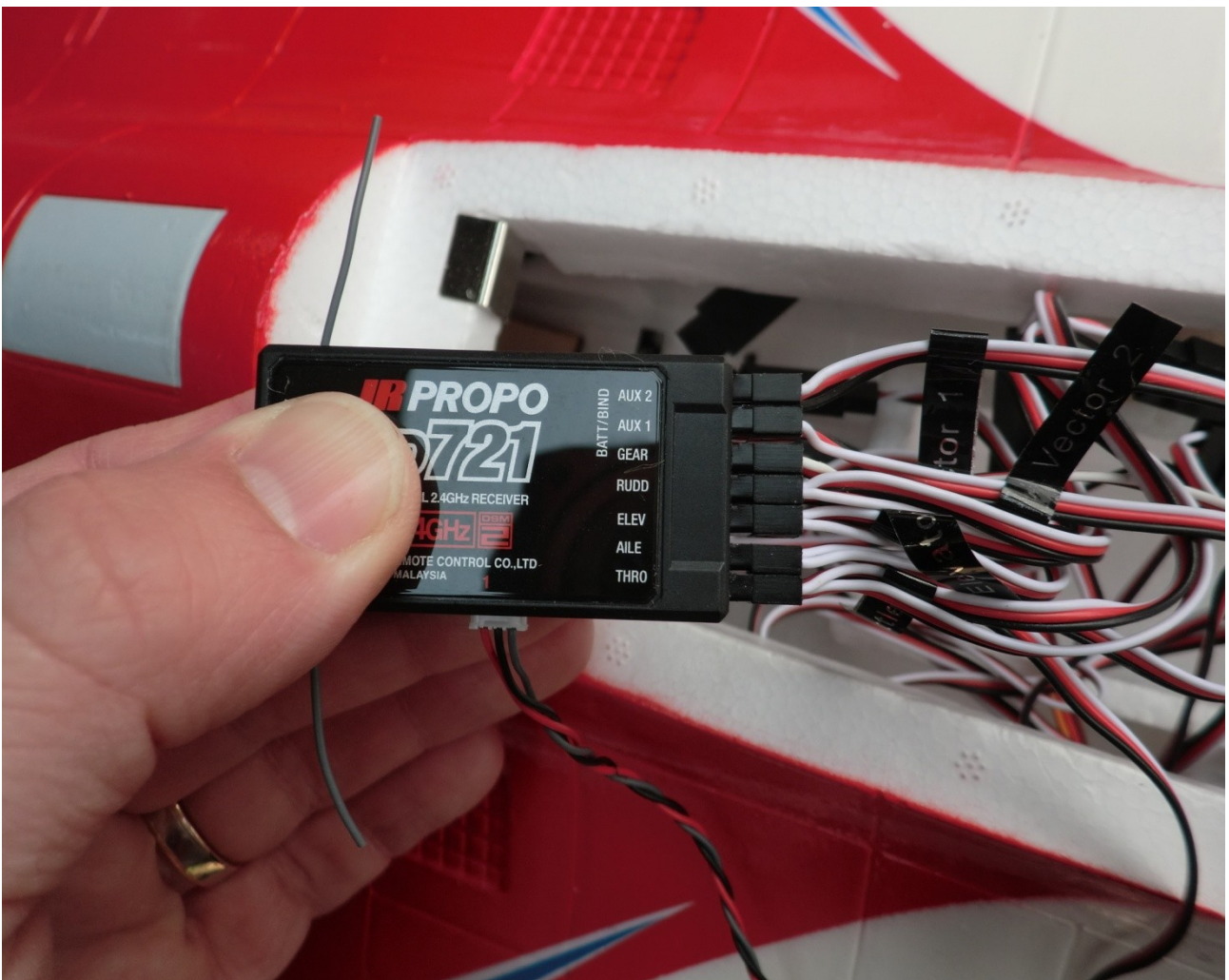


Wipe off any epoxy that squeezes out with some rubbing alcohol on a paper towel.

RADIO SET UP

Connect your 7-channel receiver to the servo wires as follow:

- throttle = THROTTLE
- aileron = AIL
to connect the 2 ailerons, use the "Y" included in hardware pack
- elevator = ELE
- rudder = RUDDER
here are factory connected together the 2 rudders and the thrust rudder axis
- gear = GYRO SENS.
if your plane versions with gyro factory installed
- aux 1 = VEKTOR 1
- aux 2 = VEKTOR 2



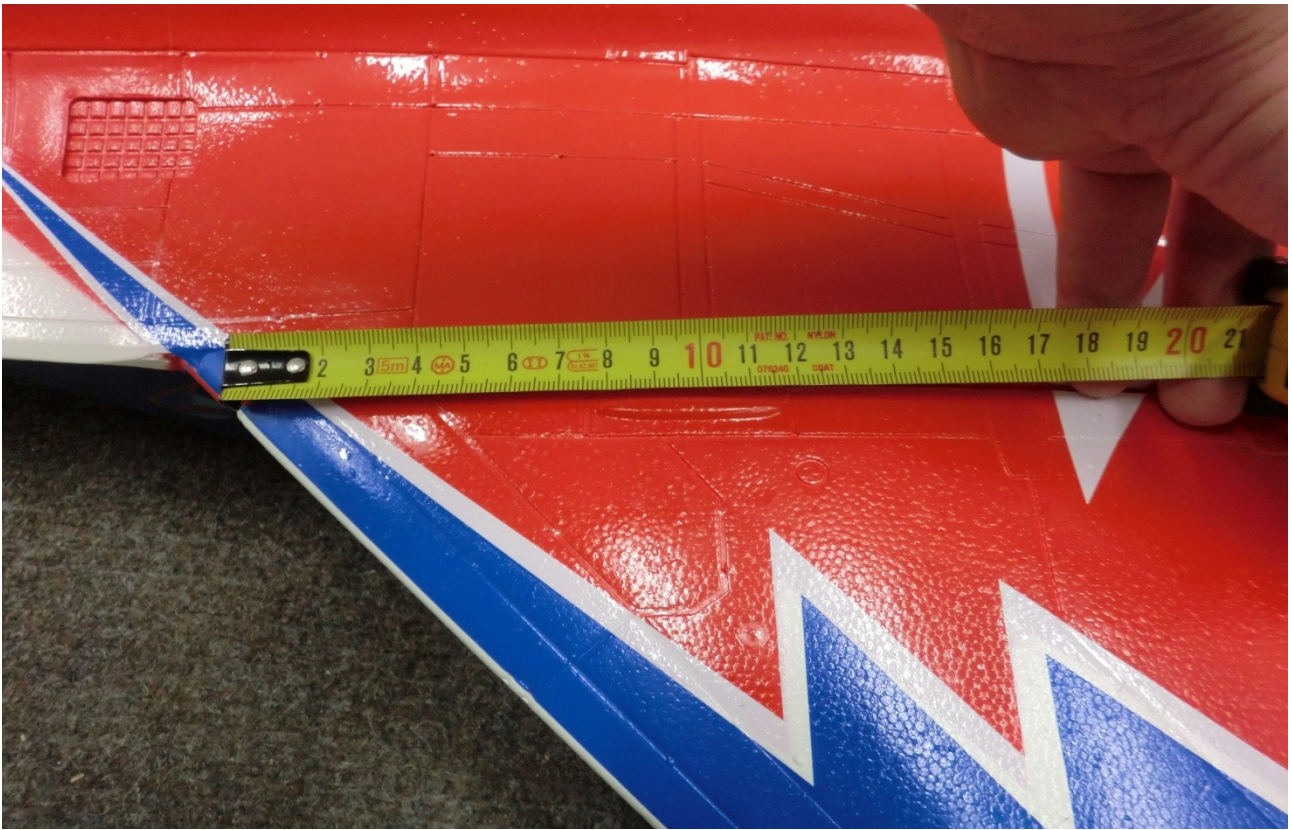


Install with pieces of adhesive velcro, included in the hardware pack, the receiver on the in-side of the fuselage.

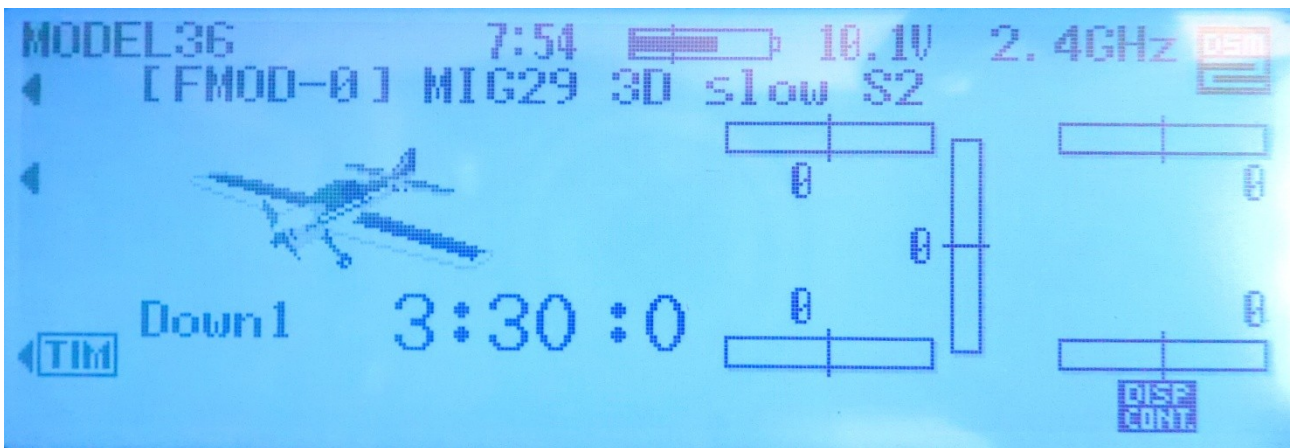


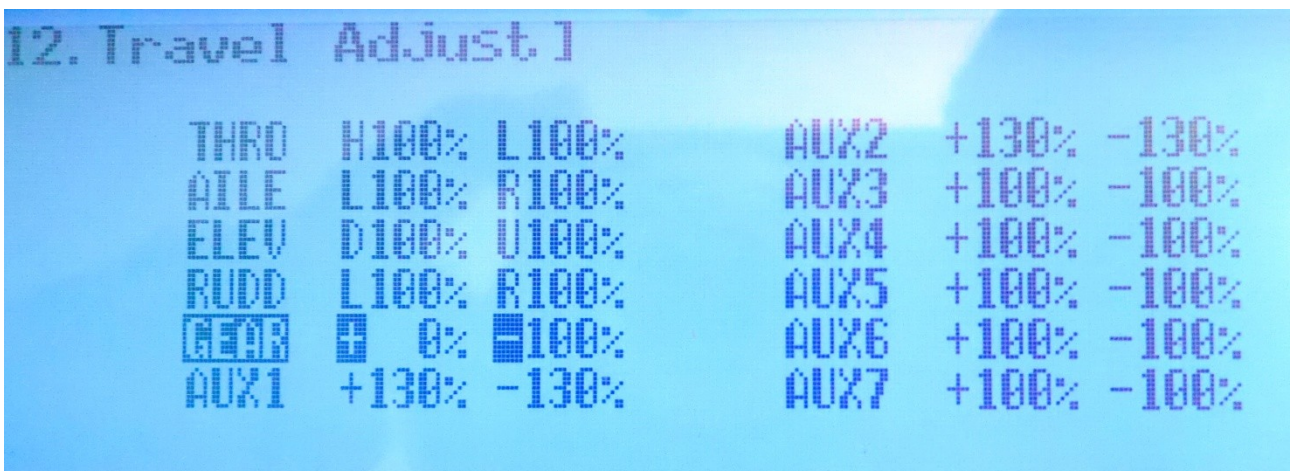
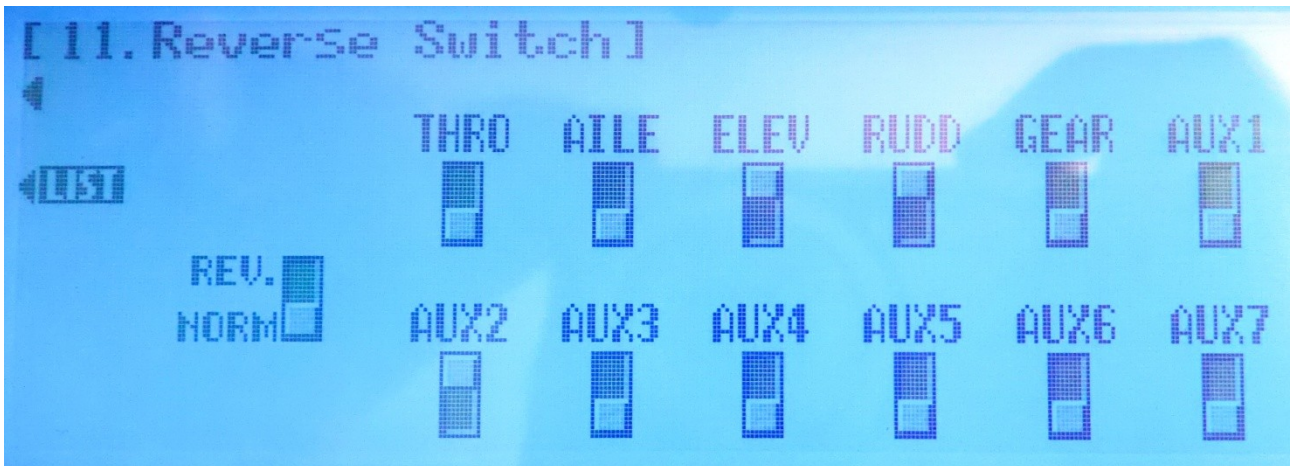
Locate full on “BACK” position the battery pack 4S in the fuselage location. In order to have the best performance and the correct C.G. location, be sure to use a battery pack with a weight between the 350g. and the 450g.

The **Recommended Center of Gravity** is **135mm** behind the leading edge of wing, as you can see from the C.G. markings on bottom of the fuselage too.

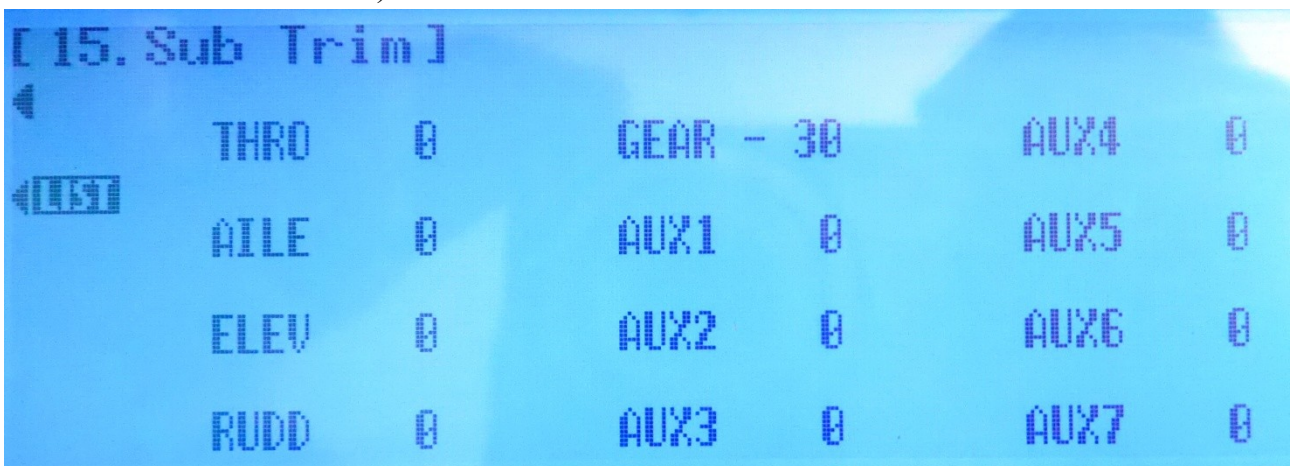


PROGRAMMING EXAMPLE ON JR PROPO RADIO





NOTE: the channel GEAR = GYRO SENSibility on one side need to be “0”, because it can work in two different modes: hold and gyro (check gyro instructions included in the box for more infos)



NOTE: the channel GEAR = GYRO SENSibility need to have some subtrim “-30”, with this it can recognise the way to work as soon as you will switch on the system.

IMPORTANT NOTE: after the connection of the battery pack, do not touch the plane for at least 10 seconds, because the gyro need this time to set himself, when it is ready, a red light will be ON steady.



Use the sub-trim to center the thrust rudder servo (the two vektors, from top view, need to be 5° open each) and if needed, adjust mechanically the two rudder servo linkages, to center them.

NOTE: the rudder & thrust-rudder servos work always together on channel RUDDER in every flying mode.

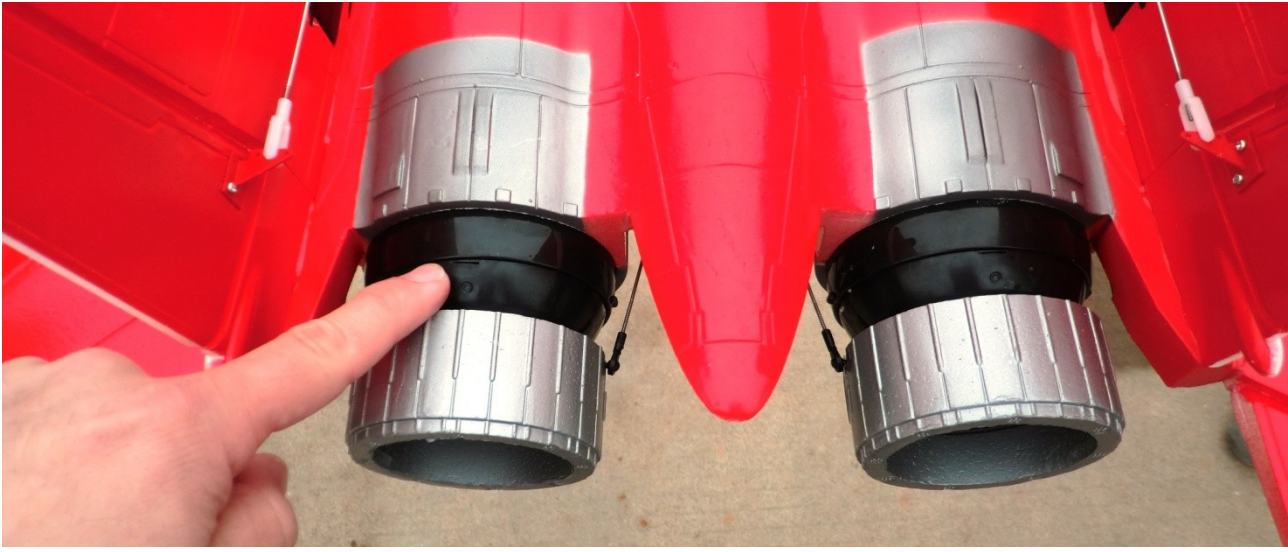


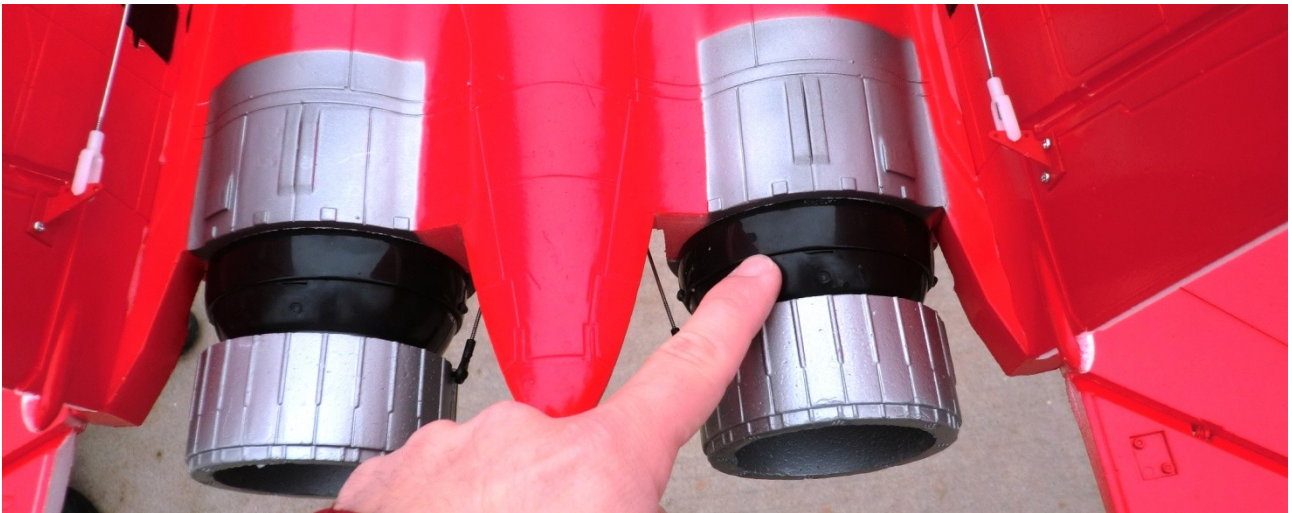
Use the sub-trim to center the aileron servos.

The aileron is connected with the flap. Use the flap line to find the neutral position and the aileron need to stay “UP”, like the original one. Flap and aileron work together as a long aileron.

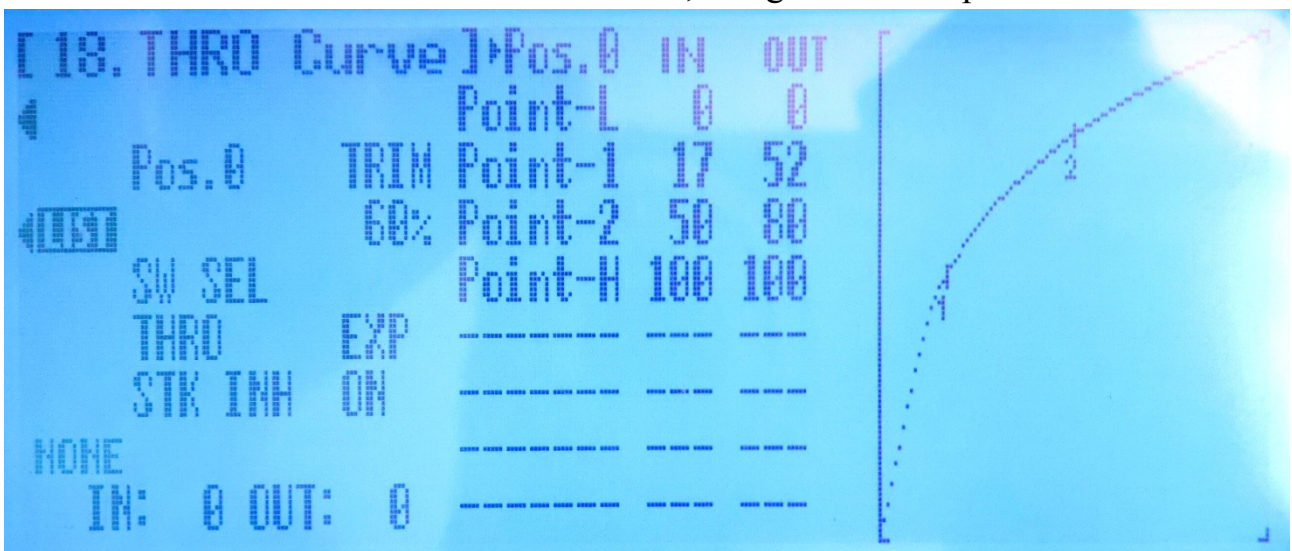


Use the sub-trim to center the elevator servos and if necessary modify the length of one side linkage.





Use the sub-trim to center vektor 1 & 2 servos, using the neutral point indicators.



Program the throttle curve like the picture for a better power response in 3D flying.

NOTE: program your radio with 3 flying modes (with combined trims):



Pos 0 = normal flight with reduced throws
(in this case is used the aileron D/R switch)

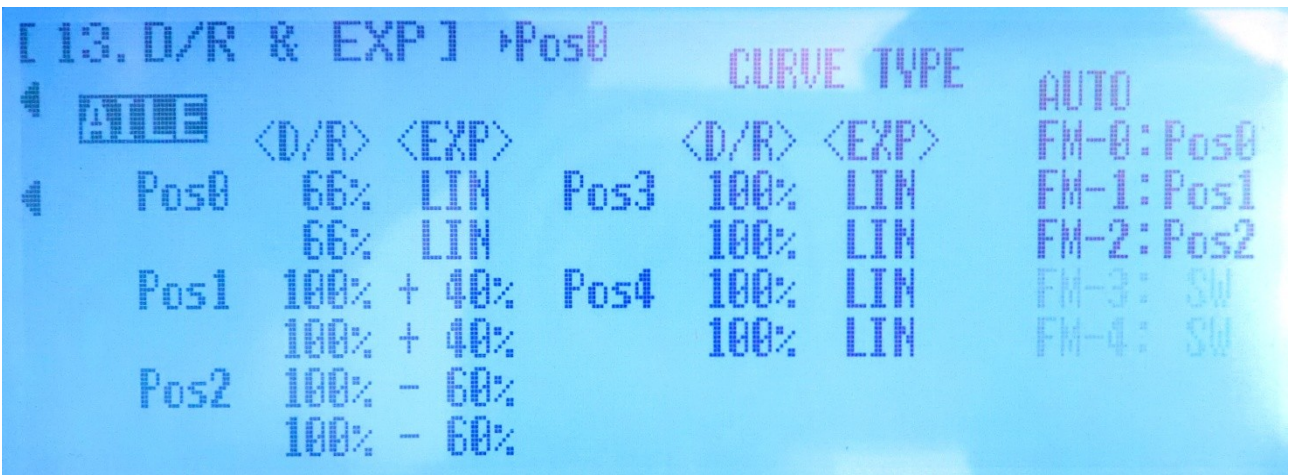


Pos 1 = flight with full rates for start, landing flat spins with GYRO in OFF position
(in this case is used the aileron D/R switch)



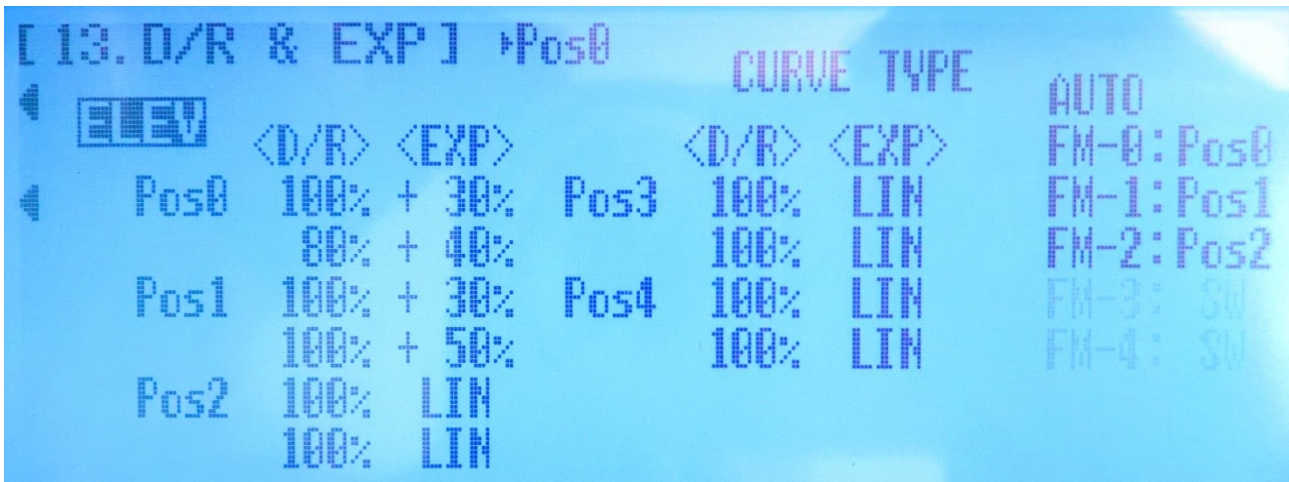
Pos 2 = flight with full rates for **3D & hovering** with GYRO in ON position
 (in this case is used the aileron D/R switch)

Program the D/R and exponential in the **3 different flying modes** for the ailerons, elevator and rudder as per following pictures:

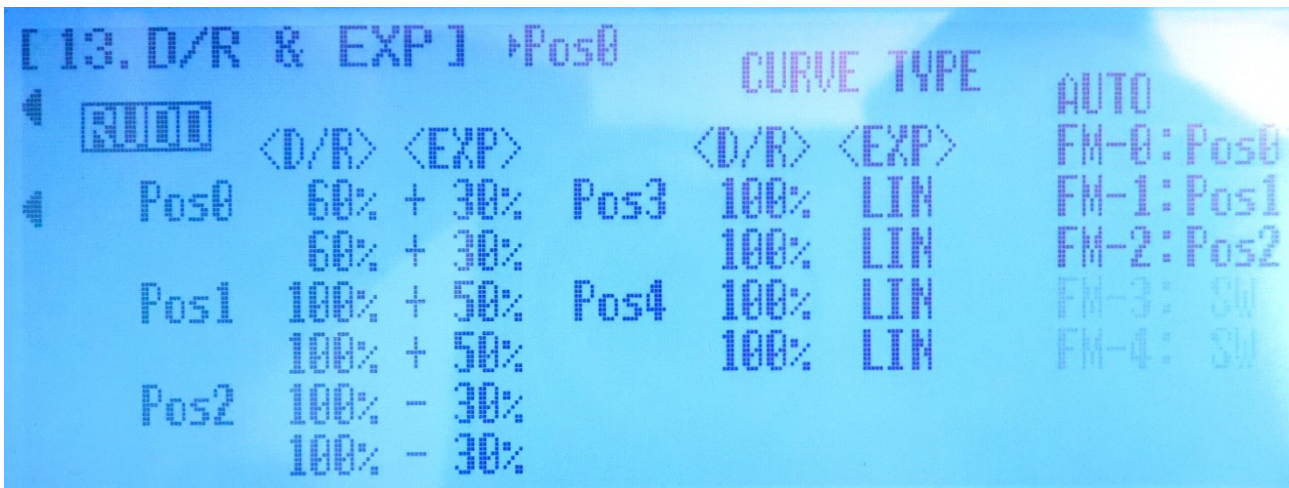


High rate (100%):

35° right & left

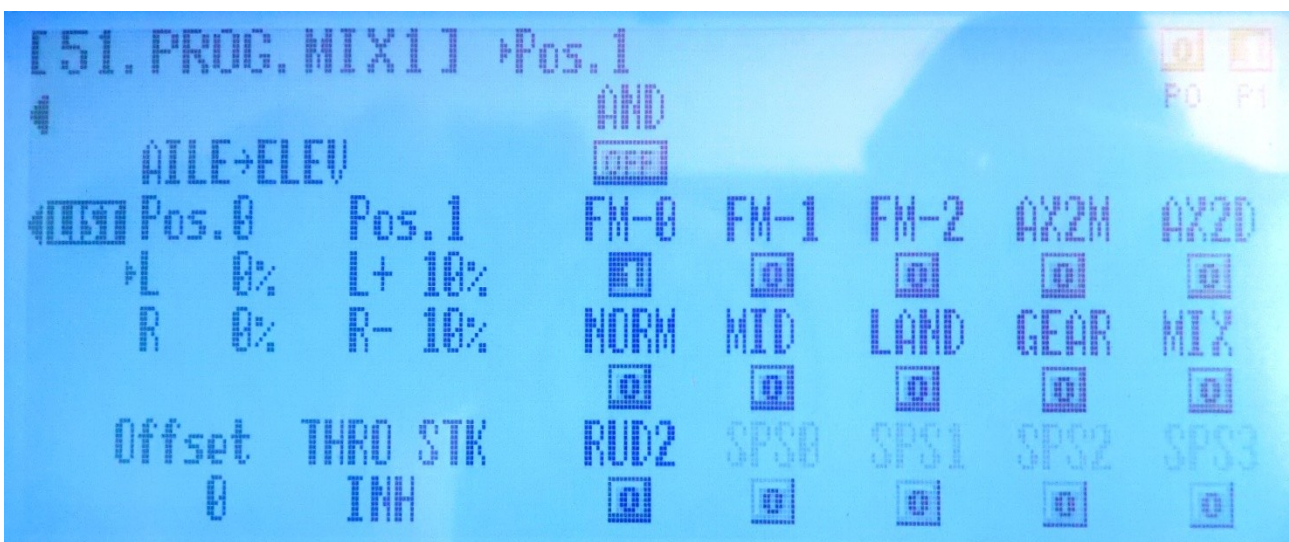


High rate (100%): 40° up & down



High rate (100%): 30° right & left

MIXING



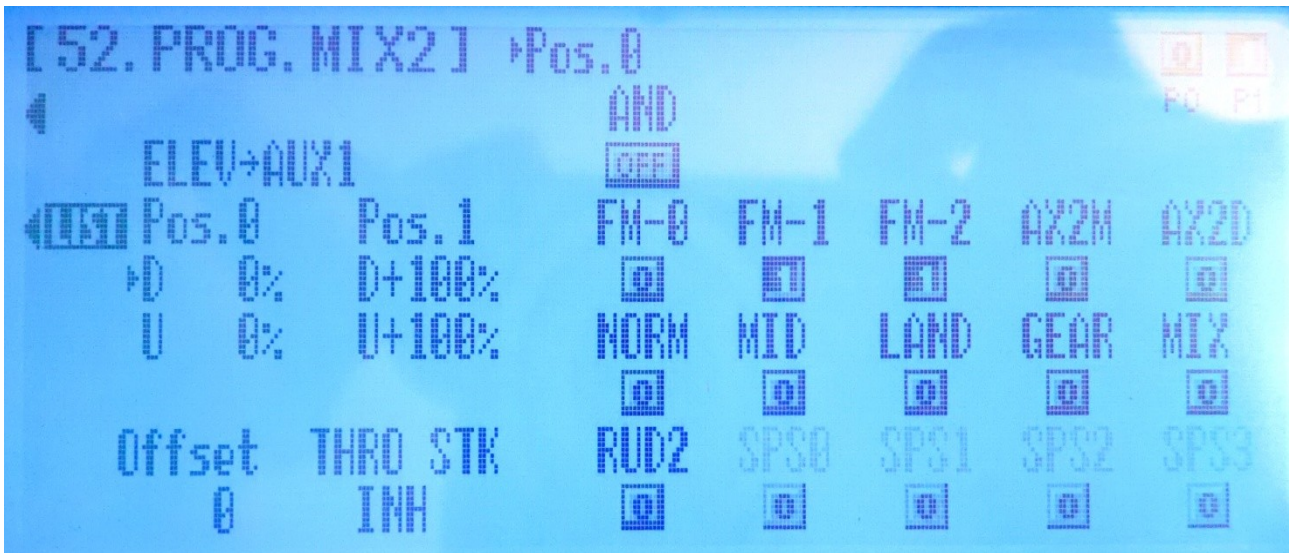
In **Pos 0** (normal flight) this mixing need to be activated, ON.

In **Pos 1** (full rates) this mixing need to be dis-activated, OFF.

In **Pos 2** (3D & hovering) this mixing need to be dis-activated, OFF.

Full Aileron RIGHT & full Aileron LEFT → elevator DOWN 10%

This mixing will help to perform at normal and fast speed very axial rolls.



In **Pos 0** (normal flight) this mixing need to be dis-activated, OFF.

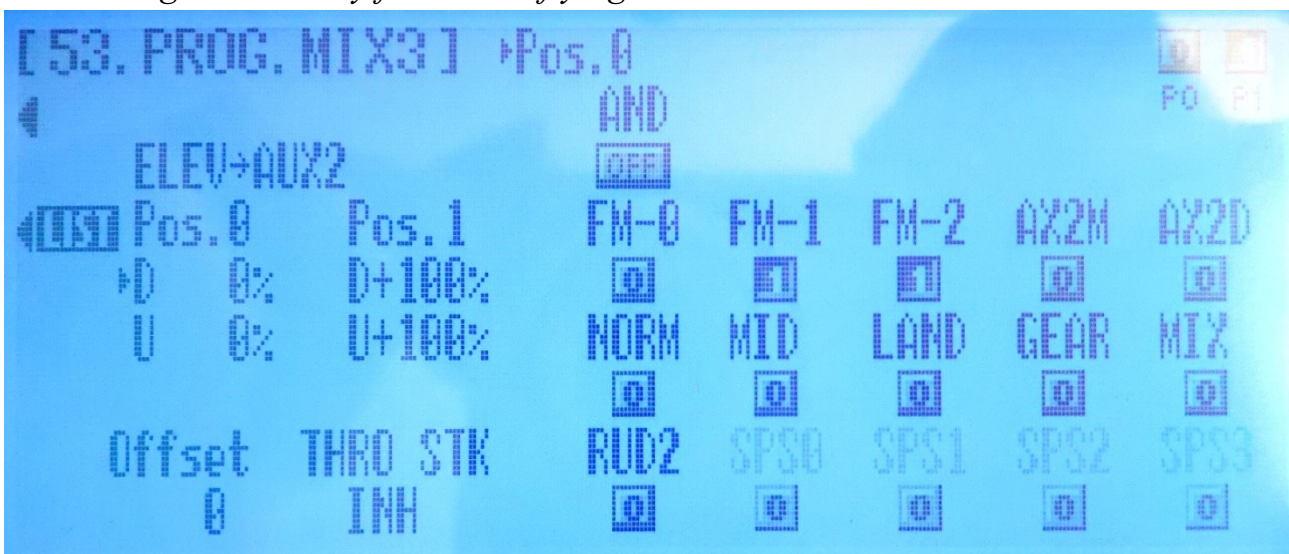
In **Pos 1** (full rates) this mixing need to be activated, ON.

In **Pos 2** (3D & hovering) this mixing need to be activated, ON.

Full elevator UP → vektor 1 UP 100%

Full elevator DOWN → vektor 1 DOWN 100%

This mixing is necessary for the 3D flying.



In **Pos 0** (normal flight) this mixing need to be dis-activated, OFF.

In **Pos 1** (full rates) this mixing need to be activated, ON.

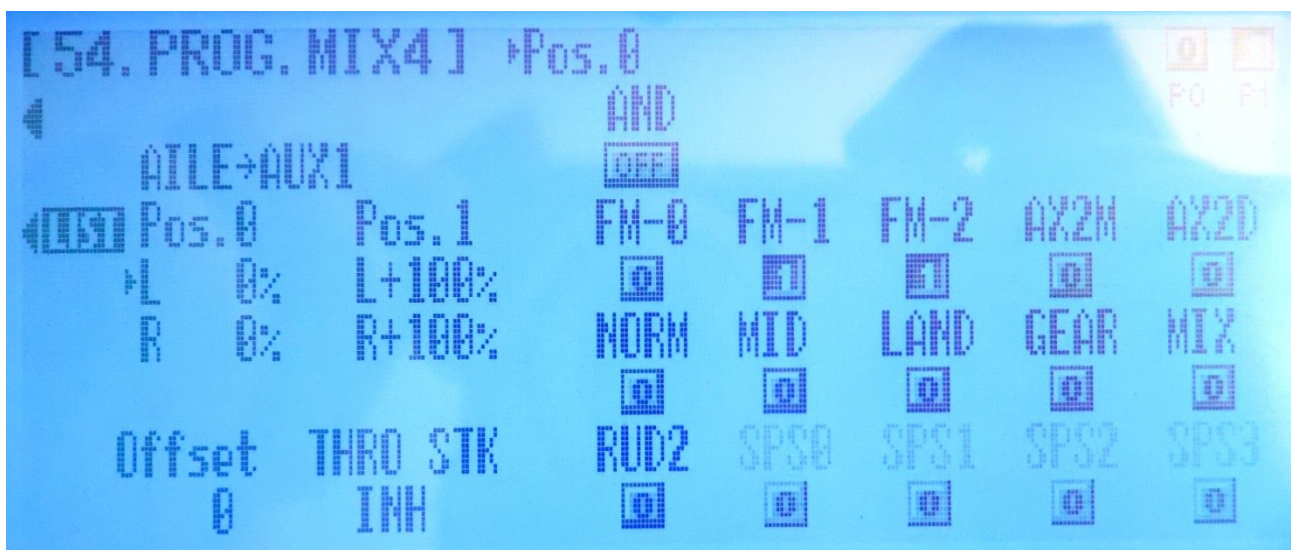
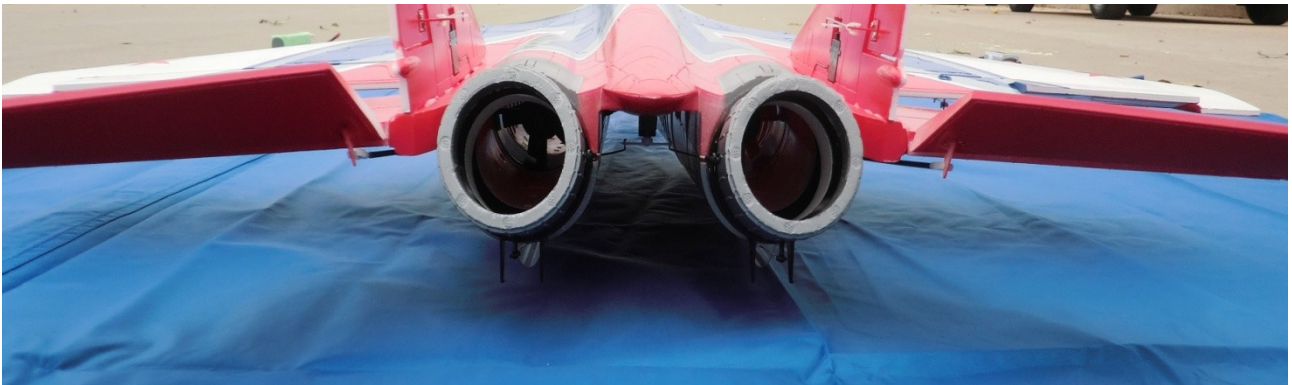
In **Pos 2** (3D & hovering) this mixing need to be activated, ON.

Full elevator UP → vektor 2 UP 100%

Full elevator DOWN → vektor 2 DOWN 100%

This mixing is necessary for the 3D flying.

Check the mixing 2 & 3 as per follow pictures:



In **Pos 0** (normal flight) this mixing need to be dis-activated, OFF.

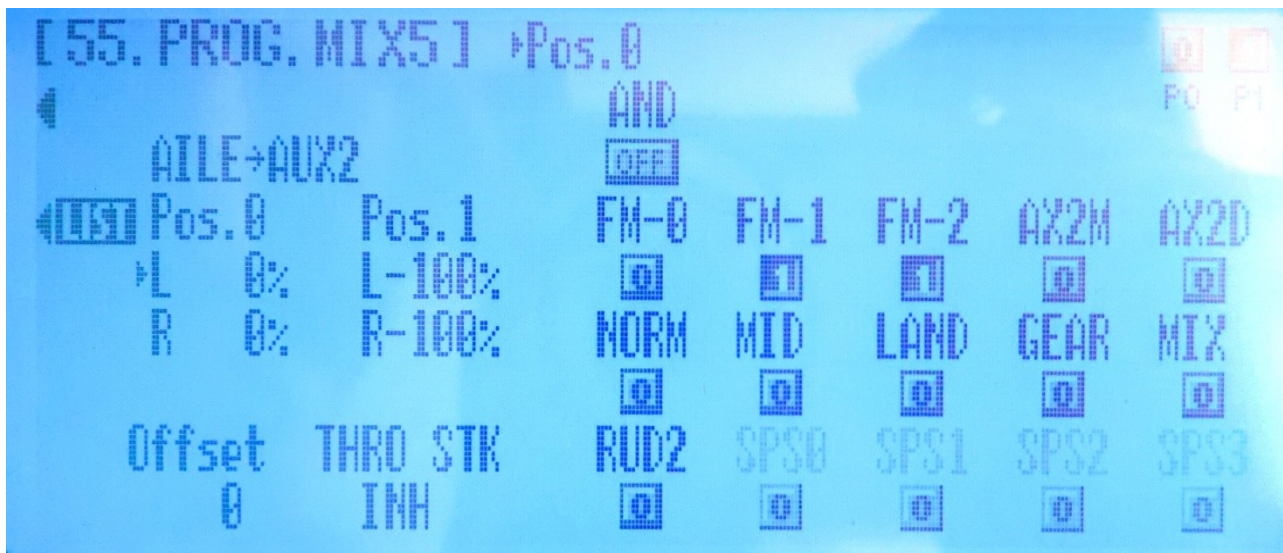
In **Pos 1** (full rates) this mixing need to be activated, ON.

In **Pos 2** (3D & hovering) this mixing need to be activated, ON.

Full aileron RIGHT → vektor 1 UP 100%

Full aileron LEFT → vektor 1 DOWN 100%

This mixing is necessary for the 3D flying.



In **Pos 0** (normal flight) this mixing need to be dis-activated, OFF.

In **Pos 1** (full rates) this mixing need to be activated, ON.

In **Pos 2** (3D & hovering) this mixing need to be activated, ON.

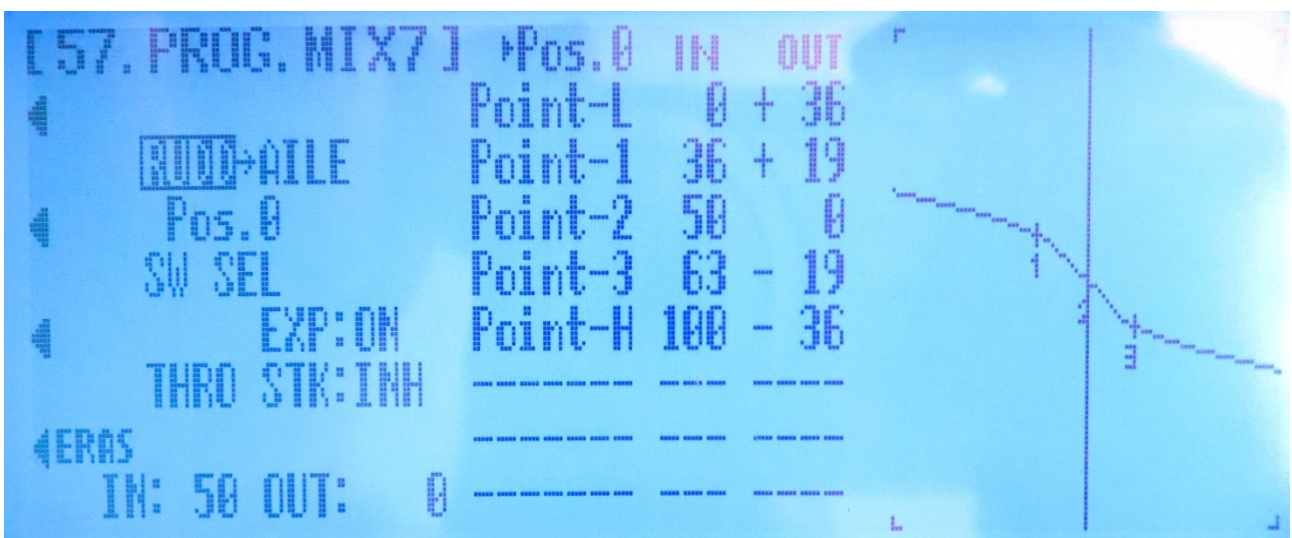
Full aileron RIGHT → vektor 2 DOWN 100%

Full aileron LEFT → vektor 2 UP 100%

This mixing is necessary for the 3D flying.

Check the mixing 4 & 5 as per follow pictures:





In **Pos 0, 1, 2** this mixing is always ON.

Rudder RIGHT → ailerons LEFT 36%

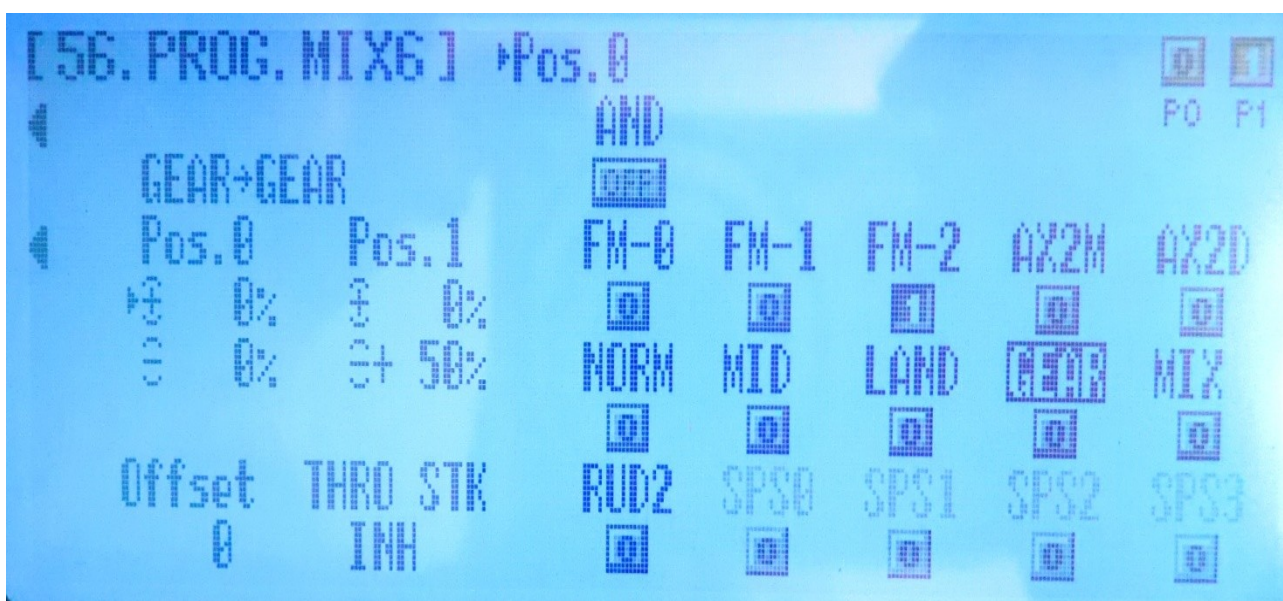
Rudder LEFT → ailerons RIGHT 36%

This mixing is necessary for an easier knife edge fly.

Adjustment of the GYRO SENSibility (= GEAR)



Activate the gyro sensibility mixing.



In **Pos 0** (normal flight) this mixing need to be dis-activated, OFF.

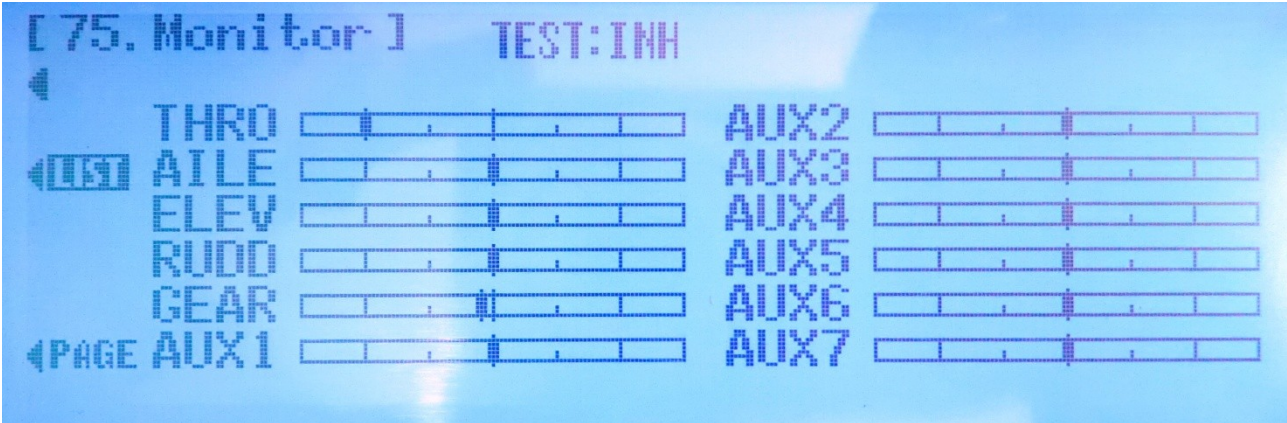
In **Pos 1** (full rates) this mixing need to be dis-activated, OFF.

In **Pos 2** (3D & hovering) this mixing need to be activated, ON.

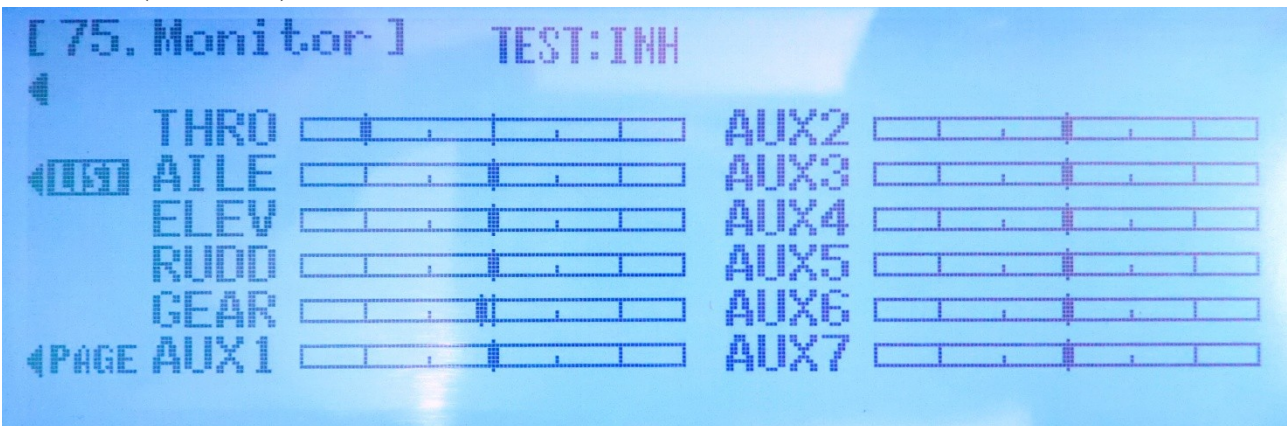
This mixing is necessary for a very easy hovering.

Test the operate of gyro sensibility (= GEAR channel) mixing:

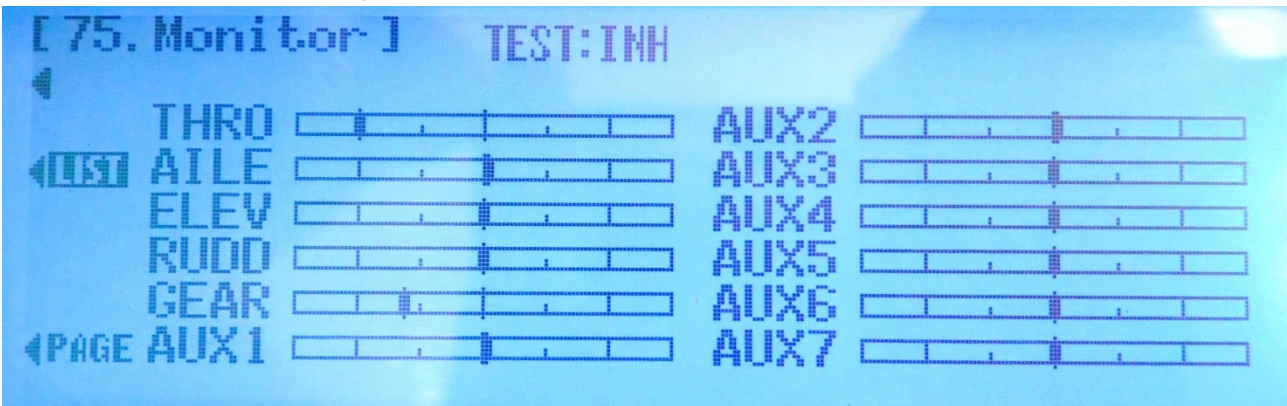
In **Pos 0** (normal flight):



In **Pos 1** (full rates):



In **Pos 2** (3D & hovering):



NOTE: the GEAR channel move at 50% (+ 30 steps of the programmed sub trim)

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 motor battery pack is fully charged, as per the instructions included with your batteries and that your radio is fully charged as per its instructions.

REMEMBER: after the connection of the battery pack, do not touch the plane for at least 10 seconds, because the gyro need this time to set himself, when it is ready, a red light will be ON steady.

If something go wrong with the thrust-rudder servo response, or the red light on GYRO is flashing, switch OFF and disconnect the system, and re-start again.

Finally... have nice flights!

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