# TBS Mojito

*Forward-swept highly efficient, long range FPV Wing*

Revision 2025-11-04



Introducing a new level of flying wing for advanced long range FPV pilots.

Highly efficient, up to 8S capable, with very long flying times and efficiency rivalling expensive carbon fiber models. Constructed with FPV in mind and all necessary provisions for the most popular FPV gear.

The model is a complex mixture of plastic injection and foam injection molded parts to maximize efficiency and allow for mass-production, which makes the model easy to build and affordable to repair.

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# General

## FAQ

If you have any questions after reading this manual, visit the TBS FAQ section.

## Additional 3D printable Parts

If you want to customize your MOJITO wing, several 3D printable parts are available.

From a WING PCB holder to custom nose sections and extra antenna outlets.

## INAV Tune

You can find an INAV 7 preset here.

# Kit content

Both sets, the DIY and the KIT version, come without electronics. We recommend the following parts, some of which are packed as an “Electronics Package”:

- TBS LUCID F4 FC (or F7 if later available)
- TBS LUCID 3-12S Single ESC
- TBS LUCID WING PCB
- TBS MOJITO Motor (1000KV, 3220)
- TBS MOJITO Servos (2x minimum, 4x if you want to use the air brakes) (23mm wide)
- USB Adapter Cable, 90° connector (for easy FC access), available at TBs
- 8S >1800mAh, 6S >2600mAh Battery
- 8x4.5 or 7x12 Prop

**Important note:**

Advanced pilots may wish to install electronics in the wing tips. To do that, you need to order the DIY version. Otherwise, you will not be able to feed any cable there!

Check the installation section for details.

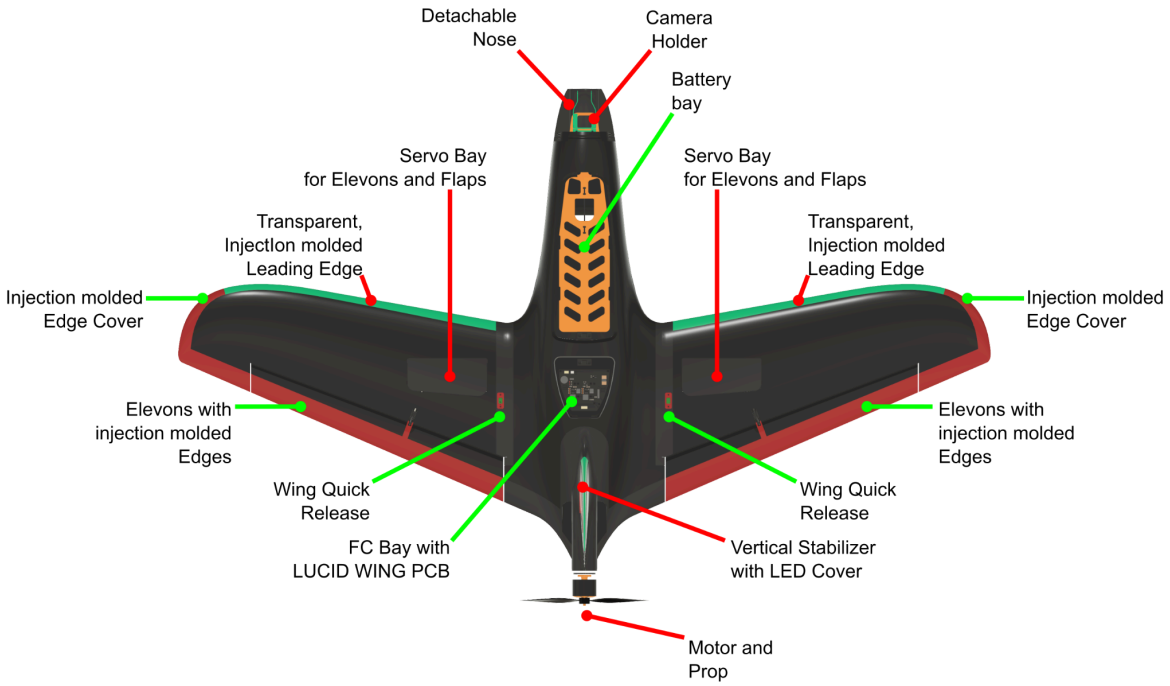


## Required tools:

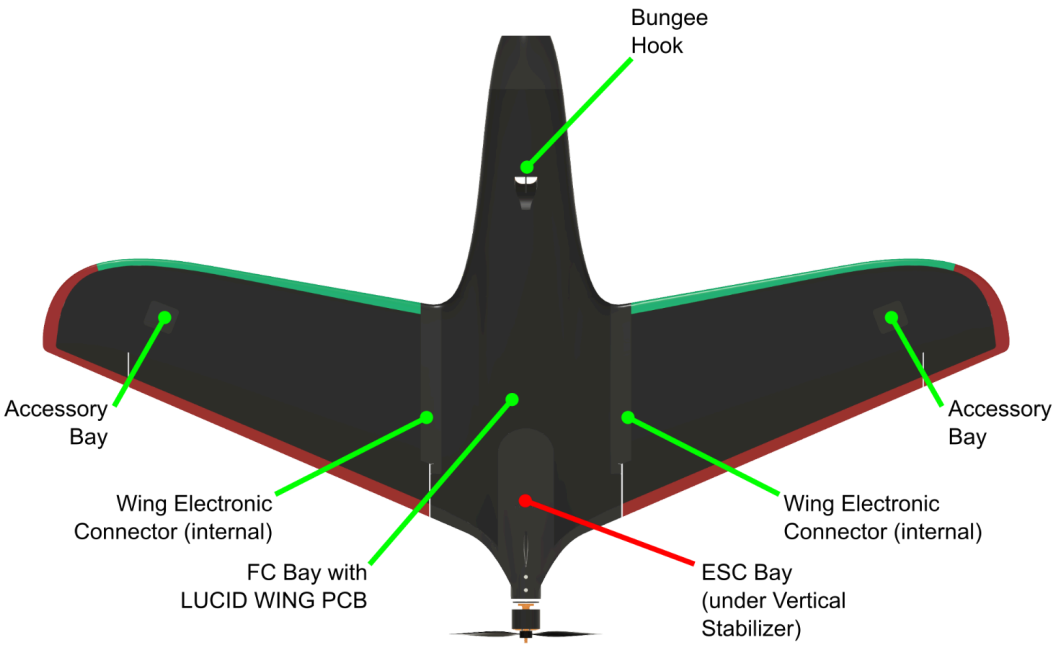
- EPP-safe glue like UHU POOR or CA glue like Multiply Zacki
- Exacto knife (optional)
- Filament tape (about 1m) and double-sided tape (optional)
- Drill bit + respiratory protection (DIY only, to cut a slot in 2 carbon beams if needed, optional)

# Overview

## Top View




## Bottom View

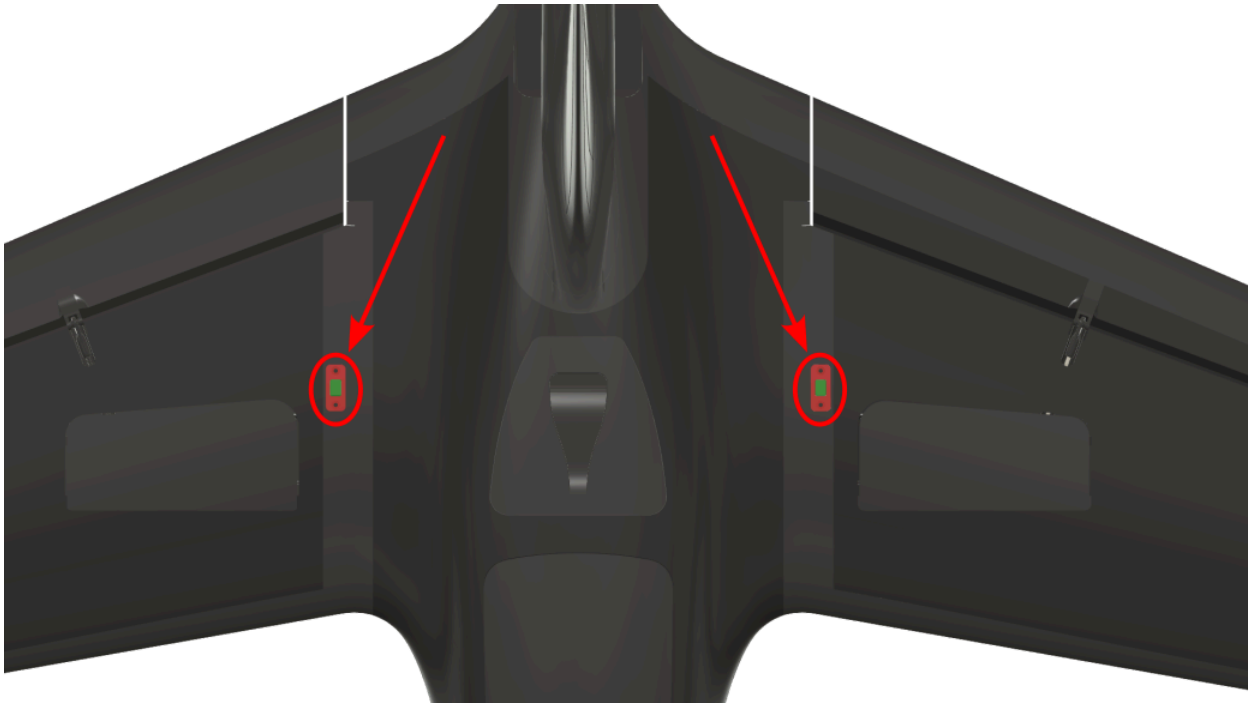


# General Installation and Information

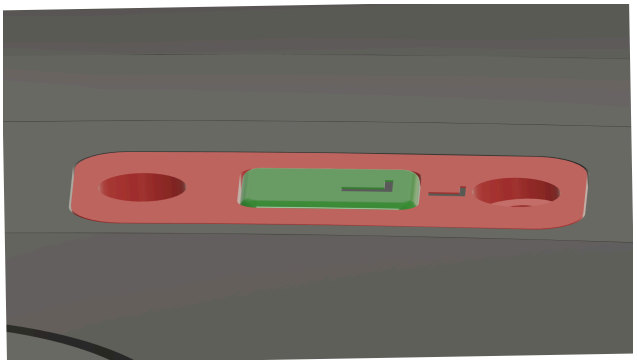
If you are experienced with building wings and just need the base information or are finished with the general assembly and gluing, this section is for you.

## Connect and detach the Wings and Vertical Stabilizer

To detach the wings, you need to push the quick-release buttons down. If you can't press them in deep enough, you can use a pencil, screwdriver, etc., to force them deeper until you hear a “pop” sound and the wings come off easily. Do not pull them with force!



Connecting them is as easy as detaching them. Install the two carbon rods into the main body and slide the wings on them till the end. When done correctly, the push button will be flush.



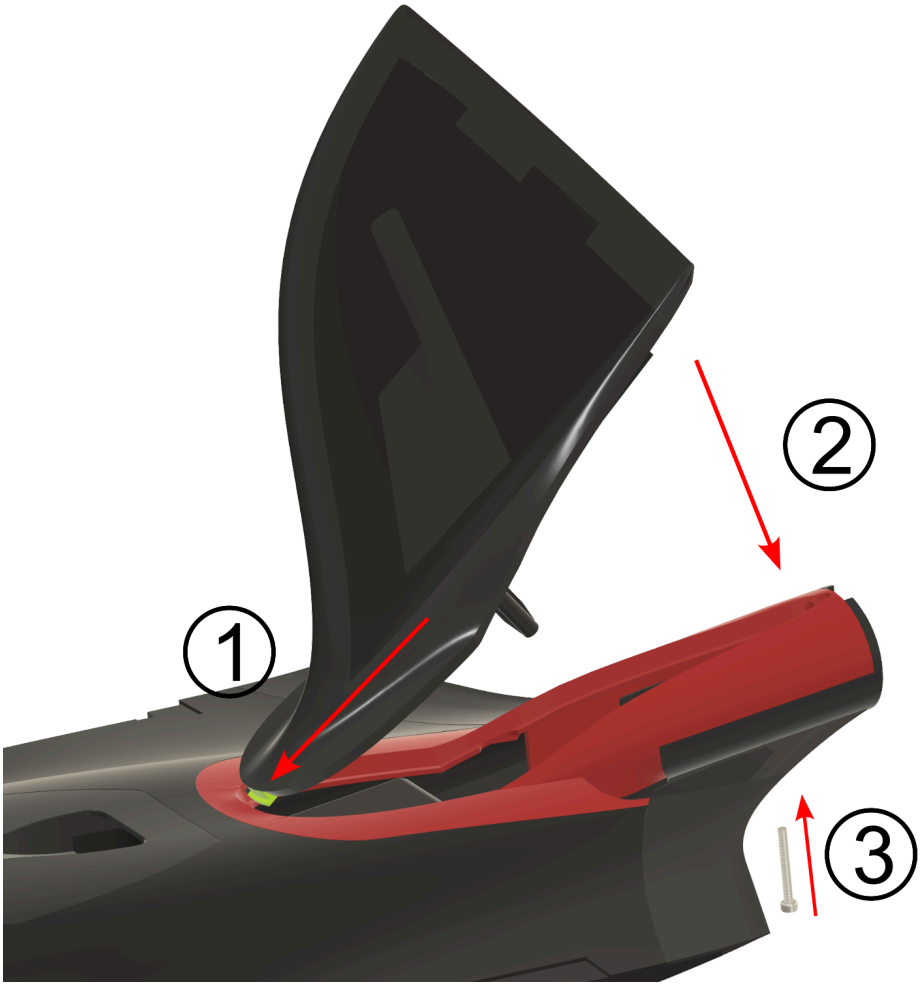
When your wing is brand new, you might need to push it a little harder for the button to pop out.



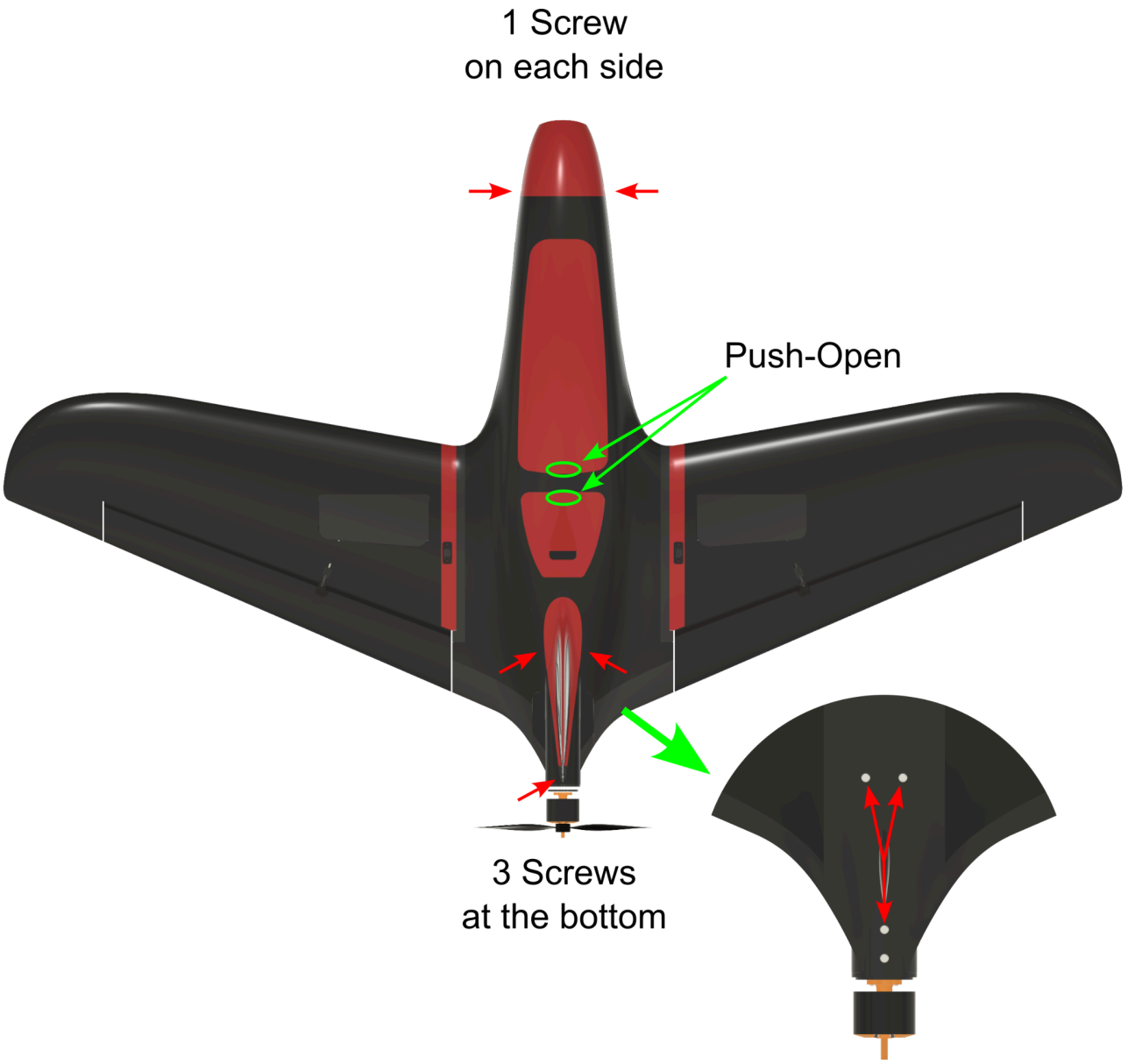
Two carbon rods reinforce the wings inside. Install them by sliding them into the designated guides.



The stabilizer must be first pushed in at its front, then pushed down. To lock it in place, the screw must be installed as well.

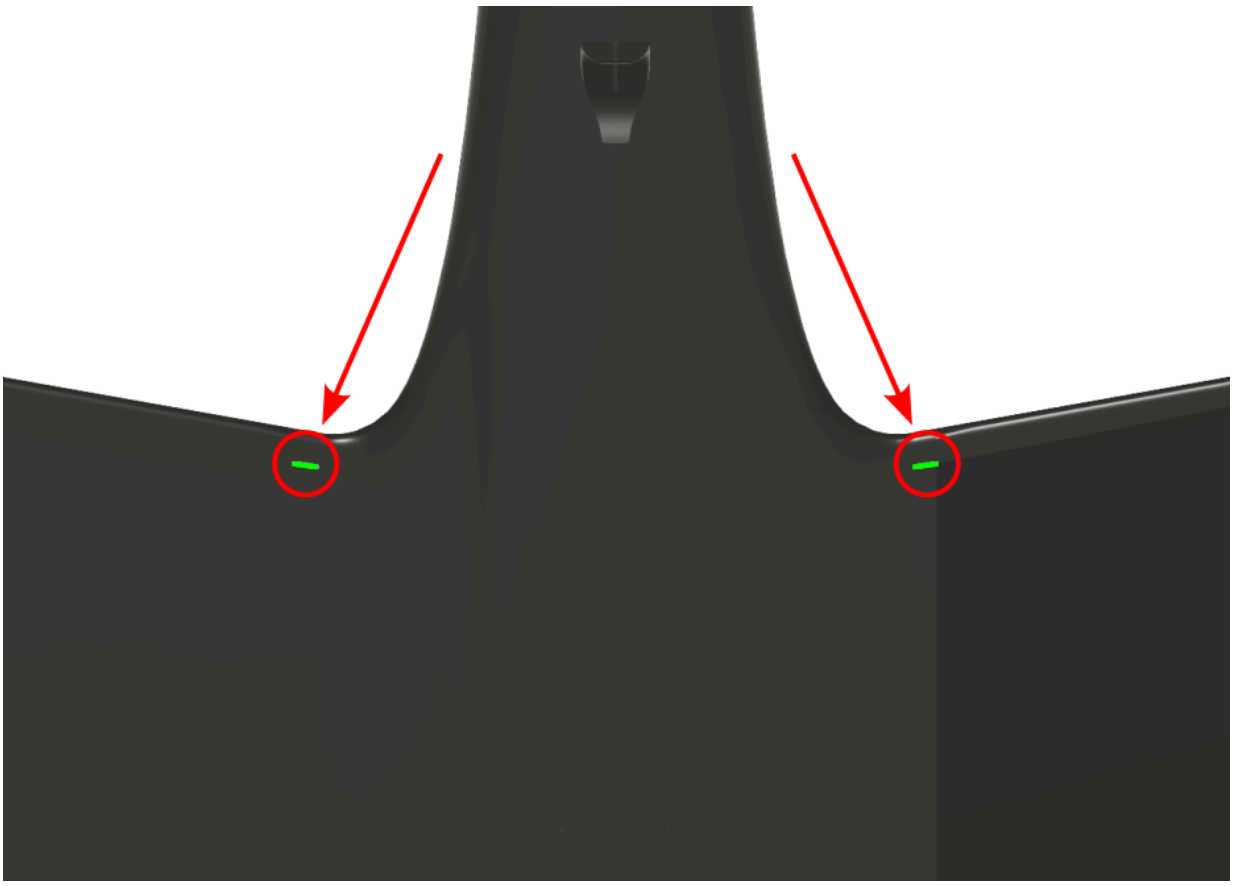


## Compartments and how to access them



### Center of Gravity - CG

You can feel a protruding line at the bottom about 1cm from the wing's leading edge. This line marks the CG. Place your fingertips on them, and make sure your MOJITO is leveled. If you want to do proximity flights, your plane should be slightly nose-heavy for better control in those scenarios.



## Installation

Install the FPV gear, the receiver, and other electronics as far apart as possible to avoid interference. Try moving the unit away if you experience issues with your RC or video link.

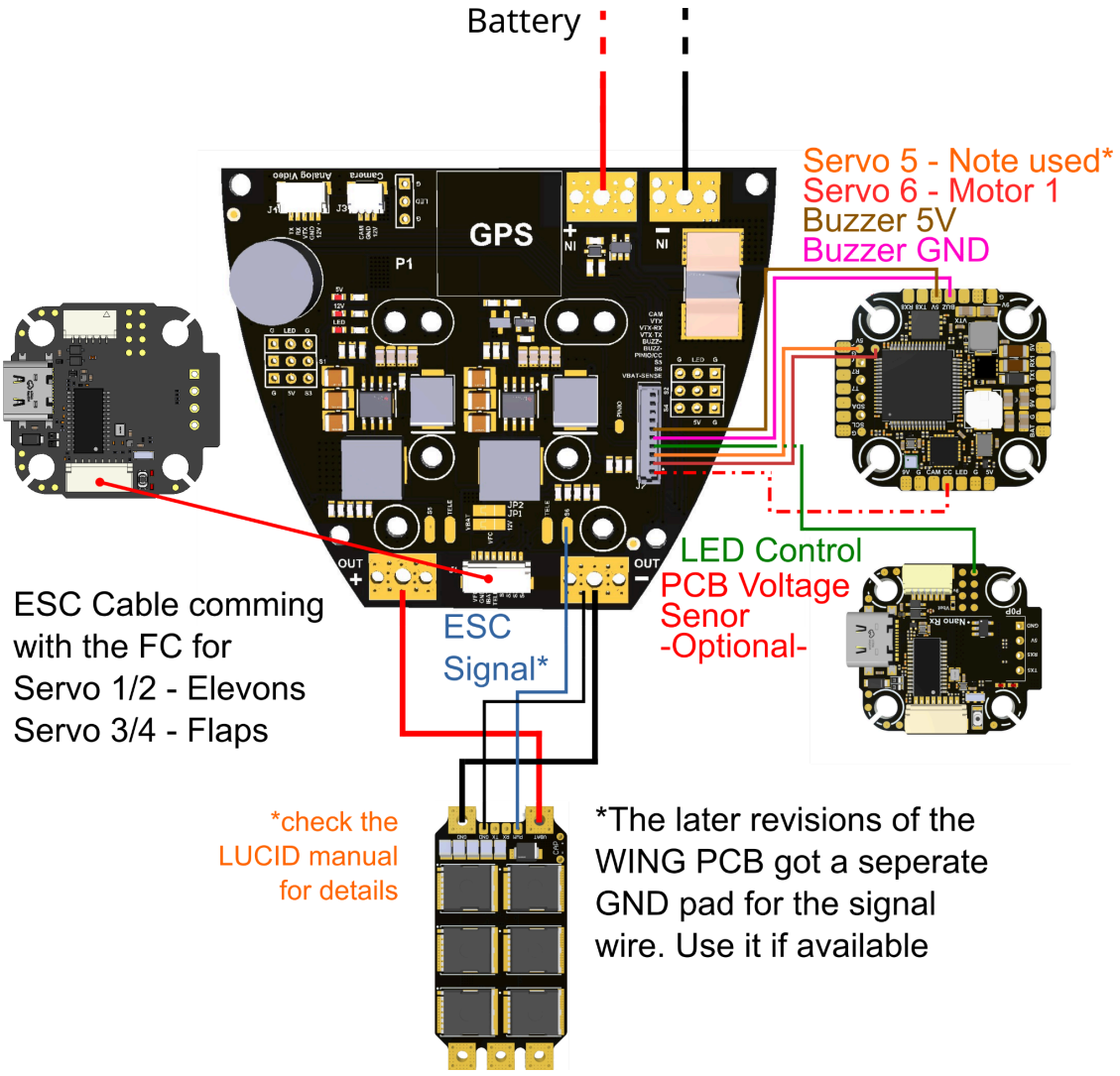
## Wing PCB with FC

The Wing kit contains a dedicated PDB that mounts the FC and all the necessary gear cleanly and easily, providing clean power and minimizing the wiring. Installation can be done with some double-sided tape or a 3D-printed adapter. If you use a digital FPV system, connect your VTX to a free UART. In the case of an analog system, connect the WING PCB *CAM, VTX, VTX RX (if supported by the VTX), and VTX TX* to the dedicated pads as well.

**Please check the LUCID manual for details on the V2 Wing PCB, as well as additional information and updates.**

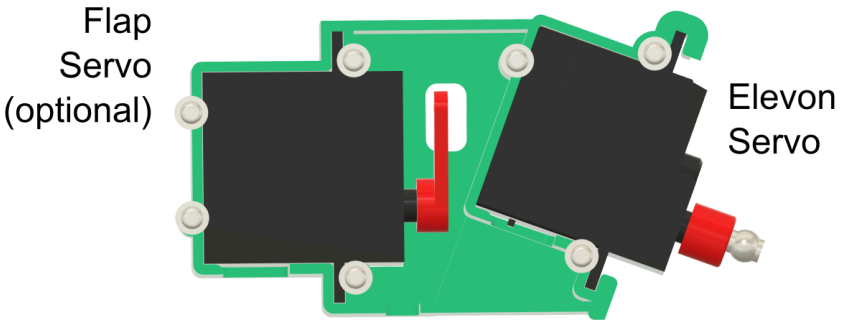
**You can connect your Lucid F4 FC directly up to 8S.**

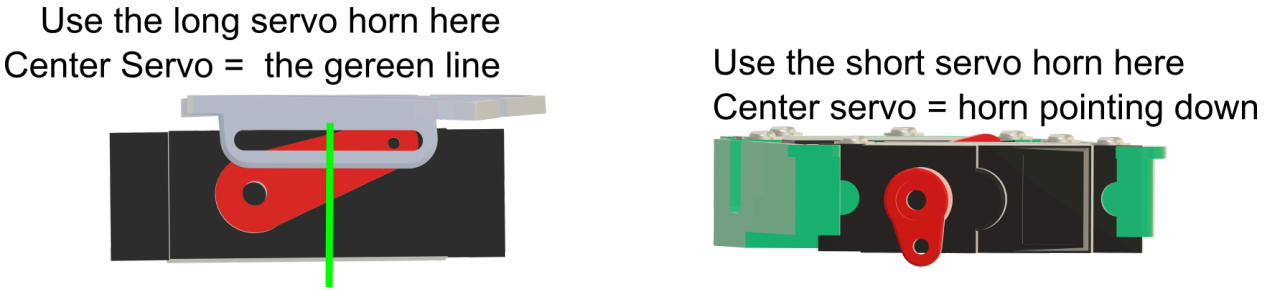
It is also recommended that some foam be placed over the barometer to avoid false readings when air passes by in flight.



## Servos and Air Brakes

The Servos are held by the included flat-head screws. No additional glue is needed.



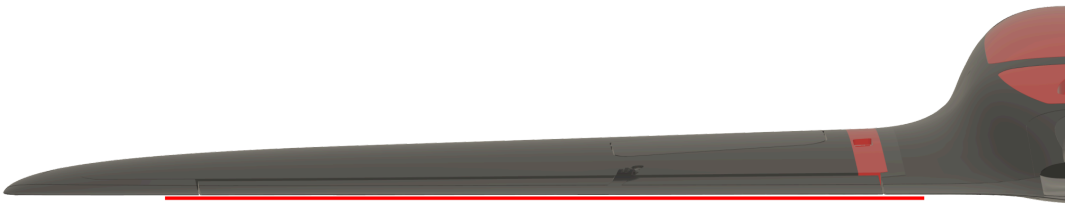




The air brake hinge is held by the same type of screw that is holding the servo.
Make sure to adjust the servo limits in your FC software. They should move to their endpoint without stressing sounds or pushing into the foam. The air brake must be flat with the wing surface when not engaged.




The push rod should be adjusted so that when the servo is centered, the elevon is in one line with the surrounding edges. This can be achieved by turning the hinges. A spacing of 50 mm is a good starting point.

**Do not use any Locktide on plastic parts!**

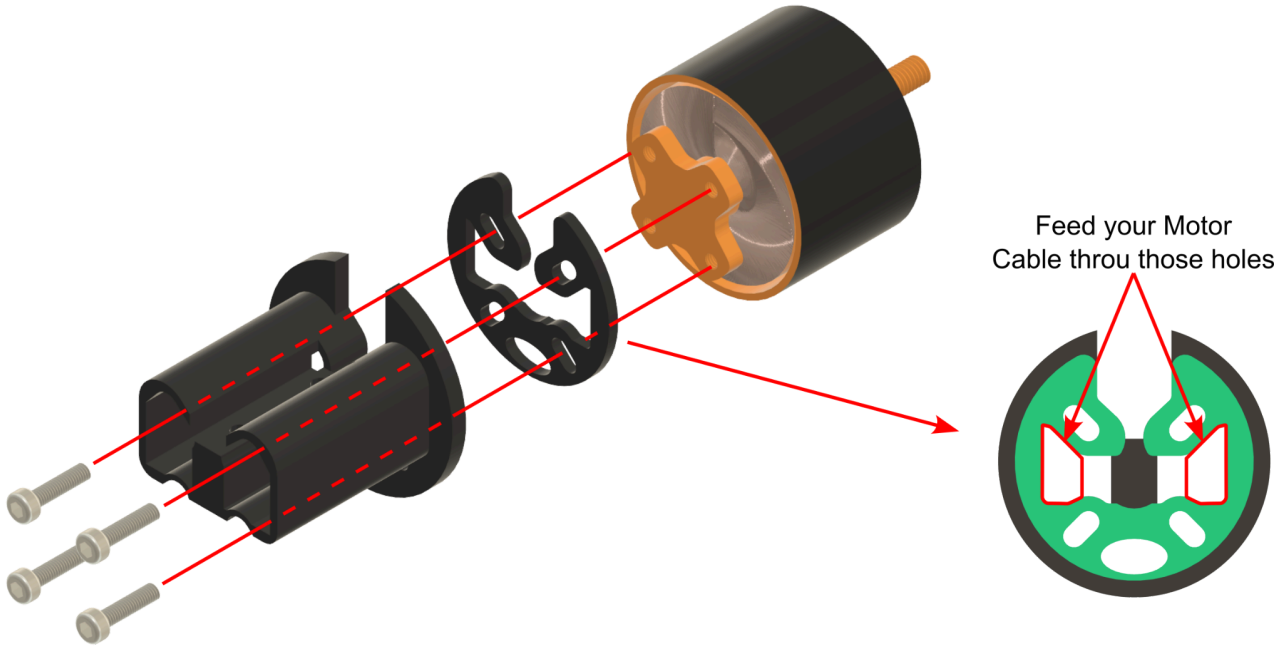


## Motor

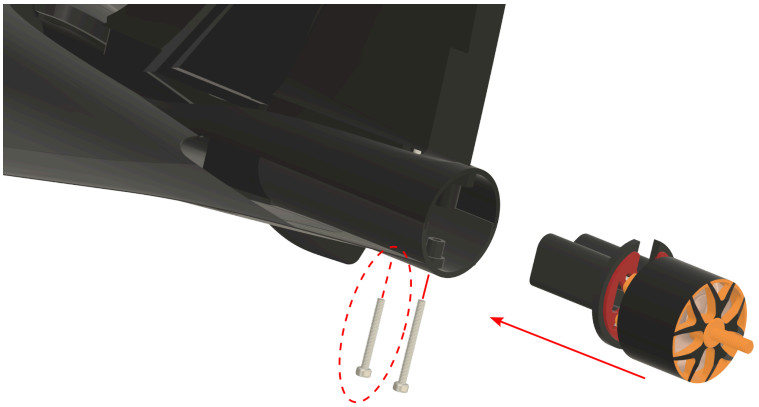
The mount supports Motor bases from 19*19 up to 25*25mm.

Install the Motor with the 4 M3x9 socket head screws. Make sure to install the spacer, as otherwise, the screws can penetrate the motor windings!

Gently bend the motor cables so they fit into the designated holes.

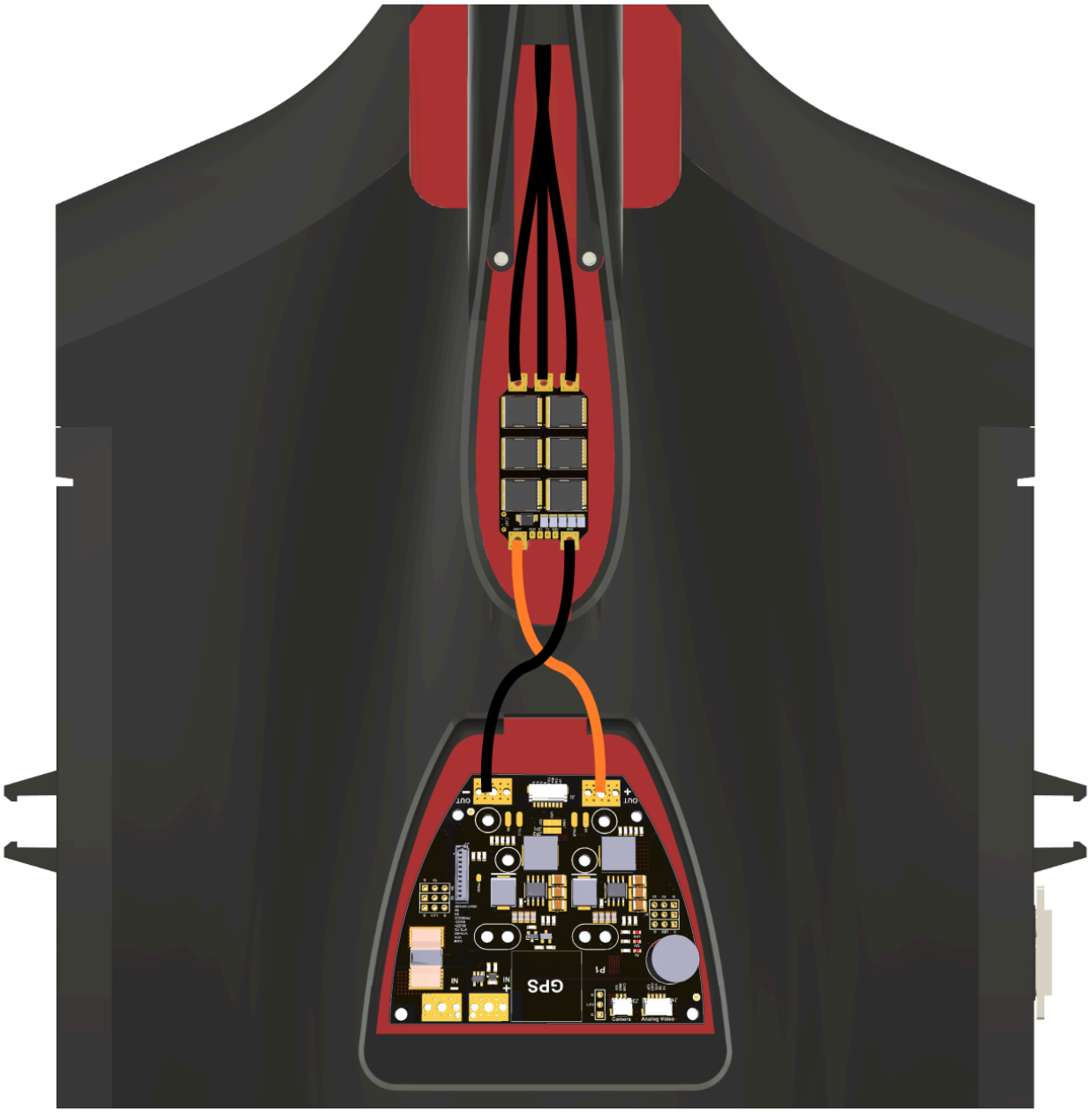


After assembling the mount,  install the motor and its mount on the wing. The circled screw (the longer one=) goes through the motor mount as well while mainly holding the vertical stabilizer. Make sure it can pass through the mount after tightening the main screw.



## ESC - Installation

The ESC can be placed in the bay under the stabilizer. To improve cooling, add some of the thermal paste to the FETs and press the supplied heat sink onto it. To secure it further, add a small stripe of heat shrink tube or a zip tie around it. Make sure not to over-tighten it.



## ESC - Setup



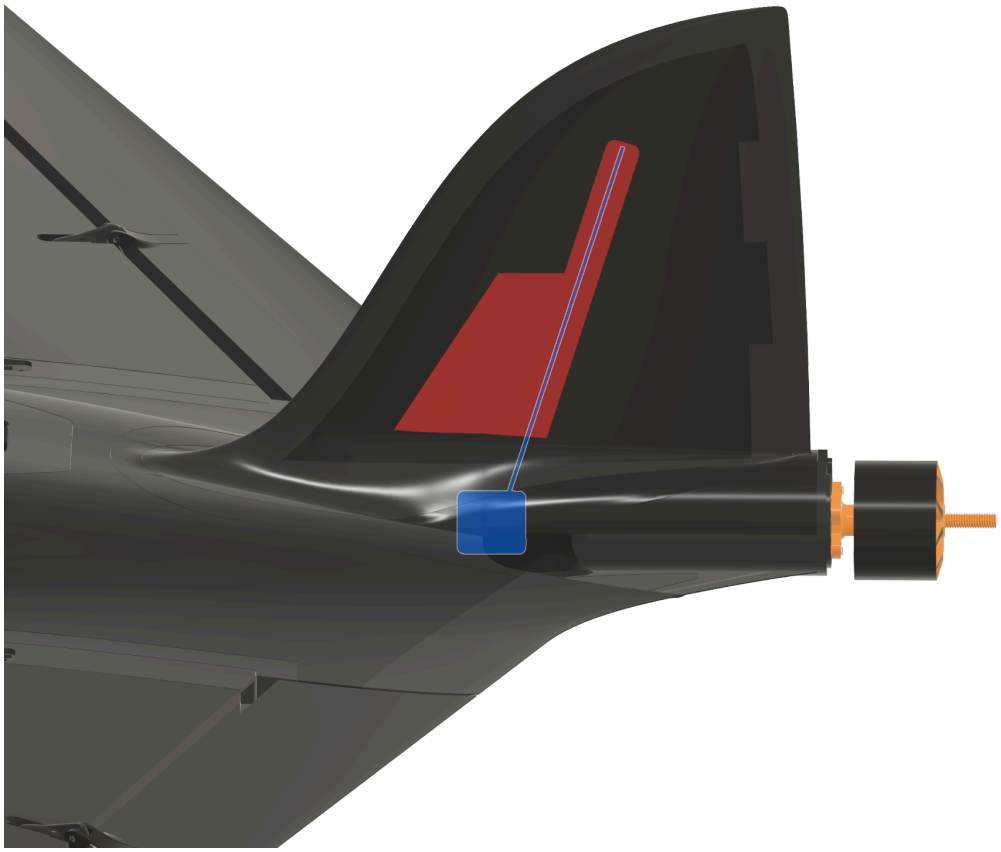

| | | | |
|---|---|---|---|
| **Stuck Rotor Protection:** | **ON** | **Startup power:** | **125%** |
| **Stall Protection:** | **OFF** | **Motor KV:** | **1000** |
| **Use Hall Sensor:** | **OFF** | **Motor Poles:** | **14** |
| **Variable PWM:** | **ON** | **Beeper Volume:** | **8** |
| **Complementary PWM:** | **ON** | **PWM Frequency:** | **24-48KHz** |
| **Timing advance:** | **15°** | **Temperature Limit:** | **OFF** |
| **Current Limit:** | **204** | **Low voltage cutoff:** | **OFF** |
| **Brake on Stop:** | **On** | **Running Brake Level:** | **10** |

## Receiver

The receiver can be installed on the flight controller. The *Crossfire Immortal T Antenna V2 Extra Extended* antenna can be placed inside the special compartment inside the vertical stabilizer.

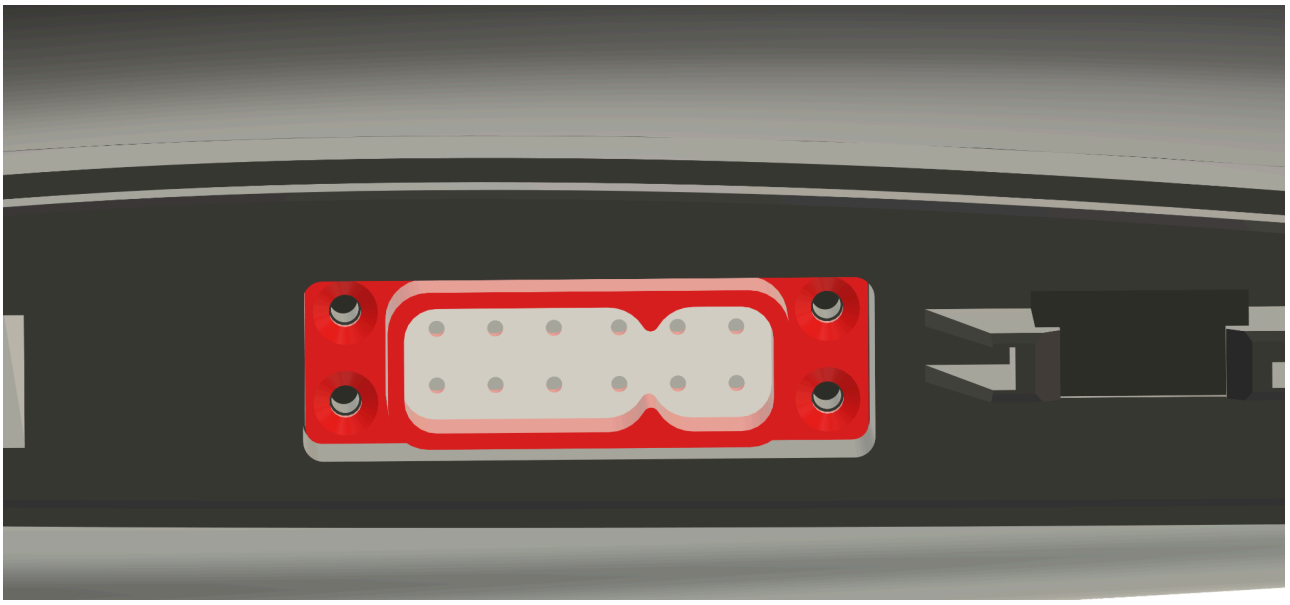
In order to install the *Immortal T Antenna,* some foam must be removed from the the central coverof  the antenna to fit into the bay.

Alternatively, you can install the receiver into the bay and feed a Cable with a (4-pin) servo connector to the FC to easily remove the stabilizer with the receiver for transportation.



## Wing Connectors

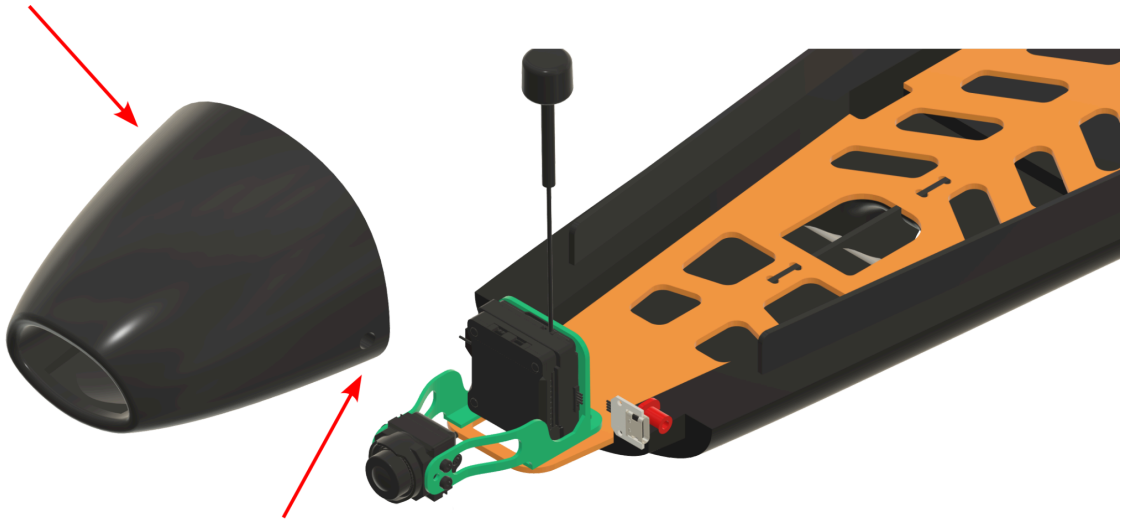
Both wings include a 12-pin connector, allowing easy disassembly without fiddling with servo connectors.



You can use the pins as you like. If you want to use the LED stripes in the wing edge and a VTX, you might need to use some pins for multiple devices. For example, using the same pin for 5V and GND for both servos allows for VTX (with CRSF) and LED, and both servos by just using 12 pins.

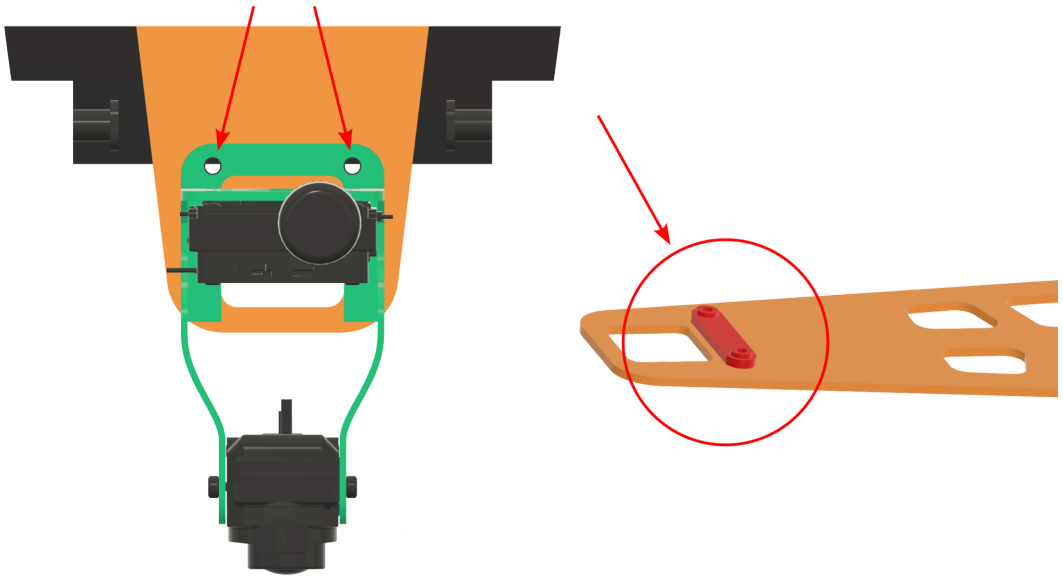
## FPV Gear

The nose section can be easily removed by loosening the two M3x2 socket head screws on the side, then pulling it out to the front. When tightening the screws, do not apply too much force, as they only need to hold the cover and are installed into foam.



For the antennas, just poke a small hole through the foam of the main body, about 1-2cm in.

The VTX/camera holder itself is held by two M3x8 self-attaching socket head screws installed through the wooden base and into the small bracket.



### LED Strips

The details for installing the LED strips are in the assembly section for the wings.

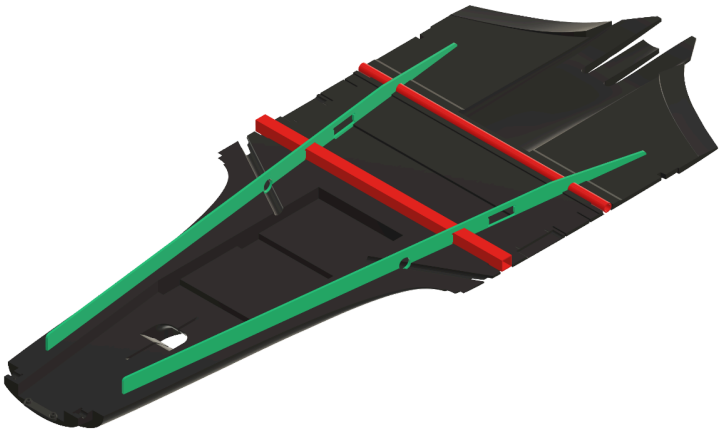
For the control, enable the PINIO function for an available pin and route the function to a free channel on your FC. For details on the available pins on the LUCID F4 FC, visit the LUCID manual

# Detailed Installation (DIY Kit)

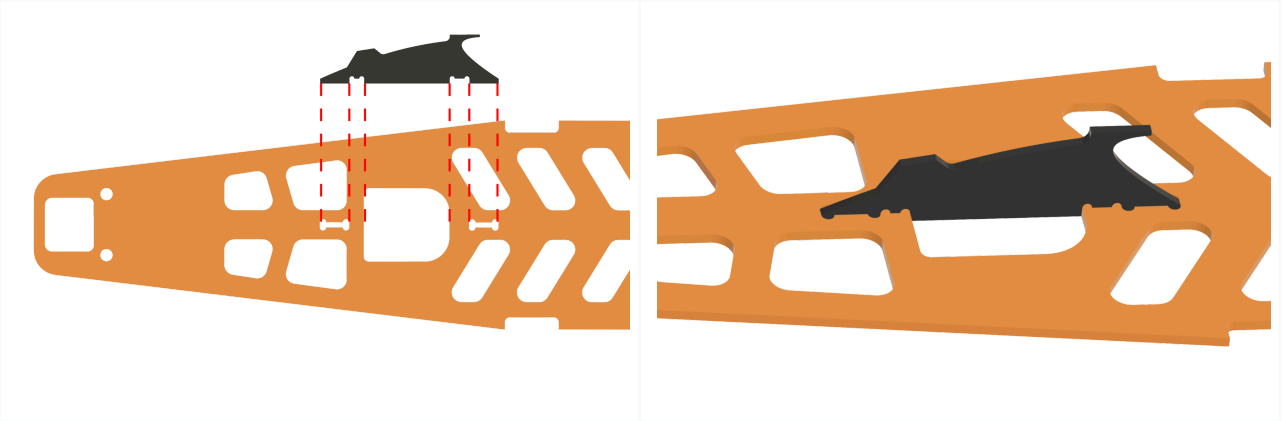
## Main Body

The main body installation is easy; just take your time and make sure to remove excess glue from any parts to avoid issues. Running a dry fit first is also a good idea to see how parts align before applying the glue.

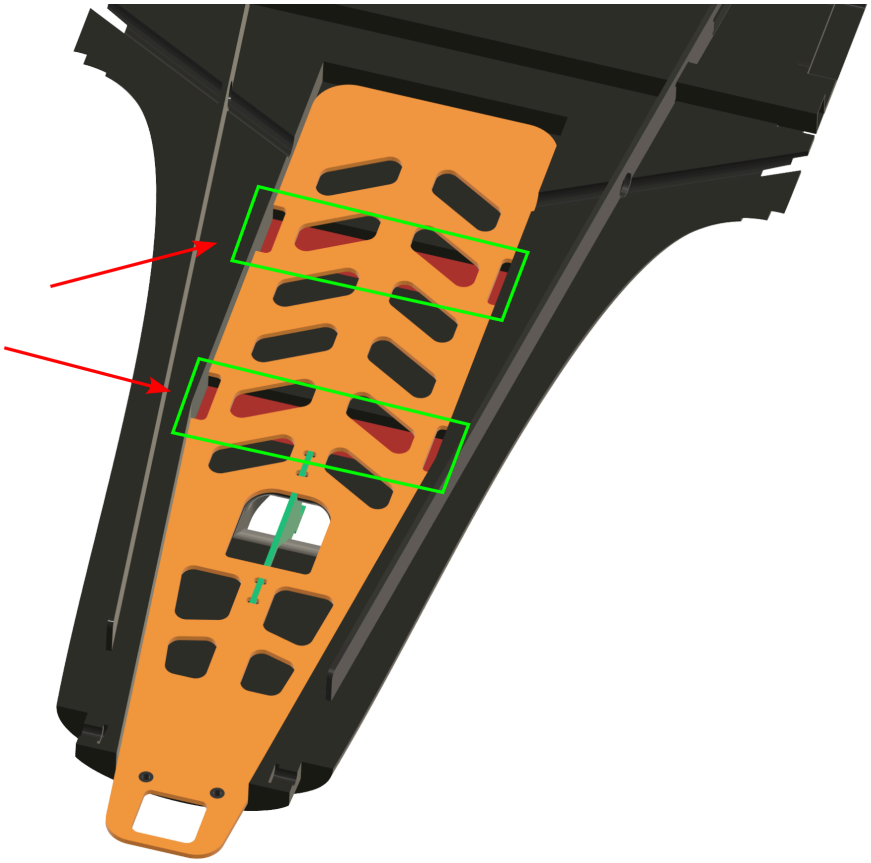
Start by installing the main carbon ribbons and the two (shorter) carbon tubes. Push them down firmly and make sure that the tubes are centered.



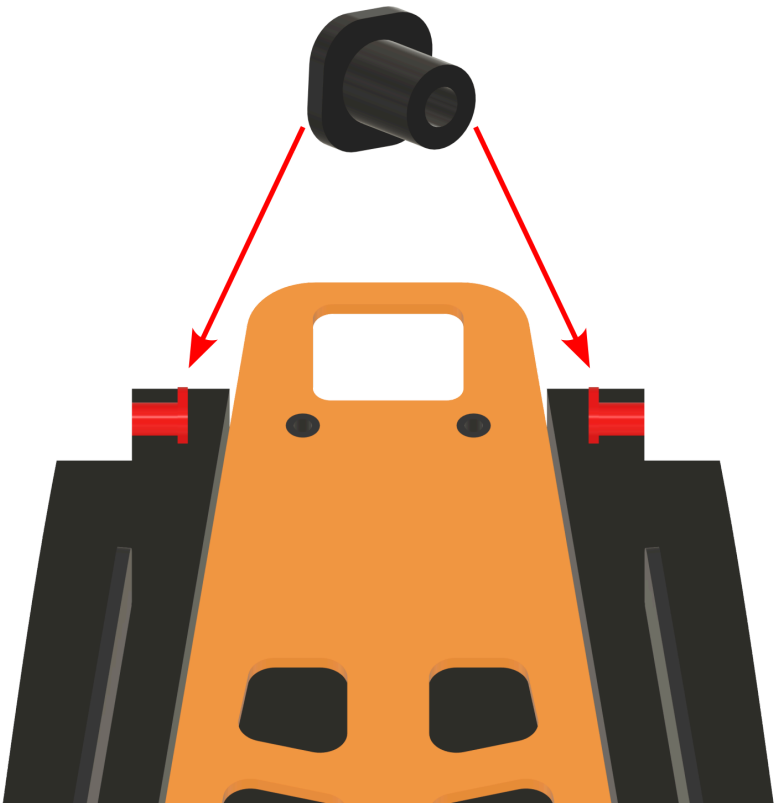
Next is the battery bay base plate with the velcro straps and the bungee hook.
First, install the bungee hook into the plate and secure it with CA glue.



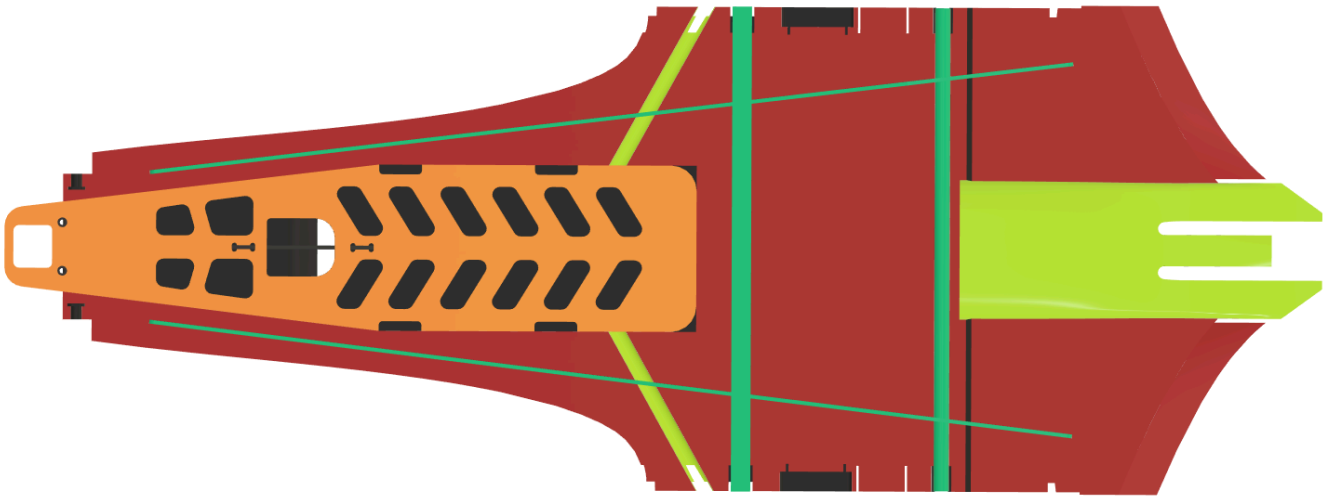
Then, wrap the velcro straps around the base plate and glue the base plate in place. Avoid glue in the pockets for the velcro strap - that way, it can be replaced later if necessary.



The last step on the bottom is to install the clips for the nose.

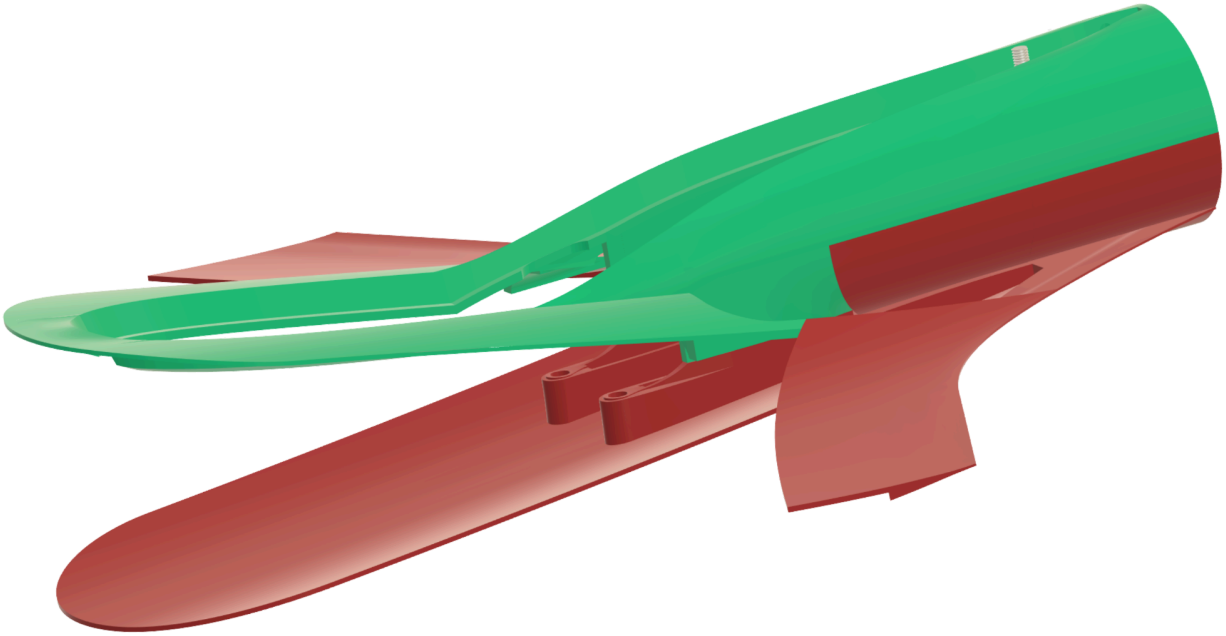


Add glue to the complete surface (red areas) and the carbon parts (green parts) when all parts are installed. The yellow areas must remain free!



Now press the top half of the main boy onto it and secure it with painter's tape.

Next, the motor mount/ESC bay must be glued in place. When pushing it onto the foam, ensure it is flush against it and no gaps are visible. The two halves must fit properly after they are in place. You can clip together and insert the screw(s) in the back to ensure they are positioned correctly.







After that, the wing connectors are installed in the same manner.



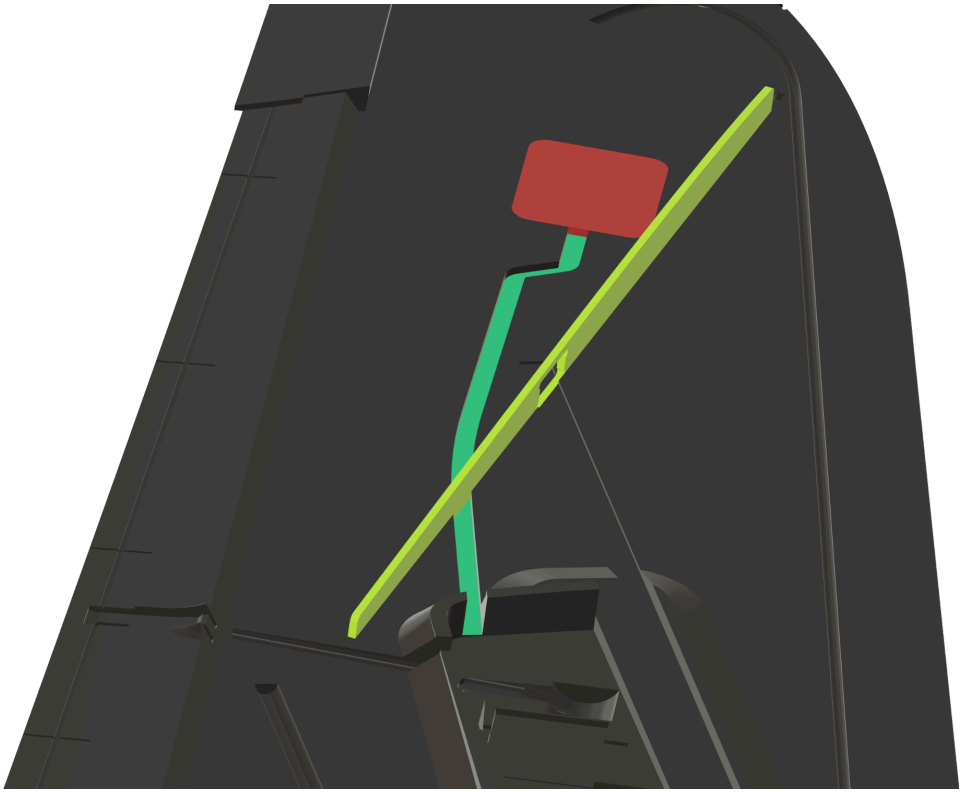
## Wings

Start by installing the main rod.



**Important Note:**

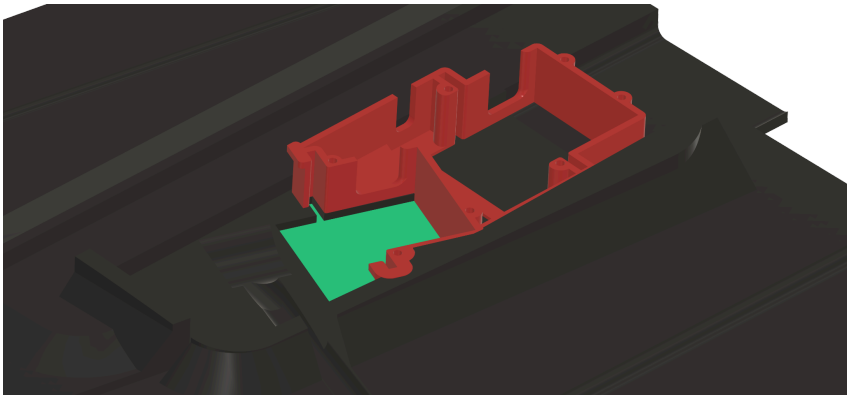
If you plan on using the compartment in the wing area, you must drill a hole into the carbon. Otherwise, the channel (green) for the cable will be blocked and can no longer be opened!



Next, install the servo bay plastic tray, and screw down the servos.



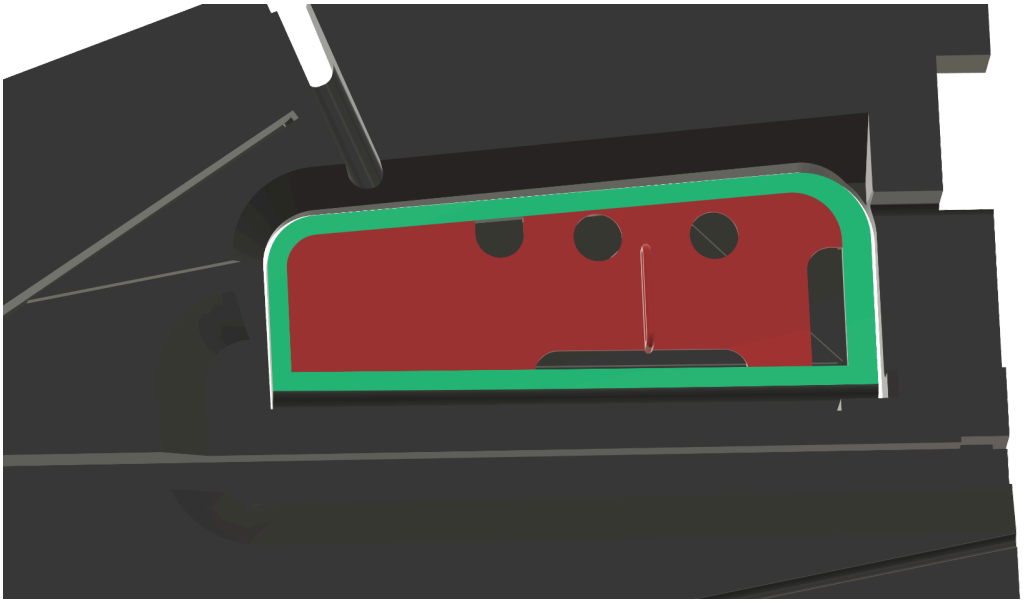
Make sure the surface of the servos (green) is free of glue!



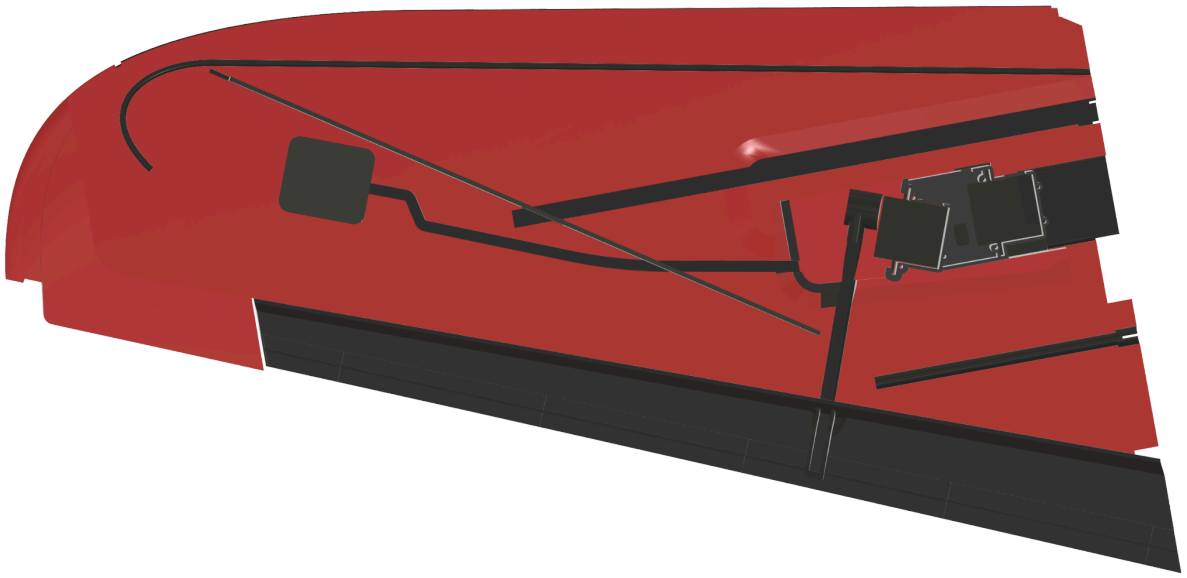
Details on how to adjust the servo horns can be found here.

If you plan on using the air brakes, now is a good time to install the plate for them. The plate (red) fits perfectly into the top wing half's raised borders (green). If you want to, you can install it later as well.

If you don’t (yet) want to use the air brakes, cover the top surface of the air brake with some tape to ensure a flat surface.



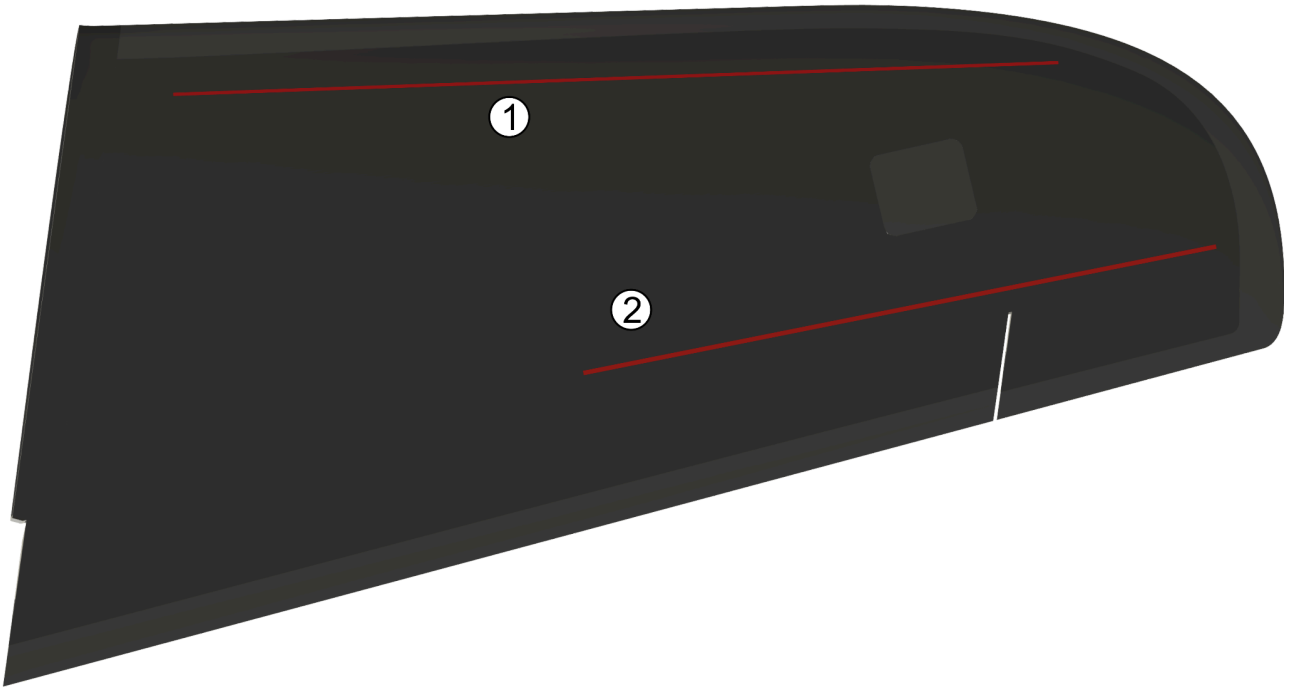
Add glue to the wing half (red areas) and push the top part of the wing on it.



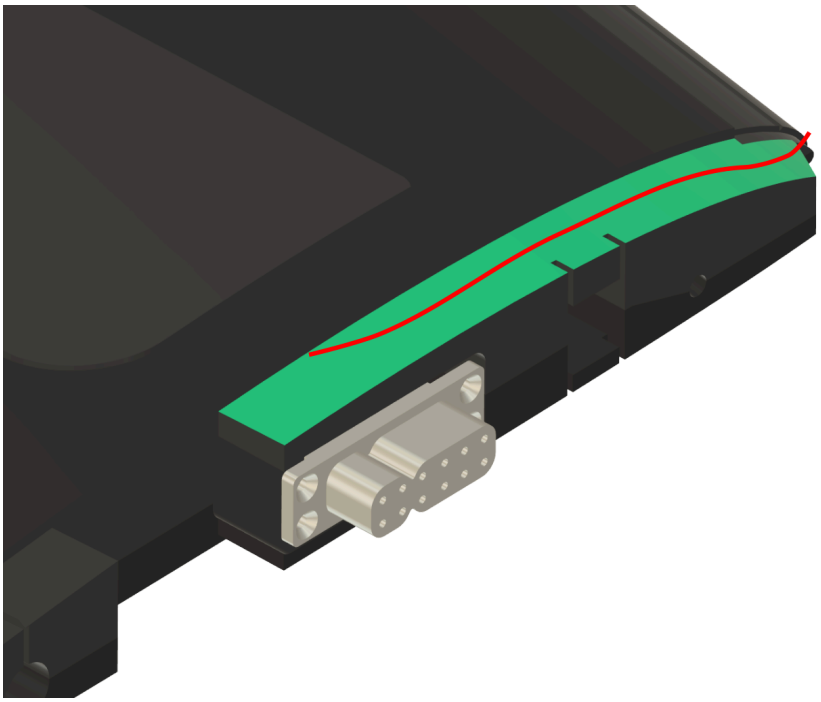
At the bottom of the wing are two more spars (1-long spar; 2-small, short spar). Cut the channels for them with a hot iron and an old tip or an exacto knife (recommended).

The long spar on the front (1) channel must be cut with 2.5 cm/ 1” distance from the leading edge. The small spar with 2.5 cm/ 1”  distance from the elevon hinge. Both spars must be placed as far right as possible.

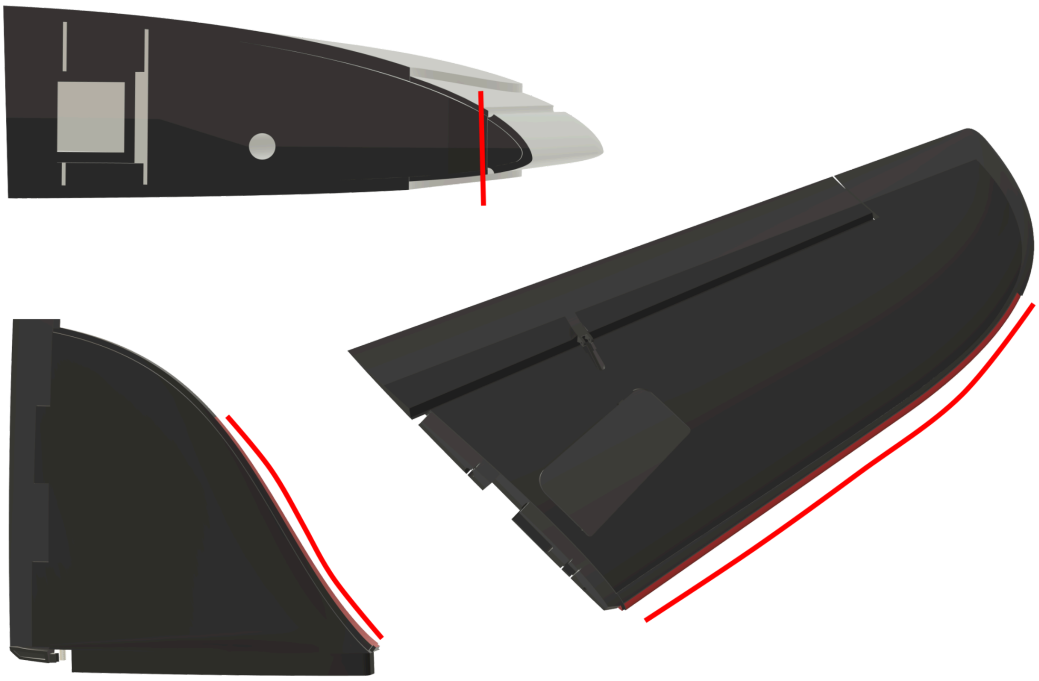
Apply glue in to the slots and spread it evenly with the spar or a piece of paper before installing the spar.



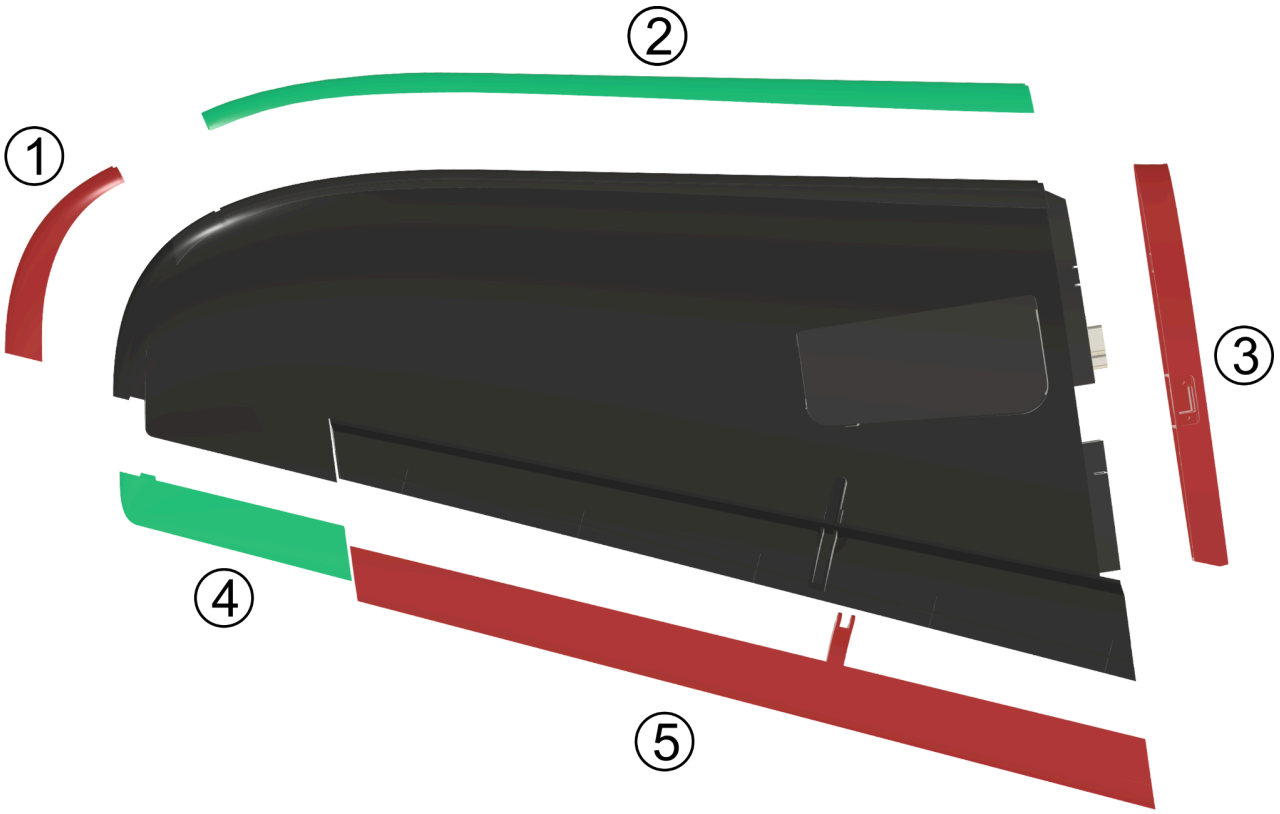

You need to run a wire from the edge to the wing connector to install the LED strips on the leading edge. Create a shallow cut for the cable (recommended), or simply press-fit it under the plastic wing connector and feed it into the servo bay to connect it to the electronic connector.



For the installation of the LED strip itself, cut the round edge at the notch along the wing front. On the vertical stabilizer, the surface is already flat. Glue your LED strip on the flat surfaces.



Next, install all the plastic parts in the shown order. Apply glue to the wing areas that are covered by the plastic parts. Hold the parts in place till the glue is fully cured.

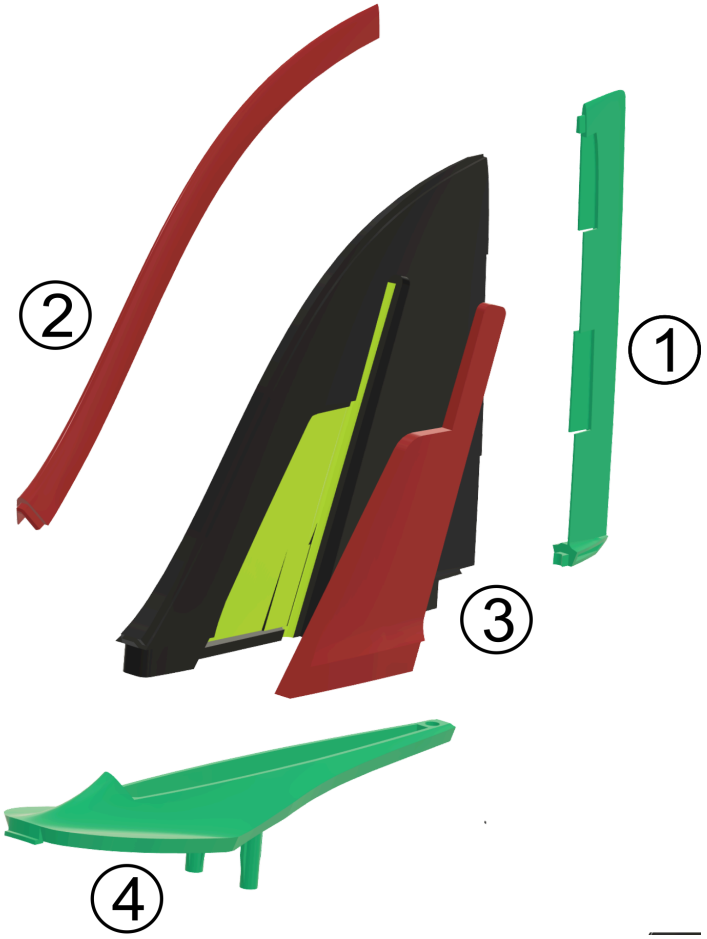



On the Elevons, make sure the notches align and that you use glue on the whole contact surface.

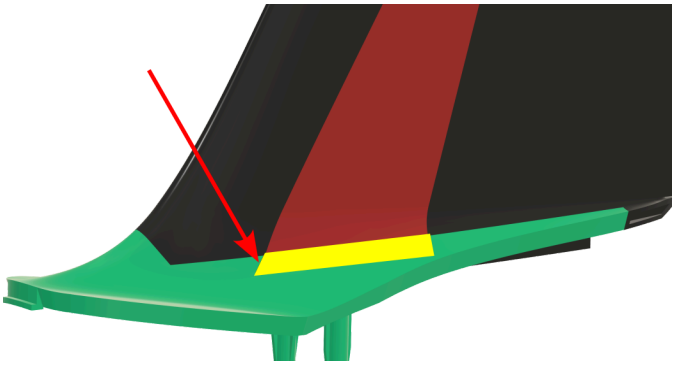


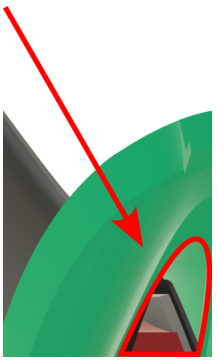
## Vertical stabilizer

Install the plastic parts of the vertical stabilizer in the shown order.




When just gluing the bottom of the antenna bay cover (3) and then covered by some clear tape or just slightly glued in on the rest, the cover can be removed to change the antenna or later installation.





# Additional Information

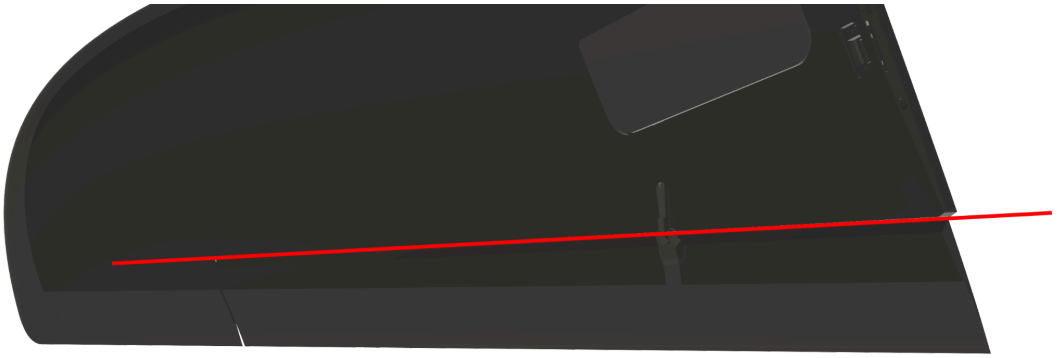
## Elevon Defelection

- Pitch: 15 mm up/down
- Roll: 20 mm up, 15 mm down

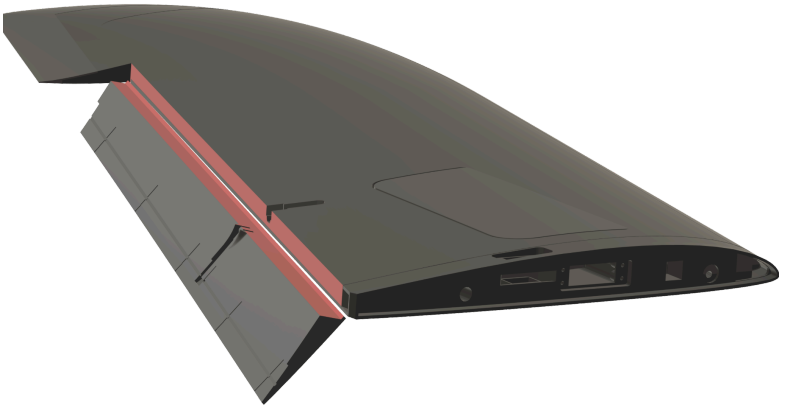
## Elevon Tuning

To get your elevons to respond more crisply, you can modify them.

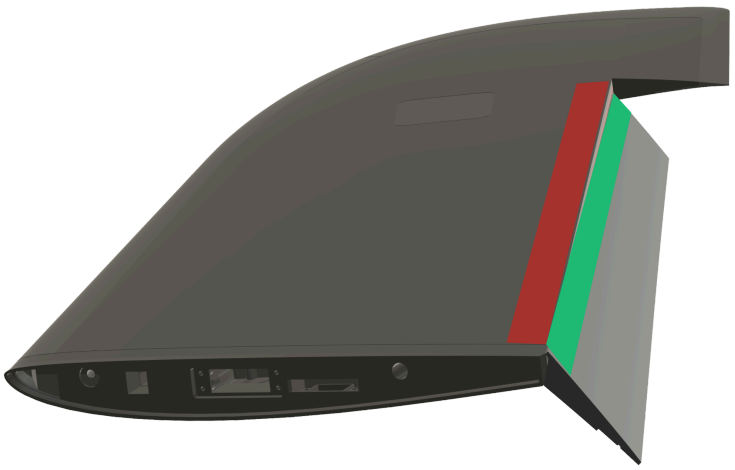
Remove the push rod and cut the factory hinge along the red line.



Install some double-sided tape on both surfaces. The tape must be as wide as half of the final filament tape. Then, add the filament tape over it while moving the elevon down close to 90° and press it firmly.



Next, repeat the steps on the other side while moving the elevon up as far as possible.



When down, the elevon should move without resistance. Reconnect the servo link and check the servo throw and center.

## Air brake Setup

The air brakes are useful if you want to lower your airspeed, e.g., while landing or doing some proximity flying. If you plan on using them as a “hand-brake”, the servo speed should be high, for a more controlled engagement, about 1.5-2 seconds is a good starting point.

The installation details can be found here.

**Important note:**
When engaged, the air brakes causing the plane to dip its nose. If you use a flight controller with a stabilized flight mode, it will be compensated. Otherwise, you should program a pitch compensation into your radio model.