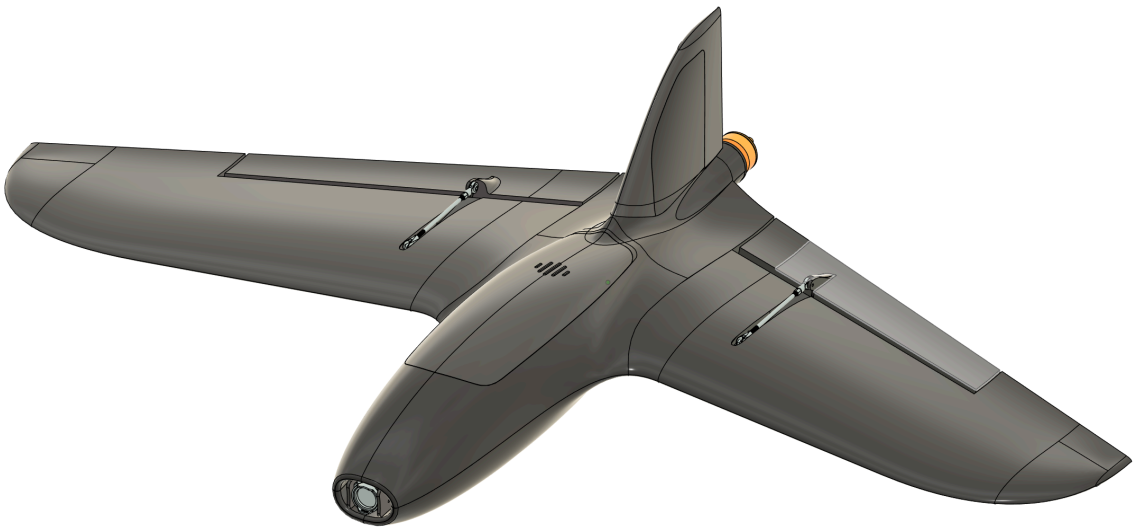
TBS CHUPITO

Compact forward-swept FPV Flying Wing



CHUPITO fpv wing

Rev 1.04

Contents

1. General

1.1. Support

If you got any question left after reading this manual, have a look at the TBS FAQ.

For personal help open a ticket or check the status of your ticket.

1.2. INAV Tune

A example INAV tune can be downloaded from the TBS homepage.

2. Before We Start

2.1. Disclaimer

The aircraft may not be used to infringe on people's right to privacy. We have designed a toy with mind blowing capabilities. It is your responsibility to use it reasonably and according to your experience level. Use common sense. Fly safe. You are on your own. TBS has no liability for use of this aircraft.

- Locate an appropriate flying location
- Obtain the assistance of an experienced pilot
- Practice safe and responsible operation
- Always be aware of the rotating propeller
- Prevent moisture
- Keep away from heat or excessive amounts of sunlight

2.2. About

The TBS CHUPITO is a compact forward-swept FPV flying wing platform that stays true to its heritage of the TBS Mojito. We gently eased off the focus on efficiency and toned the complexity down a notch or two to make it more approachable and easier to fly for casual pilots. The cruise speed is still a respectable 70km/h, while the top speed on the stock setup will allow 160km/h. It will give you a comfortable 20mins/15km of casual flying on a 1300mAh 6S battery, and it's quiet enough not to bother your neighbors. Keep the plane in a travel-friendly 3 piece confguration or fully glue everything down for a basher-friendly rocketship that is easily strapped to the back of a FPV backpack, or on a spare seat of your car.

The wing is built for both analog and digital video links, and we've also designed 3D printable customizations that make it the perfect wing to experience and document your FPV adventures!

2.3. Kit Content

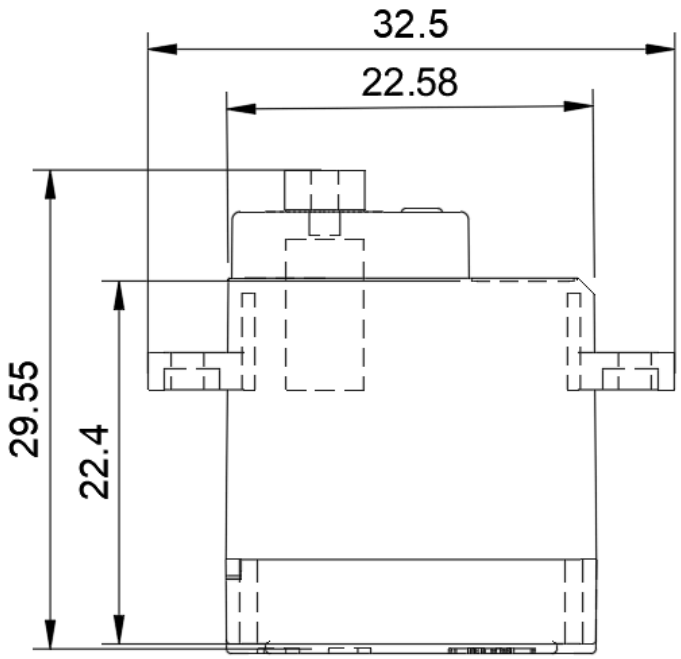
- Main Body, pre-assembled
- Wings, pre-assembled
- Vertical Stabilizer
- All Carbon Rods
- Servo Linkage, pre-assembled
- Battery Velcro-straps
- FPV Gear Cage
- Motor Mount
- Battery Base Plate
- FC Adapter Plate (Pywood)
- Small Parts
- TBS CHUPITO sticker sheet

2.4. Kit Content - Electronic Package

The Kit comes without electronics. The following parts are recommended and available as *CHUPITO Electronics Package* (1)

- TBS LUCID H7 Wing AIO incl. LUCID 50 A ESC (2)
- TBS CHUPITO Motor
- TBS CHUPITO Servos(3)
- Servo Extension cables
- GPS cable
- Receiver cable
- Long DJI-VTX cable
- TBS M10 GPS

Servo Dimensions



(1) *Sold separately*
(2) *Further details can be found in the LUCID manual*
(3) *Metal Gear, Digital Servos*

2.5. Required Tools and Materials

Tools and Supply’s:

- EPP-safe glue like UHU POOR or CA glue like Multiply Zacki
- General CA Glue or 2K-Epoxi
- Threadlocker (medium)
- Philips-screwdriver
- Exacto Knife

CAUTION:

While working with CA glue, it's recommended to wear gloves and a respirator mask.

Ensure a good room-ventilation.

3. General Information

3.1. Features

- Easy to fly forward-swept FPV wing with huge performance envelope
- Black EPP material with glass fiber camera and motor mounts
- Pre-cut camera, servo, battery, R/C receiver and receiver antenna slots
- Push-to-open equipment bay for R/C and FPV electronics
- Travel-friendly disassembly or fully glued basher configuration possible
- Over dimensioned pushrods and wing spars for great durability

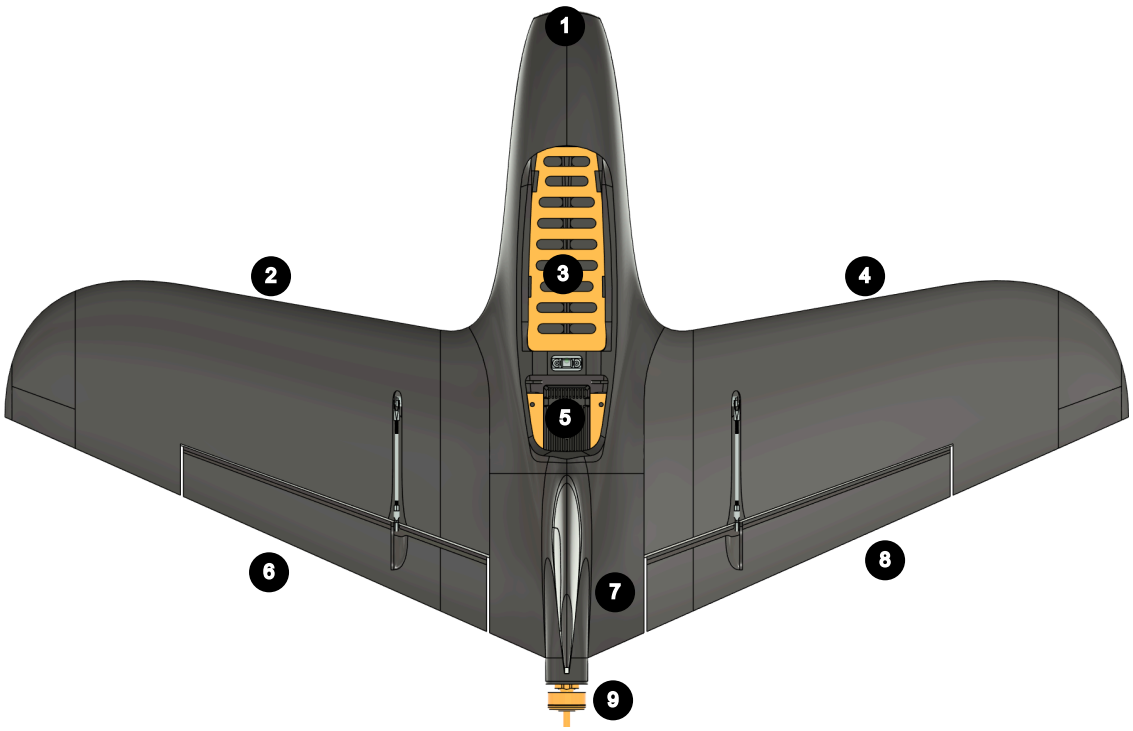
3.2. Specification

Wingspan:	800 mm/ 31.5 "		FC:	F4, H7 FC - LUCID H7 Wing AIO recommend-ed
All-Up-Weight:	650 g (4)		ESC:	50 A ESC w/o BEC - LUCID H7 Wing AIO recom-mended
R/C System:	TBS CROSSFIRE Nano RX/ Nano RX Pro		FPV Gear:	DJI O3 or O4, Walksnail or any analog video system
Battery:	6S, 1300 - 1800 mAh 4S, 2000 - 4200 mAh		Cruise Speed:	55 km/h/ 34 mph
			Max. Speed:	140 km/h/ 87 mph (5)
			Stall Speed:	35 km/h/ 22 mph
Battery Size:	Up to 50 x 50 x 150 mm		Flight Time:	Up to 20 min
Propeller:	5 x 3 x 3 Tri-blade		Range:	Up to 30 km/ 18 mi

(4) *Depends on gear*
(5) *Higher speeds can be achieved but require laminating the wing and gluing the wings in place*

3.3. Overview

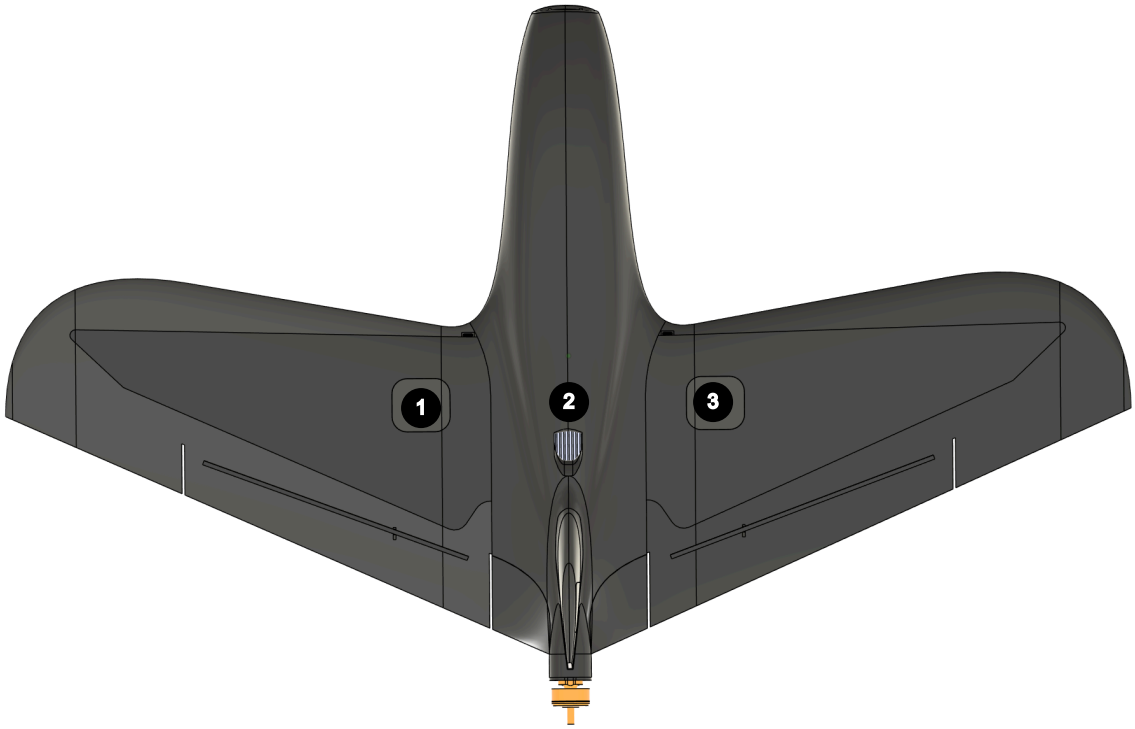
Top View



1 - Camera-Cage, detach-able	2 - Left Wing	3 - Battery Bay
4 - Right Wing	5 - FC Bay(6)	6 - Left Elevon
7 - Vertical Stabilizer	8 - Right Elevon	9 - Motor

(6) *Designed for the TBS LUCID H7 Wing AIO*

Bottom View

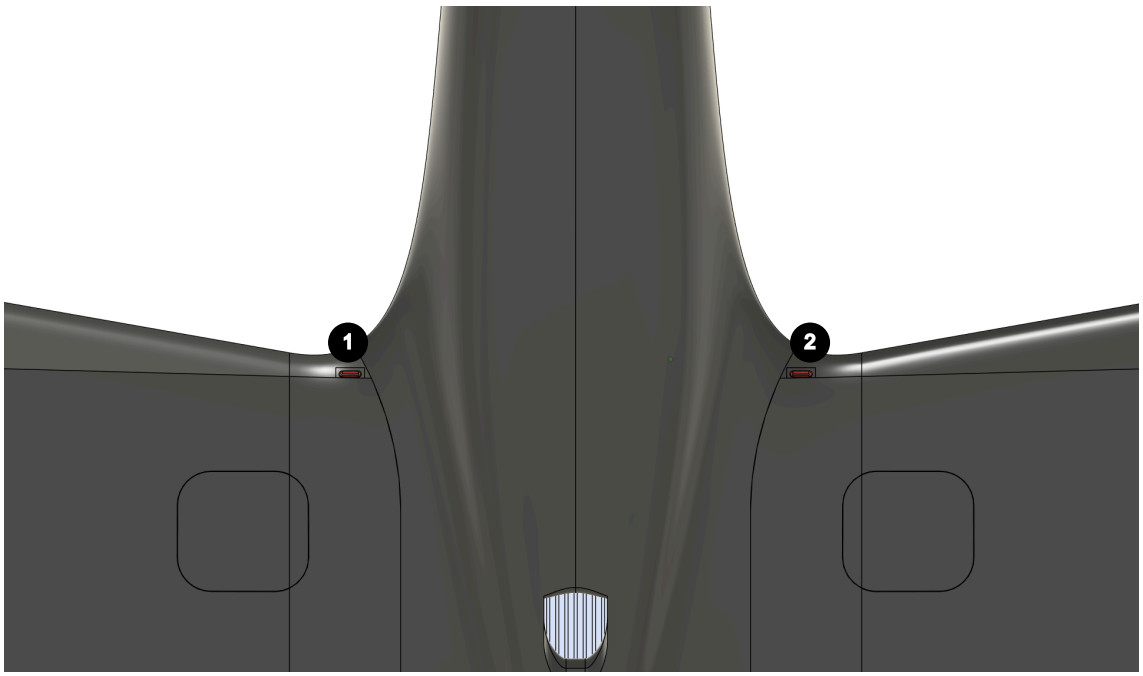


1 - Left Servo Bay	2 - Air-Outlet	3 - Right Servo-Bay

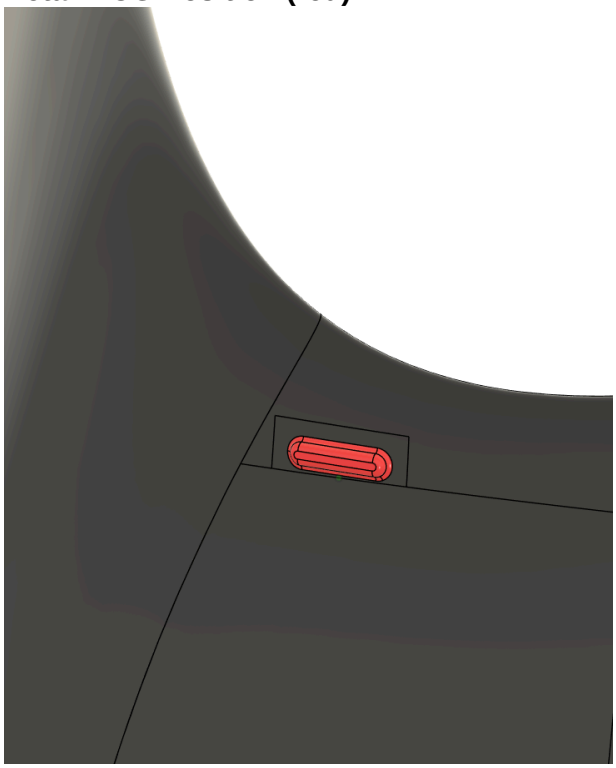
3.4. Center of Gravity

The CG marking can be found on the leading edge of the wings, next to the main body:

CG Position



Detail - CG Position (red)



4. Usage

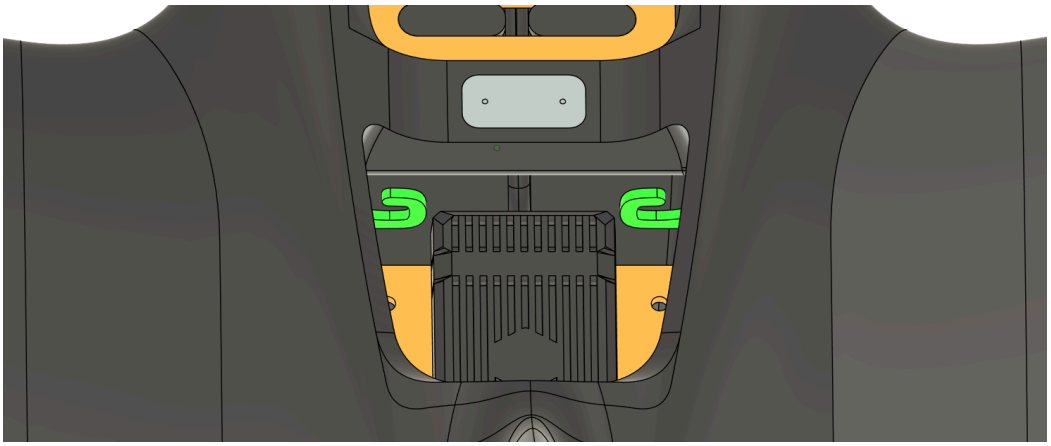
4.1. Connect and detach Wings

The Wings are held by a rubber band in the main body, stabilized by two carbon rods.

Position Hooks

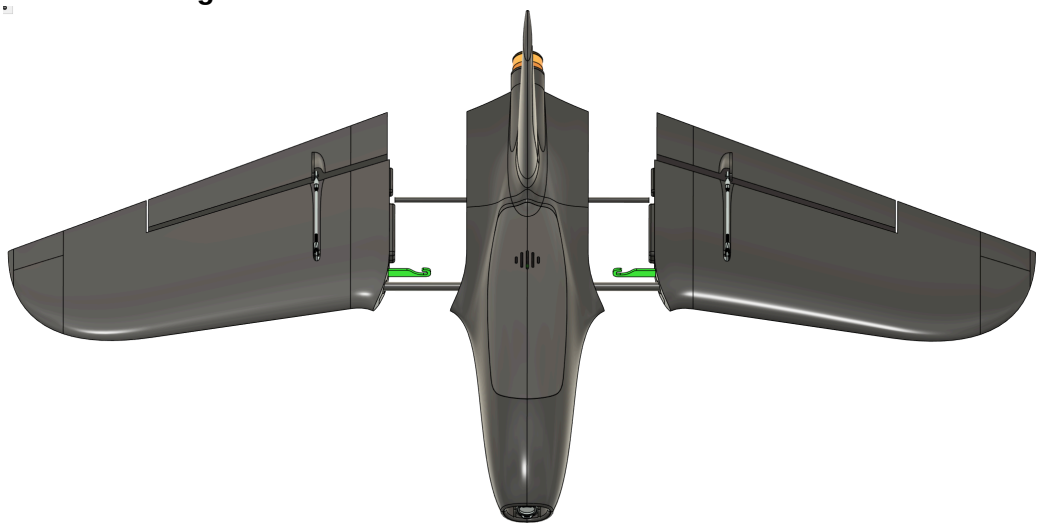
1. To detach the wings, open the main compartment and remove the rubber band held by the hooks (green).

Position Rubber Band



2. Remove the servo wires from the FC
3. Pull the wings to the side

Detached Wings



4. Pull the carbon rods out of the main body

Note: On a brand-new wing the main body and wings might be a tight fit and require a higher force to attach/ detach the wings and carbon rods.

4.2. Compartments and how to access them

The compartment can be accessed by pushing the push-open lock (1)

Position Compartment

5. Assembly

5.1. Main Body

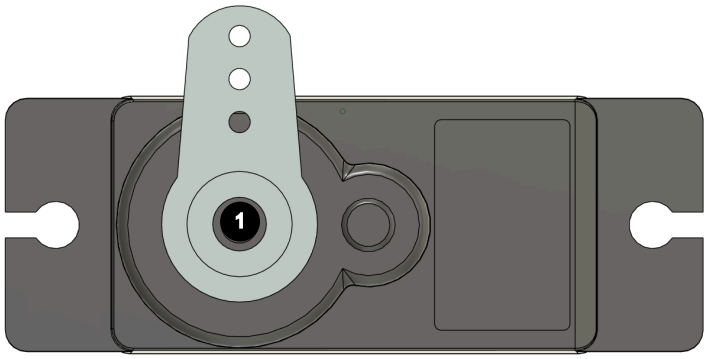
The main body of the TBS CHUPITO is pre-assembled and doesn't require further work.

5.2. Servos

Important: The recommended Servos from the Electronic Package *(on page 5)* must not be powered above 6 V.

1. Center the servo with a centering tool or the FC and install the servo horn with the included screw (1)

   Note: Use the 3-hole long servo horn.

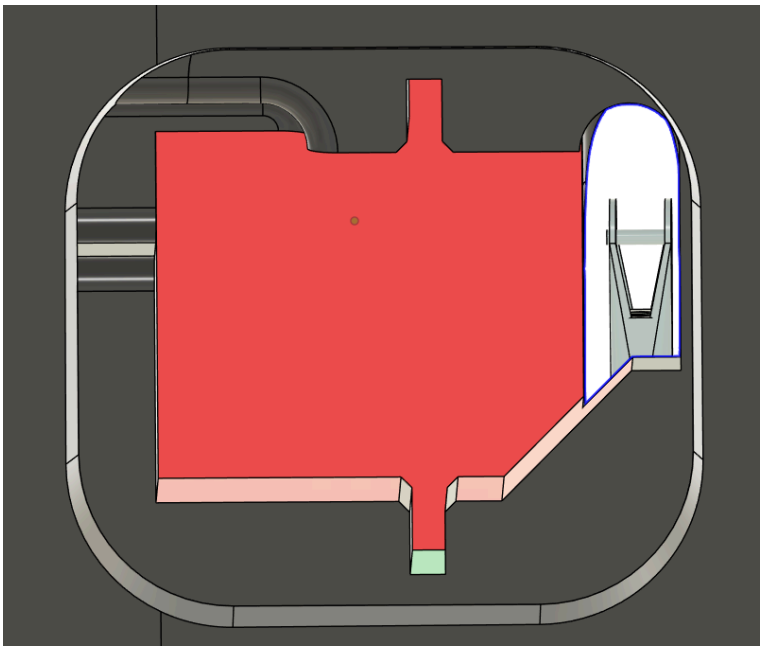


2. Widen the hole for the push-rod in the servo horn

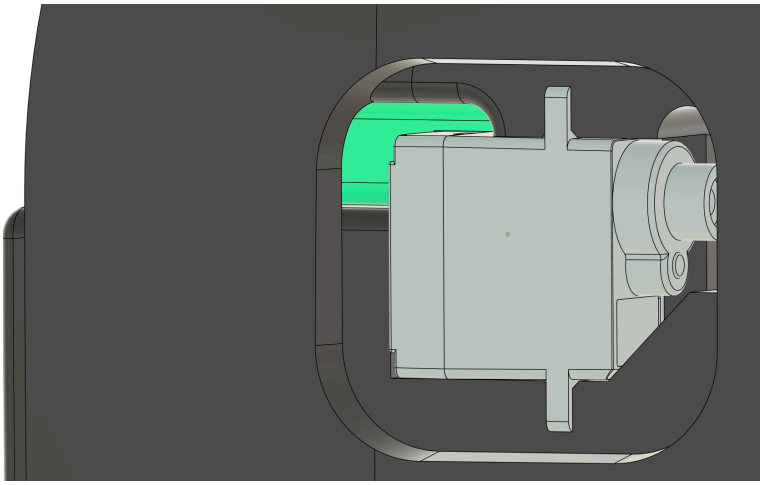
   Note: Use the 3. hole, counting from the center.

   Note: The push-rod can be heated up (on the side bend to a *Z*) with a lighter and the pushed thru the hole. Let the push rod cool down, before re-installing it.

3. Apply glue to the highlighted areas

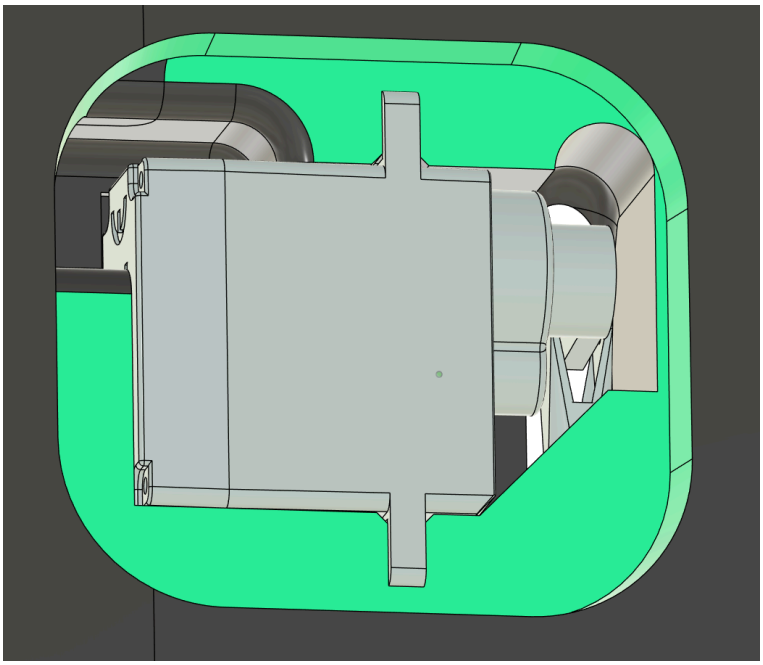


4. Feed the servo cable through the wings wire channel while installing the servo

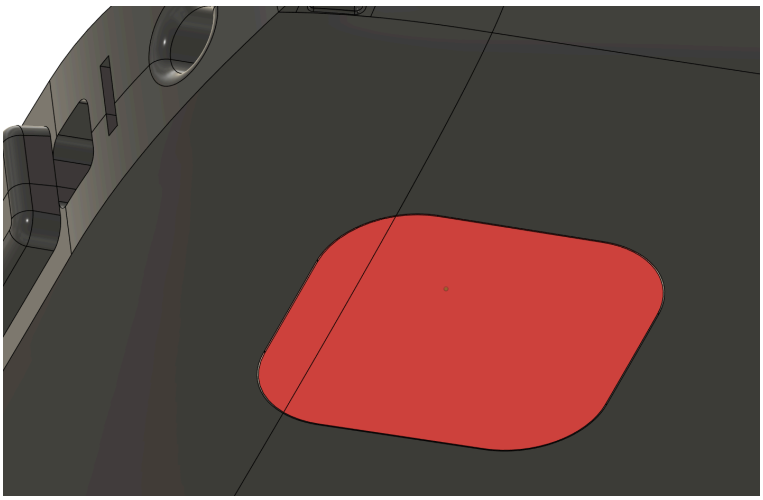


5. Push in the servo while pulling the servo wire further out

6. Apply glue to the marked areas



7. Attach the cover and fixate it with some weight will the glue is cured



8. Install the push-rod with the *Z*-shaped side into the servo horn
9. Install the push rod on to the servo horn on the elevon machining-screw and self-locking nut

Note:
Make sure the elevon is flat when the servo is centered.

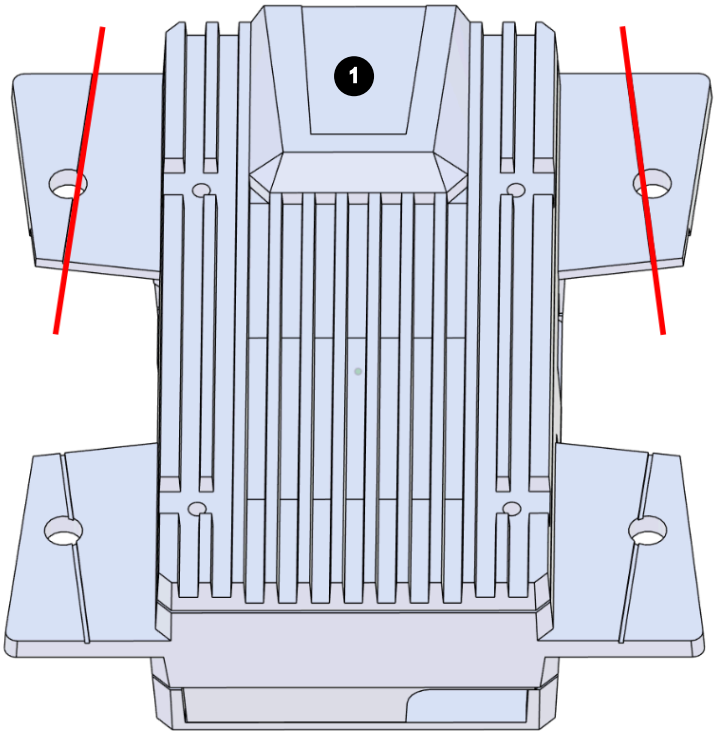
The length of the push-rod can be adjusted by turning it the head.

Note: Tighten the screw and nut slightly. The ball-head must move without resistance.

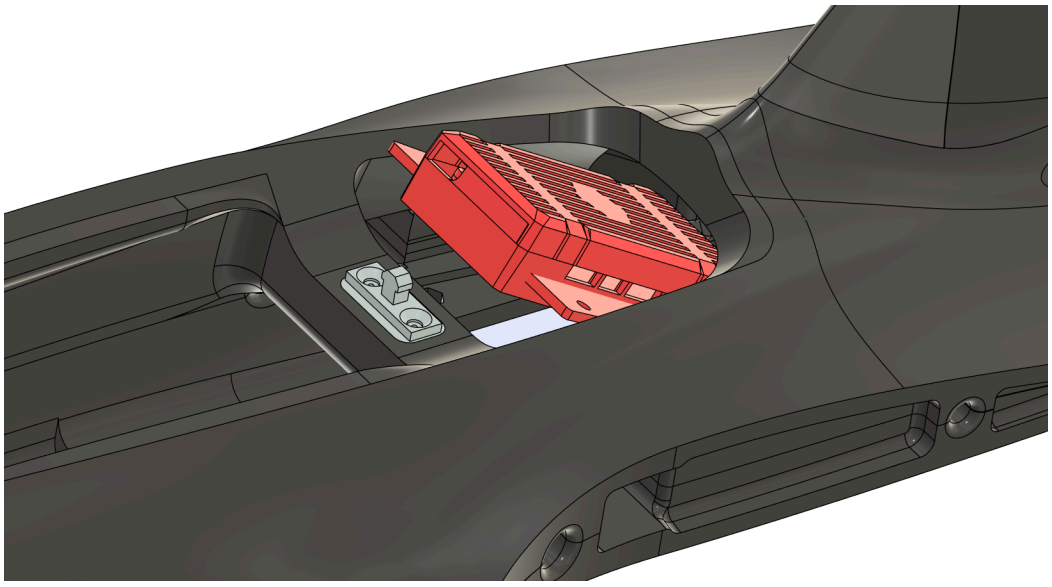
5.3. FC and ESC

When using any other FC/ AIO then the LUCID H7 Wing AIO, a adapter plate needs to be printed and installed as a base.

1. Prepare the AIO by cutting the "wings" on the motor-connector side with an exacto knife along the line



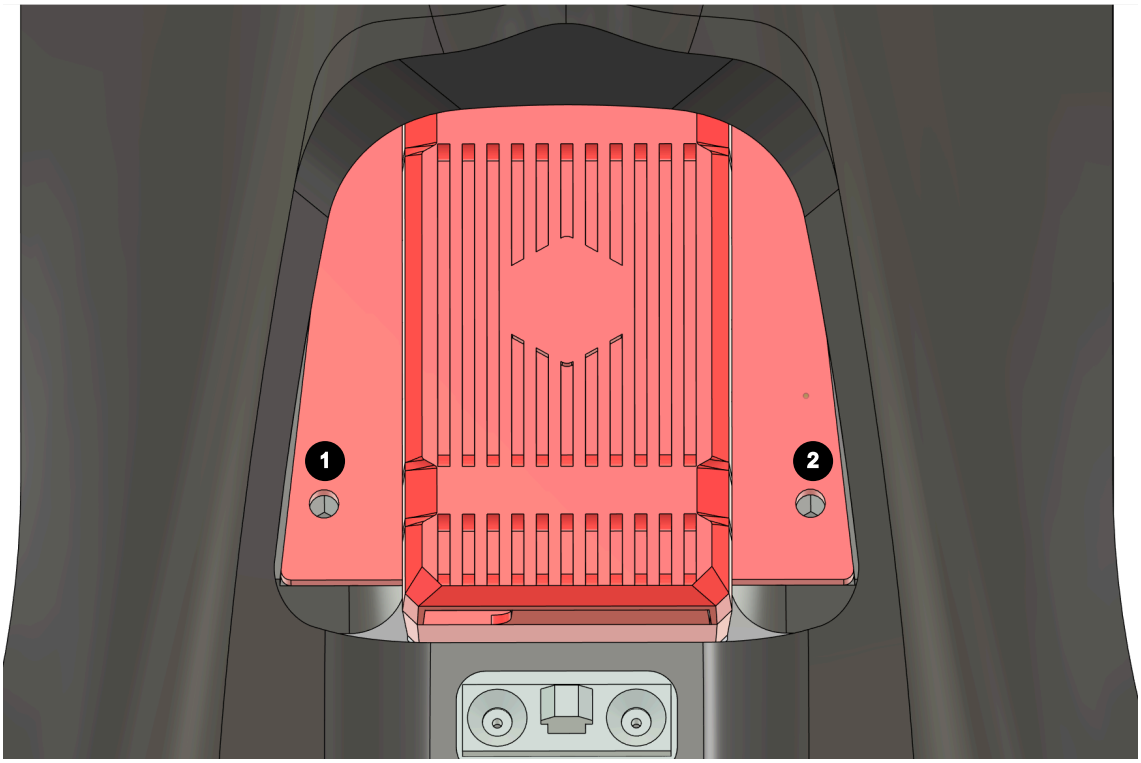
2. Connect all peripheral wires on the AIO
3. Insert the AIO and connect the motor plug



4. Fully slide it in place

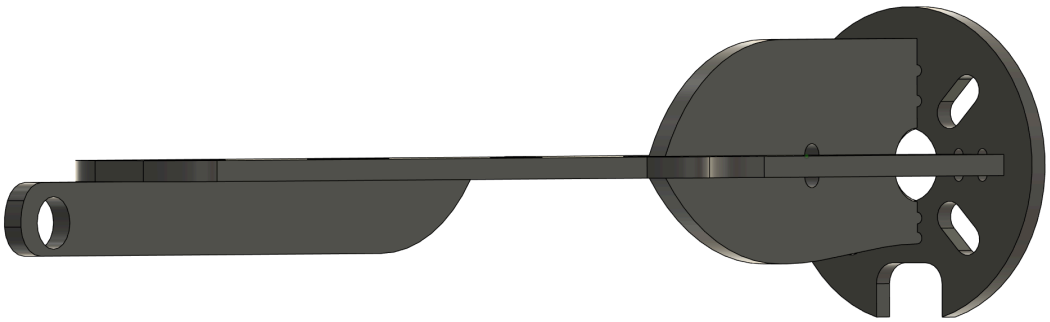
Note: The AIO is held in the back by the main body

5. Install the M3 screws (1..2) to secure the AIO or your adapter plate in place



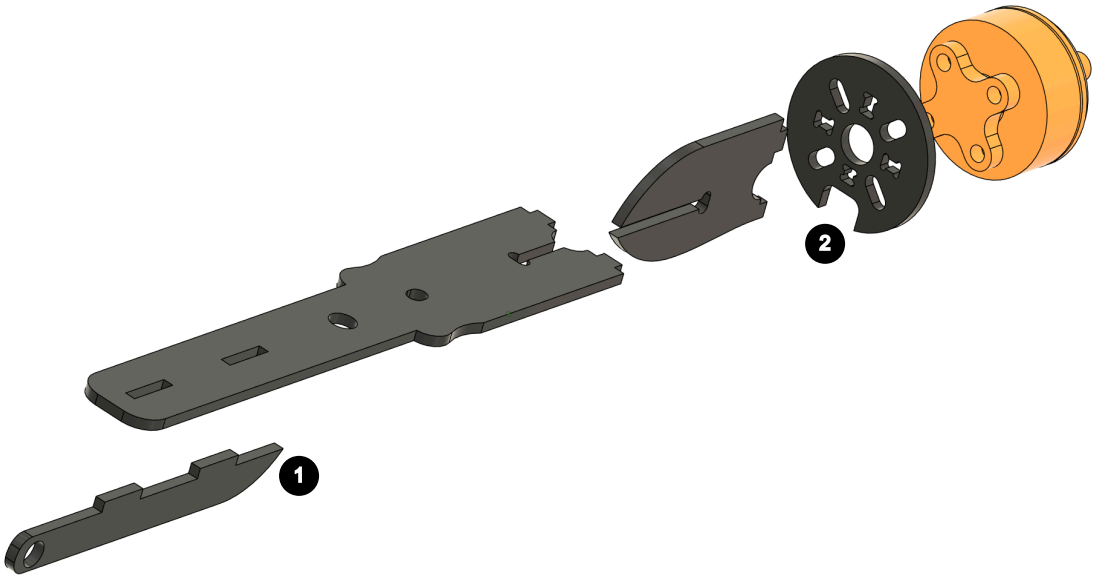
5.4. Motor and Motor Mount

Assembled Motor Mount



1. Dry-fit all the parts of the mount first

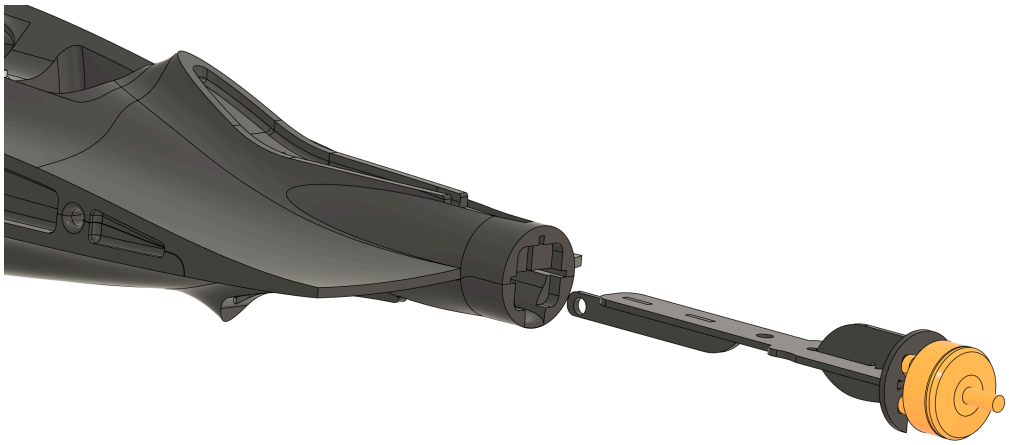
> **Note:** The cutout on the motor plate (2) must point in to the same directs as the "hook" (!)



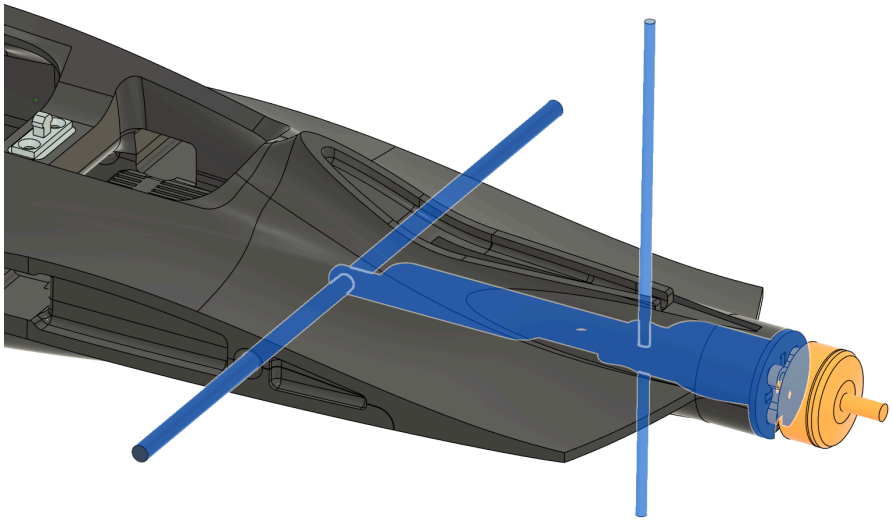
2. Apply some CA or Epoxy glue at all overlapping points
3. Re-assemble the motor mount
4. Install the motor with cables pointing downwards to the cutout of the motor plate

> **Note:** Apply some threadlocker on to the screw to secure them from becoming loose

5. Install the finished motor mount in to the main body, feed the motor cable in as well



6. Dry-fit the installed motor mount with the two rods holding it in place

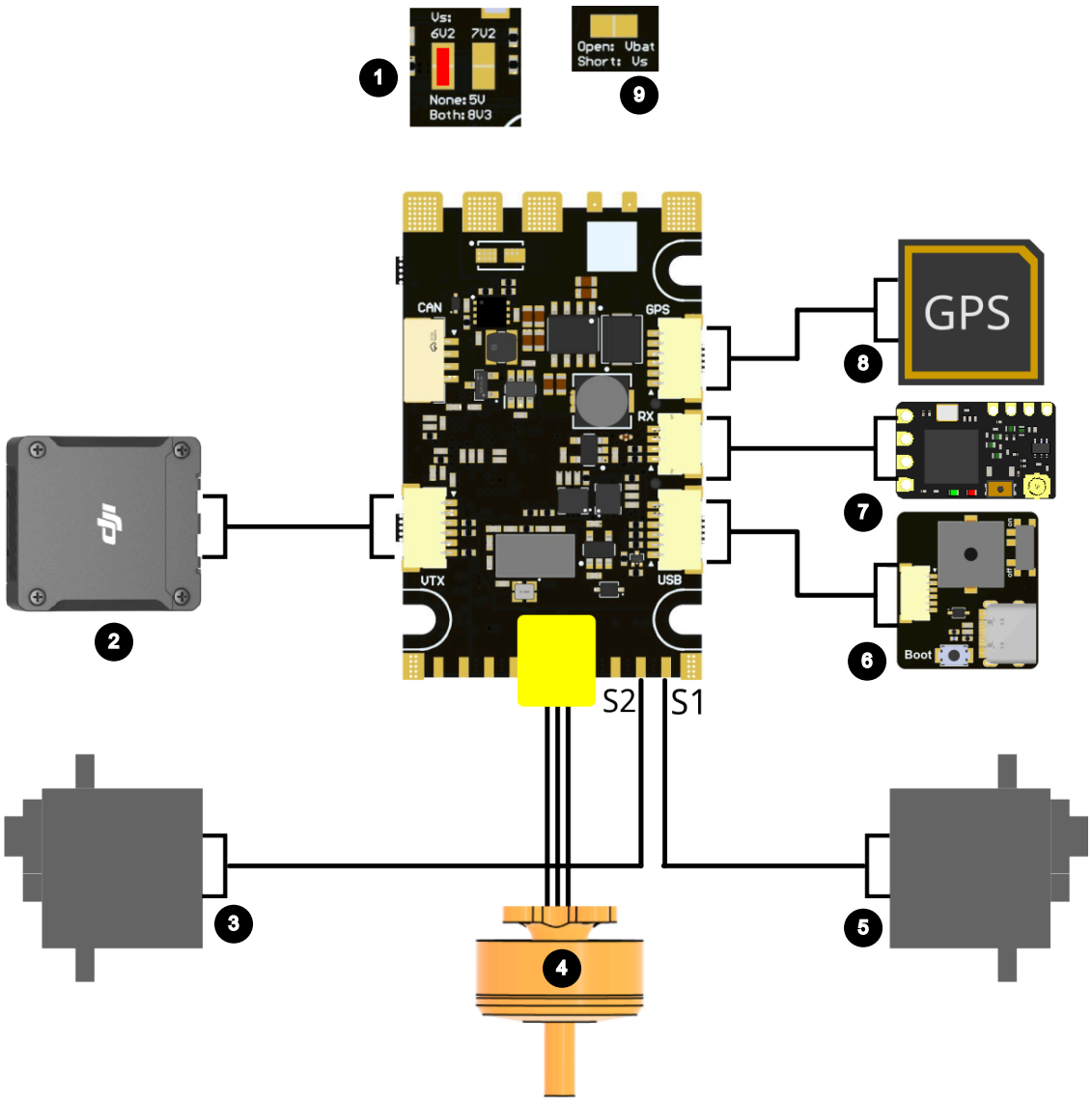


Note: For extra strength, the motor mount can be covered with a thin layer of glue before pushing it in to the body.

5.5. FC

5.5.1. LUCID H7 Wing AIO Wiring Example

Wiring Example - Bottom View

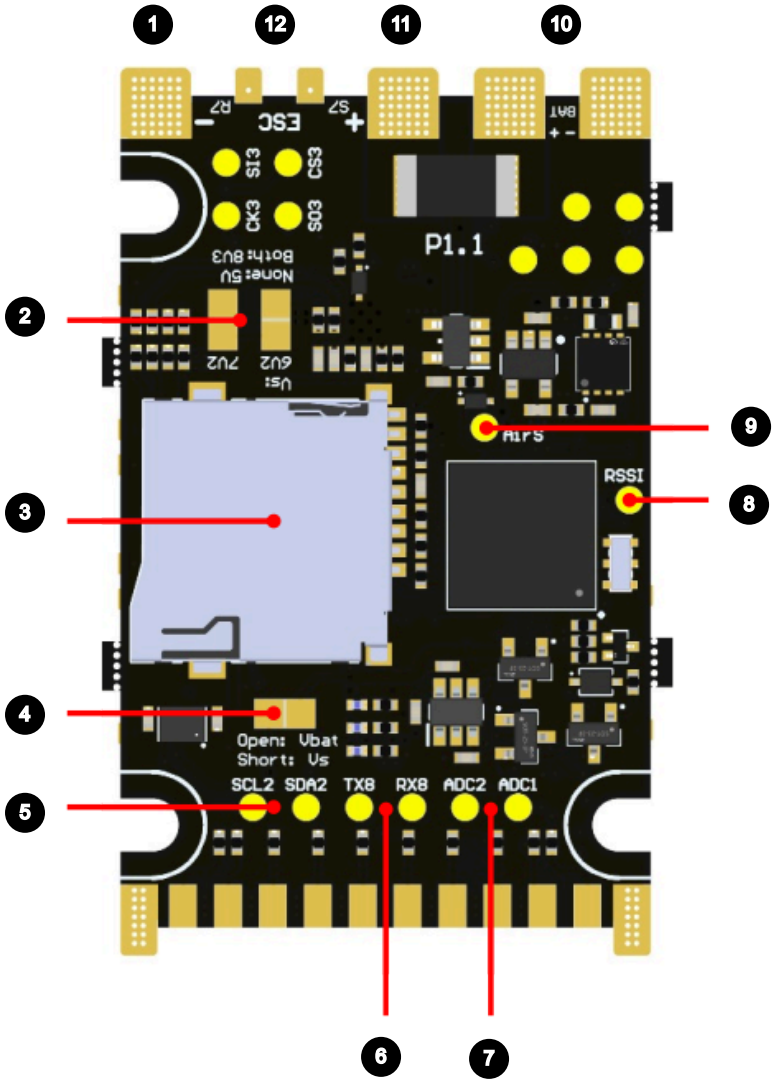


1 – Voltage Selector Servos	2 – HD-VTX	3 – Servo Left Elevon incl. Servo Extension
4 – Motor	5 – Servo Right Elevon incl. Servo Extension	6 – USB-Board
7 – Receiver	8 – GPS	9 – Voltage Selector VTX

Note: The VTX Voltage selector (9) must be left open if the video system requires more than 6.2 V to operate.

5.5.2. LUCID H7 Wing AIO Pinout

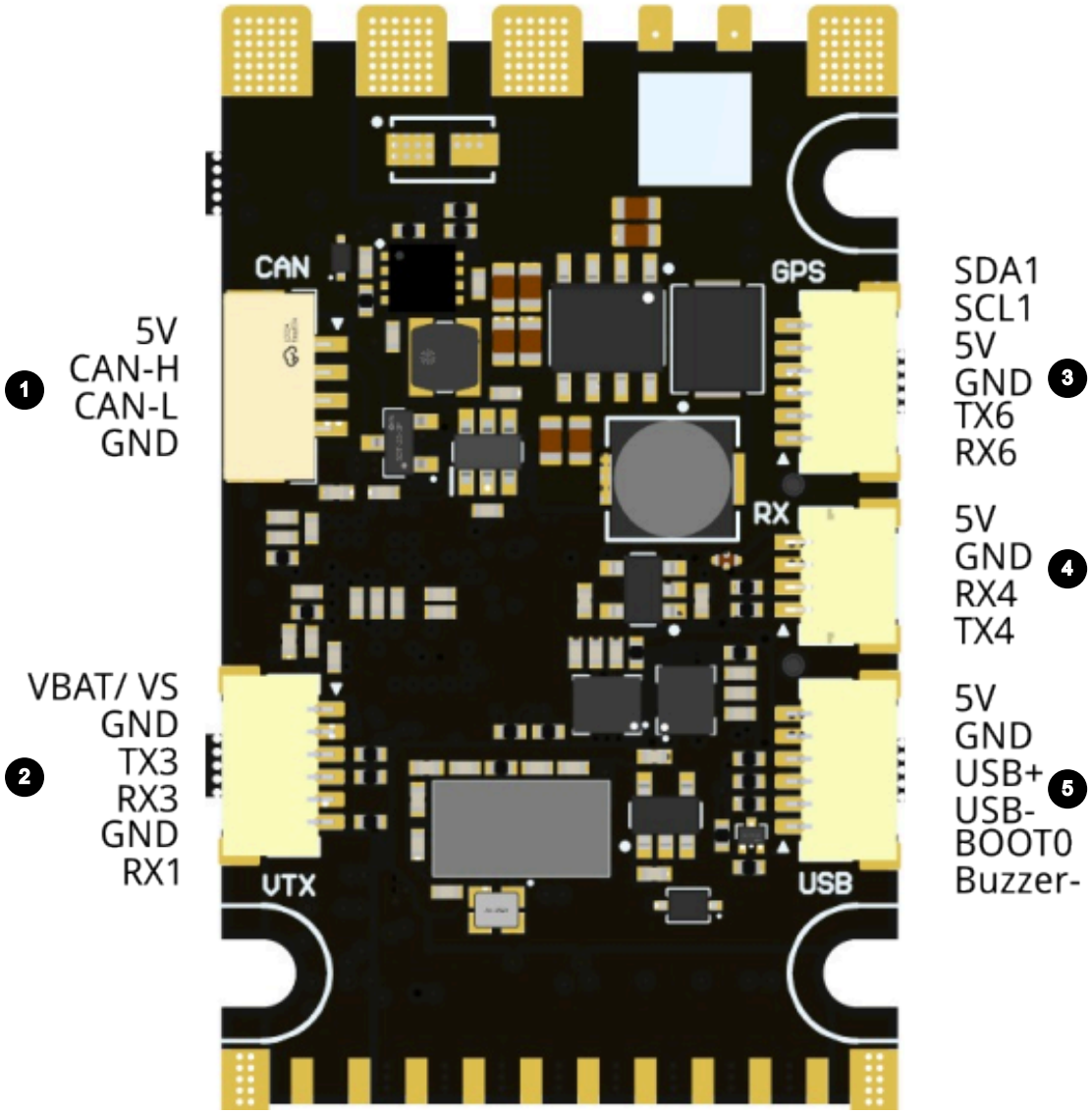
Top Plate



1 - ESC GND	2 - Servo Voltage Selector	3 - SD Card Holder
4 - HD-Video port Voltage Selector (VBAT/ VServo (2))	5 - I2C 2	6 - UART 8
7 - ADC 1 / 2 (7)	8 - Analog RSSI in	9 - Analog Airpseedsensor in
10 - Battery In	11 - ESC VBAT	12 - ESC Signal

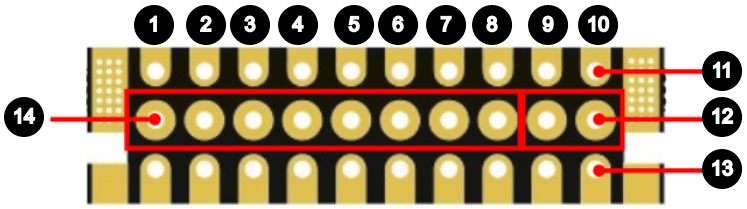
(7) *Internally used for VBAT and Current Sensor*

Bottom Plate



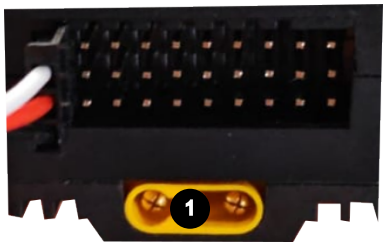
1 - CAN-Conenctor	2 - DJI Connector	3 - GPS-Connector
4 -Receiver-Connector	5 - USB Connector	

Servo Connector - Front View



1..6 - Servo 1-6	7 - TX 2	8 - RX 2
9 - Analog Video In	10 - Analog Video Out	11 - Signal Row
12 - Voltage FPV (HD-Voltage selector)	13 - GND Row	14 - Servo Voltage Row (Vservo selector)

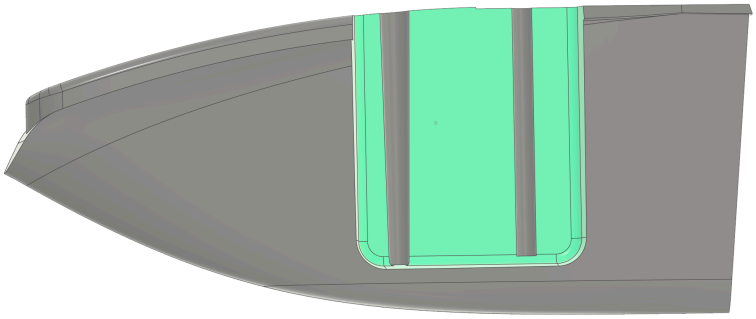
Front with Motor-Connector (1)



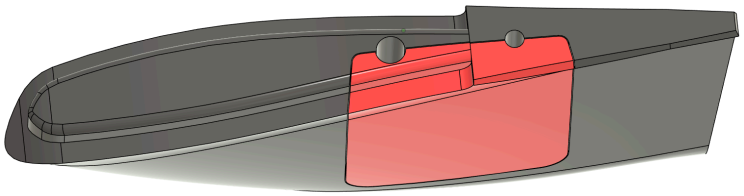
5.6. Vertical Stabilizer

Note: Pull out the receiver to the top hole in the main body before installing the vertical stabilizer.

1. Apply some glue on the highlighted spots of the lower part of the stabilizer

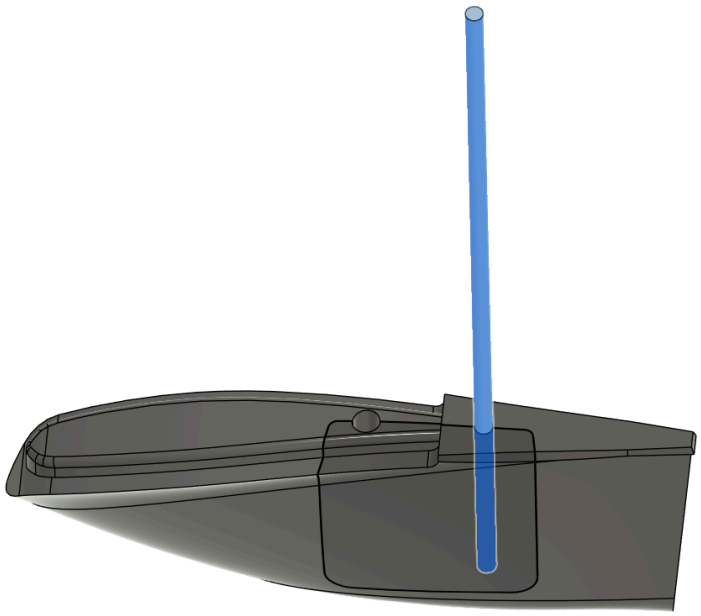


2. Push the lower stabilizer and the cover together and hold it till the glue is cured



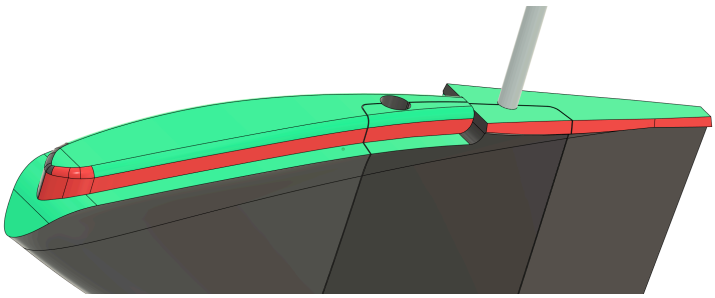
3. Install the support rod in the lower part

    a. Apply some glue in the hole at the smaller end of the lower foam part

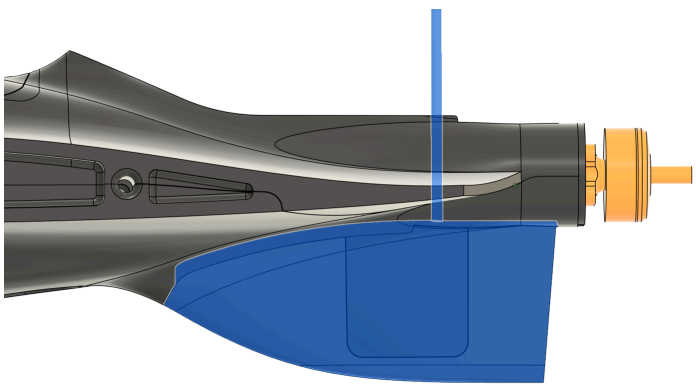


    b. Push the support rod in

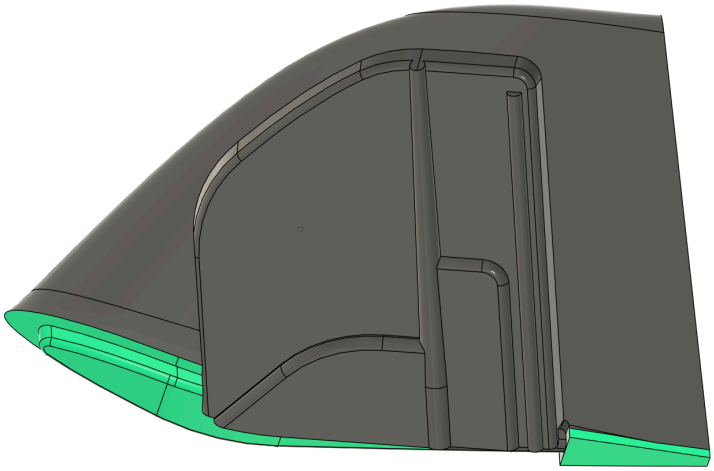
4. Dry-fit the lower stabilizer on to the wing
5. Apply glue on the shown areas



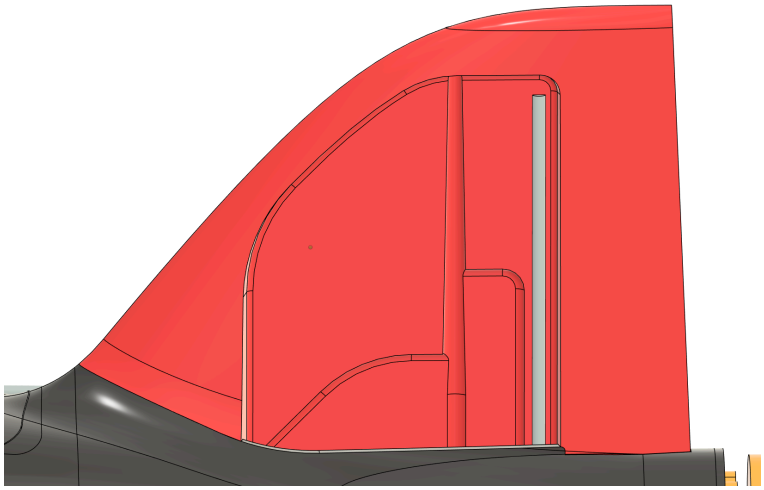
6. Push the lower stabilizer in to the main body and hold it till the glue is cured



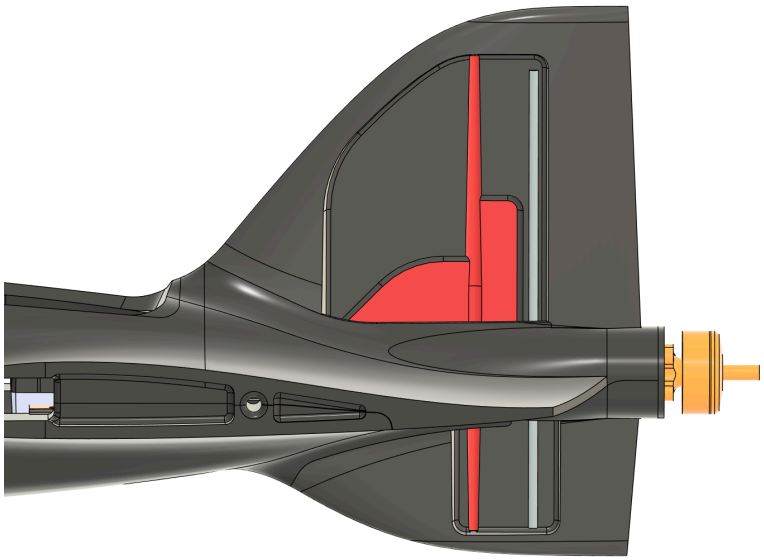
7. Apply glue on the top part of the stabilizer



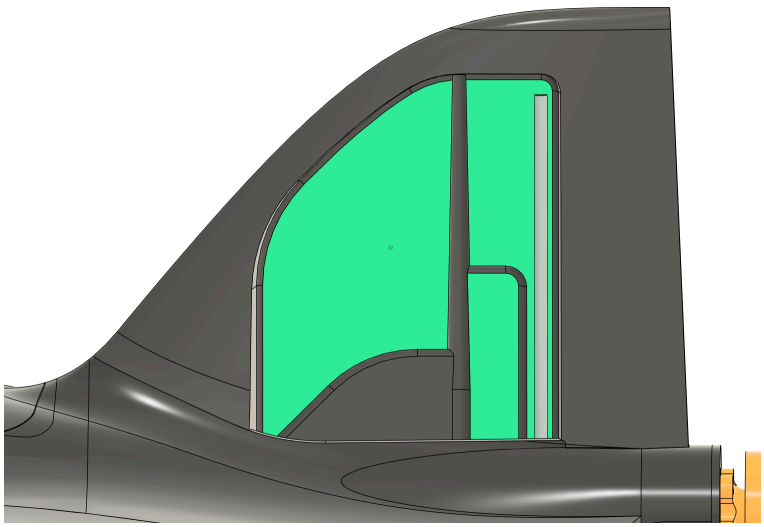
8. Push and hold it in place till the glue is cured



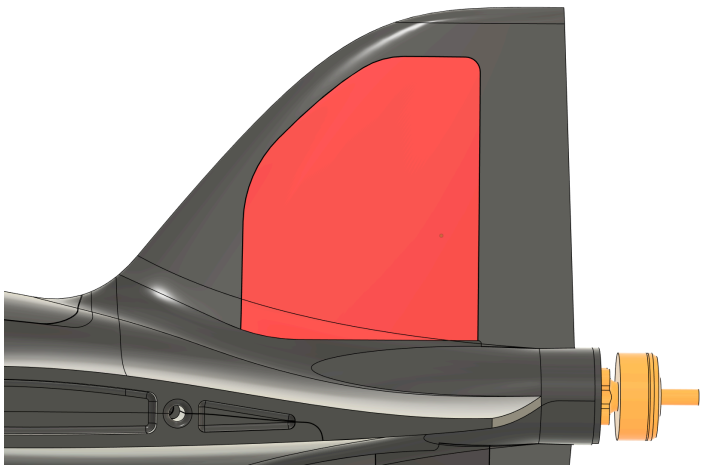
9. Install the receiver with antenna in the highlighted areas



10. Apply glue on the areas for the cover

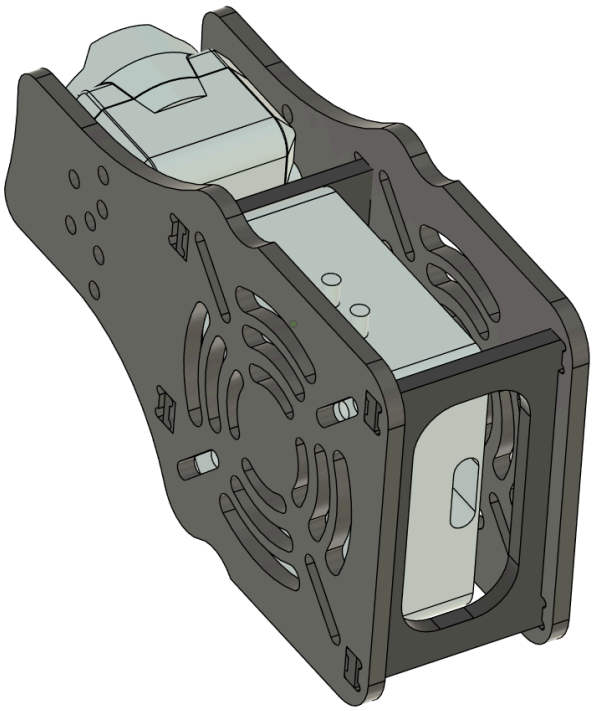


11. Push and hold the cover in place till the glue is cured

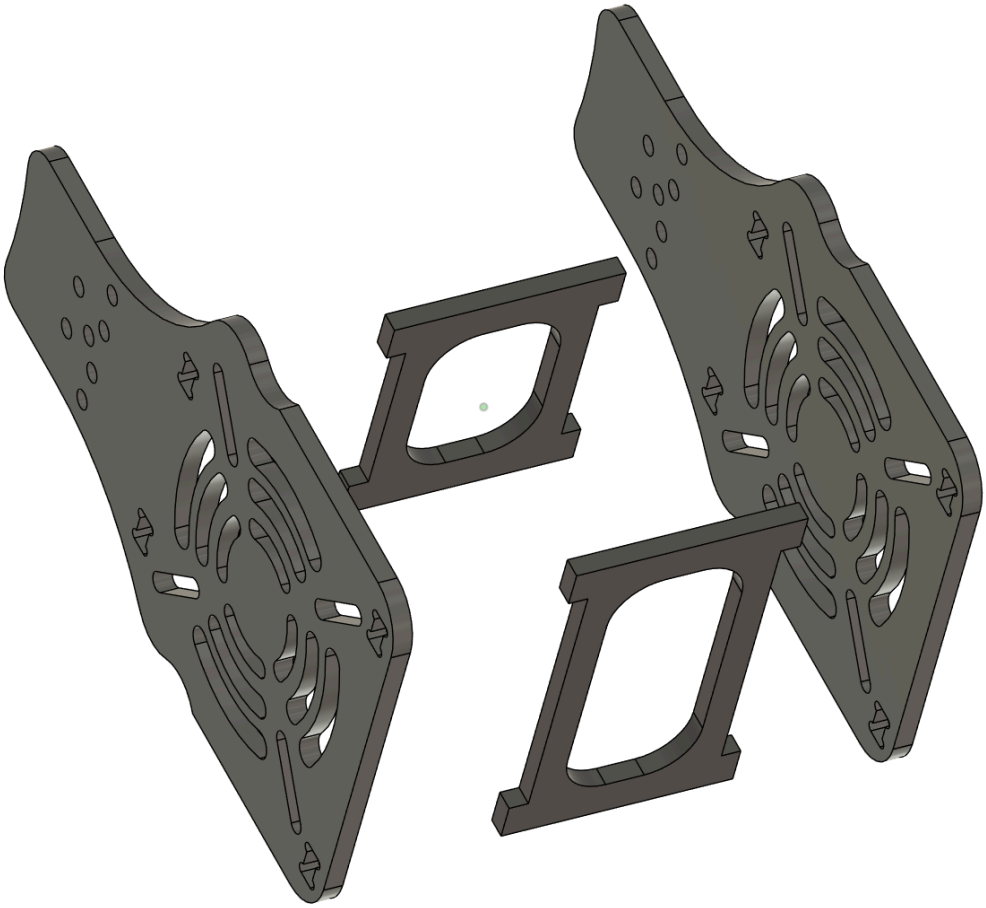


5.7. FPV Gear

Assembled Camera Cage

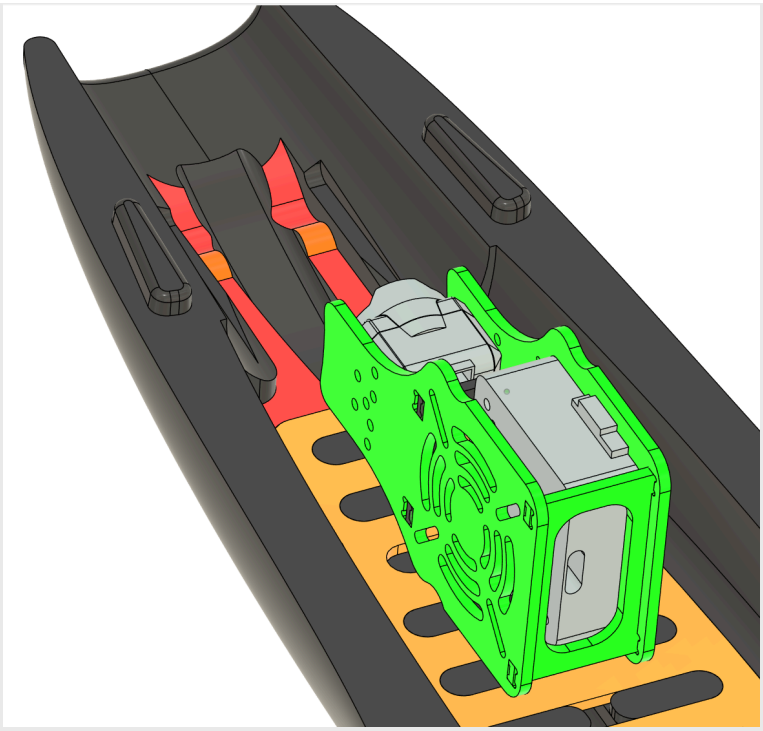


1. Dry-fit all the parts of the mount first

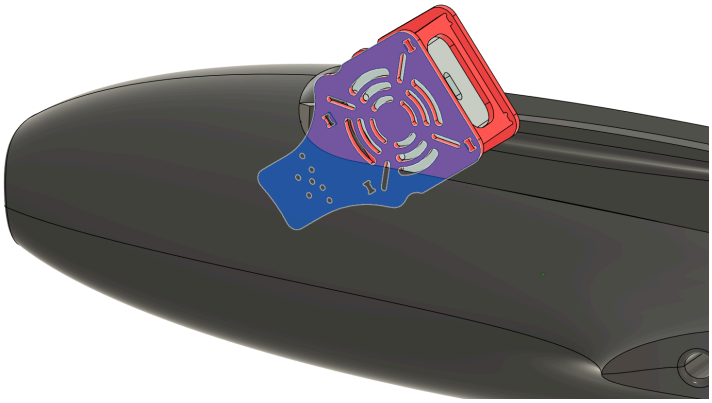


2. Apply some CA or Epoxy glue at all overlapping points
3. Re-assemble the camera cage
4. Install your camera and VTX in to the camera cage
5. Install the camera cage into the nose of the main body.

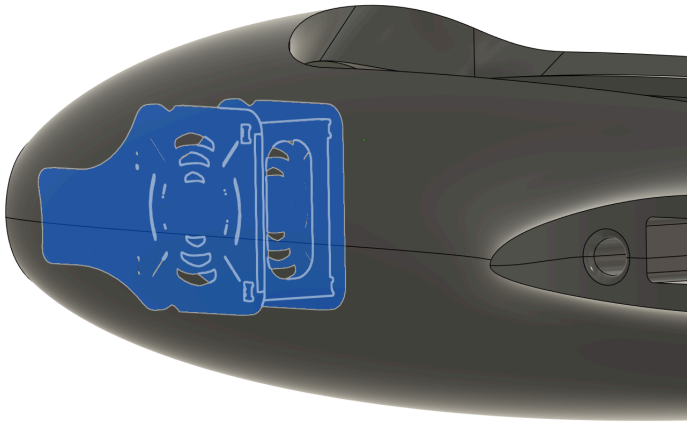
Note:
The camera cage is friction-mounted and does not require any screws or glue to stay in place.

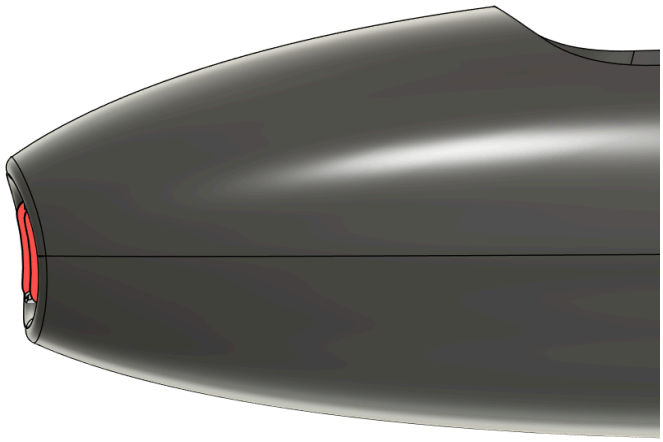


a. Push the assessable camera cage in to the nose



b. Push the cage fully in. Make sure the front of the cage does align with the nose of the wing





c. Install the FC-Camera cable on the camera/ VTX

6. Lay the camera/ VTX cable in the designated groove at the bottom of the main body.

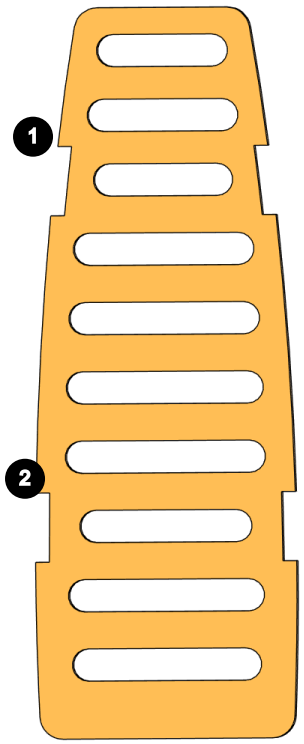
Note: Leave some spare cable outside of the groove so that the camera can easily be pulled out and disconnected.

Tip: To hold the cable in place and protect it against dirt etc, the groove can be covered with some isolation tape.

5.8. Battery Base Plate

After installing the camera/ VTX cable in the designated groove, the battery base plate must be glued in place.

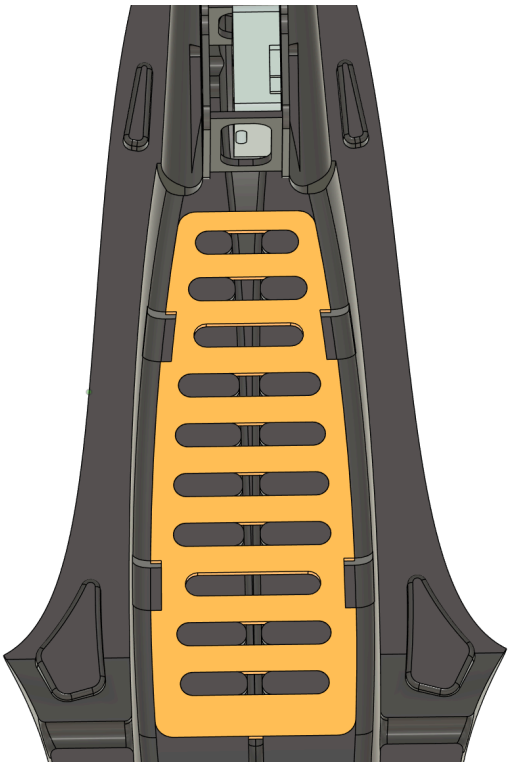
1. Install the Velcro-straps around the cut outs of the battery base plate



2. Apply glue on the complete bottom surface area o the base plate

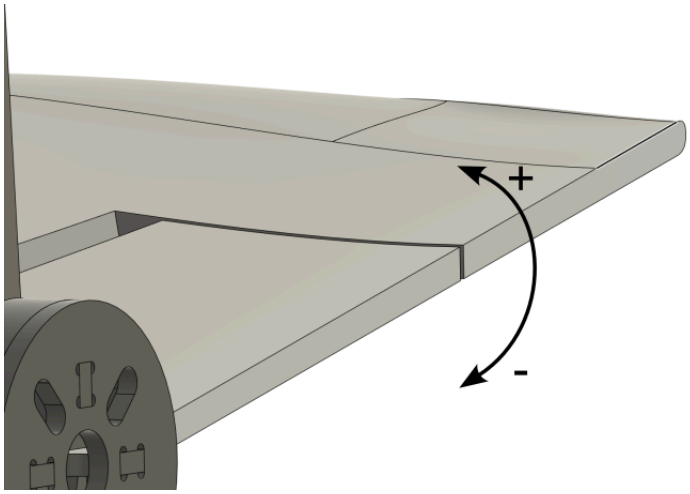
Note: Try to avoid getting glue on to the camera/ VTX cable or the velcro straps.

3. Push the base plate in place and hold it till the glue is cured



6. Setup

6.1. Elevon Deflection



Roll	+/- 15 mm
Pitch	+/- 12 mm

Changelog

Revi-sion	Date	Changes
1.00	2025-08-15	• Initial release
1.01	2025-08-19	• Specification ◦ Added stall speed • Wing AIO wiring example ◦ Added Note about the installation direction ◦ Servo connections moved to the "correct" side • FC and ESC ◦ Added Cutting the FC housing
1.02	2025-08-22	• Layout ◦ Changelog moved to the back of the document ◦ Minor layout changes • FC Wiring Example ◦ Changed VTX Voltage selector
1.03	2025-08-23	• Assembly ◦ Included LUCID H7 Wing AIO Pinout
1.04	2025-08-31	• Servos ◦ Updated Section with more details