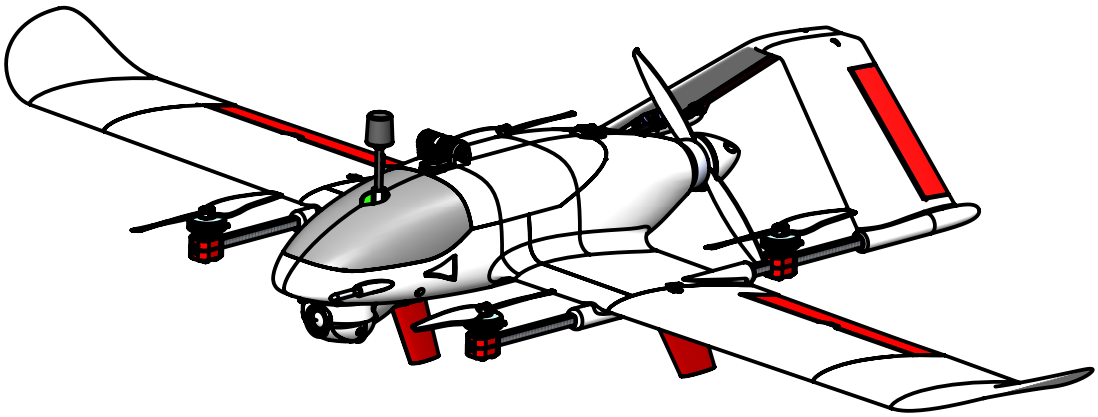
Adele Aero

VTOL

AdeleX-10

Small-sized FPV carrier



Assembly and Operation Manual

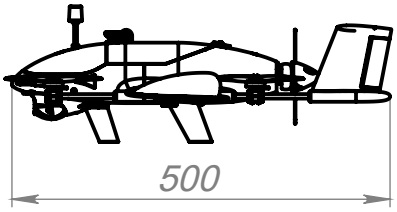
AAX10.000.000

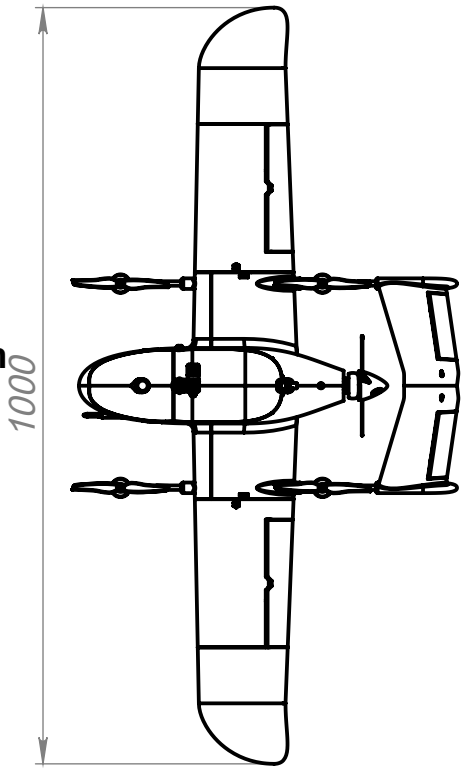
Revision 1.1 dated April 21, 2024

Information

AdeleX-10 is a universal FPV model of an aircraft with vertical take-off and landing, VTOL. Its main payload is a two-axis rotating servo pan&tilt (gimbal) for any 19x19mm FPV camera.
Recommended video system: DJI FPV with Polar/Nebula Pro/O3 cameras, Walksnail Avatar.

The main advantage of a VTOL aircraft is the combination of the advantages of a quadcopter and an airplane. The aircraft is capable of taking off and landing vertically on unprepared and limited-size platforms and at the same time flying quickly in horizontal flight.
In airplane mode, AdeleX-10 consumes approximately three times less energy than when hovering.





Main characteristics:

Empty weight (without battery): **850 g**
Normal take-off weight: **1300 g**
Wingspan: **1000 mm**
Wing area: **12.5 sq. dm**
Wing load: **114 g/sq. dm**
Cruising speed: **70 km/h**
Stall speed: **50 km/h**
Maximum speed: **150 km/h**
Maximum wind speed
at the ground during takeoff: **7 m/s**
Power at NVM:
hovering: **370 W**
cruise mode: **130 W**
Cruising range,
at a consumption of **4500 mAh** (6S): **35-40 km**
Ceiling in airplane mode,
not less than: **2000 m**
Operating temperature range:
-15 +35 degrees C
Flight controller software: **Ardupilot, INAV**

The aircraft is adapted to hand luggage dimensions of major airlines.

Recommended Electronics:

Airplane:

1. **Pusher motor (1 pcs) :** Motor EMax 2807 1300kv, ESC 6s 30A, propeller Gemfan 7042.
2. **Lifting motors (4 pcs):** Motor 2004 EMax 1600 kv, propeller Gemfan 5126-2.
3. **ESC** 4in1 6S, no less than 30A per channel,
4. **Servos:** GH-S37D (EMax Es9051) 4pcs.
5. **Batteries:** Li-Ion 6s1p 21700 with a current output of at least 30A.
6. **Flight controller:** Matek H743, SpeedyBee F405 wing.
7. **Airspeed sensor:** Matek ASPD-4525.

Pan&Tilt:

8. **Tilt servo:** GH-S37D (EMax Es9051)- 1 pcs.
9. **Rotation servo:** DM-s0090d (270 degrees)- 1 pcs.
10. **FPV video system:** DJI, Walksnail Avatar.
11. **Radio control system:** TBS Crossfire, ELRS.
12. **Cooling fan:** 5V 3010

Assembly recommendations

Security measures:

1. Work with glue and activator in a well-ventilated area.
2. Do not leave parts or the assembled aircraft in direct sunlight or in rooms with temperatures above 40 degrees for a long time without cooling.
3. **Observe polarity** when connecting power sources and various equipment.
4. Be sure to remove the propellers whenever checking the motors on the ground to avoid serious injury.

During the assembly:

1. Before connecting, try to connect the parts “dry”. If there are burrs and irregularities, cut them off with a sharp knife.
2. To make pushing the axle easier, it is recommended to use a small amount of silicone grease.
3. When assembling the suspension, be careful and attentive: the rockers on the servos must be installed in such a way that in the extreme positions the parts of the suspension do not damage the gearbox. All gimbal and elevon control channels must be set to neutral (1500 μs). Accurately set the neutral position of the gimbal using the autopilot configurator.

Materials and accessories for assembly:

1. **FDM filament:** ABS High Tech Plast/PLA+ Esun
2. **Glue:** the model is assembled without glue
3. **Wires:** 16,24 and 28 AWG
4. **Connectors:** XT60 1 pcs XT30 1 pcs (option)
5. **Servo extensions:** 200 mm 6 pcs
6. **Carbon:** square profile 6x6x500 mm 3 pcs
7. **Pushing rod:** steel wire ∅1,2 mm or ready-made rods L=200mm
8. **Plastic ends** for rods 1,2 mm 4 pcs
9. **Strap** for battery 250 mm 1 pc
10. **Nylon ties** 2 mm
11. **Hardware**:
    Brass stands M2x12 4 pcs (only for SpeedyBeeF405Wing FC)
    Round head self-tapping screws DIN 7981:
    2,2x4,5- 2 pcs
    2,2x6,5- 5 pcs.
    2,2x9,5- 32 pcs
    2,2x16- 16 pcs
    Screws DIN 7045:
    M2x8 - 29 pcs
    M2x16 - 16 pcs
    Hex Bolts DIN 933:
    M3x16 3 pcs
    M5x25 1 pcs
    Lock nuts DIN 985:
    M3 - 3 pcs
    M5 - 1 pcs

Printing options

To achieve the best results, we strongly recommend following the instructions.
The model is designed for a printing area of 220x220x200 mm

Structurally, the model parts are divided into two types, for each
You need to configure your print profile:

1. Parts made of thin-walled ABS (PLA+, PETG), body, stabilizer and wings. **Profile T (Thin wall)**.
2. Dense parts made of ABS (PLA+, PETG) with filling. These are power elements: motor mounts, racks, suspension. **Profile S (Solid)**.

Printing profile:	**T**	**S**
Filament	**ABS/PLA+**	**ABS/PLA+**
Wall count	1	2
Bottom layers	2	2
Top layers	2	3
Layer height, mm	0,2	0,2
Wall thickness, mm	0,4	0,4
Infill line thickness, mm	0,25	0,4
% of infill	4	10
Infill type:	gyroid/grid	gyroid/grid
Supports:	none	none

Each printer is individual and may require more precise selection of parameters for the best print quality.

If the table adhesion is poor, it is recommended to use printing adhesive or include a border.

ABS should definitely be printed at a high hotend temperature (more than 275 degrees) and a well-heated chamber (table 100 degrees).
Airflow should be turned on to print bridges. For general perimeters, it should be such that the layers have time to harden but not cool before laying a new layer.
ABS-6 plastic from HTP (High Tech Plast) has proven itself to be excellent.

For PLA+ 240 and 60 degrees respectively, no camera is required.
It is not recommended to use plastic from other companies other than ESUN.

ATTENTION:

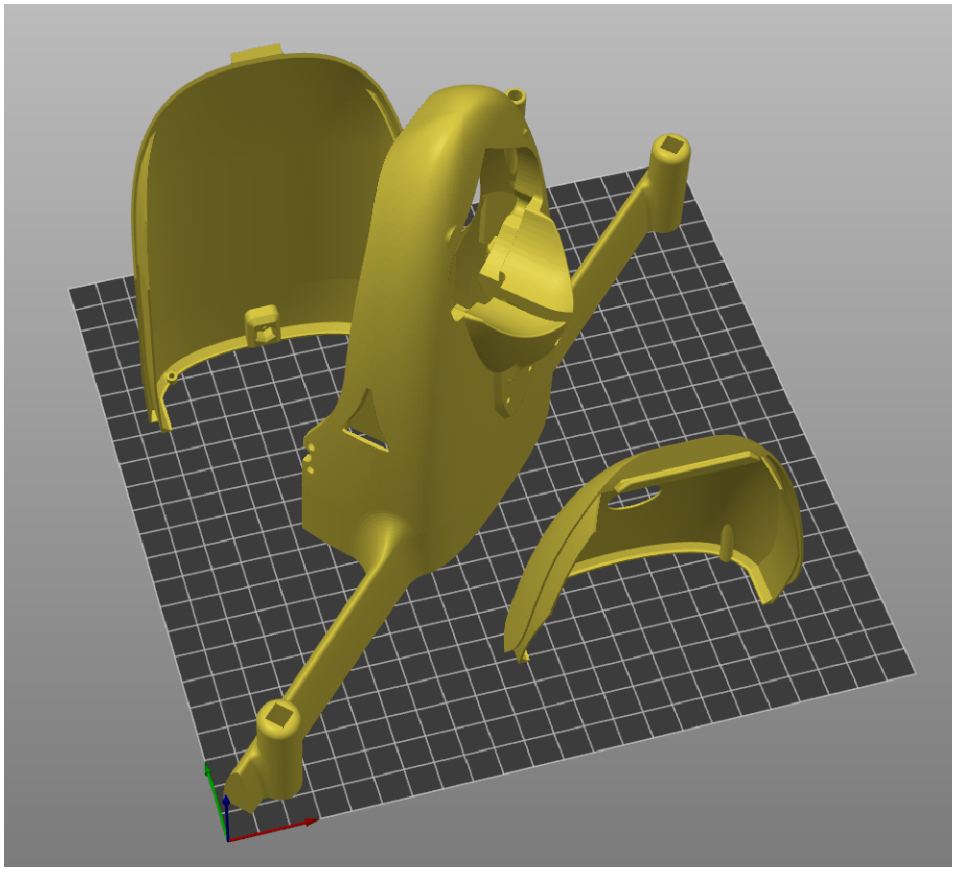
1. **BE SURE TO DRY THE PLASTIC BEFORE PRINTING!**
2. **Parts made from ABS can be replaced with parts made from PLA+ or PETG, with the exception of motors and the tray for the video transmitter.They can only be printed from ABS or PETG due to the risk of deformation from overheating.**

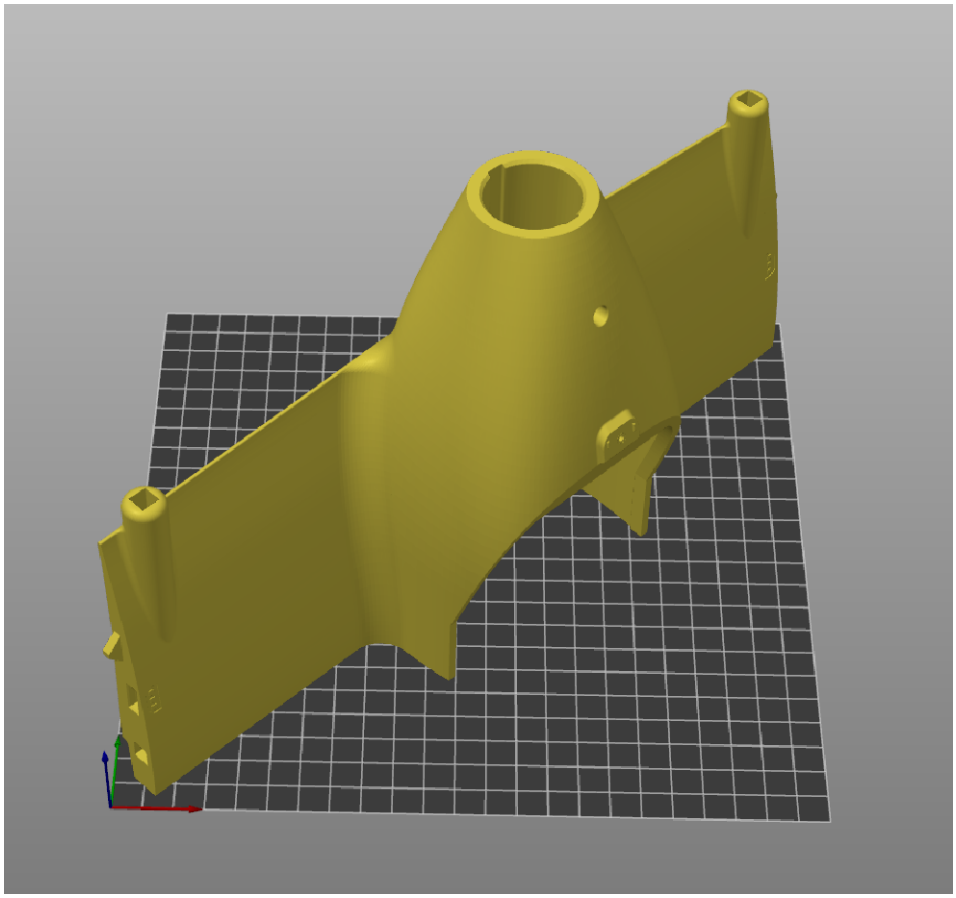
List of Printed Parts

Part name	qty	Print profile	notes
Fuselage	**AAX10.001.Fuselage**		
AA10X.001.Beamfix	2	S	1 pcs mirrored
AA10X.001.F1	1	T	
AA10X.001.F1Fix	1	T	Variant w/o gimbal
AA10X.001.F2	1	T	
AA10X.001.Frontsupport	1	S	
AA10X.001.Latch	1	S	
AA10X.001.Gauge17	1	S	
AA10X.001.Gauge70	1	S	
AA10X.001.Motormount	8	S	ABS/PETG only
Main hatch	**AAX10.100.Mainhatch**		
AA10X.001.Mainhatch1	1	T	
AA10X.001.Mainhatch2	1	T	
MFS.Gopromount	1	S	
MFS.GopromountKnob	1	S	
Thrust motormount	**MFS.Motormount19**		
MFS.MM.Spinner38	1	S	ABS/PETG only
MFS.MM.Spinnerbase38	1	S	ABS/PETG only
MFS.Motormount19	1	S	ABS/PETG only
FC Frame	**MFS.UniversalFCMount**		
MFS.UFCM.Basement	1	S	
MFS.UFCM.Fixer	1	S	
MFS.UFCM.GPSholder	1	S	
MFS.UFCM.Speedybeefrar	1	S	
Console	**AAX10.002.Console**		
AA10X.002.Aileron	2	T	1 pcs mirrored
AA10X.002.C1	2	T	1 pcs mirrored
AA10X.002.C2	2	T	1 pcs mirrored
AA10X.002.Knob	3	S	1 pcs for main hatch
Stabilizer	**AAX10.003.Stabilizer**		
AA10X.003.Elevator	2	T	1 pcs mirrored
AA10X.003.Stabilizer	1	T	Supports mandatory
Pan&tilt	**MFS.DJIGimbal**		
MFS.DG1.CameraHolder	1	S	
MFS.DG1.CamProtection	1	S	
MFS.DG1.Dome	1	S	
MFS.DG1.Domecover	1	S	
MFS.DG1.Mainframe	1	S	
MFS.DG1.O3VistaTray	1	S	ABS/PETG only
MFS.DG1.Ring	1	S	
Total:	**47**		

Parts marked as “mirror” will be reflected in the slicer according to quantity.
The total weight of all parts is approximately 370 grams.

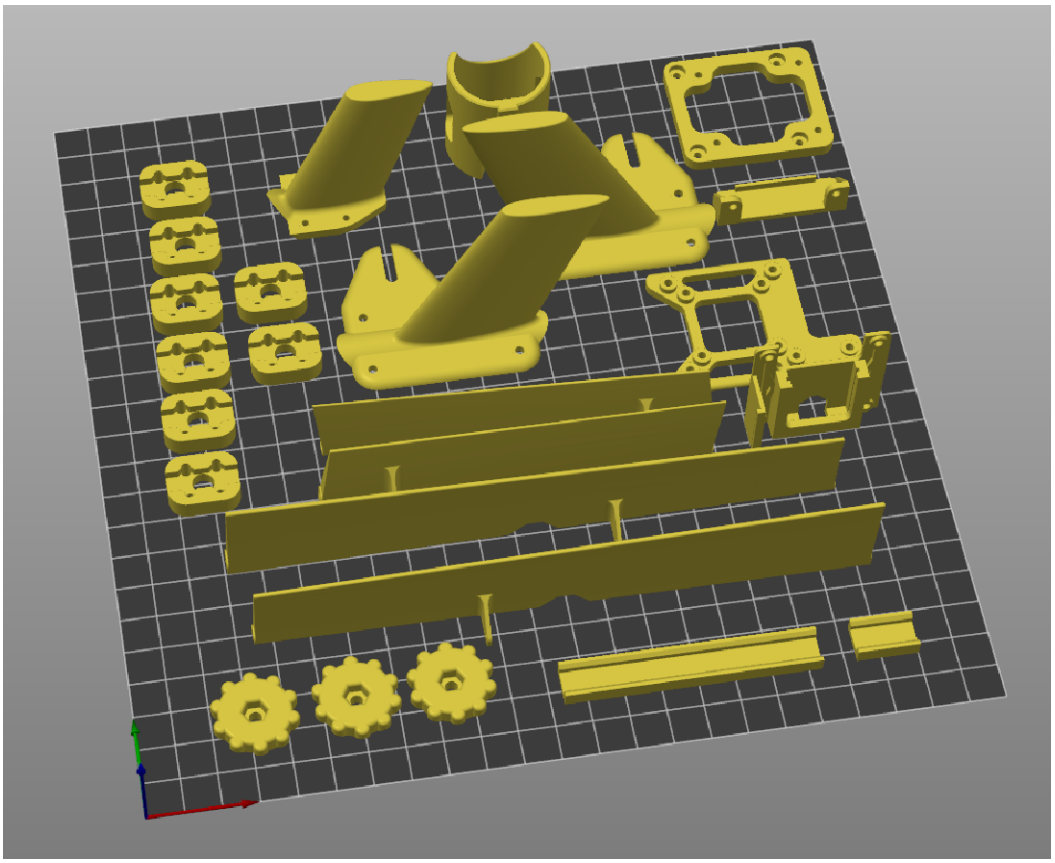
Parts location on the printer's bed

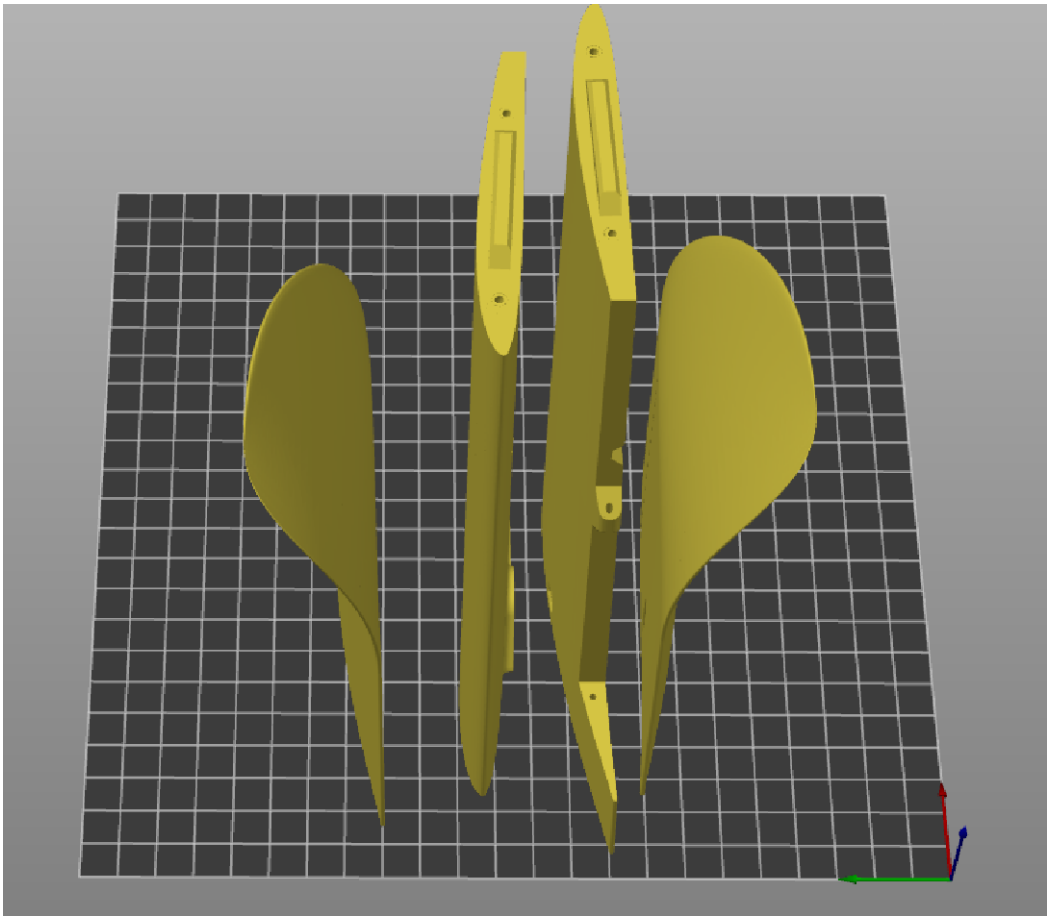




An example of the location and orientation of parts.
Supports must be turned off.

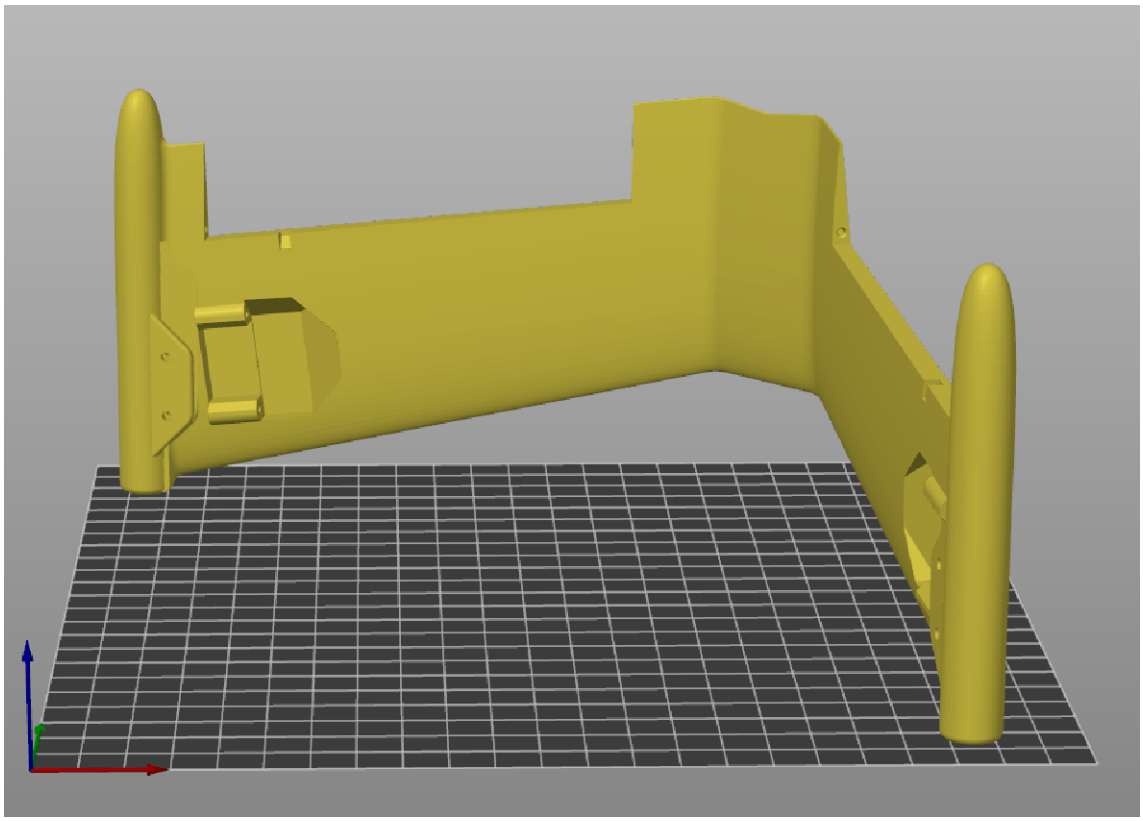
Parts location on the printer's bed

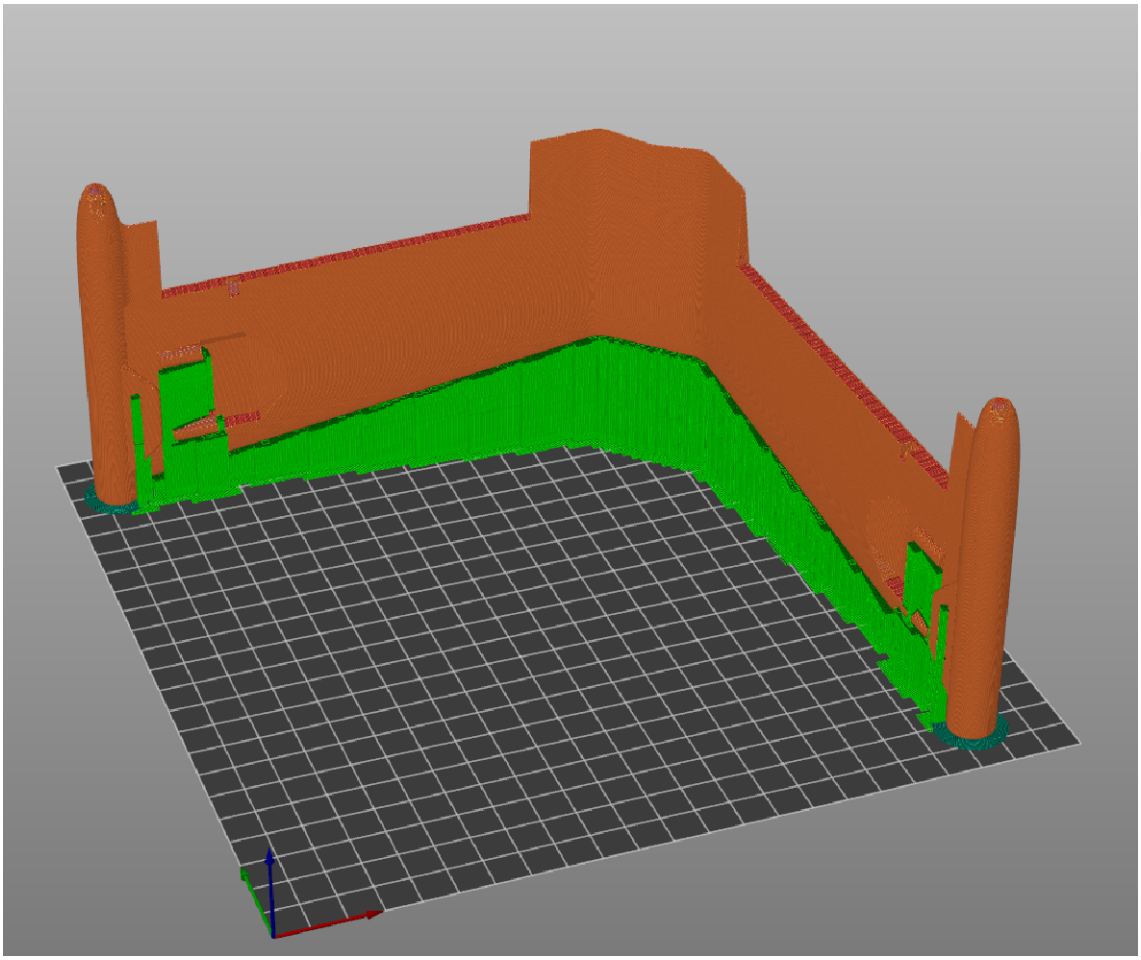




An example of the location and orientation of parts.
Supports must be turned off.

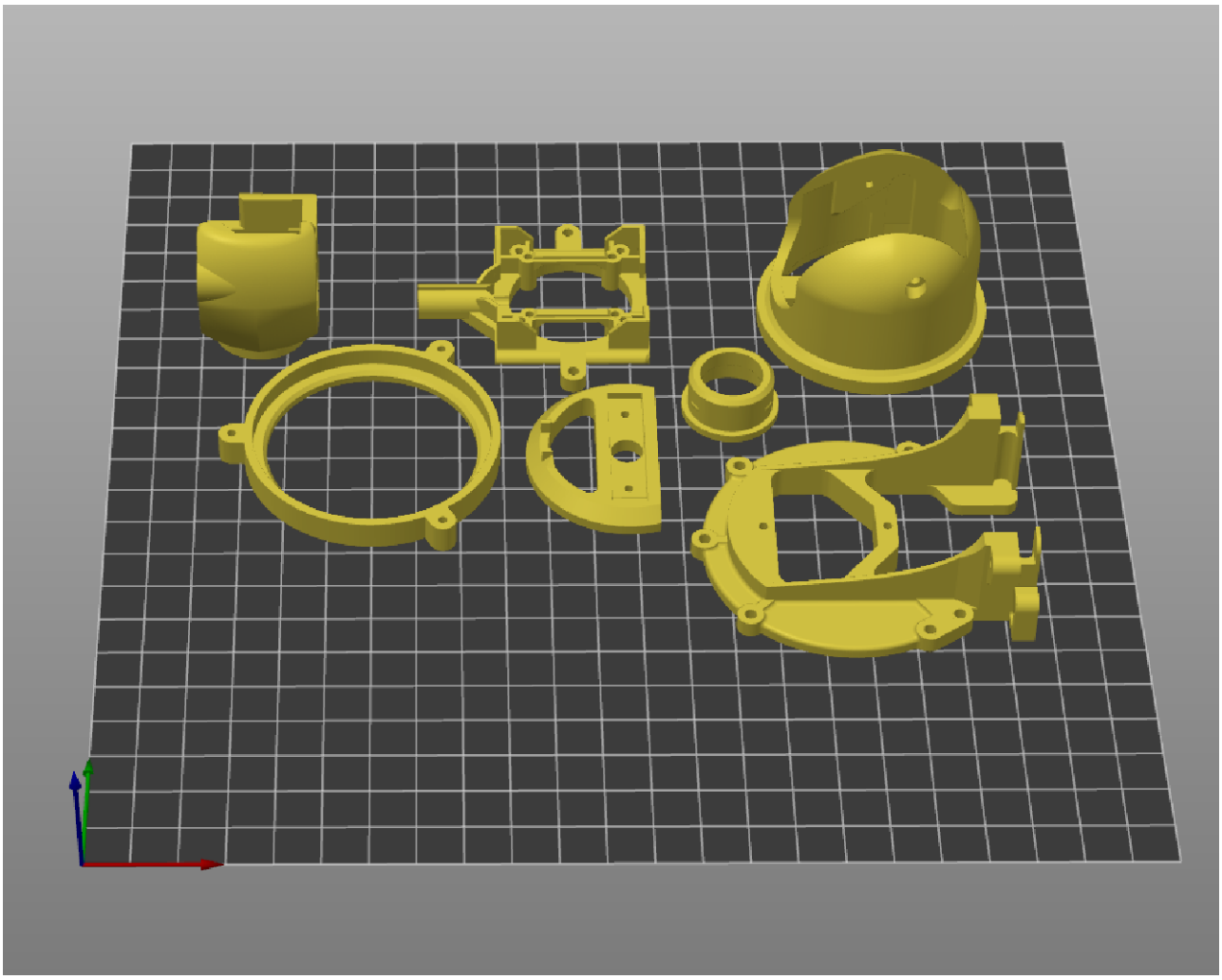
Parts location on the printer's bed





An example of the location and orientation of parts.
Supports included only on parts AAX10.003.Stabilizer
To eliminate the generation of unnecessary structures from above, enable the "support blocker" modifier

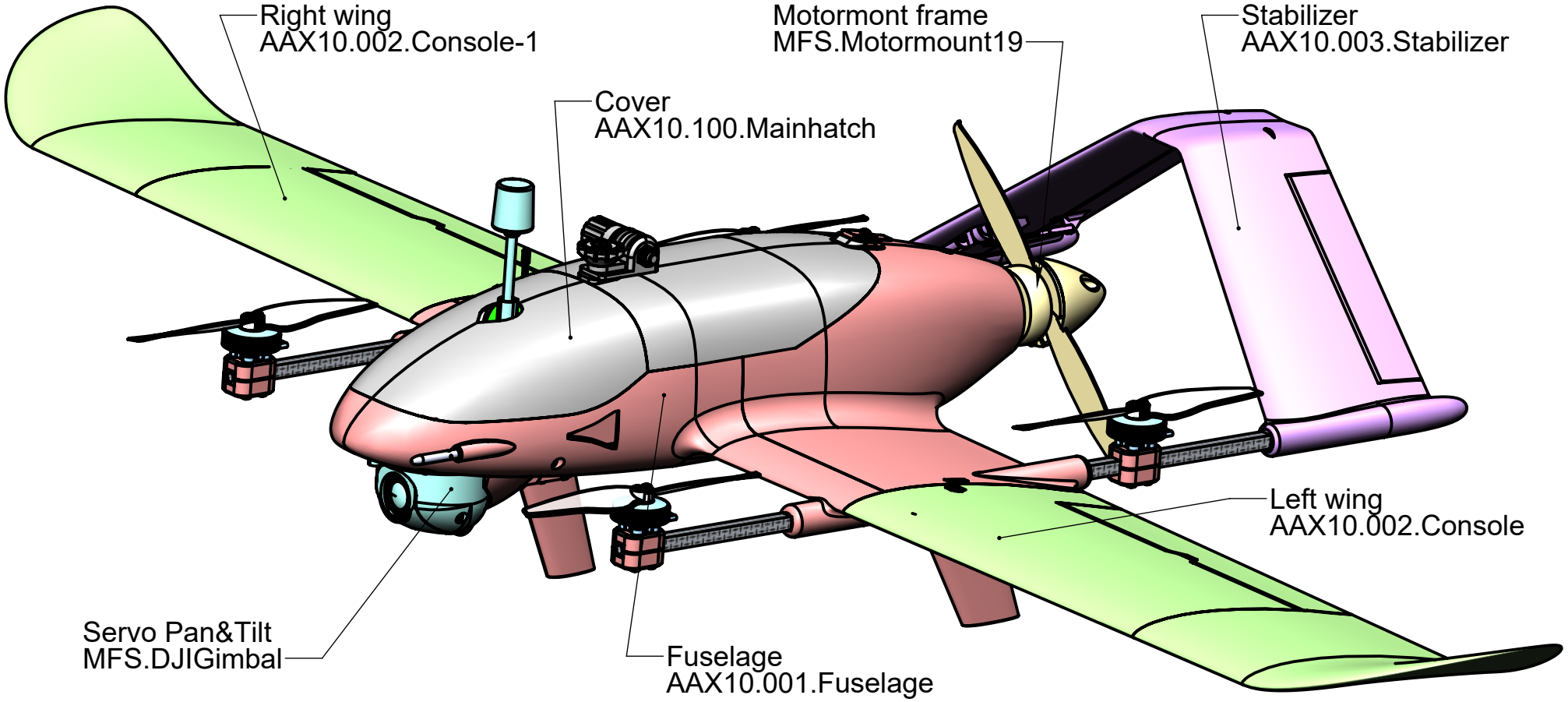
Parts location on the printer's bed



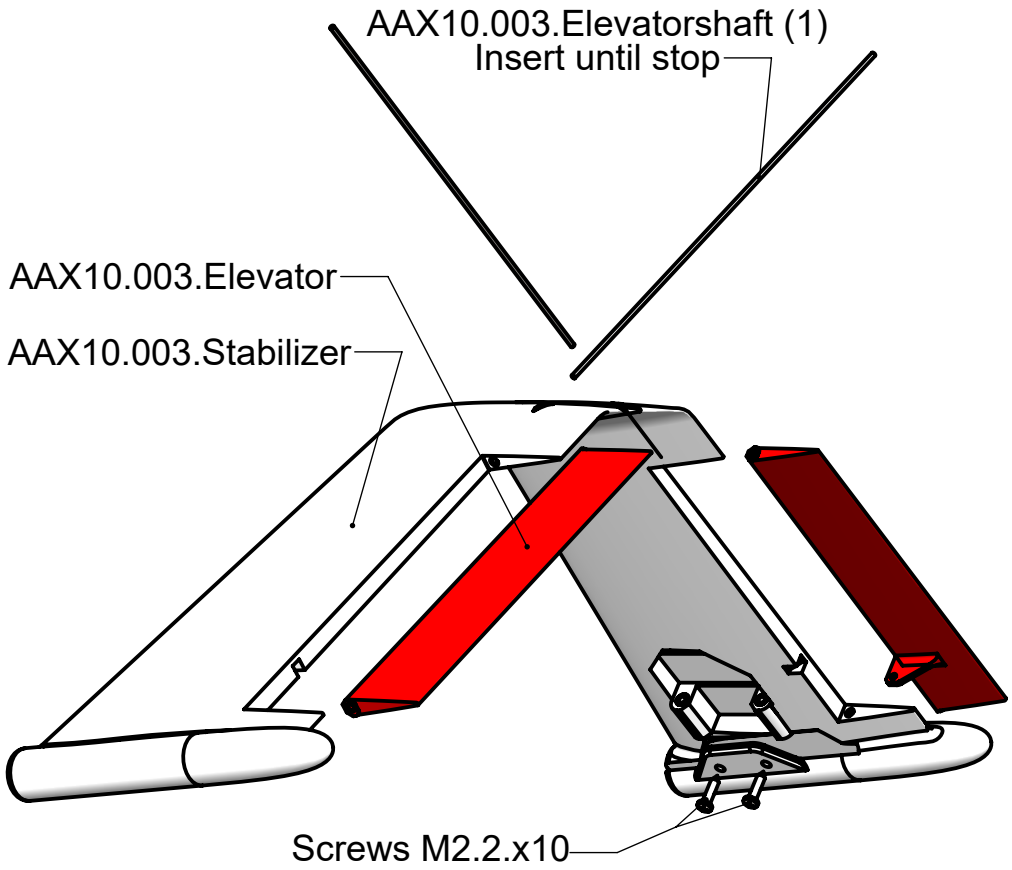
An example of the location and orientation of parts.
Supports must be turned off.

General view of the model

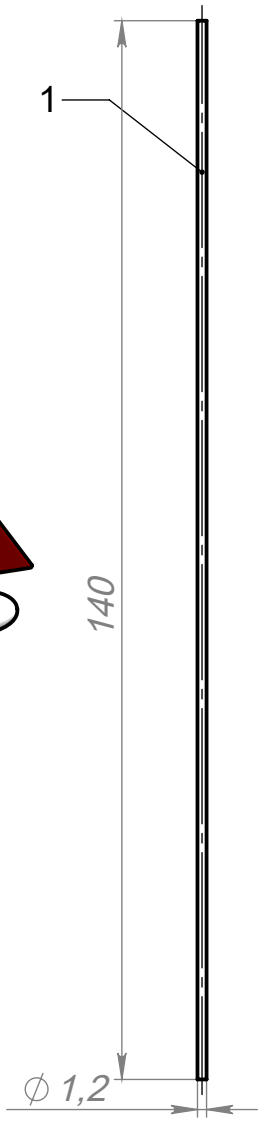
Basic assembly units
in the archive with the files are located
in separate folders

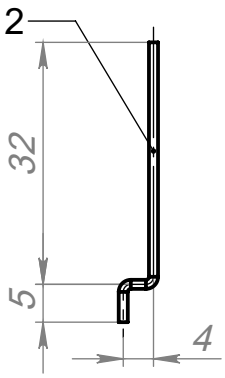


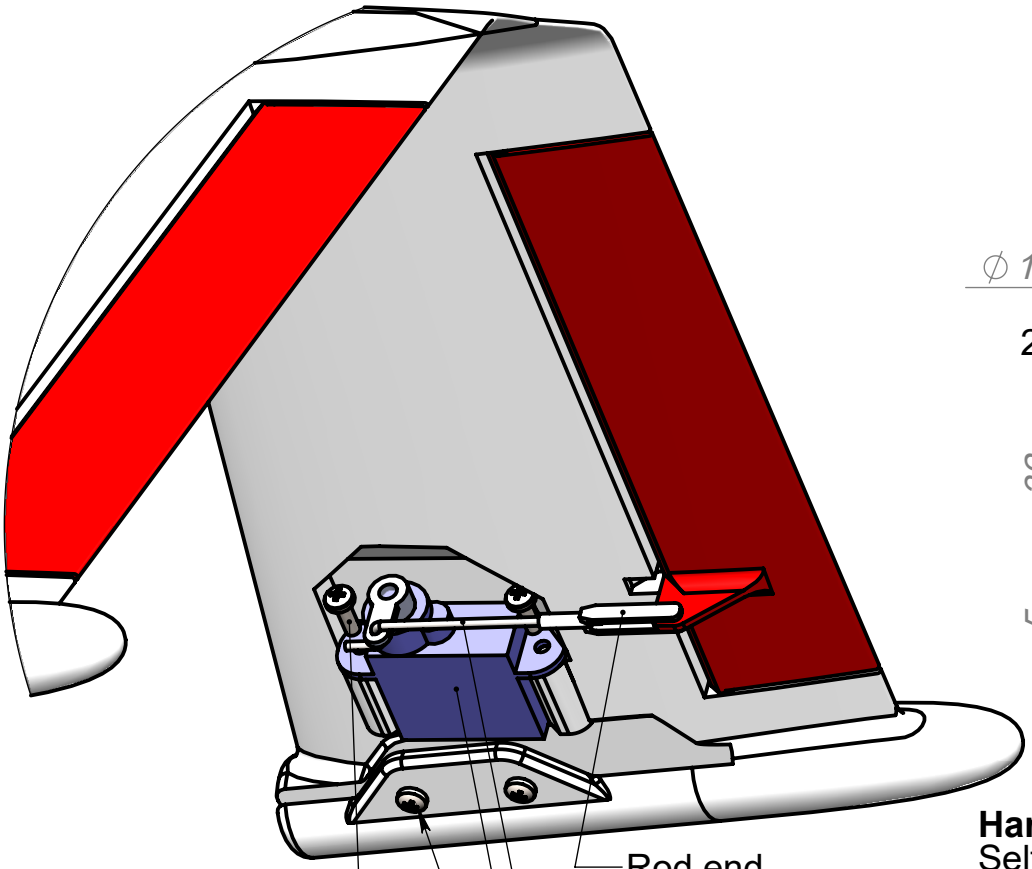
Stabilizer



Wire parts
Scale 1:1



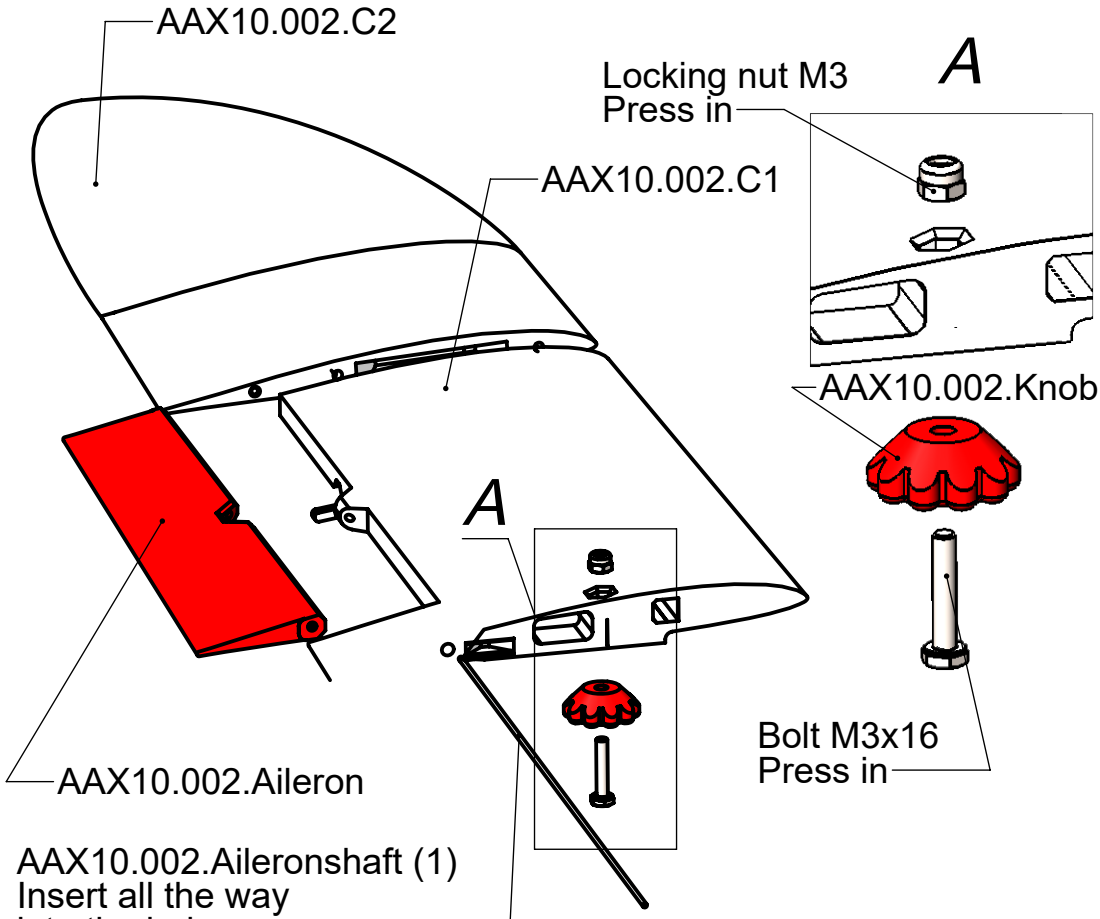


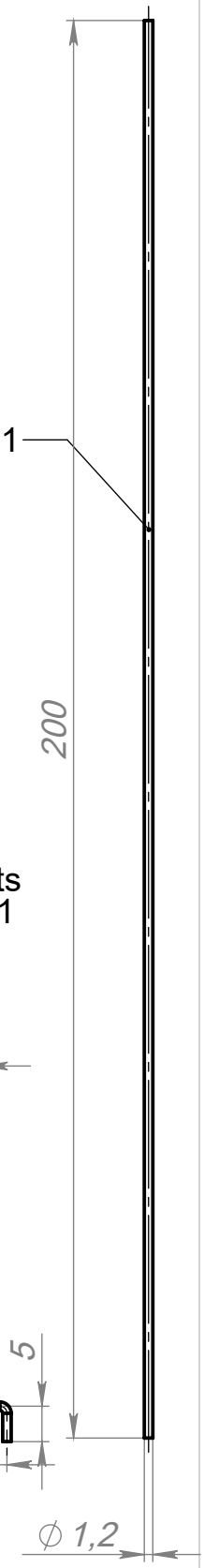


Hardware
Self-tapping screws:
2.2x9,5 - 4 pcs

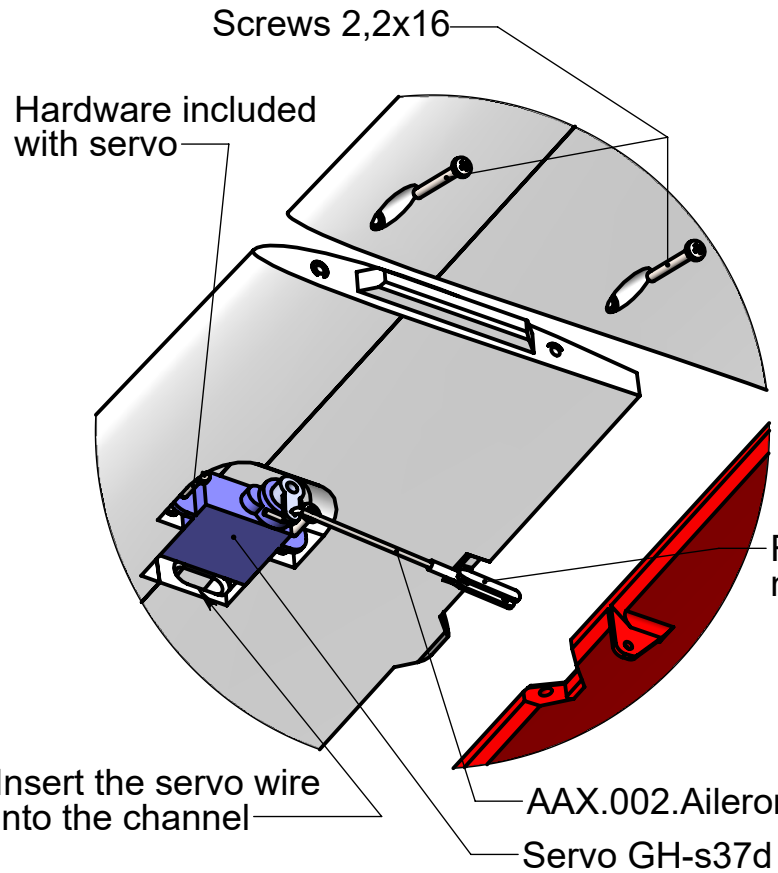
Wing

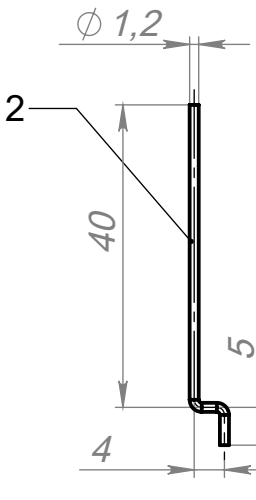
Right and left consoles are mirrored





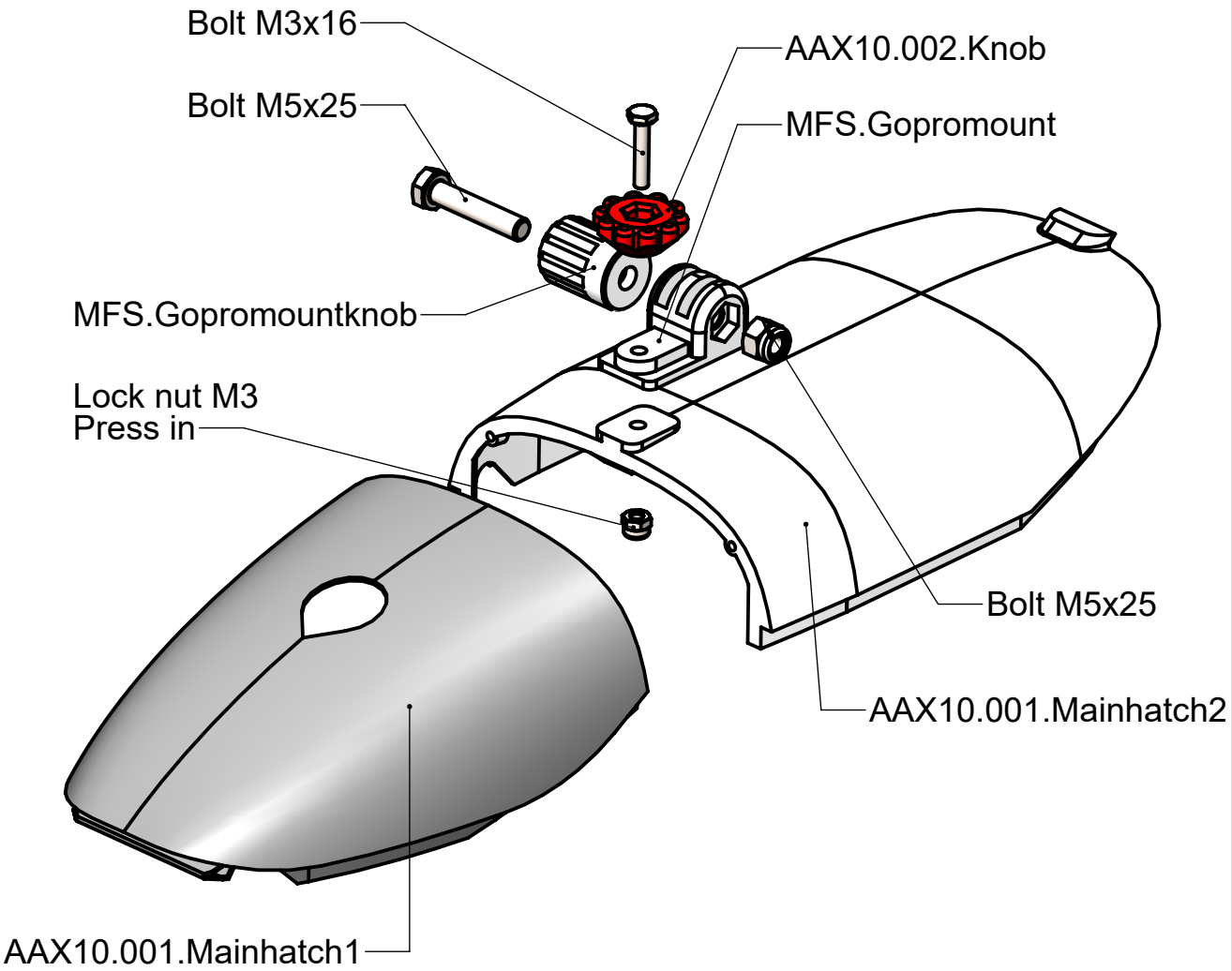
Wire parts
Scale 1:1

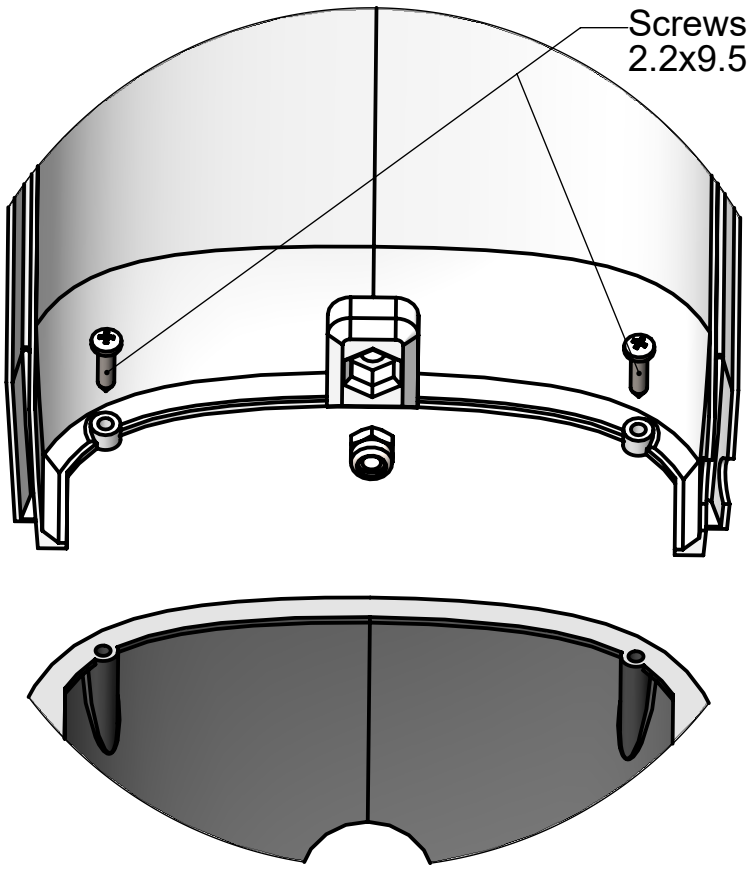




Hardware
Self-tapping screws:
2.2x16 - 4 pcs
Bolts:
M3x16 - 2 pcs

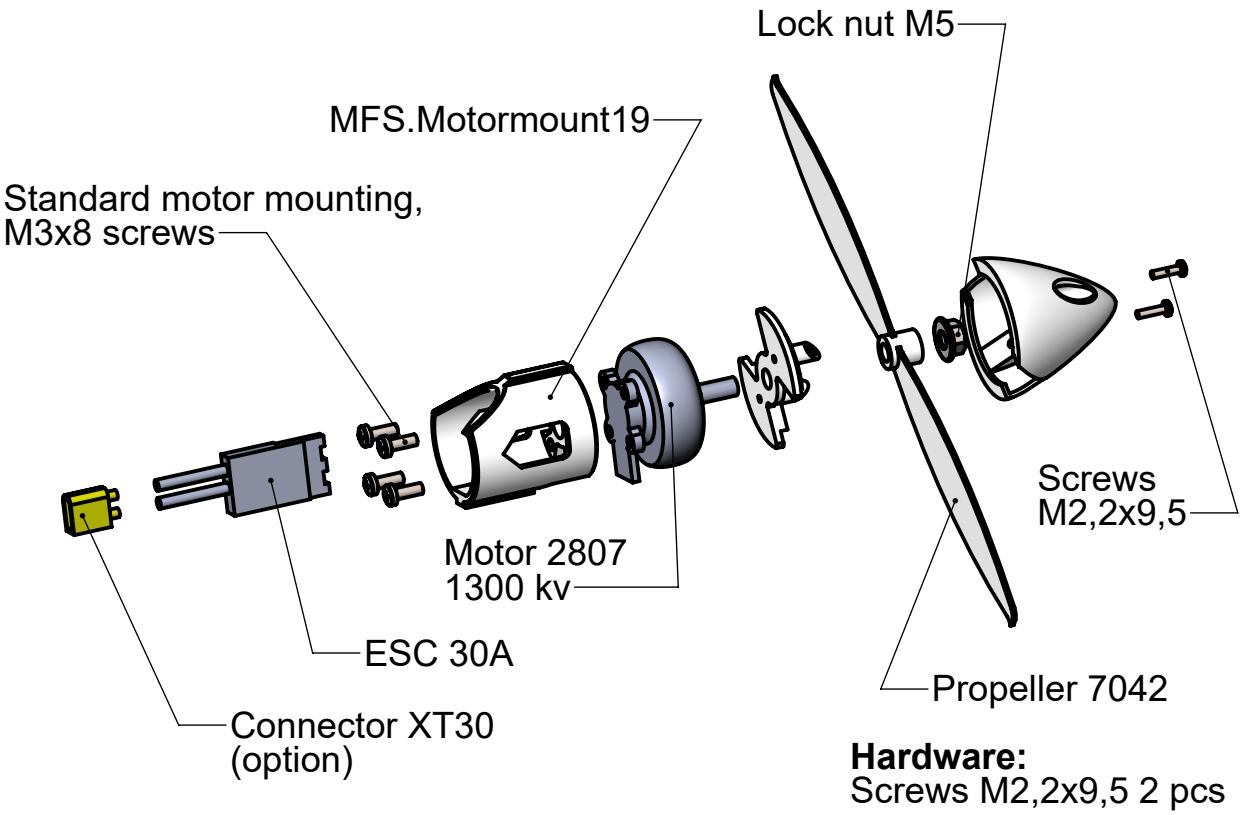
Main hatch





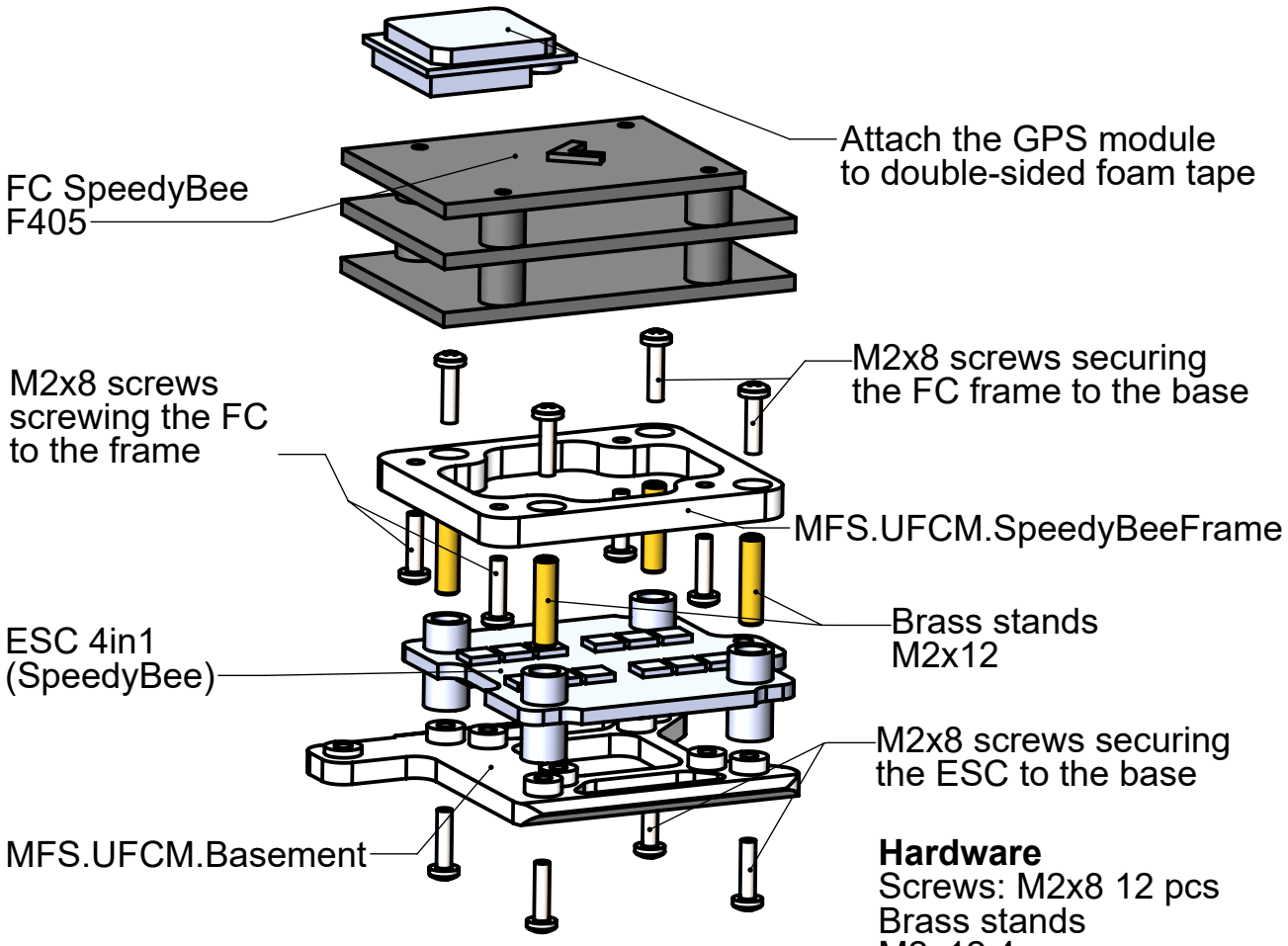
Harware
Self-tapping screws:
2.2x9,5 - 2 pcs
Bolts:
M3x16 - 1 pcs
M5x25 - 1 pcs
Nuts:
M3 lock nut - 1 pc.
M5 lock nut - 1 pc.

Thrust motor prop and FC stack



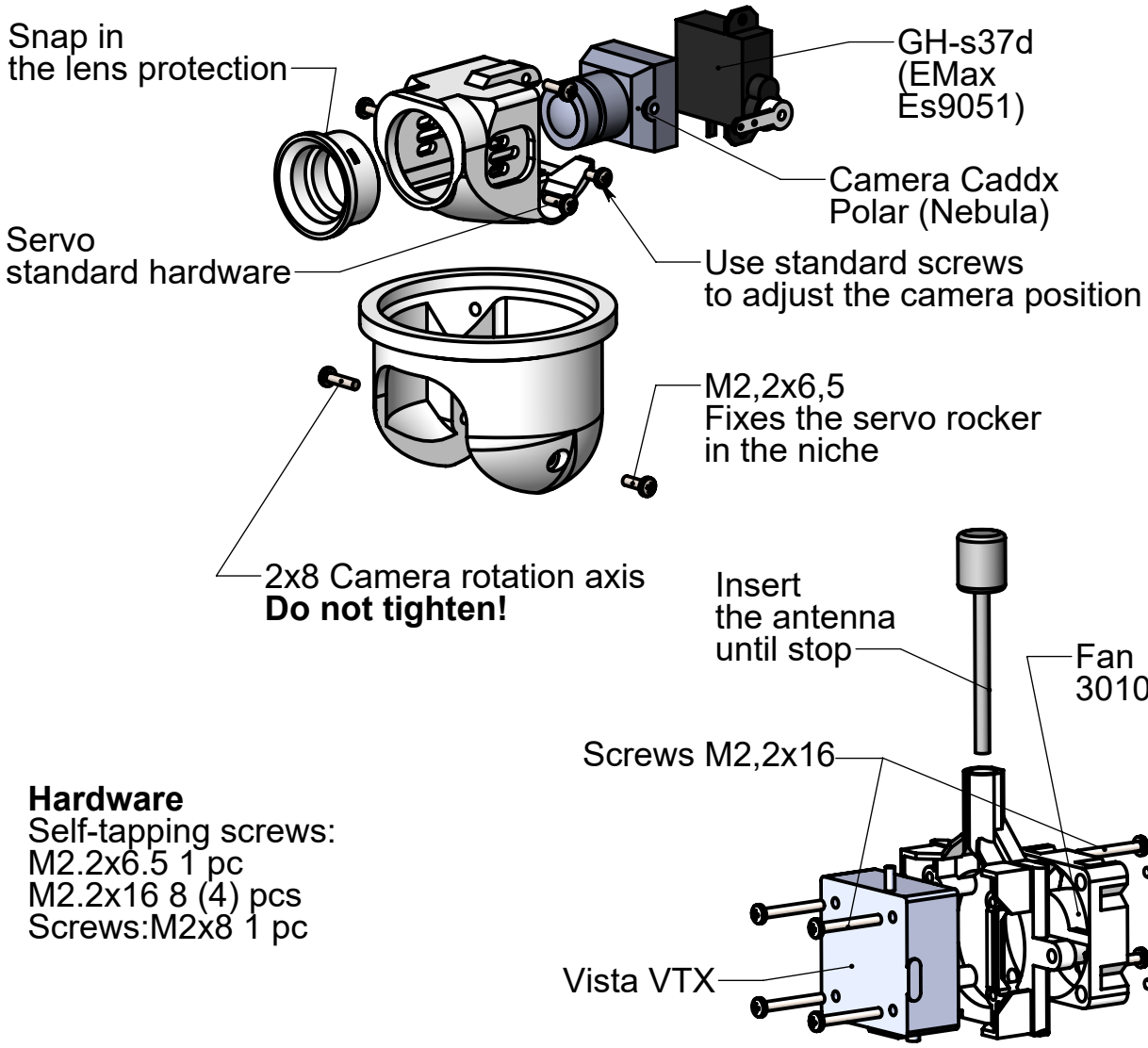
Hardware:
Screws M2,2x9,5 2 pcs

FC SpeedyBeeF405 stack (option)



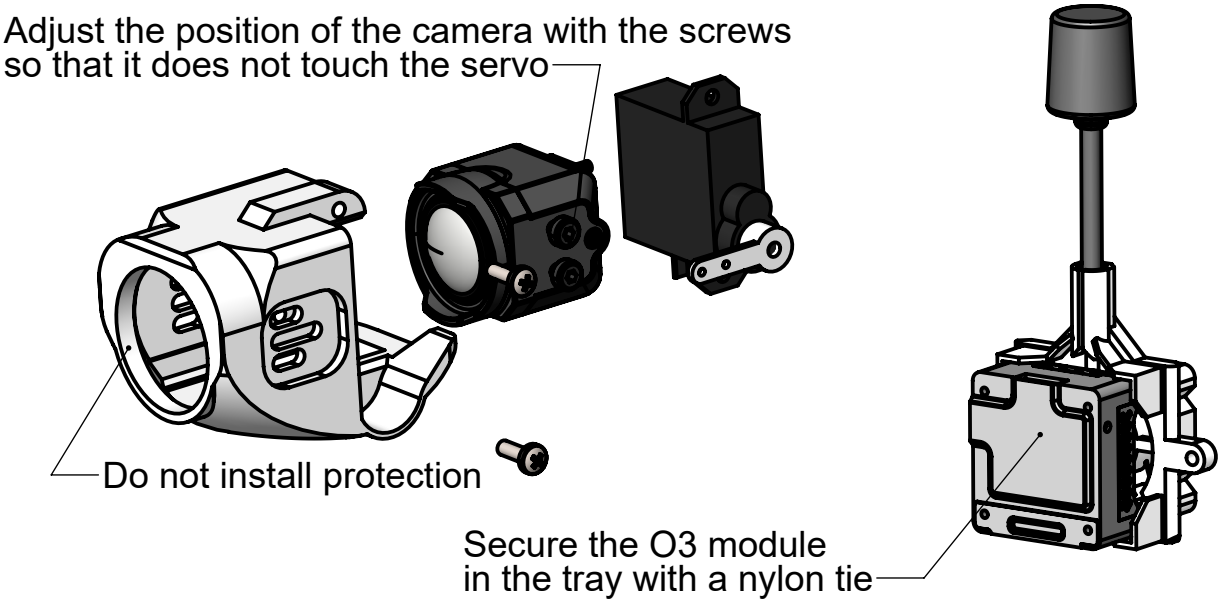
Hardware
Screws: M2x8 12 pcs
Brass stands
M2x12 4 pcs

DJI Vista option



Hardware
Self-tapping screws:
M2.2x6.5 1 pc
M2.2x16 8 (4) pcs
Screws:M2x8 1 pc

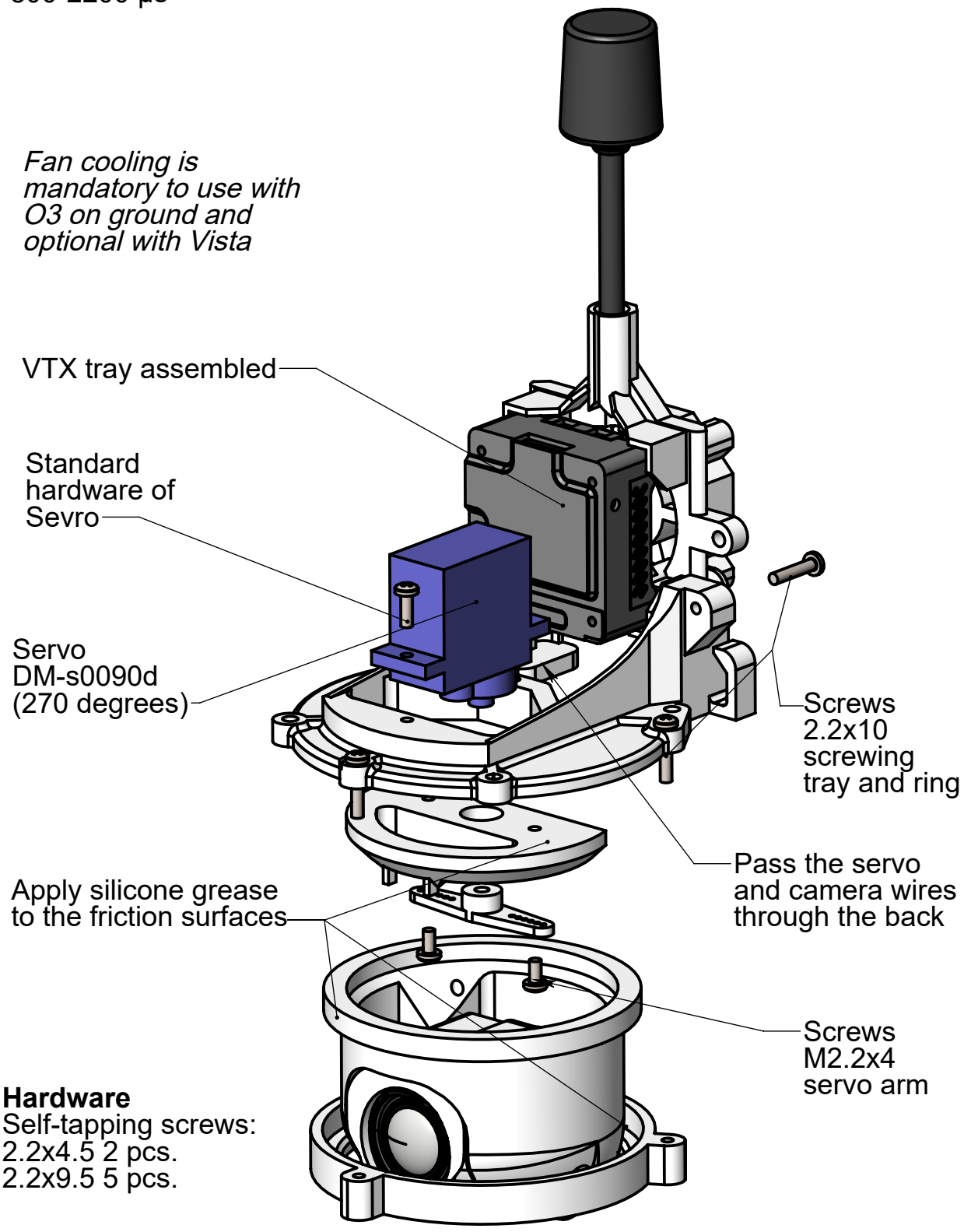
DJI O3 option



Pan&tilt 2

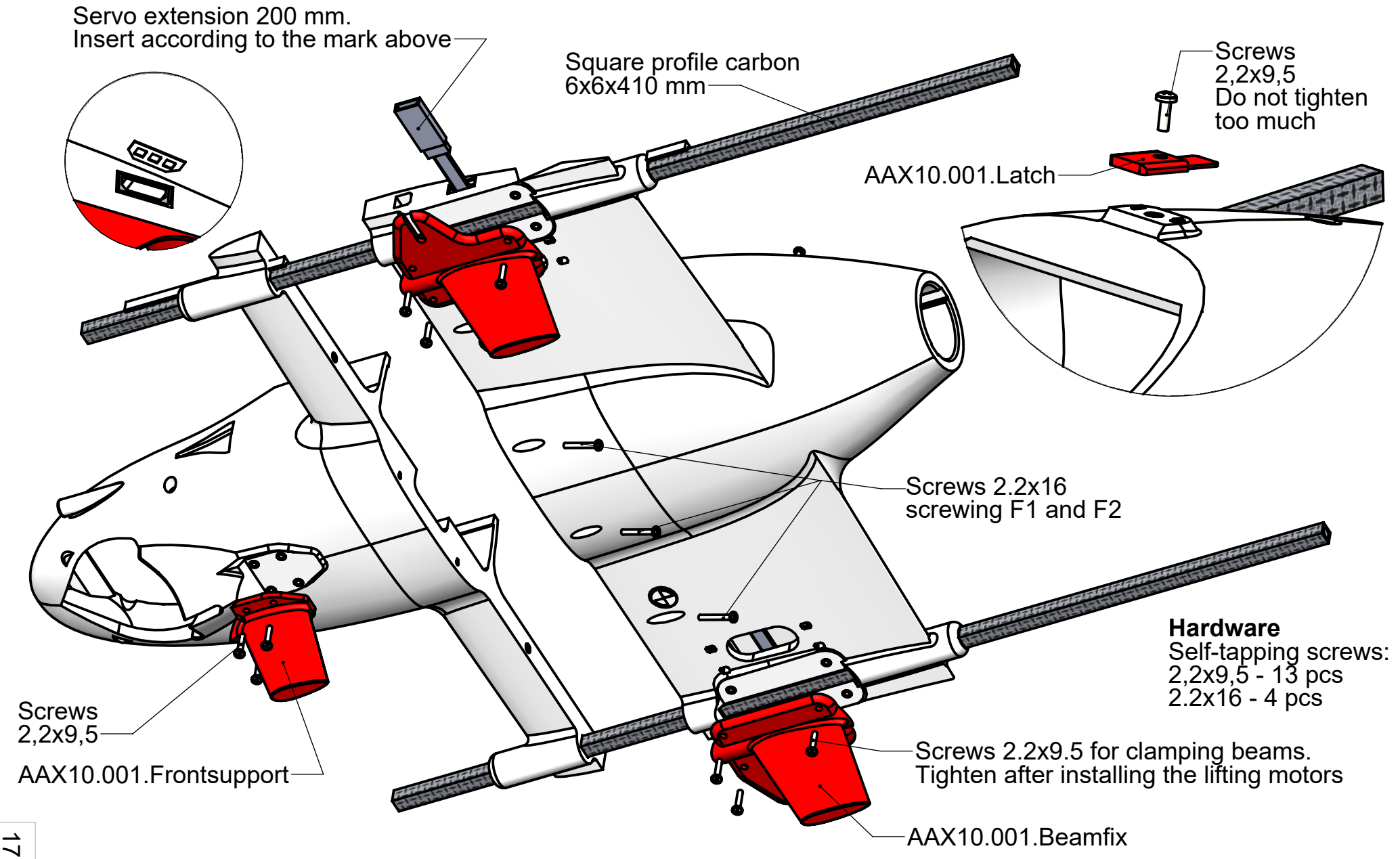
When assembling the gimbal, place the servos in such a way that the working stroke of the servos corresponds to the working stroke of the gimbal. All gimbal control channels must be in **neutral position (1500 µs)** before tuning.
This is necessary in order not to damage the servo drive gearboxes when turned on for the first time.

Horizontal camera position 0 degrees corresponds to ~2000 µs
Vertical position ~1000 µs
For a horizontal rotation servo, it is recommended to set the PWM range to 800-2200 µs

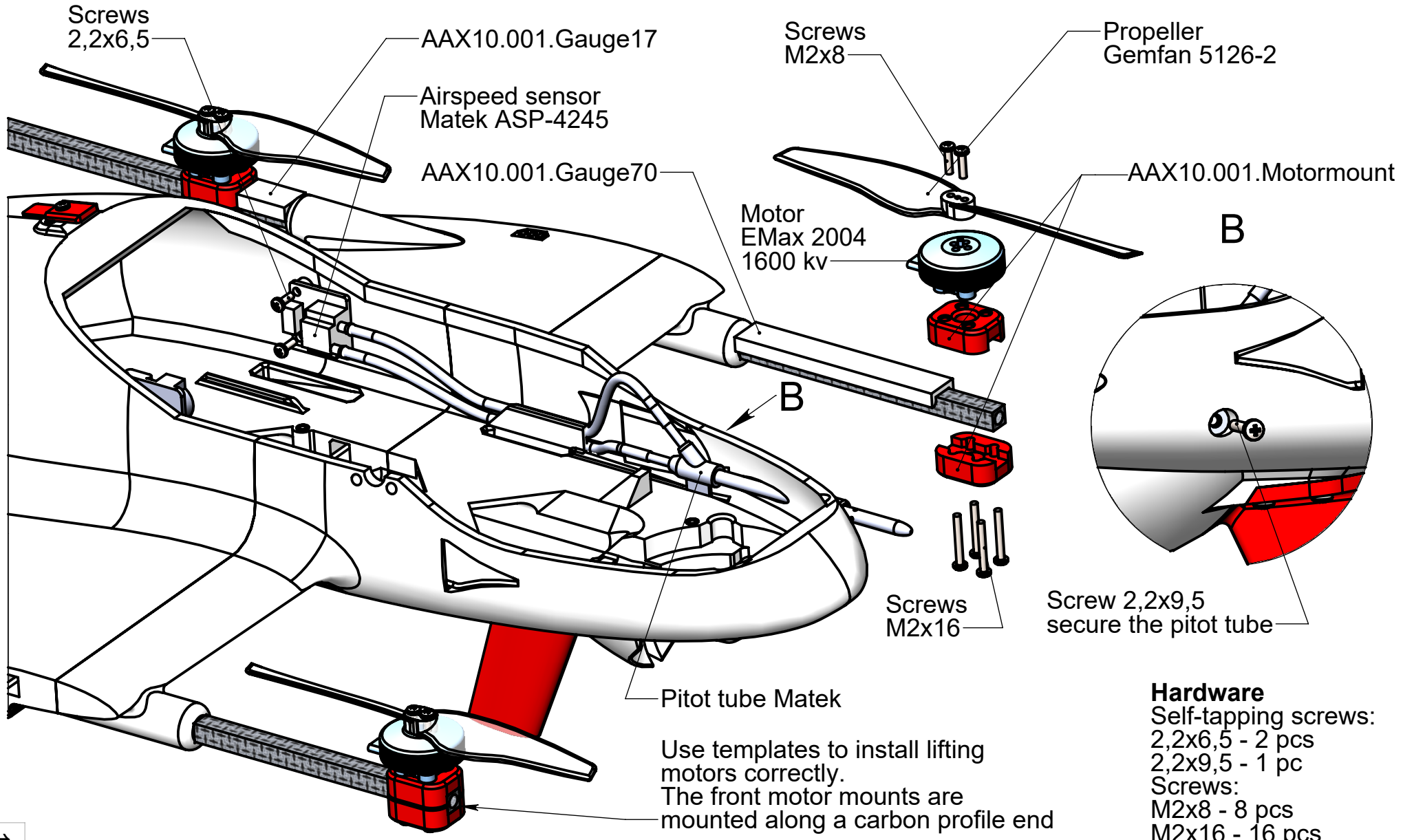


Hardware
Self-tapping screws:
2.2x4.5 2 pcs.
2.2x9.5 5 pcs.

Fuselage 1

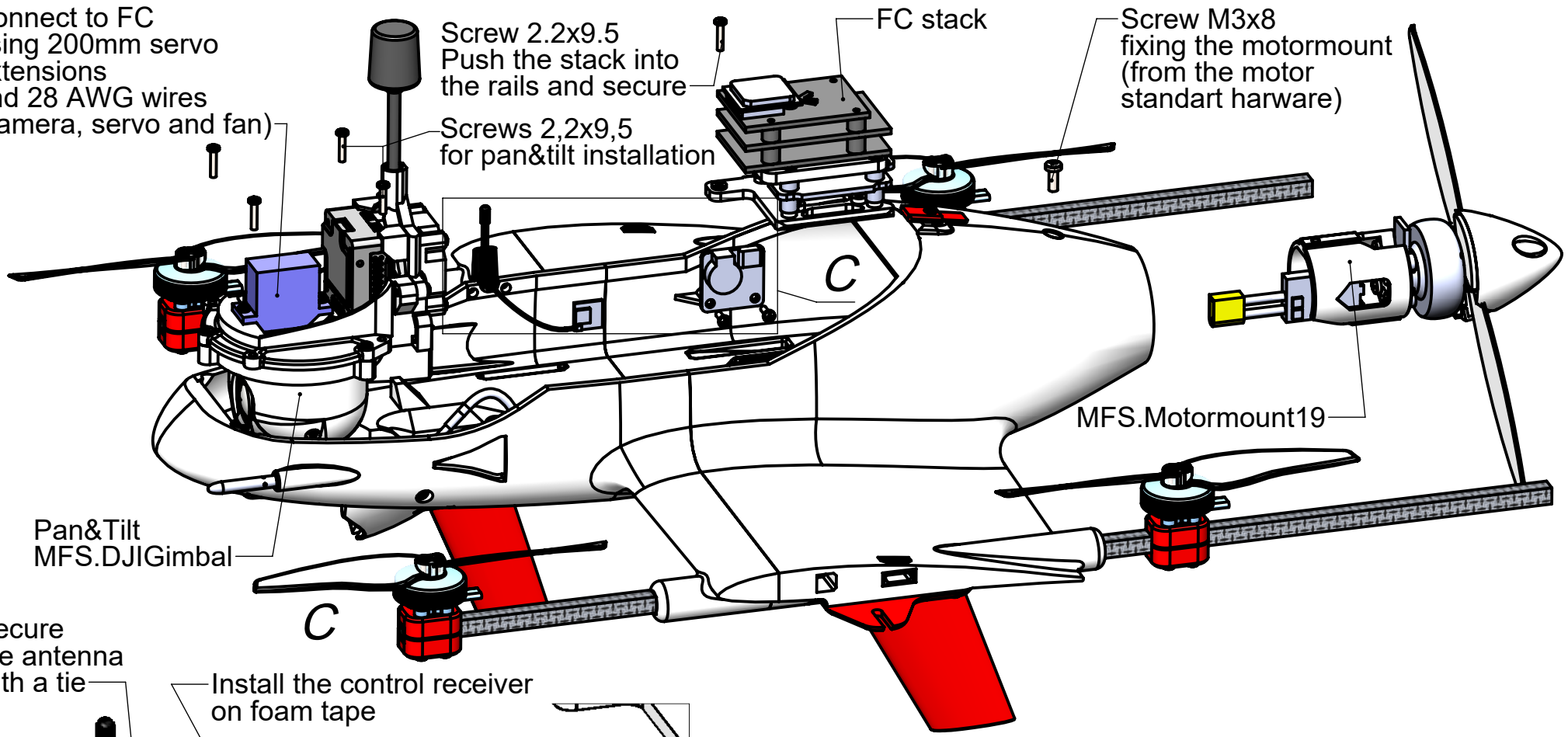

Servo extension 200 mm.
Insert according to the mark above
Square profile carbon
6x6x410 mm
Screws
2,2x9,5
Do not tighten
too much
AAX10.001.Latch
Screws 2.2x16
screwing F1 and F2
Hardware
Self-tapping screws:
2,2x9,5 - 13 pcs
2.2x16 - 4 pcs
Screws
2,2x9,5
AAX10.001.Frontsupport
Screws 2.2x9.5 for clamping beams.
Tighten after installing the lifting motors
AAX10.001.Beamfix

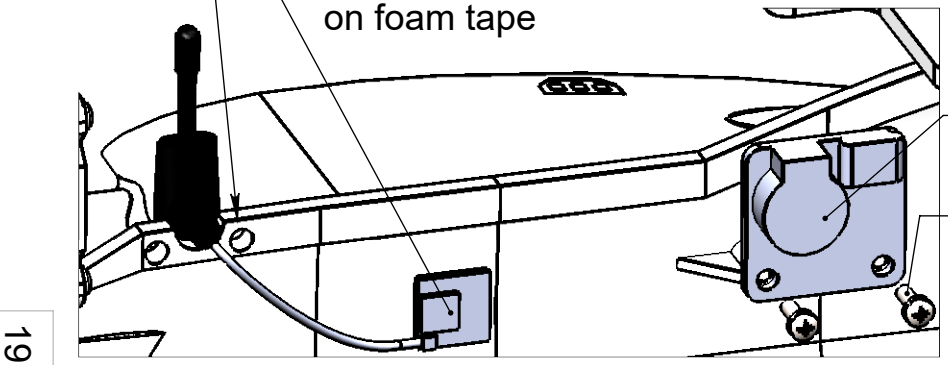
Fuselage 2



Hardware
Self-tapping screws:
2,2x6,5 - 2 pcs
2,2x9,5 - 1 pc
Screws:
M2x8 - 8 pcs
M2x16 - 16 pcs

Fuselage 3

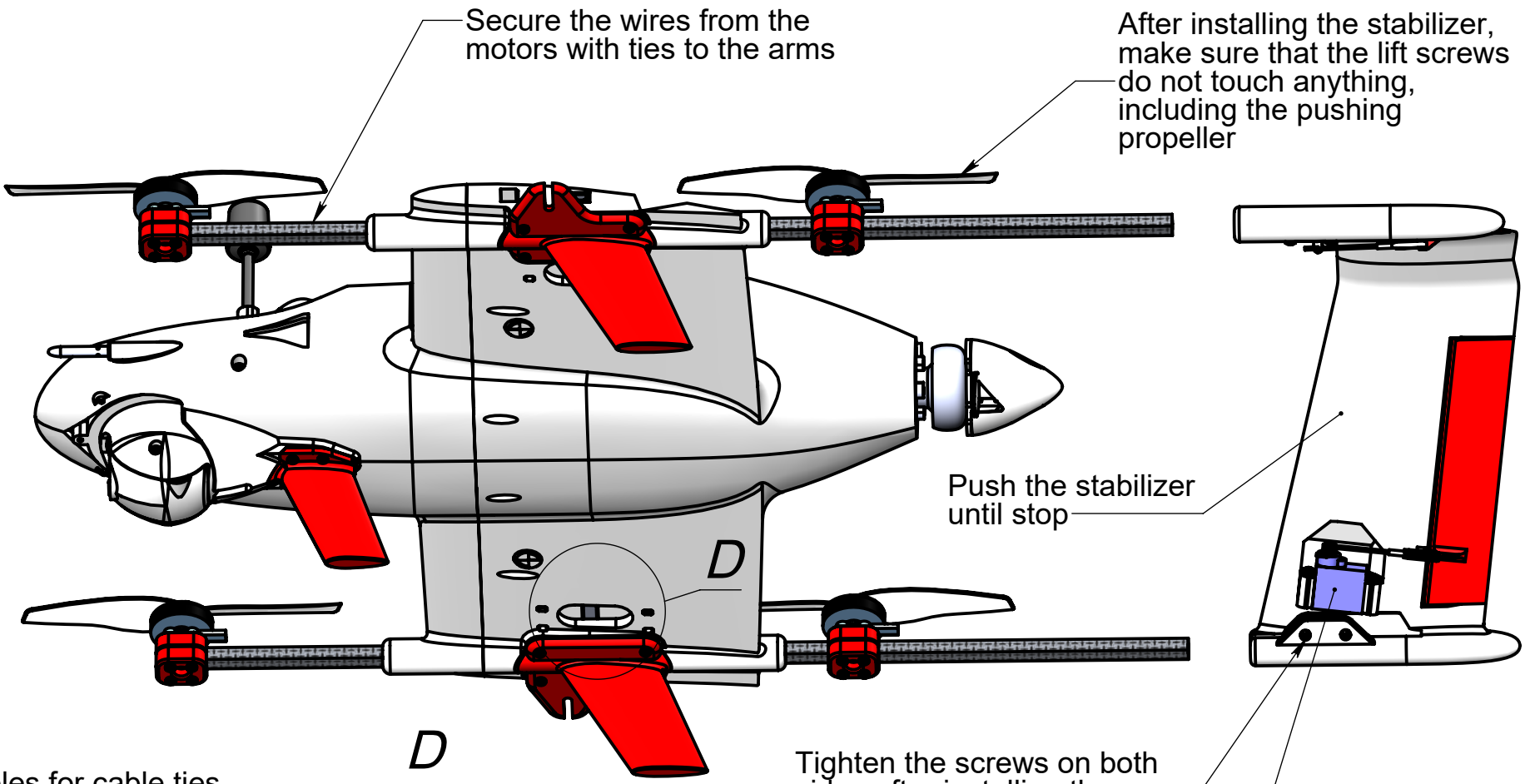




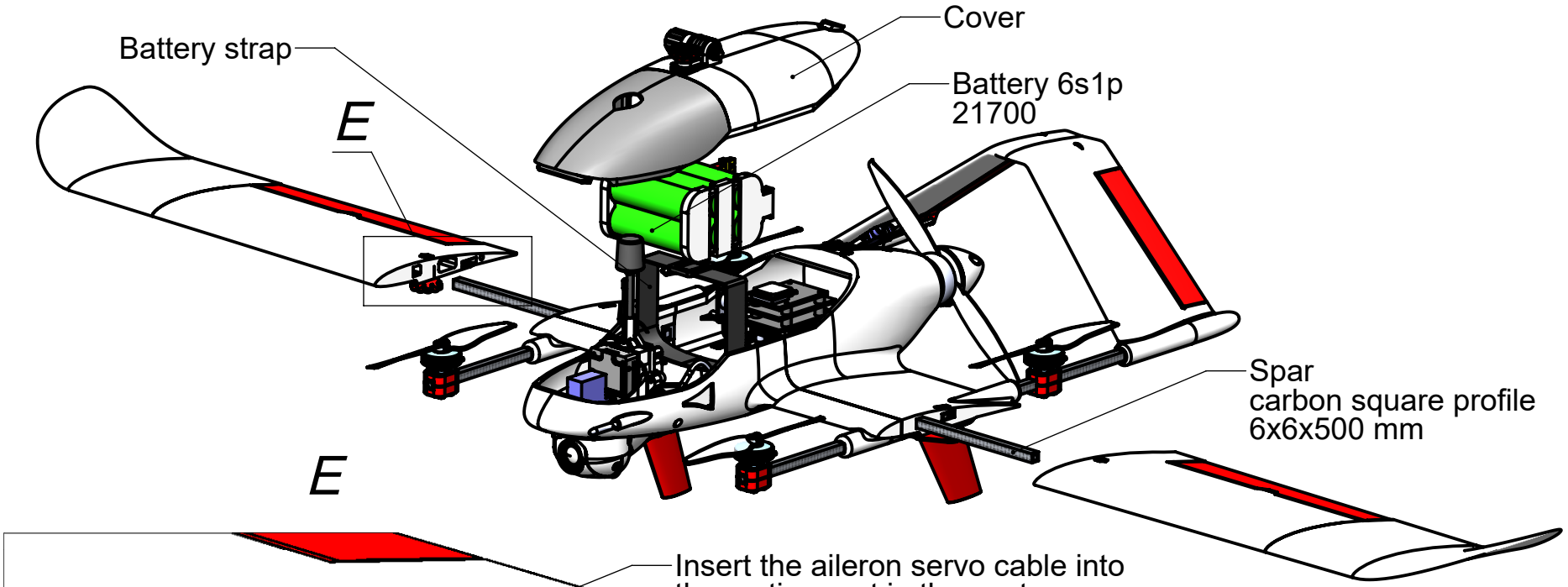
All connections of electronics with the flight controller and speed controllers should be made after installing the stack in the fuselage

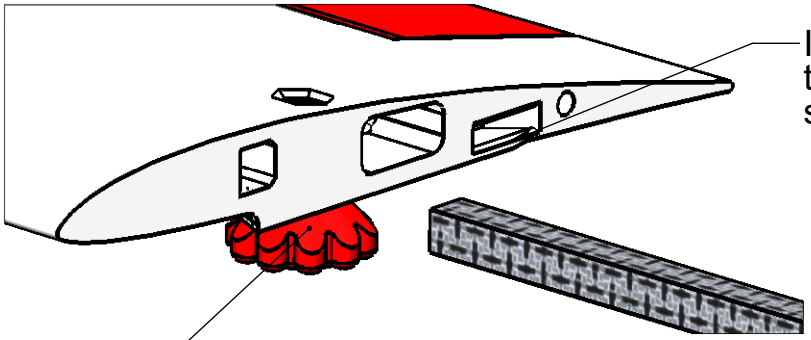
Hardware
Self-tapping screws:
2,2x6,5 - 2 pcs
2,2x9,5 - 5 pcs

Fuselage 4


Secure the wires from the motors with ties to the arms
After installing the stabilizer, make sure that the lift screws do not touch anything, including the pushing propeller
Push the stabilizer until stop
D
D
Holes for cable ties
Tighten the screws on both sides after installing the stabilizer
Connect the stabilizer servo to the FC via extension cables
Route all wires through the center section cable channel

General assembly





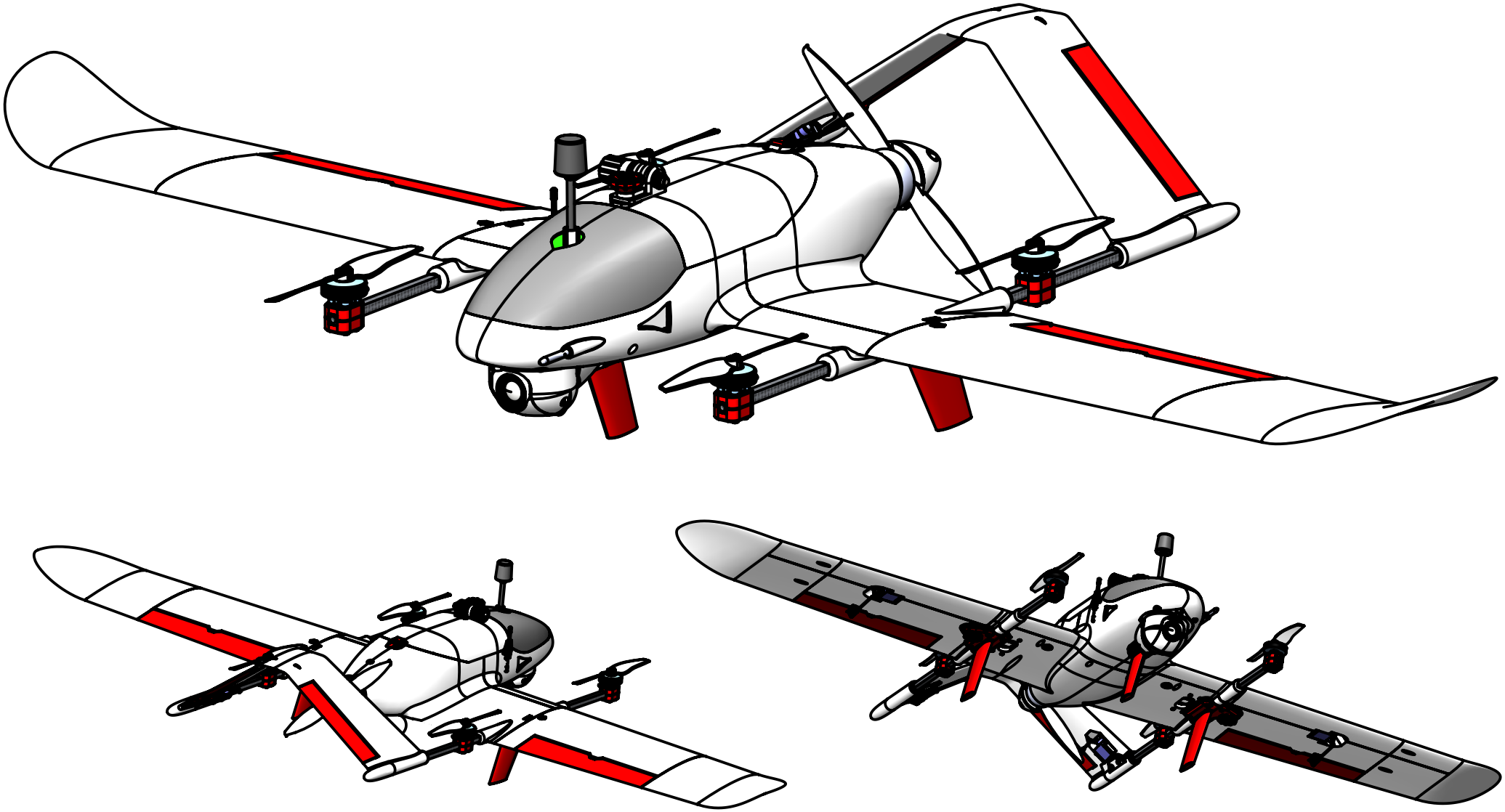
Insert the aileron servo cable into the mating part in the center section, observing the polarity

After installing the console on the spar and connecting the aileron, tighten the knob

ATTENTION!

FOR ALL CHECKS OF ELECTRONICS INDOORS, DUE TO ONBOARD BATTERY CONNECTION, ALL PROPELLERS MUST BE REMOVED FROM THE MOTORS TO AVOID SERIOUS INJURY AND EQUIPMENT DAMAGE

Views of the model



Battery consumption planning

A VTOL aircraft, being a hybrid of a quadcopter and an airplane, has some power supply features, unlike classic airplanes and copters. When planning a flight, it is necessary to take into account that VTOL aircraft consume the battery differently during takeoff, landing, hovering and cruising flight (see information)

It is recommended to choose open spaces without houses or power lines for flights. You must avoid dangerous/prohibited areas along the route.
In difficult weather conditions (rain, snow, wind more than 5 m/s), a decision on a flight must be made after assessing all existing risks of losing the aircraft.

On average, battery consumption in hovering, takeoff and landing modes is 3 (three) times greater than flying in airplane (cruising) mode.
Therefore, the operator must estimate in advance the available battery capacity in watt-hours and distribute it into at least two parts to prevent overdischarge and loss of the aircraft:
1. take-off / landing
2. route flight

Example of the energy rating for a typical flight:

Battery installed 4500 mAh (4.5 Ah), voltage **22.2 V**,
its capacity: 22.2*4.5=**99.5 Wh**
Takeoff/landing takes an average of 4-5 minutes of flight time
time, with a power of **370 W**, (5/60) * 370 = **31 Wh**, which will be:
31/22.2=1.4 Ah=**1400 mAh**.
Remains for horizontal flight: 99.5-31=**68.5 Wh**
Level flight time estimate: (68.5/120)*60=**34 minutes**
Estimated distance in level flight at an average speed of **70 km/h**: 34/60*70 = **~40 km**
Capacity spent during horizontal flight: 68.5/22.2= **3085 mAh**

The above calculation is approximate; the operator must constantly monitor the amount of mAh spent on the ammeter meter, and in no case allow the battery to be overused and the voltage to drop below 18V.
It is recommended to plan a reserve of 500 mAh for unforeseen circumstances (wind, maneuvers)

To simplify the assessment of battery consumption, you can use the following rule: leave at least 25% of the total battery capacity for takeoff/landing and 10% for unforeseen circumstances.

ATTENTION!
Prohibited:

1. **Discharge Li-po battery below 3.2 volts per cell, and Li-Ion below 2.8 volts per cell.**
2. **Go beyond the specified battery capacity on the ammeter meter.**
3. **Fly for a long time with a current exceeding 35 amperes to avoid overheating of the battery.**
4. **Use discharged, unbalanced or faulty batteries.**

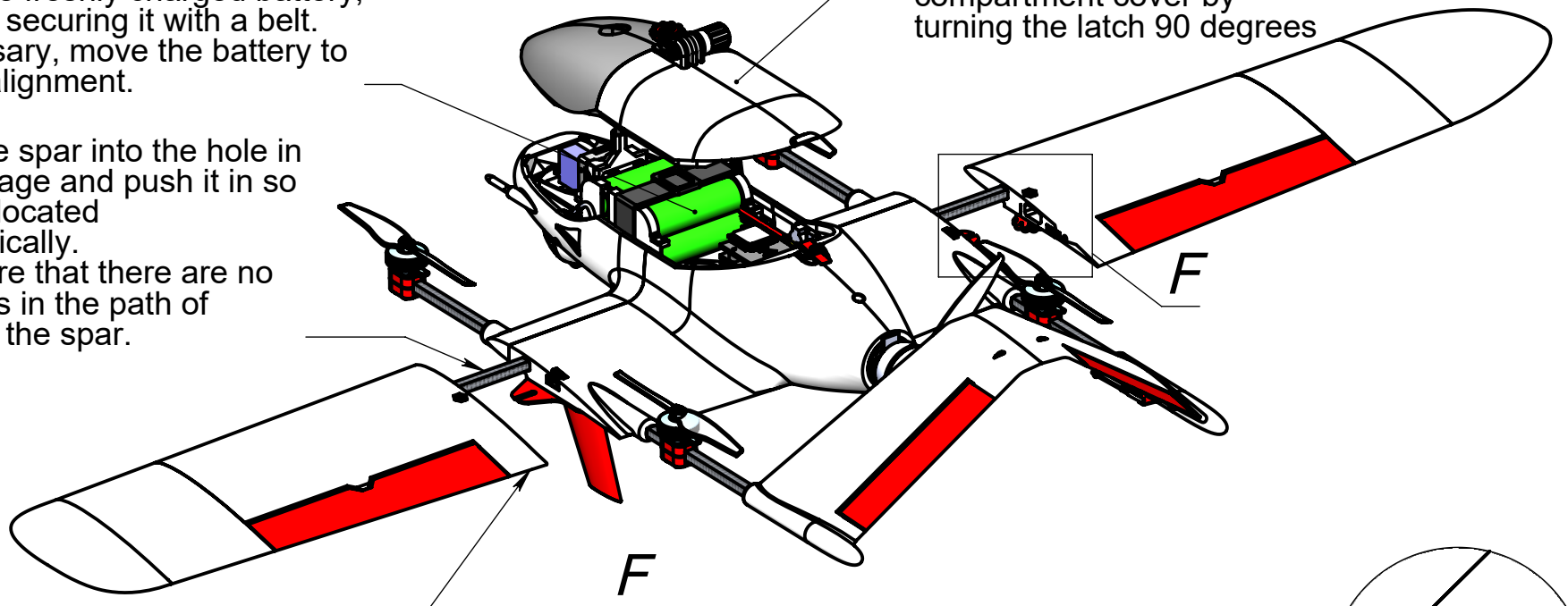
Pre-flight preparation 1

ATTENTION! Avoid excessive efforts when assembling the airplane to avoid damaging it!

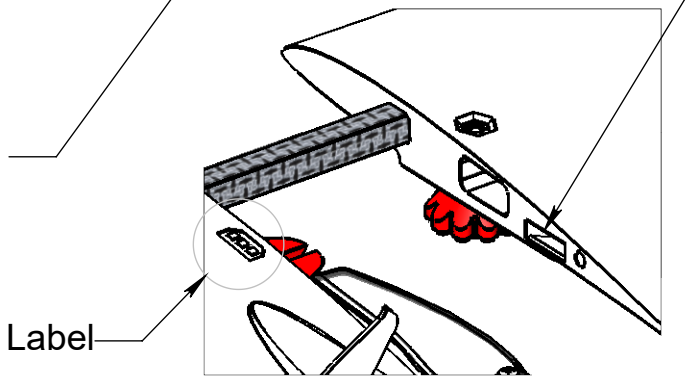
Install the freshly charged battery, carefully securing it with a belt. If necessary, move the battery to correct alignment.

Insert the spar into the hole in the fuselage and push it in so that it is located symmetrically. Make sure that there are no obstacles in the path of inserting the spar.

Remove the battery compartment cover by turning the latch 90 degrees

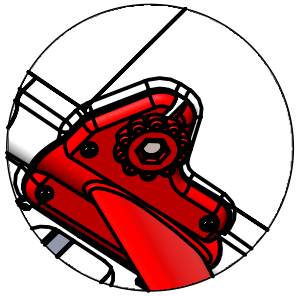


Place the wings on the spar so that the distance to the fuselage is 20-25 mm.



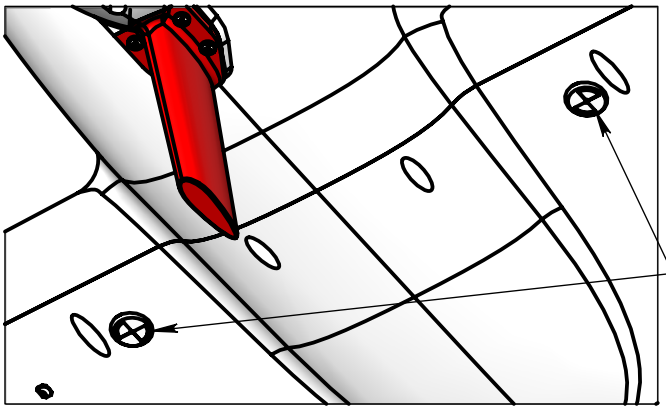
Insert the aileron servo cable into the mating part in the center section, observing the polarity (see label upside)

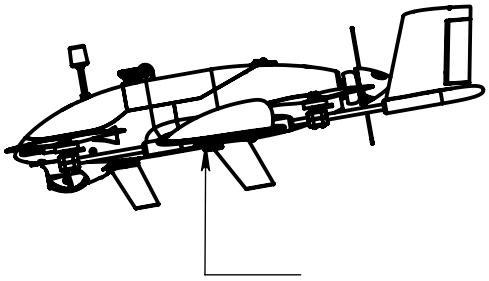
The right wing is installed in the same way as the left one.



Secure the console using the knob, tightening it until it stops.

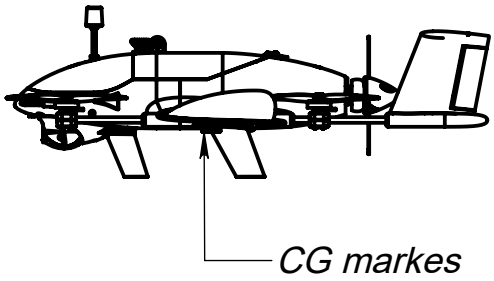
Pre-flight preparation 2



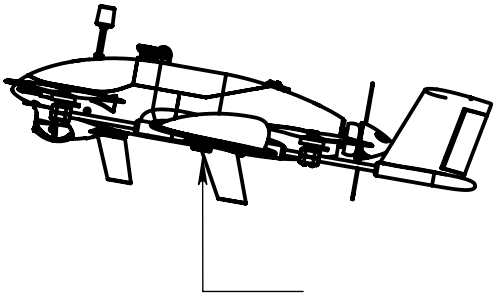


Check the location of the center of gravity (CG):
To do this, you need to place your index fingers on special marks on the bottom of the wing and hang the plane horizontally.

ACCEPTABLE



CORRECT



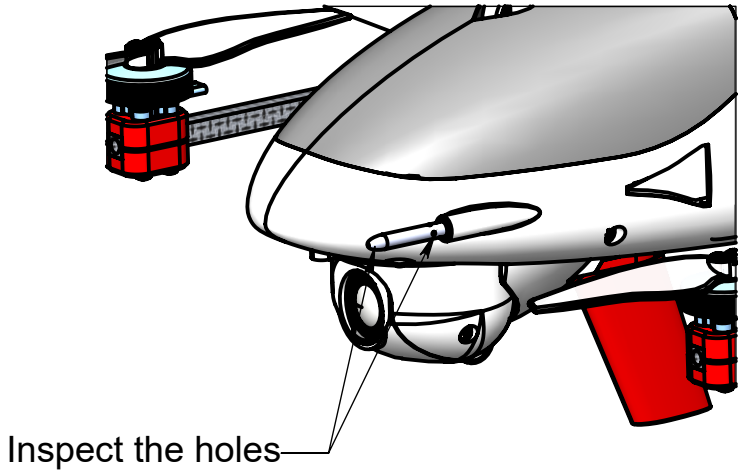
UNACCEPTABLE

ATTENTION! Checking the location of the center of gravity is a critical step in pre-flight preparation.
If the CG is too rearward (the plane is tilted back when hanging)/ this will lead to uncontrollability and loss of the plane!
A slight forward CG is allowed (the airplane is tilted slightly forward when hovering).

Check that all controls on the remote control are in their original positions.
Turn on the control panel by long pressing the POWER button.
Turn on the FPV goggles; to do this, connect the battery cable to the socket.

Connect the battery connector to the FC power connector and place the device on a level place. Close the battery cover
Wait 1 minute until calibration is completed and the system initializes.
Check the connection with the remote control by moving the roll/pitch handle.
Do not remove the plug from the pitot tube!

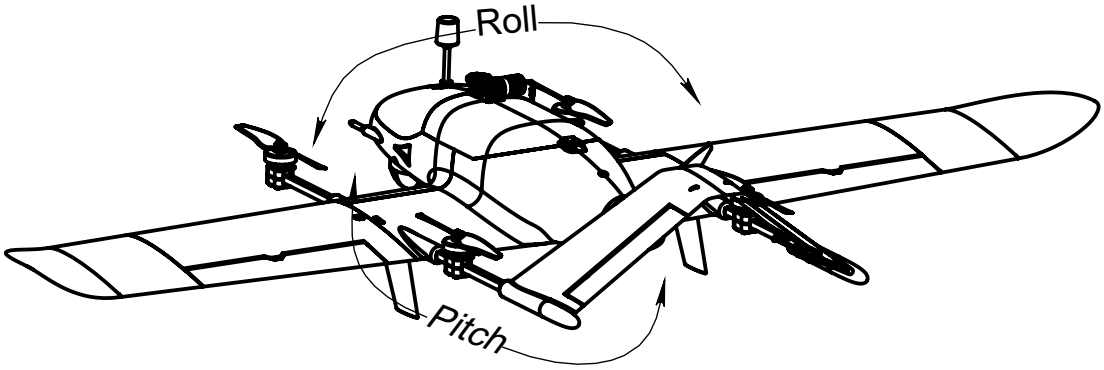
Pre-flight preparation 3



Remove the plug from the airspeed sensor tube (Pitot) 14.
Make sure that the tube holes are clean and that the speed readings on the OSD of the goggles are near zero (small fluctuations of 0-5 m/s are allowed)

It is necessary to carefully blow from a distance of 20-30 cm towards the tube and make sure that the air speed changes its value to more than 5 m/s. If the readings are incorrect, reconnect the battery power by covering the hole in the tube with a cloth.

ATTENTION! Proper initialization and testing of the airspeed sensor is critical to stable flight. Do not blow a direct stream of air into the sensor from a close distance (less than 10 cm) to avoid damaging it.



Check the mode switching with the corresponding remote control toggle switch.
Messages will appear on the OSD of the goggles.

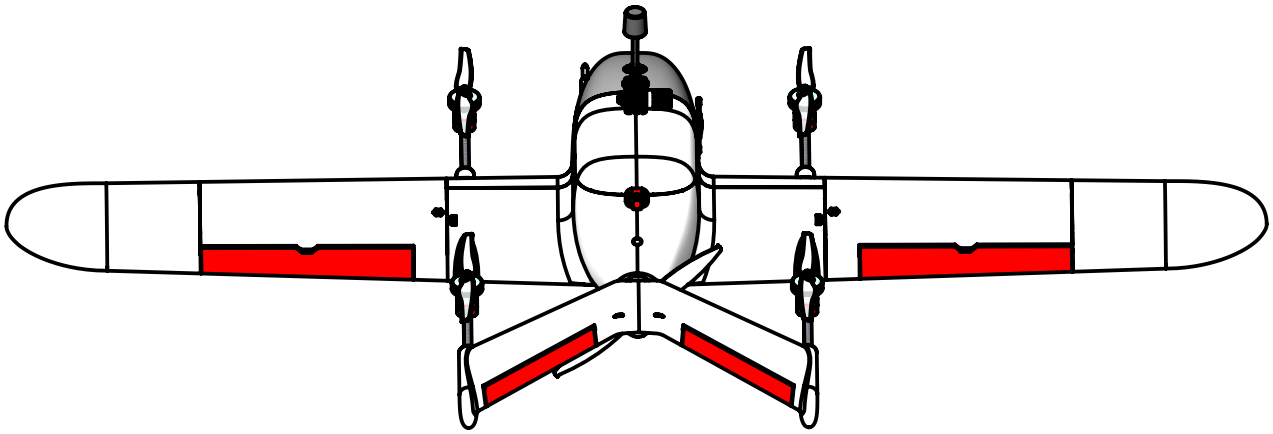
Check rudder deflection in manual mode:
Right stick (pitch): toward you - elevator up, away from you - down
Right stick (roll) left: left aileron up, right down, right: left aileron down, right up.

Check the automatic deflection of the rudders (stabilization)

The aircraft's pitch tilt to dive - elevator up, pitching up - down
Roll tilt to the left: left aileron up, right down.
Tilt right: left aileron down, right aileron up.

Takeoff

Check the goggles' OSD to ensure that the aircraft has reliably determined its location. 1 minute after connecting the power, the number of satellites should be 3-7. For the best result (more than 10 satellites), you can wait another 3-5 minutes for the almanac to be updated inside the GPS receiver. If GPS is not available, it is possible to fly without receiving the launch coordinates. In this case, LOITER mode and RTL mode will not be available.



Before the flight, position the aircraft on a level area with the nose facing away from you, so that no obstacles interfere with takeoff and nothing touches the propellers. Put on your goggles, the remote control and get ready for takeoff..

1. Check that all toggle switches are in their original position (away from you). The mode switch should be in QHOVER mode (flying in quadcopter mode with altitude held)
2. Turn arm switch as far to the right as possible to activate ARM. The propellers will begin to rotate.
3. Smoothly move the throttle up to 75-85% The plane will begin to rise into the air. The throttle stick in the central position (45-55%) allows you to maintain the aircraft's altitude, and in the lower position (40-20%) it gives the command to descend.
4. Use the roll and pitch stick to hold the airplane in the desired position. In QHOVER mode, camera rotation does not work; the handle controls the course of the device.
5. Turn the plane into the wind. Gain a safe height of 25-40 meters. Level the plane to the horizon.
6. Enable FWBA mode by setting the mode switch to the correct position. The aircraft will begin to automatically transition from copter mode to airplane mode. It is not recommended to interfere with the control of the aircraft during transition mode.

ATTENTION!
In case of loss of orientation and/or control of the aircraft, it is necessary to immediately move all (except arm switch) toggle switches to their neutral position (away from you), set the throttle stick to the central position, the QHOVER mode will turn on, then take all measures to return the aircraft or for an emergency landing.

Flight

The flight along the route is carried out as standard for airplanes. If there is a GPS signal, the current coordinates will be displayed on the OSD, in addition, the arrow will point to the starting point.
Cruising flight speed: 65-75 km/h. At this speed there will be minimal battery consumption.

If GPS is unavailable, orientation must be performed visually. Speed will be displayed based on the airspeed sensor, and altitude based on the built-in barometer.

In FWBA mode, the aircraft has angle restrictions: roll +-35 degrees, pitch +25-20 degrees. During flight, you can rotate the camera horizontally and tilt it vertically.

If you need to inspect a specific area of the terrain, you can use the LOITER mode.
To do this, you need to move the SC mode switch to the bottom position (on oneself). The plane will begin a circular motion with a right bank around the point and a radius of 120 meters where this mode was turned on.

When LOITER is turned on, the aircraft is automatically controlled in roll, throttle and pitch. At this time, you can only control the camera's tilt and pan.

To exit the mode, you must switch the mode switch to FWBA or QHOVER mode.

ATTENTION!
If the GPS signal is lost, the LOITER and QRTL modes will not work correctly or will be unavailable. It is prohibited to use them in conditions of GPS suppression.

If the GPS signal is normal, you can use automatic return to the starting point by turning on the QRTL mode. To do this, you need to turn the QRTL toggle switch all the way up. The mode works in any position of the mode switch.

In case of loss of communication with the remote control (FAILSAFE), the QRTL mode will also automatically turn on.

When turned on, if the plane is far enough from the starting point, it will automatically enter airplane mode and begin to move. When approaching, at a certain distance, it will automatically switch to copter mode, perform braking, then hover over the take-off point and begin to descend.
After touching the ground, it will turn off the engines. It is recommended to always force DISARM.

ATTENTION!
Always perform the DISARM procedure before handling the aircraft to prevent the engines from starting unintentionally and causing injury.

Landing

ATTENTION!
In case of loss of orientation and/or control of the device, it is necessary to immediately move all (except arm switch) toggle switches to their neutral position (away from you), set the throttle stick to the central position, the QHOVER mode will turn on, then take all measures to return the aircraft or for an emergency landing .

Landing should be carried out with sufficient battery charge (see flight energy assessment).

Before landing, it is recommended to level the plane with its nose against the wind and set the throttle to the middle position. Then switch to QHOVER mode by turning the mode toggle switch to the upper position (away from you).

The aircraft will begin to automatically enter copter mode. Manual correction during transition between modes is not recommended.
Once the transition to QHOVER mode is complete, use the roll, pitch, and heading controls to steer the aircraft toward your desired landing location.
During approach, descend to a safe height of 3-5 meters.
To reduce forward speed and hover, you need to pull the pitch stick slightly towards yourself.

After the device is above the landing point, smoothly move the throttle control to the lower position (20-40%). The plane will begin to descend.

Immediately after touching, DISARM the device.

After this, you are allowed to move the device and perform post-flight preparation.

ATTENTION!
In case of emergency, landing in FWBA mode is allowed.
The risks of damage to the aircraft should be assessed before landing in this mode.

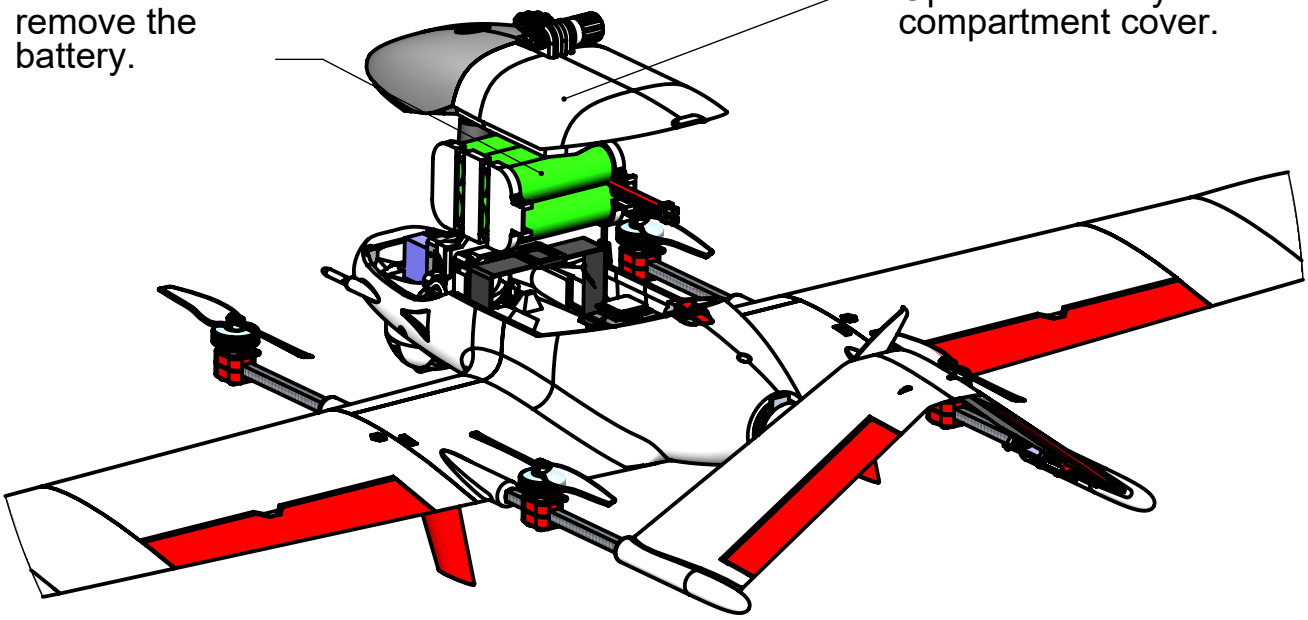
EMERGENCY LANDING IN FWBA MODE

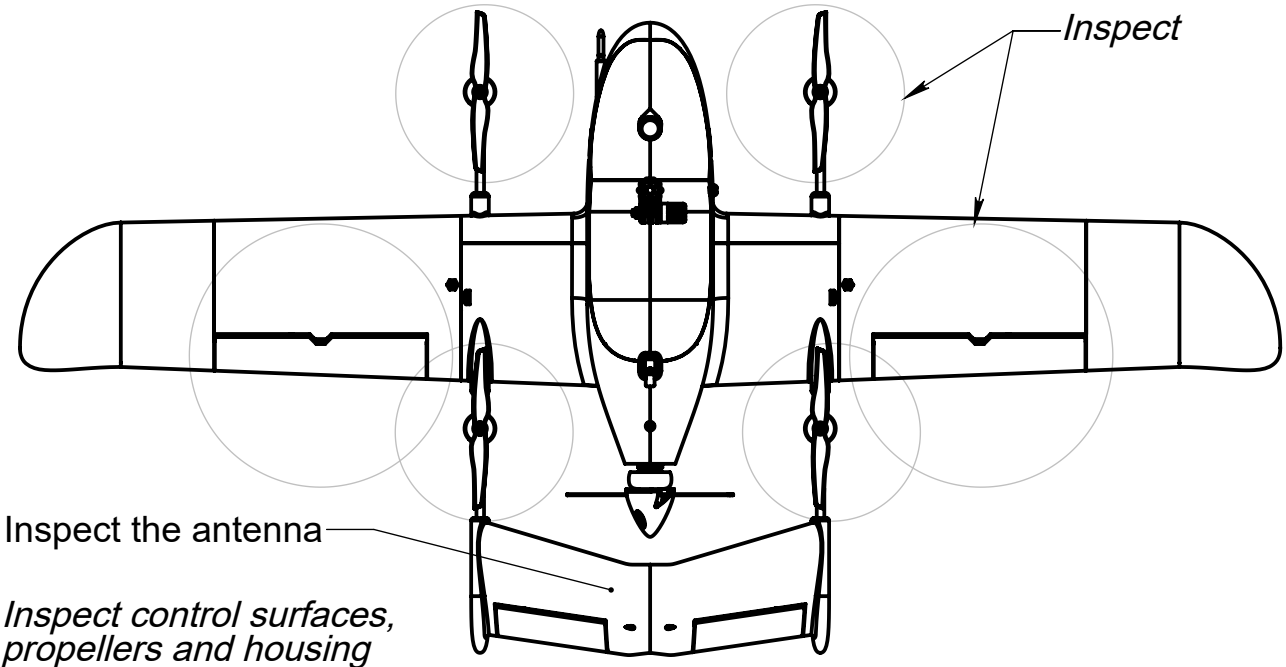
Direct the plane to the starting point, setting the throttle mode in accordance with the remaining battery charge.
Choose a level area without obstacles that is at least 50 meters long.
If possible, fly over the landing site to assess it.
Smoothly descend along the “box”, performing 90-degree turns.
Remember to maintain a speed of at least 70 km/h.
At an altitude of 5-10 meters, begin entering the glide path. Set the gas mode to minimum, speed 60-65 km/h. Smoothly descend. Before touching down, take the pitch stick slightly towards you, set the throttle stick to the zero position (towards you).
After touching and stopping, perform DISARM.

Post-flight preparation 1

Disconnect and remove the battery.

Open the battery compartment cover.

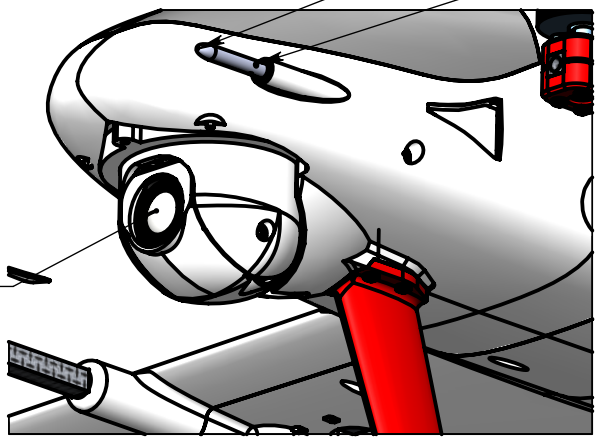




Inspect the antenna

Inspect control surfaces, propellers and housing parts for damage

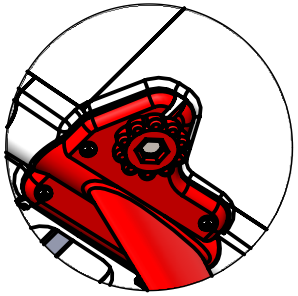
Inspect pitot tube holes



Clean up the camera lens

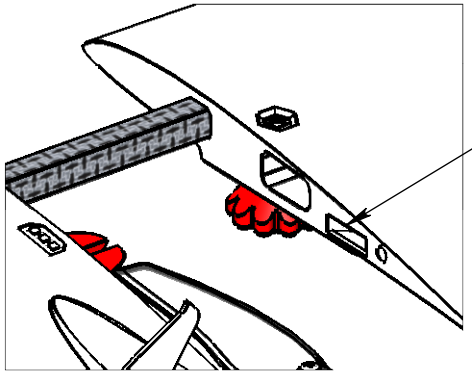
Inspect the aircraft for damage.
Clean from dust, dirt and other deposits.
Pay special attention to the cleanliness of the pitot tube, chamber, propellers and control surfaces.

Post-flight preparation 2



Unscrew the knob

After disconnecting the aileron wires, remove the consoles and pull out the spar



Disconnect the aileron servo cable

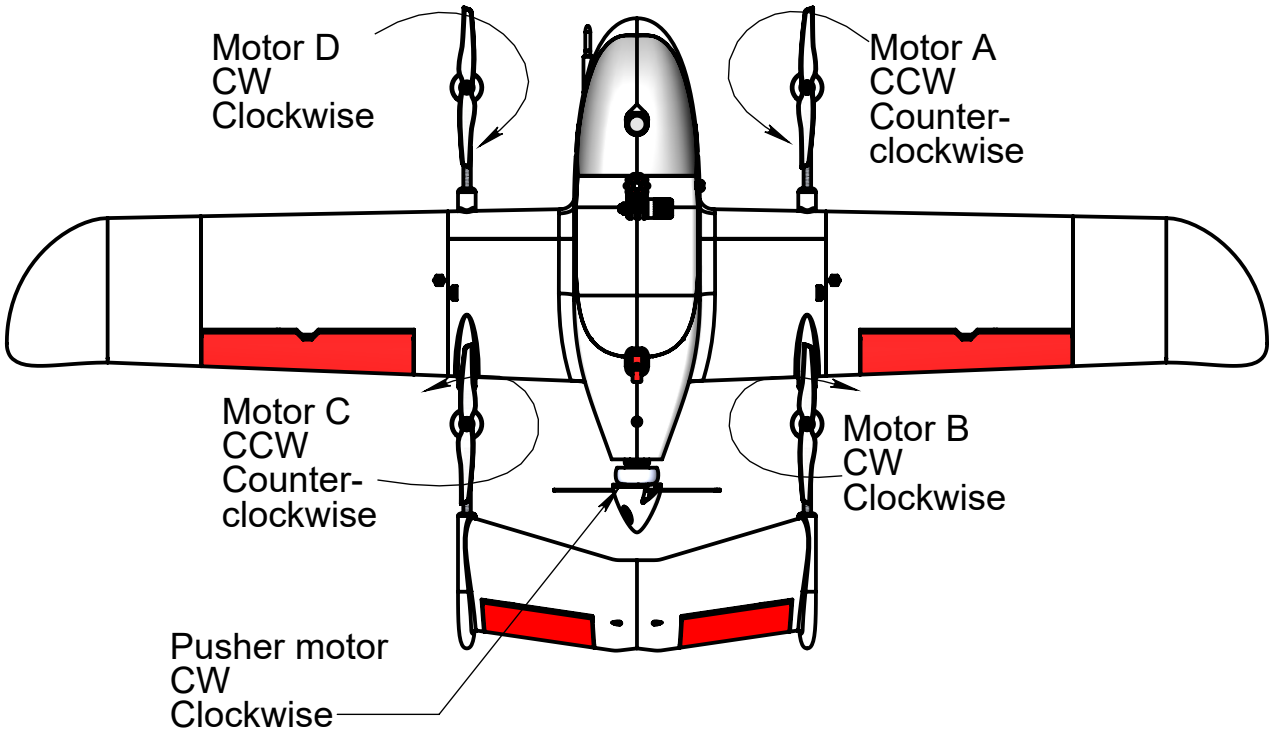
The right wing is removing in the same way as the left one.

Maintenance

AdeleX-10 does not require time-consuming special maintenance.
It is only necessary to inspect the device every time during pre-flight and post-flight preparations for damage. Pay special attention to the propellers, control surfaces, the pitot tube and the camera.
It is prohibited to fly with damaged propellers and/or faulty rudder servos.

If cracks or chips appear on the body elements, repair them using cyanoacrylate glue or replace the part.
Periodically lubricate the rubbing surfaces of the steering wheels and suspension with a small amount of thick silicone grease, such as SILICOT.

Motor rotation diagram



We wish you successful flights and trouble-free operation of aircraft!