WUDFLY_BANDITO USER MANUAL

SOCIALS

instagram.com/wudfly_/

facebook.com/groups/799759899086856

reddit.com/r/3DPrintedAircraft

WUDFLY_DEV_LAB

Check your downloads pack for the invite!

youtube.com/@WUDFLY

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Be sure to use the following hashtags when posting your awesome flight footage online!

#WUDFLY #WUDFLY_BANDITO #FPVWING

CONTENTS

INTRODUCTION

BANDITO is a sub-250 g freestyle FPV wing built to be fast, capable, and easy to live with. It is easy to fly, extremely fast, and still happy flying slowly with easy landings. You can rip at almost 200 km/h or cruise just above stall speed, catching air like a bird.

Digital video gives you an excellent picture, whether you are diving into bandos or cruising into the sunset.

I built this plane because I wanted something I could take with me on trips out into nature to find beautiful places to fly, alone or with buddies. I am sharing it with you in the hope that it brings you the same sense of freedom, fun, and escape that it brings me.

Please treat people, property, and nature with respect when you fly. Fly responsibly, respect local rules, and help protect the freedom we all have to enjoy this hobby.

Please also respect the work behind this project by not sharing or redistributing these files. Official purchases are what support continued development, future updates, and new aircraft. Every sale supports me directly and helps keep this project moving forward as a one-man operation.

AIRCRAFT SPECIFICATIONS

CONTROL_INPUT	Remote FPV, Autonomous Waypoint
TOP_SPEED	up to 55.0 m/s (198 km/h)
STALL_SPEED	8.3 m/s (30 km/h)
AUW	<249 g
ENDURANCE	20+ min
WINGSPAN	600 mm
WING_AREA	6.5 dm^2
WING_LOADING	38 g/dm^2
CONSTRUCTION	3D-printed LW-PLA

GETTING AIRBORNE MADE EASY

BANDITO has been designed to make the build process as simple and repeatable as possible. All parts are keyed to one another or align automatically, and the more demanding assembly steps are supported with jigs to keep everything easy and accurate. The airframe goes together quickly, and moving the electronics package into a replacement airframe is fast, requiring soldering only the motor phase wires.

The recommended electronics package removes the usual uncertainty around fitment and balance. There is no need to guess whether components will fit or whether the CG will still work. The aircraft is designed around these components and balances correctly when they are installed as intended.

Printing is equally straightforward. BANDITO does not require vase mode, only simple single-wall printing with 3% to 10% gyroid infill. If you use a Bambu Lab printer my part studios make this even easier.

Flight controller setup is kept just as simple. Uploading my INAV configuration through the CLI loads the key presets, including battery voltage warnings and cutoffs, tuned auto-launch settings, and a proven baseline PID tune.

COMPONENTS AND HARDWARE

ICON	COMPONENT	SPECIFICATION / DETAILS	ICON	COMPONENT	SPECIFICATION / DETAILS
	FLIGHT CONTROLLER	Speedybee F405 WING MINI or MATEK F405 WMO		CARBON FIBRE TUBE	3mm 575mm long
	ELRS RECEIVER	Radiomaster RP2		MACHINE SCREWS (FLAT TOP HEX HEAD)	4x M2x8 + 2x M2x20
	HD VIDEO SYSTEM	DJI O4 Lite		MAGNETS	16x 3x1.5mm
	MOTOR	Betafpv Lava 1506 4200kv		XT30 PLUGS	As required
	SERVOS	2x DSPower 4.3g metal gear		DJI HDVTX 100mm EXTENSION CABLE	100mm extension cable for DJI O4 Lite
	BATTERY	GNB 4s 1100mah Li-HV (XT30)		70mm 18AWG WIRE (+ AND -)	70mm 18AWG wire (+ and -)
	ESC	EMAX 25A lightning or EMAX 30A Bullet		DOUBLE SIDED TAPE	As required
	PROPELLER	HQProp 3x3x3		SUPER GLUE	As required
	SERVO LINKAGE RODS AND CLIPS	1.2mm diameter			

QUICK START GUIDE

BENCH TEST ELECTRONICS

Test all electronic components and ensure they work correctly.

PRINT AIRFRAME

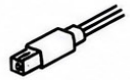
Print all airframe parts.

1

ASSEMBLE AIRFRAME

Assemble the airframe using the printed parts and required hardware.

2



FIT ELECTRONICS

Install and connect all electronics in the aircraft.

3

INAV CONFIG

Configure INAV with the aircraft fully assembled.

4

PRE-FLIGHT CHECKS

Check control surfaces, throws, servo logic, fail-safes and all systems.

5

FLY

Your aircraft is ready. Have a safe and enjoyable flight!

NOTE: Bench testing early helps you identify any issues before final assembly and avoids rework later on.

PRINTING

PRINTING LW_PLA

Most of the BANDITO airframe is printed from foaming LW_PLA. Use the supplied WUDFLY LW_PLA print profiles if you are printing on a compatible Bambu Lab X1 / X1C / P1S / P1P printer.

If you are using a different printer, you will need to use or calibrate a suitable foaming LW_PLA profile for your machine. The important goal is to produce clean, consistent parts that are close to the masses listed in the BOM spreadsheet.

Because BANDITO is designed around a strict sub-250 g target, printed part mass matters. The BOM spreadsheet includes reference masses for the individual airframe parts, so use these as a quick check after printing. Small variations are normal, but if your parts are consistently much heavier than the listed values, your LW_PLA flow, foaming behaviour, or slicer settings may need adjustment.

The following steps show the required part orientation and support placement. Some areas also require supports to be blocked. If extra supports are generated by mistake, the part will usually still print, but it may take longer and require more cleanup.

LW-PLA prints may need light post-processing after printing. Remove strings, blobs, and support marks as needed, but focus on fitment rather than cosmetics. The parts should align correctly, close without large gaps, and assemble without forcing.

LW_PLA FILAMENT SETTINGS

MATERIAL	
Filament type	PLA
Filament diameter	1.75 mm
Filament density	0.6 g/cm³
Filament flow ratio	0.48
Max volumetric speed	10 mm³/s

TEMPERATURE	
Nozzle temperature	250°C
Initial layer nozzle	250°C
Nozzle range	190–270°C
Build plate temperature	55°C
Initial layer bed	55°C
Cool / hot / textured plate	55°C
Vitrification temperature	55°C

COOLING	
Fan off for first layers	First 1 layer
Fan minimum speed	20%
Fan maximum speed	30%
Auxiliary / additional fan	20%
Overhang fan enabled	Yes
Overhang fan speed	100%
Overhang fan threshold	50%
Slow down for layer cooling	Enabled
Slow down layer time	8 s
Minimum cooling speed	20 mm/s

RETRACTION / EXTRUSION	
Retraction length	0.7 mm
Retraction speed	30 mm/s
Min travel before retract	2 mm
Retract before wipe	100%
Wipe distance	2 mm
Z-hop	0 mm
Pressure advance	Disabled

LW_PLA PROCESS SETTINGS

CORE SETUP	
Process profile	**Process - WUDFLY COLORFABB LW_PLA**
Compatible printers	**X1C / X1 / P1S, 0.4 mm**
Base profile	**0.20mm Standard @BBL X1C**
Layer height	**0.24 mm**
Initial layer height	**0.24 mm**
Default line width	**0.4 mm**
Initial layer line width	**0.4 mm**
Print sequence	**By layer**

WALLS / SHELLS	
Wall loops	**2**
Wall generator	**Arachne**
Wall / infill order	**Outer / inner / infill**
Top shell layers	**3**
Bottom shell layers	**3**
Top shell thickness	**1.2 mm**
Bottom shell thickness	**1.2 mm**
Top / bottom pattern	**Monotonic**

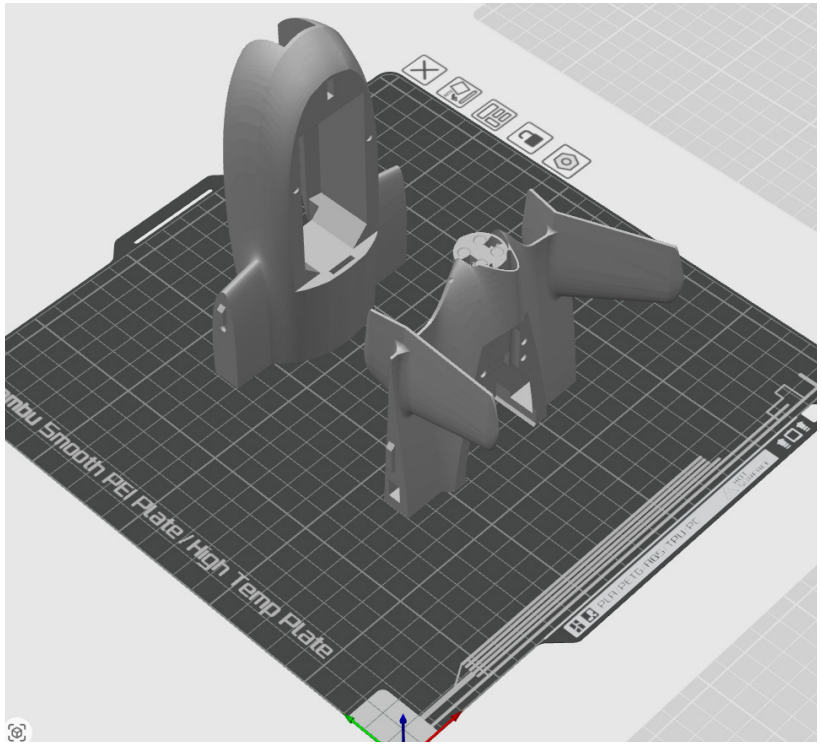
INFILL / SURFACES	
Sparse infill density	**15%**
Sparse infill pattern	**Grid**
Internal solid infill	**Zig-zag**
Infill direction	**45°**
Infill / wall overlap	**50%**
Minimum sparse infill area	**15 mm²**
Seam position	**Back**
Elephant foot compensation	**0.15 mm**

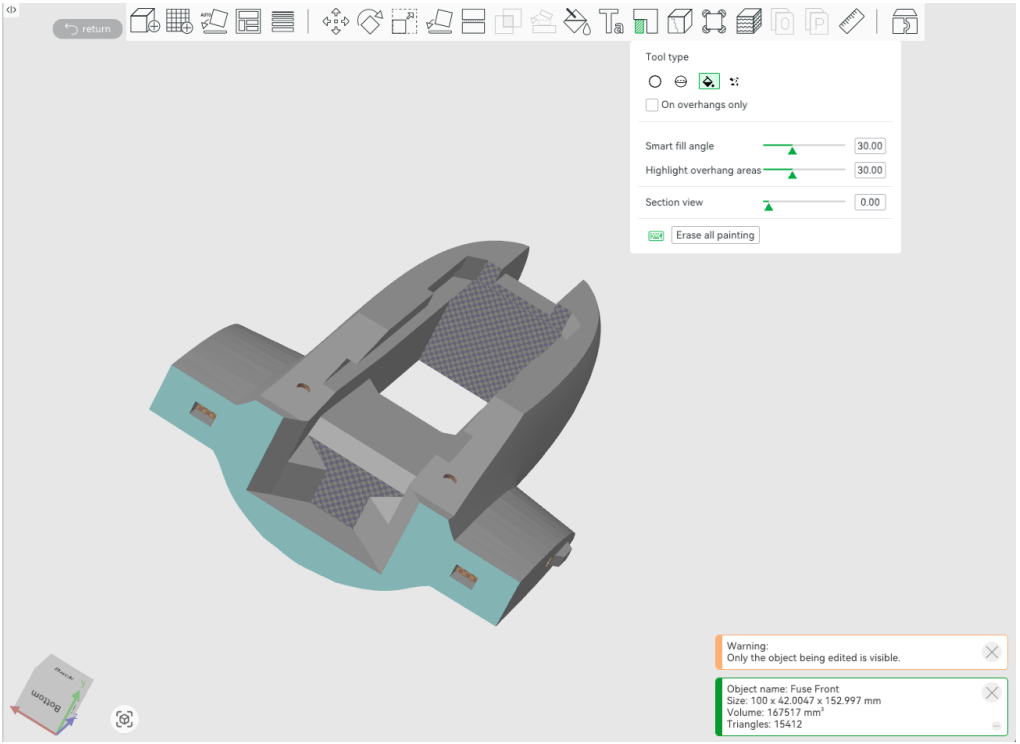
SPEEDS	
Initial layer speed	**20 mm/s**
Initial layer infill	**20 mm/s**
Outer wall speed	**50 mm/s**
Inner wall speed	**50 mm/s**
Sparse infill speed	**50 mm/s**
Internal solid infill	**50 mm/s**
Bridge speed	**50 mm/s**
Gap infill speed	**50 mm/s**
Top surface speed	**50 mm/s**
Travel speed	**500 mm/s**

ACCELERATION / FLOW	
Default acceleration	**10,000 mm/s²**
Initial layer acceleration	**500 mm/s²**
Outer wall acceleration	**5,000 mm/s²**
Top surface acceleration	**2,000 mm/s²**
Sparse infill acceleration	**100%**
Default jerk	**0**
Travel jerk	**9**
Print flow ratio	**1.00**
Bridge flow	**1.00**

PRINT AIDS / SUPPORT	
Supports	**Disabled**
Brim	**Disabled**
Raft layers	**0**
Ironing	**Disabled**
Arc fitting	**Enabled**
Overhang speed	**Disabled**
Detect overhang wall	**Enabled**
Detect thin wall	**Disabled**

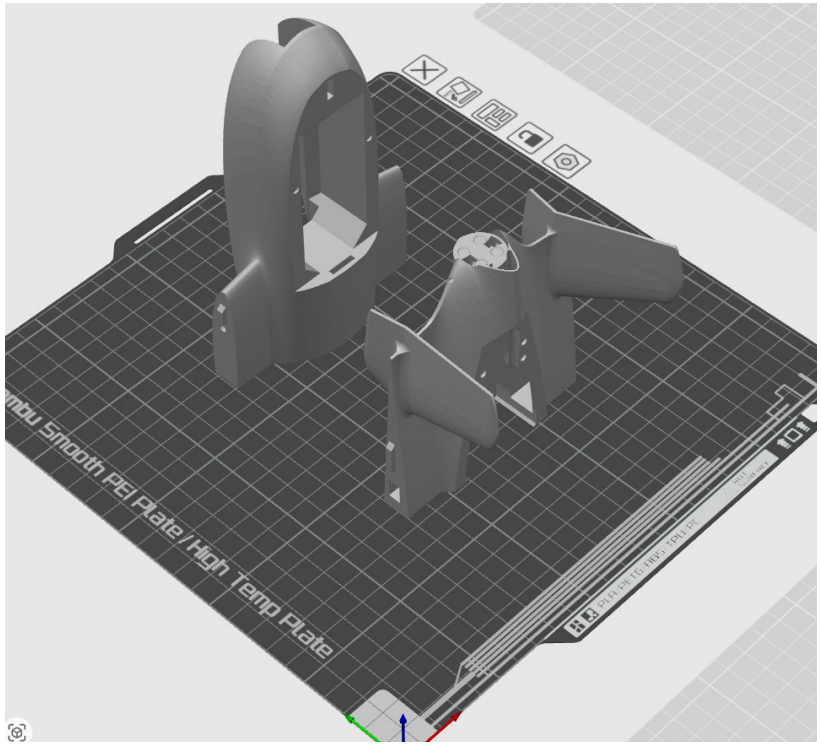
STEP 1 BANDITO_FUSE_FRONT

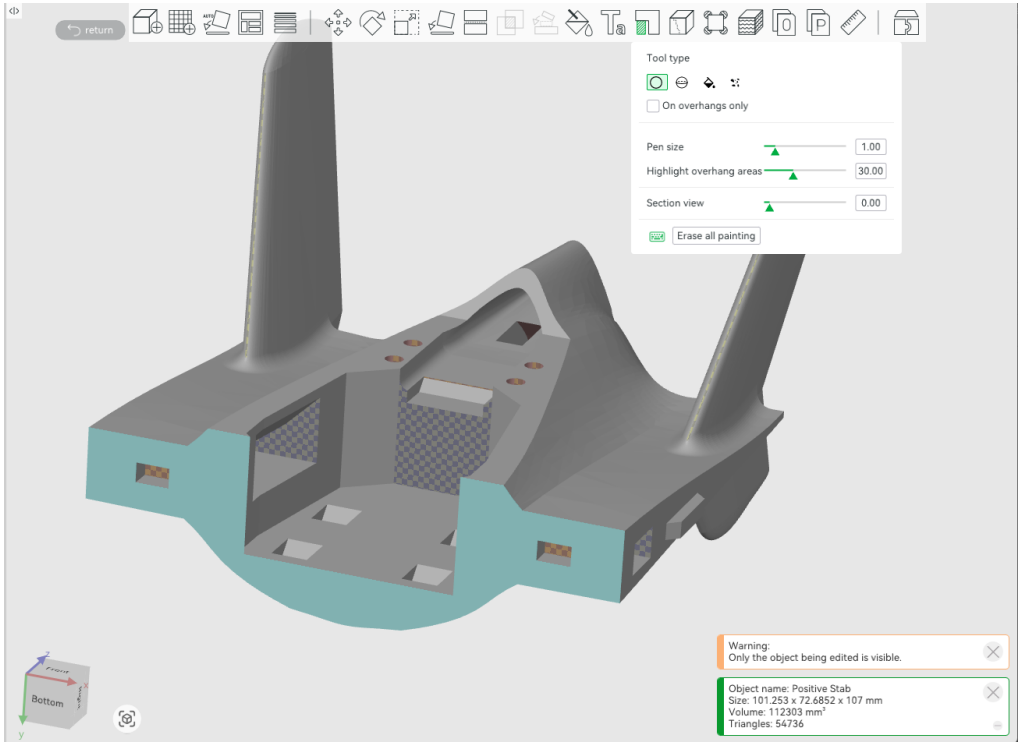




Set the support painting tool to Fill, then select the overhanging surfaces at the front of the FC bay and nose. Prevent supports from being generated on the fuselage tab slots and magnet recesses.

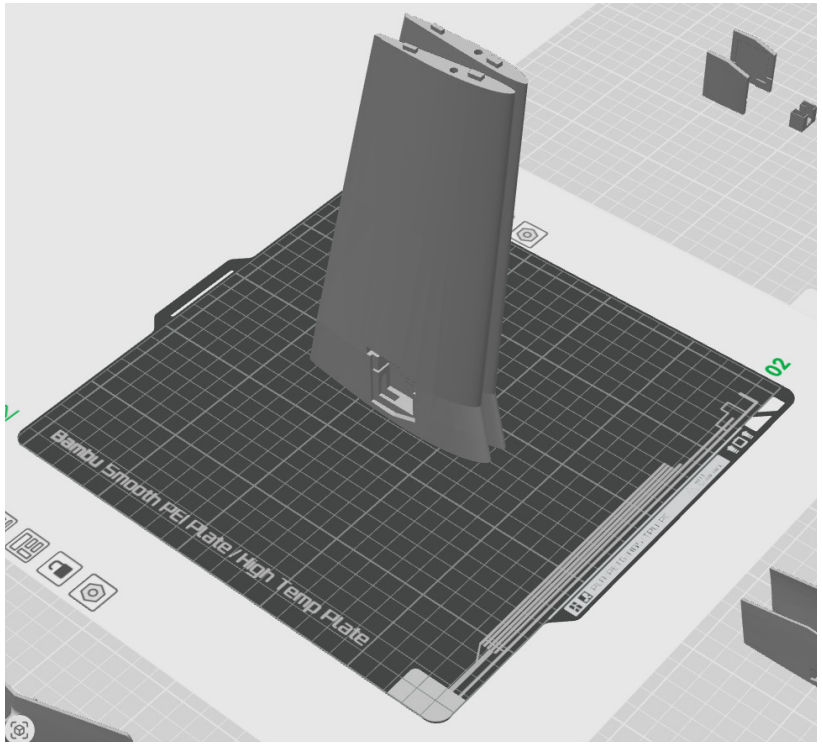
STEP 2 BANDITO_FUSE_REAR





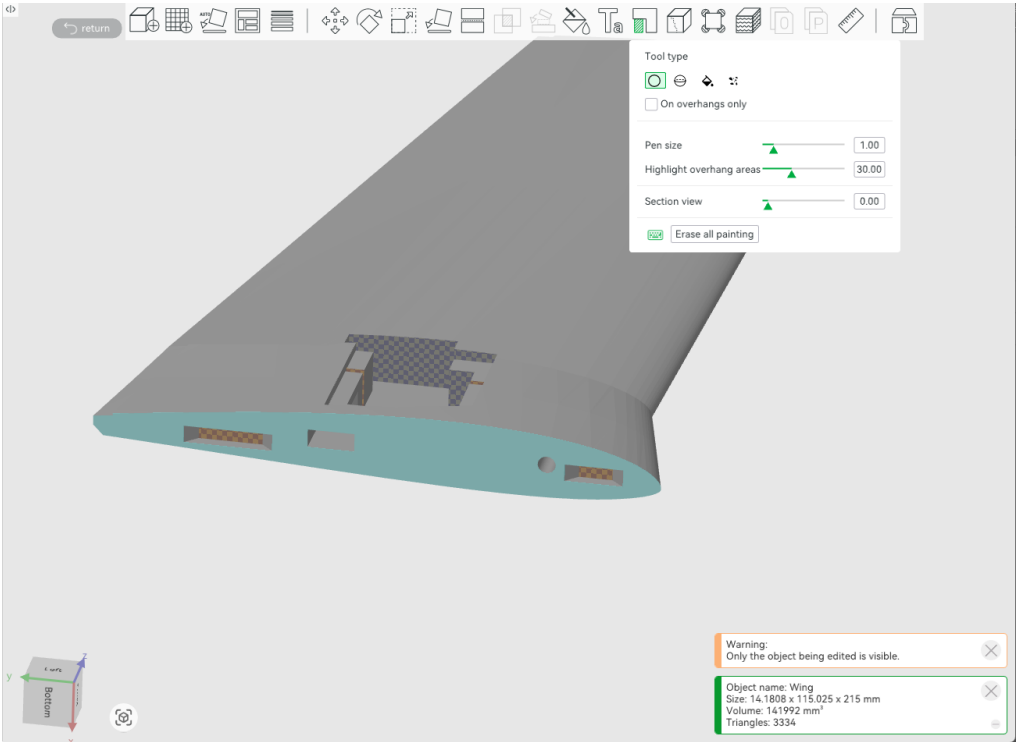
Set the support painting tool to Fill and paint the overhanging surfaces on the wire channels, GPS/RX bays, and rear section of the FC bay as shown above. Then exclude the red shaded areas from support generation.

STEP 3 BANDITO_WING



NO SUPPORTS

SUPPORT

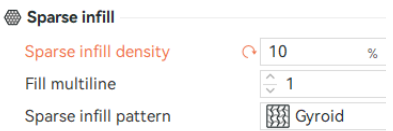


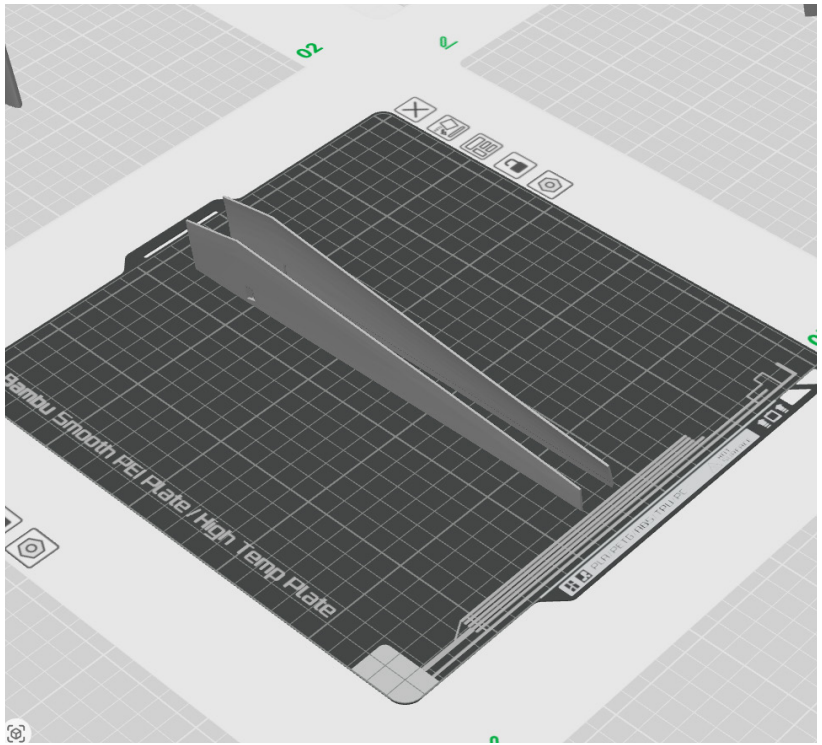
Set the support painting tool to Fill and select the overhanging surfaces inside the servo pocket. Disable support generation in the servo slot and wing root.

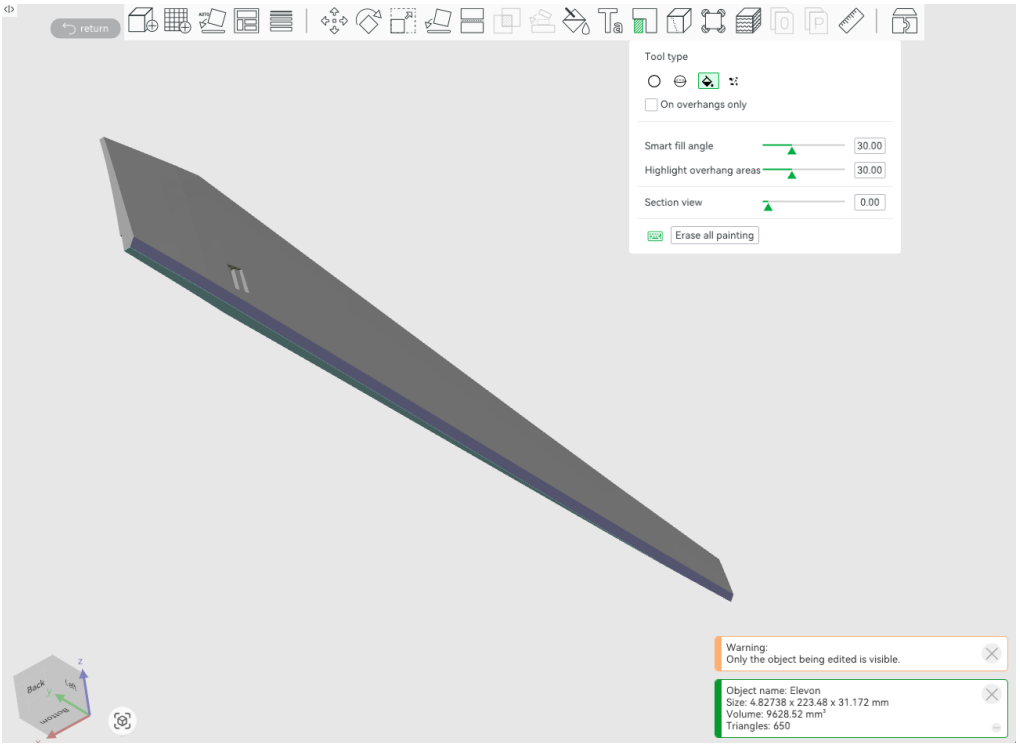
STEP 4 BANDITO_ELEVON

NO SUPPORTS

SUPPORT

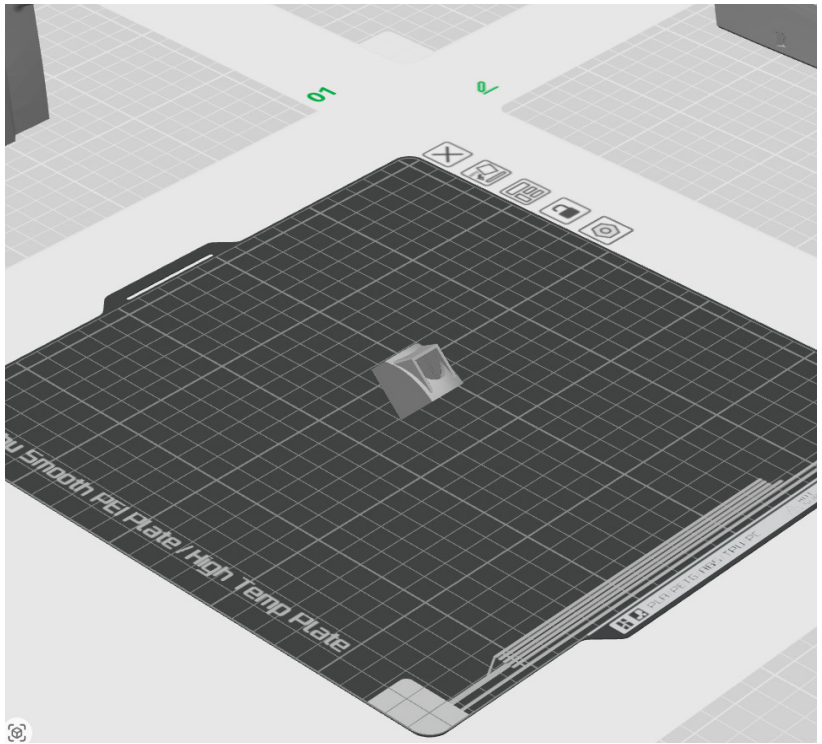


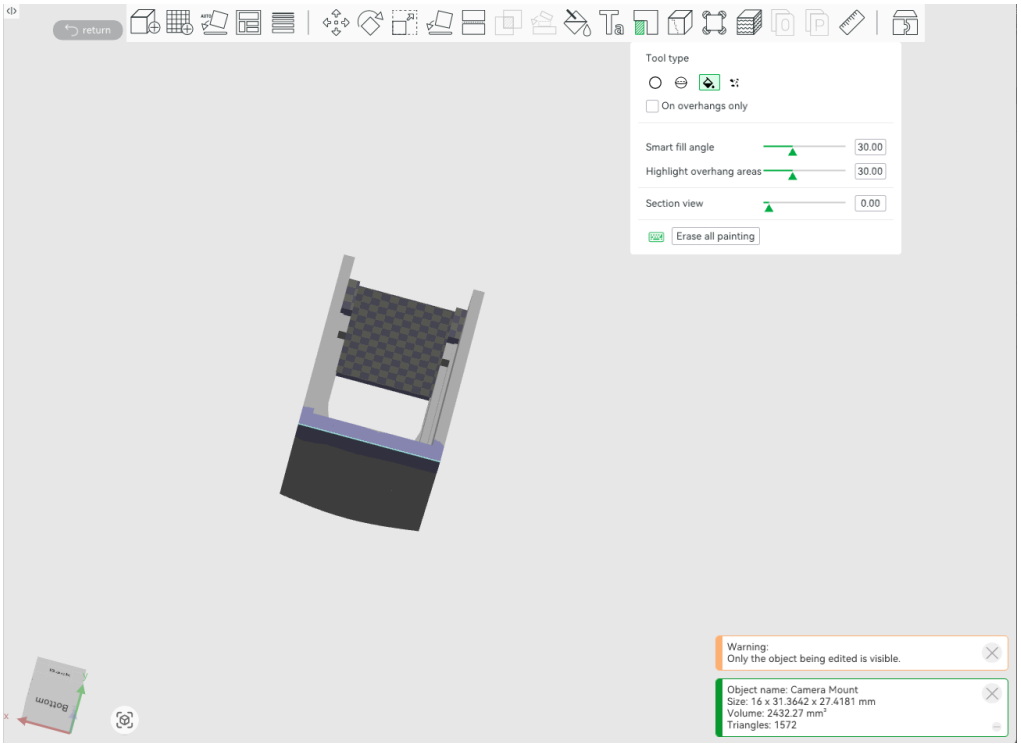




Orient the part on the flat leading-edge surface of the elevon so it prints vertically. Apply painted supports to the angled section on the underside of the elevon, and note the higher infill percentage used for these parts.

STEP 5 BANDITO_CAMERA_MOUNT



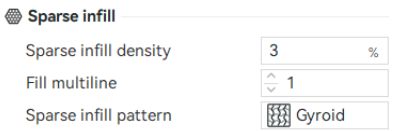


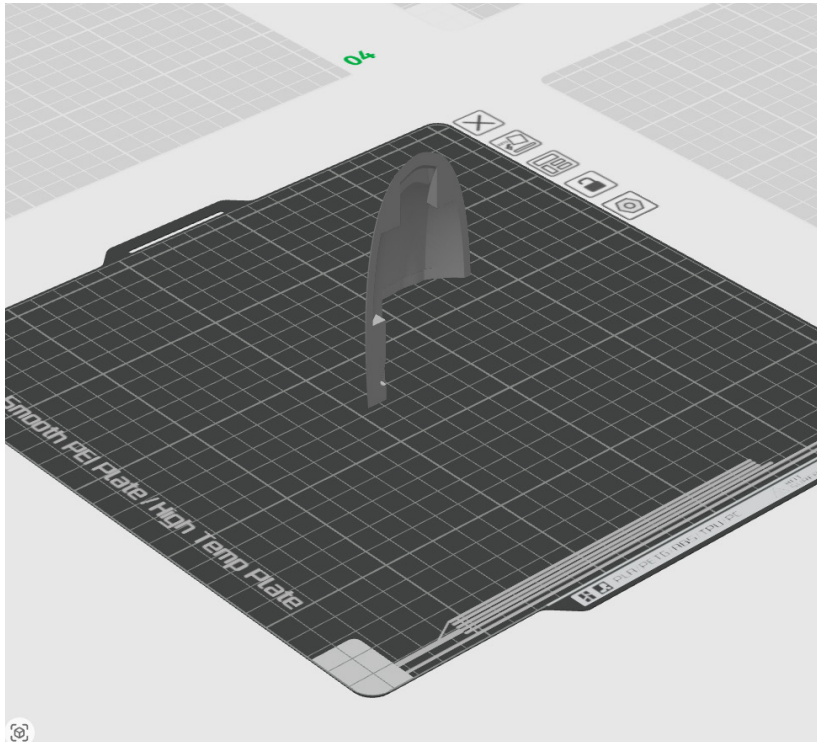
Orient the part at 45° to the build plate, then paint supports along the contact edges and across the overhanging top surface.

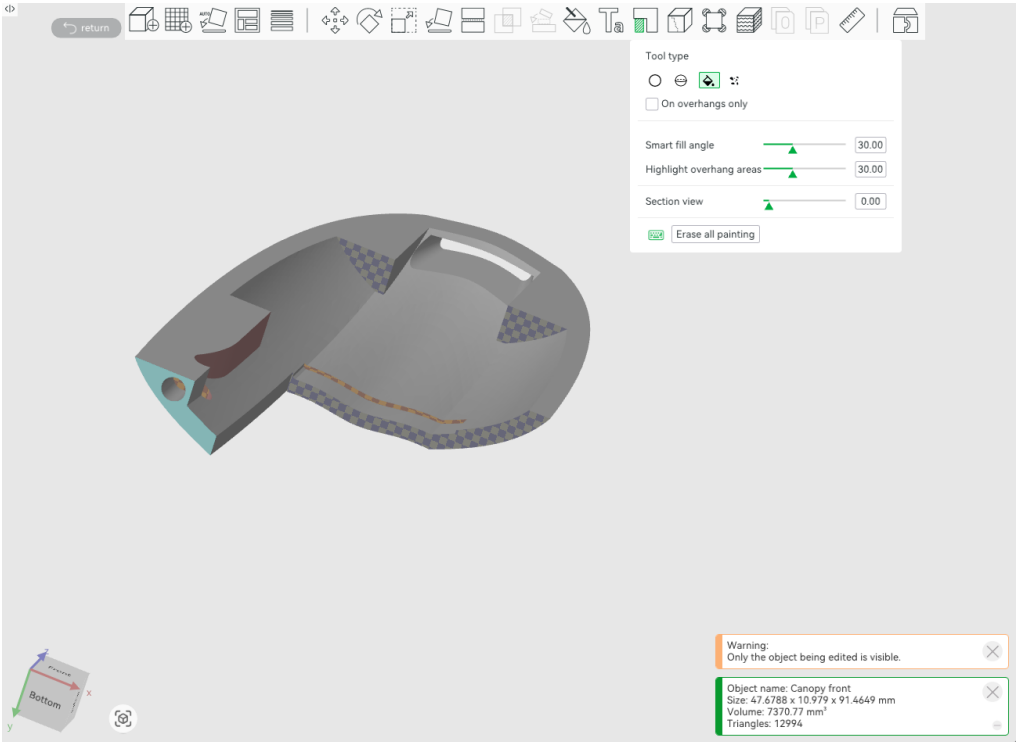
STEP 6 BANDITO_CANOPY_FRONT

NO SUPPORTS

SUPPORT





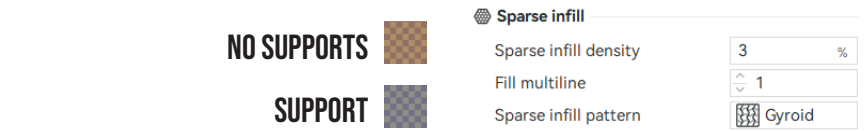


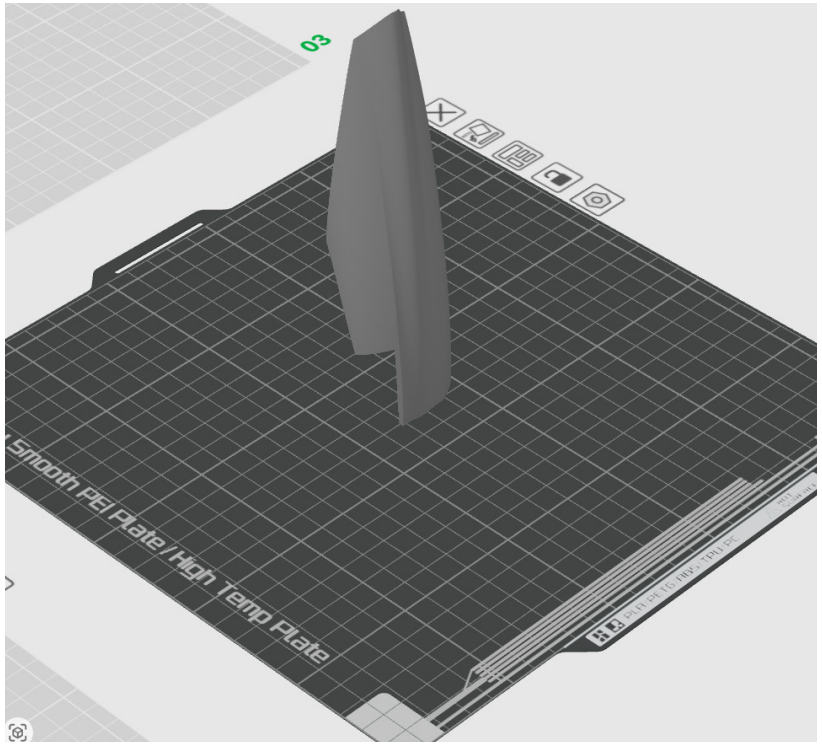
Orient the part so it stands on its leg, then paint supports on the overhanging areas as shown above.

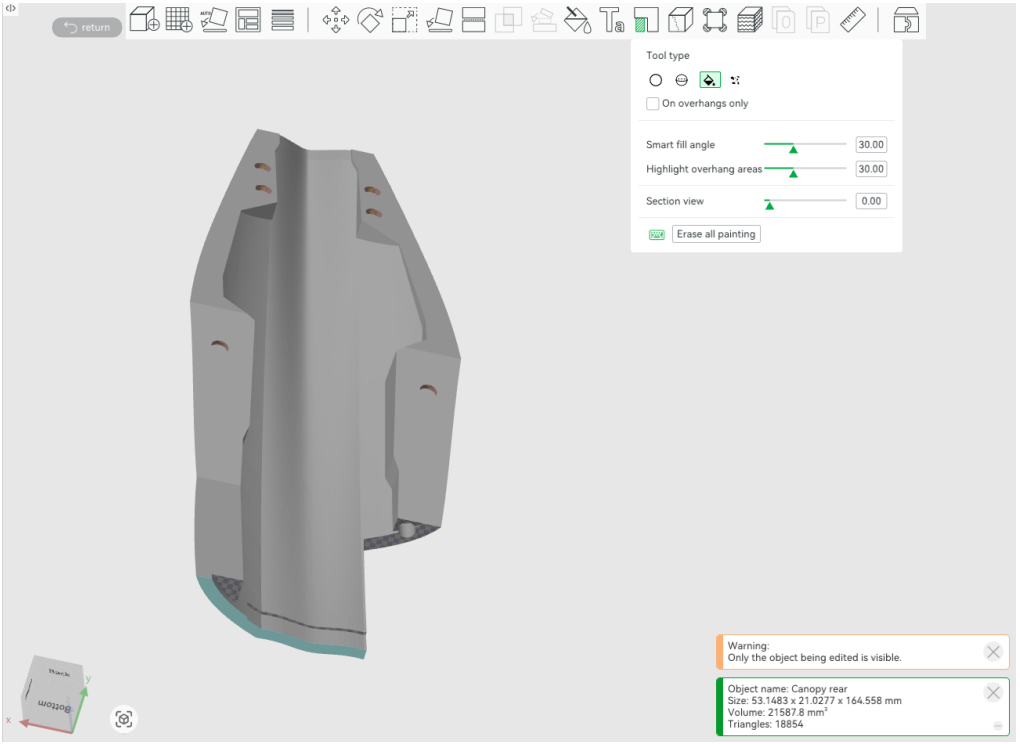
STEP 7 BANDITO_CANOPY_REAR

NO SUPPORTS

SUPPORT

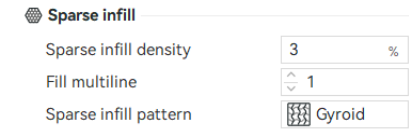


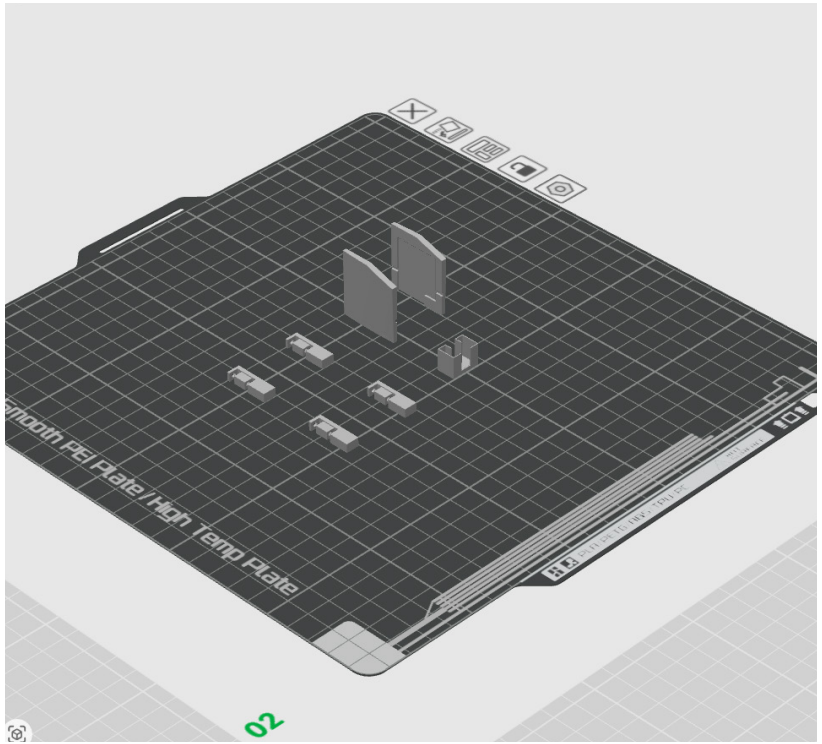


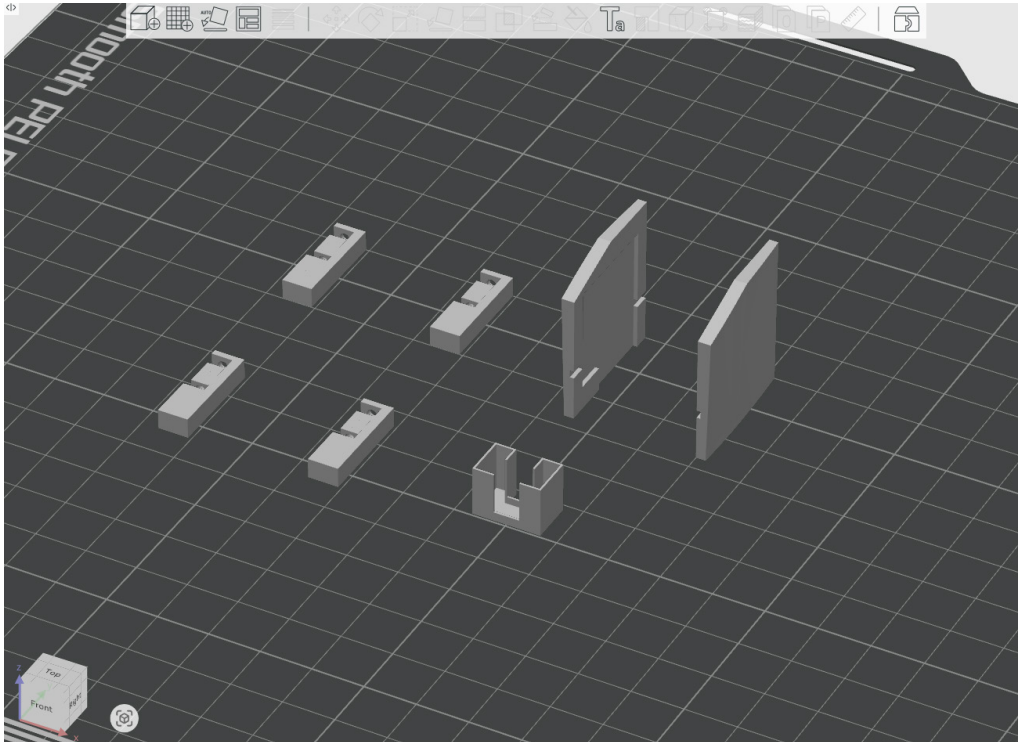


Orient the part standing on its leg and paint supports on the overhanging sections as shown above.

STEP 8 BANDITO_FC_MOUNT/CAMERA_SUPPORT/SERVO_COVER







Use this orientation for all remaining small LW-PLA parts.

PRINTING PETG

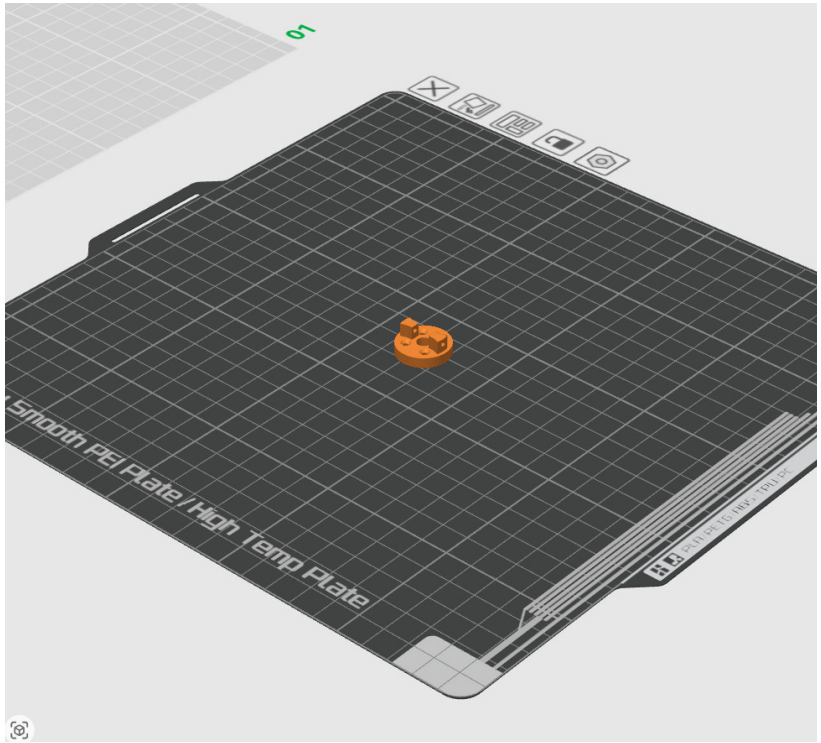
PETG is used for the remaining printed parts where extra toughness, temperature resistance, or structural reliability is required. This is especially important for the motor mount, which is exposed to heat from the motor and mechanical loads during flight.

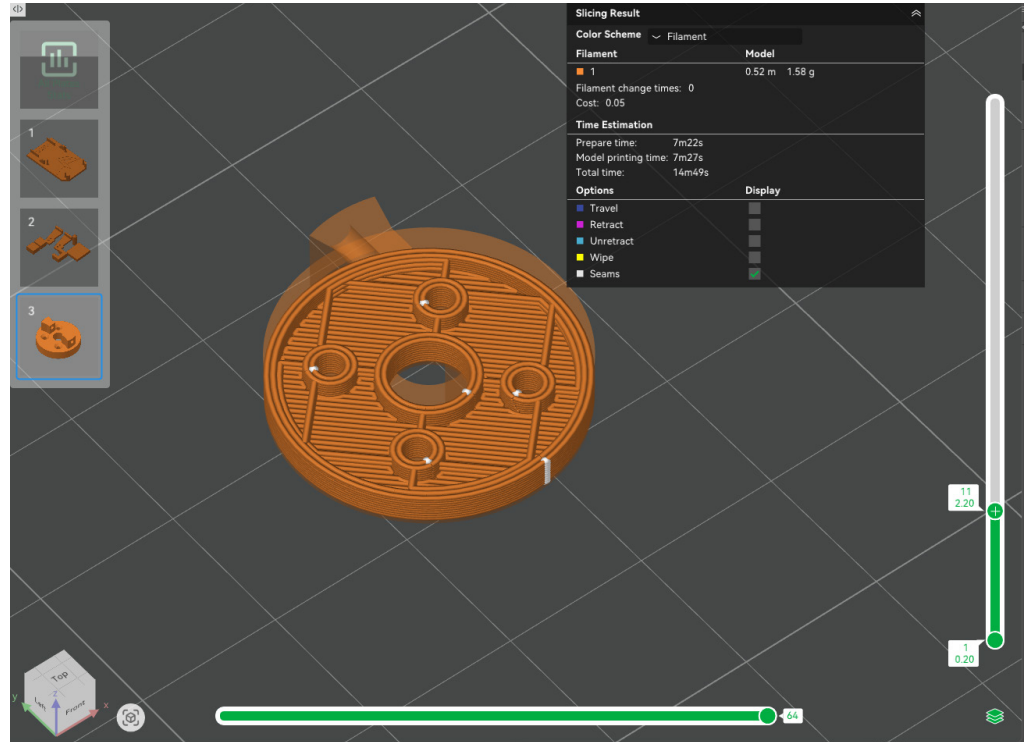
PLA is not recommended for the motor mount. Its lower heat resistance makes it a poor choice for this part. PETG or ABS are suitable materials, but PETG is the material used and tested throughout the development of BANDITO.

Before printing these parts, make sure your printer is capable of producing clean, reliable PETG prints. None of the PETG parts are especially difficult to print, but print quality still matters. Poor layer adhesion, weak walls, or excessive stringing can affect fit and strength.

For these parts, the most important settings are the infill and wall settings shown in the following steps. Some parts need to remain as light as possible, while others need extra strength around fasteners or load-bearing areas. Follow the listed settings for each part rather than using one generic PETG setup for everything.

STEP 1 BANDITO_MOTOR_MOUNT





Depending on your slicer, you may need to use a different infill type to achieve the desired result. The infill percentage can always be increased if needed. Note the two wall loops and square pattern reinforcing the fastener holes.

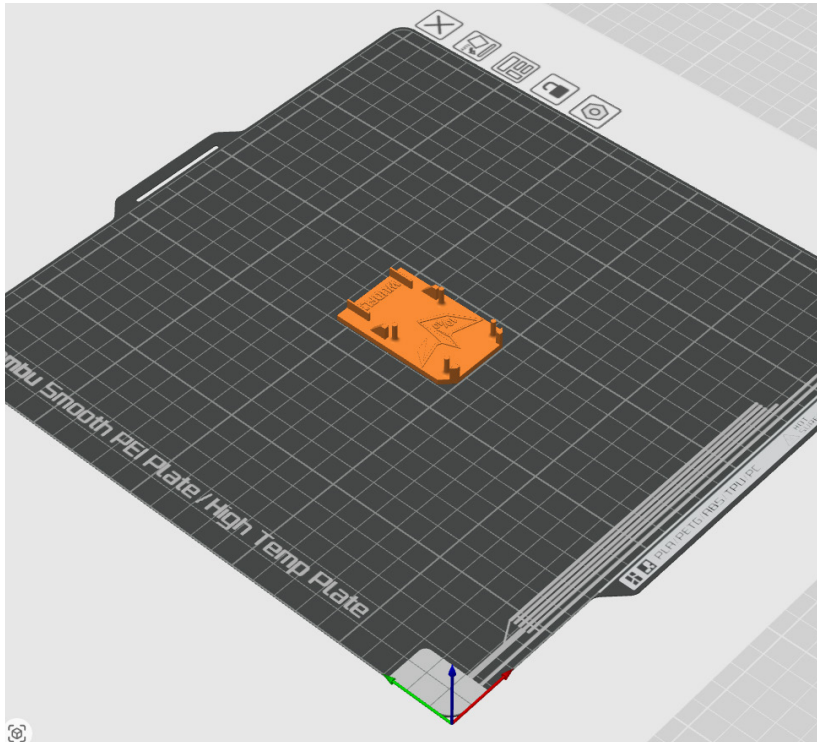
Walls

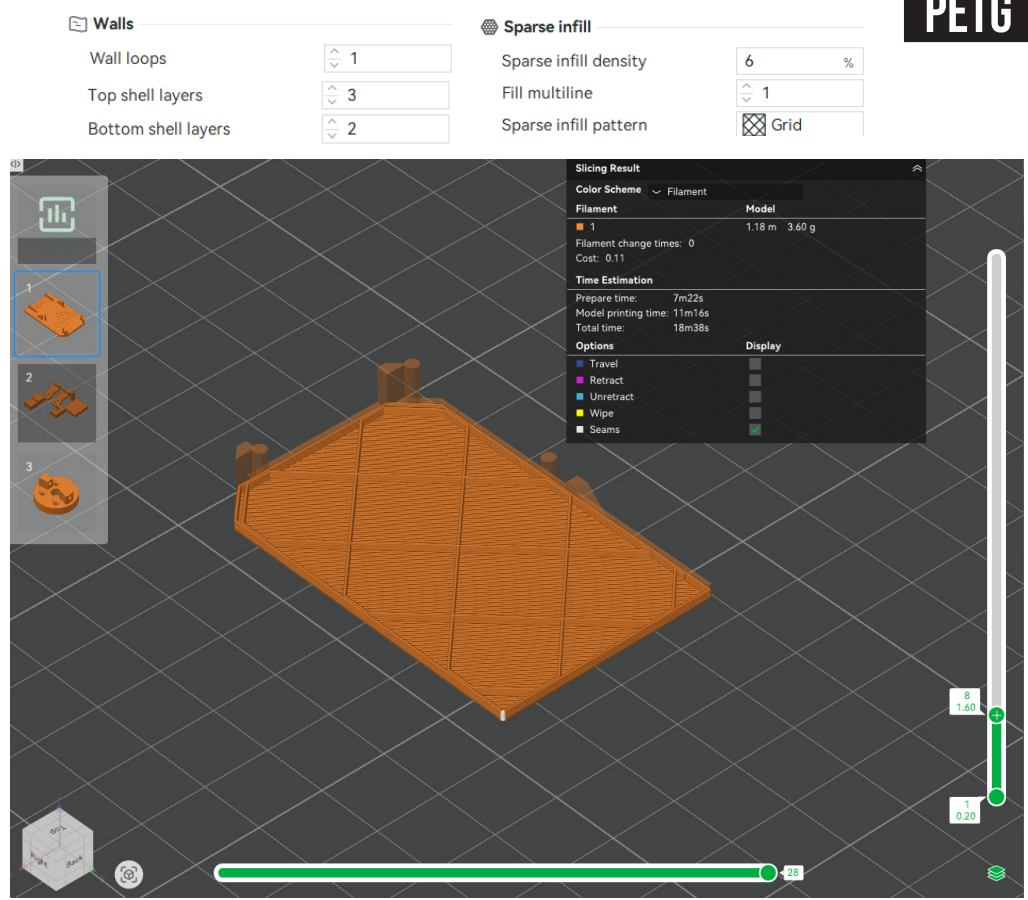
Wall loops	2
Top shell layers	5
Bottom shell layers	5

Sparse infill

Sparse infill density	6 %
Sparse infill pattern	Zig Zag

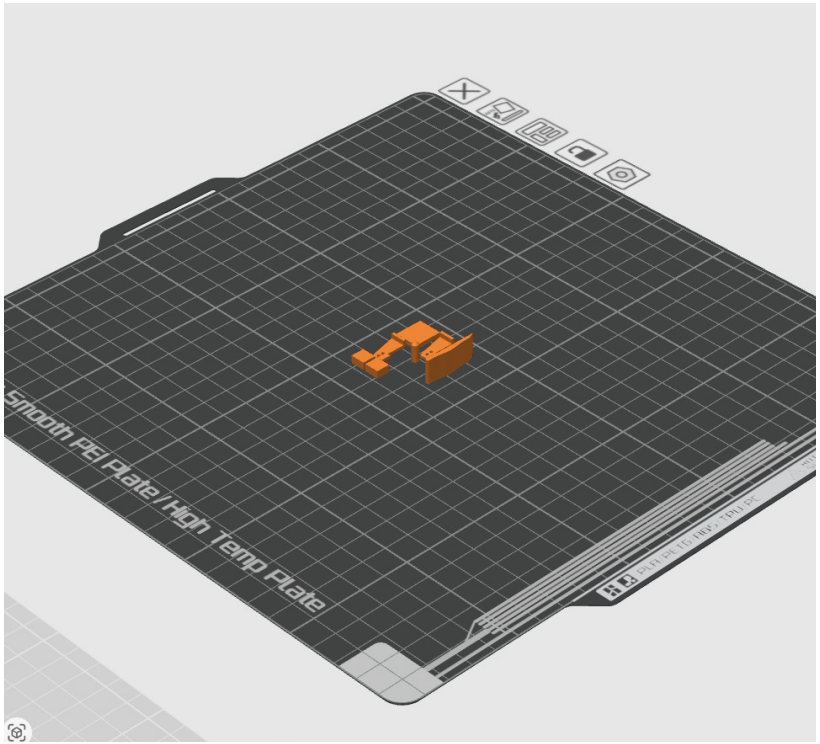
STEP 2 BANDITO_FUSE_BULK

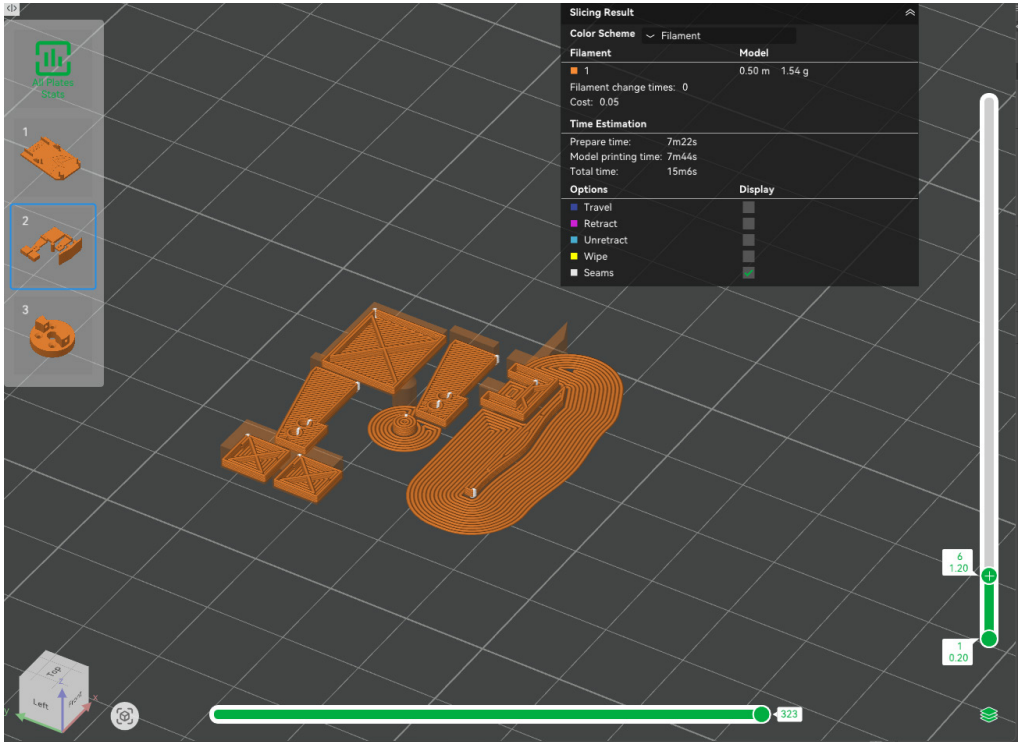




Only minimal internal structure is required for this part. Use your slicer to replicate a similar reinforcement pattern for added strength.

STEP 3 BANDITO_FUSE_TAB/ELEVON_HORN/CANOPY_PIN/CANOPY_LATCH





Print the remaining PETG parts.

PRINTING TPU

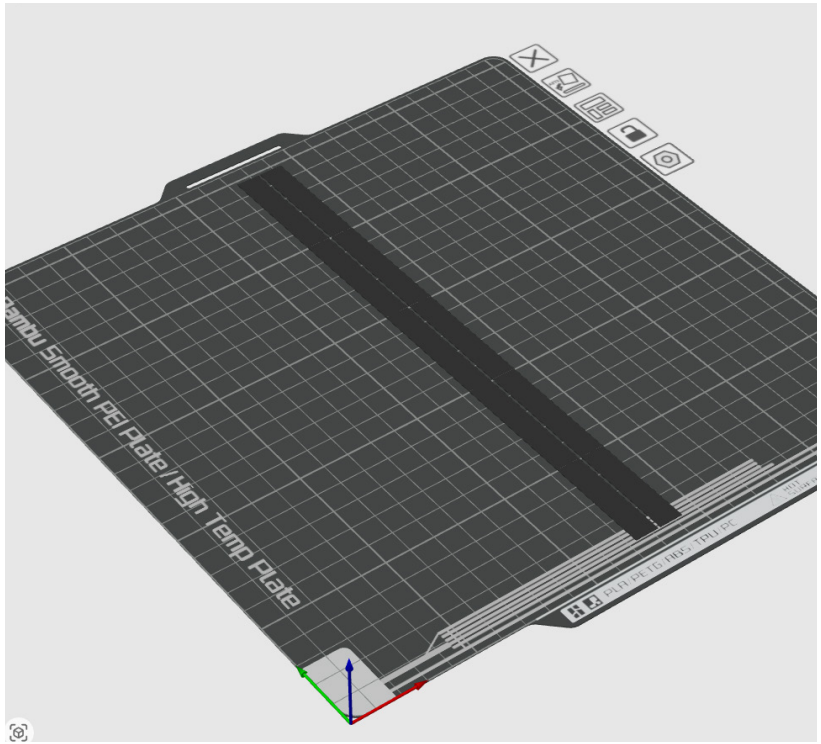
The elevon hinges are printed from TPU as a single 0.2 mm thick layer directly on the print bed. Because the part is extremely thin, bed cleanliness and orientation are more important than using aggressive slicer settings.

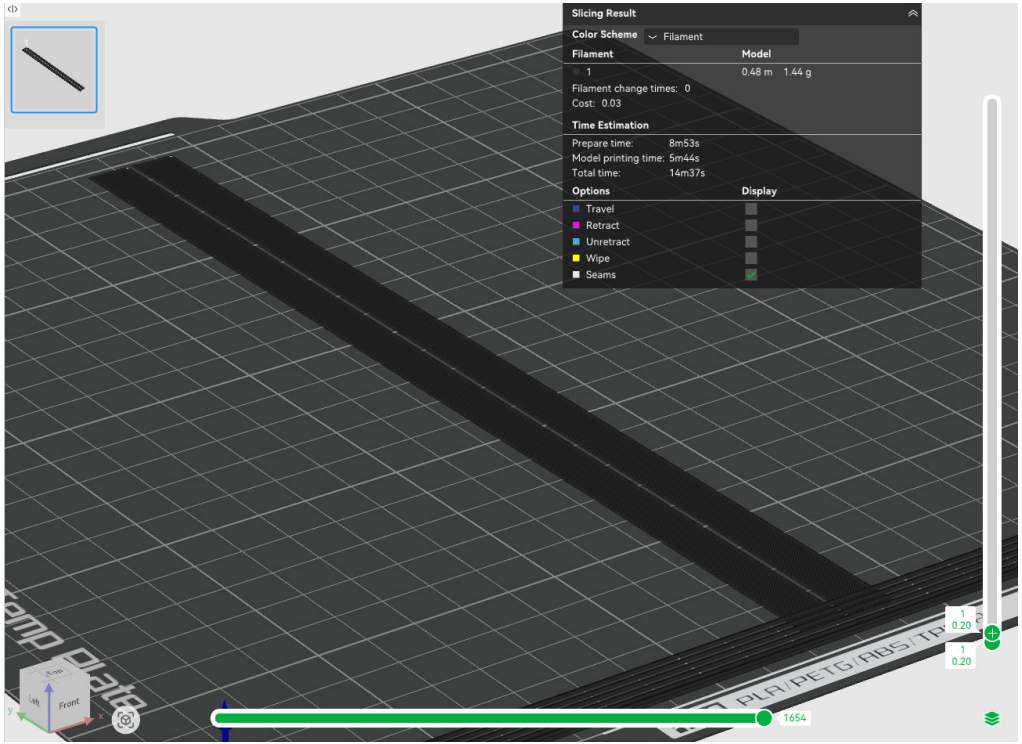
Print TPU slowly and avoid rushing the first layer. For best results, place the hinge strips square to the print bed axes, rather than diagonally. This allows the printer to draw the long hinge lines with simple X/Y movement, which helps keep the edges clean and consistent.

Use a clean build plate with a light layer of glue stick. The glue is not only for adhesion; it also acts as a release layer so the thin TPU hinge can be removed without stretching or damaging it. Do not use too much glue. A thin, even film is enough.

An engineering plate or PEI plate works well. A textured Bambu Lab plate can also be used successfully, provided it is clean and lightly prepared with glue stick. After printing, allow the part to cool before removing it carefully from the bed.

STEP 1 BANDITO_ELEVON_HINGE





Make sure to remove any purge lines or flow calibration that may intersect with the hinge parts.

ASSEMBLY

ASSEMBLY PRINCIPLES

BANDITO is designed to be simple and fast to build. You will need razor blades, 180 grit sandpaper, thin cyanoacrylate super glue, double-sided tape, Velcro tape, and a small saw for cutting the carbon fiber spar. Super glue activator is useful, but not essential.

Before gluing, dry fit every part first. Check how the tabs seat, how the parts locate, and how the assembly jigs are used. The jigs are important for keeping the airframe aligned, so do not skip them.

Most preparation is simple cleanup after printing. Remove strings, blobs, support marks, and loose material with a razor blade. Use a blunt blade for larger imperfections and a sharp blade for slots, servo pockets, tabs, and fine details.

Keep sanding to a minimum. If sanding is required, wear a dust mask and work in a well-ventilated area, preferably outdoors. This is especially important when cutting or sanding carbon fiber.

Thin cyanoacrylate super glue is suitable for assembly. Apply only as much as needed and allow it to wick into the joints. Small scuffs, cuts, or marks in the printed skin will not stop the aircraft from flying and can usually be repaired with a small amount of super glue.

Focus on fitment, alignment, and airworthiness rather than cosmetic perfection. The parts should sit correctly, close without large gaps, and assemble without being forced.

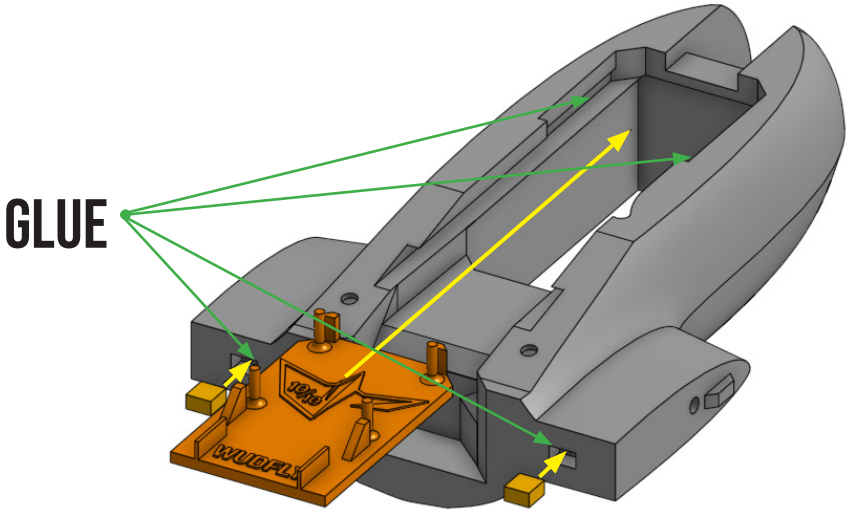
STEP 1

Use only a small amount of glue in the tracks, as excess glue may overflow when the bulkhead is inserted.

PARTS for this step

BANDITO_FUSE_FRONT
BANDITO_FUSE_TABS
BANDITO_FUSE_BULK

DRY FIT FIRST.



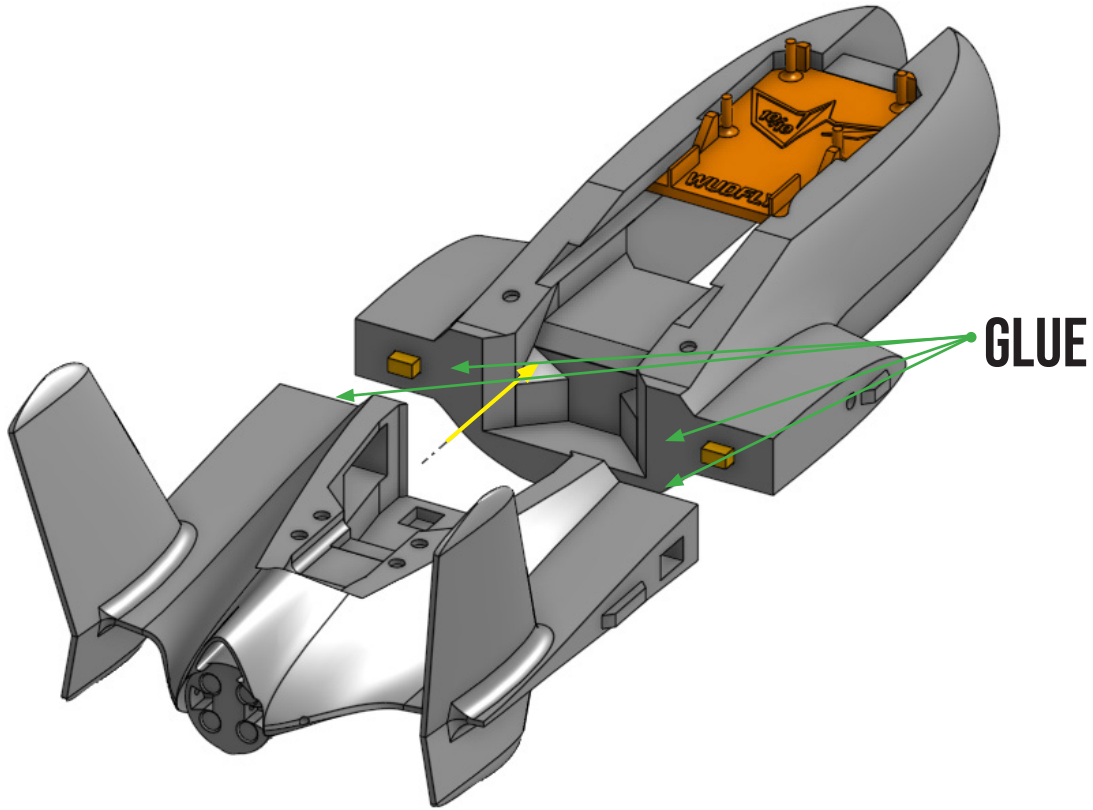
Apply glue to the tracks and slide the fuselage bulkhead into place. Add a drop of glue to each slot, then insert the locating tabs into the front fuselage section.

STEP 2

PARTS for this step
BANDITO_FUSELAGE_REAR

DRY FIT FIRST.

Ensure the parts are fully bonded before removing any excess glue or drips.

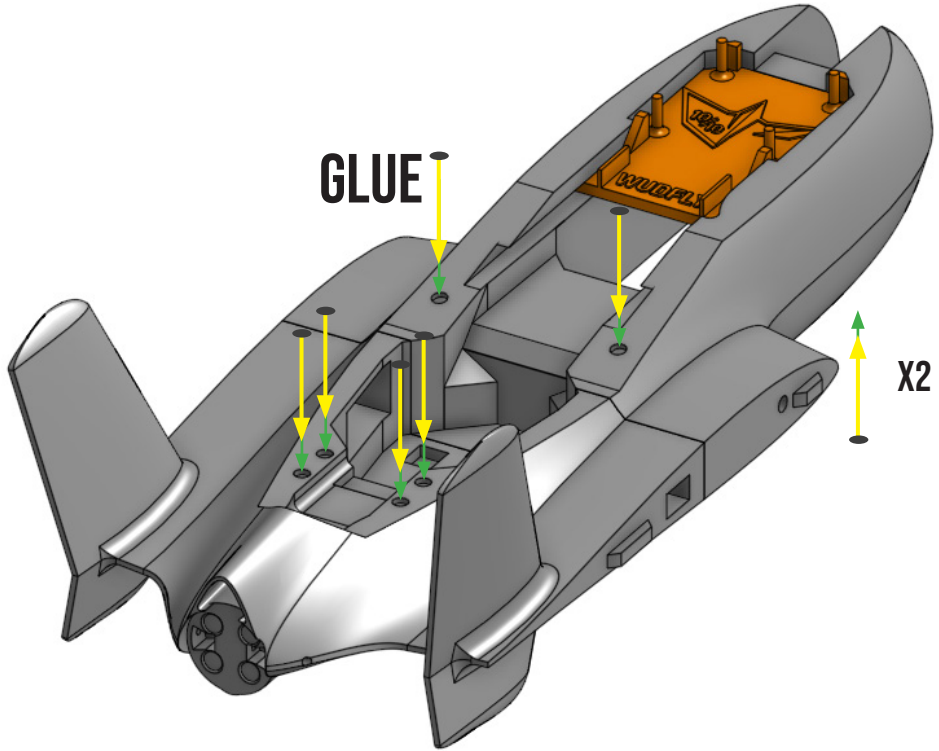


Dry-fit the parts first to confirm proper fit. Apply glue to the front and rear mating surfaces of the fuselage, then hold the assembly firmly until set, taking care not to crush the LW_PLA structure.

STEP 3

Make sure all magnets are installed in the same orientation.

PARTS for this step
BANDITO_3x1.5mm_MAG (X8)



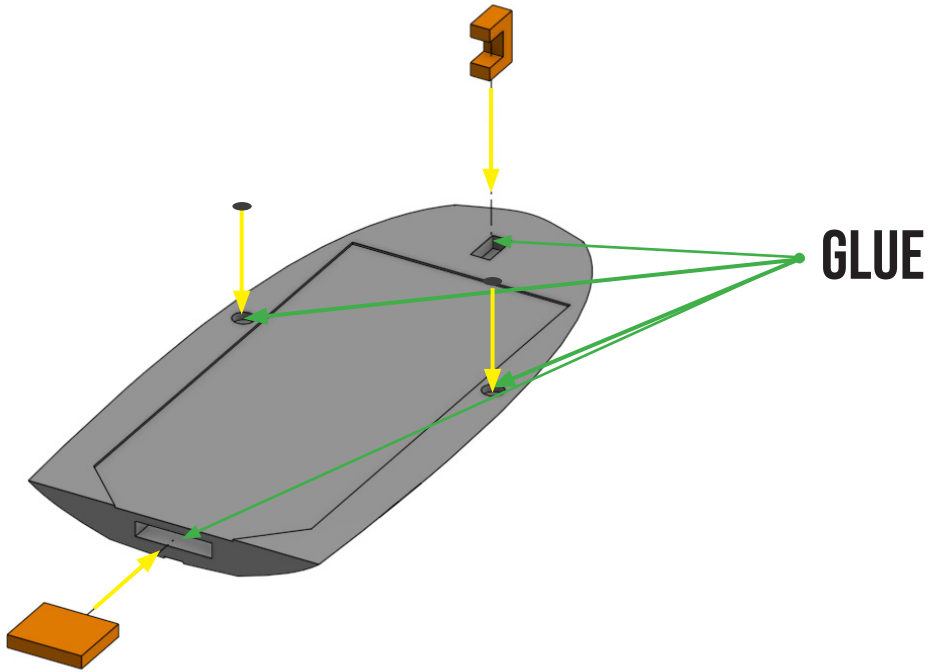
Apply a small drop of glue to each hole. Using the magnet stack, press one magnet into each hole, then slide the stack away. A total of 8 magnets are installed here: 6 for the canopy and 2 underneath for the battery access.

STEP 4

PARTS for this step

BANDITO_BATTERY_ACCESS
BANDITO_BATTERY_ACCESS_C
BANDITO_BATTERY_ACCESS_TAB
BANDITO_3x1.5mm_MAG (X2)

DRY FIT FIRST.

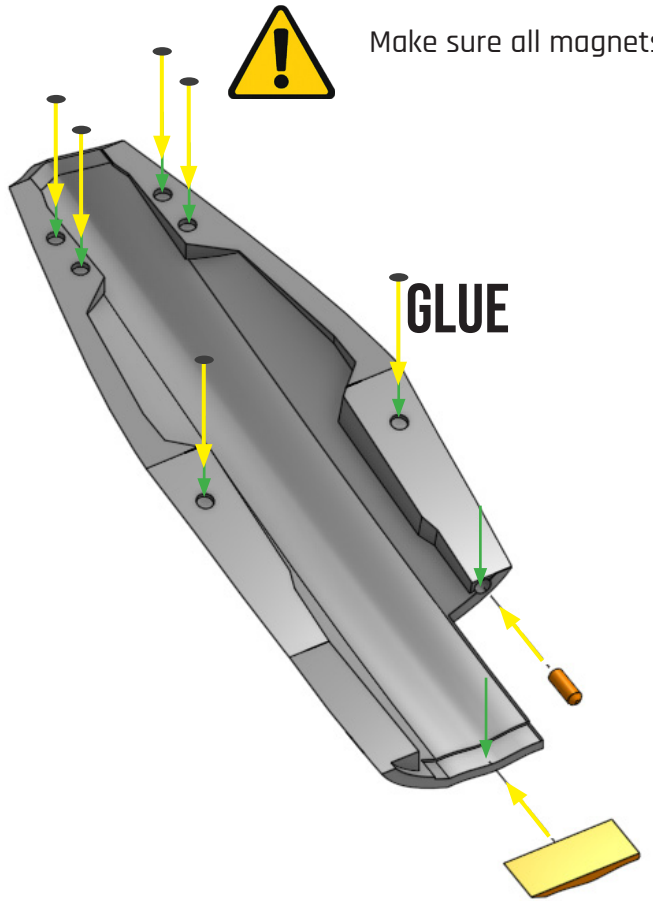


Check that BANDITO_BATTERY_ACCESS_C sits flush with the surface and that the pin can be fully inserted into the fuselage. The fit should be snug. Install the two remaining magnets with the correct orientation. The face of the magnet stack that repels from the fuselage magnets should be the face glued into the access part.

STEP 5

PARTS for this step
BANDITO_CANOPY_REAR
BANDITO_3x1.5mm_MAG (X6)

DRY FIT FIRST.



Make sure all magnets are oriented correctly so they attract.

Check the magnet orientation before gluing by holding the magnet stack near the magnets installed in STEP 3. The stack should repel. Place a small drop of glue in each hole, then use the stack to press one magnet into each hole before sliding the stack away. When the part is flipped over, the installed magnets should attract to the magnets in the fuselage.

STEP 6

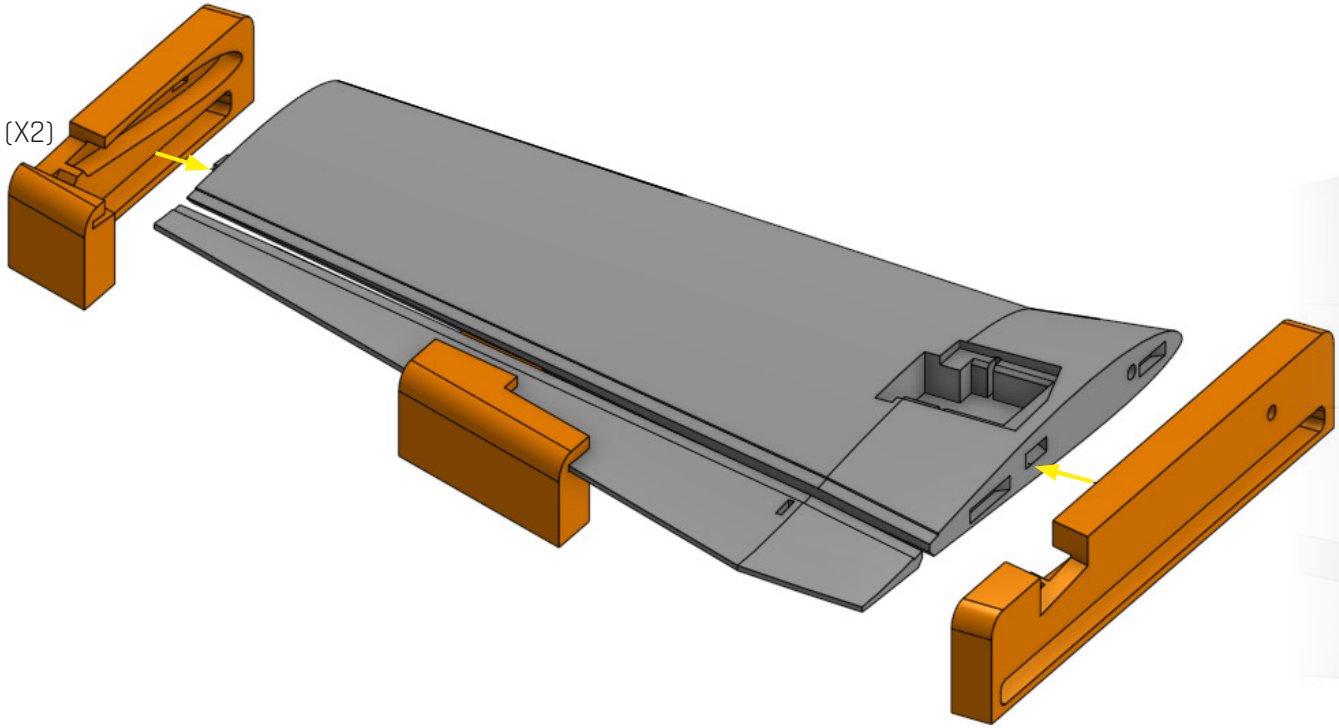
Support both ends with something heavy to keep the assembly together.

PARTS for this step

BANDITO_WING (L/R)
BANDITO_ELEVON (L/R)
BANDITO_ELEVON_HINGE (X2)
BANDITO_JIGS (L/R)

REPEAT

L ⟷ R

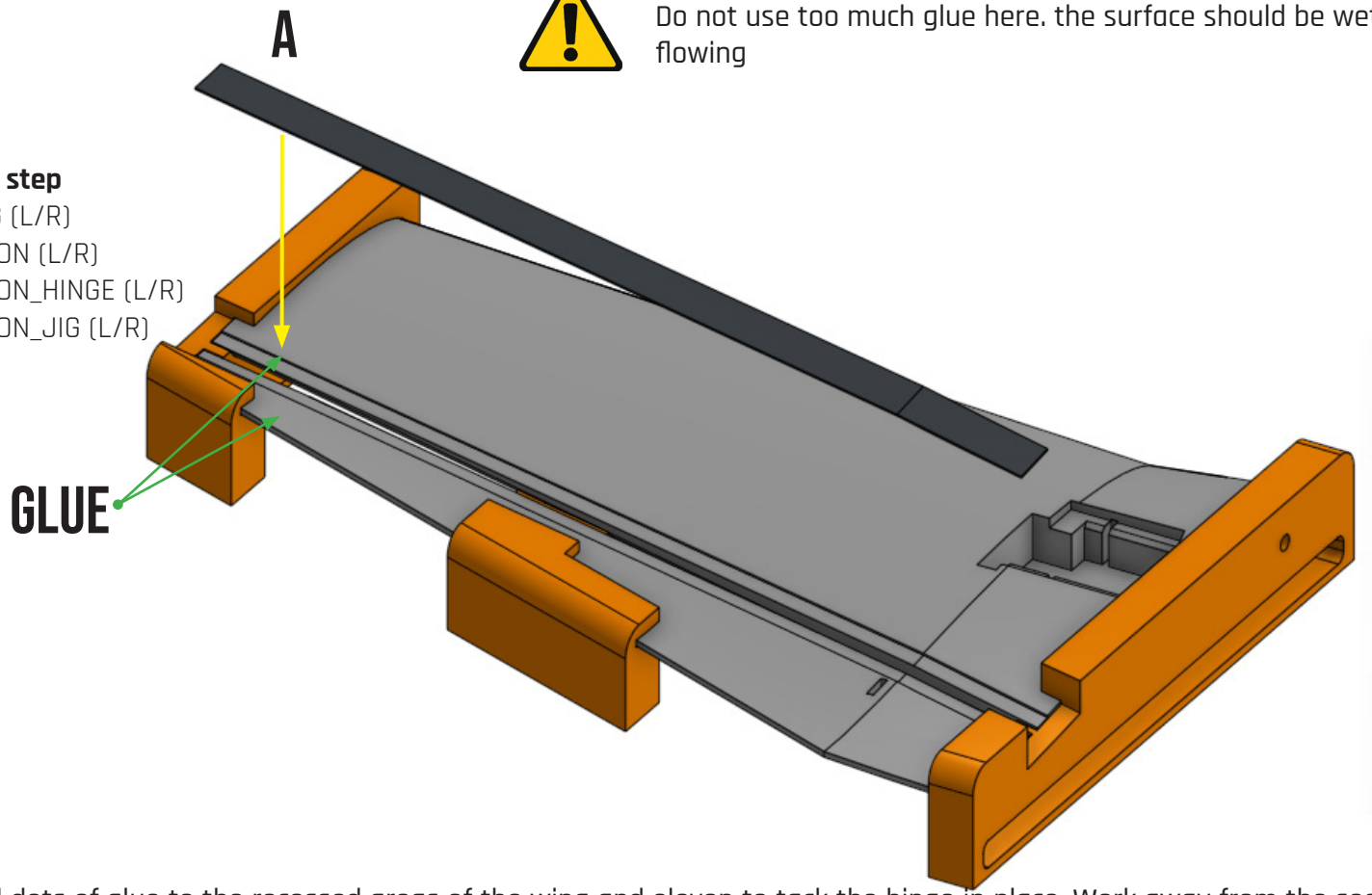


Fit both ends of the wing and elevon into the jigs, making sure the parts sit flush with no gaps. Slide the middle support section into place from the tip toward the root. It should stop naturally when fully positioned. Do not force it, as this section of the jig is intended to fit loosely.

STEP 7

PARTS for this step
BANDITO_WING (L/R)
BANDITO_ELEVON (L/R)
BANDITO_ELEVON_HINGE (L/R)
BANDITO_ELEVON_JIG (L/R)

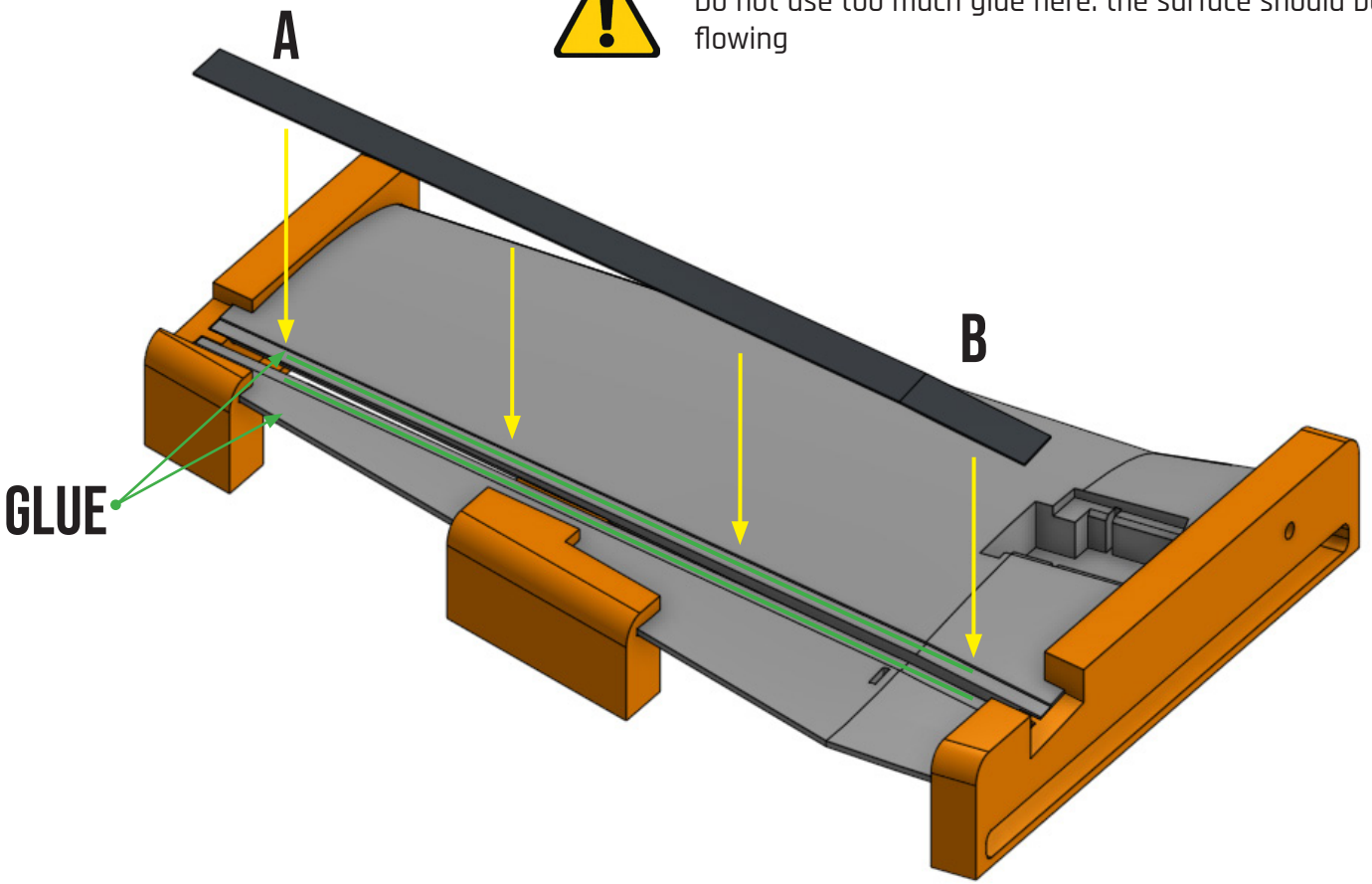
REPEAT
L ← → R



Do not use too much glue here. the surface should be wet not over-flowing

Apply two small dots of glue to the recessed areas of the wing and elevon to tack the hinge in place. Work away from the section supported by the jig to avoid bonding the wing to the jig. Use the end of a pen to press the hinge into the recess until it sits flush with the wing surface.

STEP 8



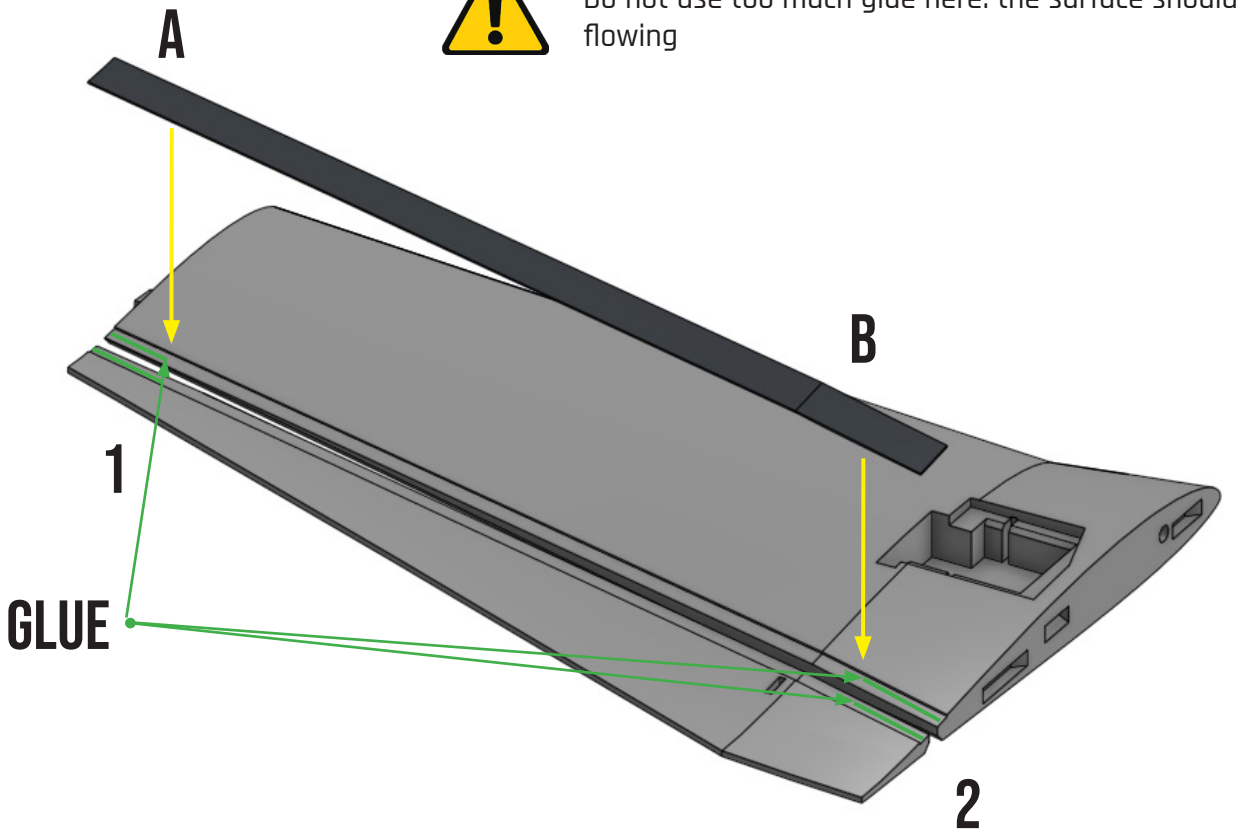
Do not use too much glue here. the surface should be wet not over-flowing

REPEAT

L ← → R

With Point A already bonded to both the elevon and the wing section, roll the hinge back and apply glue along the recessed section, stopping short of Point B. Lay the TPU hinge back down so it sits flush with the wing surface. Use the end of a pen to press down along the edges of the hinge as before.

STEP 9



Do not use too much glue here. the surface should be wet not over-flowing

REPEAT

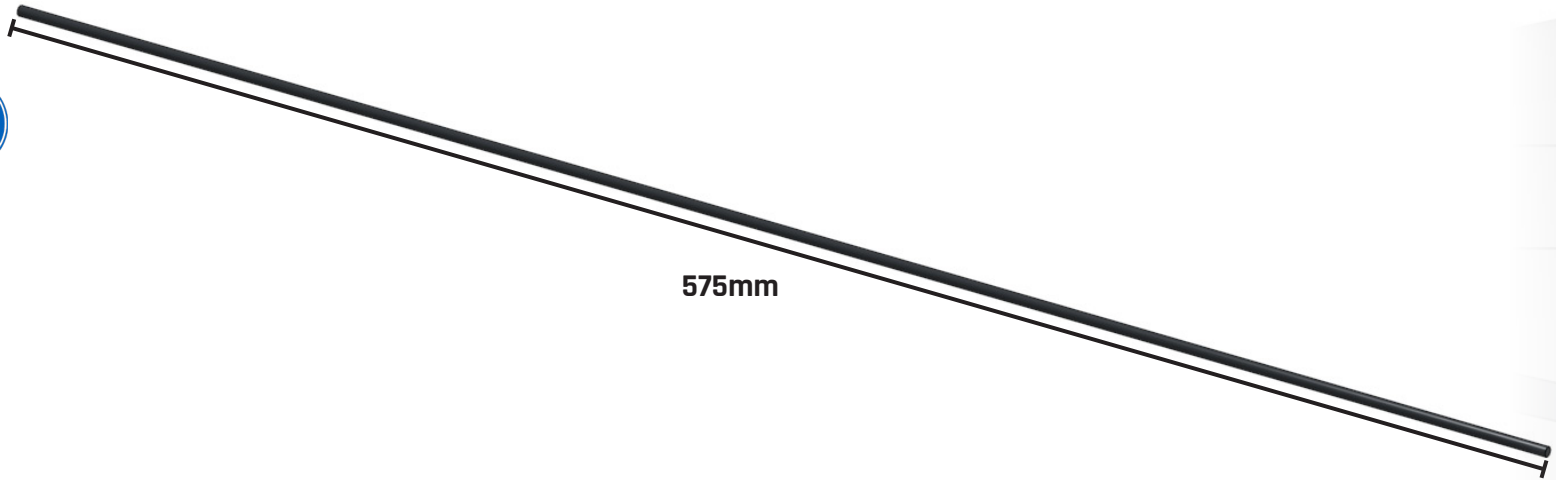
L ← → R

Once the hinge is bonded from A to B, remove the wing assembly from the jig. Roll the hinge back and apply glue to the remaining recess at the end. Press the hinge into place and hold it until set, using a pen to keep it flush with the surface. Work one side at a time, then trim the excess TPU strip with a razor blade with the wing upside down on a flat surface.

STEP 10

Be careful when working with carbon fiber.

PARTS for this step
CARBON_TUBE 3/1.5mm - L 575mm



Cut the carbon rod to 575 mm. Collect any carbon dust created during cutting and dispose of it safely. Avoid inhaling carbon dust. If needed, lightly sand the ends of the rod to clean them up. Any split fibers can be re-glued, and excess glue can then be removed. Congratulations, you have made the BANDITO_WING_SPAR.

STEP 11

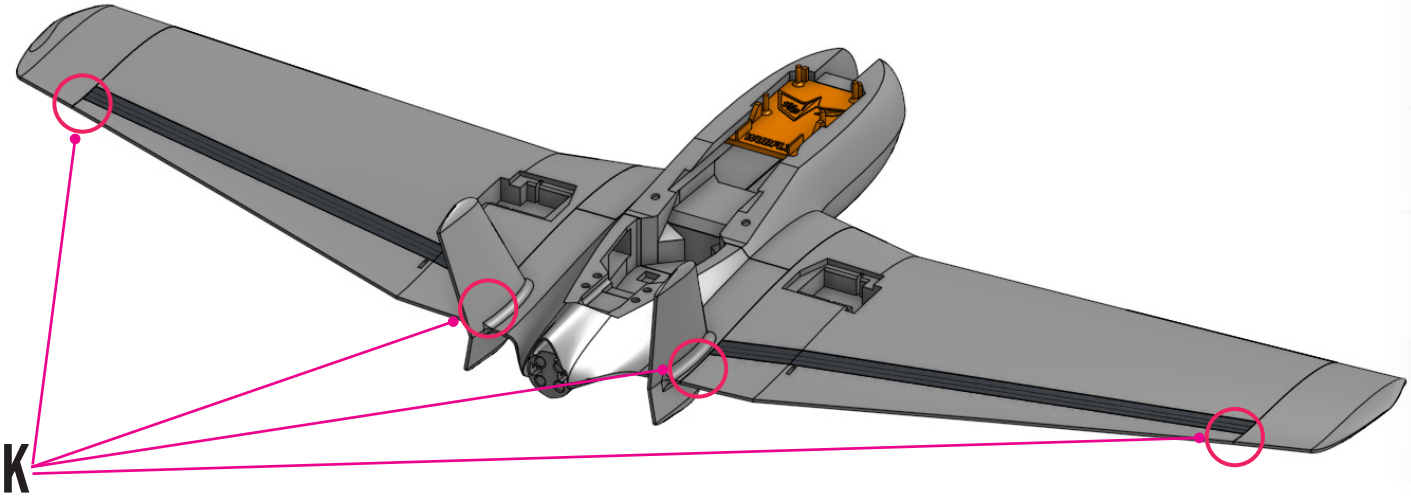
Actuate the elevons by hand and check for any catching, rubbing, or interference.

PARTS for this step

BANDITO_FUSLAGE_ASSEMBLY
BANDITO_WING_ASSEMBLY (L/R)
BANDITO_WING_TIP (L/R)
BANDITO_WING_SPAR

REPEAT

L ⟷ R



Dry-fit all wing parts first to confirm proper fitment. Check elevon movement to ensure there is no rubbing, then sand the sides of the elevons as needed until they move freely and smoothly.

STEP 12

Rotate the spar by hand as the glue sets to make sure it does not become bonded in place.

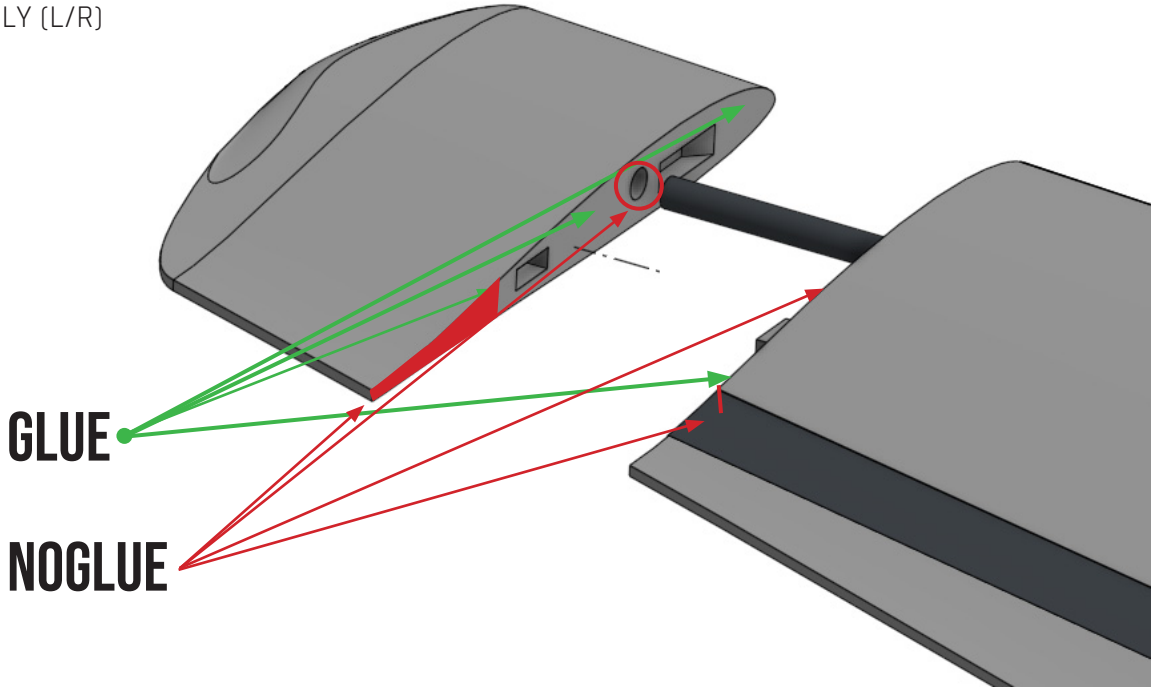
PARTS for this step

BANDITO_WING_ASSEMBLY (L/R)
BANDITO_WING_TIP (L/R)
BANDITO_WING_SPAR

REPEAT

L ⟷ R

DRY FIT FIRST.



Insert the wing spar through the wing and into the wing tip. Hold the spar and wing together, then remove the tip to preserve the correct position. Apply glue to both mating faces, keeping glue away from the spar joint and the elevon area on both sides. Hold the parts together until set, then remove any excess glue.

STEP 13

Rotate the spar by hand as the glue sets to make sure it does not become bonded in place.

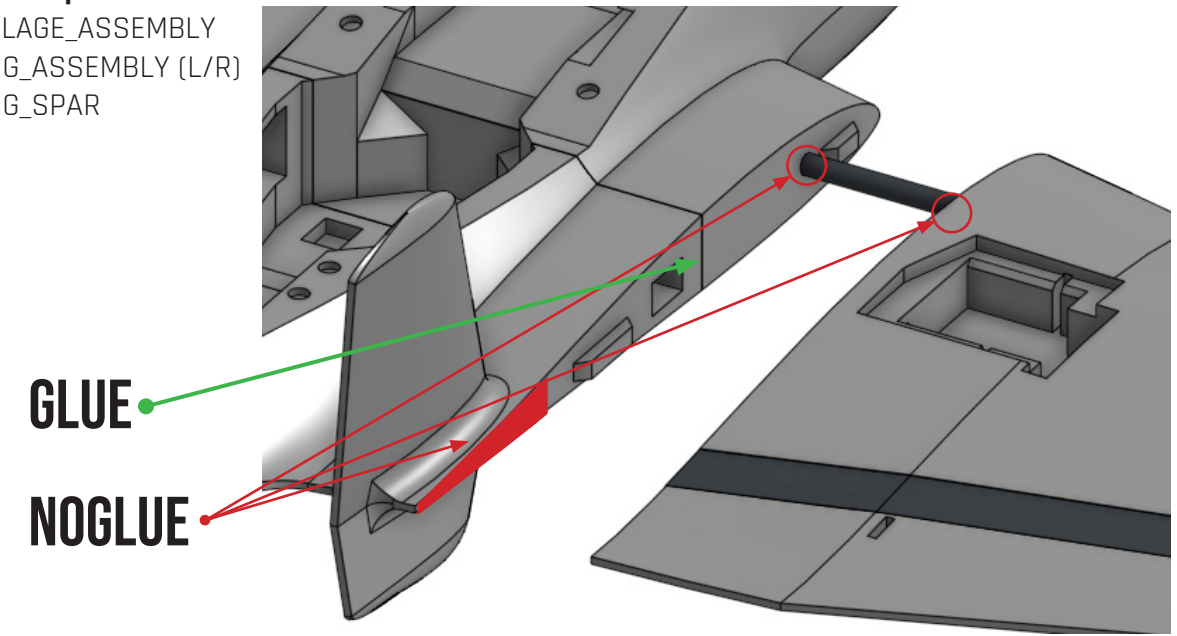
PARTS for this step

BANDITO_FUSLAGE_ASSEMBLY
BANDITO_WING_ASSEMBLY (L/R)
BANDITO_WING_SPAR

REPEAT

L ← → R

DRY FIT FIRST.



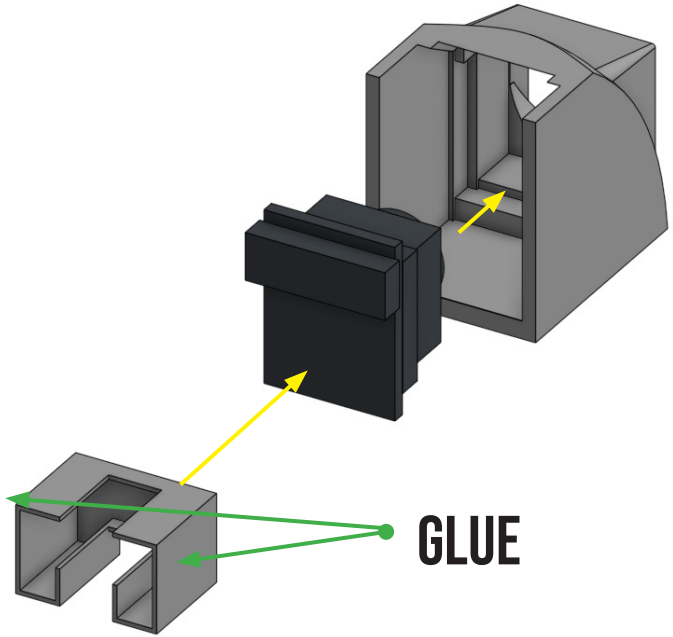
Apply glue to the wing root and fuselage side, keeping glue clear of the spar slot and elevon area. Hold the wing in place until set, then repeat for the other side.

STEP 14

PARTS for this step

BANDITO_CAMERA
BANDITO_CAMERA_MOUNT
BANDITO_CAMERA_SUPPORT

DRY FIT FIRST.

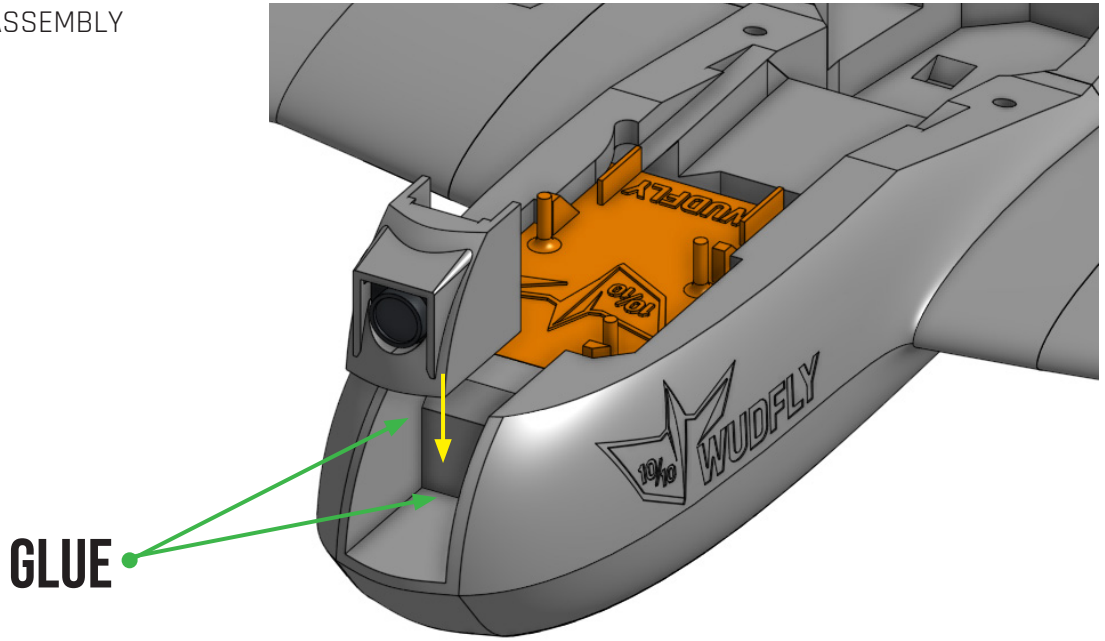


Press the DJI O4 camera into the mount. It should sit flush and square in the mount. Do not apply glue to the camera. Once the camera is snug, apply a small amount of glue to the sides of the camera support and press it into place. The support should sit flush with the back of the camera mount so the assembly can be installed flush in the aircraft.

STEP 15

PARTS for this step
BANDITO_CAMERA_ASSEMBLY

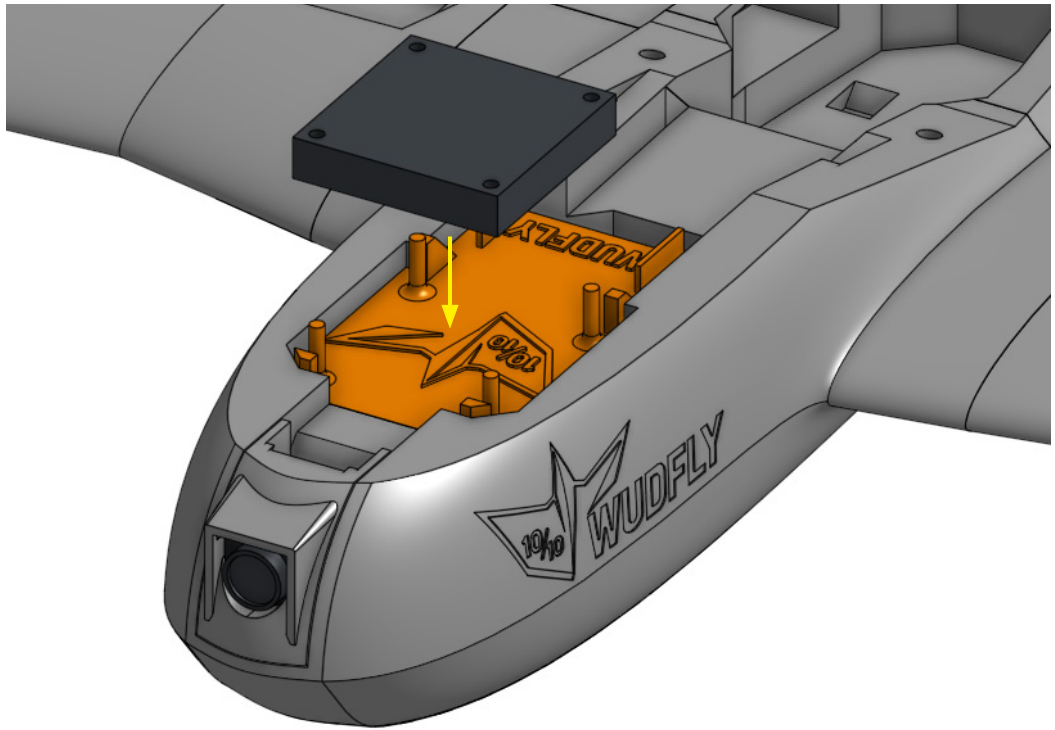
DRY FIT FIRST.



Apply glue to both sides of the camera mount, then slide the camera assembly into position. Hold it firmly until set, ensuring a flush fit with no gaps.

STEP 16

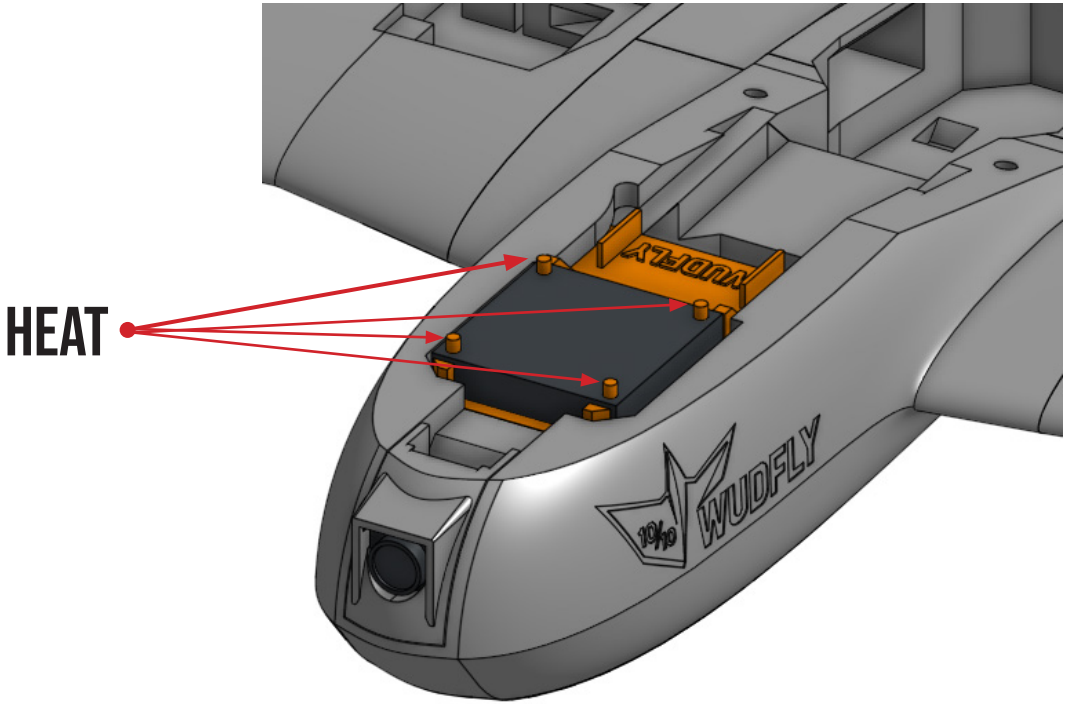
PARTS for this step
BANDITO_DJI04_VTX



Slide the DJI 04 onto the mounting pins. The USB-C port should face toward the tail of the aircraft so it can be accessed later.

STEP 17

Use care when handling hot tools or materials.

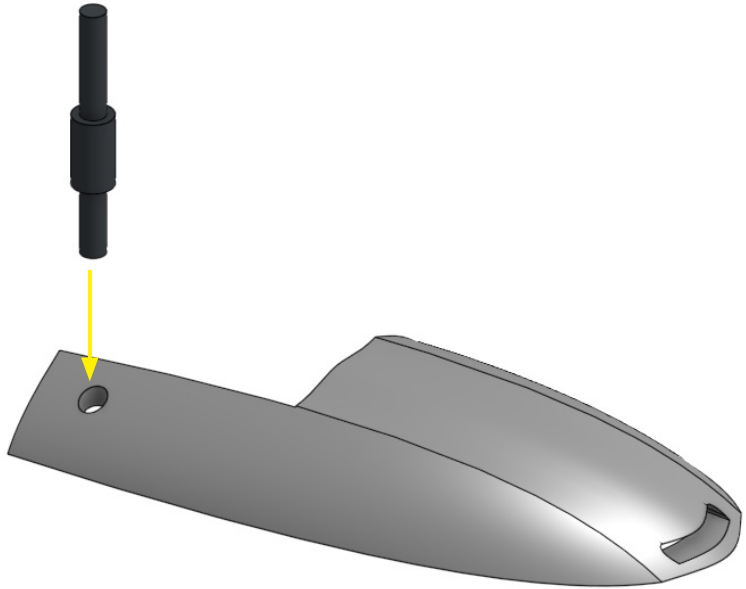


Heat the tip of a knife blade, then gently press it onto the exposed ends of the VTX mount pins to melt them slightly and retain the VTX in place. Take care when using an open flame, and avoid burns or fire hazards.

STEP 18

PARTS for this step
BANDITO_CANOPY_FRONT
BANDITO_DJI04_ANTENNA

DRY FIT FIRST.

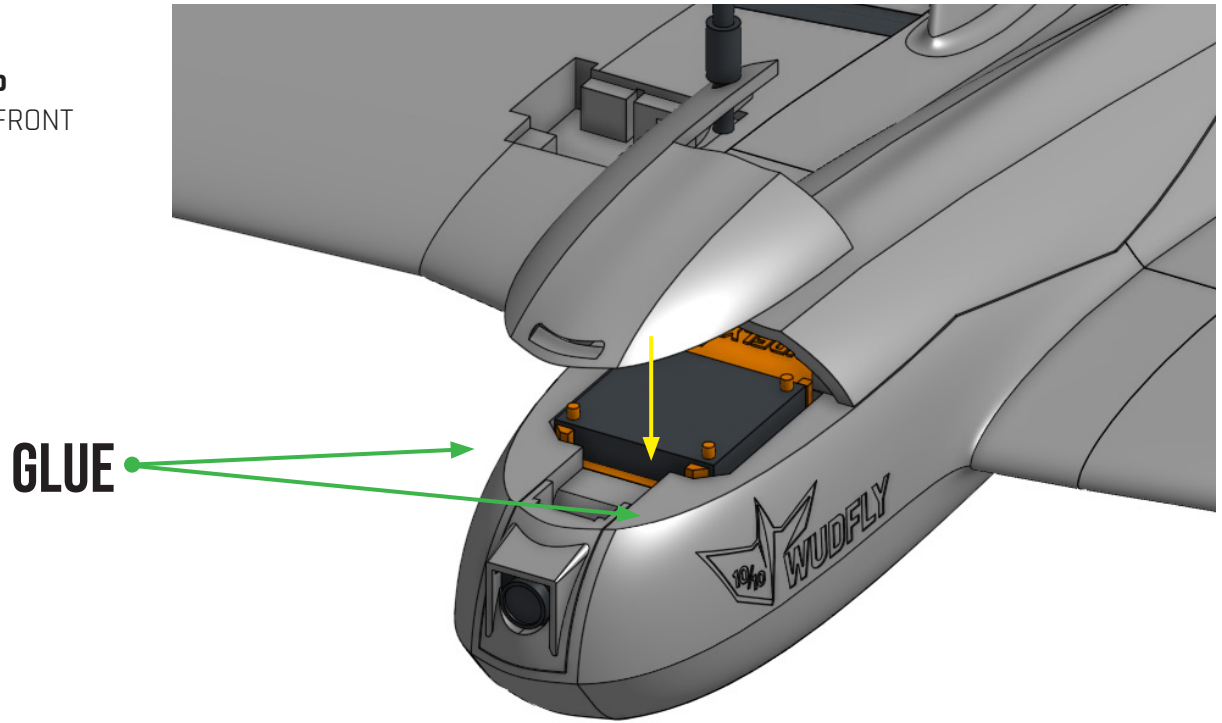


Route the antenna wire through the hole and install the antenna by gently rotating it left and right as you press it into place. The fit should be snug, though you may need to remove a small amount of material for a proper fit with your specific parts.

STEP 19

PARTS for this step
BANDITO_CANOPY_FRONT

DRY FIT FIRST.



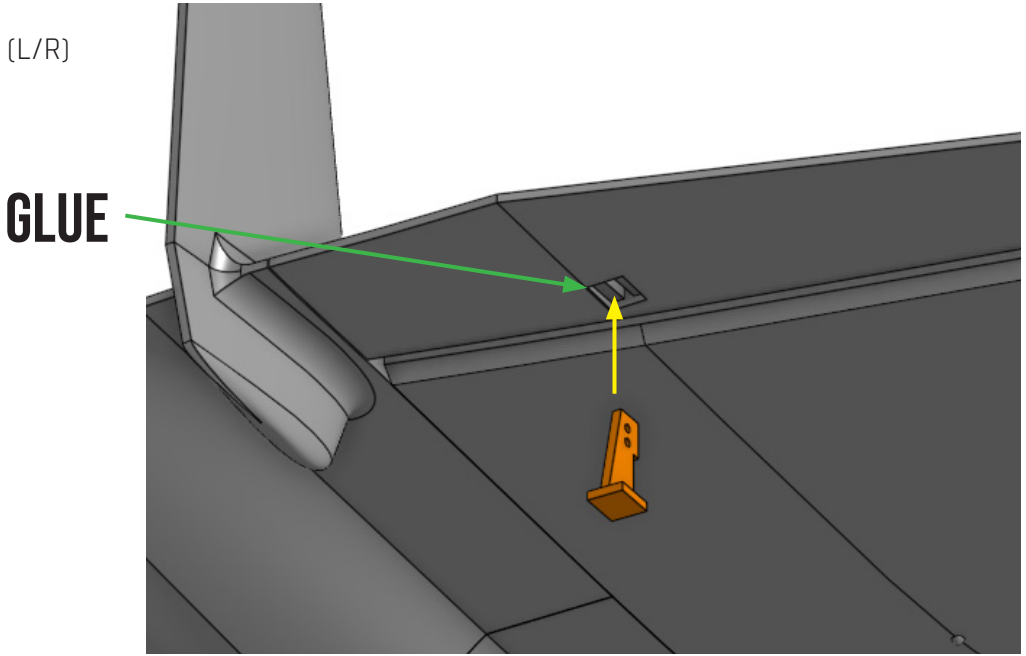
Dry-fit these parts first to confirm proper fit. Attach the rear canopy section first, as this sets the alignment for the front section. Connect the antenna wire to the VTX, then apply glue to the two mating faces and guide the front canopy into place. Hold it firmly until set, making sure there are no gaps.

STEP 20

PARTS for this step
BANDITO_ELEVON_HORN (L/R)

REPEAT
L ⟷ R

DRY FIT FIRST.



Apply glue to the recess on the underside of the elevon and install the elevon horn. Hold it in position until set, making sure it stays straight.

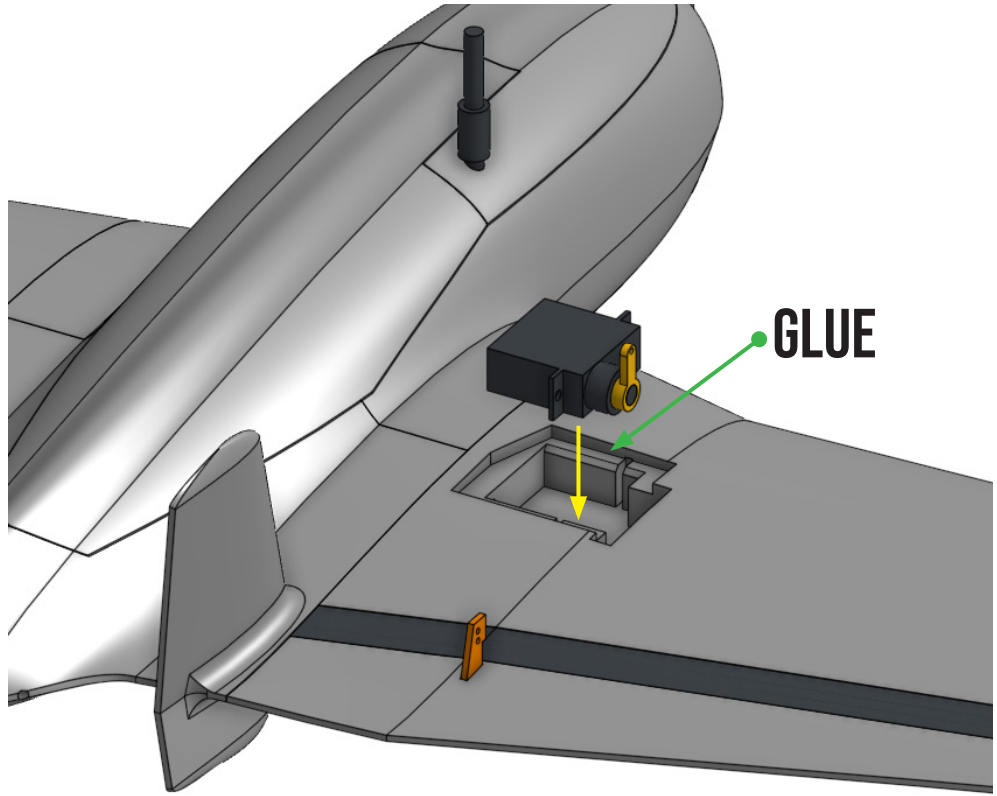
STEP 21

Make sure the servos are centred correctly before gluing them in place. **Do not proceed until the electronics have been bench-tested.**

PARTS for this step
BANDITO_SERVO (L/R)

REPEAT
L ⟷ R

DRY FIT FIRST.



Make sure both servos are centered and that the horns match in angle, this is critical so please pay extra attention at this step. Route the servo wire through the wire channel into the fuselage, then check that the servo sits flat in its pocket and that the cover fits flush with no gaps. Secure the servo with a single drop of glue only, so it can still be removed later.

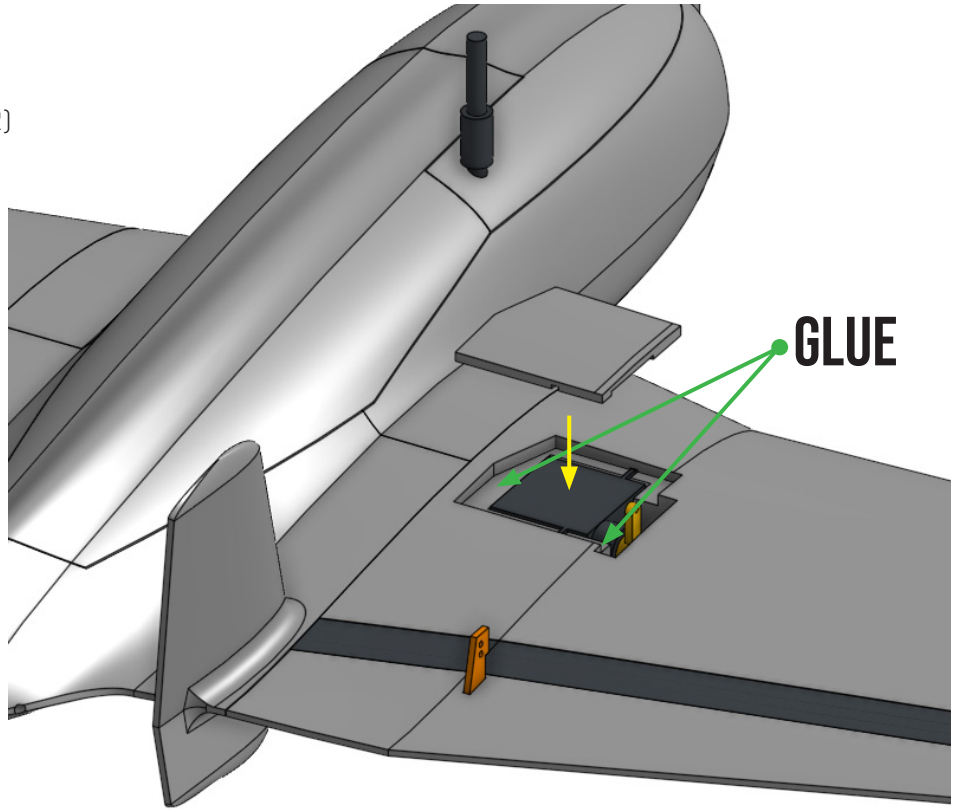
STEP 22

PARTS for this step
BANDITO_SERVO_COVER (L/R)

REPEAT
L ⟷ R

DRY FIT FIRST.

Use only a small amount of glue here, or the servos may be difficult to remove later.

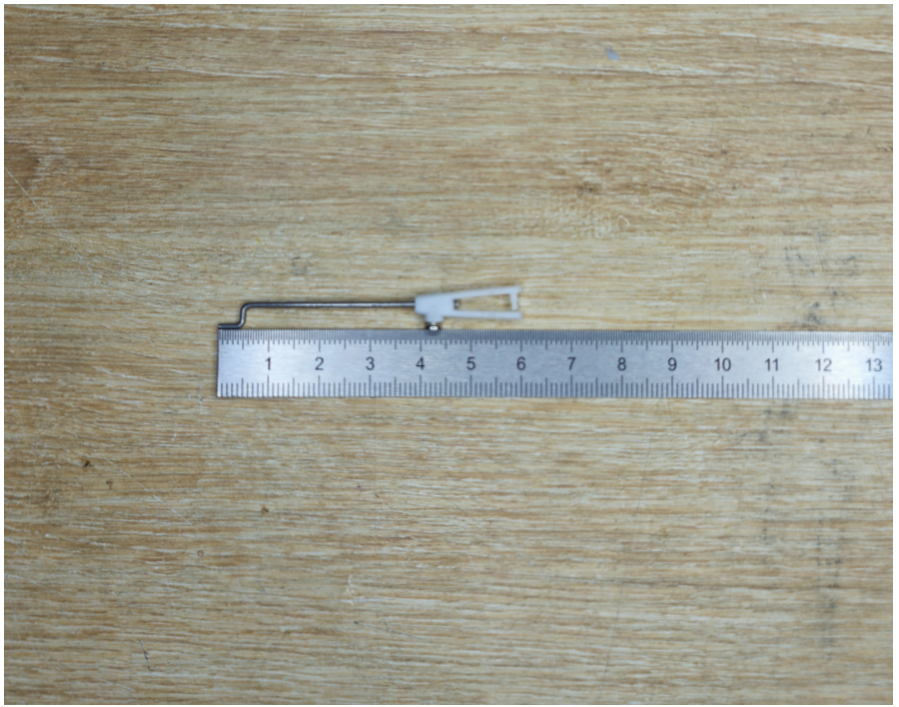


Apply a thin layer of glue to the flat contact surfaces of the servo pocket and cover. Press the cover into place and hold until set, ensuring a close fit with minimal gap.

STEP 23

PARTS for this step
BANDITO_SERVO_PUSHROD
BANDITO_SERVO_CLIP

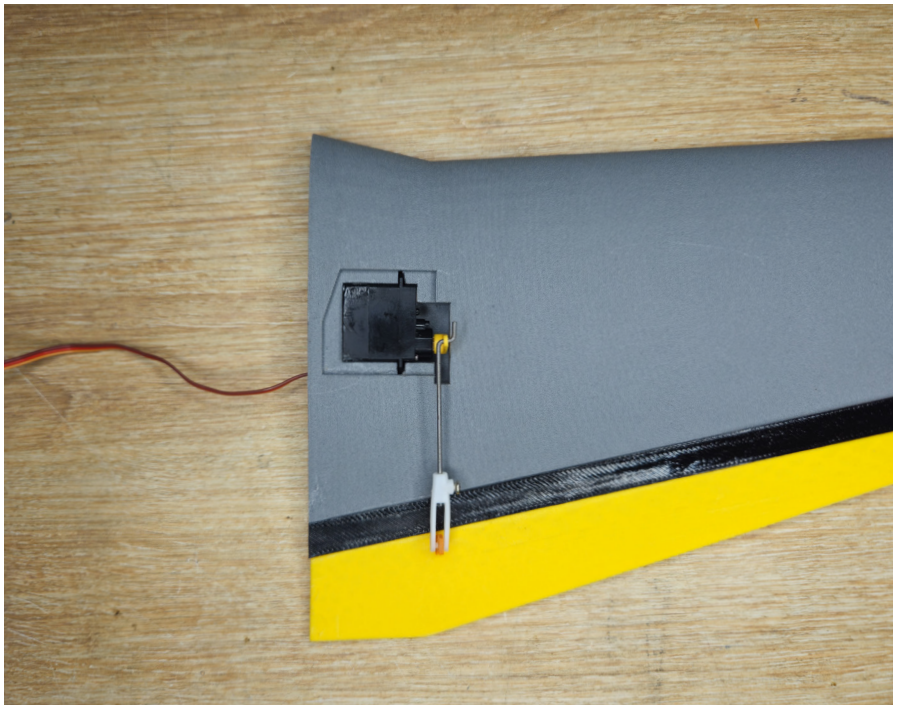
REPEAT
L ← → R



Cut the push-rod down to size and fit the clip in place as shown. Don't tighten the screw all the way yet as this will be done with the elevon in place to set the neutral point.

STEP 24

The pushrod should fit tightly in the servo horn



REPEAT

L ← → R

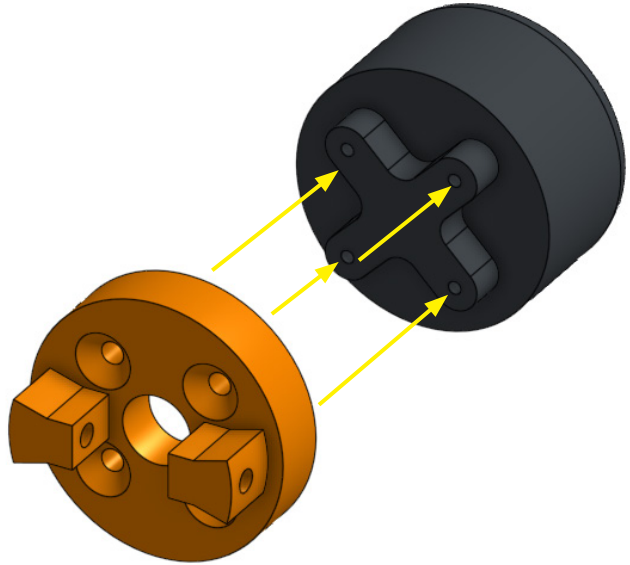
Connect the pushrod link to the servo horn, then secure the clasp in the bottom hole of the elevon horn as shown.

STEP 25

Do not overtighten the fasteners.

PARTS for this step

BANDITO_MOTOR
BANDITO_MOTOR_MOUNT
BANDITO_FASTNER_M2*8 (X4)

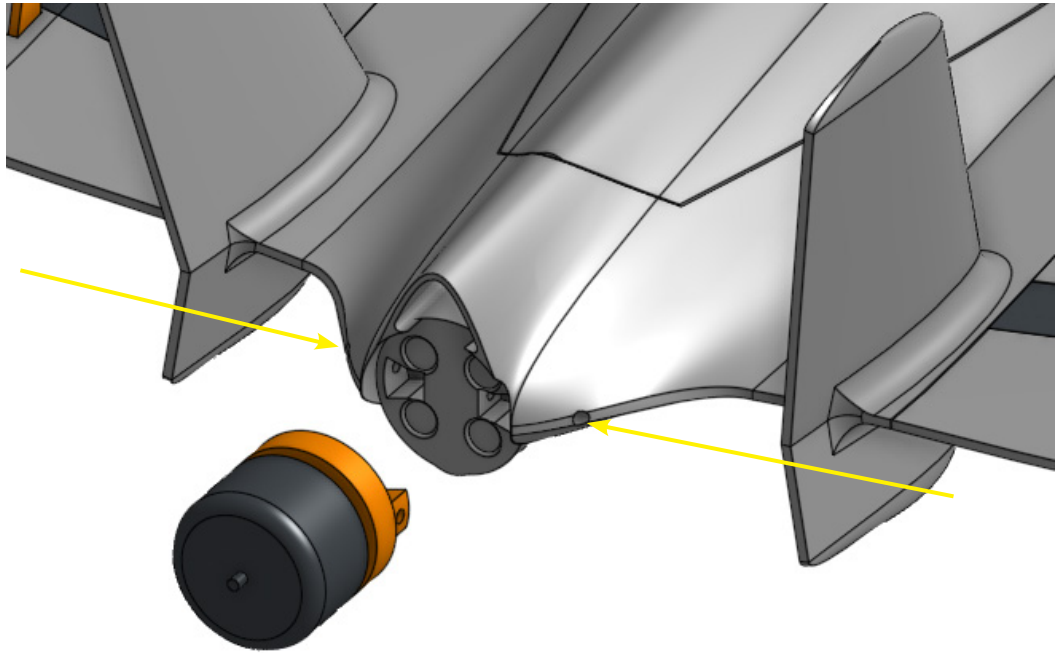


Fasten the motor to the motor mount using four M2×8 mm flat-head machine screws. When fully tightened, the assembly should sit flush with the rear fuselage section, with no gap between the motor and the mount face. Tighten all fasteners evenly.

STEP 26

Do not overtighten the fasteners.

PARTS for this step
BANDITO_FASTNER_M2*16 (X2)



Install the motor mount into the tail of the aircraft and secure it with two M2×16 mm fasteners. Check that the motor sits flush with no gaps, then tighten the fasteners evenly without over-tightening. Route the twisted motor wires through the slot on the underside of the fuselage so they emerge beneath the rear canopy section.

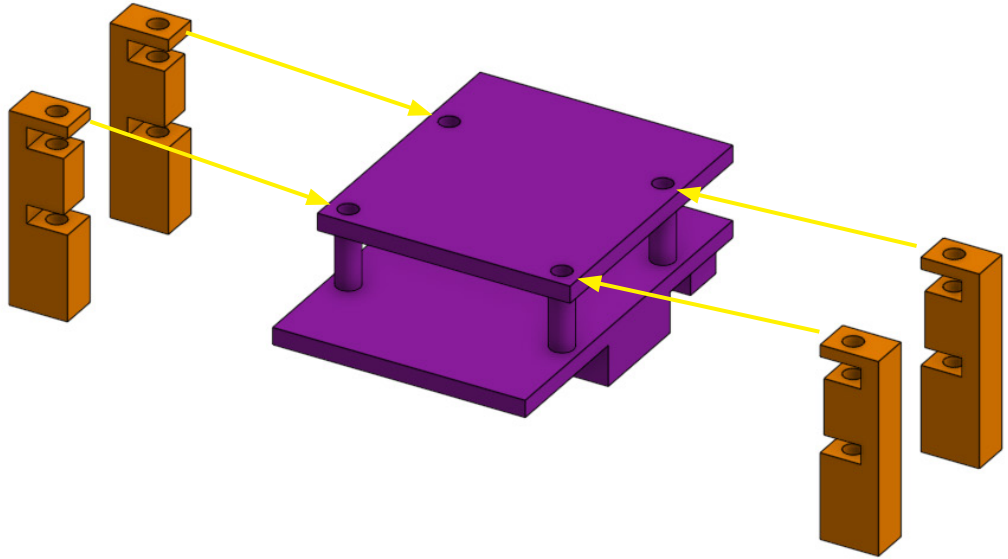
STEP 27

Check that the assembly sits level on the surface and that all legs are aligned squarely.

PARTS for this step

BANDITO_F405_WING_MINI

BANDITO_FC_MOUNT (X4)

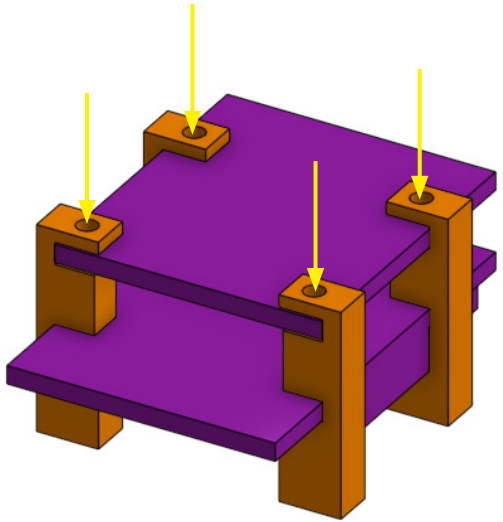


Slide the FC mounts onto the FC board, these will correctly space and retain the Flight controller PCB boards. Make sure that each leg fits correctly

STEP 28

PARTS for this step

FILAMENT_1.75mm_L_10mm

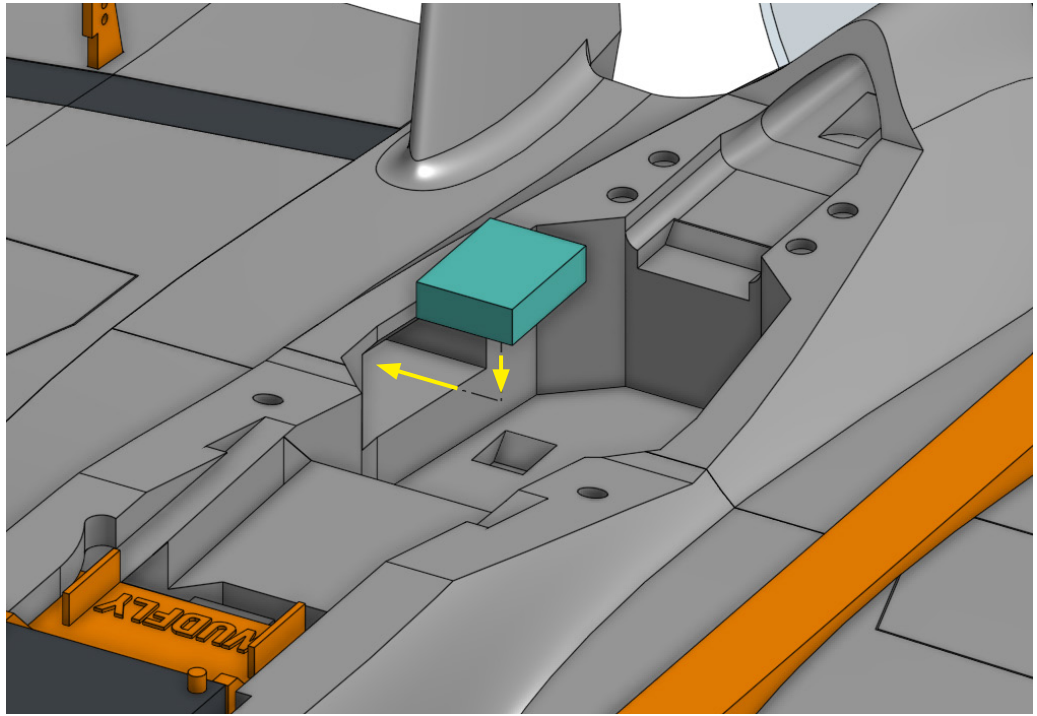


Insert four 10 mm lengths of filament into the holes to retain the flight controller in place and complete the assembly. The filament may need to be straightened first.

STEP 29

PARTS for this step
BANDITO_RP2_ELRS

DRY FIT FIRST.

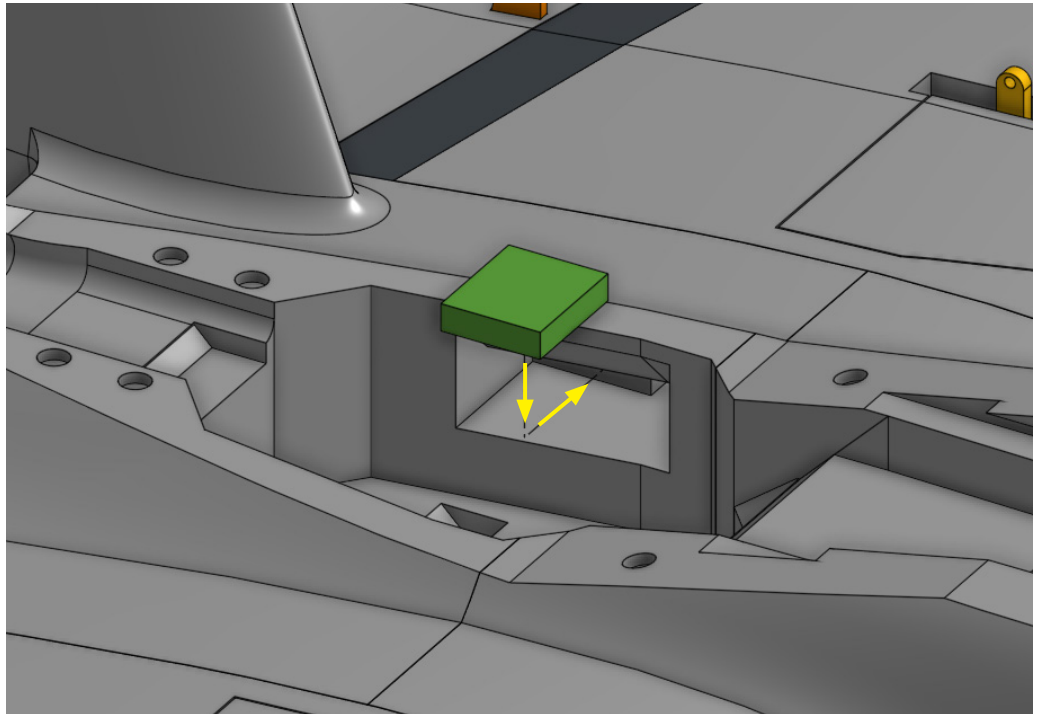


Cut a strip of double-sided tape and apply it to the back of the ELRS receiver. Press the receiver into place, then move the wiring to the side.

STEP 30

PARTS for this step
BANDITO_NANO_GPS

DRY FIT FIRST.



Apply a strip of double-sided tape to the back of the Nano GPS unit, then press it into place in the same way as the ELRS receiver.

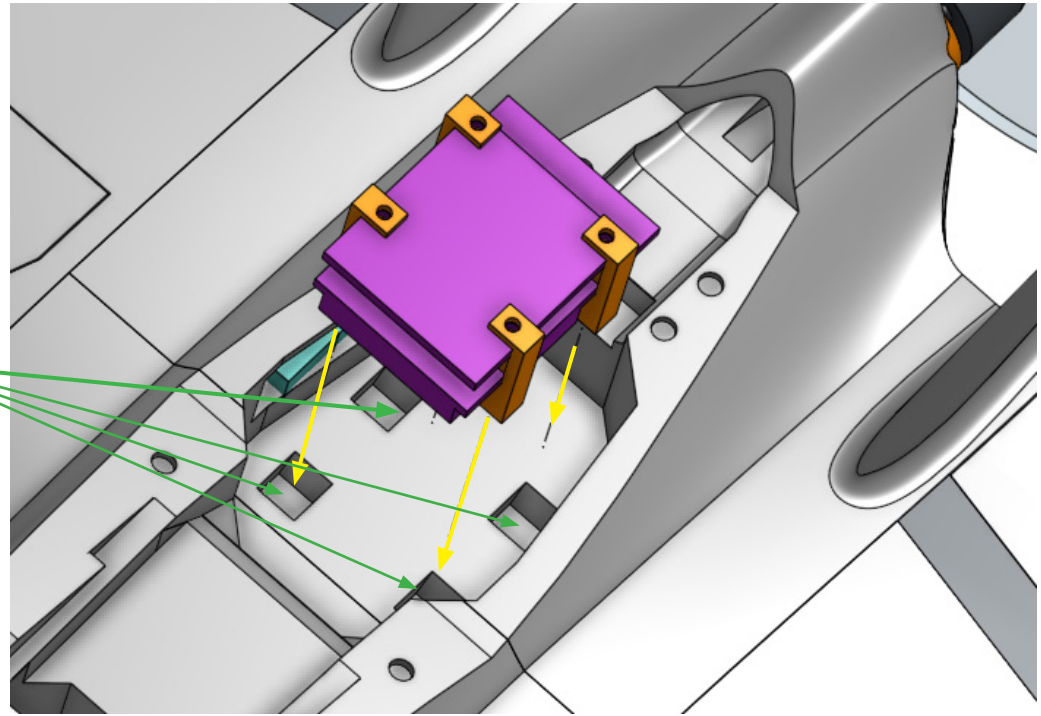
STEP 31

Check that the assembly sits level in the aircraft and that all legs are square in their slots.

PARTS for this step
BANDITO_F405_ASSEMBLY

DRY FIT FIRST.

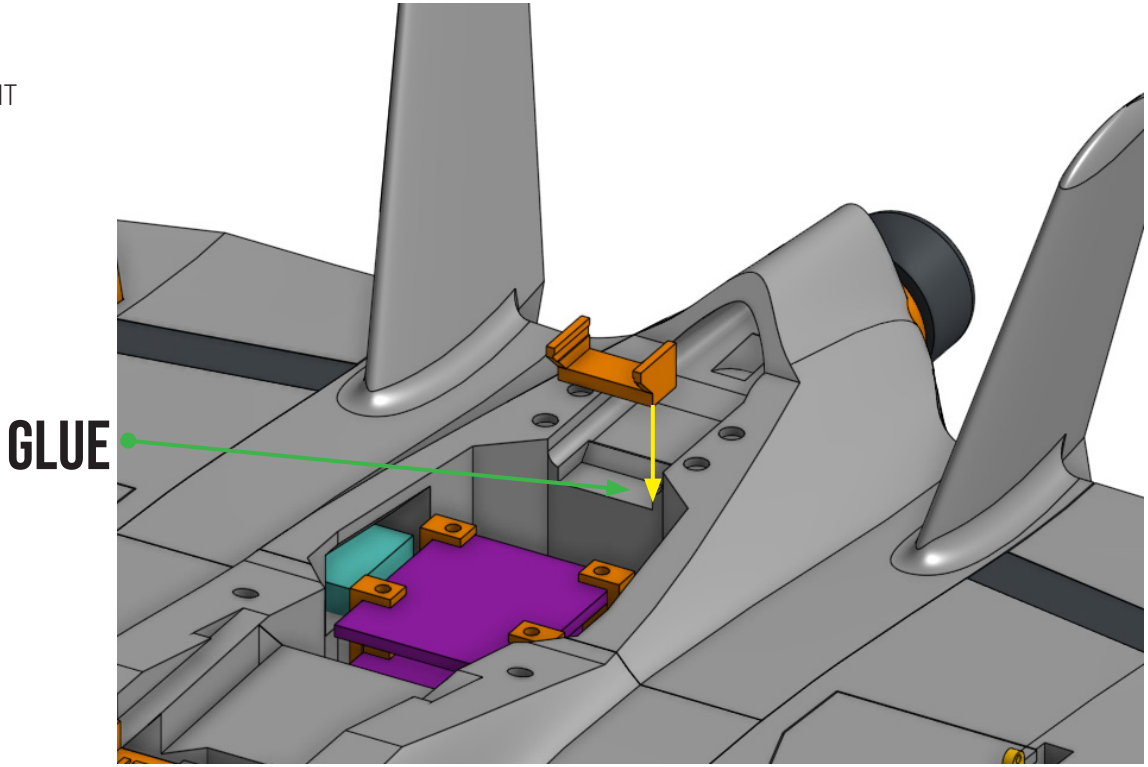
GLUE



Apply glue into each of the recesses in the fuselage and lower the flight controller into place. It is critical that the flight controller is flat and level with the aircraft. Take care with this step to not trap any wires. Make sure that the F405_USB_CABLE is attached so that the USB_PCB can be attached later for setup and tuning.

STEP 32

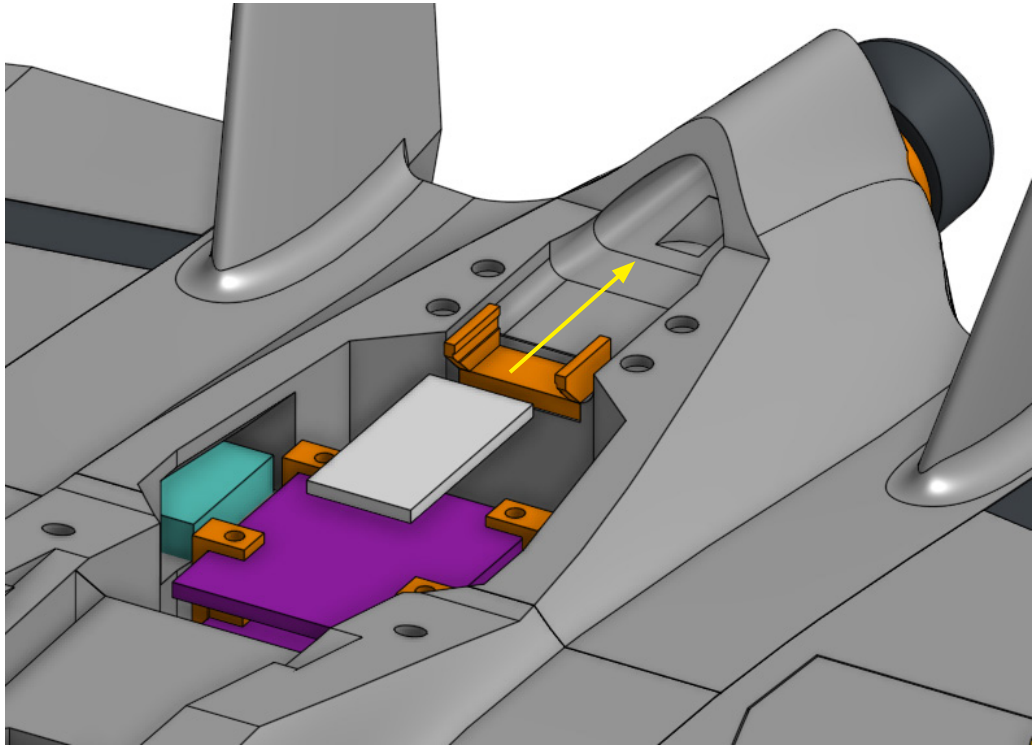
PARTS for this step
BANDITO_ESC_MOUNT



Glue the ESC mount in place.

STEP 33

PARTS for this step
BANDITO_ESC

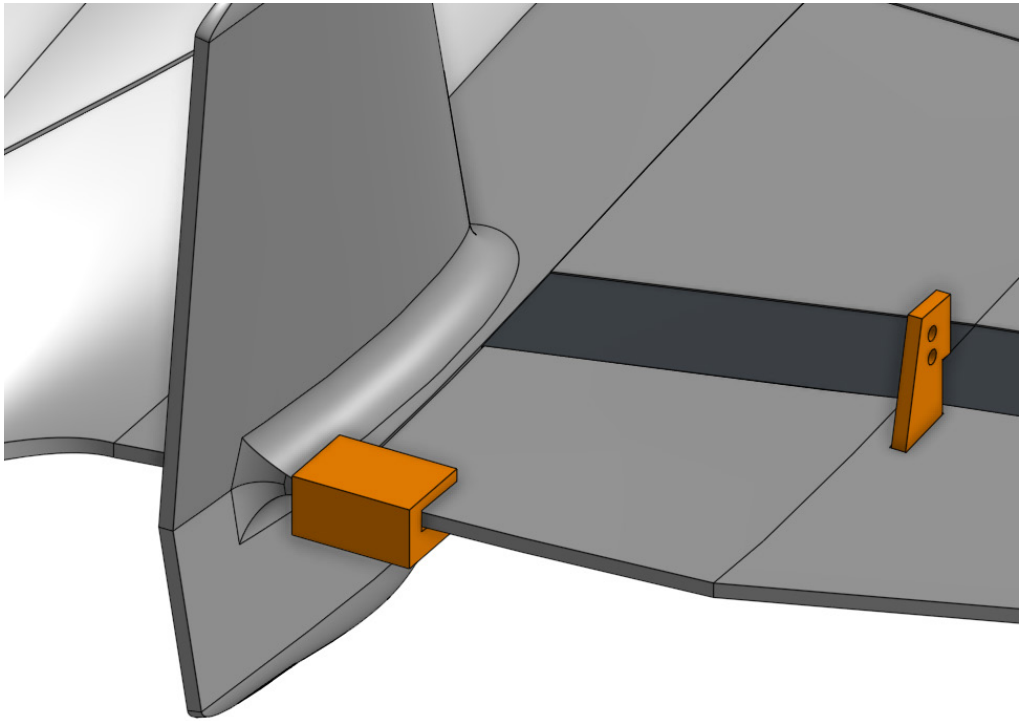


Slide the ESC into place and solder the motor wires onto the pads.

STEP 34

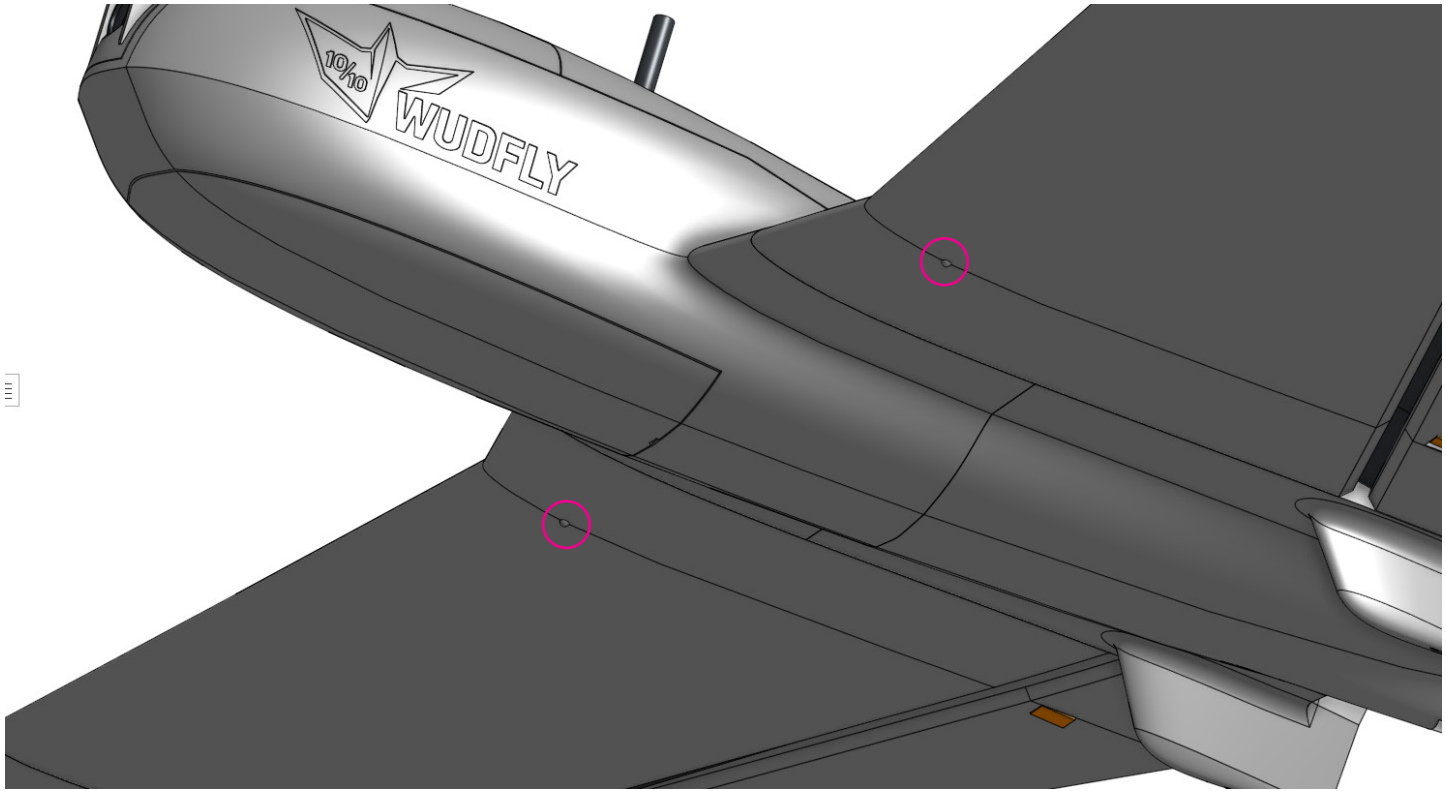
The pushrod should fit tightly in the servo horn

PARTS for this step
BANDITO_ELEVON_TOOL (L/R)



With the servos powered and centred, place the aircraft on its stand and make sure flight mode is set to Acro so the servo centres are at true neutral. Hold the elevon in the neutral position using the elevon clip, then tighten the screw. Trim is managed by the flight controller.

CG LOCATION



Balance the aircraft on these two points, taking care not to damage the surface while handling it. Move the battery within the bay until the correct balance is achieved. For best performance, the battery will generally sit as far rearward as possible.

ELECTRONICS

ASSEMBLY PRINCIPLES

The BANDITO electronics setup is very similar to a standard FPV drone and uses almost all of the same core components. If you already have experience building FPV drones, the process should feel familiar and straightforward, with a similar amount of soldering.

The main soldered connections are:

Battery leads to the flight controller
flight controller to ESC power leads
ESC to motor wires

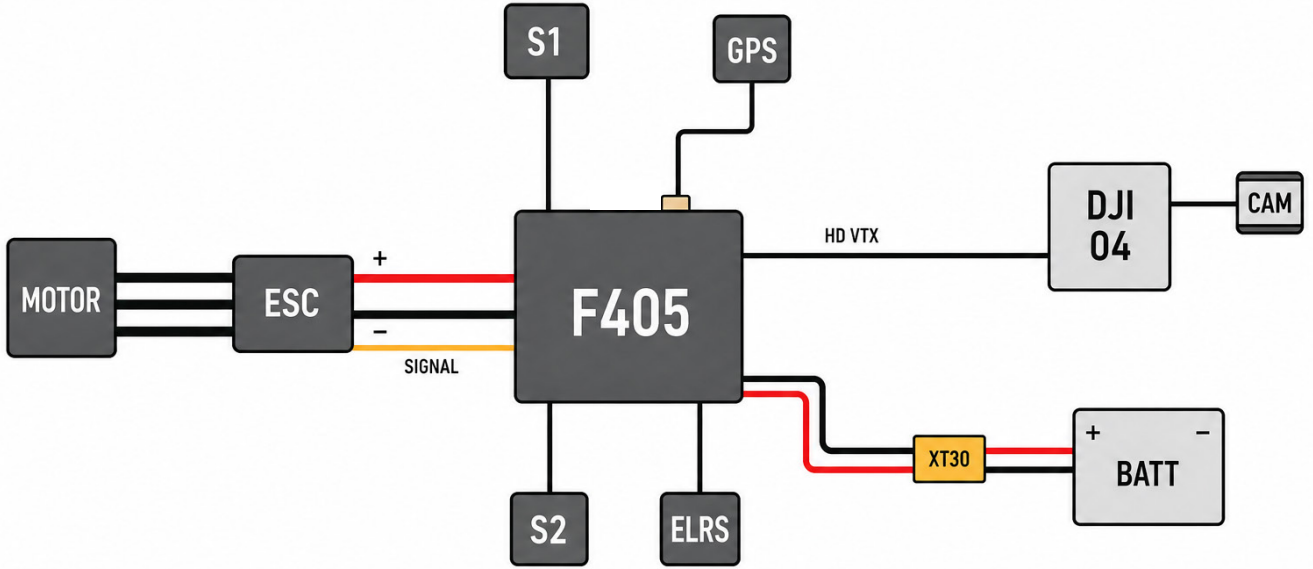
All other wiring follows standard FPV practice, with one exception: the DJI air unit uses a separate 10 cm HD_VTX cable, which must be purchased separately.

The installation inside the aircraft is compact, so take your time when routing wires and positioning components. Before permanently installing anything in the aircraft, bench-test the full electronics system to confirm that all components power up and function correctly.

Take normal care when soldering, and work neatly. A clean installation will make setup, maintenance, and troubleshooting much easier.

If you are unsure about any part of the electronics setup, there are excellent video tutorials available online for nearly every step of the process. It is strongly recommended that you review these if anything is unfamiliar.

WIRING DIAGRAM



WARNING: Remove the propeller during all electronics setup, receiver binding, servo testing, INAV configuration, ESC testing, and motor direction checks.

WARNING: Do not leave the DJI O4 powered for long periods without airflow. During bench setup, use a fan or keep powered-on time short.

INAV SETUP

BANDITO is supplied with INAV configuration files for the recommended component set. These provide a working baseline to get the aircraft flying, but they should always be treated as a starting point rather than a substitute for proper setup checks.

Over time, I am developing a more robust tuning package for the aircraft, with different setups aimed at different pilot preferences and experience levels. As these are released, you will be able to choose between a default build and a developer build.

The default build is intended as the standard starting point. It uses a proven baseline setup with sensible parameters and a more accessible flight feel. The developer build reflects the setup I personally fly, with tuning and behaviour aimed more at my own preferences. This version may suit more experienced pilots, especially in more aggressive flying.

Future releases may also include more clearly defined tune profiles, such as beginner, easy, and full acro variants.

Whichever file you choose, you are responsible for checking that all settings are correct for your aircraft, radio setup, and flying style before flight. This includes control direction, elevon throws, switch assignment, arming logic, failsafe behaviour, launch settings, and general aircraft response.

Configuration files are loaded by flashing the supplied CLI file into INAV. Always complete a full pre-flight check and confirm that the aircraft responds correctly before flying.

PRE-FLIGHT CHECKS

ACRO / MANUAL MODE

Direct control — aircraft responds to your input.

INPUT	ELEVON RESPONSE
↑ PITCH UP	Both elevons up
↓ PITCH DOWN	Both elevons down
→ ROLL RIGHT	Right elevon up, left elevon down
← ROLL LEFT	Left elevon up, right elevon down

RECOMMENDED ELEVON THROWS	UP:	DOWN:
	10 mm	6 mm

STABILISED MODE

The aircraft should correct against the disturbance.

INPUT	ELEVON RESPONSE
↓ NOSE DOWN	Both elevons up
↑ NOSE UP	Both elevons down
→ ROLL RIGHT	Right elevon down, left elevon up
← ROLL LEFT	Left elevon down, right elevon up

FINAL CHECK

Check that both elevons are matched and move freely with no binding.

PRE-FLIGHT CHECKS

[ ] Prop removed during setup
[ ] Battery secured
[ ] CG checked
[ ] Elevons move freely
[ ] Left/right elevon response correct
[ ] Pitch response correct
[ ] Roll response correct
[ ] Failsafe tested
[ ] GPS lock confirmed if using launch/RTH features
[ ] VTX antenna connected before powering DJI O4
[ ] Prop installed in correct direction
[ ] Launch mode tested without prop
[ ] Range check complete

10/10 WUDFLY

PERFORMANCE PLANES. PRINTED