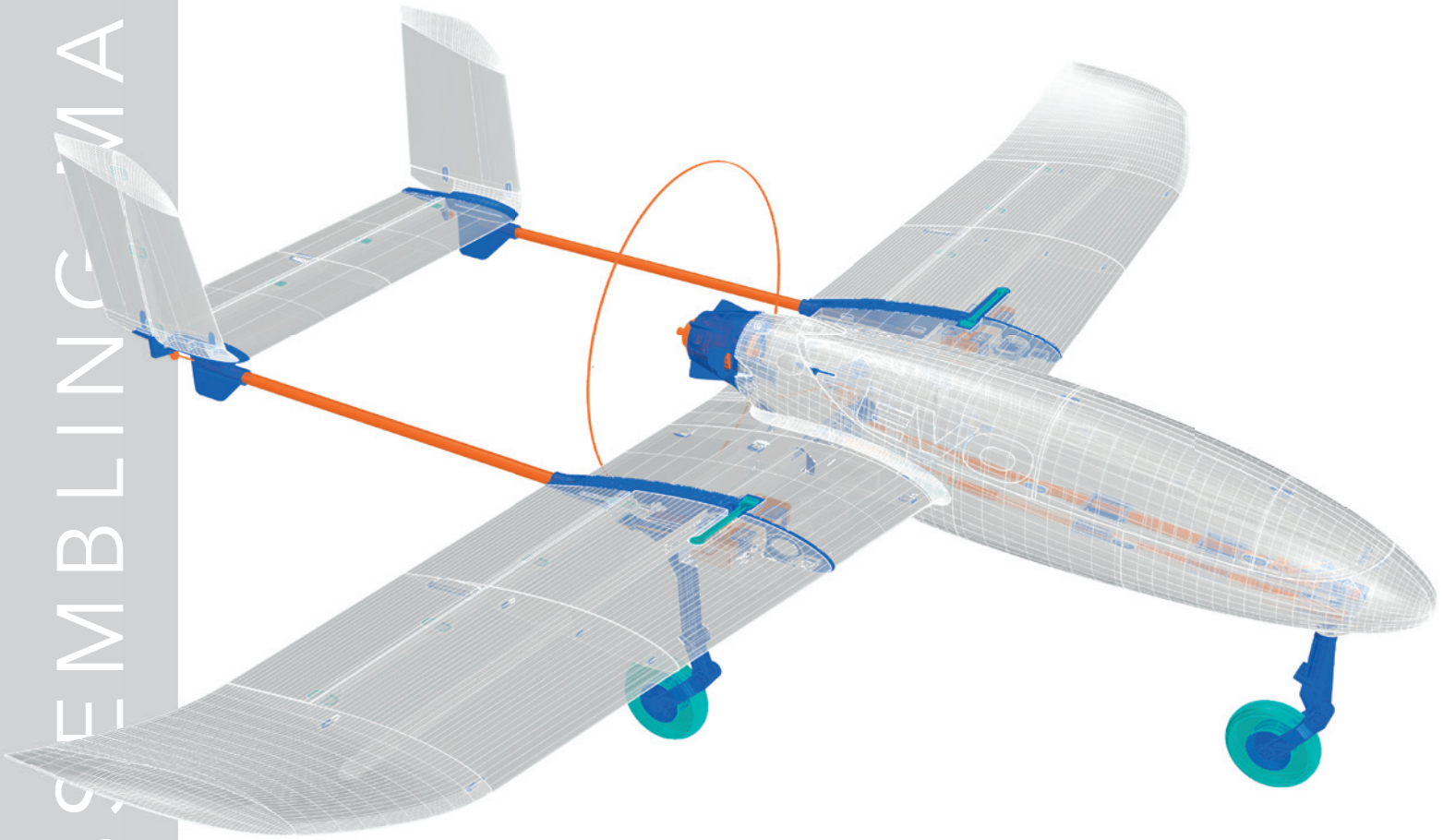
PRINTING & ASSEMBLING MANUAL

PLANE PRINT

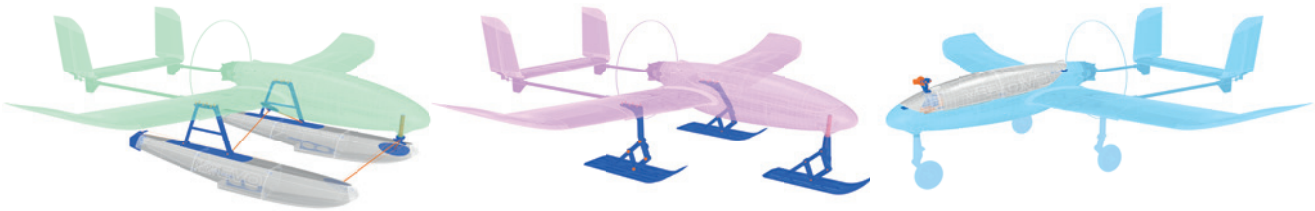


PLANE PRINT EVO

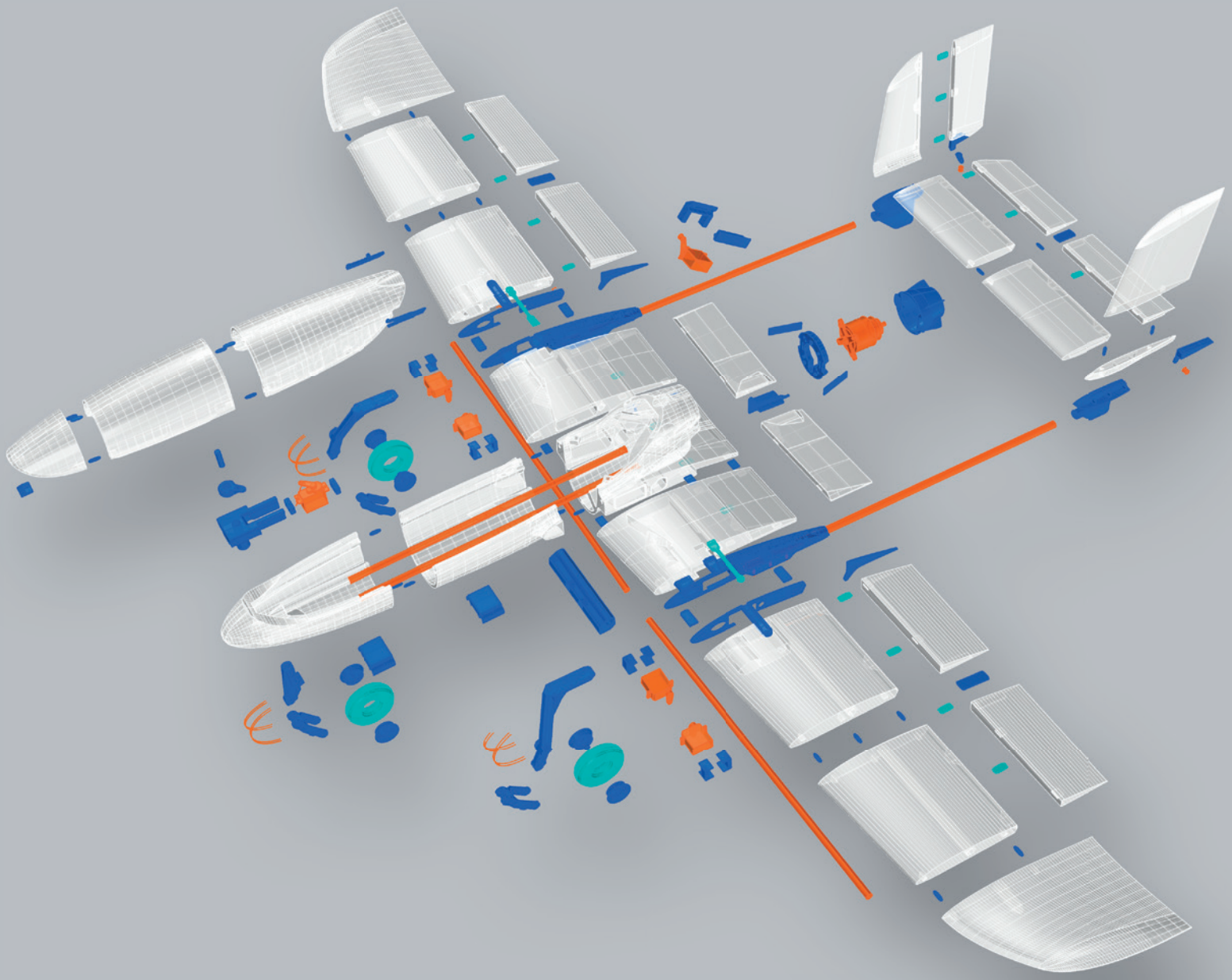
Modular motorized flight Trainer

Size 180x180x180
BAMBU A1 MINI
and PRUSA MINI

On our website, you will find **additional packages** for **Floats**, **Skis**, and **FPV** …



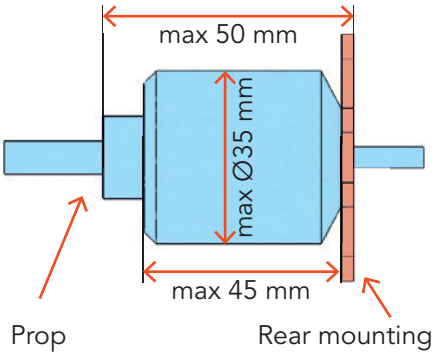
PLANE PRINT EVO

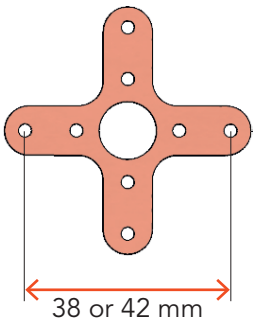


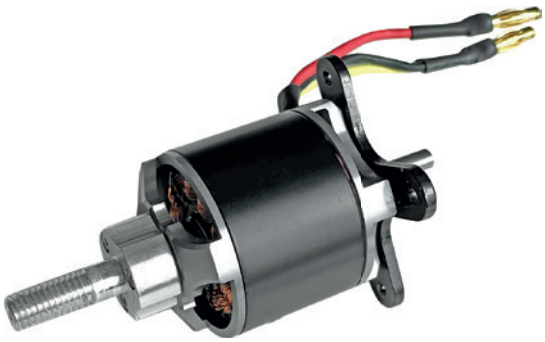
LW-PLA PLA TPU OTHER

RC Components

MOTOR Motors up to Ø 35 mm, for example: **Kavan Brushless Motor PRO 2836-1050 600-950g** or comparable motors







PROP **9x6, 10x5** (maximum possible 10 inch)

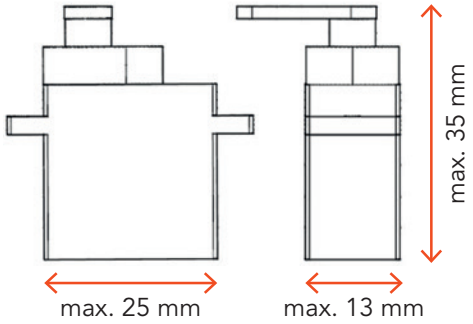
BEC-CONTROLLER min. 30 A (must fit the engine!)

RECEIVER **7 Channel** (Throttle, 2xAileron, Elevator, Rudder, Flap, Nose Gear)

BATTERY **3S LiPo-Battery**, 2500 – 3000 mAh (Ideal weight 210g, can also be heavier)
A setting with 4S is of course also possible, prop size must then be adjusted accordingly.

SERVOS **6 pieces** like **Corona 929MG, Savöx SH-0254, KST Clubman CM509MG** or equivalent

Maximum dimensions:



SERVO EXTENSION CABLE 200 mm, **2 Pieces**

Required accessoires – basic equipment

Links to recommended accessories can be found on
www.planeprint.com/evo (scroll down)

- **LW-PLA** foaming! **(cannot be replaced by PLA!)**, ~350 grams
- **Tough PLA**, ~200 grams
- **TPU A95 and LW-TPU Colorfabb VarioShore**, ~100 grams


Tapping screws Ø2mm

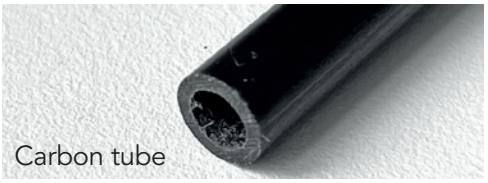
Materials

- CA super glue (thin and liquid medium)
- CA activator
- Sortiment of Tapping screws Ø2mm
- Sortiment of Metal Screws Ø3mm
- Carbon tube Ø8mm*1000mm (inside 6mm), 3 pieces
  Cut the tubes to the following lengths (mm):
  2x465, 2x400, 2x331, 1x66mm
- Steel wire Ø0.8*1000mm, 2 pieces
- Rod connection (hole for Ø1mm steel wire), 3 pieces
- Self-adhesive Velcro tape
- Ball bearings 3x6x2.5mm, 6 pieces (optional for better wheel running)
- Neodym-Super-Magnet 5x5x5mm, 4 pieces (optional)

Metal screws Ø3mm

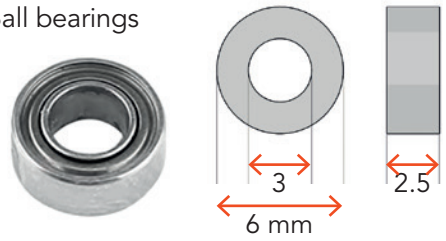
Tools

- Cutter knife
- small Philips screwdriver
- Sandpaper grain ~150
- Metal saw
- Needle nose pliers
- Ø2mm drill (optional)


Carbon tube


Rod connection hole Ø1mm

Ball bearings



The development of a complex, airworthy RC flight model to express on any standard 3D printer is a very extensive process. **Therefore, we appeal to your fairness not to forward the STL data you have acquired to third parties.**

Thank you for your understanding and have fun with your PLANEPRINT MODEL!

Printing the parts – Printing profiles

This manual is constantly being improved and supplemented, we recommend downloading the **latest version** from our website **before building**.

To print all **PLANEPRINT** models **you need to set some basic profiles in Cura** (If you use another slicer, please set the same parameters).

You can find the description at www.planeprint.com/print

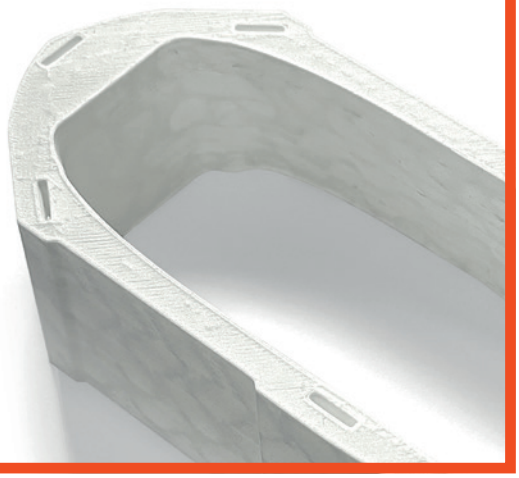
For this model you need the following profiles:

P1 P2 P4 P5

NOTE When printing the PLANEPRINT EVO you should pay particular attention to a light weight of **each** individual part.

PROFILE P5_Gyroid

It is **essential for the necessary stability** of the **LW parts printed with PROFILE_5 are as stable as possible**. Please use a test part to check the strength by fracture tests. It must not break along the layer lines under any circumstances! Also note that the printing temperature for LW-PLA is as low as possible to obtain a wall thickness of 0.4 to 0.6 mm at a flow of 55 to 65 % (depending on brand and printer).
Caution: at too high temperatures, LW-PLA becomes brittle and breaks more easily.



PROFILE P1_Fullbody Tough PLA or PLA

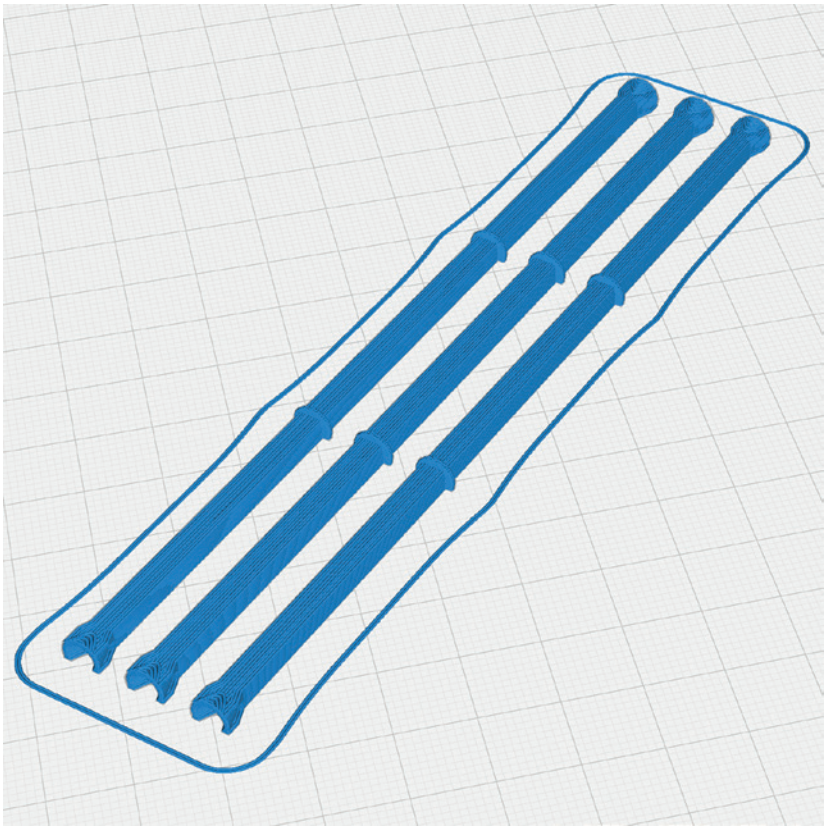
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P1_Bowden_evo.stl

MATERIAL PLA, Weight: ~ 4 g

ADDITIONAL SETTINGS

- Print this twice

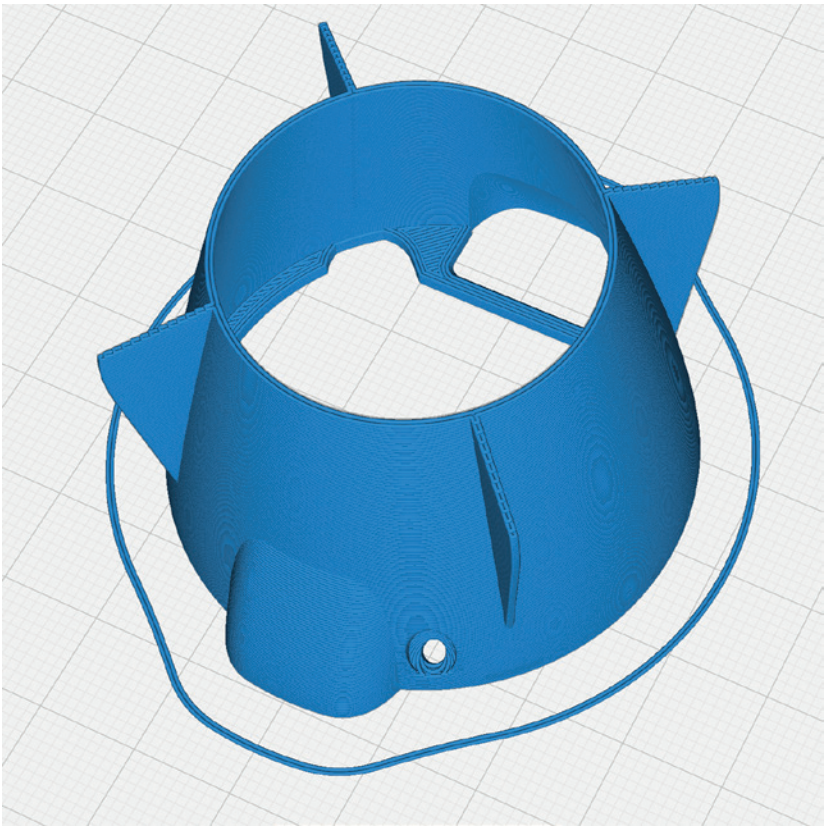


P1_Cowling_evo.stl

MATERIAL PLA, Weight: ~ 6 g

ADDITIONAL SETTINGS

None required



PROFILE P1_Fullbody Tough PLA or PLA

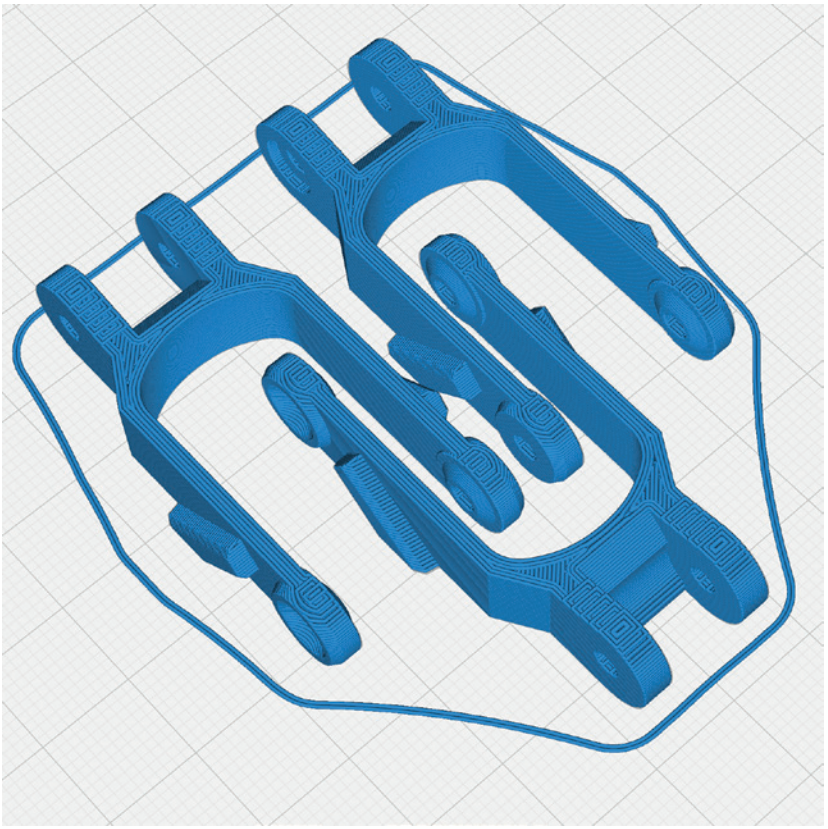
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P1_Knuckles_evo.stl

MATERIAL PLA, Weight: ~ 11 g

ADDITIONAL SETTINGS

None required



P1_Motormount_evo.stl

MATERIAL PLA, Weight: ~ 10 g

ADDITIONAL SETTINGS

None required

PROFILE P1_Fullbody Tough PLA or PLA

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P1_Parts_evo.stl

MATERIAL PLA, Weight: ~ 9 g

ADDITIONAL SETTINGS

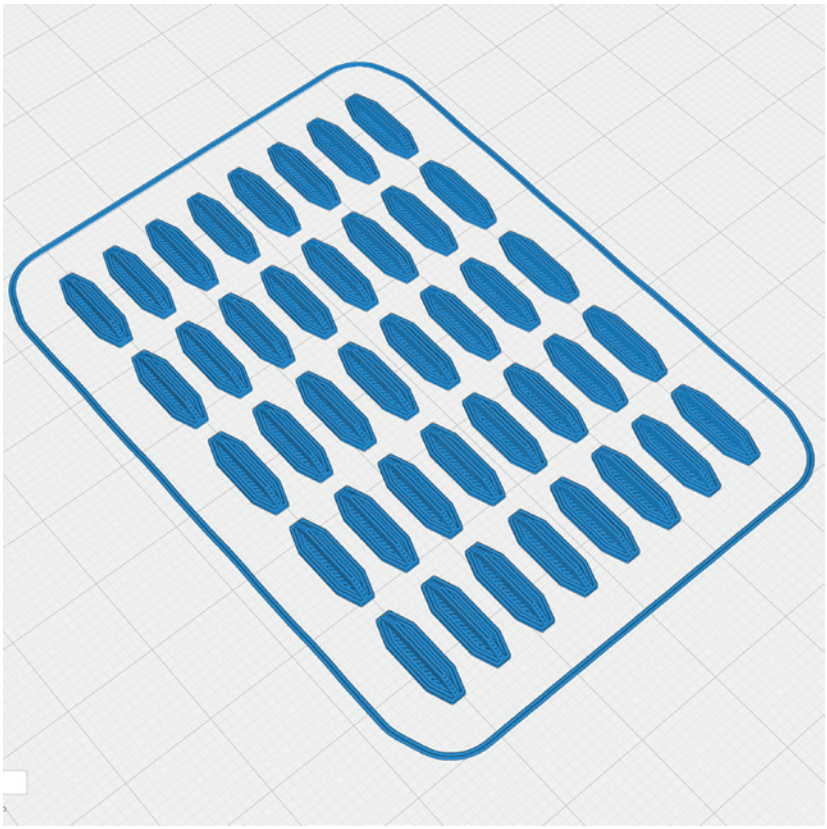
None required

P1_T-Connects_evo.stl

MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody Tough PLA or PLA

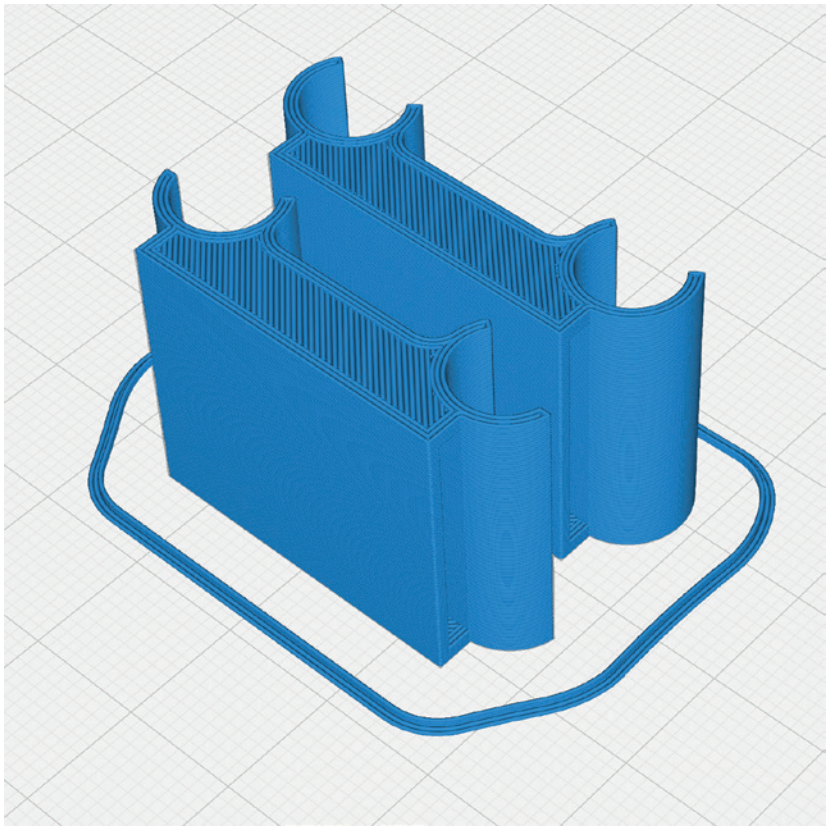
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Battery mount_evo.stl

MATERIAL PLA, Weight: ~ 8 g

ADDITIONAL SETTINGS

None required

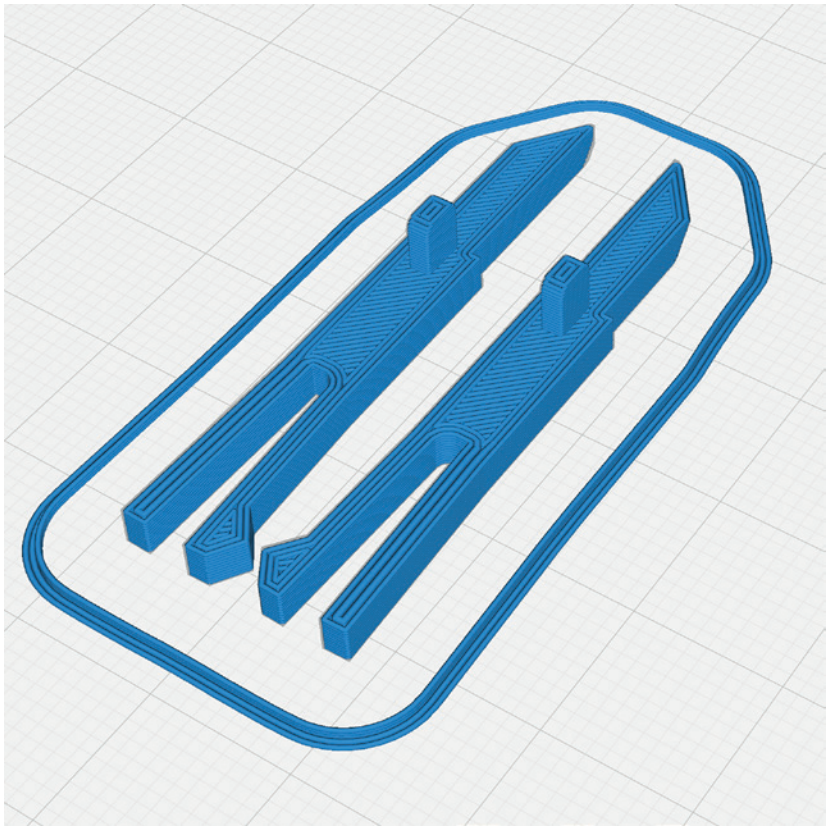


P2_Cano lock_evo.stl

MATERIAL PLA, Weight: ~ 1 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody Tough PLA or PLA

P2

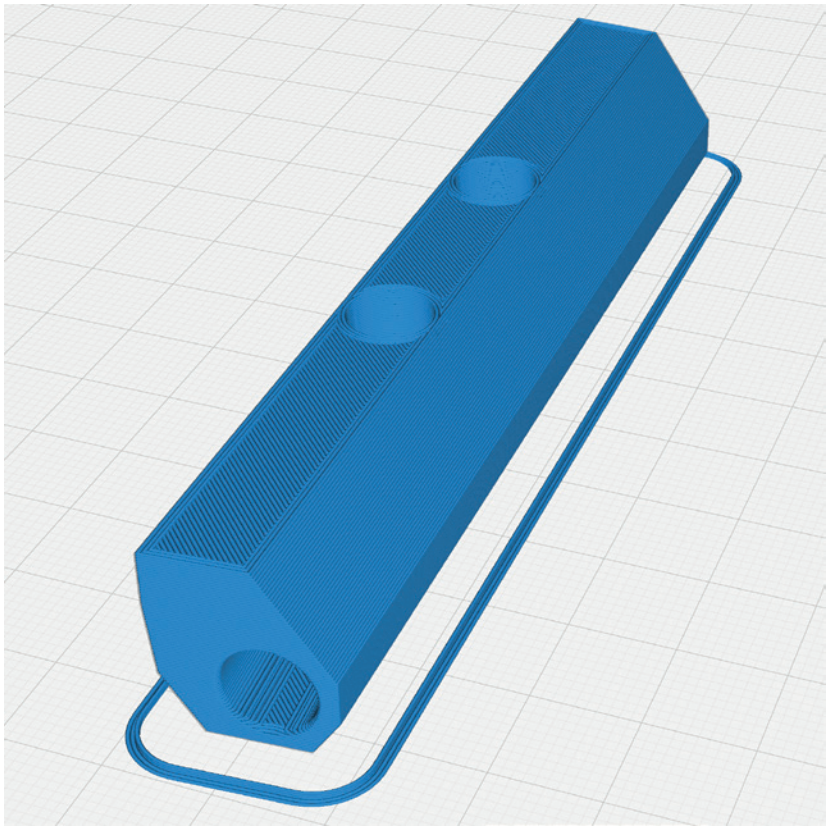
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Center part_evo.stl

MATERIAL PLA, Weight: ~ 14 g

ADDITIONAL SETTINGS

- Wall Line Count/Perimeters: 3
- Top Layers: 3
- Bottom Layers: 3

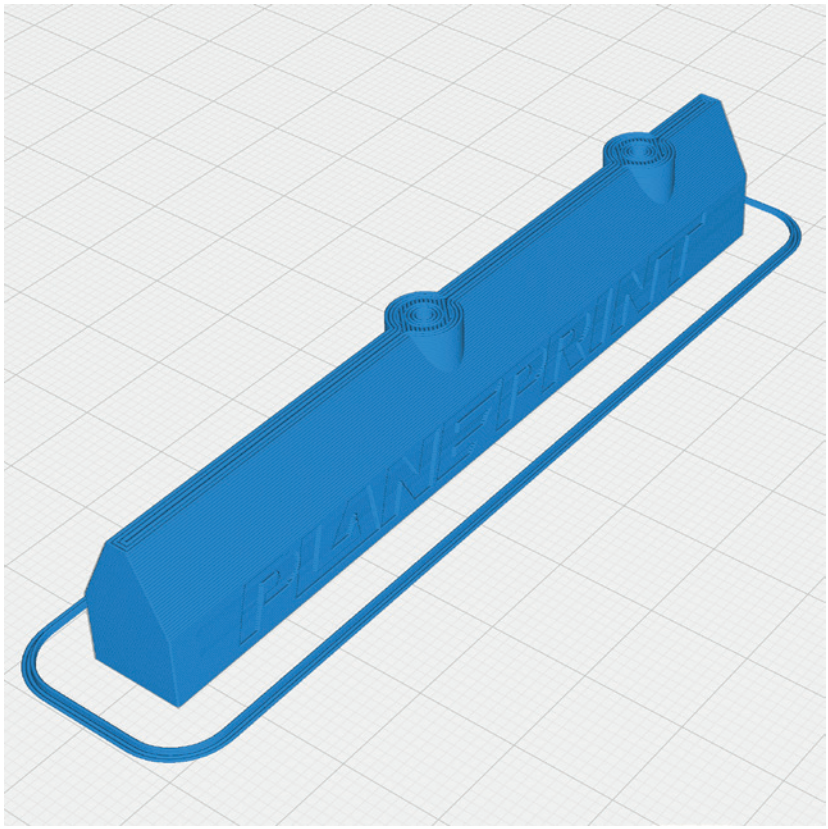


P2_Drill tool_evo.stl

MATERIAL PLA, Weight: ~ 8 g

ADDITIONAL SETTINGS

- Wall Line Count/Perimeters: 3
- Top Layers: 3
- Bottom Layers: 3



PROFILE P2_Hollowbody Tough PLA or PLA

P2

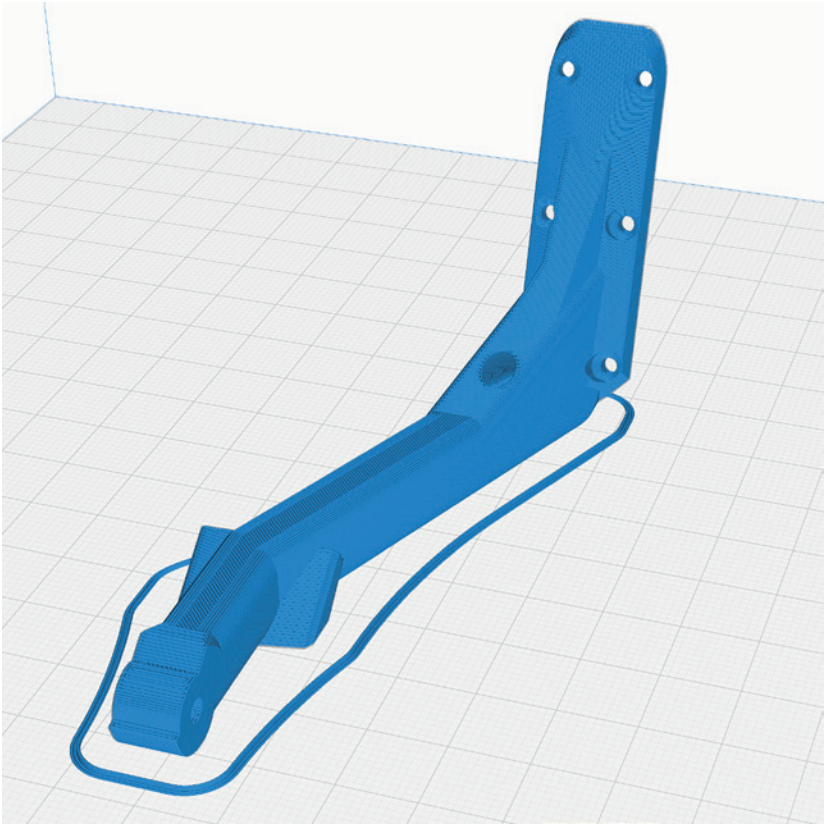
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Gear Leg L_evo.stl and P2_Gear Leg R_evo.stl

MATERIAL PLA, Weight: ~ 9 g

ADDITIONAL SETTINGS

- Wall Line Count/Perimeters: 3
- Top Layers: 3
- Bottom Layers: 3

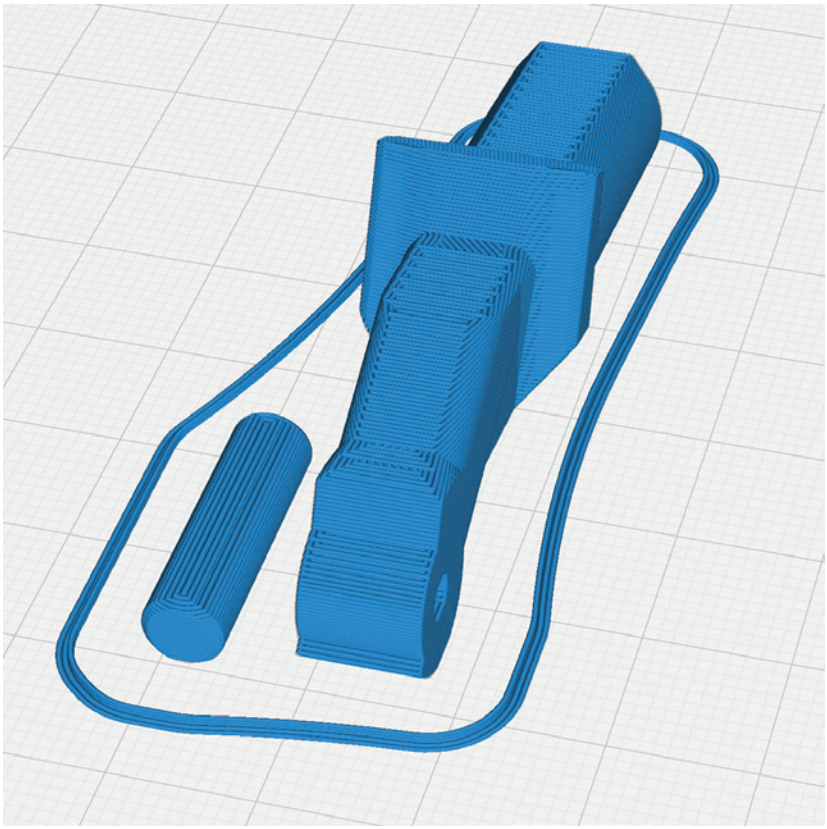


P2_Gear Leg nose_evo.stl

MATERIAL PLA, Weight: ~ 5 g

ADDITIONAL SETTINGS

- Wall Line Count/Perimeters: 3
- Top Layers: 3
- Bottom Layers: 3



PROFILE P2_Hollowbody Tough PLA or PLA

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

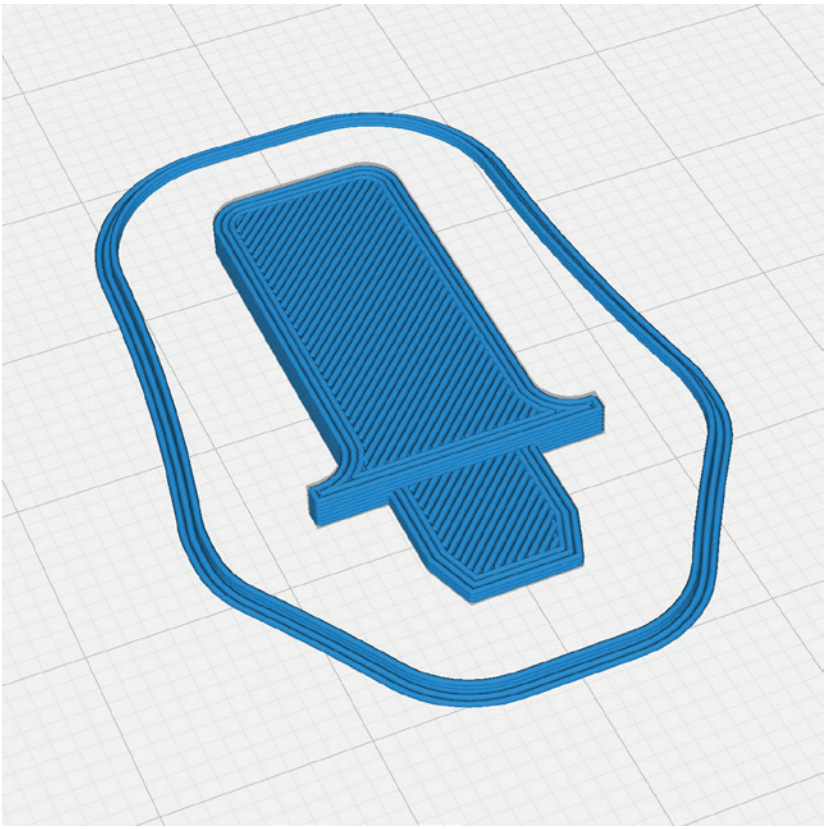
P2_Hinge tool_evo.stl

MATERIAL PLA, Weight: ~ 1 g

ADDITIONAL SETTINGS

None required

Use it to open the gaps for the hinges.

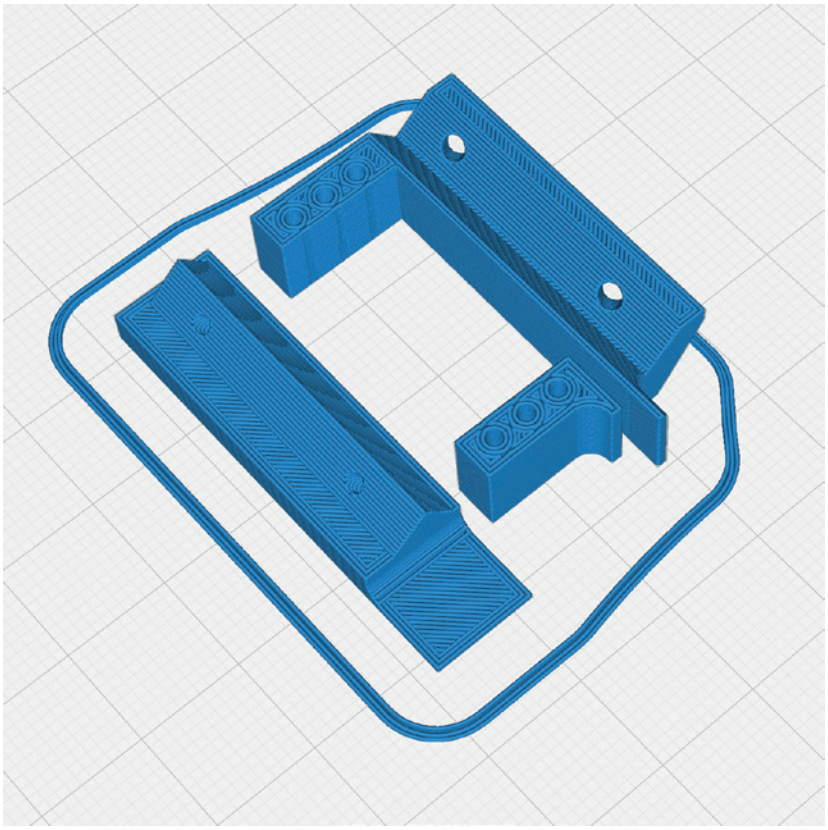


P2_Mount Flap Servo_evo.stl

MATERIAL PLA, Weight: ~ 3 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody Tough PLA or PLA

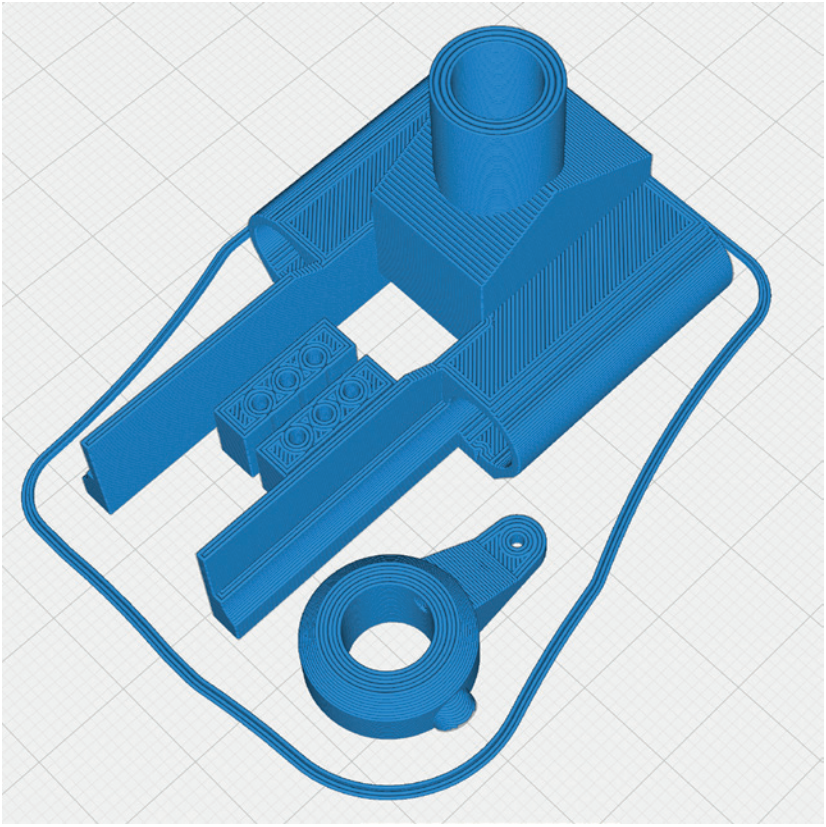
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Parts nose gear_evo.stl

MATERIAL PLA, Weight: ~ 11 g

ADDITIONAL SETTINGS

None required

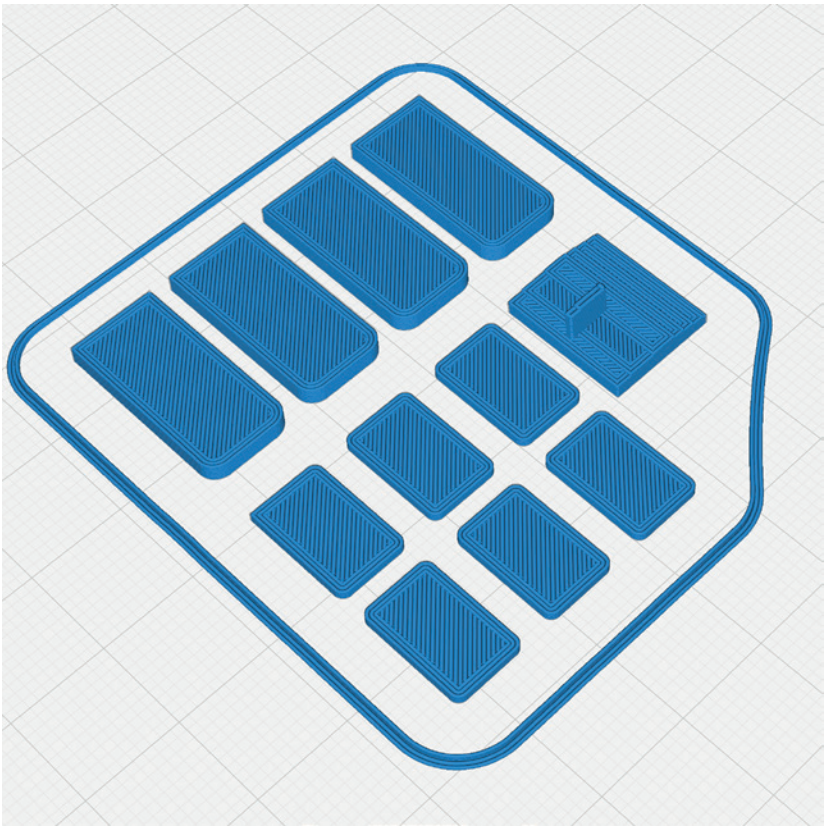


P2_Parts_evo.stl

MATERIAL PLA, Weight: ~ 3 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody Tough PLA or PLA

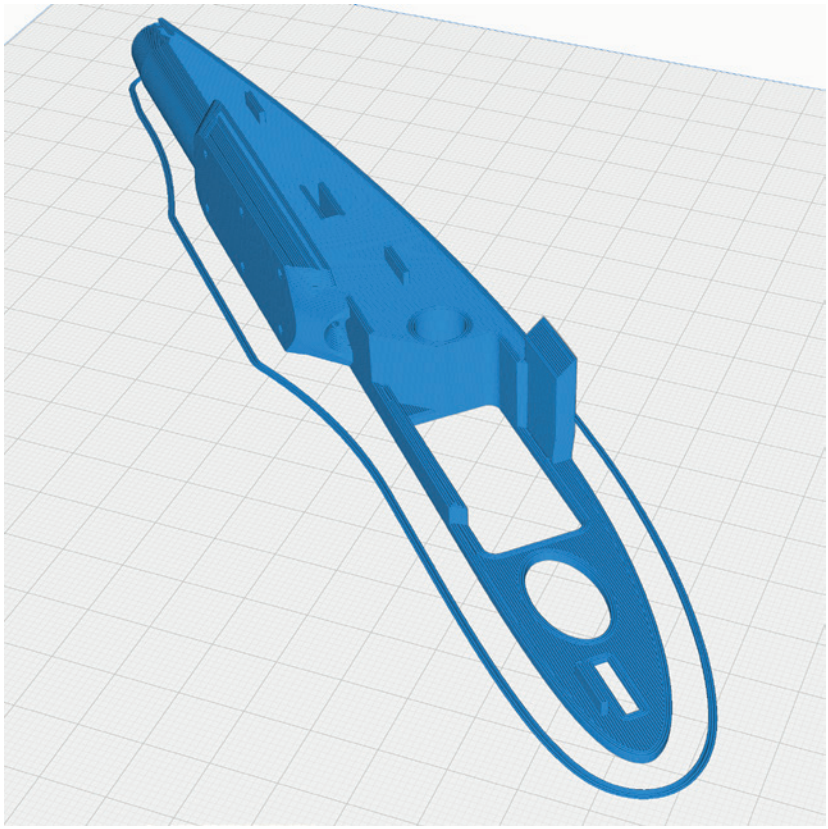
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_PROT FUS L_evo.stl and P2_PROT FUS R_evo.stl

MATERIAL PLA, Weight: ~ 16 g

ADDITIONAL SETTINGS

None required

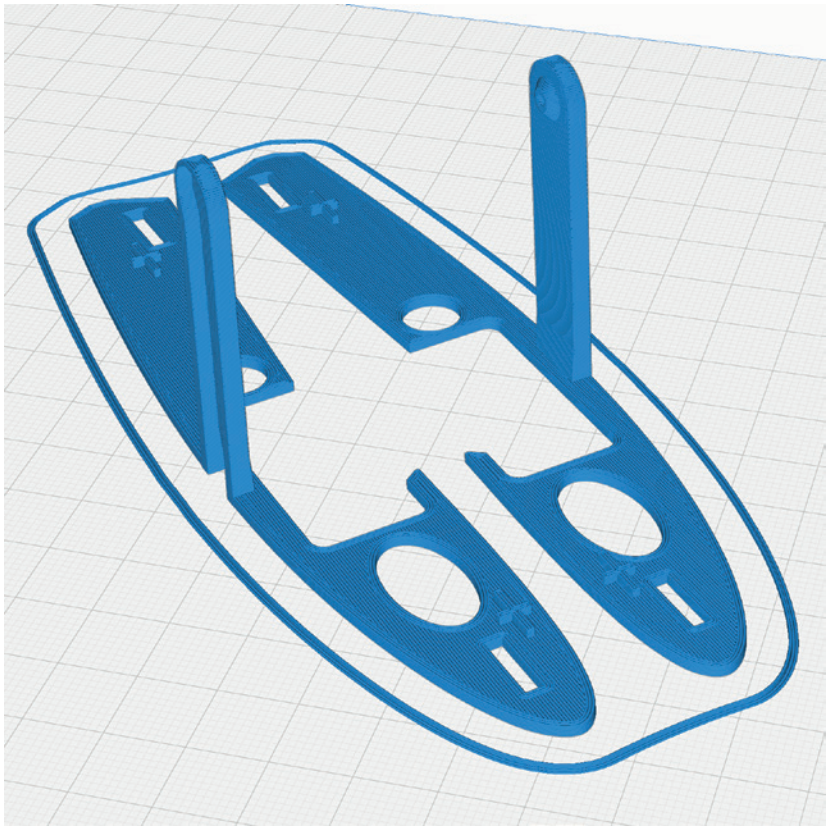


P2_PROT Wing_evo.stl

MATERIAL PLA, Weight: ~ 7 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody Tough PLA or PLA

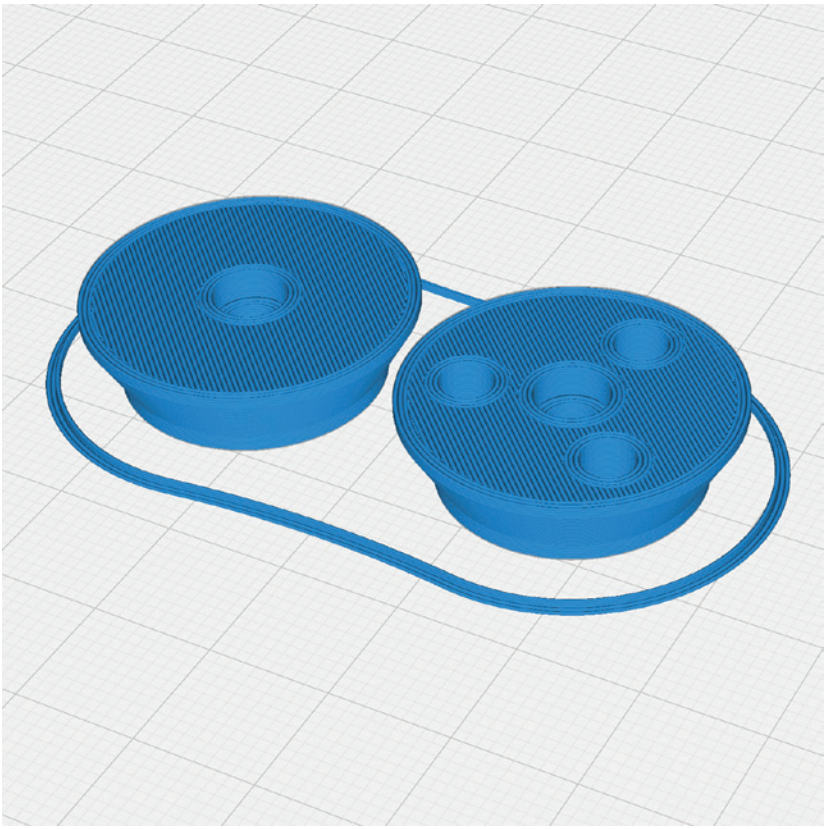
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Rim BB_evo.stl or P2_Rim_evo.stl

MATERIAL PLA, Weight: ~ 4 g

ADDITIONAL SETTINGS

- Print this three times

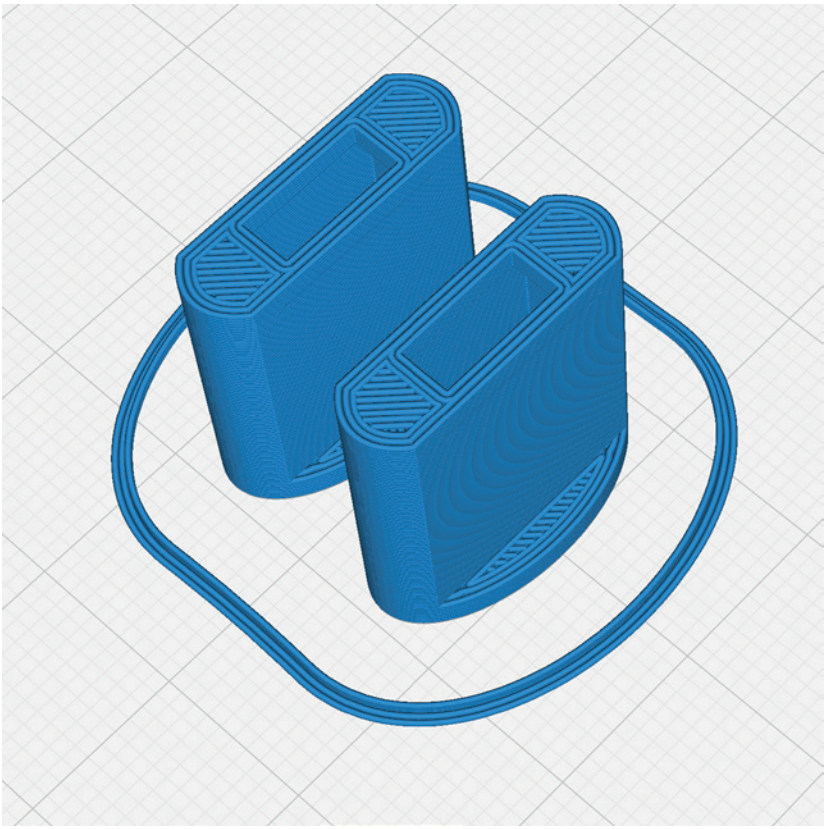


P2_Servo plug_evo.stl

MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody Tough PLA or PLA

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Tail linkage_evo.stl

MATERIAL PLA, Weight: ~ 3 g

ADDITIONAL SETTINGS

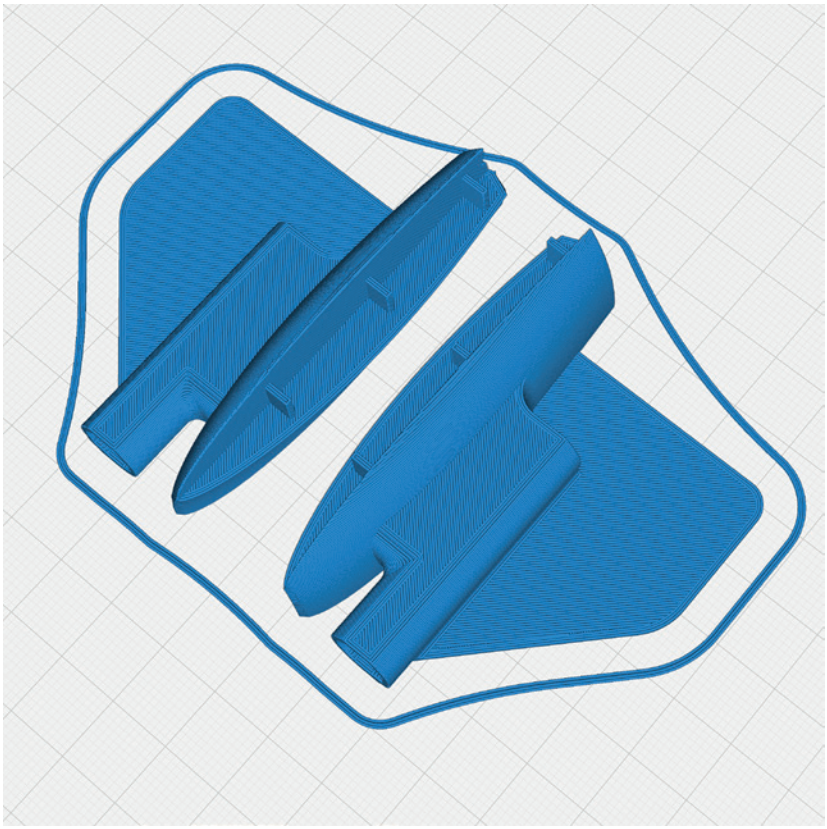
None required

P2_Tail parts_evo.stl

MATERIAL PLA, Weight: ~ 15 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody Tough PLA or PLA

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

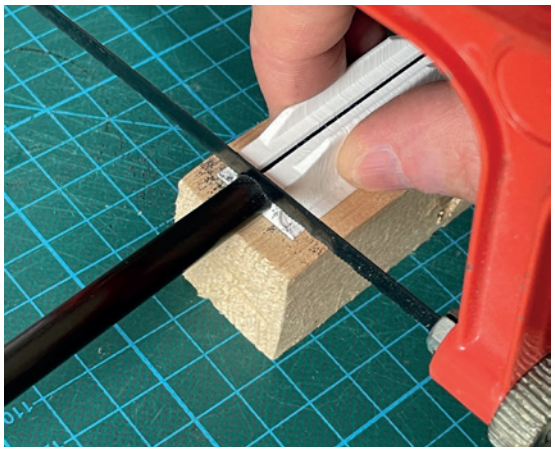
P2_Carbon tool 8mm.stl

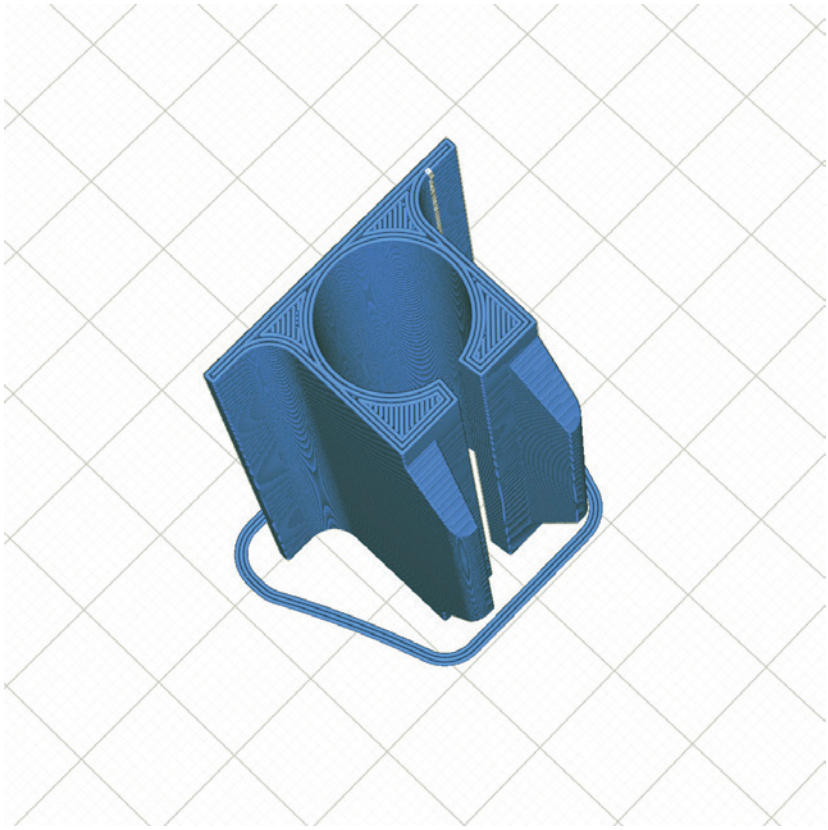
MATERIAL PLA

ADDITIONAL SETTINGS

None required

This tool helps to saw the carbon tubes





PROFILE P4_Flex LW TPU (A95/VarioShore)

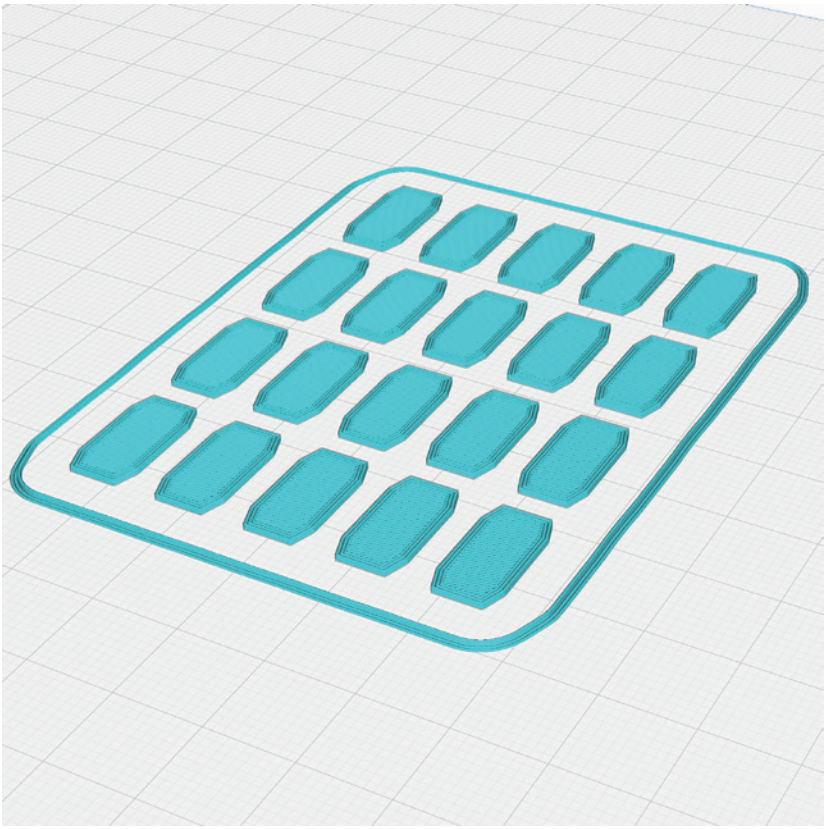
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P4_Hinges_evo.stl

MATERIAL TPU, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required



P4_Tire_evo.stl

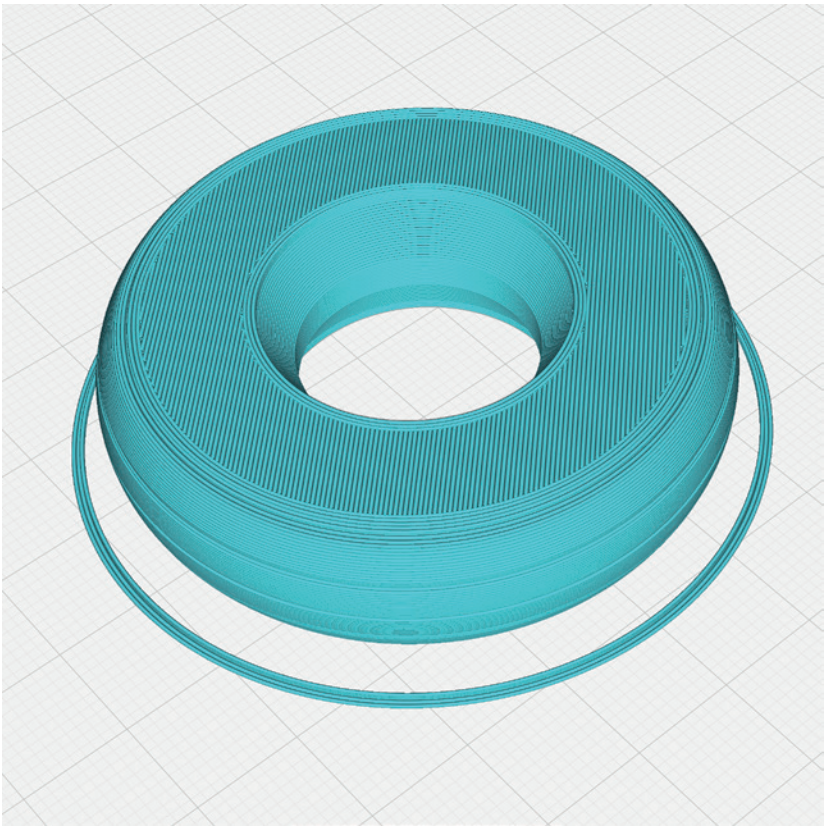
MATERIAL **VarioShore** or TPU A95

ADDITIONAL SETTINGS

- Print this three times

VarioShore with Flow 70 %:
- Wall Line Count: 5
- Top Layers: 5
- Bottom Layers: 5
- Infill Density: 10 %
- Infill Pattern: Gyroid

TPU A95:
- Wall Line Count: 3
- Top Layers: 3
- Infill Density: 6 %
- Infill Pattern: Gyroid



PROFILE P4_Flex LW TPU A95

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P4_Wing belts_evo.stl

MATERIAL TPU, Weight: ~ 1 g

ADDITIONAL SETTINGS

None required

PROFILE P5_Gyroid LW-PLA (foaming)!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
It is essential to print these parts with foaming LW-PLA (pre-foamed is heavier)!

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! Print only one STL at a time!

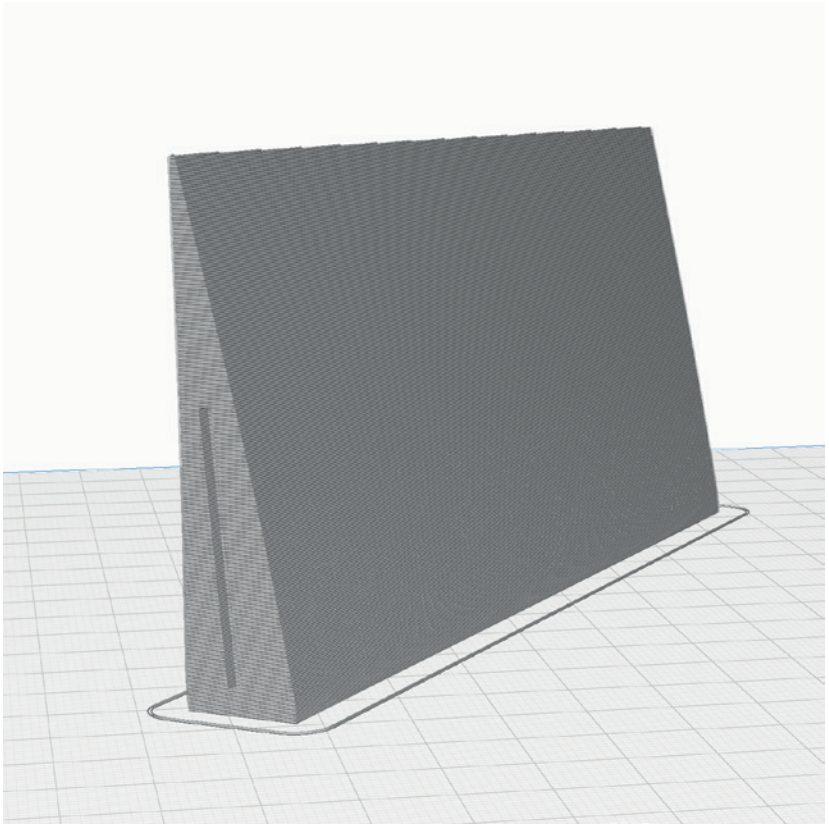
P5_AIL L1_evo.stl and P5_AIL R1_evo.stl

MATERIAL LW PLA, Weight: ~ 8 g

TIME ~ 1 hour 20 minutes

ADDITIONAL SETTINGS

None required



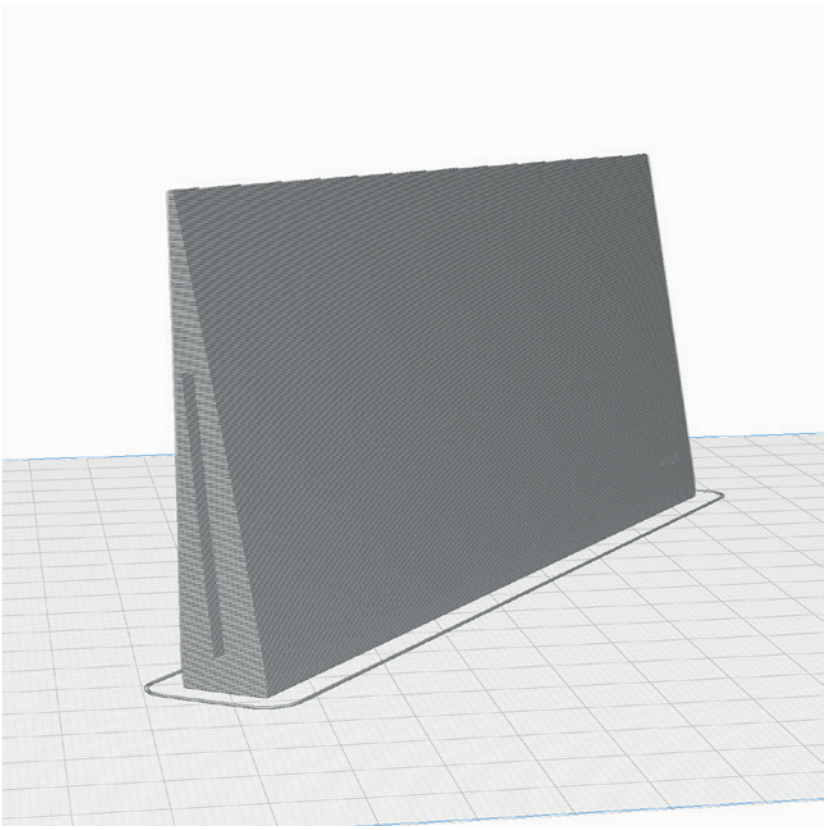
P5_AIL L2_evo.stl and P5_AIL R2_evo.stl

MATERIAL LW PLA, Weight: ~ 7 g

TIME ~ 1 hour 10 minutes

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid LW-PLA (foaming)!

P5

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
It is essential to print these parts with foaming LW-PLA (pre-foamed is heavier)!

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! Print only one STL at a time!

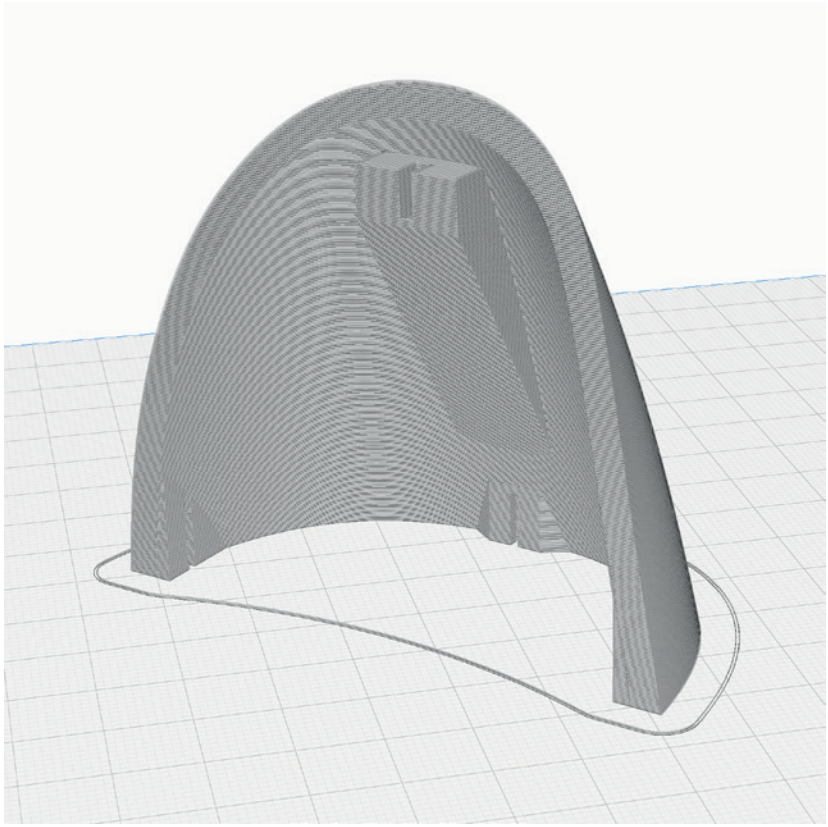
P5_Cano 1_evo.stl

MATERIAL LW PLA, Weight: ~ 4 g

TIME ~ 50 minutes

ADDITIONAL SETTINGS

None required



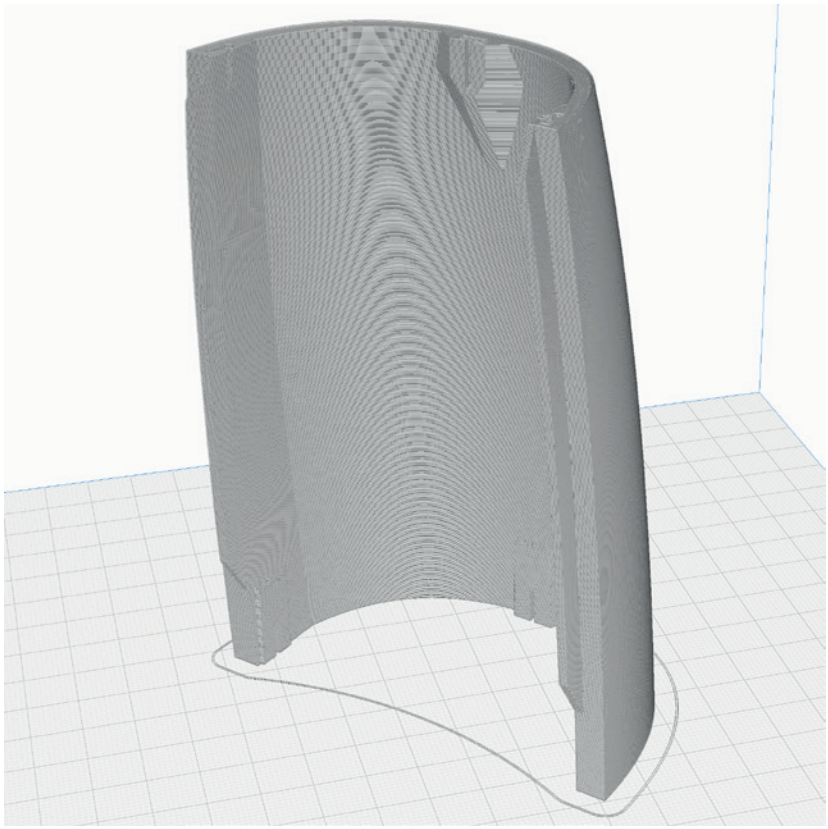
P5_Cano 2_evo.stl

MATERIAL LW PLA, Weight: ~ 12 g

TIME ~ 2 hours 40 minutes

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid LW-PLA (foaming)!

P5

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
It is essential to print these parts with foaming LW-PLA (pre-foamed is heavier)!

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! Print only one STL at a time!

P5_Cano 3_evo.stl

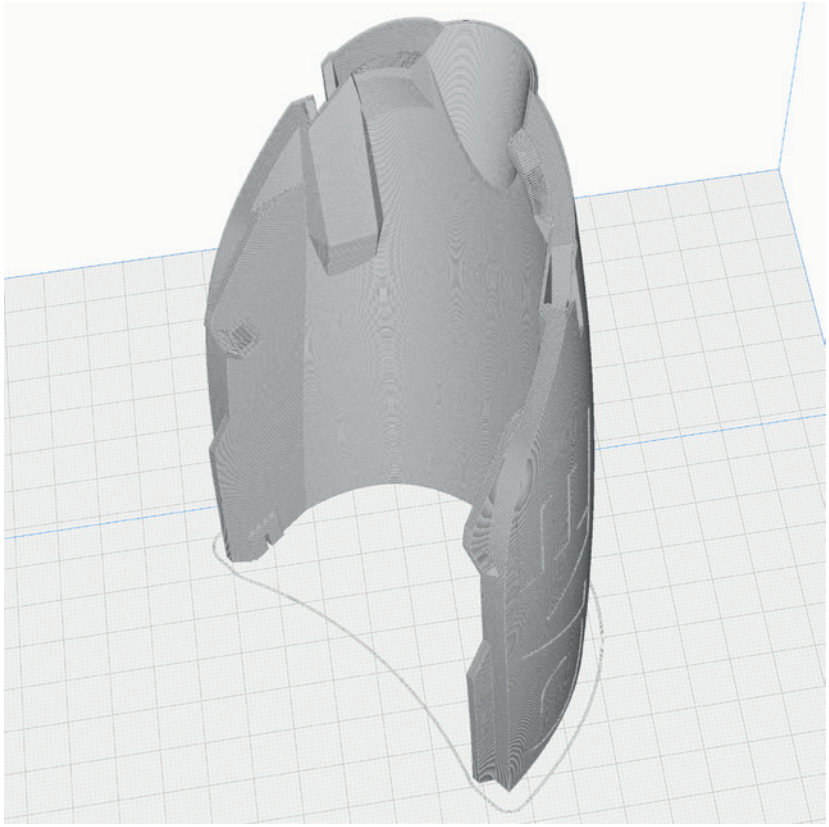
MATERIAL LW PLA, Weight: ~ 15 g

TIME ~ 3 hours 20 minutes

ADDITIONAL SETTINGS

None required

INFO for **Bambu A1mini**: If it does not accept the height of 180 mm, simply set the Z height (only!) to 179.99 mm, then it will be sliced.



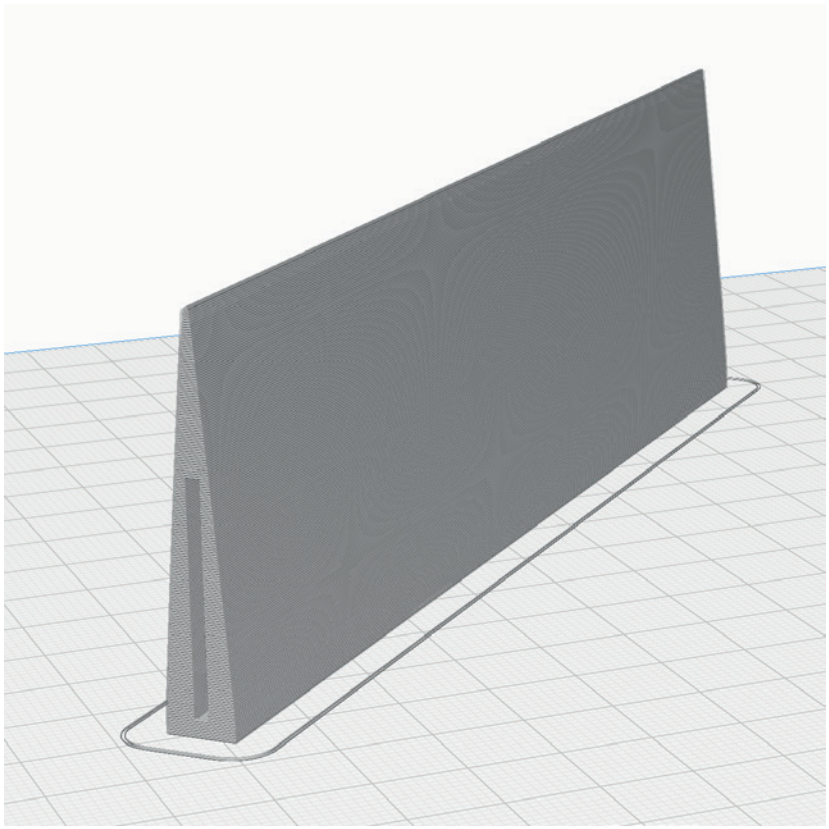
P5_ELE L_evo.stl and P5_ELE R_evo.stl

MATERIAL LW PLA, Weight: ~ 5 g

TIME ~ 1 hour

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid LW-PLA (foaming)!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
It is essential to print these parts with foaming LW-PLA (pre-foamed is heavier)!

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! Print only one STL at a time!

P5_Flap L_evo.stl and P5_Flap R_evo.stl

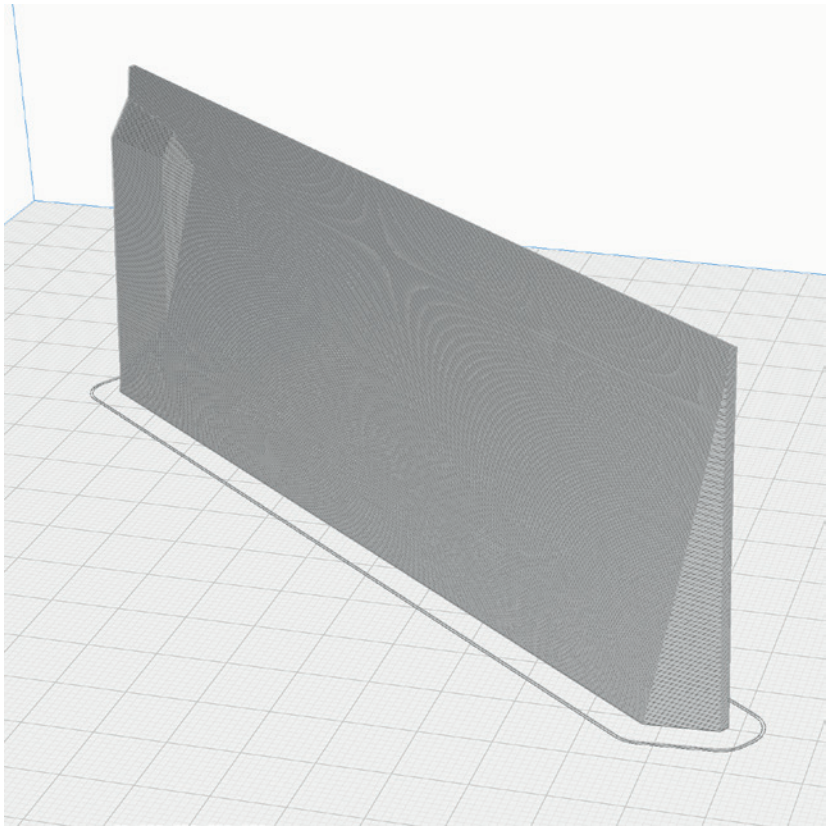
MATERIAL LW PLA, Weight: ~ 6 g

TIME ~ 1 hour

ADDITIONAL SETTINGS

None required

Only necessary if you want to build the EVO **with landing flaps.**



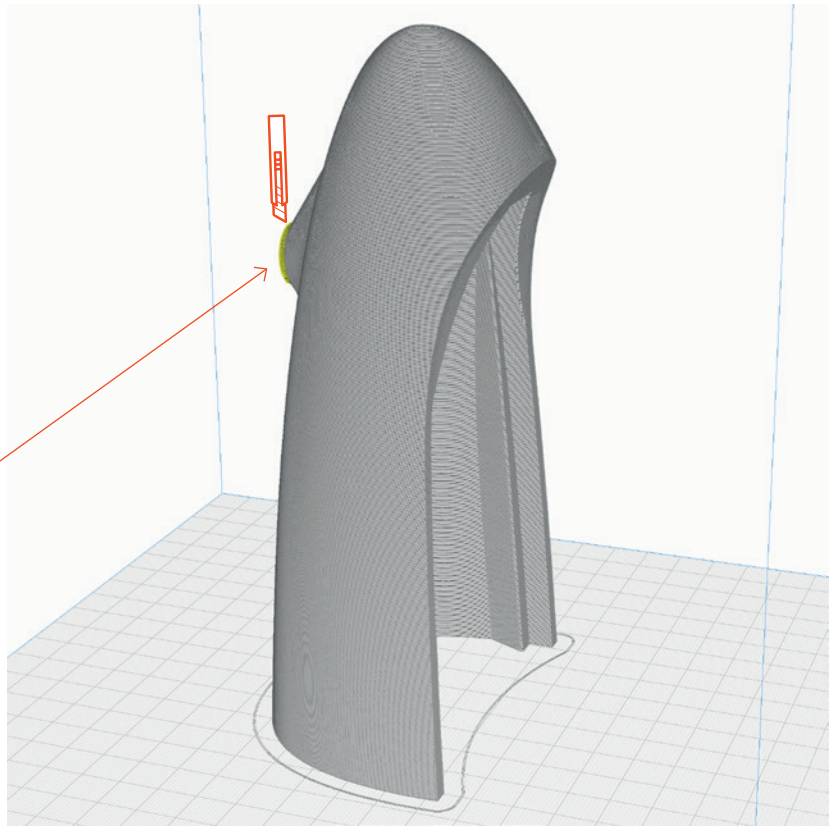
P5_FUS 1_evo.stl

MATERIAL LW PLA, Weight: ~ 20 g

TIME ~ 4 hours

ADDITIONAL SETTINGS

None required



Remove support.
Please be careful with the knife!

PROFILE P5_Gyroid LW-PLA (foaming)!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
It is essential to print these parts with foaming LW-PLA (pre-foamed is heavier)!

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! Print only one STL at a time!

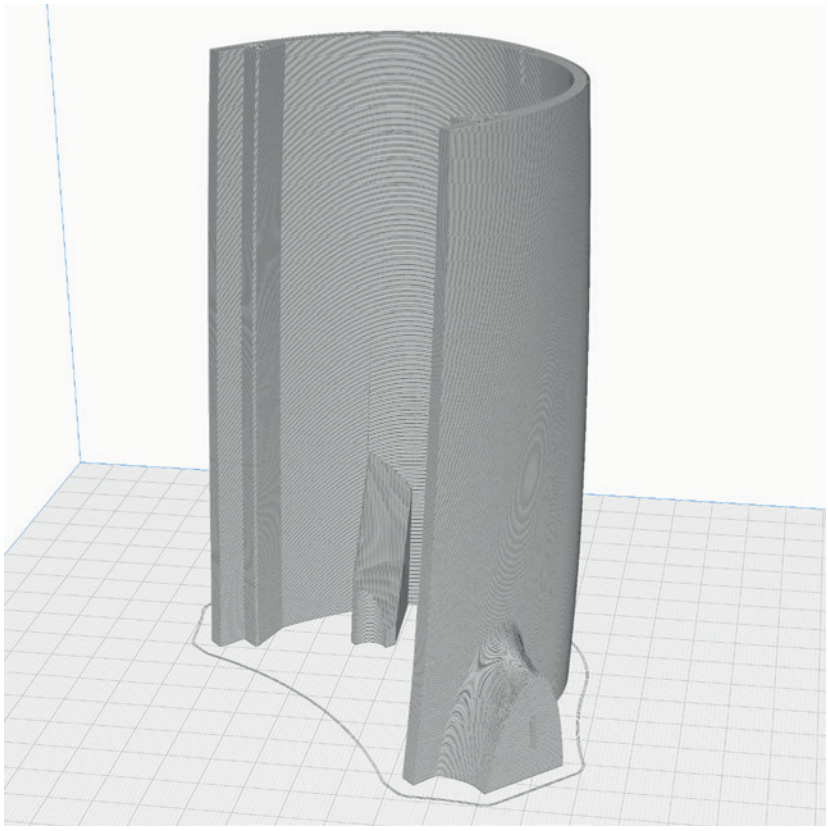
P5_FUS 2_evo.stl

MATERIAL LW PLA, Weight: ~ 19 g

TIME ~ 4 hours

ADDITIONAL SETTINGS

None required



P5_FUS 3 Flap_evo.stl or P5_FUS 3_evo.stl

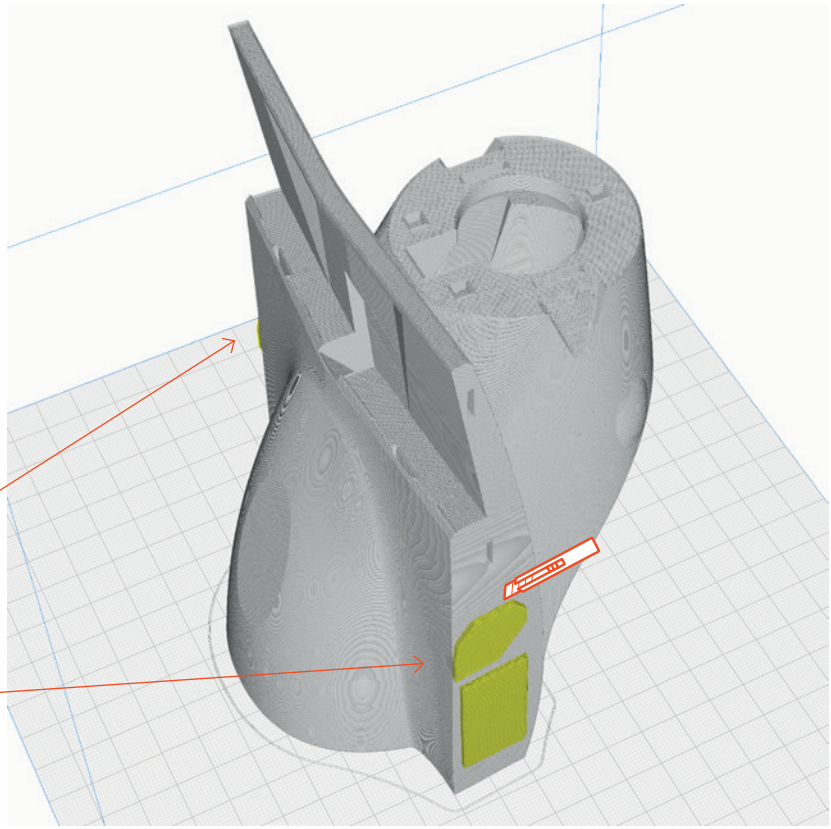
MATERIAL LW PLA, Weight: ~ 35 g

TIME ~ 7 hours

ADDITIONAL SETTINGS

None required

You have to **decide** here whether you want to build the EVO **with or without landing flaps!**



Remove support.
Please be careful with the knife!

PROFILE P5_Gyroid LW-PLA (foaming)!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
It is essential to print these parts with foaming LW-PLA (pre-foamed is heavier)!

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! Print only one STL at a time!

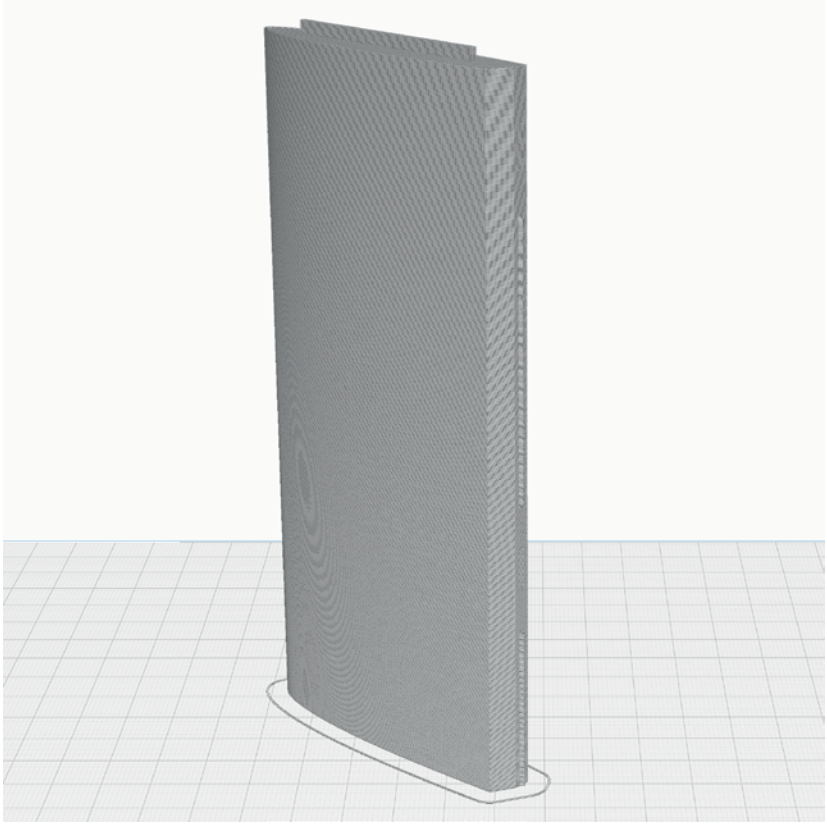
P5_HS L_evo.stl and P5_HS R_evo.stl

MATERIAL LW PLA, Weight: ~ 10 g

TIME ~ 1 hour 40 minutes

ADDITIONAL SETTINGS

None required



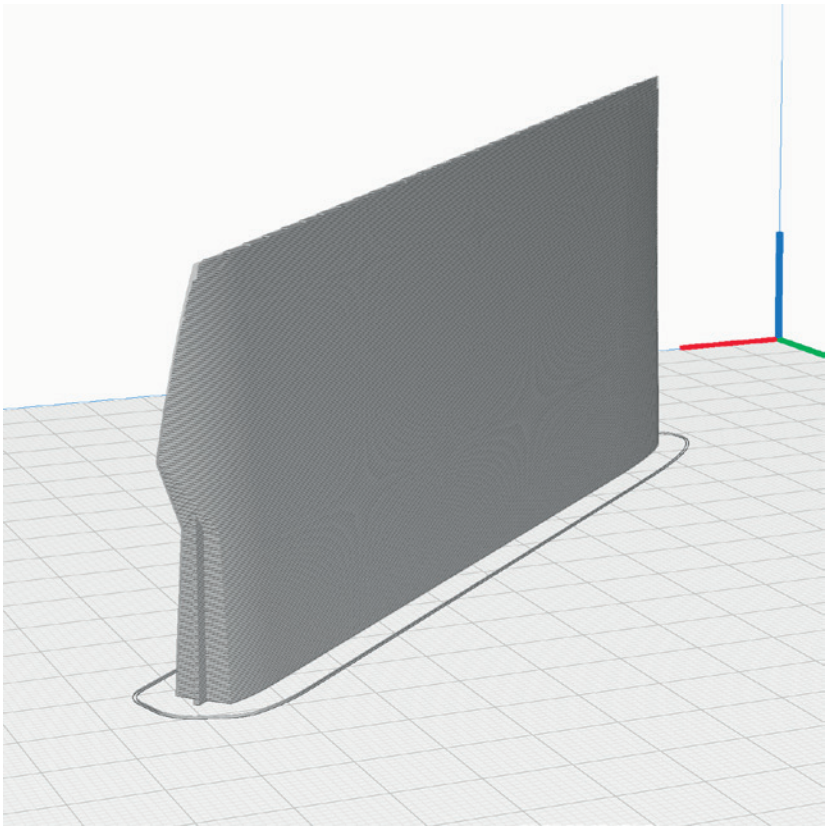
P5_RUD_evo.stl

MATERIAL LW PLA, Weight: ~ 6 g

TIME ~ 1 hour

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid LW-PLA (foaming)!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
It is essential to print these parts with foaming LW-PLA (pre-foamed is heavier)!

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! Print only one STL at a time!

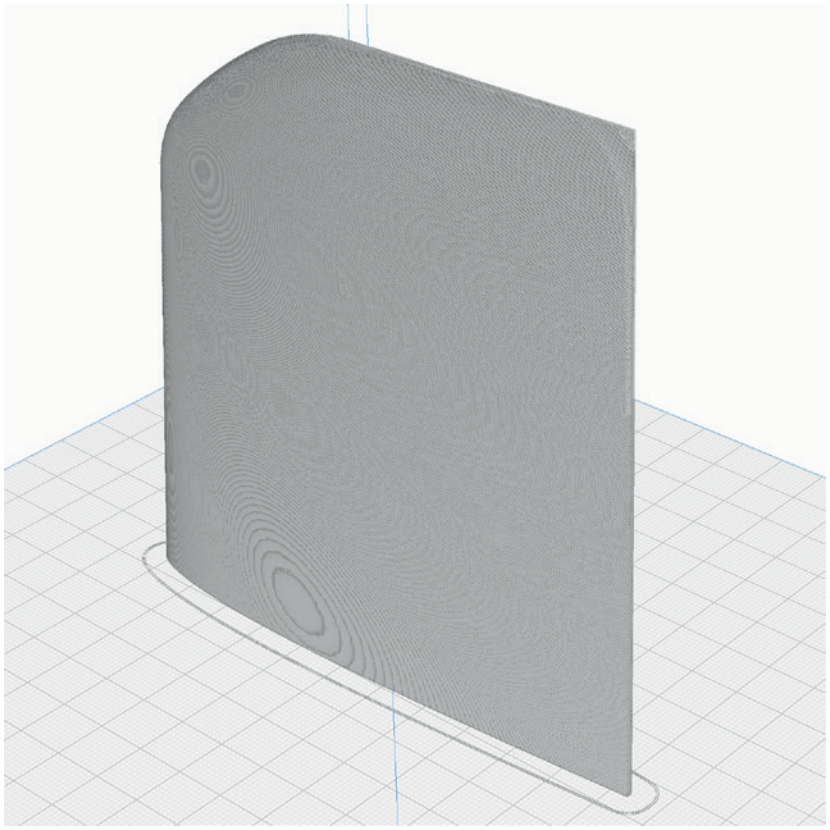
P5_VS La_evo.stl

MATERIAL LW PLA, Weight: ~ 10 g

TIME ~ 2 hours

ADDITIONAL SETTINGS

None required



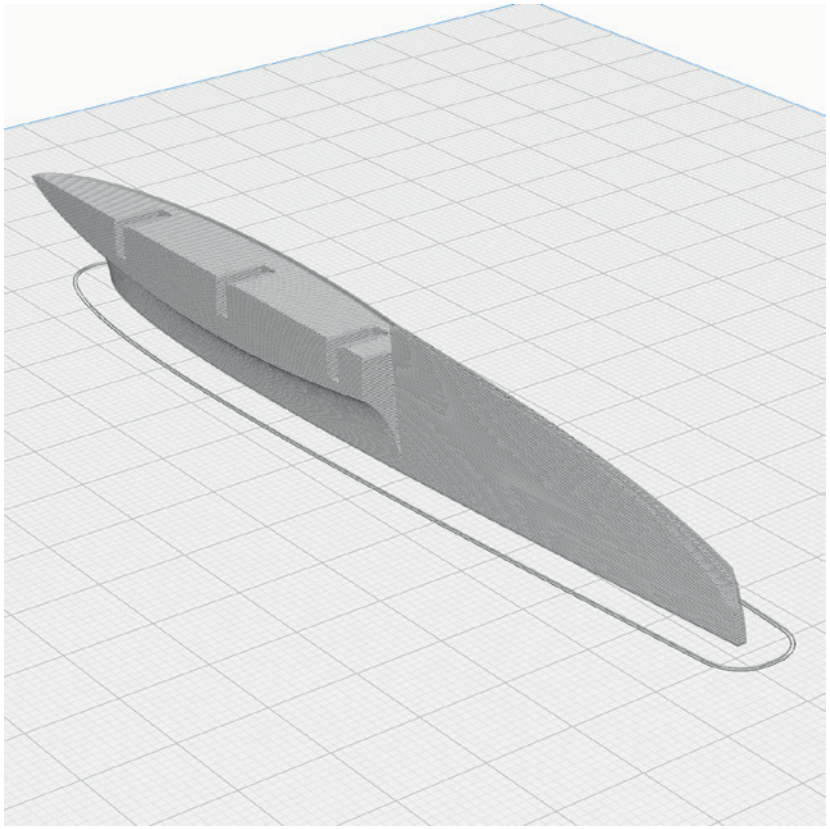
P5_VS Lb_evo.stl

MATERIAL LW PLA, Weight: ~ 2 g

TIME ~ 20 minutes

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid LW-PLA (foaming)!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
It is essential to print these parts with foaming LW-PLA (pre-foamed is heavier)!

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! Print only one STL at a time!

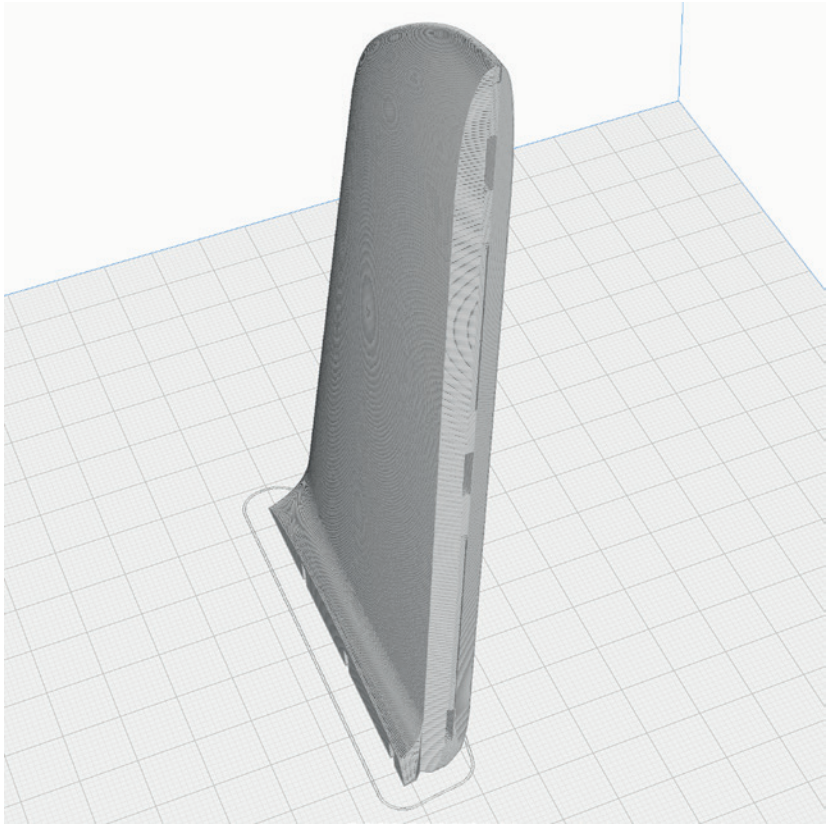
P5_VS R_evo.stl

MATERIAL LW PLA, Weight: ~ 8 g

TIME ~ 1 hour 10 minutes

ADDITIONAL SETTINGS

None required



P5_Wing FUS Flap L_evo.stl and P5_Wing FUS Flap R_evo.stl or

P5_Wing FUS L_evo.stl and P5_Wing FUS R_evo.stl

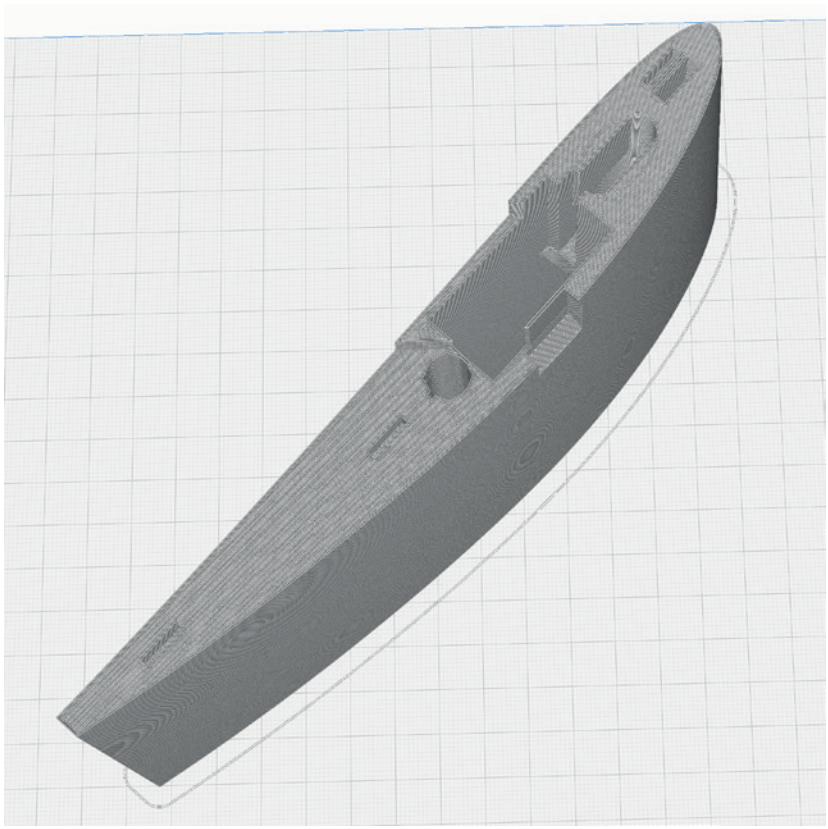
MATERIAL LW PLA, Weight: ~ 24 g

TIME ~ 5 hours

ADDITIONAL SETTINGS

None required

You have to decide here whether you want to build the EVO **with or without landing flaps!**



PROFILE P5_Gyroid LW-PLA (foaming)!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
It is essential to print these parts with foaming LW-PLA (pre-foamed is heavier)!

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! Print only one STL at a time!

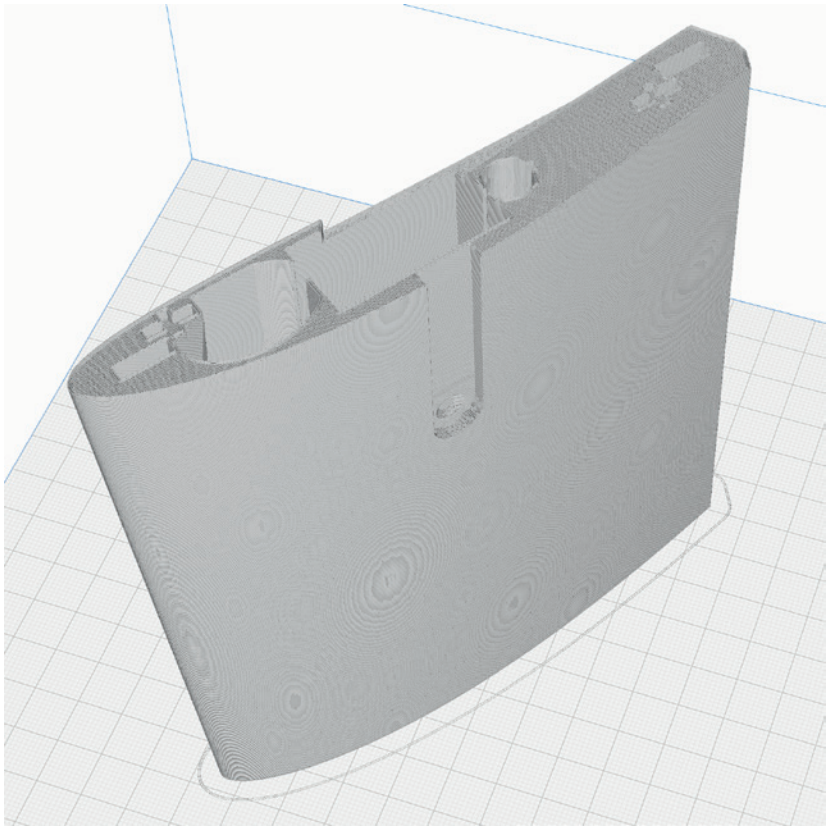
P5_Wing L1_evo.stl and P5_Wing R1_evo.stl

MATERIAL LW PLA, Weight: ~ 25 g

TIME ~ 5 hours

ADDITIONAL SETTINGS

None required



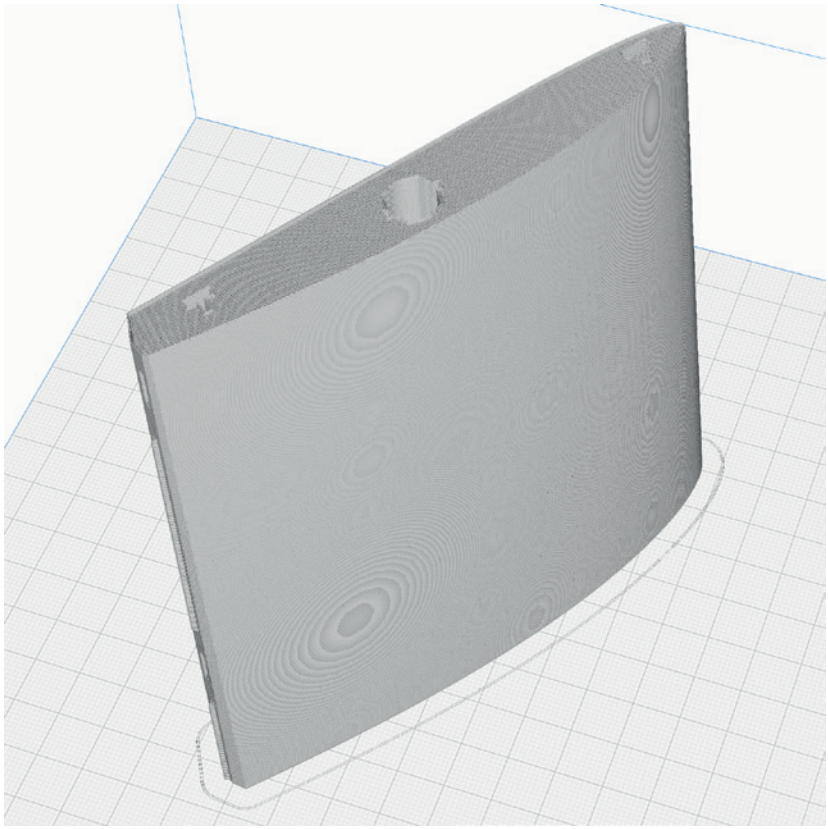
P5_Wing L2_evo.stl and P5_Wing R2_evo.stl

MATERIAL LW PLA, Weight: ~ 20 g

TIME ~ 3 hours 30 minutes

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid LW-PLA (foaming)!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
It is essential to print these parts with foaming LW-PLA (pre-foamed is heavier)!

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! Print only one STL at a time!

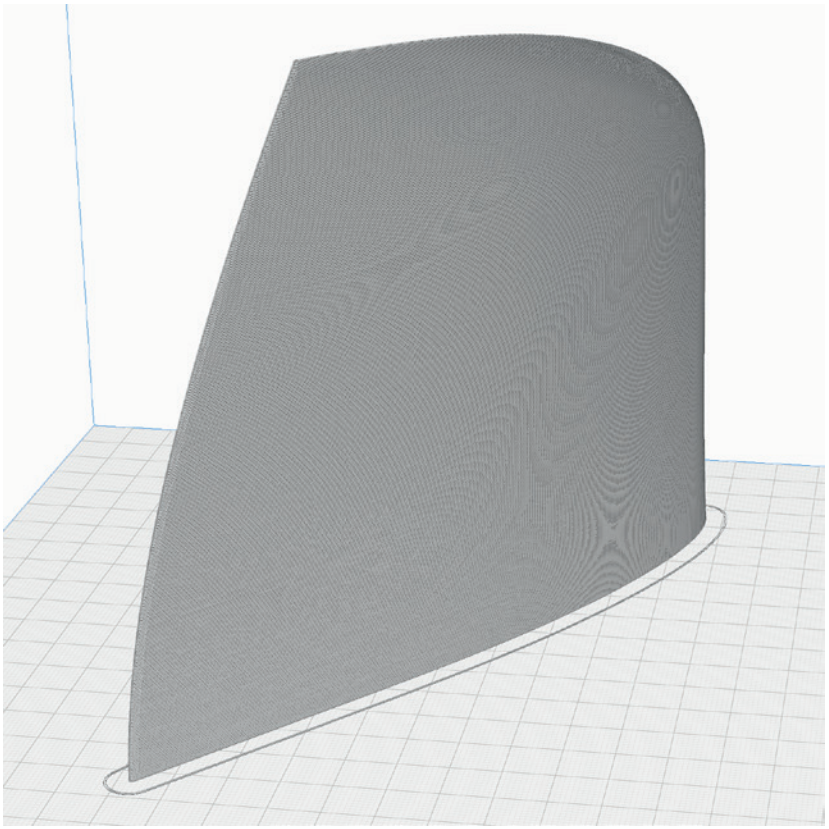
P5_Winglet L_evo.stl and P5_Winglet R_evo.stl

MATERIAL LW PLA, Weight: ~ 17 g

TIME ~ 3 hours

ADDITIONAL SETTINGS

None required



Gluing the parts printed with PROFILE P5

STEP 1 As a first step, it is important to **roughen and smooth the adhesive surfaces** with sandpaper.

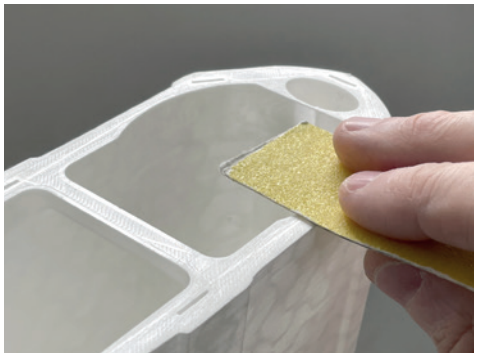
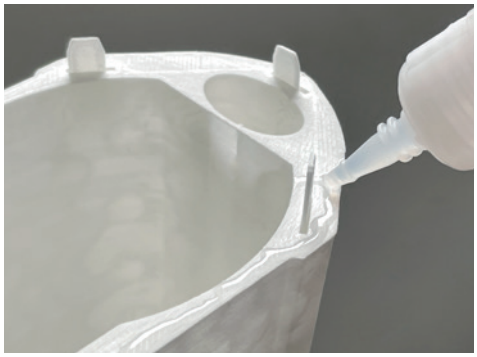
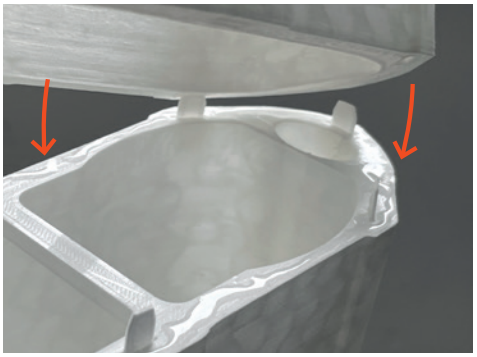
STEP 2 Insert the **interconnects into the slots** provided on one side.

STEP 3 Apply **a lot of glue** to the side with the interconnects. It is important that there is glue everywhere, especially on the outside and inside of the wall surfaces, in order to achieve a perfect connection. The interconnects only serve to align the parts to each other. It is better **not** to apply glue here, otherwise it can happen that the glue suddenly hardens while the parts are being put together and stops the process.

Use medium viscosity CA glue, thinner glue would run down the parts too easily.

After assembly, **align the two parts exactly** and wipe off the excess CA glue from the surface with a cloth. Now spray with activator spray along the gluing surface and carefully press the parts together.

STEP 4 Clean the glued areas slightly with a **sharp-bladed** cutter.

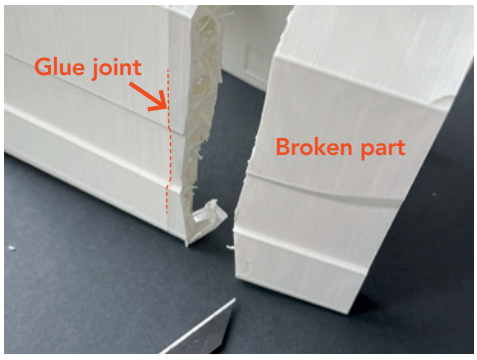




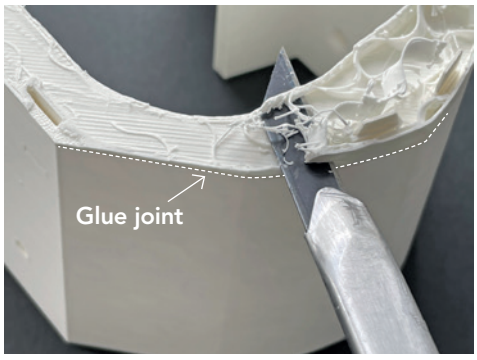
PROFILES 5 parts are easy to repair

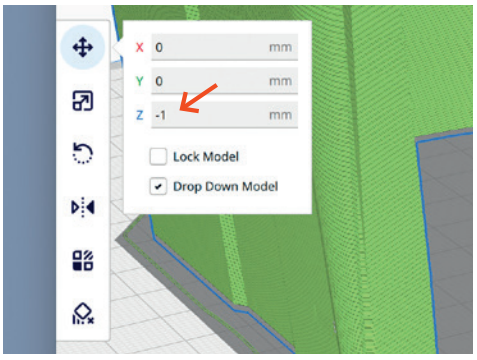
STEP 1 Using the knife, carefully remove the damaged part about 3 mm from the glue joint between two parts.

STEP 2 Cut wall and infill and clean the surface with sandpaper. **The top surface of the damaged part remains!**

STEP 3 The remaining top surface is about 1 mm thick. To compensate for this, you can move the new part to be printed down the Z axis in Cura by 1 mm.



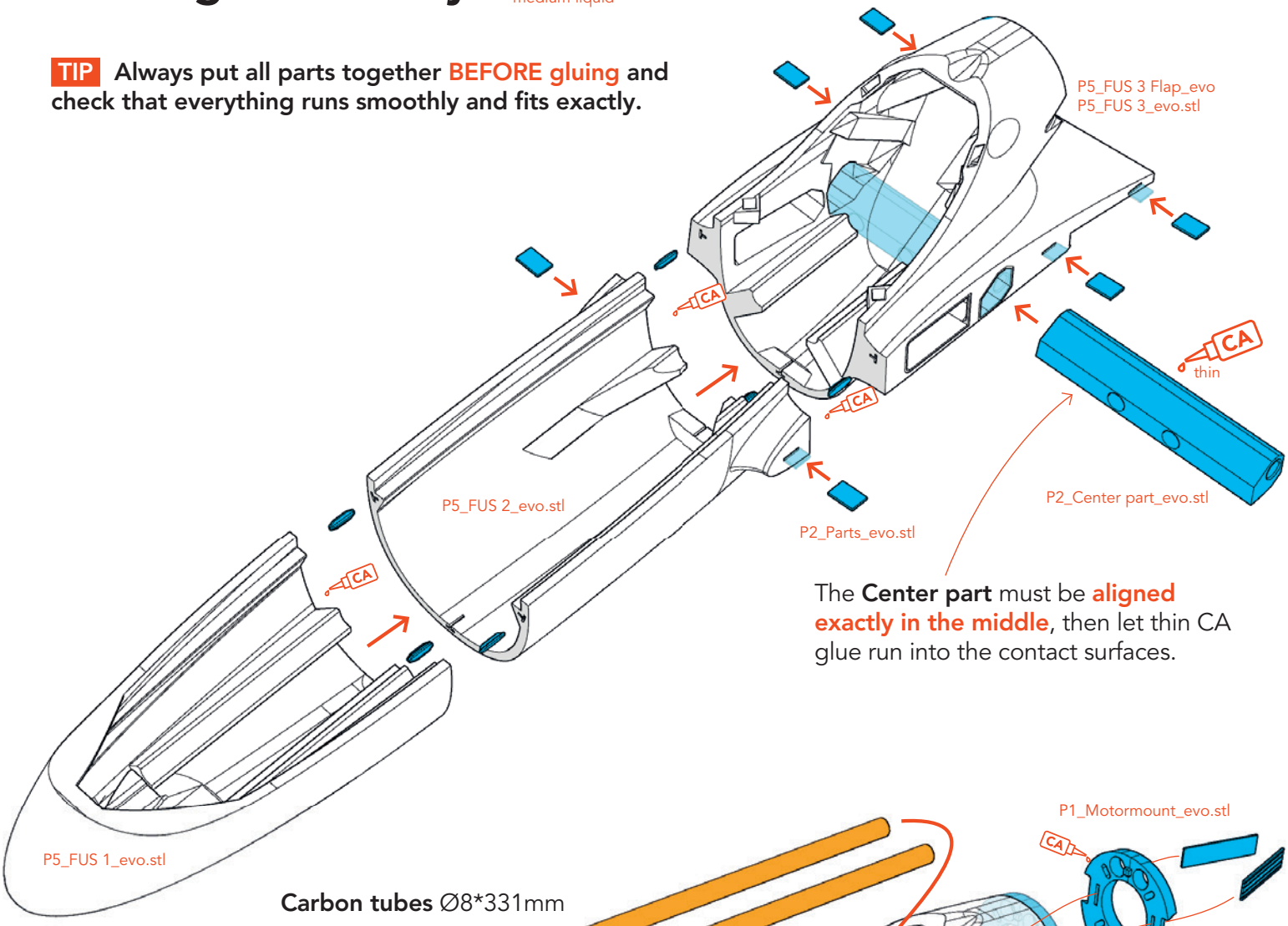




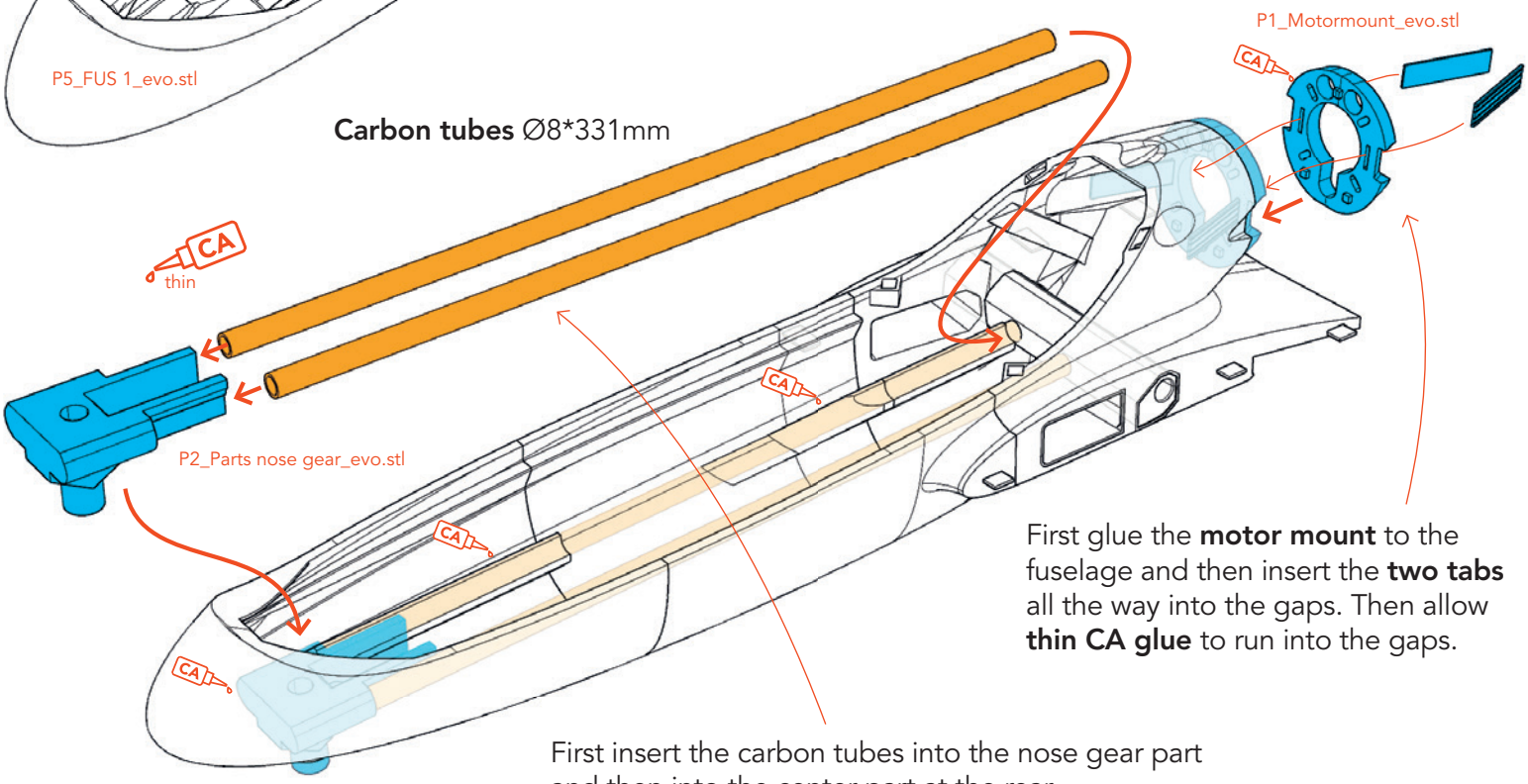
Fuselage assembly

CA medium liquid

TIP **Always put all parts together BEFORE gluing and check that everything runs smoothly and fits exactly.**



The **Center part** must be **aligned exactly in the middle**, then let thin CA glue run into the contact surfaces.



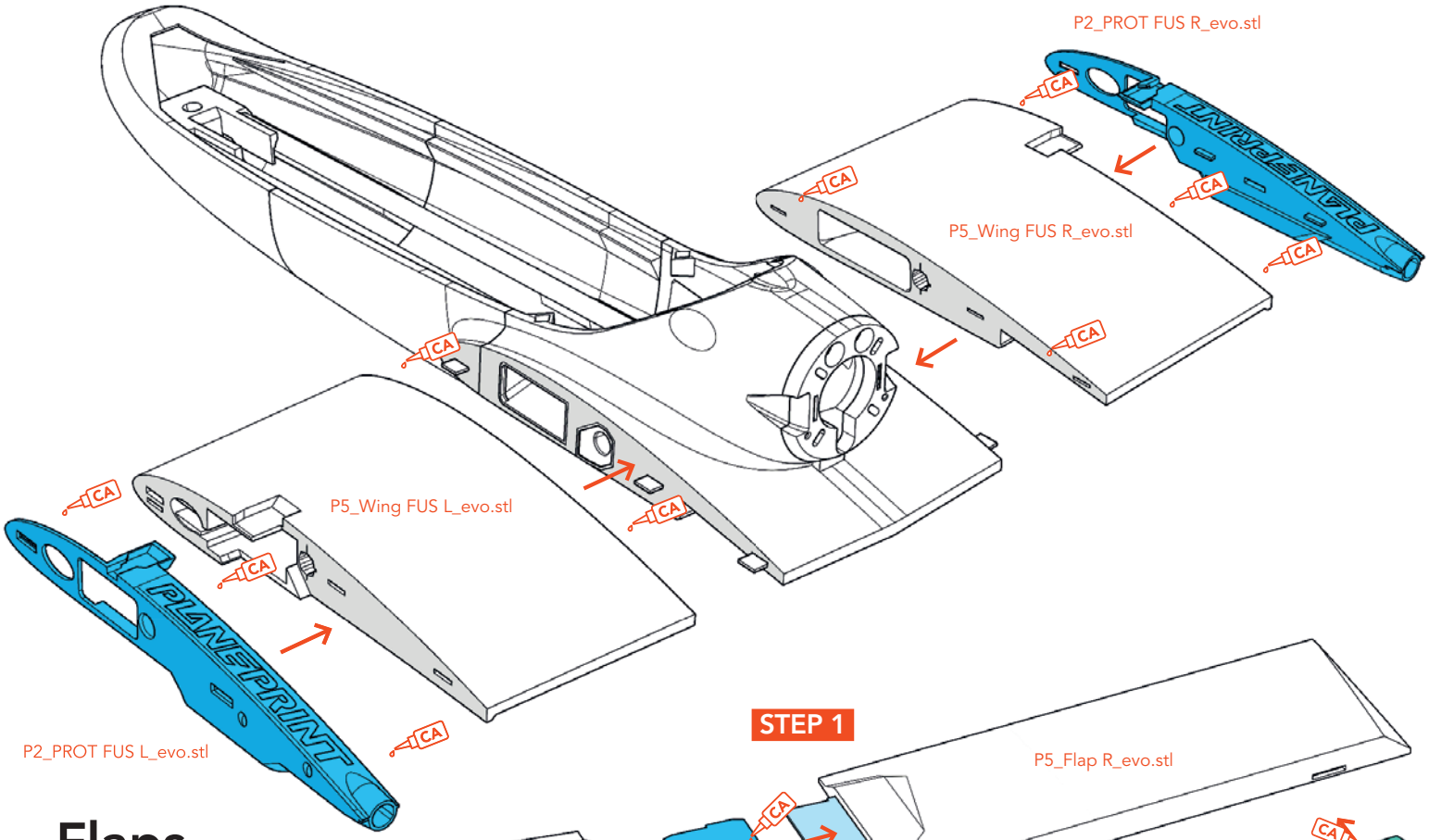
First glue the **motor mount** to the fuselage and then insert the **two tabs** all the way into the gaps. Then allow **thin CA glue** to run into the gaps.

First insert the carbon tubes into the nose gear part and then into the center part at the rear.

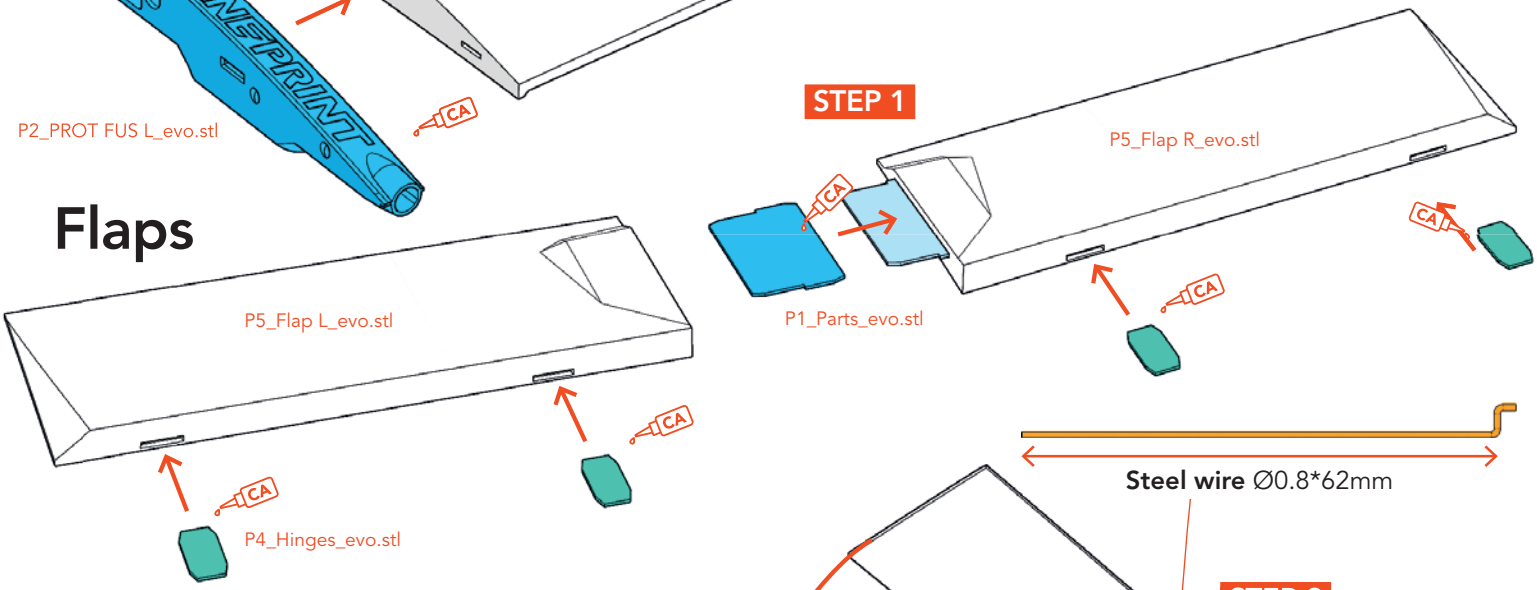
Push the nose gear part at the front of the fuselage all the way down. When everything fits perfectly, let **thin CA glue** run into all contact surfaces.

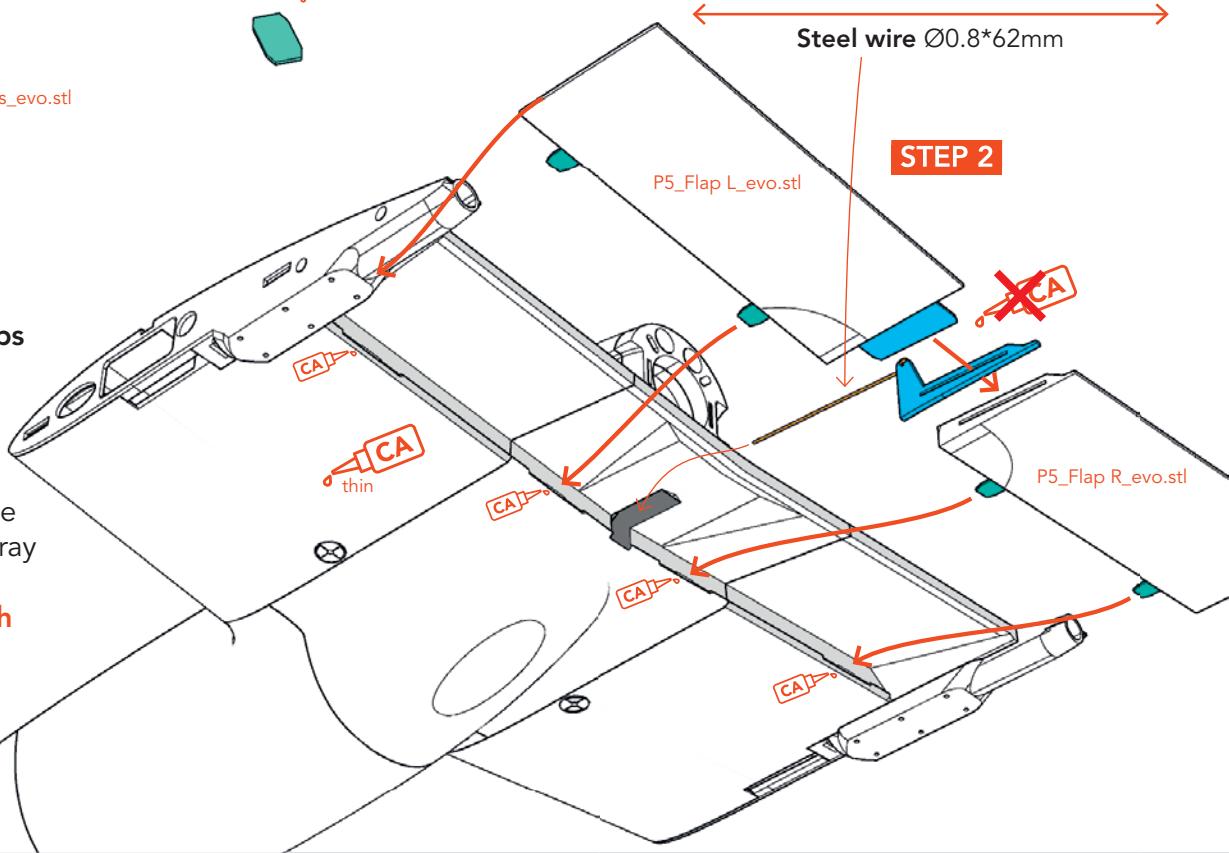
Fuselage assembly

CA medium liquid



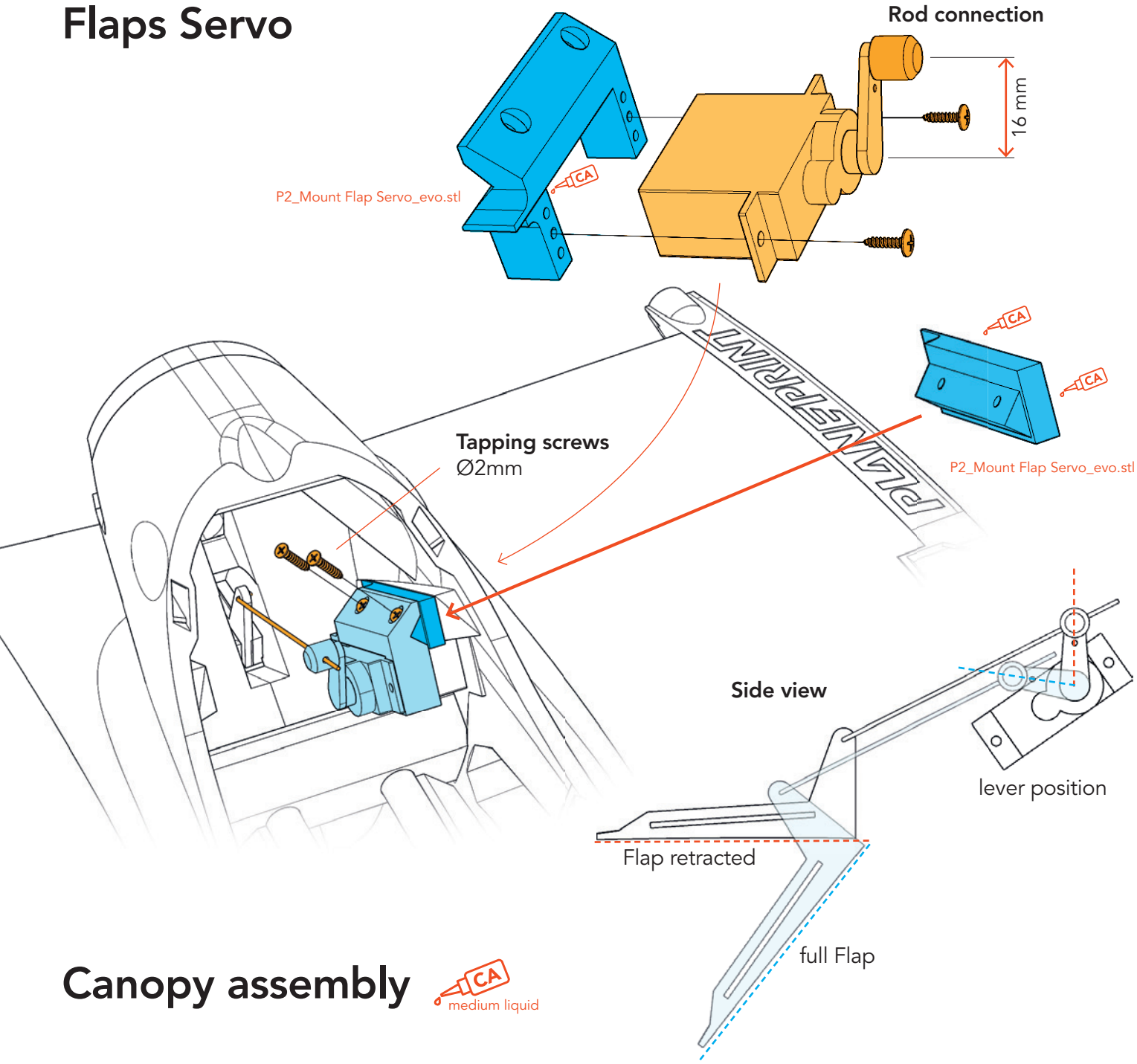
Flaps





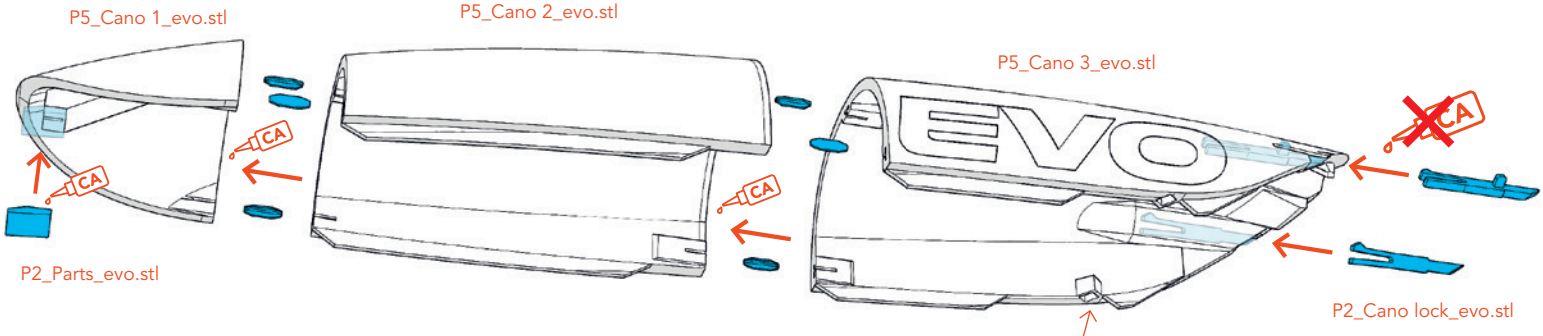
Hinges: Slide the flaps all the way to the fuselage and put a drop of **thin CA glue** on the hinges. Wait again for the glue to run in, and then spray the activator on it.
Do not use too much glue, the flap must move easily!

Flaps Servo



Canopy assembly

CA medium liquid

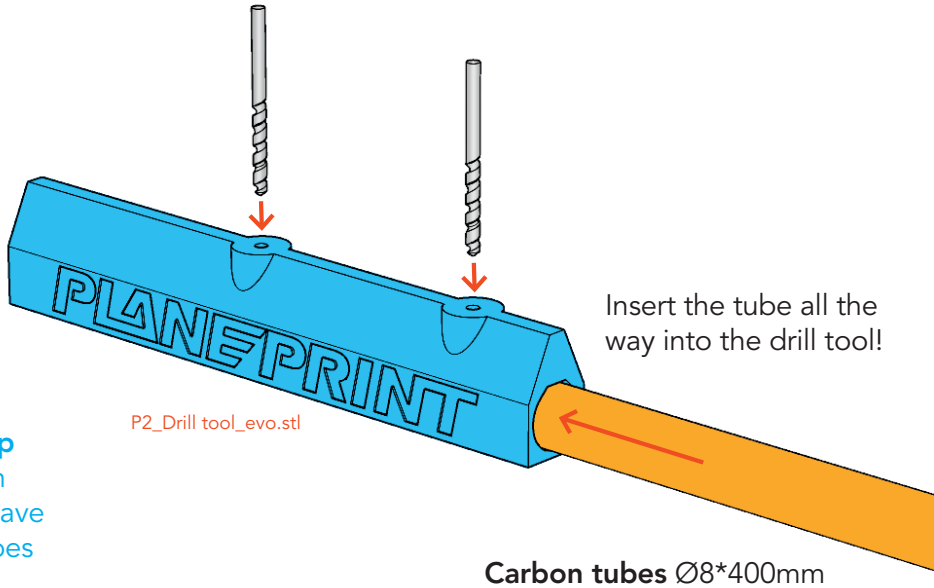


OPTIONAL Here are slots if you want to use magnets in addition to the canopy lock (5x5x5mm).

Tailplane assembly

Insert the **two carbon tubes for the tailplane** into the **drill tool** and drill two holes in a wall with a **Ø2mm drill** bit (not all the way through the tube).

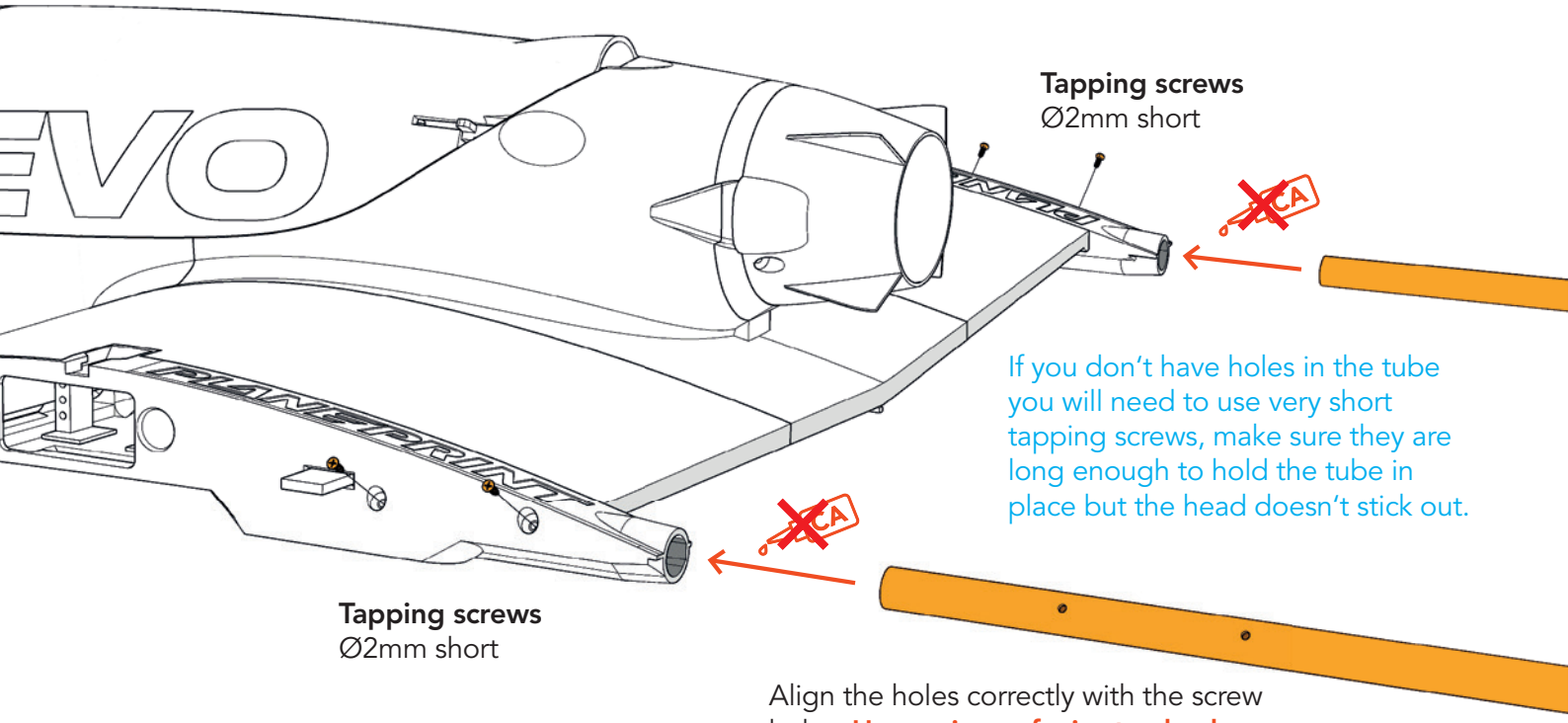
If you don't have a drill you can **skip this step** and just attach the tubes to the fuselage with short screws. In this case, however, you will have to check frequently to make sure that the tubes have not loosened.



P2_Drill tool_evo.stl

Insert the tube all the way into the drill tool!

Carbon tubes Ø8*400mm

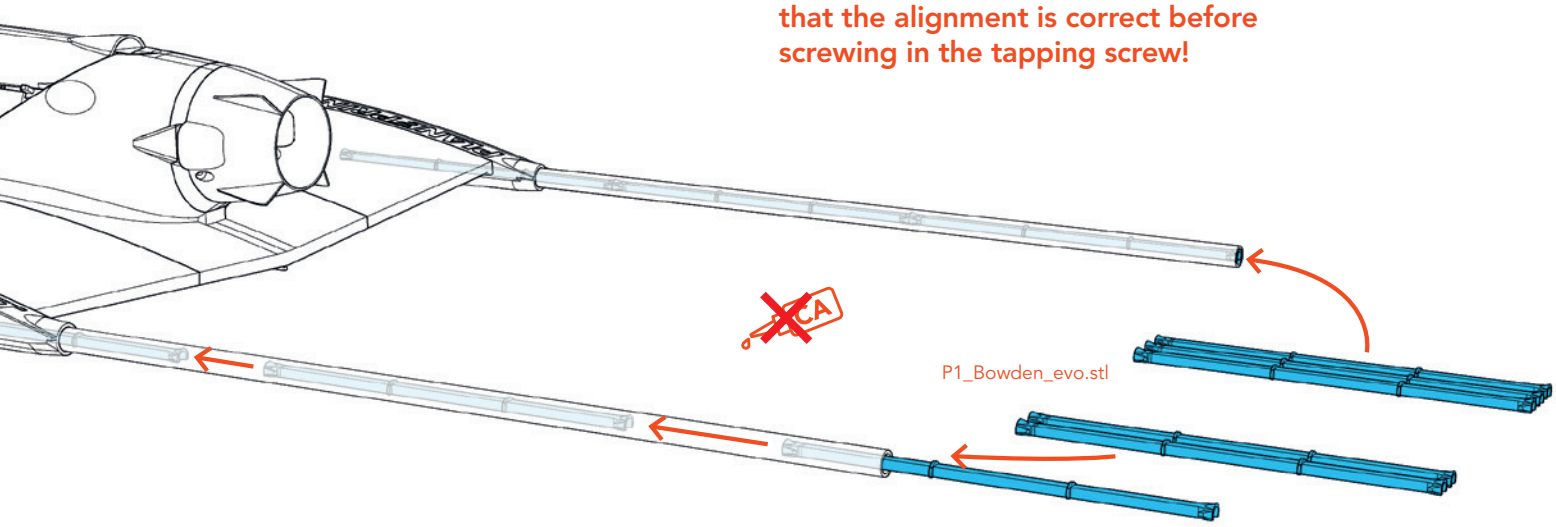


Tapping screws
Ø2mm short

If you don't have holes in the tube you will need to use very short tapping screws, make sure they are long enough to hold the tube in place but the head doesn't stick out.

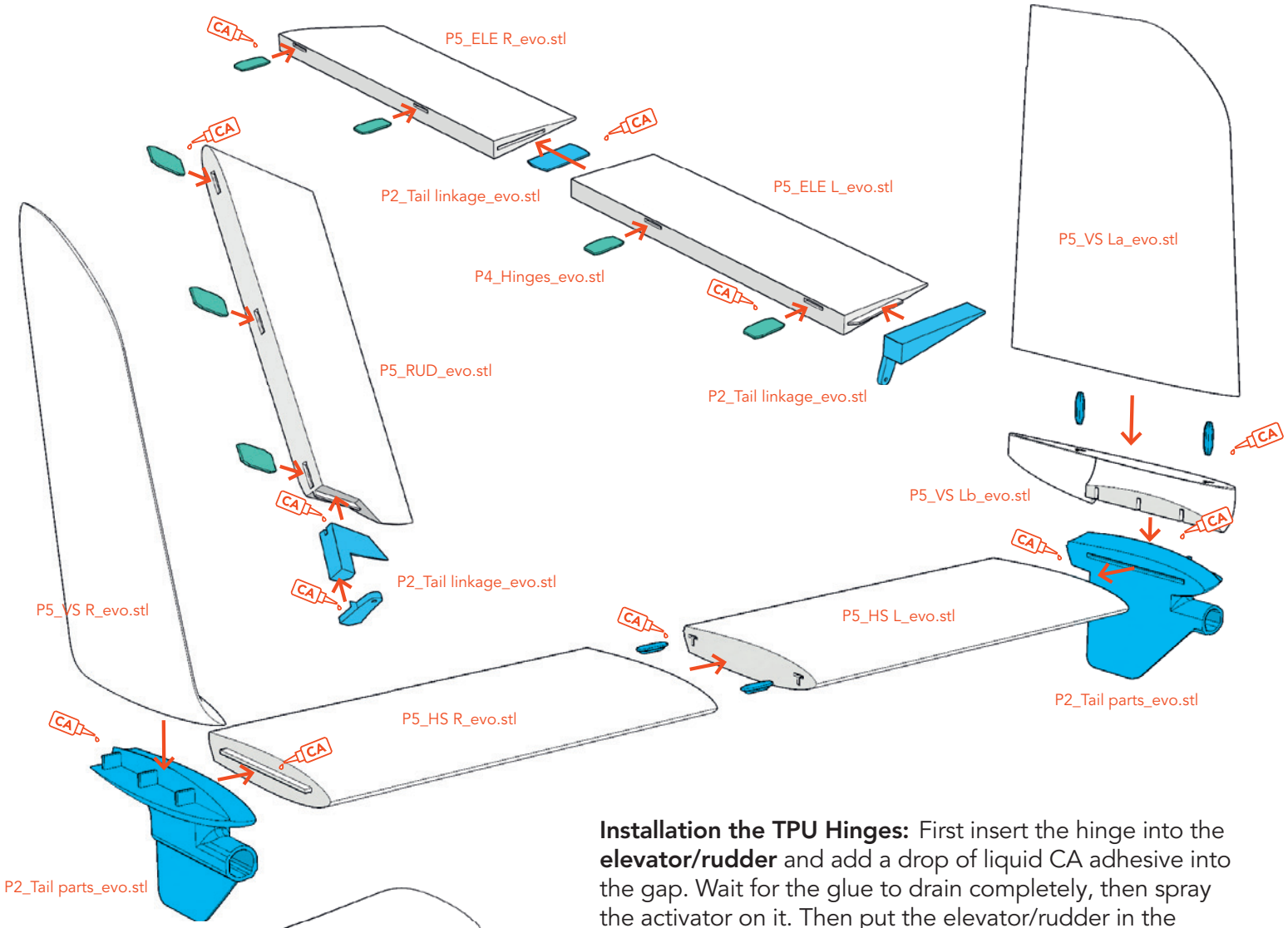
Tapping screws
Ø2mm short

Align the holes correctly with the screw holes. **Use a piece of wire to check that the alignment is correct before screwing in the tapping screw!**



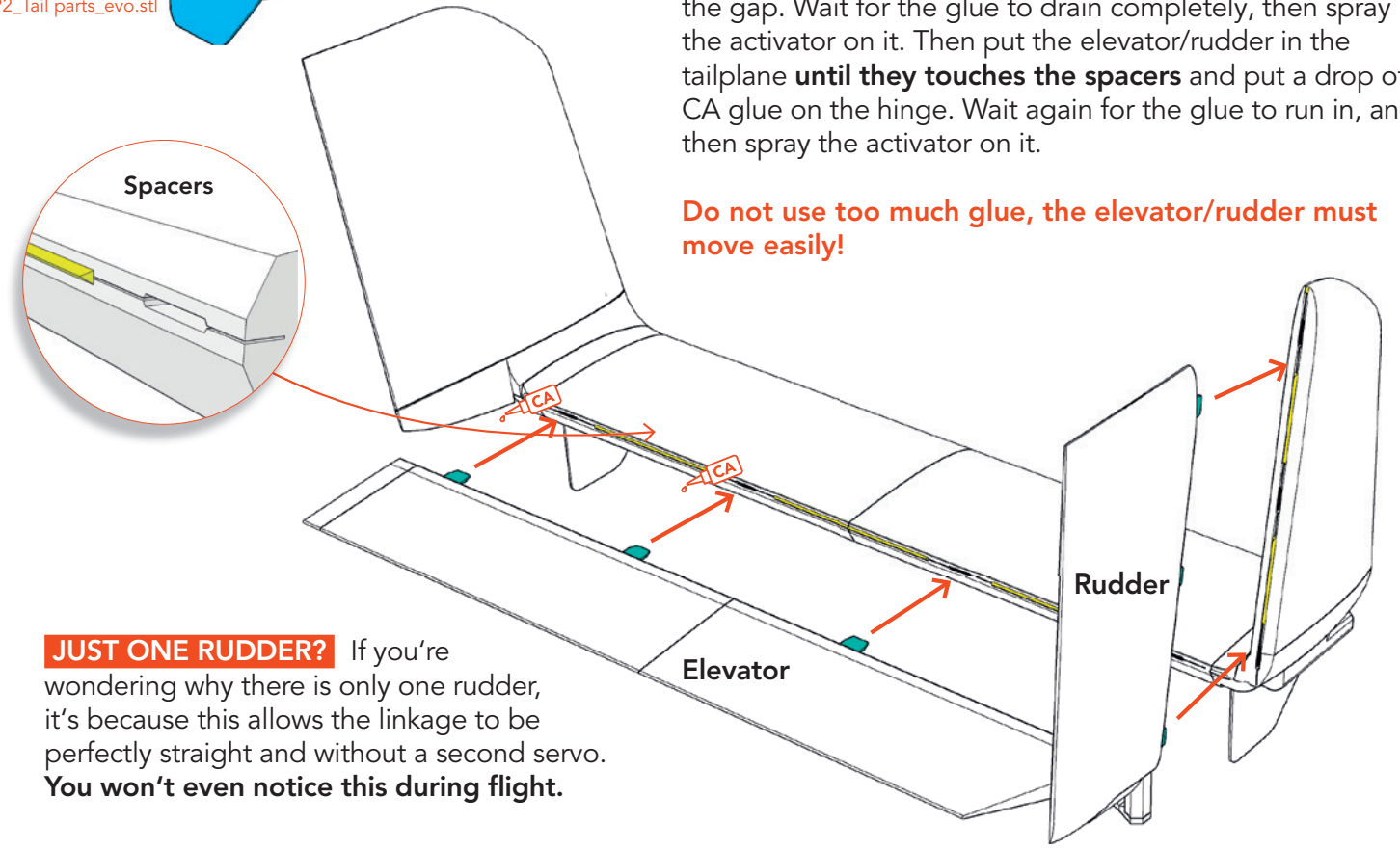
P1_Bowden_evo.stl

Tailplane assembly



Installation the TPU Hinges: First insert the hinge into the **elevator/rudder** and add a drop of liquid CA adhesive into the gap. Wait for the glue to drain completely, then spray the activator on it. Then put the elevator/rudder in the tailplane **until they touches the spacers** and put a drop of CA glue on the hinge. Wait again for the glue to run in, and then spray the activator on it.

Do not use too much glue, the elevator/rudder must move easily!

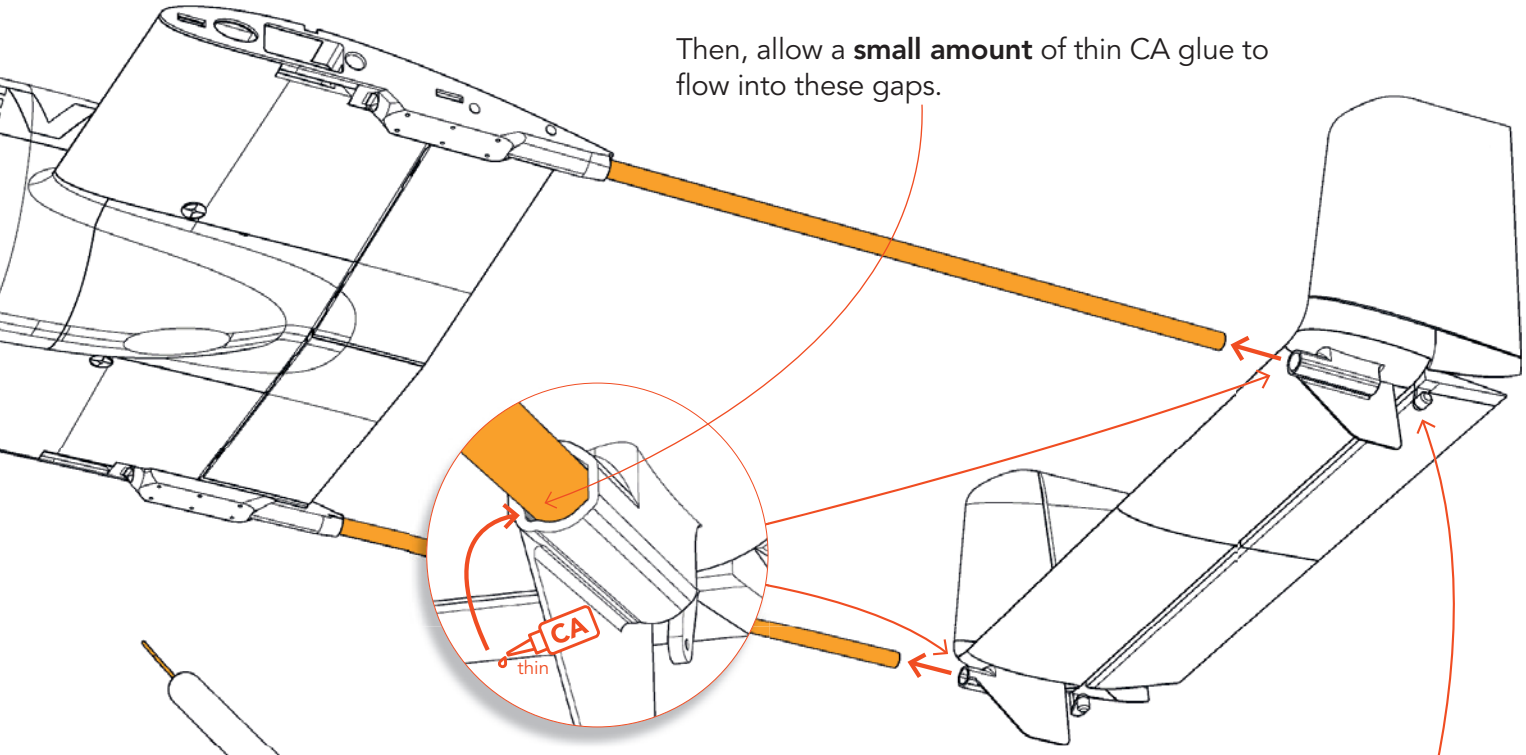


JUST ONE RUDDER? If you're wondering why there is only one rudder, it's because this allows the linkage to be perfectly straight and without a second servo. **You won't even notice this during flight.**

Tailplane assembly

Place the tailplane on the tubes, ensuring they are parallel when viewed from the side.

Then, allow a **small amount** of thin CA glue to flow into these gaps.

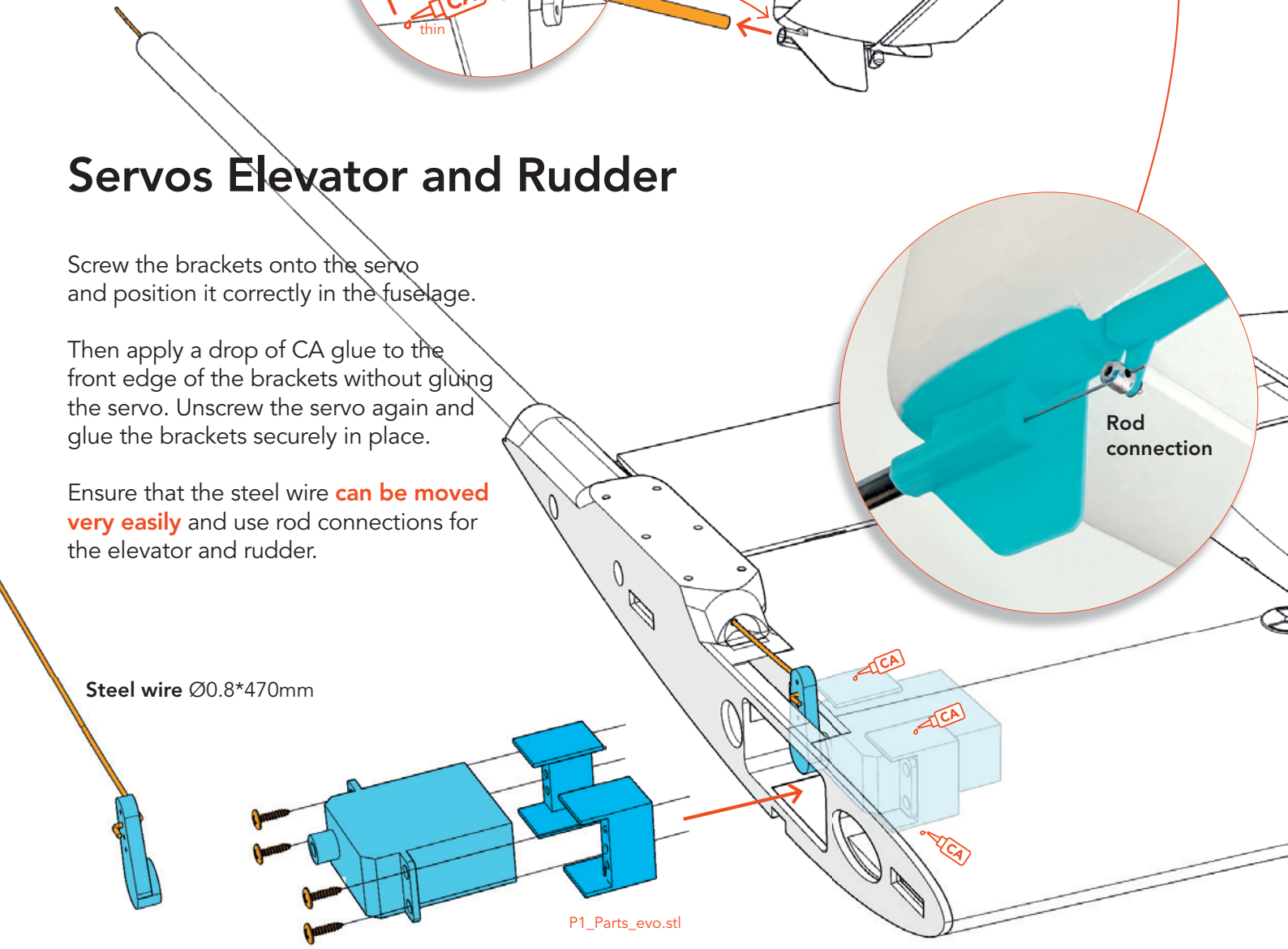


Servos Elevator and Rudder

Screw the brackets onto the servo and position it correctly in the fuselage.

Then apply a drop of CA glue to the front edge of the brackets without gluing the servo. Unscrew the servo again and glue the brackets securely in place.

Ensure that the steel wire **can be moved very easily** and use rod connections for the elevator and rudder.



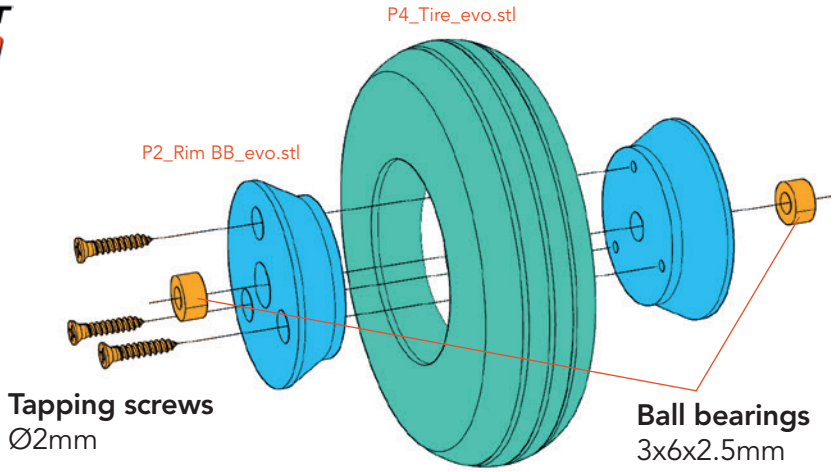
Steel wire Ø0.8*470mm

P1_Parts_evo.stl

Landing gear

PLANEPRINT Innovation

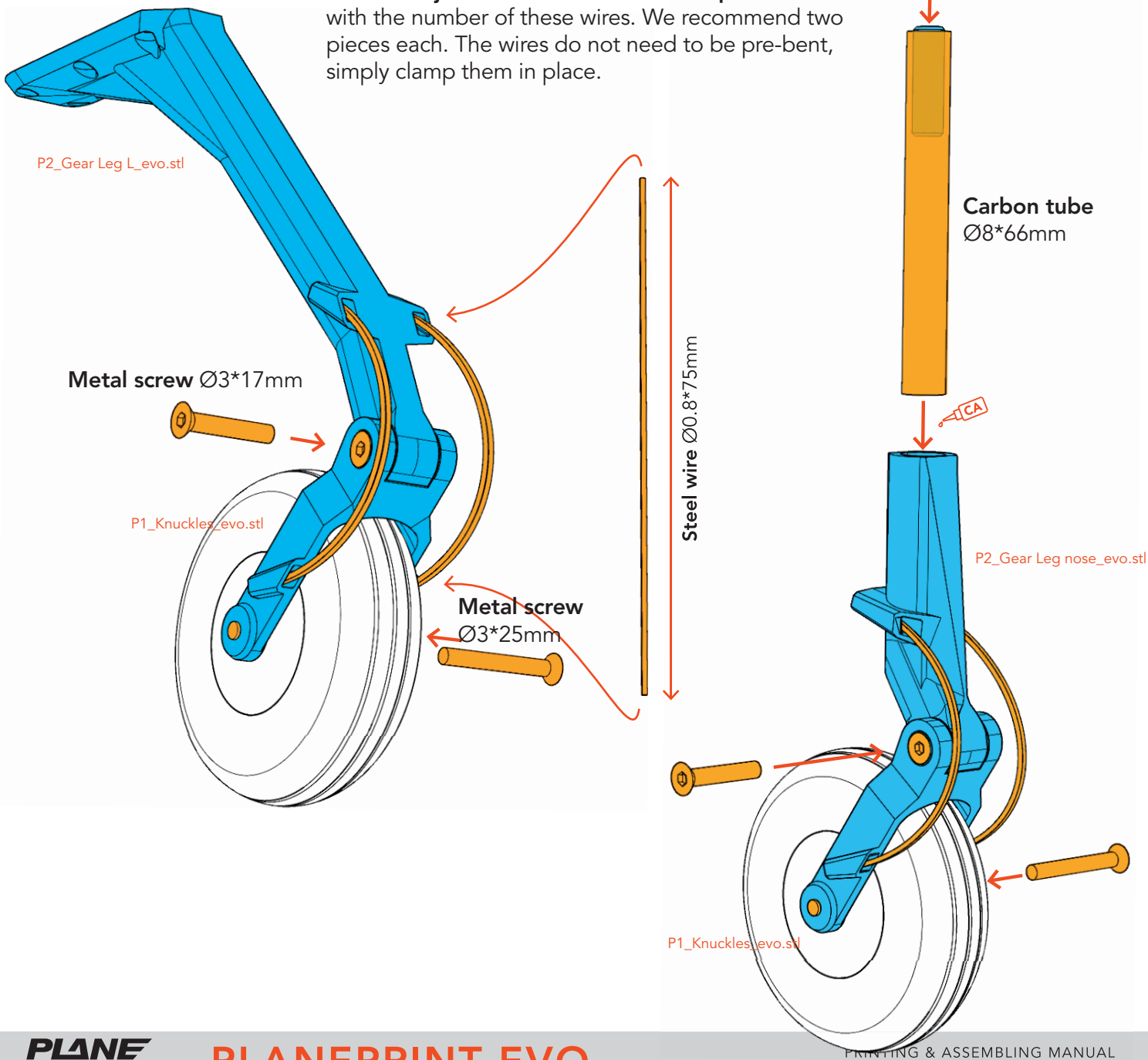
You can build the wheels **with or without ball bearings**. However, if you choose the version without BB, please note that the rim can become hot due to friction on the screw when rolling, which can cause a temporary braking effect.
It is advisable to use some grease or oil and to check the rim frequently.



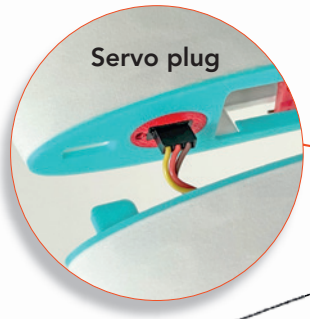
MAIN GEAR

NOSE GEAR

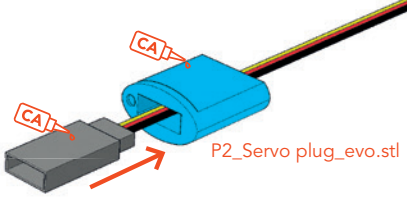
You can **adjust the hardness of the suspension** with the number of these wires. We recommend two pieces each. The wires do not need to be pre-bent, simply clamp them in place.

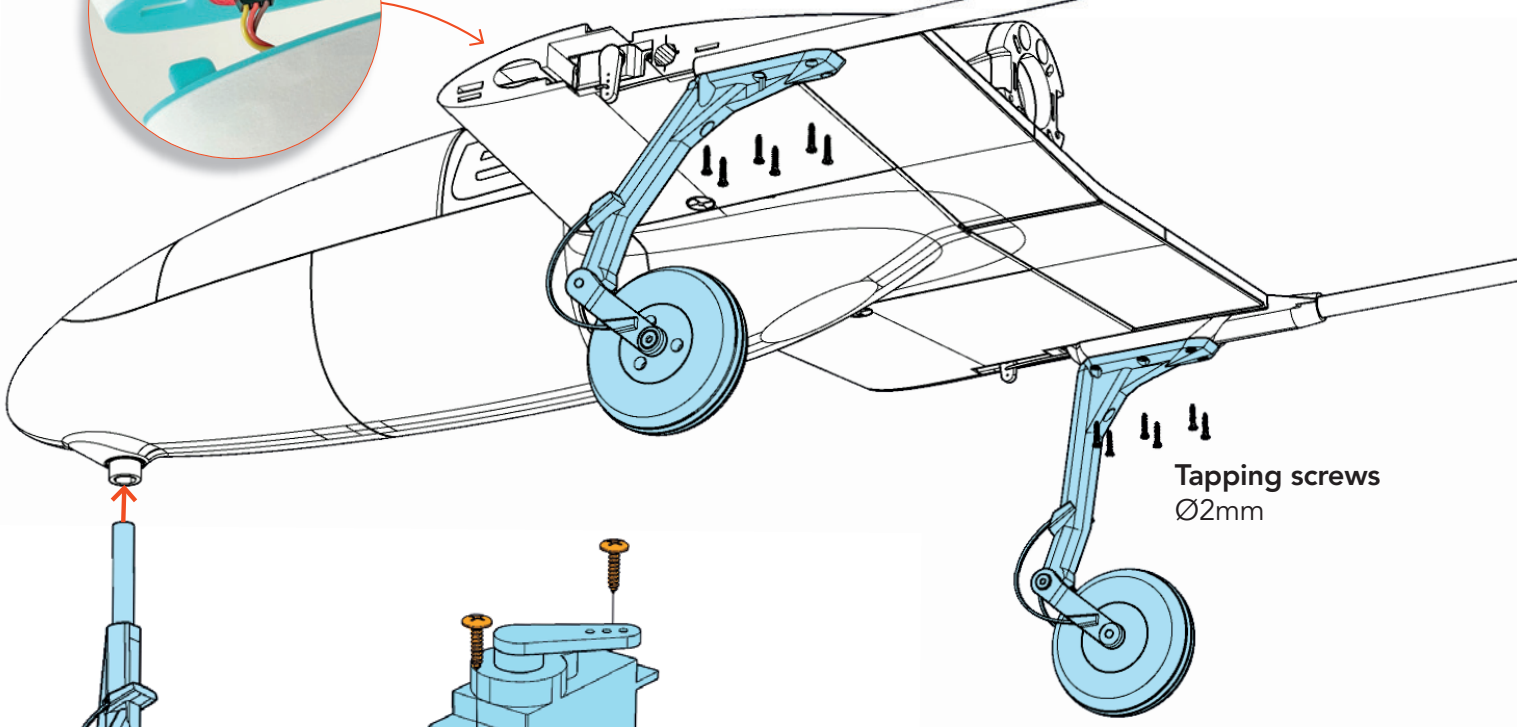


Landing gear

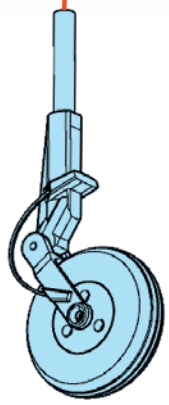


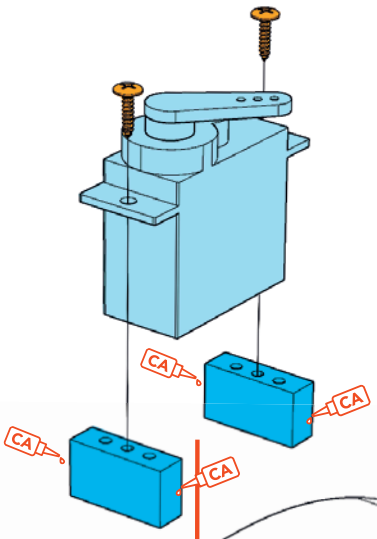
Here you can stick the **servo extension cable for the aileron** into the plug.

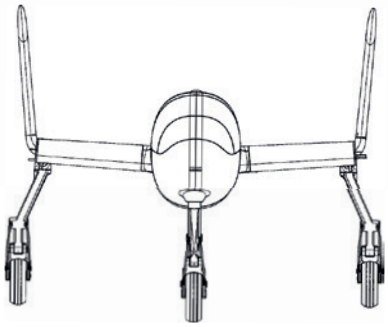




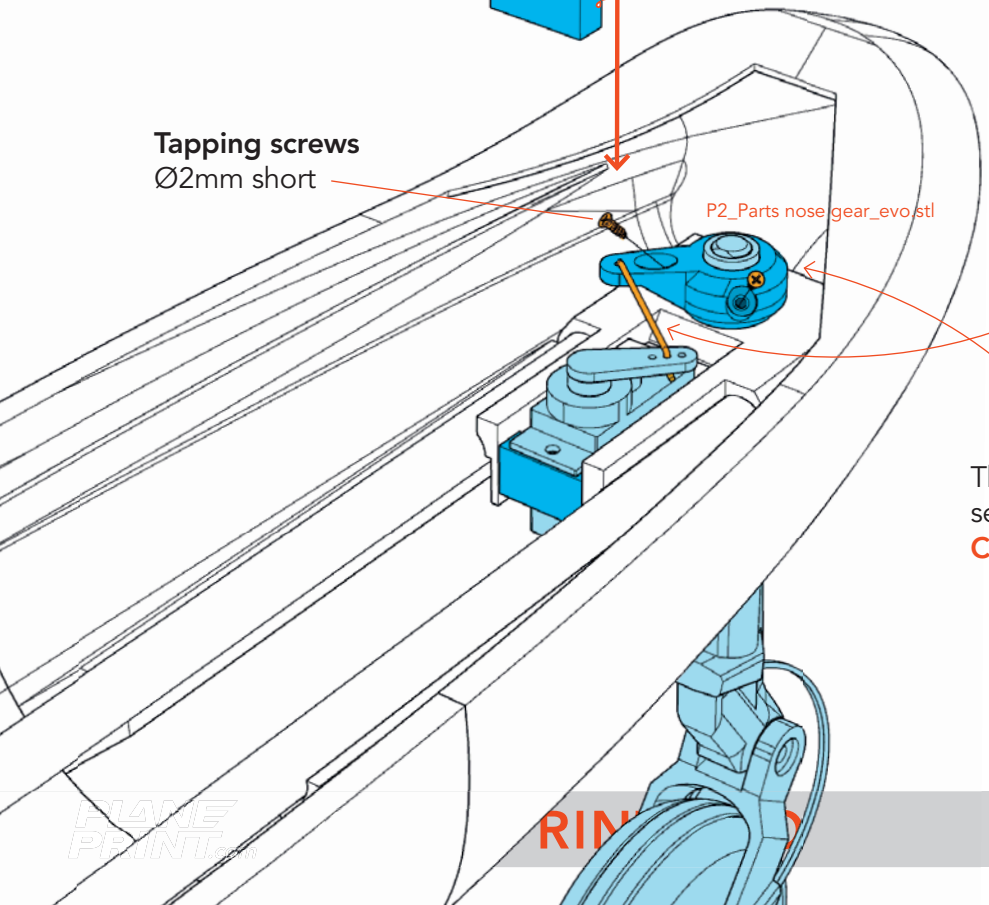
Tapping screws
Ø2mm

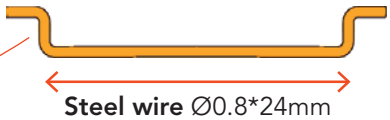






Tapping screws
Ø2mm short





Steel wire Ø0.8*24mm

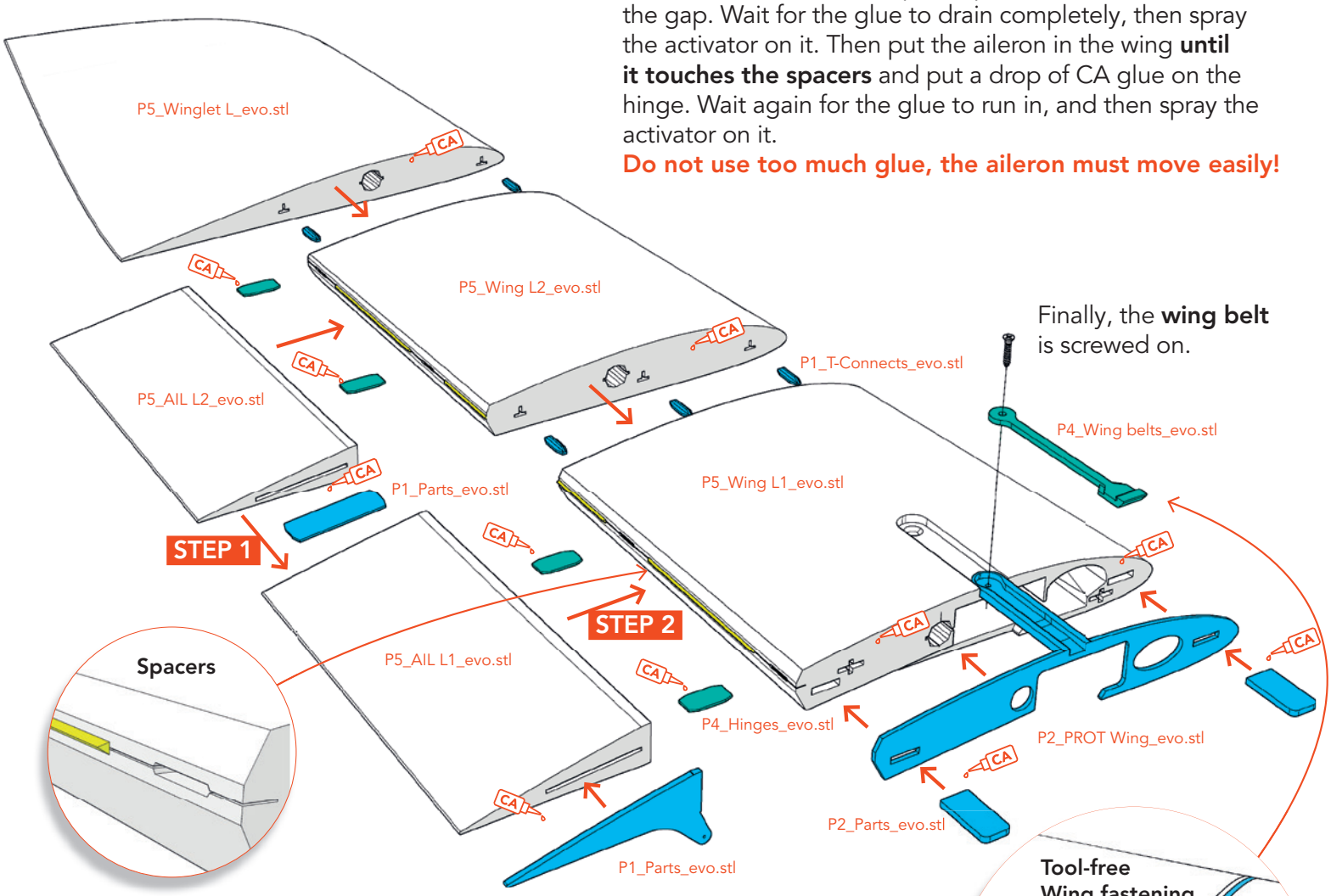
The **control lever** on the nose gear is secured with two short tapping screws.
Caution: do not tighten too much!

Wing assembly

CA medium liquid

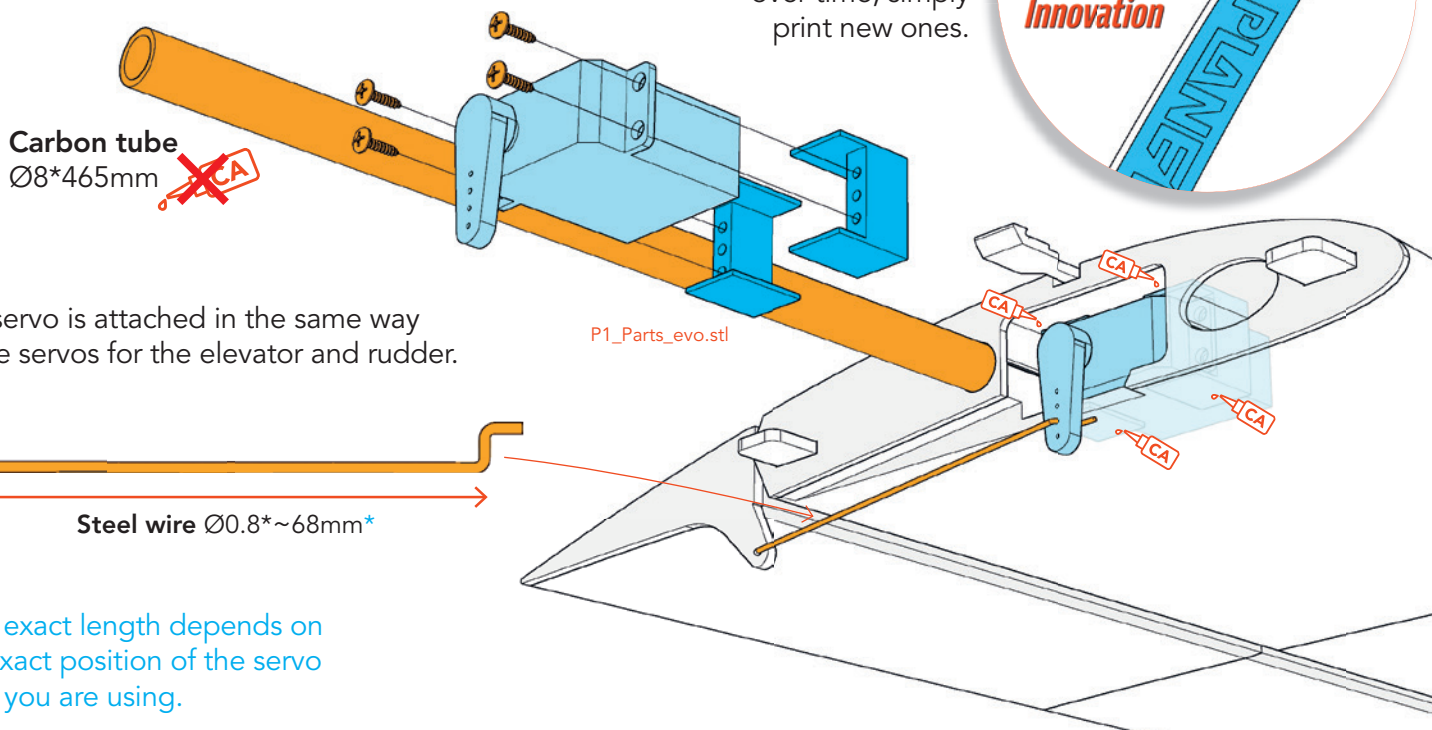
Installation the TPU Hinges: First insert the hinge into the **aileron** and add a drop of liquid CA adhesive into the gap. Wait for the glue to drain completely, then spray the activator on it. Then put the aileron in the wing **until it touches the spacers** and put a drop of CA glue on the hinge. Wait again for the glue to run in, and then spray the activator on it.

Do not use too much glue, the aileron must move easily!

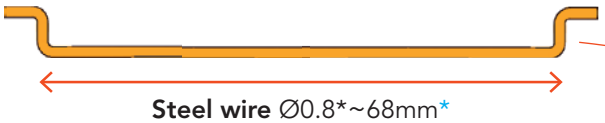


If the TPU belts become too loose over time, simply print new ones.

Aileron Servos



The servo is attached in the same way as the servos for the elevator and rudder.



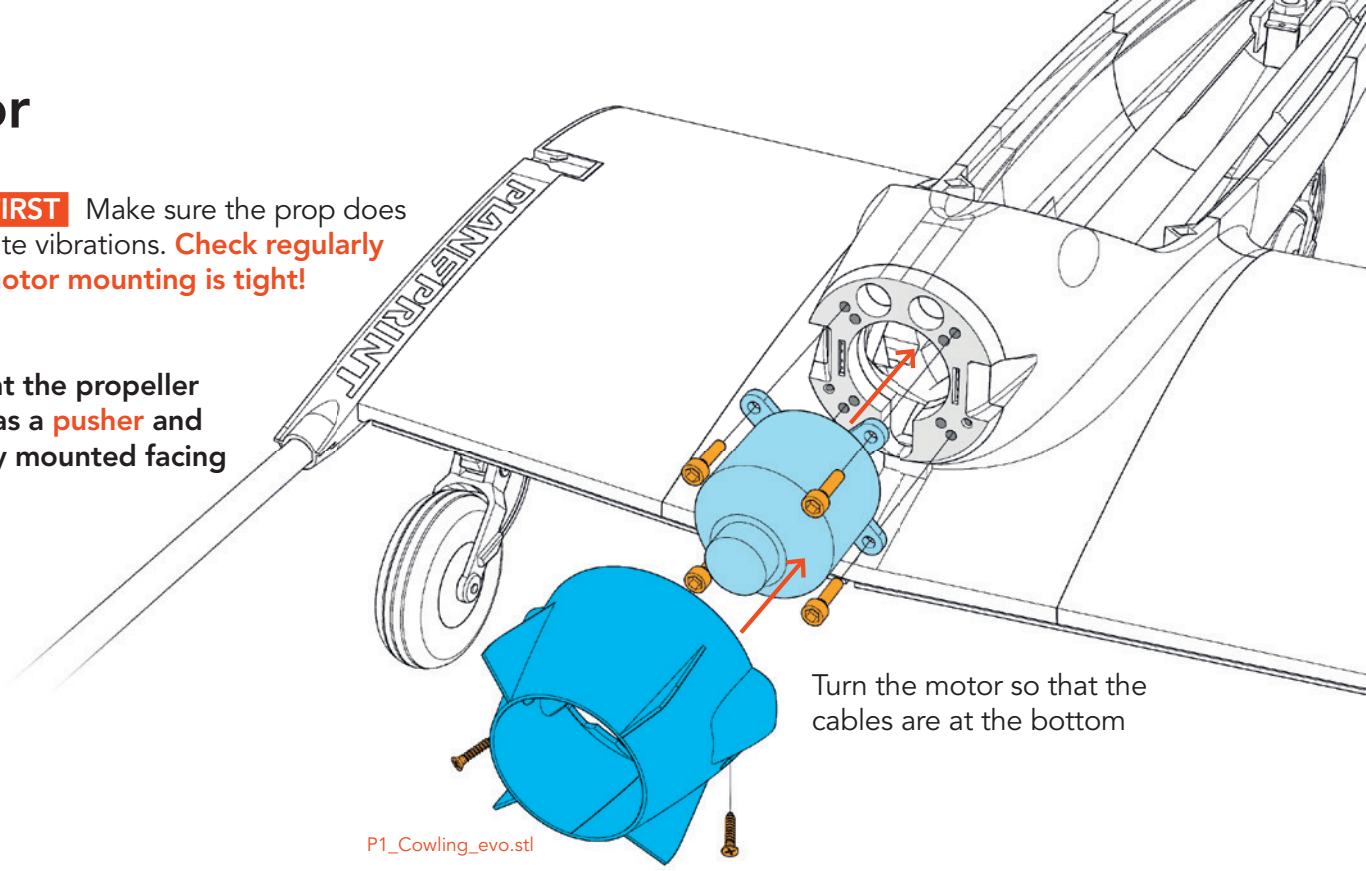
Steel wire Ø0.8*~68mm*

*The exact length depends on the exact position of the servo lever you are using.

Motor

SAFETY FIRST Make sure the prop does not generate vibrations. **Check regularly that the motor mounting is tight!**

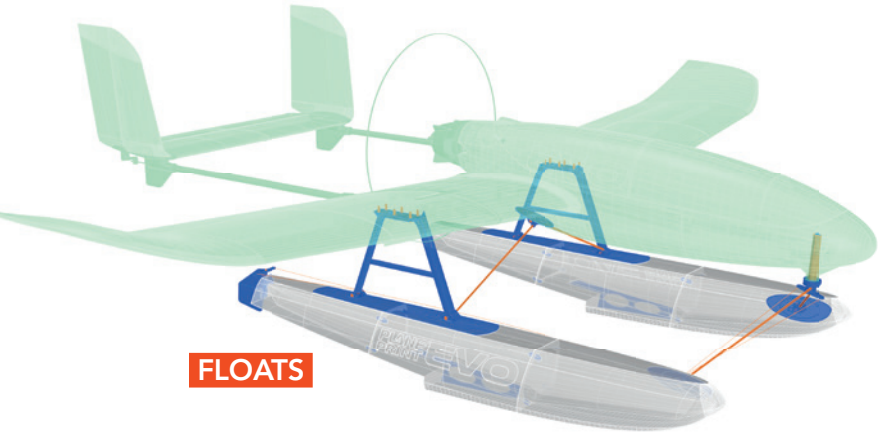
Ensure that the propeller functions as a pusher and is correctly mounted facing forward.

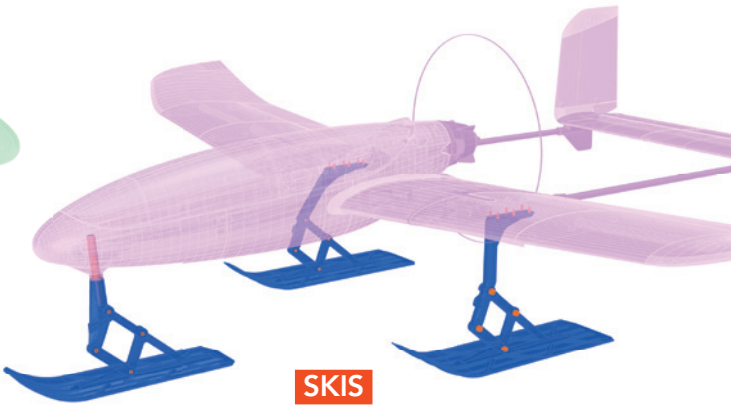


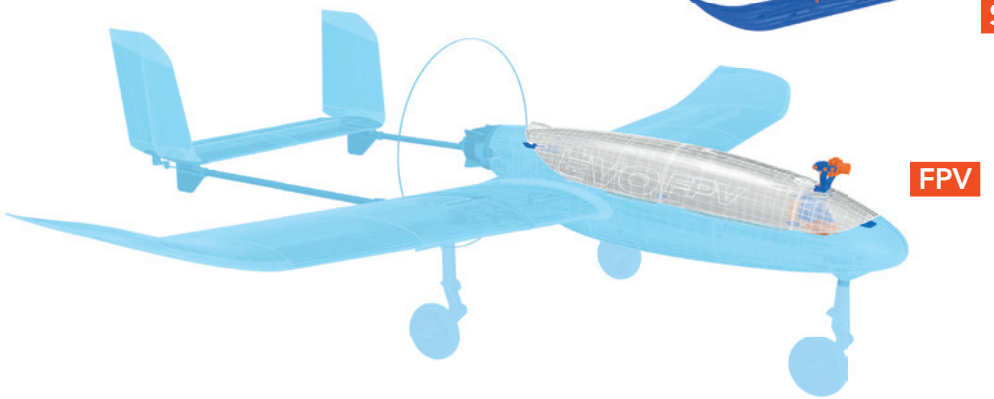
Turn the motor so that the cables are at the bottom

Give your EVO new capabilities...

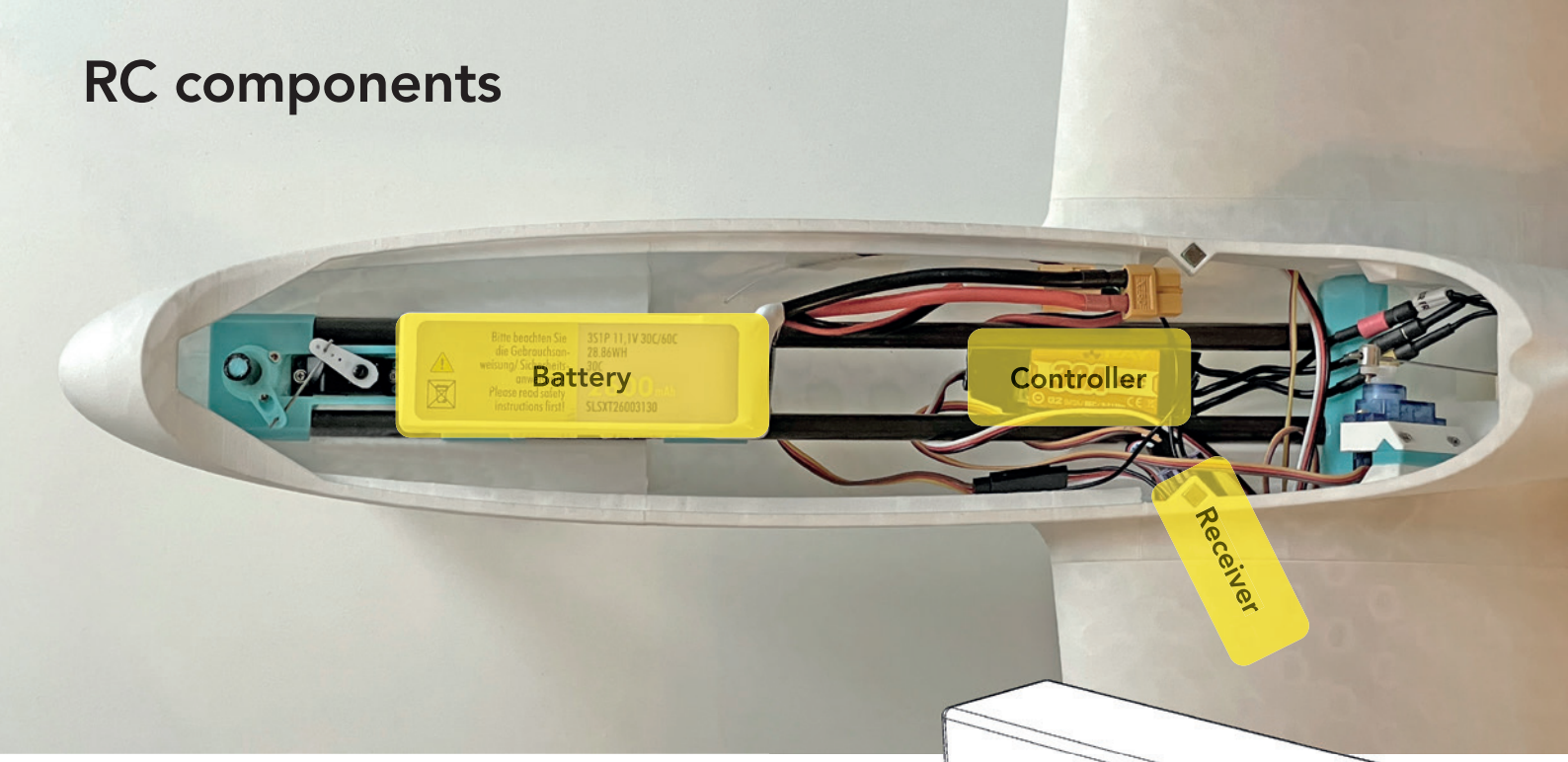
Our website **www.planeprint.com/evo** offers various **optional add-on packages** to significantly expand the range of applications for your EVO. It's worth taking a look...







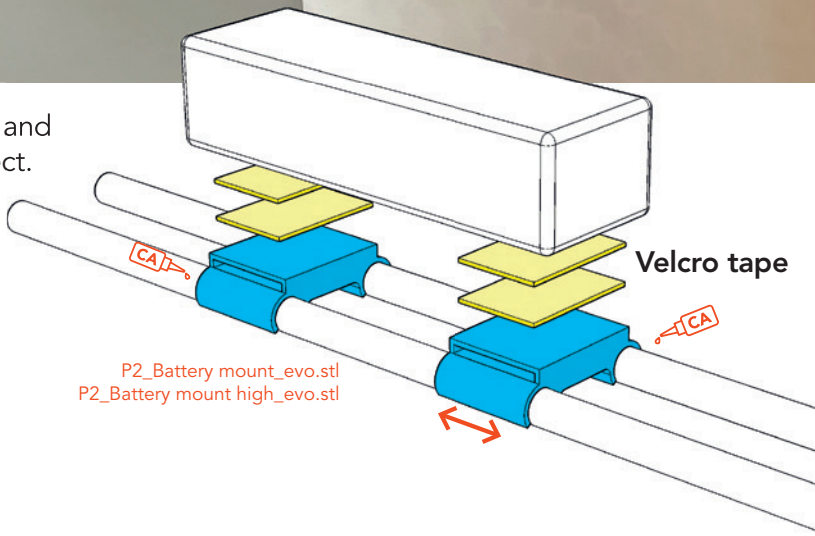
RC components



Use **self-adhesive Velcro tape** to position the battery and mark exactly where it has to be so that the CG is correct.

There is also a higher version if you need to position the battery above the nose gear servo linkage (for lighter batteries).

Before gluing, position the battery precisely so that the CG is correct!

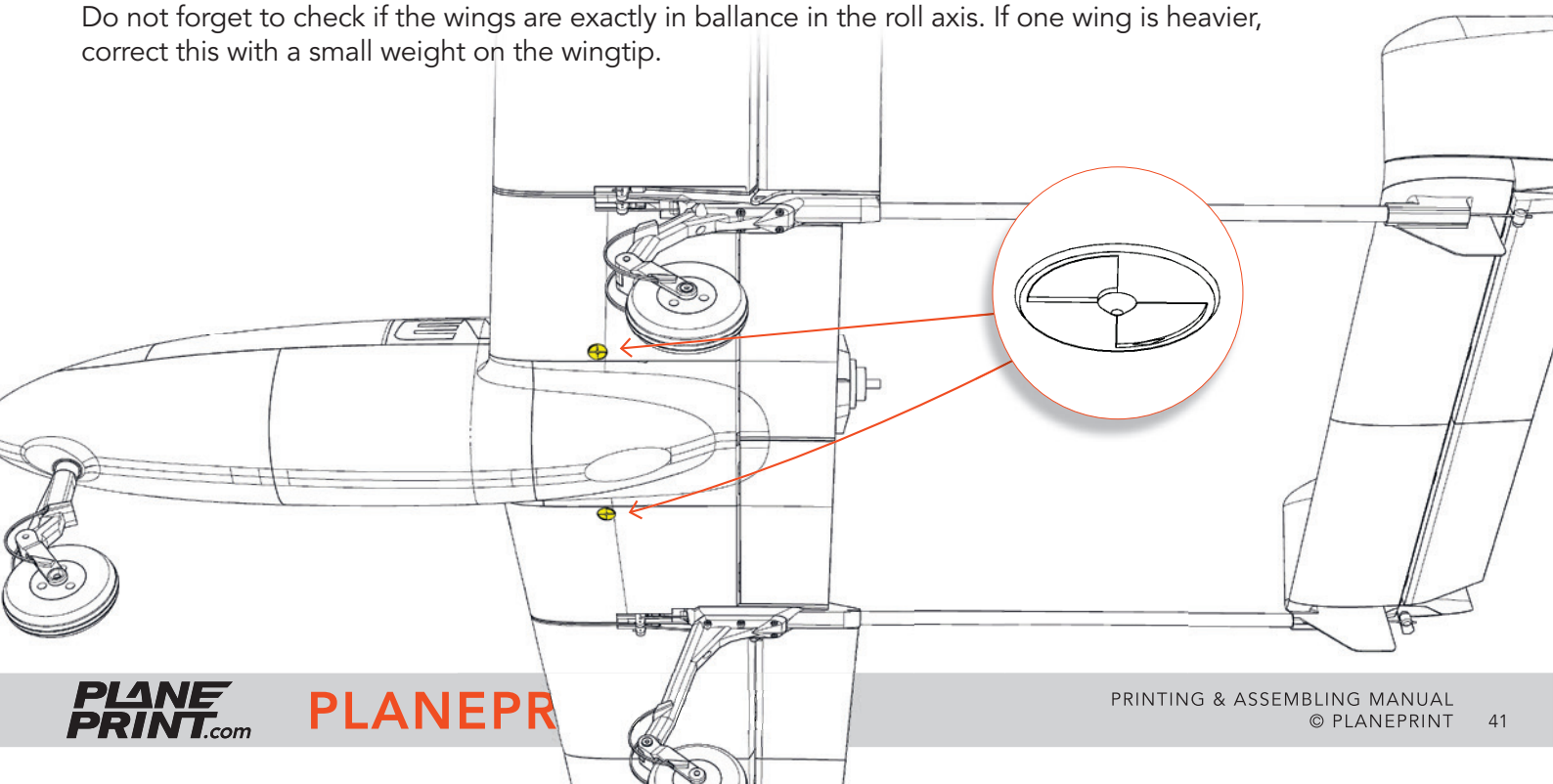


Center of Gravity (CG)

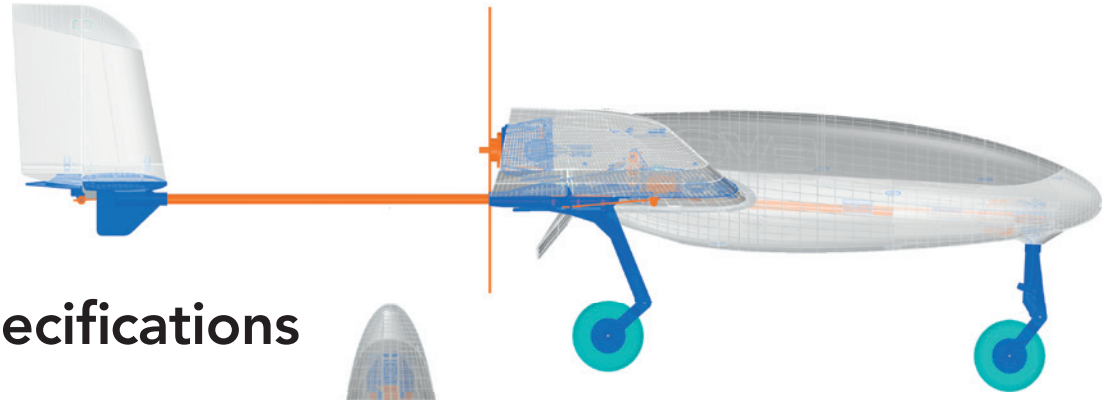
The aircraft must balance on these points – **see the markings on the wing**.

NOTE The EVO is not very sensitive to the exact position of the CG; depending on your preferences, it can be a few mm in front of or behind it. For the maiden flight, however, the CG should not be behind this mark.

Do not forget to check if the wings are exactly in ballance in the roll axis. If one wing is heavier, correct this with a small weight on the wingtip.

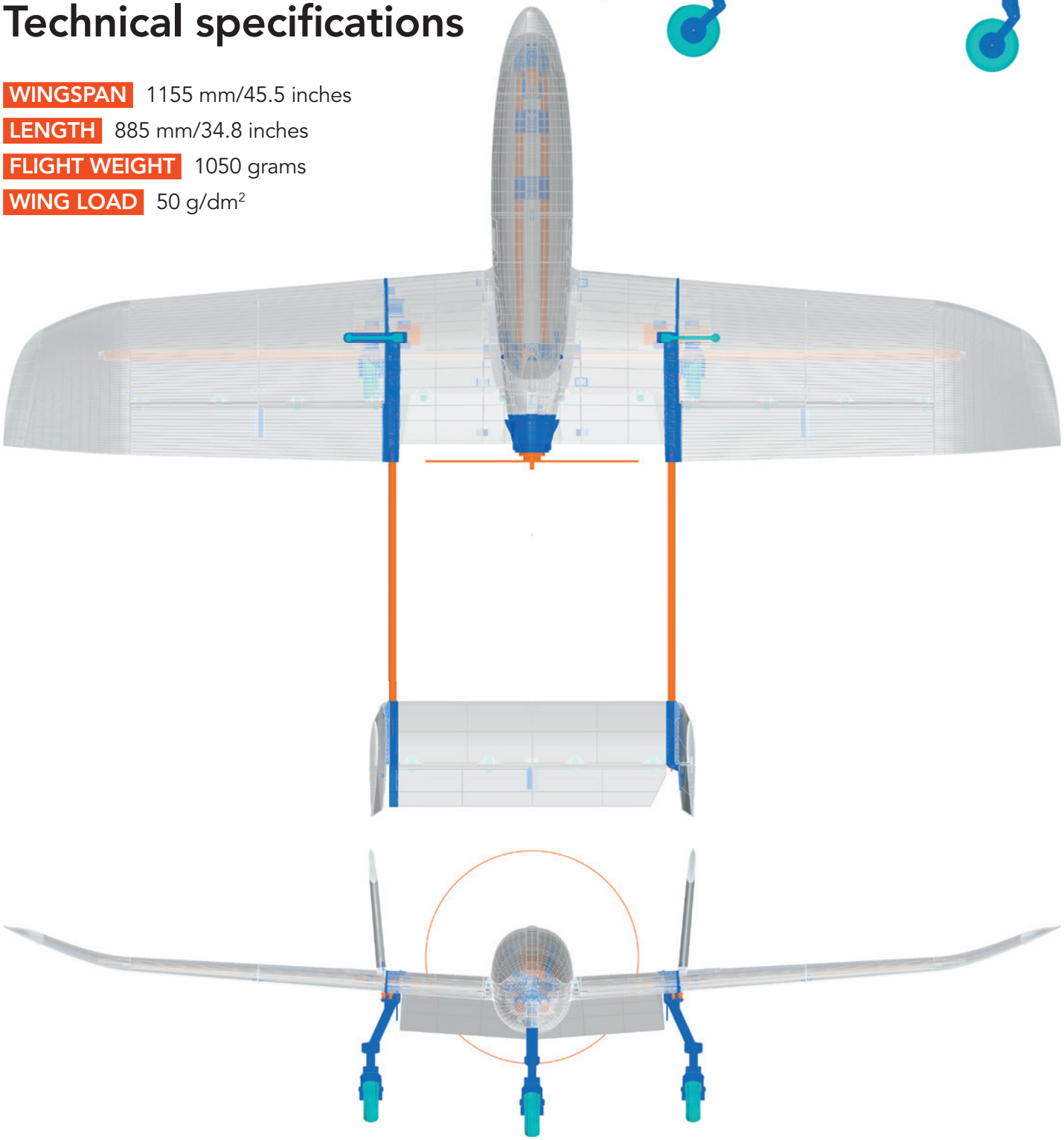


PLANE PRINT EVO



Technical specifications

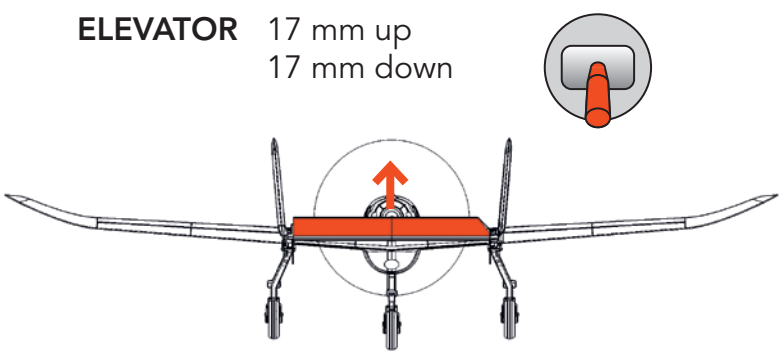
WINGSPAN 1155 mm/45.5 inches
LENGTH 885 mm/34.8 inches
FLIGHT WEIGHT 1050 grams
WING LOAD 50 g/dm^2

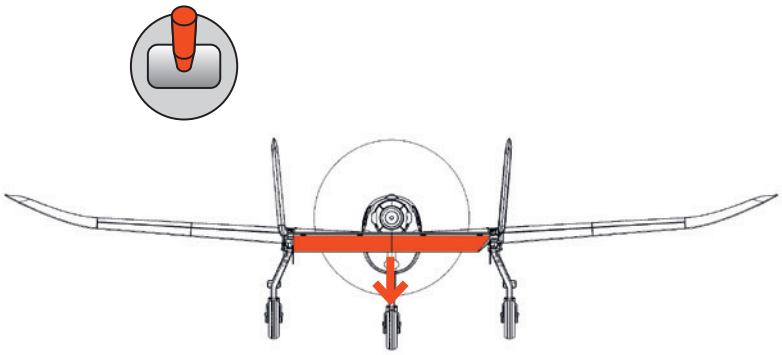


Control Direction Test

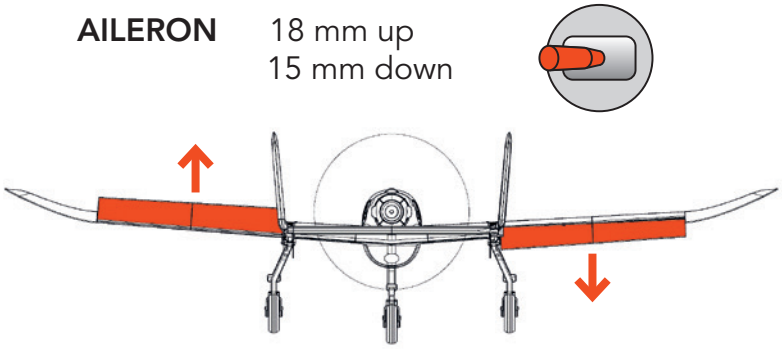
Look at the aircraft from behind

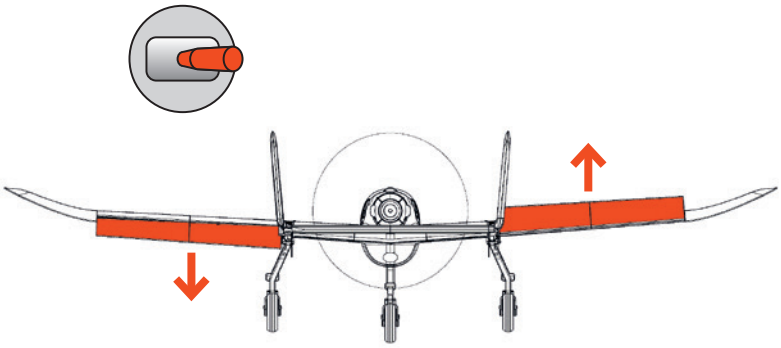
ELEVATOR 17 mm up
17 mm down



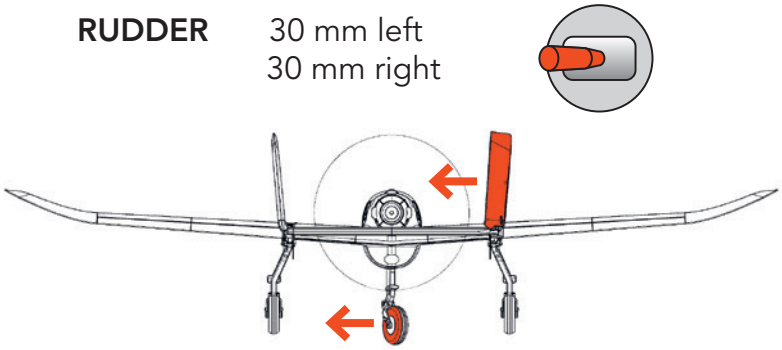


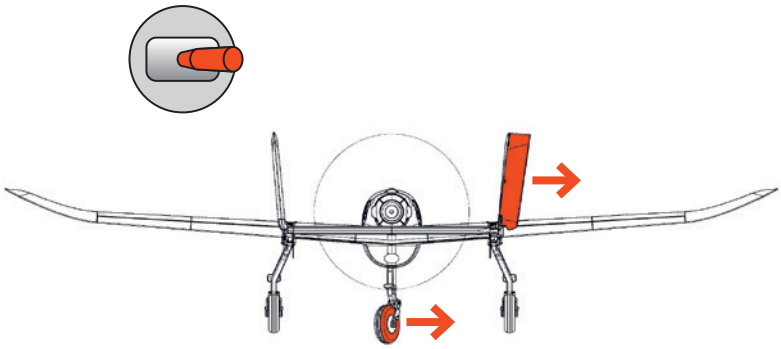
AILERON 18 mm up
15 mm down





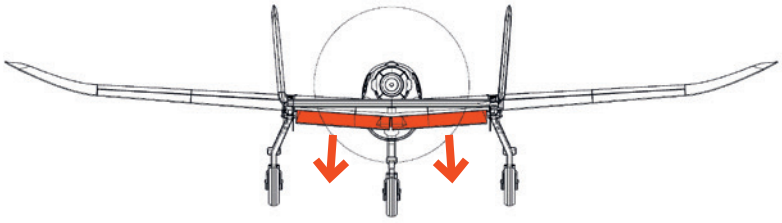
RUDDER 30 mm left
30 mm right

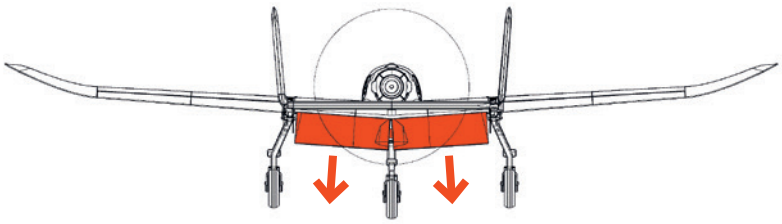




FLAPS 16 mm half down
38 mm full down

Some elevator should be mixed with the flap
(approx. 2 to 3 mm down at full flap)



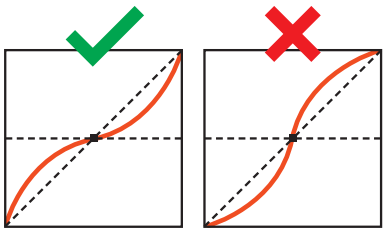


EXPO

ELEVATOR 20 %

AILERON 20 %

RUDDER 20 %



(for some remote controls a minus has to be in front of the number)

AGE RECOMMENDATION 14+

NOT FOR CHILDREN UNDER 14 YEARS.
THIS IS NOT A TOY!

The STL data (or data processed from it, such as G codes) must never be passed on to third parties!

The purchase of the STL does not authorize the production of models for third parties.

By using the download data, an RC model airplane, called „model" for short, can be manufactured using a 3D printer. As a user of this model, only you are responsible for safe operation that does not endanger you or others, or that does not damage the model or property of others.

PLANEPRINT.com assumes no responsibility for damage to persons and property caused by pressure, transport or use of the product. Filaments, printing supplies, hardware or consumables that can not be used after faulty 3D printing will not be replaced by PLANEPRINT.com in any way.

When operating, always keep a safe distance from your model in all directions to avoid collisions and injuries.

This model is controlled by a radio signal. Radio signals can be disturbed from outside without being able to influence it. Interference can lead to a temporary loss of control.

Always operate your model on open terrains, far from cars, traffic and people.

Always follow the instructions and warnings for this product and any optional accessories (servos, receivers, motors, propellers, chargers, rechargeable batteries, etc.) carefully.

Keep all chemicals, small parts and electrical components out of the reach of children.

Avoid water contact with all components that are not specially designed and protected. Moisture damages the electronics.

Never take an item of the model or accessory in your mouth as this can lead to severe injuries or even death.

Never operate your model with low batteries in the transmitter or model.

Always keep the model in view and under control.
Use only fully charged batteries.

Always keep the transmitter switched on when the model is switched on.

Always remove the battery before disassembling the model.

Keep moving parts clean and dry at all times.

Always allow the parts to cool before touching them.

Always remove the battery after use.

Make sure that the Failsafe is properly set before the flight.

Never operate the model with damaged wiring.

Never touch moving parts.

We develop our models to the best of our knowledge and belief. We accept no liability for consequential damage and injuries caused by improper use or incorrectly printed parts. **Please be careful when handling motors, batteries and propellers** and only move your model with insurance and in approved places!

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