

PLANE PRINT



PLANE PRINT SORATO

High-performance glider/motor glider



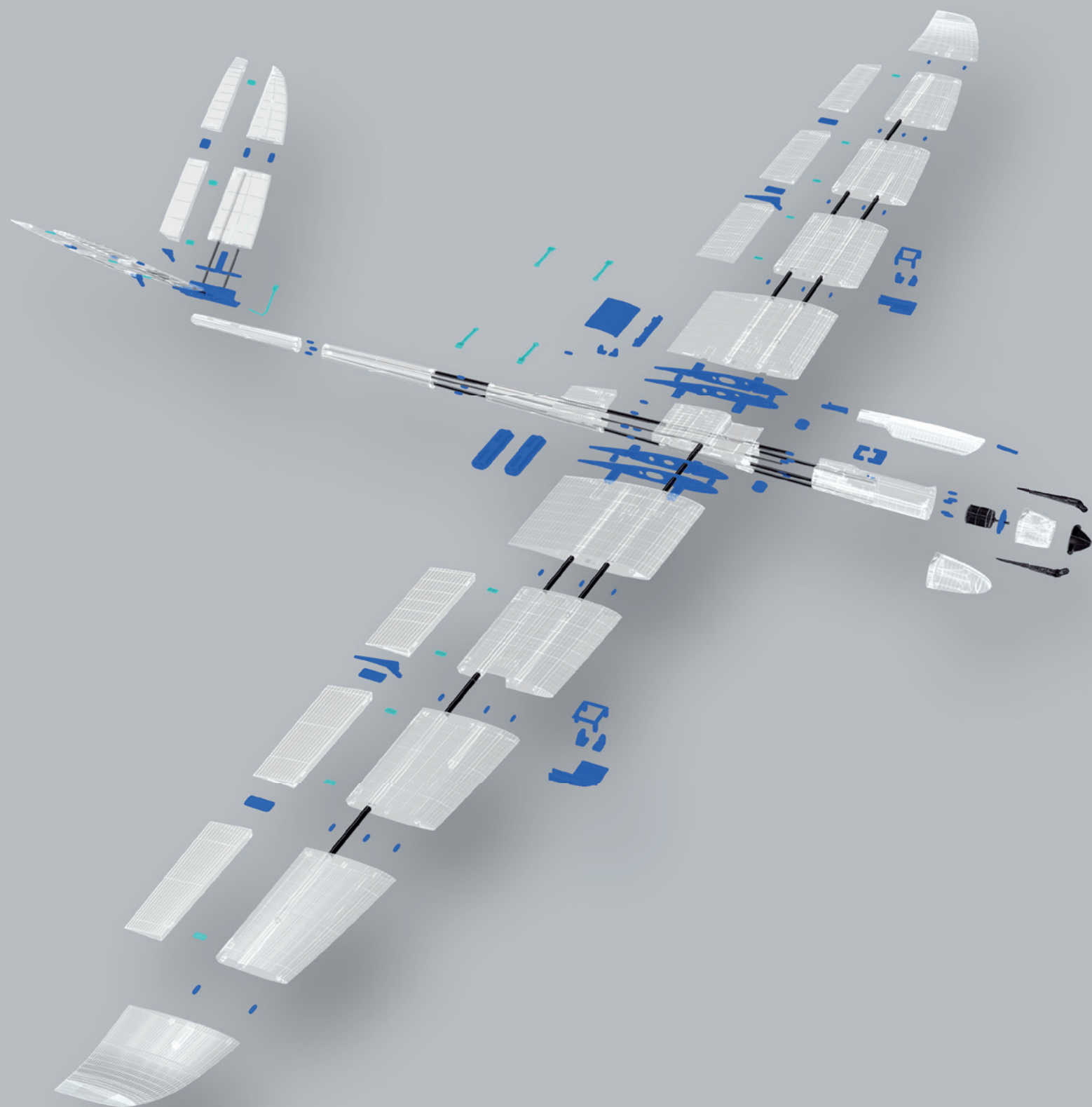
NOTE:
Slicing works best
with CURA!



www.planeprint.com

the **ONLY** place where you can get
original Planeprint STL files **legally!**

PLANEPRINT SORATO



■ LW-PLA ■ PLA ■ TPU ■ OTHER

RC Components

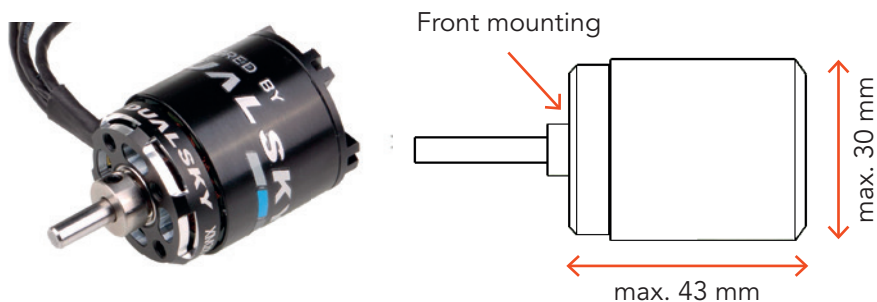
ENGINE DUALSKY XMotor XM2838EG-11 GLIDER 1100 K/V Brushless Motor

or comparable motors.

You can also use any other motor variant!

NOTE The larger the prop the hotter the engine! Always remember that the motor is mounted directly on PLA and use it only for short climbs. Or use a slightly smaller prop.

Check in the beginning how hot your motor is after the flight!



The motor can also be longer, but check whether there is still enough space for the controller and battery.

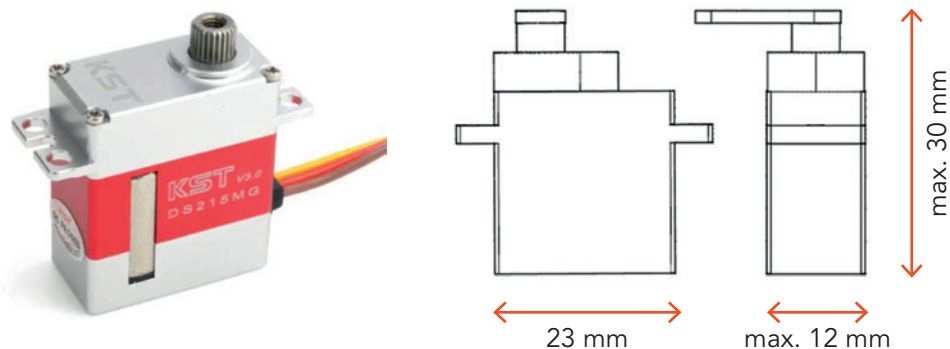
FOLDING PROP 11x6 or 11x5 (Spinner Ø40 mm)

BEC-CONTROLLER 50 A (must fit the engine!)

RECEIVER 6 Channel

BATTERY 3S Lipo, 1000 MaH (The battery should have a weight of 90 grams, best size: 73*35*17)

SERVOS 4 pieces like KST DS215 V3 MG Digital HV or comparable Dimensions (The optimal distance between screws is 28 mm):



SERVO SPOILER 1 Micro or Nano Servo for example: Planet-Hobby Eco Plus Picco 8 or comparable

SERVO CABLE EXTENSION 2 pieces 30mm, 2 pieces 20mm

Required accessoires – basic equipment

- LW-PLA foaming! (**cannot be replaced by PLA!**), ~650 grams
- Tough PLA (or PLA), ~110 grams
- TPU A95 ~10 grams

Materials

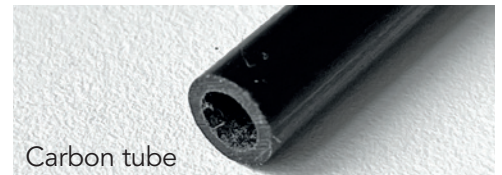
- some tapping screws
(search for: M2 flat head tapping screw assortment)
- CA super glue (liquid and liquid medium)
- CA activator
- Carbon tube Ø8mm*1000mm (inside 6mm), 4 pieces
Cut the tubes to the following lengths (mm):
2x920, 2x574 or 2x500*
**If maximum stability is not important to you, you can also buy just 3 rods.*
- Carbon fiber strips (flat profile) 1*5*1000mm, 4 pieces
Cut the strips to the following lengths (mm):
1x938, 2x797, 2x201, 2x222, 2x90
- Steel wire Ø0.8*1000mm, 3 pieces (better buy 5 pieces in case something goes wrong) (Ø1mm is also possible)
- Some lead (for the glider version)

Tools

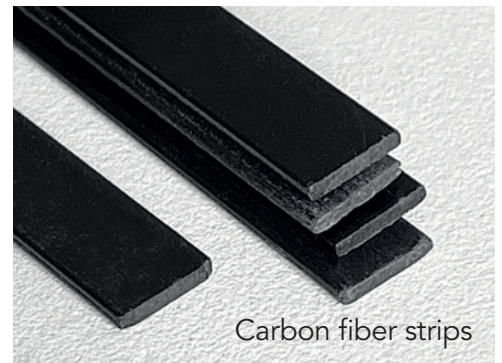
Cutter knife, small Philips screwdriver, Sandpaper grain ~150,
Metal saw, Needle nose pliers



Tapping screws 2mm



Carbon tube



Carbon fiber strips



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:

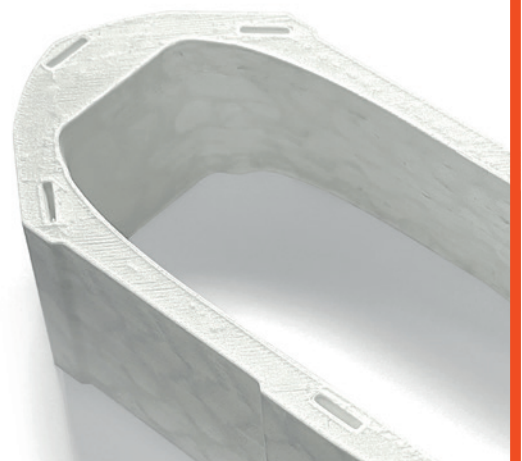


NOTE When printing the PLANEPRINT SORATO you should pay particular attention to a light weight of **each** individual part.

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!

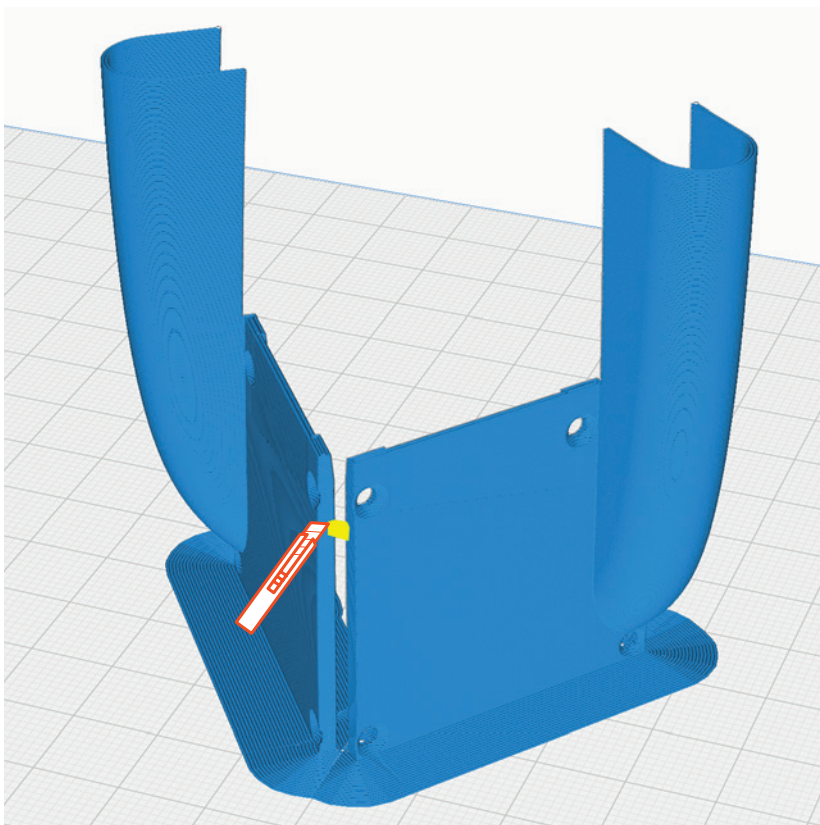
P1_AIL Covers_so.stl

MATERIAL PLA, Weight: ~ 8 g

ADDITIONAL SETTINGS

- Set brim
- Remove support (marked yellow)

Please be careful with the knife!

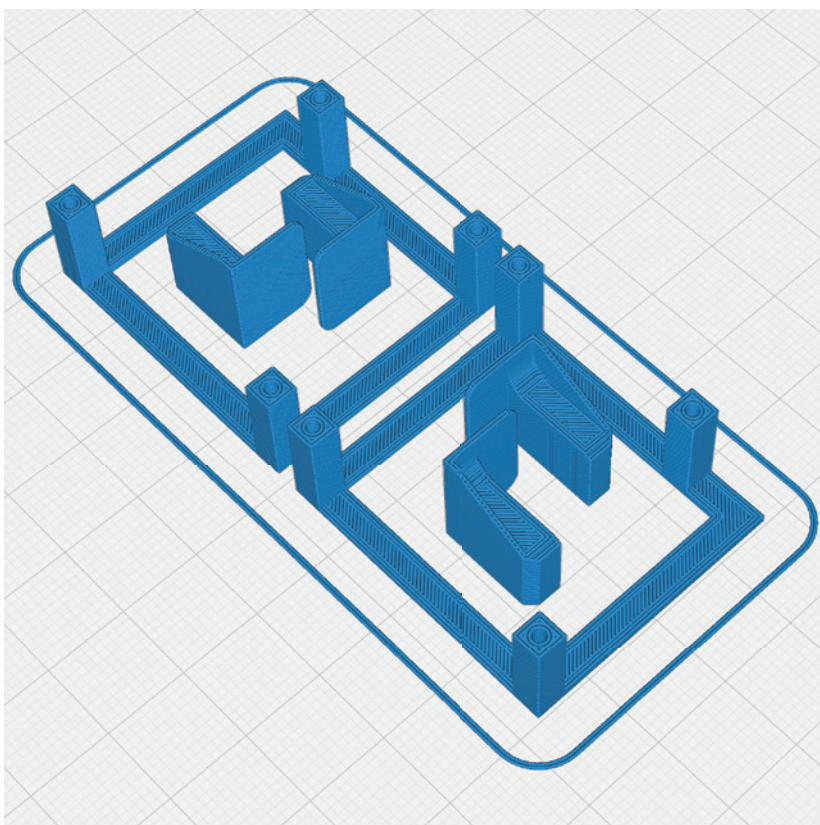


P1_AIL Mount_so.stl

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_ALL parts_so.stl

MATERIAL PLA, Weight: ~ 5 g

ADDITIONAL SETTINGS

None required



P1_Motor mount-19-16_so.stl or P1_Motor mount-undrilled_so.stl

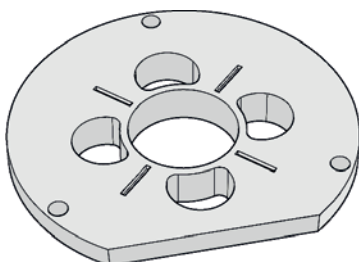
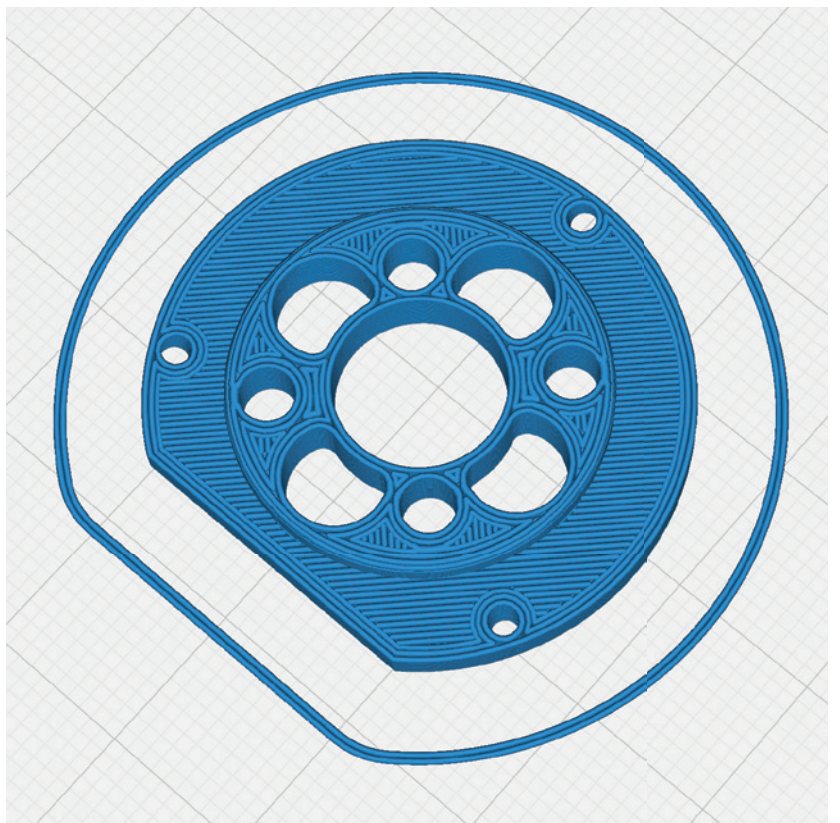
MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required

This part is only needed if you want
to print the **motor version**.

If your motor needs different hole
positions use the STL [P1_Motor mount-undrilled_so.stl](#)



PROFILE P1_Fullbody **Tough PLA or PLA**



The information about the basic settings you can find on our website at [PRINT](https://www.planeprint.com).
Please note the additional settings for the individual parts!

P1_Parts_so.stl

MATERIAL PLA, Weight: ~ 3 g

ADDITIONAL SETTINGS

None required

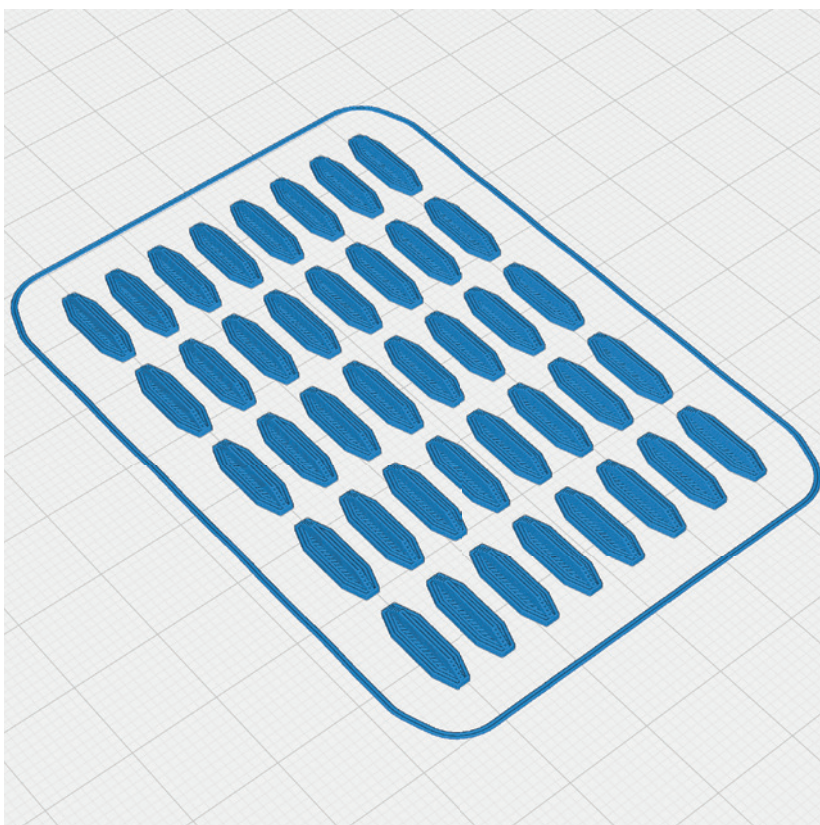


P1_T-Connects_so.stl

MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required



PROFILE P1_Fullbody Tough PLA or PLA



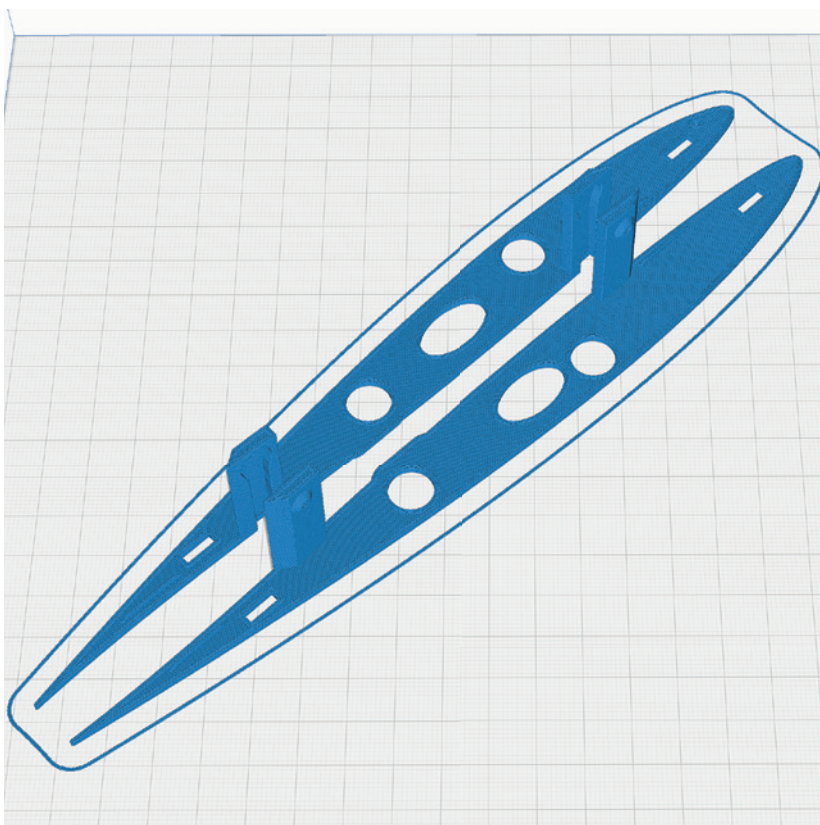
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P1_Protectors FUS_so.stl

MATERIAL PLA, Weight: ~ 14 g

ADDITIONAL SETTINGS

None required

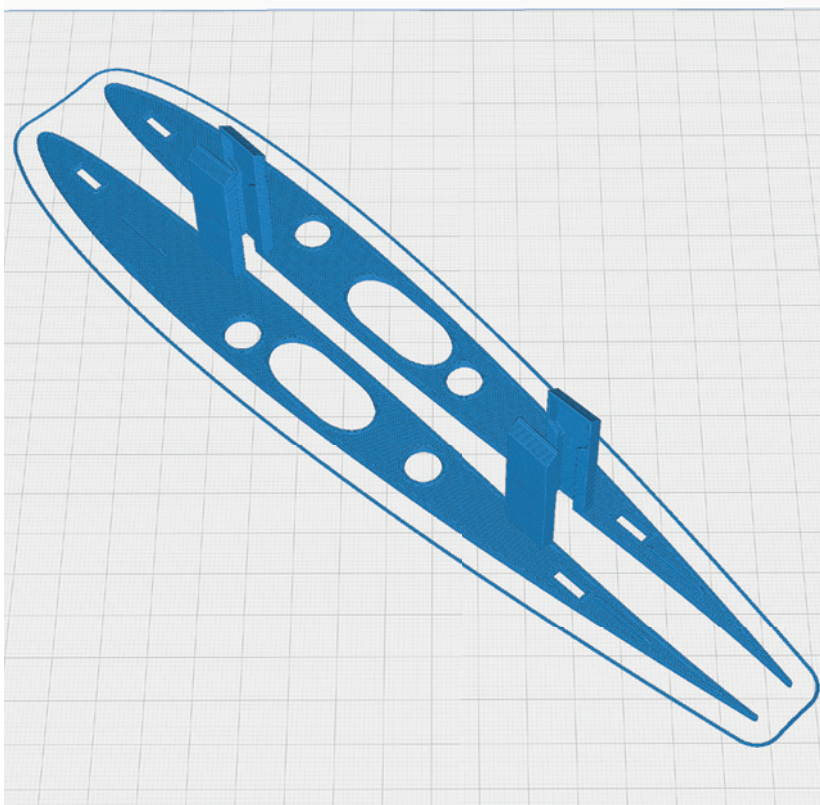


P1_Protectors Wing_so.stl

MATERIAL PLA, Weight: ~ 14 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 V-tail_so.stl

MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required

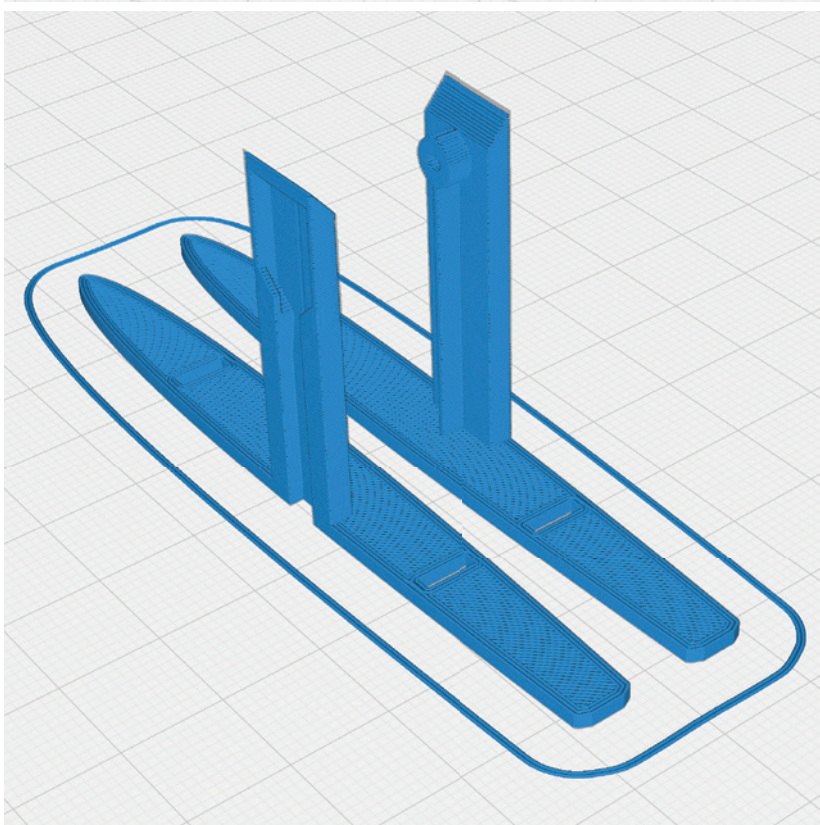


P1_Protectors V-tail_so.stl

MATERIAL PLA, Weight: ~ 4 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_Center FRONT_so.stl

MATERIAL PLA, Weight: ~ 14 g

ADDITIONAL SETTINGS

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

IMPORTANT Before you glue this part, please make sure that the 8 mm carbon tubes fit inside. They should be stiff at the beginning and go easily after a few times back and forth. There are small differences in the diameter of the tubes. If it does not fit, please reprint this part with slightly reduced Horizontal Expansion (-0.1 mm or less).

This part must be absolutely stable, because it absorbs the forces of the wings.



P2_Center BACK_so.stl

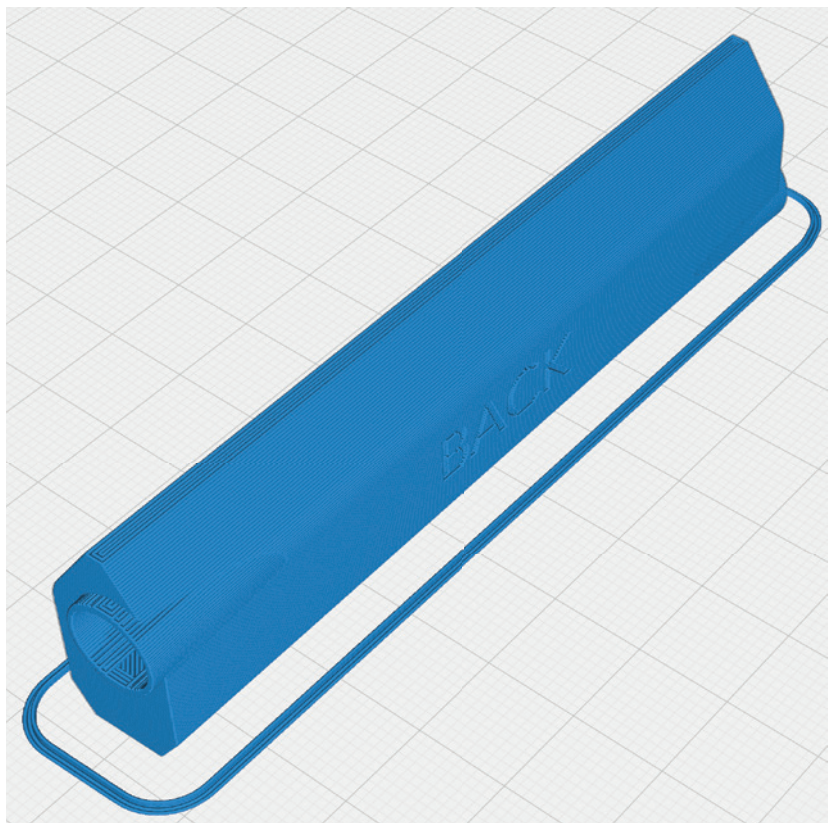
MATERIAL PLA, Weight: ~ 14 g

ADDITIONAL SETTINGS

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

IMPORTANT Before you glue this part, please make sure that the 8 mm carbon tubes fit inside. They should be stiff at the beginning and go easily after a few times back and forth. There are small differences in the diameter of the tubes. If it does not fit, please reprint this part with slightly reduced Horizontal Expansion (-0.1 mm or less).

This part must be absolutely stable, because it absorbs the forces of the wings.



PROFILE P2_Hollowbody Tough PLA or PLA



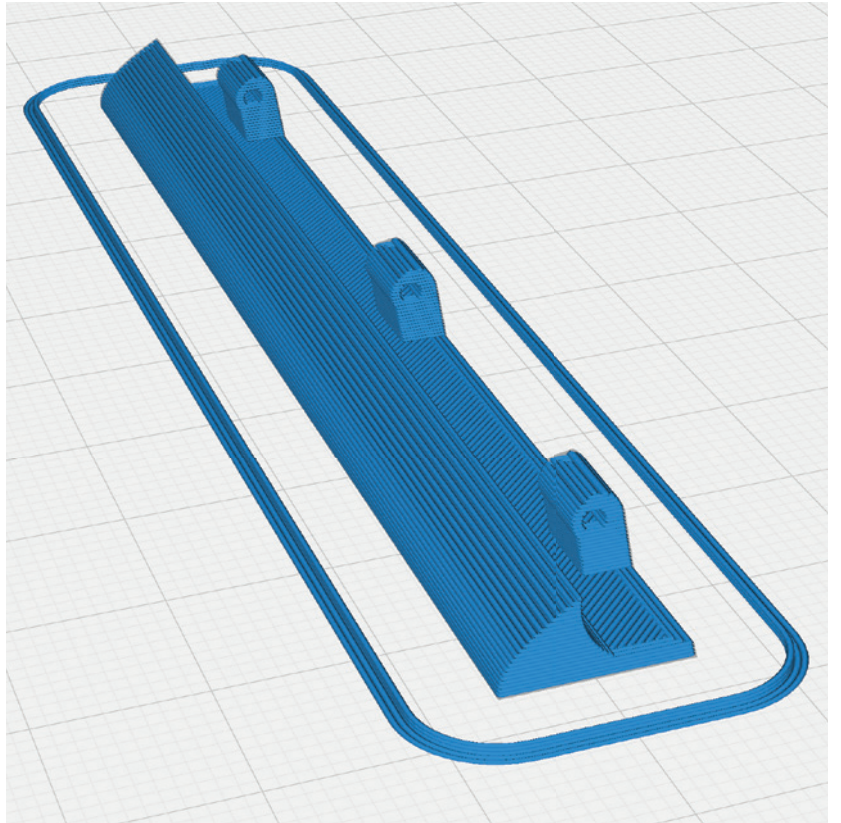
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Spoiler mount_so.stl

MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required



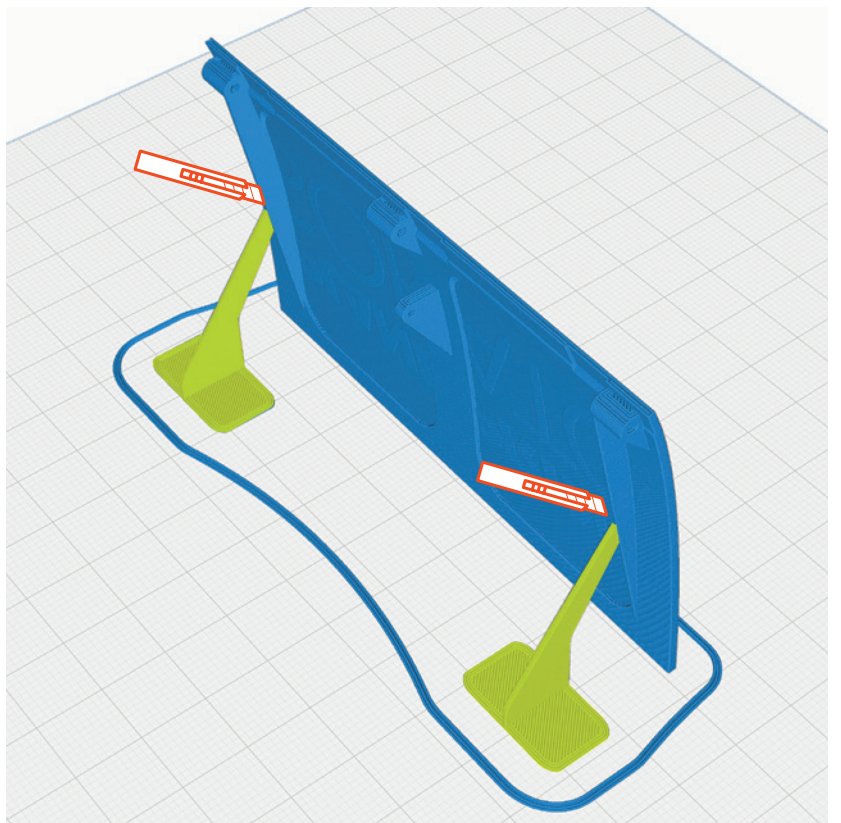
P2_Spoiler_so.stl

MATERIAL PLA, Weight: ~ 9 g

ADDITIONAL SETTINGS

- Depending on your buildplate, you may need brim
- Remove support (marked yellow)

Please be careful with the knife!



PROFILE P2_Hollowbody Tough PLA or PLA



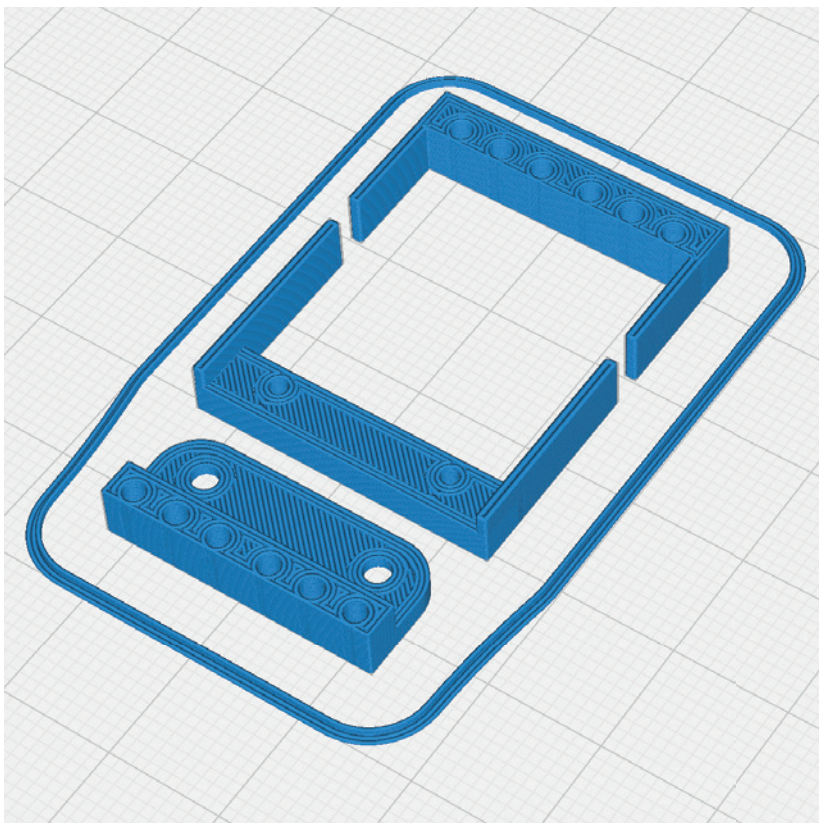
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Servo mount_so.stl

MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required

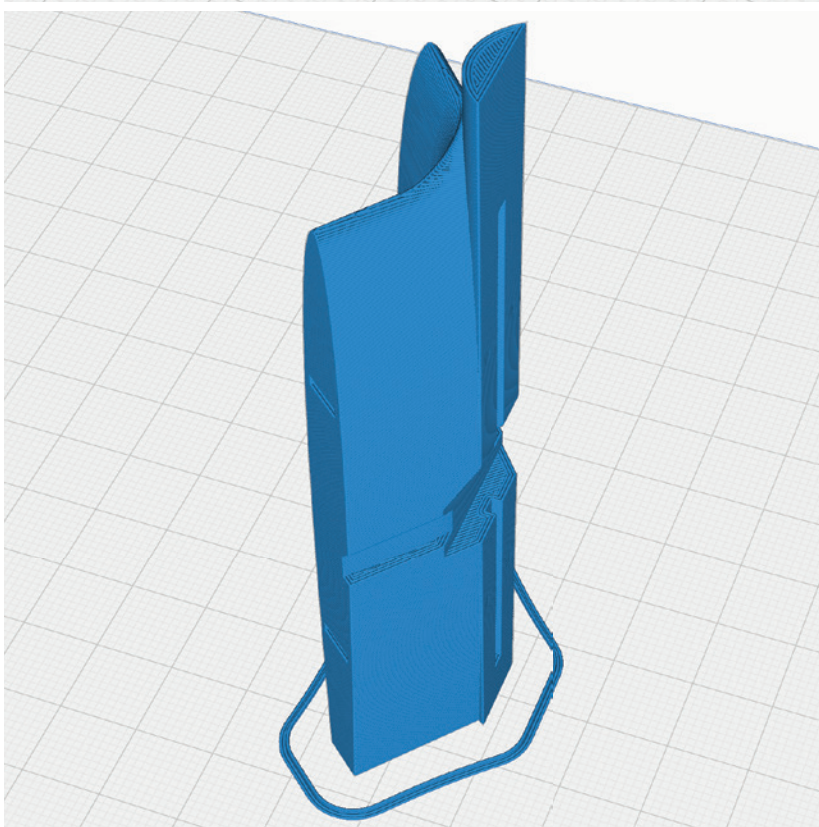


P2_Tail center_so.stl

MATERIAL PLA, Weight: ~ 11 g

ADDITIONAL SETTINGS

- Infill density: 8 %



PROFILE P2_Hollowbody Tough PLA or PLA



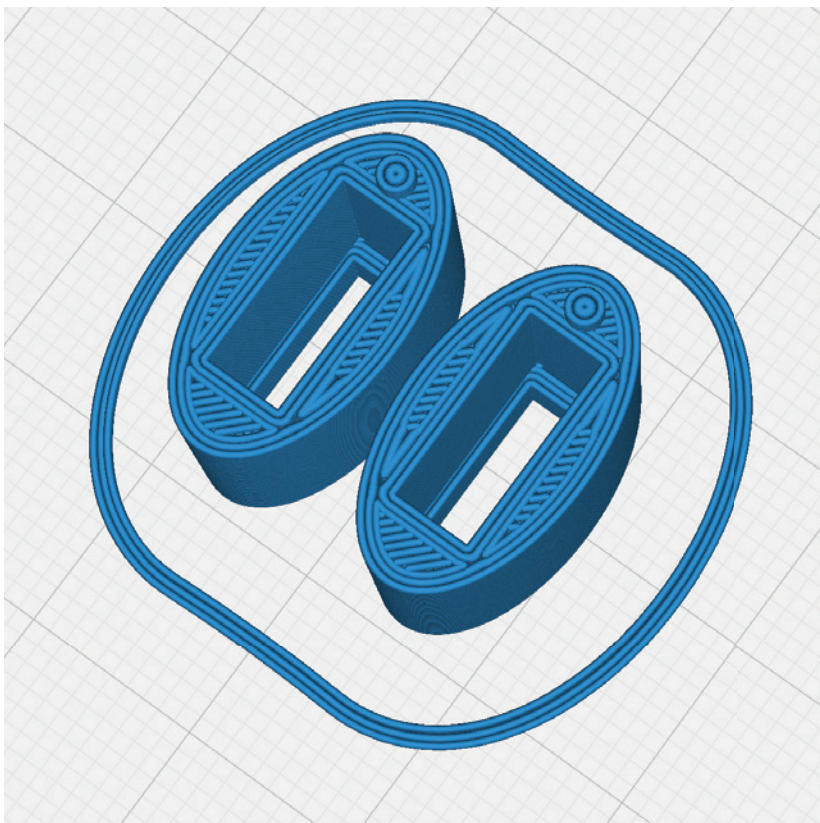
The information about the basic settings you can find on our website at [PRINT](https://www.planeprint.com).
Please note the additional settings for the individual parts!

P2_AIL plug bracket_so.stl

MATERIAL PLA, Weight: ~ 3 g

ADDITIONAL SETTINGS

None required



PROFILE P4_Flex LW TPU (A95/VarioShore)



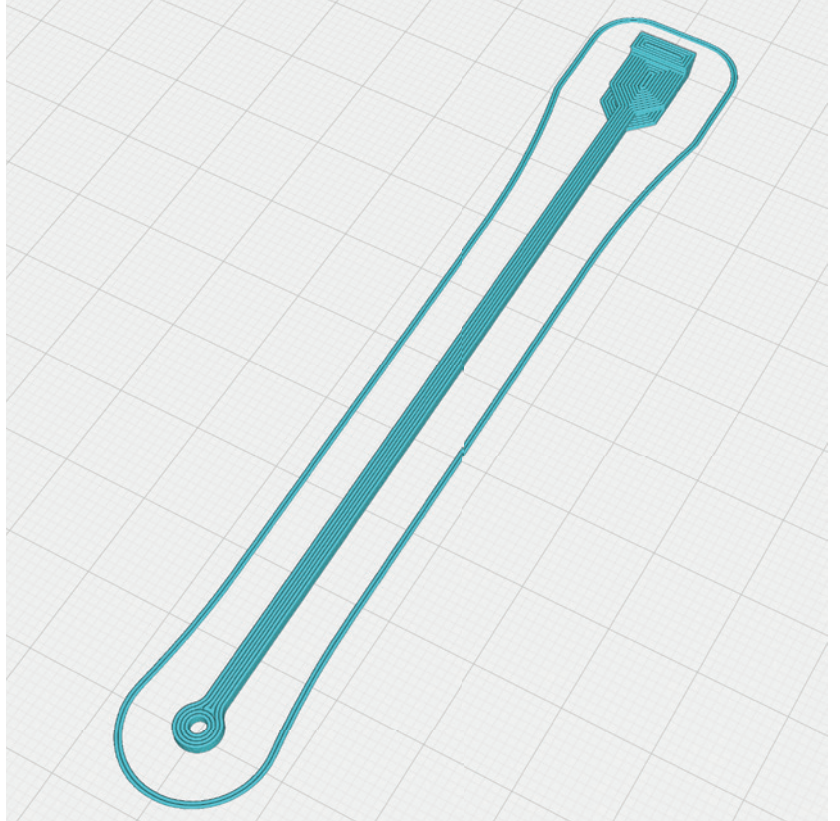
The information about the basic settings you can find on our website at [PRINT](https://www.planeprint.com).
Please note the additional settings for the individual parts!

P4_Belt V_so.stl

MATERIAL TPU, Weight: ~ 1 g

ADDITIONAL SETTINGS

- Wall Line Count/Perimeters: 10

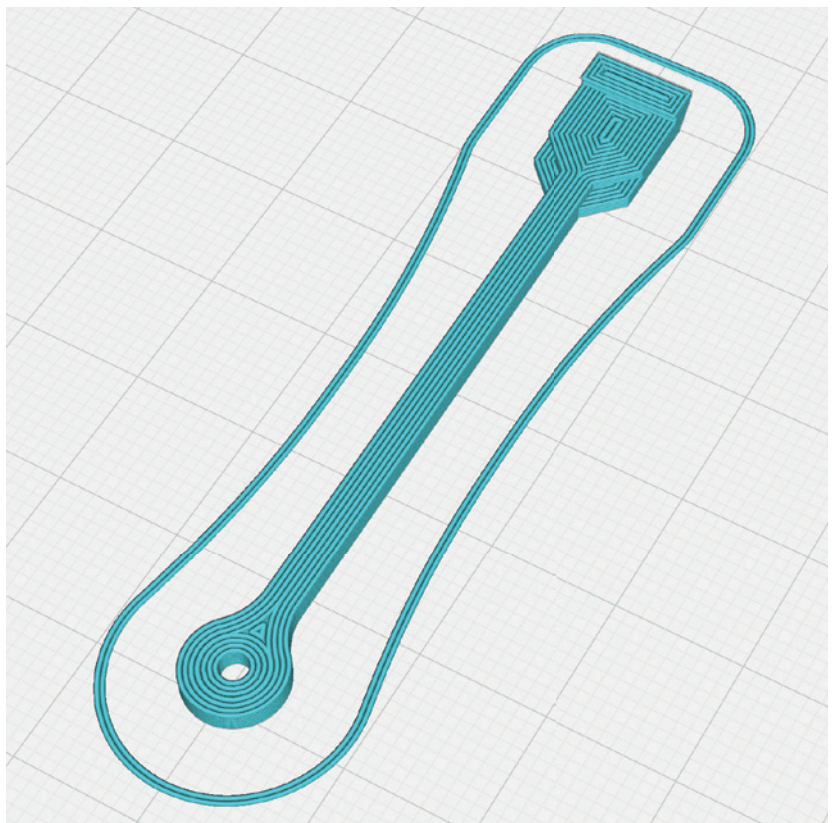


P4_Belt wing_so.stl

MATERIAL TPU, Weight: ~ 1 g

ADDITIONAL SETTINGS

- Wall Line Count/Perimeters: 10
- Print it 4 times



PROFILE P4_Flex LW TPU (A95/VarioShore)



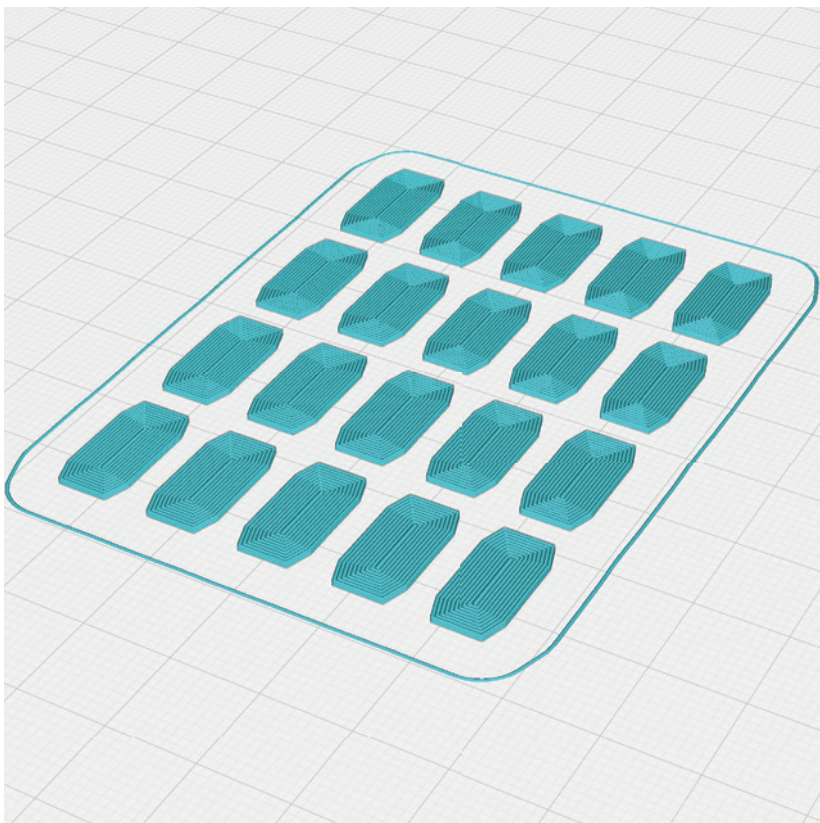
The information about the basic settings you can find on our website at [PRINT](https://www.planeprint.com).
Please note the additional settings for the individual parts!

P4_Hinges_so.stl

MATERIAL TPU, Weight: ~ 2 g

ADDITIONAL SETTINGS

- Wall Line Count/Perimeters: 10



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!

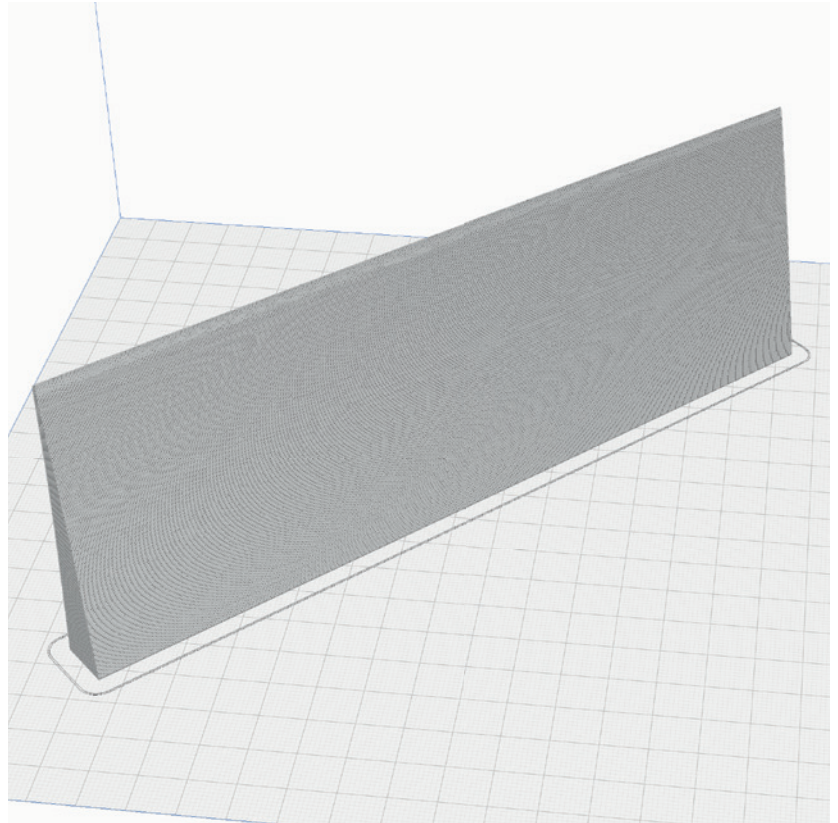
P5_AIL L1_so.stl and
P5_AIL R1_so.stl

MATERIAL LW PLA, Weight: ~ 13 g

TIME ~ 2 hours

ADDITIONAL SETTINGS

- Brim might be needed



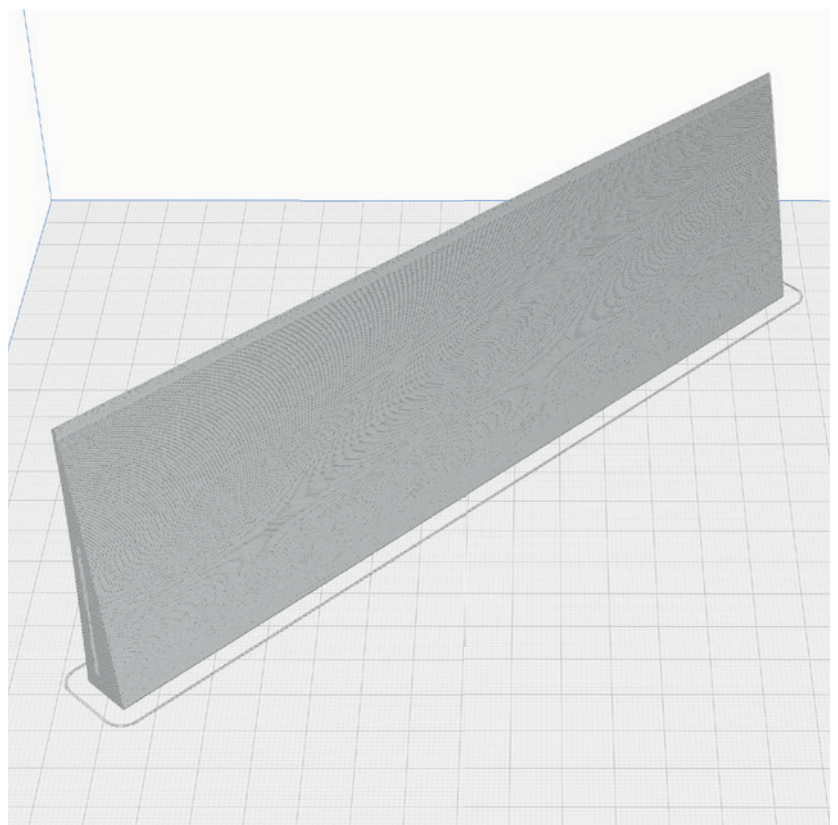
P5_AIL L2_so.stl and
P5_AIL R2_so.stl

MATERIAL LW PLA, Weight: ~ 12 g

TIME ~ 2 hours

ADDITIONAL SETTINGS

- Brim might be needed



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!

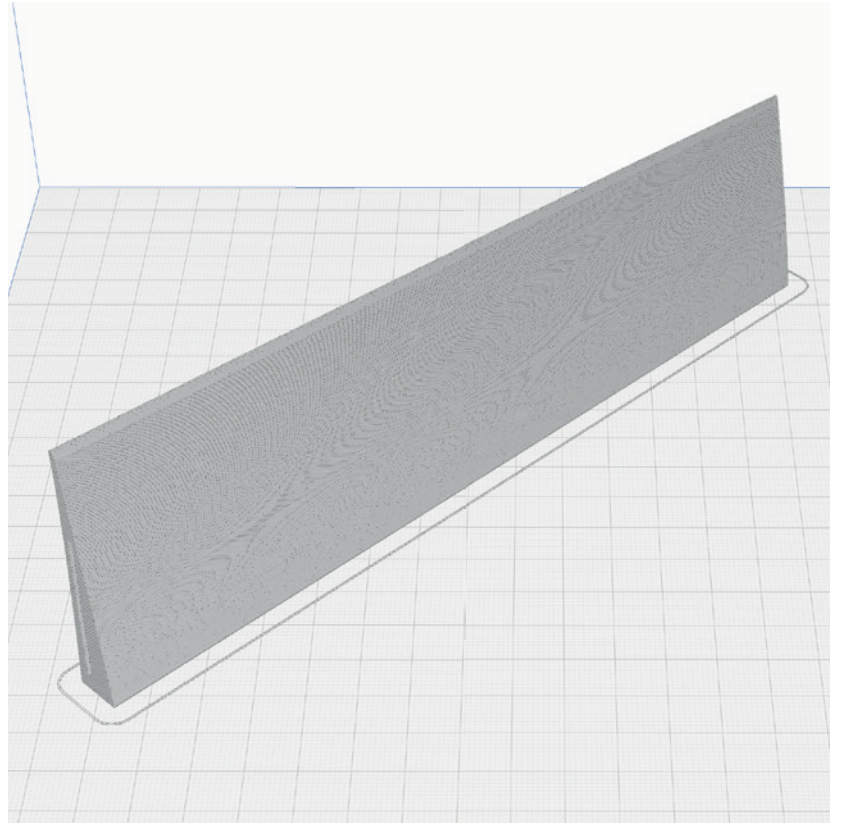
P5_AIL L3_so.stl and
P5_AIL R3_so.stl

MATERIAL LW PLA, Weight: ~ 10 g

TIME ~ 1 hour 30 minutes

ADDITIONAL SETTINGS

- Brim might be needed



P5_Cover_so.stl

MATERIAL LW PLA, Weight: ~ 10 g

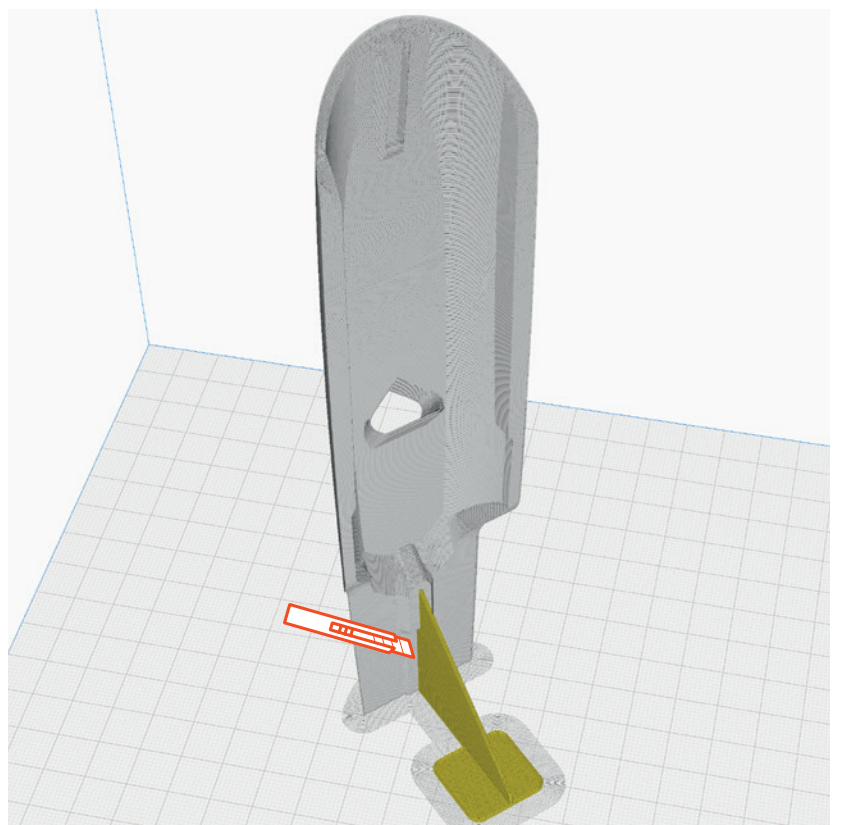
TIME ~ 1 hour 30 minutes

ADDITIONAL SETTINGS

- Set brim
- Remove support (marked yellow)

Please be careful with the knife!

TIP If you need lead to achieve the correct CG, you can also print the cover from PLA with P2, there is a separate STL with customized support.



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!

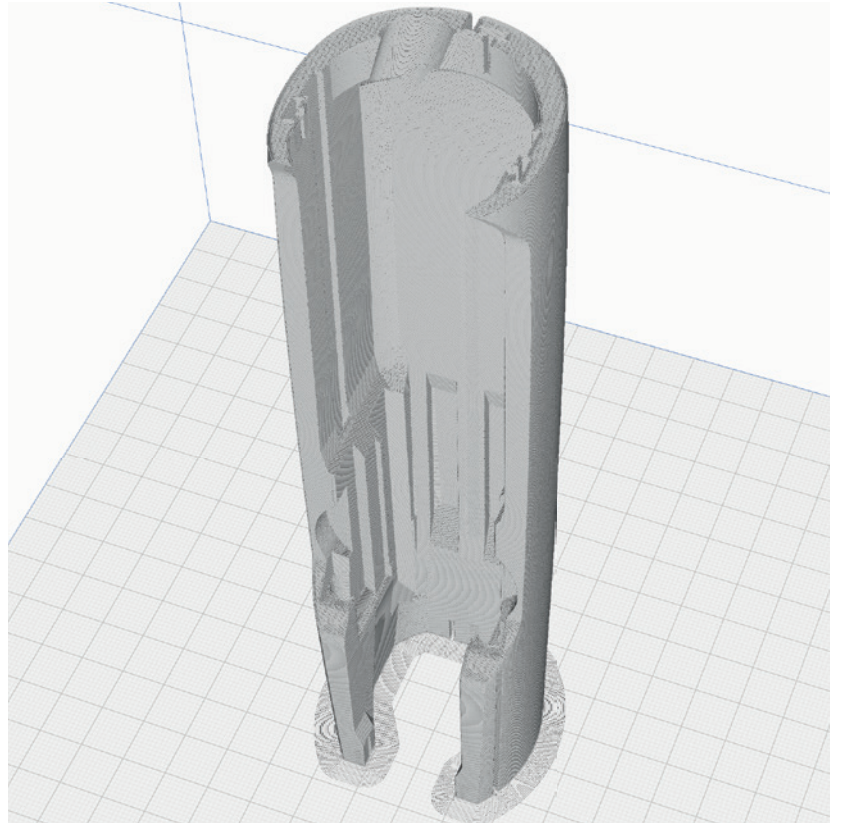
P5_FUS1_so.stl

MATERIAL LW PLA, Weight: ~ 18 g

TIME ~ 3 hours 40 minutes

ADDITIONAL SETTINGS

- Brim might be needed



P5_FUS2 Spoiler_so.stl **or** P5_FUS2 no Spoiler_so.stl

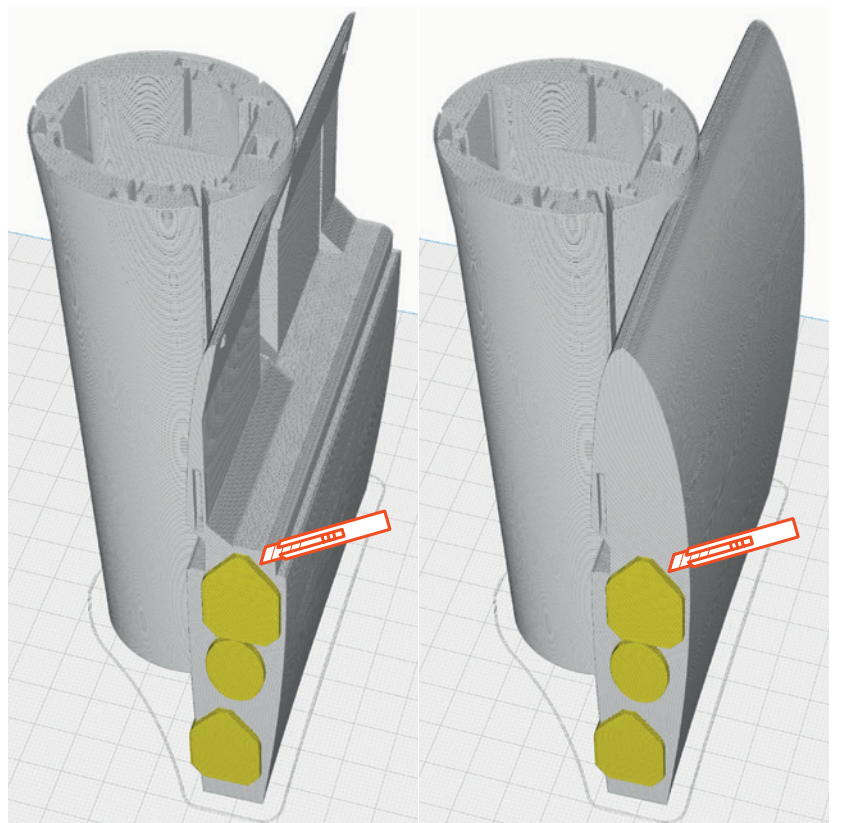
MATERIAL LW PLA, Weight: ~ 35 g

TIME ~ 7 hours

ADDITIONAL SETTINGS

- Remove support (marked yellow)
Please be careful with the knife!

Decide here whether you want to build the variant with or without spoiler!



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!

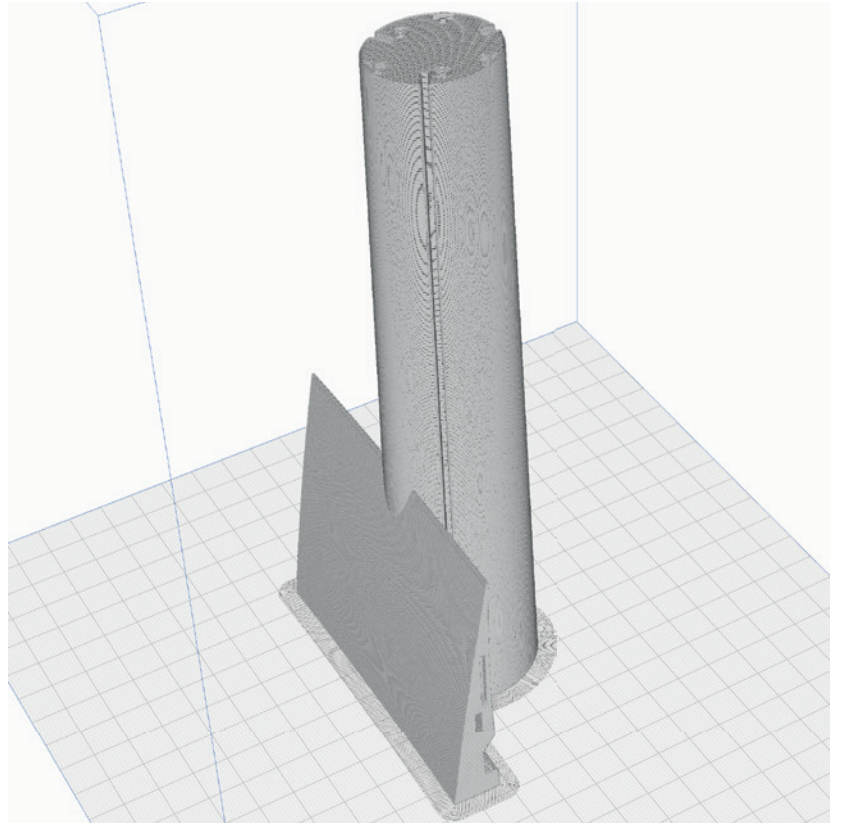
P5_FUS3_so.stl

MATERIAL LW PLA, Weight: ~ 25 g

TIME ~ 4 hours

ADDITIONAL SETTINGS

- Brim might be needed



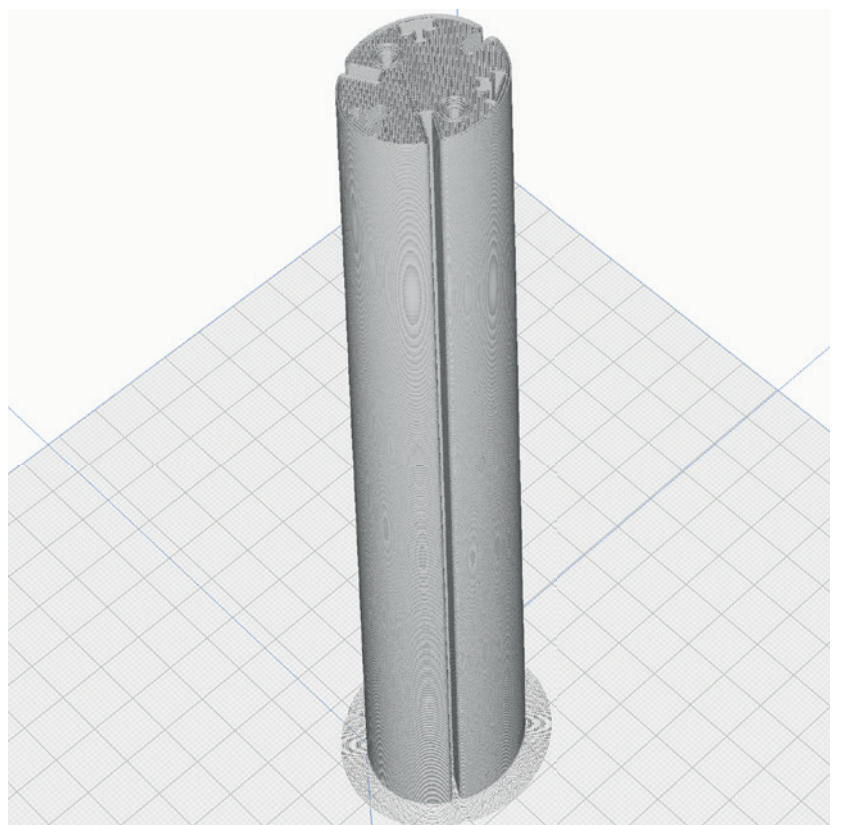
P5_FUS4_so.stl

MATERIAL LW PLA, Weight: ~ 15 g

TIME ~ 2 hours 20 minutes

ADDITIONAL SETTINGS

- Set brim



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!

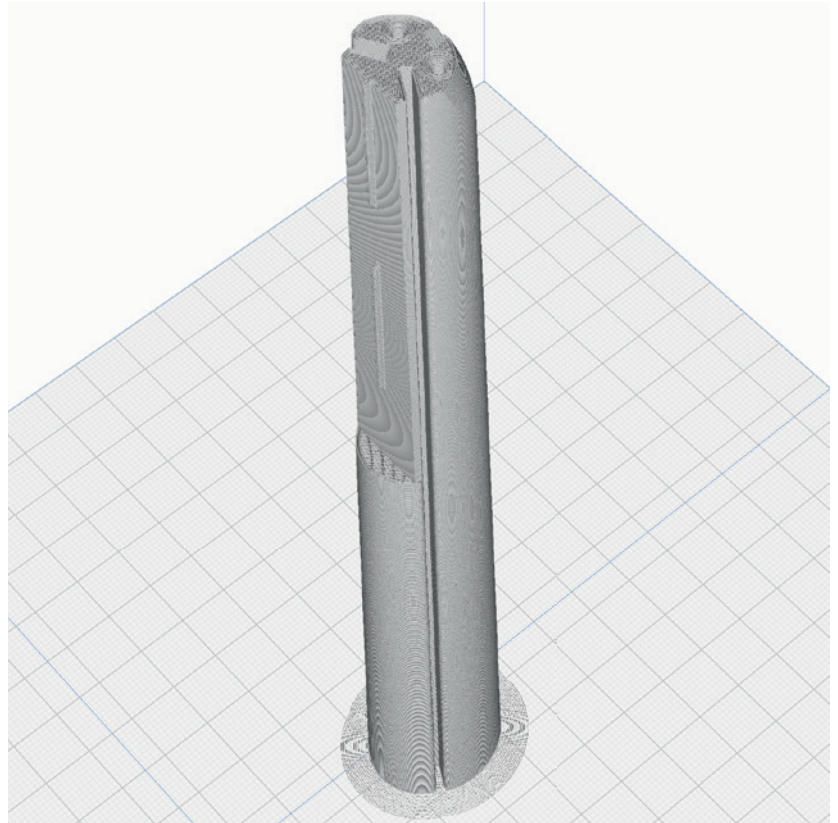
P5_FUS5_so.stl

MATERIAL LW PLA, Weight: ~ 10 g

TIME ~ 1 hour 40 minutes

ADDITIONAL SETTINGS

- Set brim



P5_Nose motor_so.stl or P5_Nose glider_so.stl

MATERIAL LW PLA, Weight: ~ 10 g

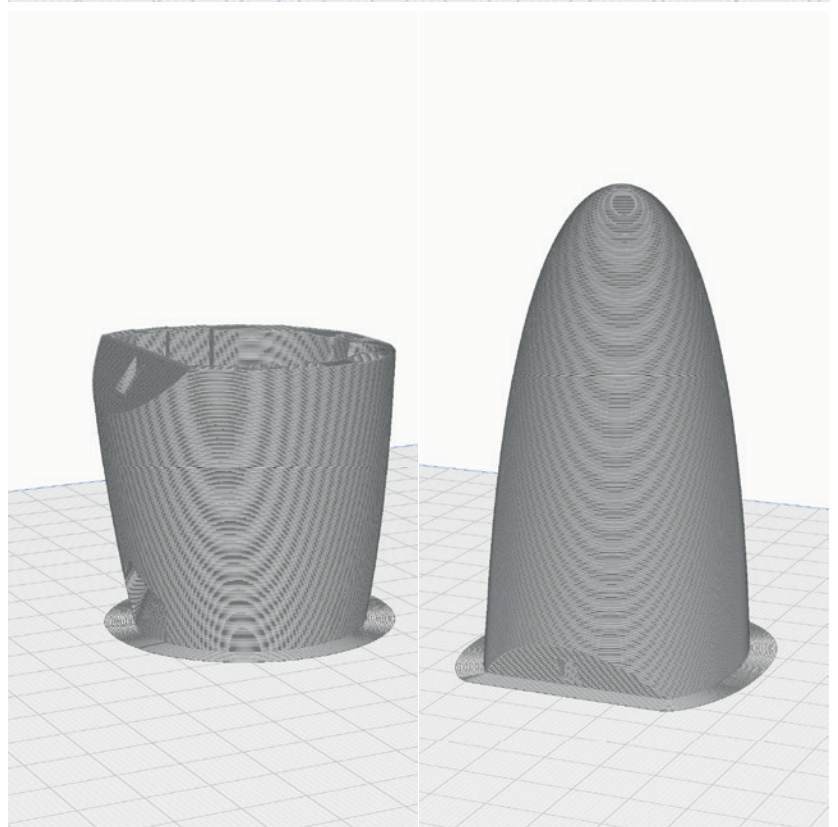
TIME ~ 1 hour 10 minutes

ADDITIONAL SETTINGS

- Wall Line Count/Perimeters: 2

Decide here whether you want to build the glider or motor version!

TIP the [P5_Nose motor repair_so.stl](#) is only used if the motor nose has to be replaced later in the event of damage. It is slightly shorter.



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!

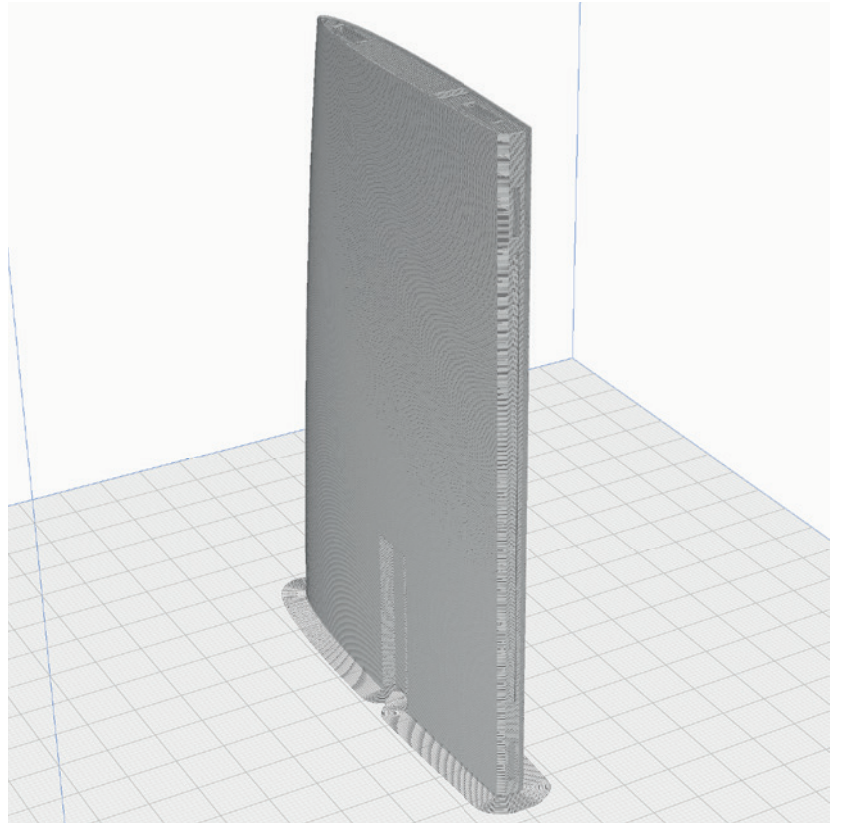
**P5_V-tail L1_so.stl and
P5_V-tail R1_so.stl**

MATERIAL LW PLA, Weight: ~ 13 g

TIME ~ 2 hours

ADDITIONAL SETTINGS

- Set brim



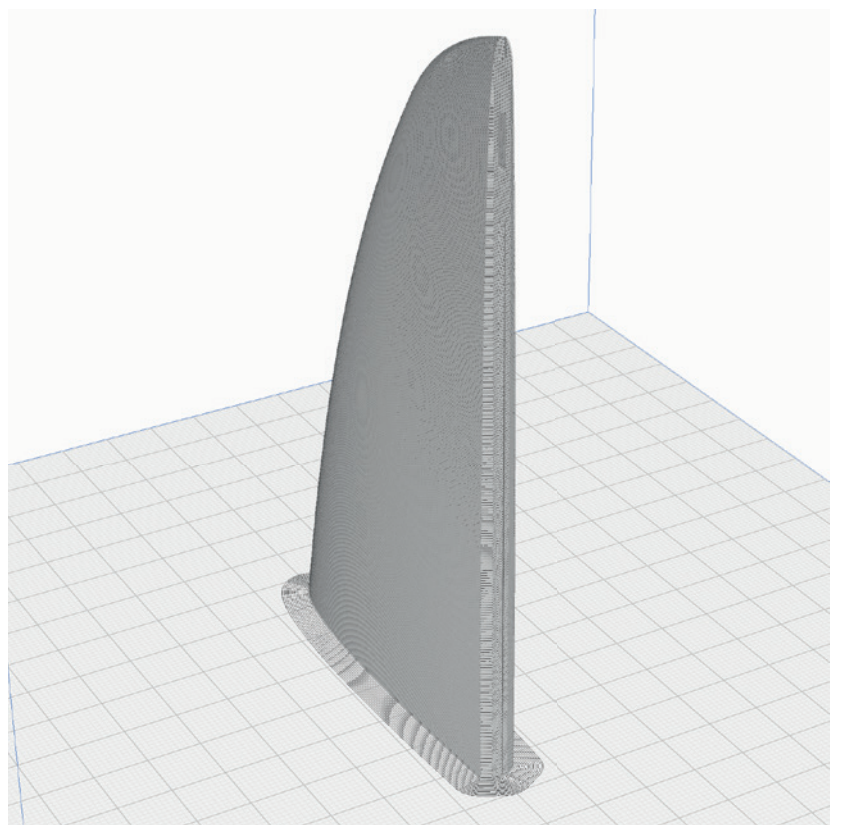
**P5_V-tail L2_so.stl and
P5_V-tail R2_so.stl**

MATERIAL LW PLA, Weight: ~ 8 g

TIME ~ 1 hour 10 minutes

ADDITIONAL SETTINGS

- Set brim



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!

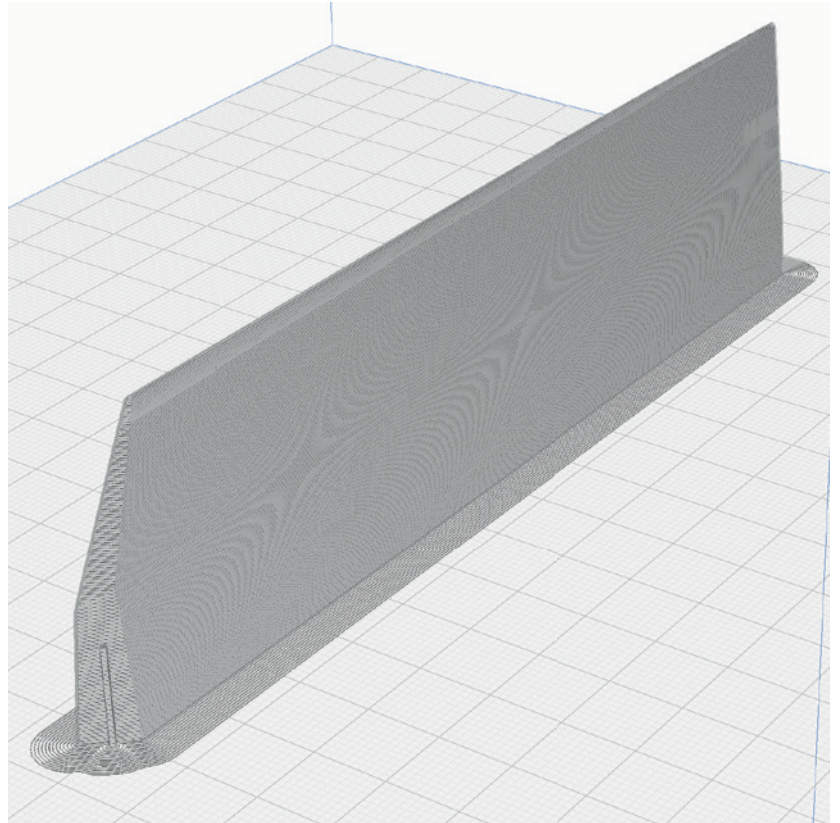
P5_V-tail L3_so.stl and
P5_V-tail R3_so.stl

MATERIAL LW PLA, Weight: ~ 6 g

TIME ~ 50 minutes

ADDITIONAL SETTINGS

- Set brim



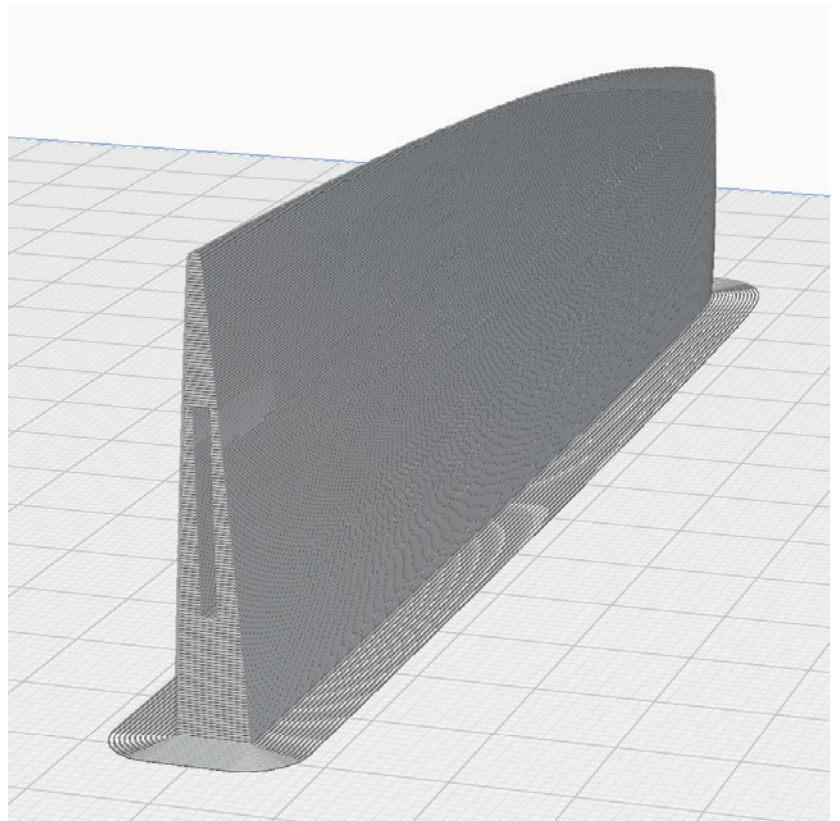
P5_V-tail L4_so.stl and
P5_V-tail R4_so.stl

MATERIAL LW PLA, Weight: ~ 5 g

TIME ~ 40 minutes

ADDITIONAL SETTINGS

- Set brim



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!

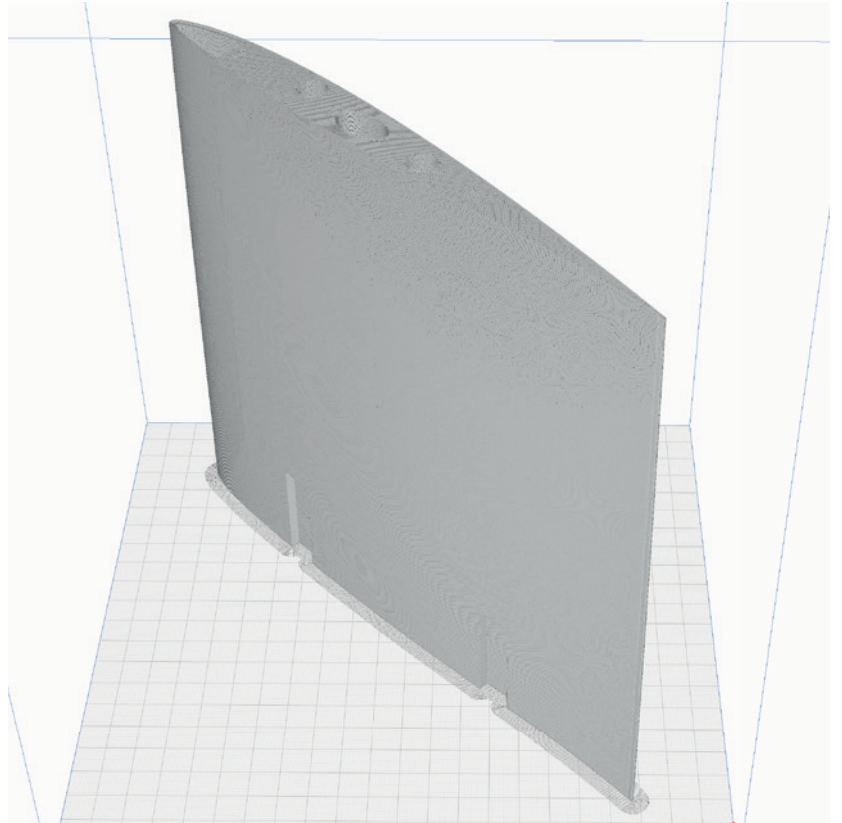
P5_Wing L1_so.stl and P5_Wing R1_so.stl

MATERIAL LW PLA, Weight: ~ 60 g

TIME ~ 11 hours

ADDITIONAL SETTINGS

- Set brim



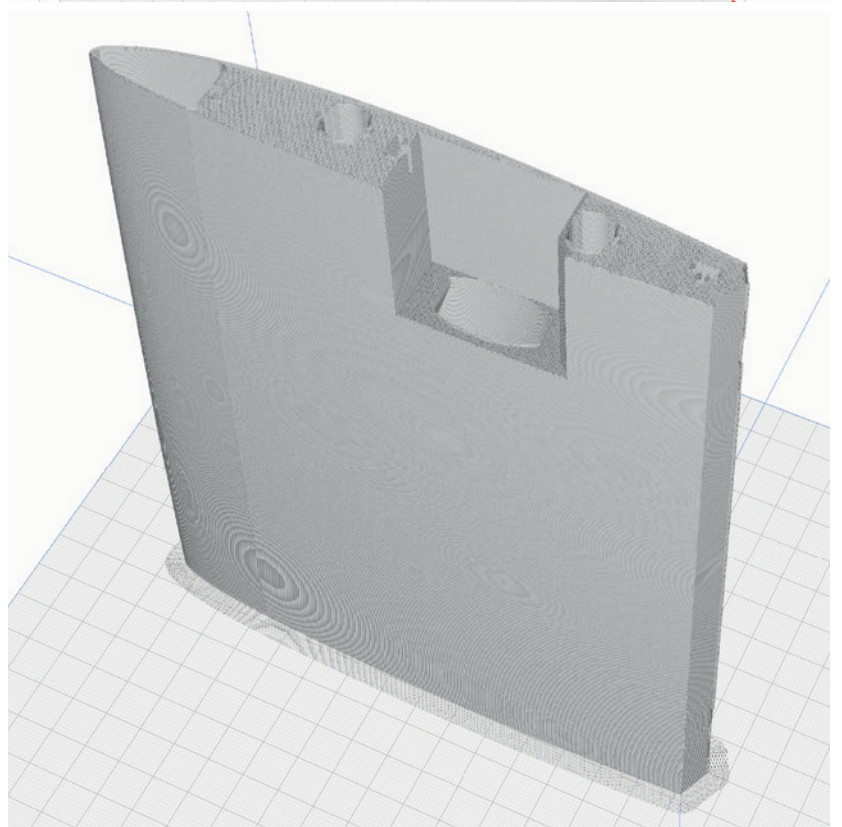
P5_Wing L2_so.stl and P5_Wing R2_so.stl

MATERIAL LW PLA, Weight: ~ 47 g

TIME ~ 9 hours

ADDITIONAL SETTINGS

- Set brim



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!

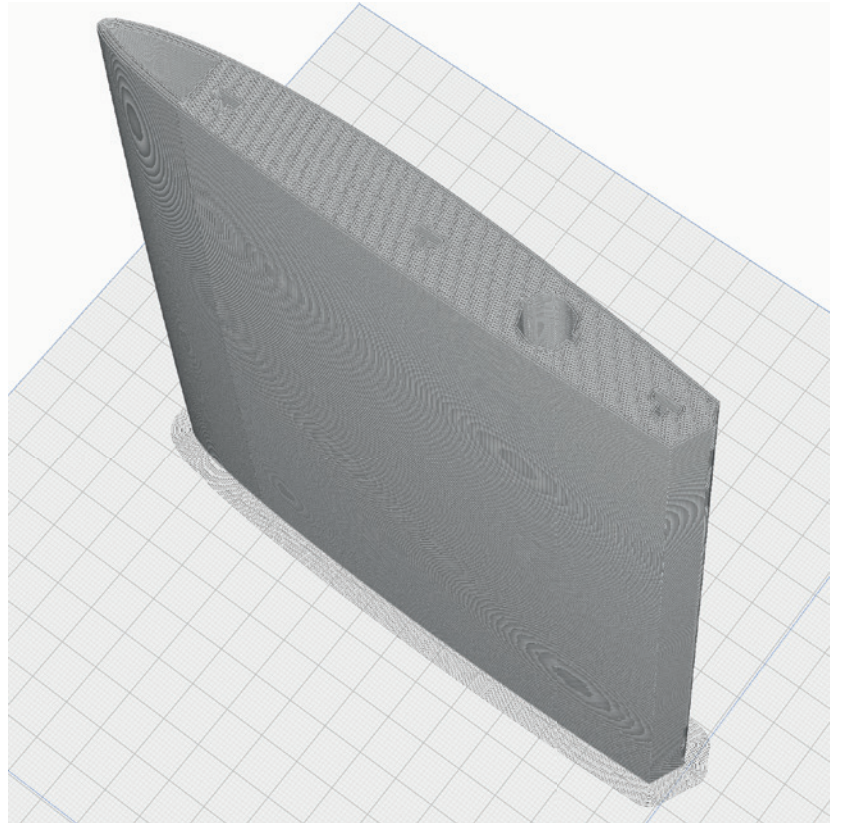
P5_Wing L3_so.stl and
P5_Wing R3_so.stl

MATERIAL LW PLA, Weight: ~ 40 g

TIME ~ 7 hours

ADDITIONAL SETTINGS

- Set brim



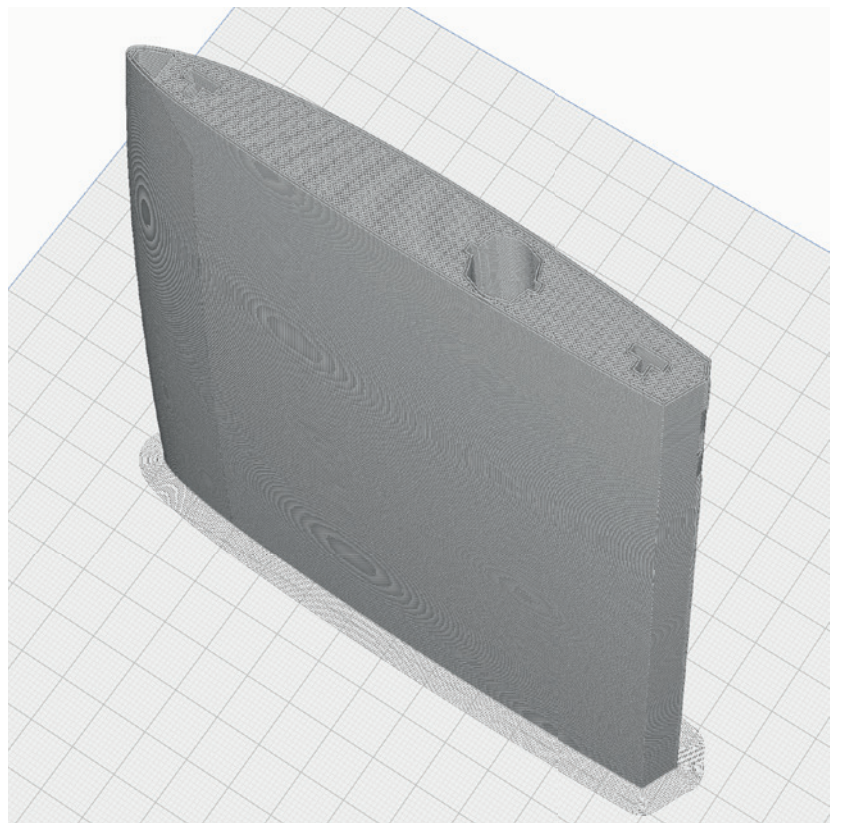
P5_Wing L4_so.stl and
P5_Wing R4_so.stl

MATERIAL LW PLA, Weight: ~ 29 g

TIME ~ 5 hours 30 minutes

ADDITIONAL SETTINGS

- Set brim



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!

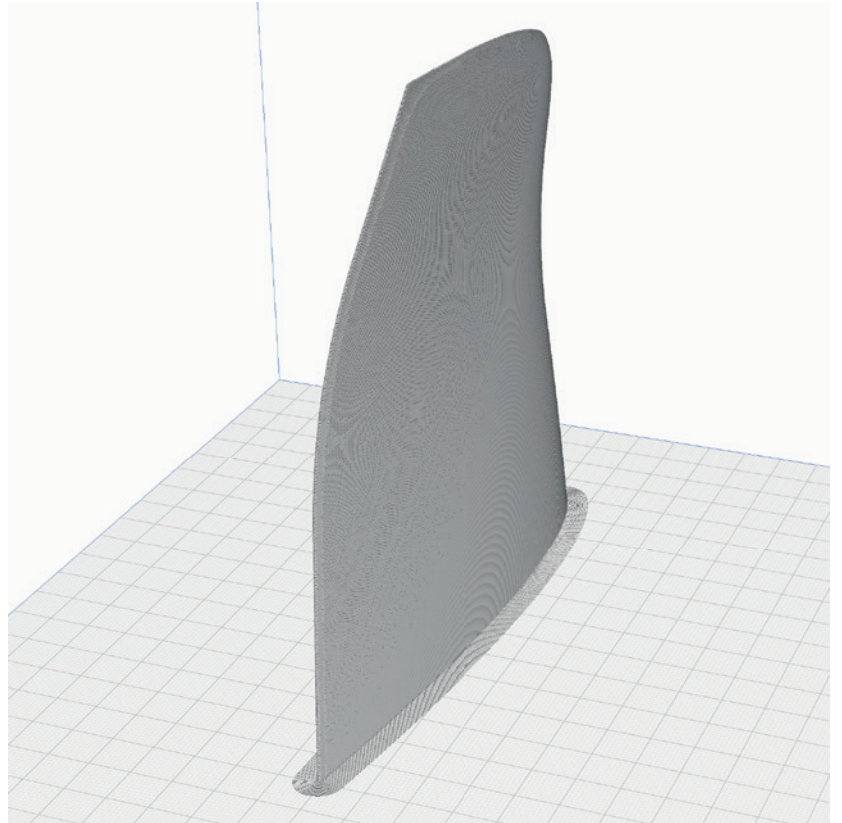
P5_Winglet L_so.stl and
P5_Winglet R_so.stl

MATERIAL LW PLA, Weight: ~ 16 g

TIME ~ 2 hours 30 minutes

ADDITIONAL SETTINGS

- Set brim



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.

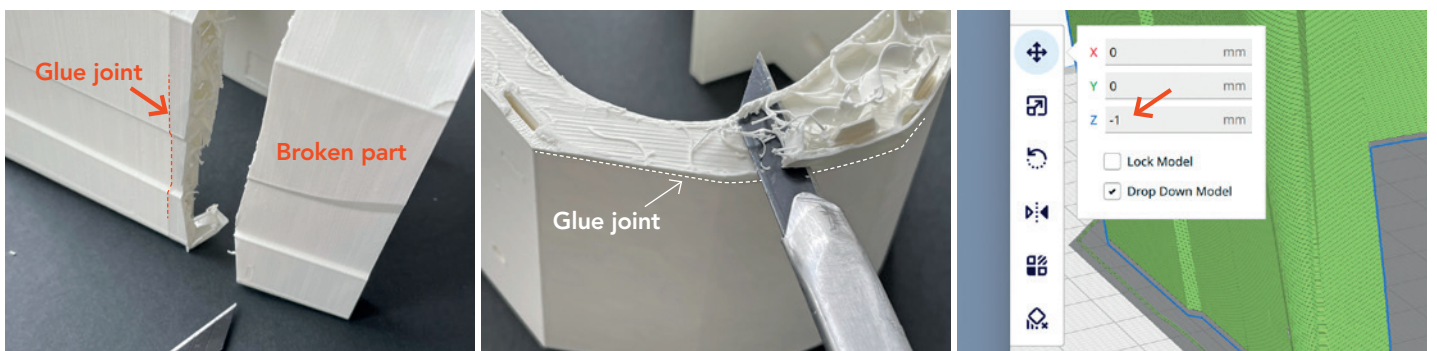
After assembly, **align the two parts exactly** and wipe off the excess CA glue from the surface with a cloth. Now spray with activator spray along the gluing surface and carefully press the parts together.

- 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.

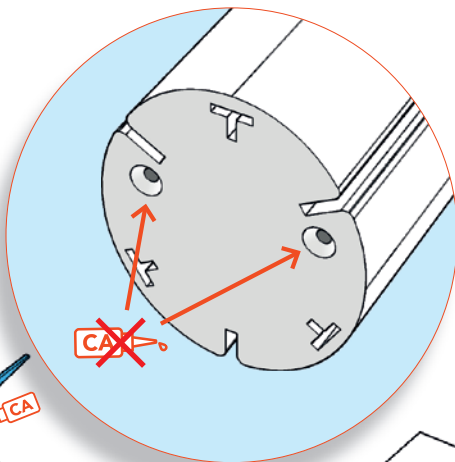


Fuselage assembly

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

Glue the parts as shown here.

No glue must get into the holes of the bowden!



P1_Protectors_FUS_so.stl

P2_Center BACK_so.stl

P2_Center FRONT_so.stl

P5_FUS2 Spoiler_so.stl or
P5_FUS2 no Spoiler_so.stl

Glue the center parts firmly in the fuselage. Don't skimp on glue here!

Then apply the Protectors_FUS.

P1_T-Connects_so.stl

P5_FUS1_so.stl

Carbon fiber strips 201mm



First insert the Carbon strips into the fuselage and allow **thin CA glue** to run into them.

Before gluing with thin CA adhesive, the fuselage must be aligned exactly straight!

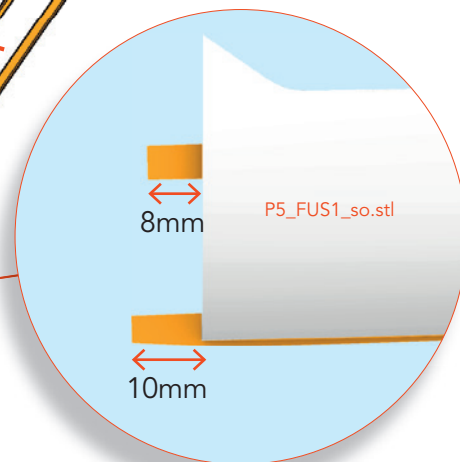
P5_FUS5_so.stl

P5_FUS4_so.stl

P5_FUS3_so.stl

Carbon fiber strips 797mm

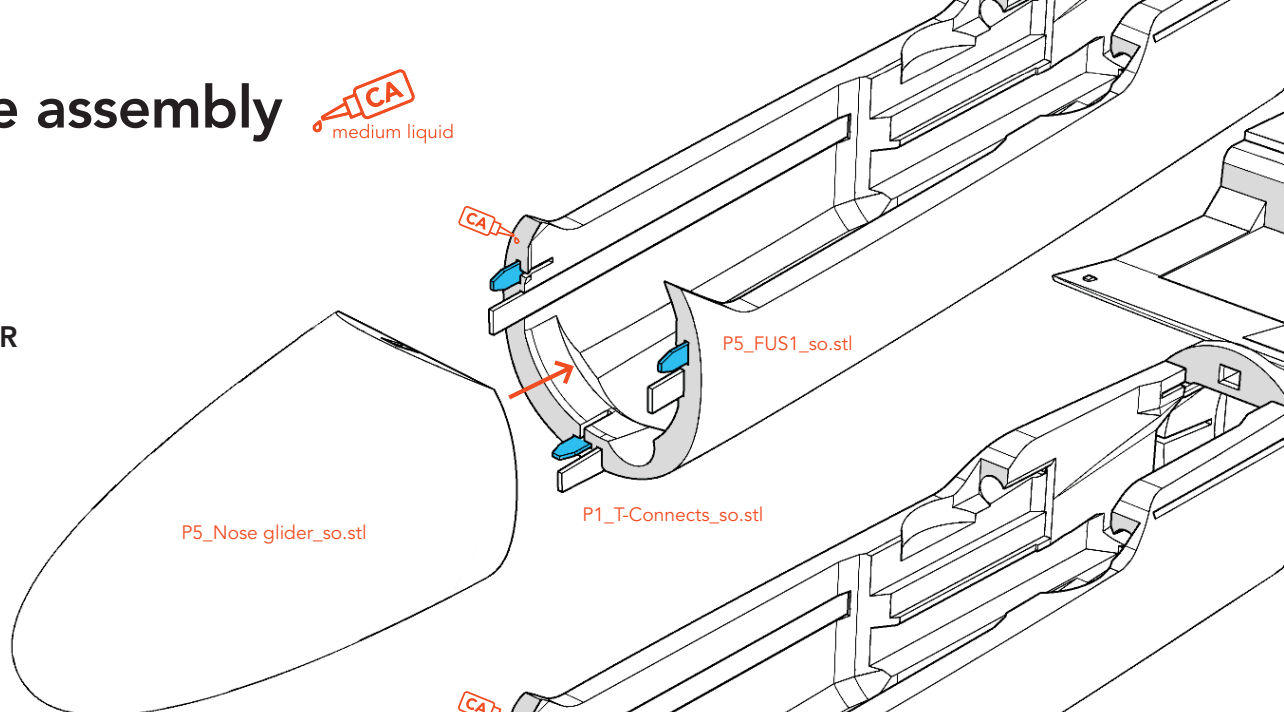
Carbon fiber strip 938mm



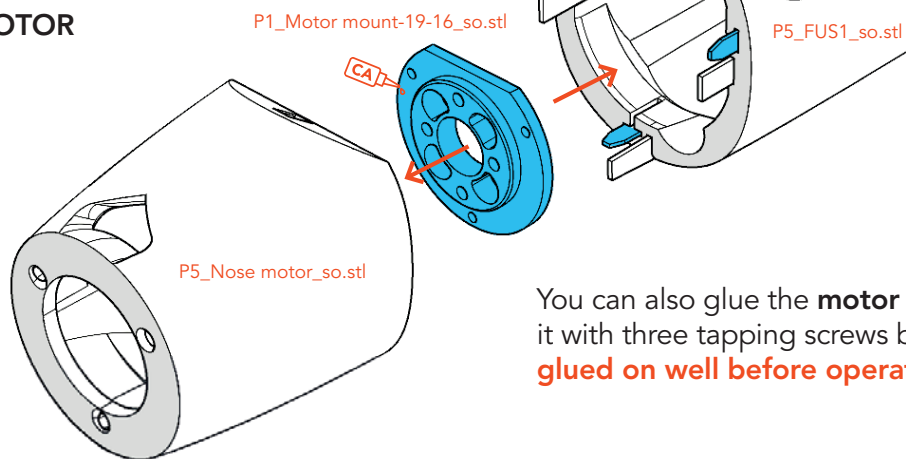
Fuselage assembly



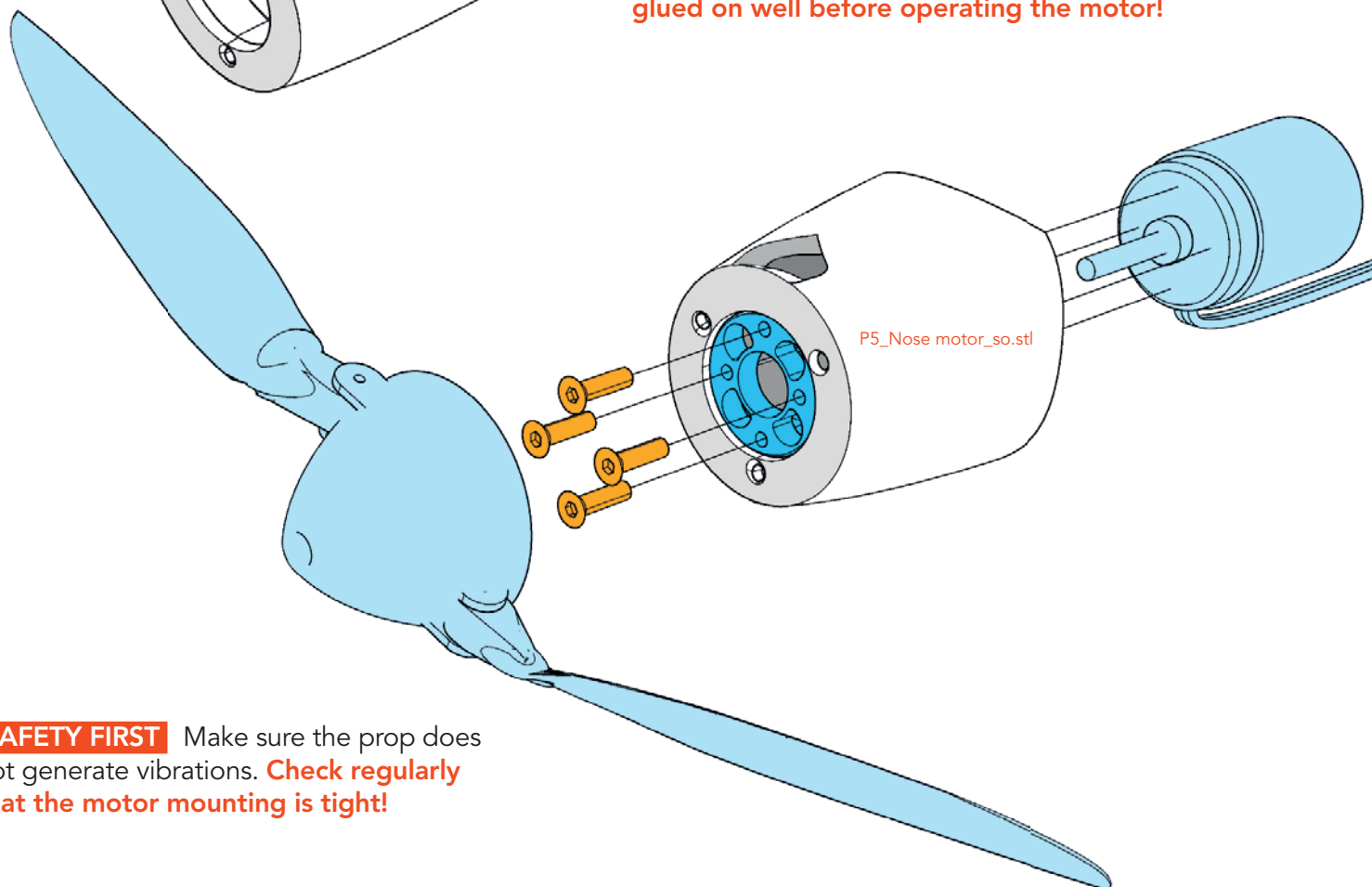
VERSION GLIDER



VERSION MOTOR

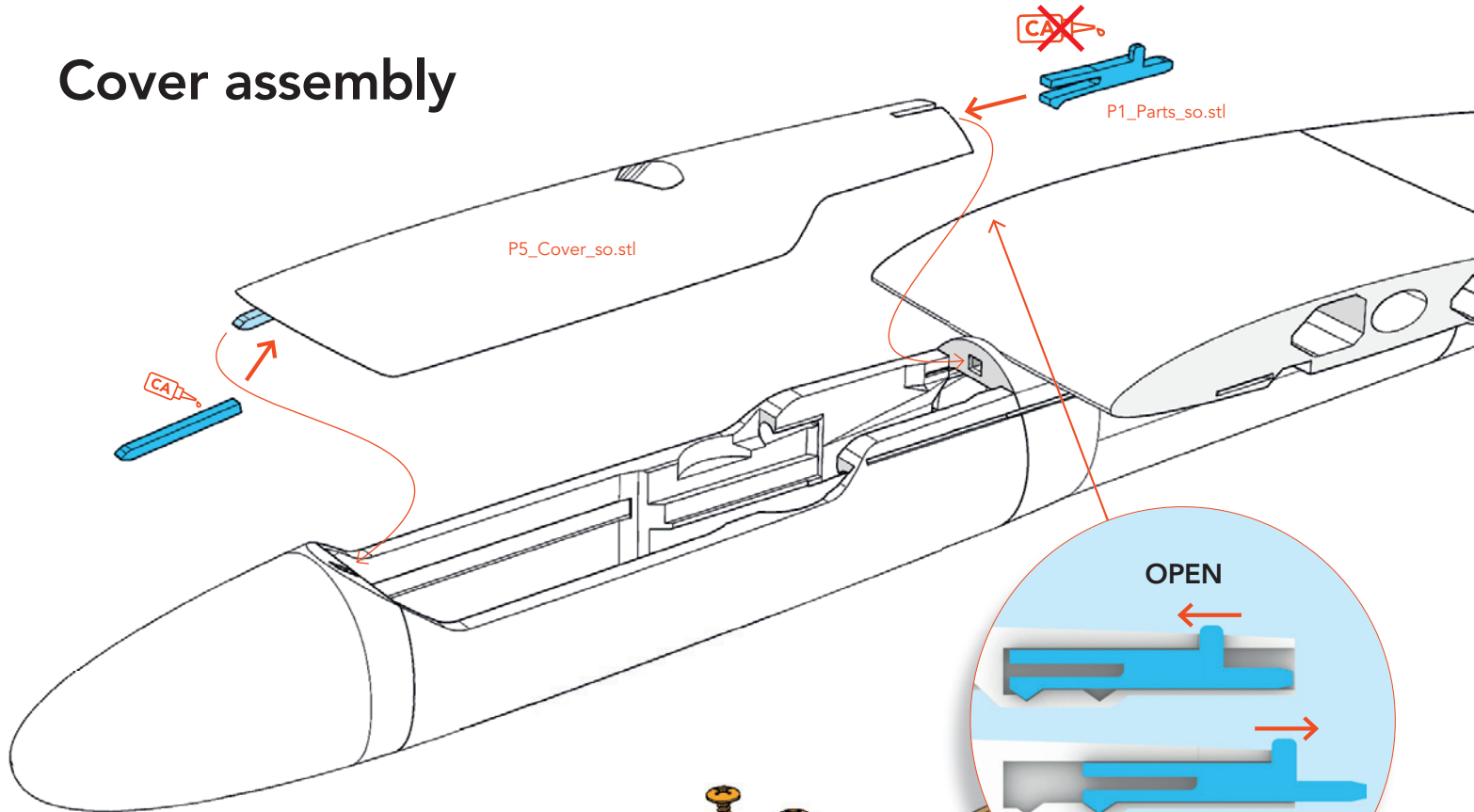


You can also glue the **motor mount** in later and mount it with three tapping screws beforehand. **It must be glued on well before operating the motor!**

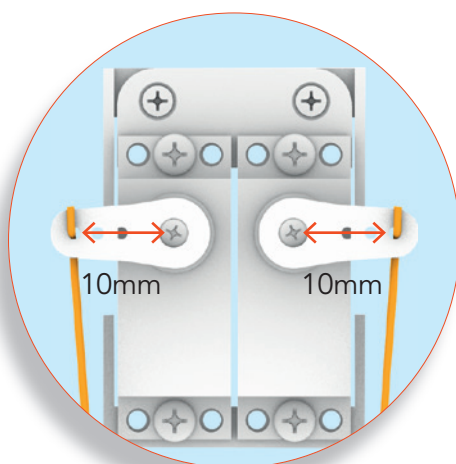


SAFETY FIRST Make sure the prop does not generate vibrations. **Check regularly that the motor mounting is tight!**

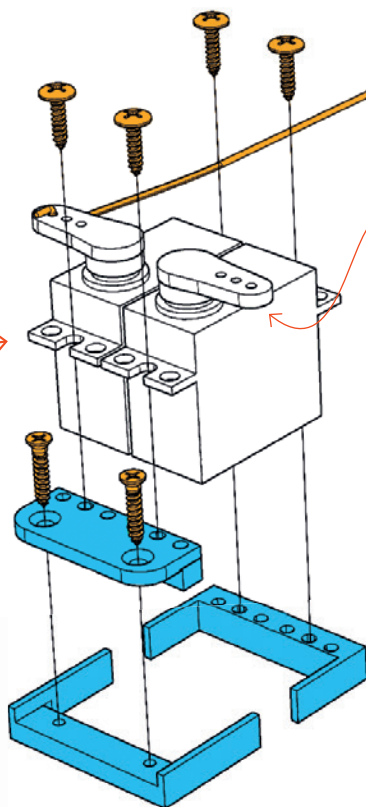
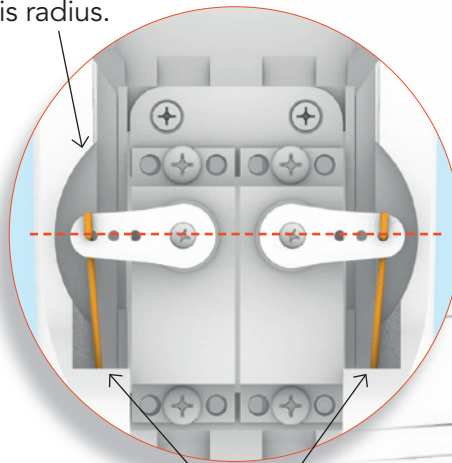
Cover assembly



Servos V-Tail



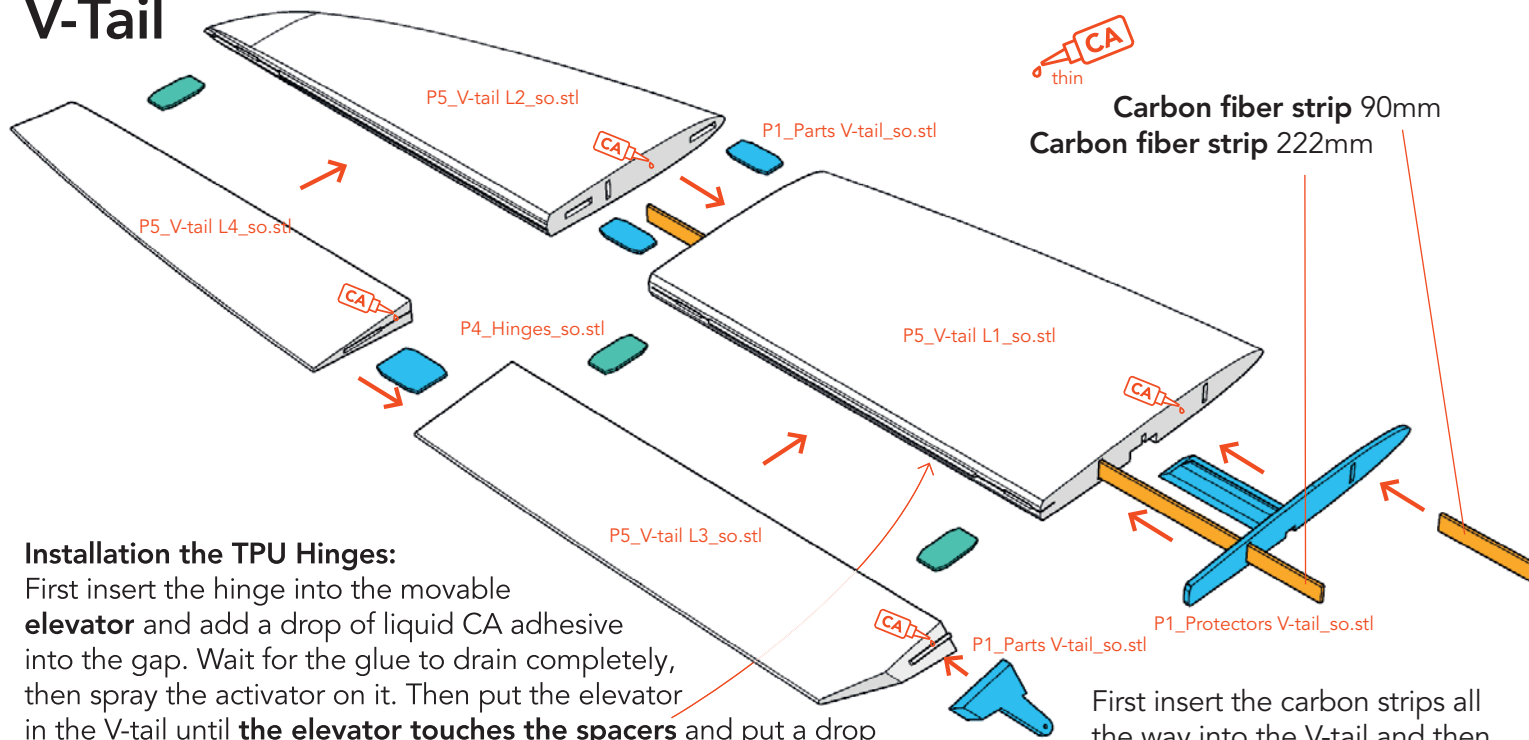
The servo levers must follow this radius.



The steel wires are inserted into this **bowden**:

Only glue on the lower frame to be able to remove the servo.

V-Tail

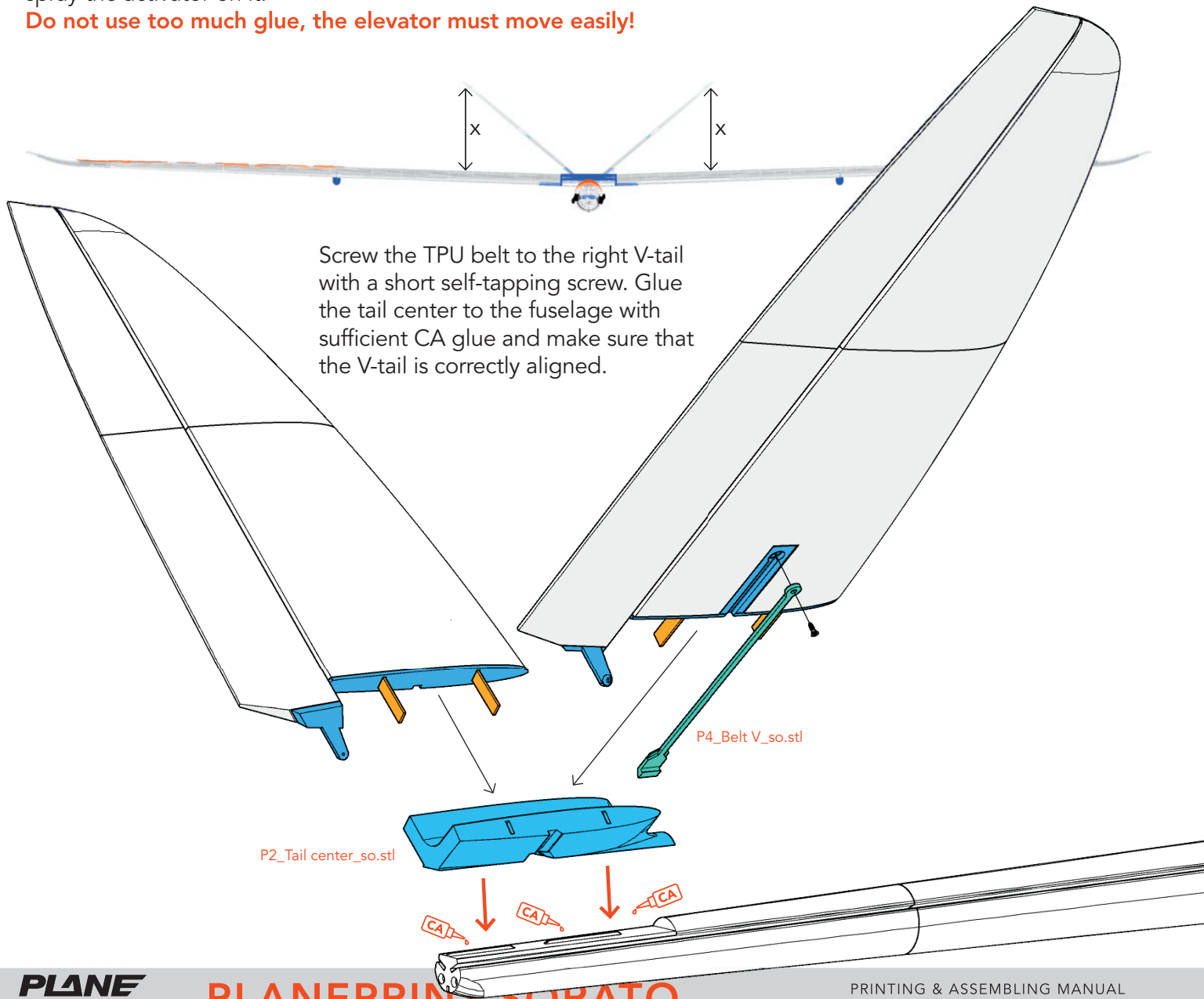


Installation the TPU Hinges:

First insert the hinge into the movable **elevator** 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 in the V-tail until **the elevator 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.

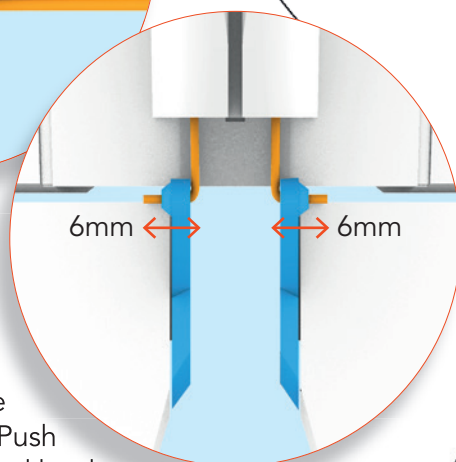
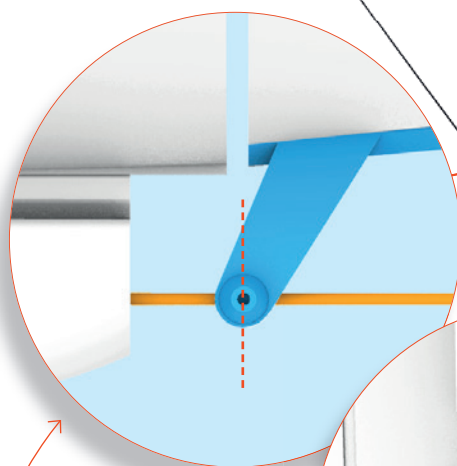
Do not use too much glue, the elevator must move easily!

First insert the carbon strips all the way into the V-tail and then run thin CA glue into them.



V-Tail fastening

PLANEPRINT
Innovation



Set the **servos to zero position** and attach the V-tails to the fuselage. Push the TPU belt through and hook it into the left V-tail.

Align the **tailerons exactly in the zero position** and mark the hole position of the taileron horns with a marker. Bend the wires outwards by 90° and cut them off after 6 mm.

Taileron left

Taileron right

Fastening: hook in here

Please work very precisely here!

The length of the wire should fit exactly. The tailerons must be exactly neutral when the servos are in the zero position. Minimal deviations can be programmed electronically.

The taileron horns are simply plugged onto the wires when attaching the V-tails.

Check that they do not come loose when the tailerons are moved!

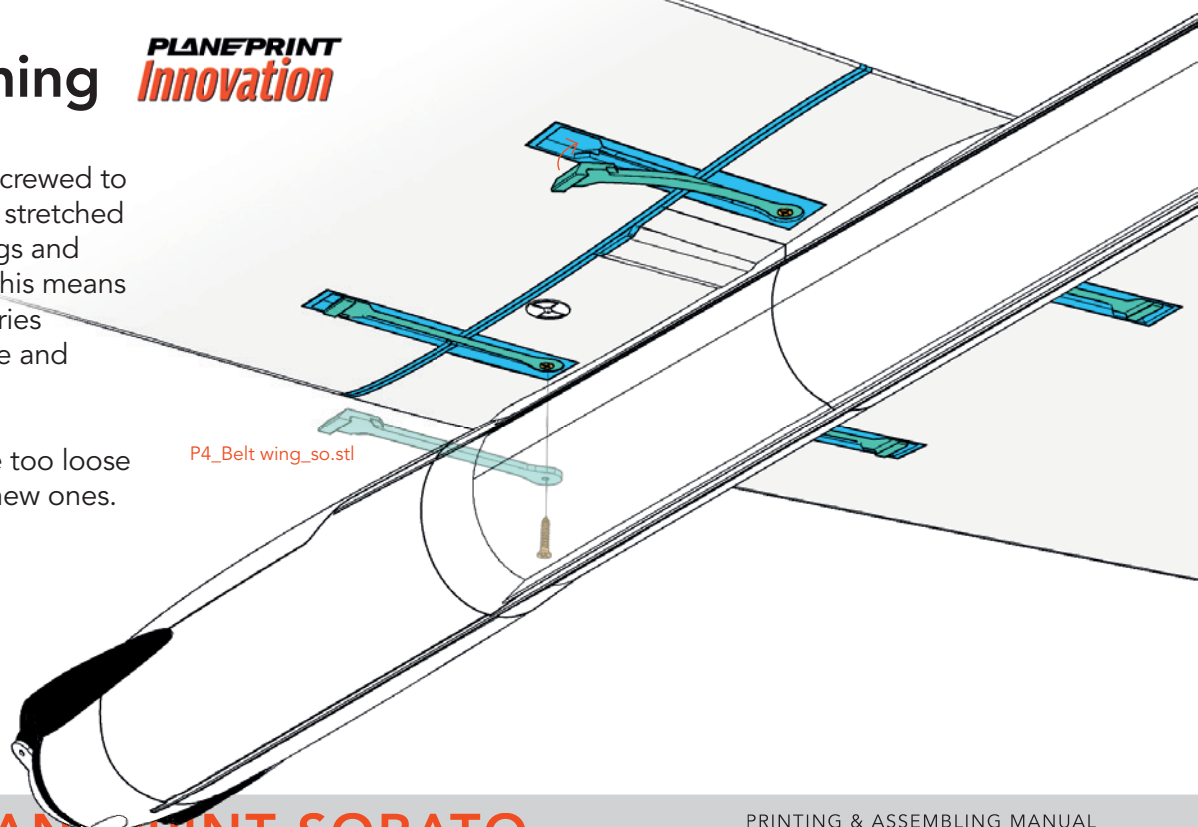
Wing fastening

PLANEPRINT
Innovation

The four TPU belts are screwed to the fuselage and simply stretched a little to attach the wings and hung in the snap lock. This means that no tools or accessories are required to assemble and disassemble the model.

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

P4_Belt wing_so.stl



Wing assembly



P1_Protectors Wing_so.stl

P1_Parts_so.stl

STEP 2 Glue Wing and Aileron

STEP 1 First glue the tubes in Wing 1

88mm

P5_Wing L1_so.stl

P5_AIL L1_so.stl

P4_Hinges_so.stl

P5_Wing L2_so.stl

Carbon tube $\varnothing 8 \times 920\text{mm}$

Carbon tube $\varnothing 8 \times 574\text{mm}$
(or $\varnothing 8 \times 500\text{mm}$)

It is important that the **carbon tubes are glued to the wing along their entire length**. It is best to insert them into **Wing1** and measure the 88 mm exactly, then let thin CA glue run into the gap between tube and wing. Do the same with Wing 2 and so on.

STEP 3

STEP 2 Installation the TPU Hinges: First insert the hinge into the movable **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 **the aileron 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!

Servo Aileron

P1_AIL Mount_so.stl

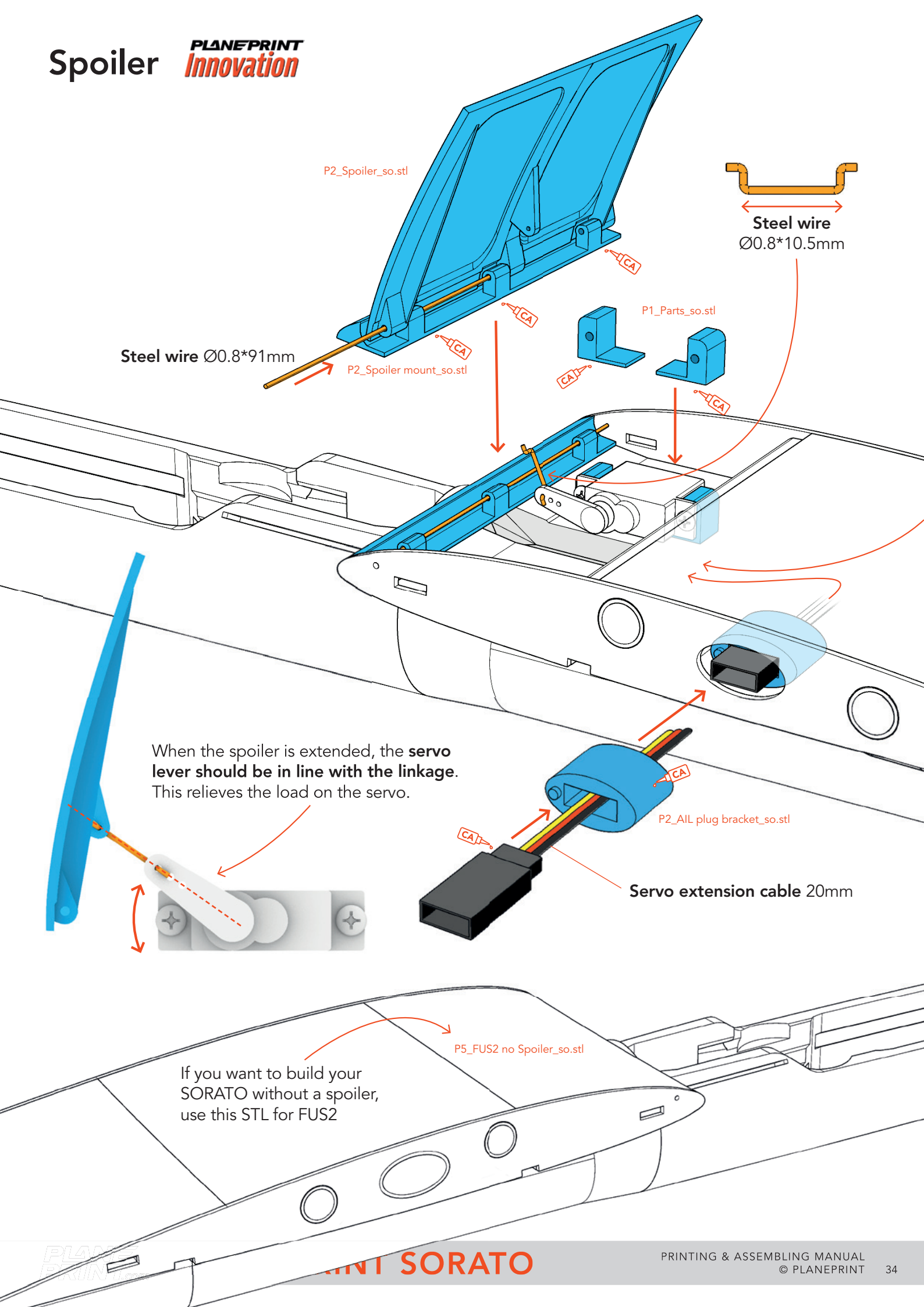
P1_AIL Covers_so.stl

CA

P1_AIL Mount_so.stl

Steel wire $\varnothing 0.8 \times 25\text{mm}$

Spoiler **PLANEPRINT** *Innovation*



P2_Spoiler_so.stl

Steel wire
Ø0.8*10.5mm

Steel wire Ø0.8*91mm

P2_Spoiler mount_so.stl

P1_Parts_so.stl

When the spoiler is extended, the **servo lever should be in line with the linkage**.
This relieves the load on the servo.

P2_AIL plug bracket_so.stl

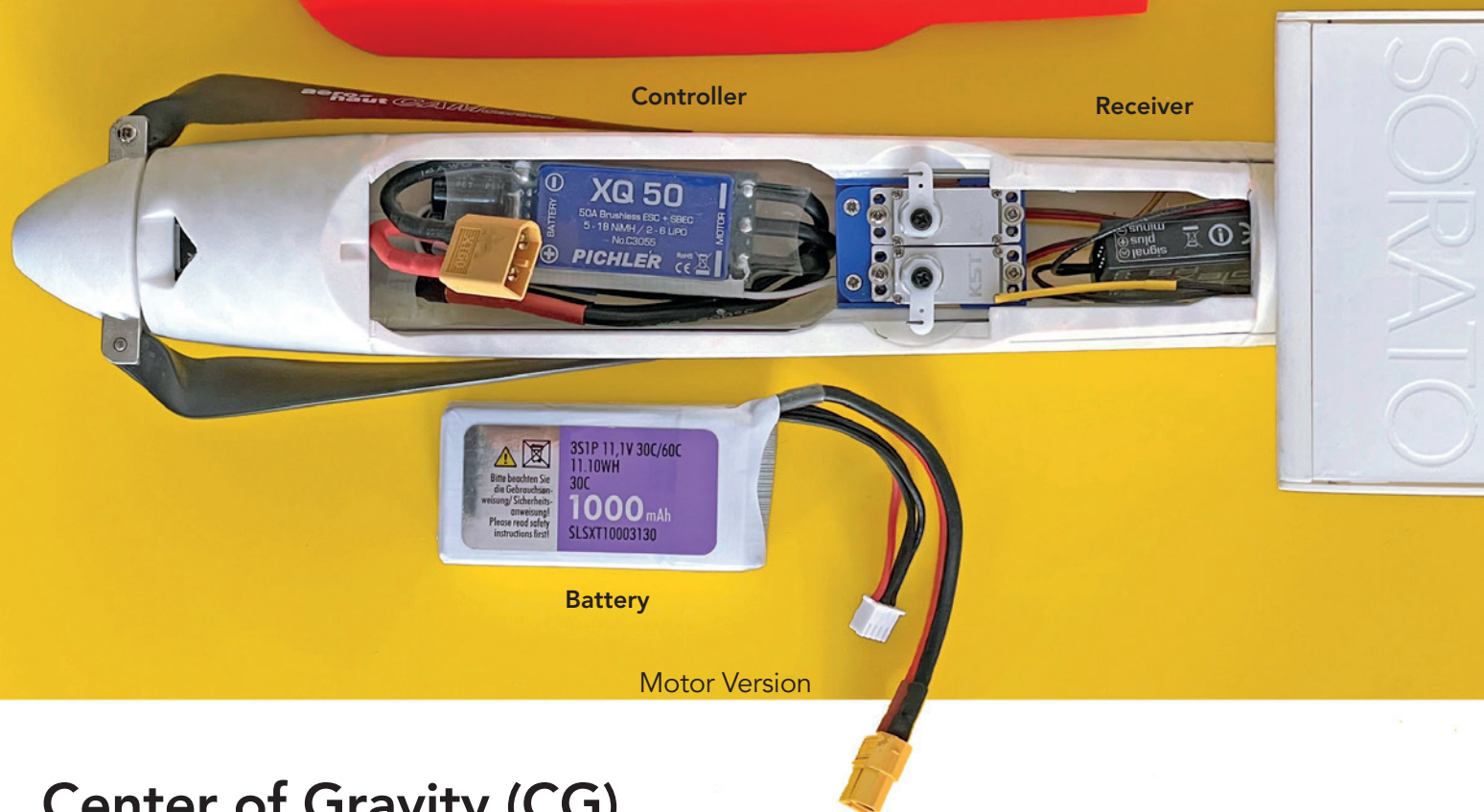
Servo extension cable 20mm

P5_FUS2 no Spoiler_so.stl

If you want to build your SORATO without a spoiler,
use this STL for FUS2

PRINT SORATO

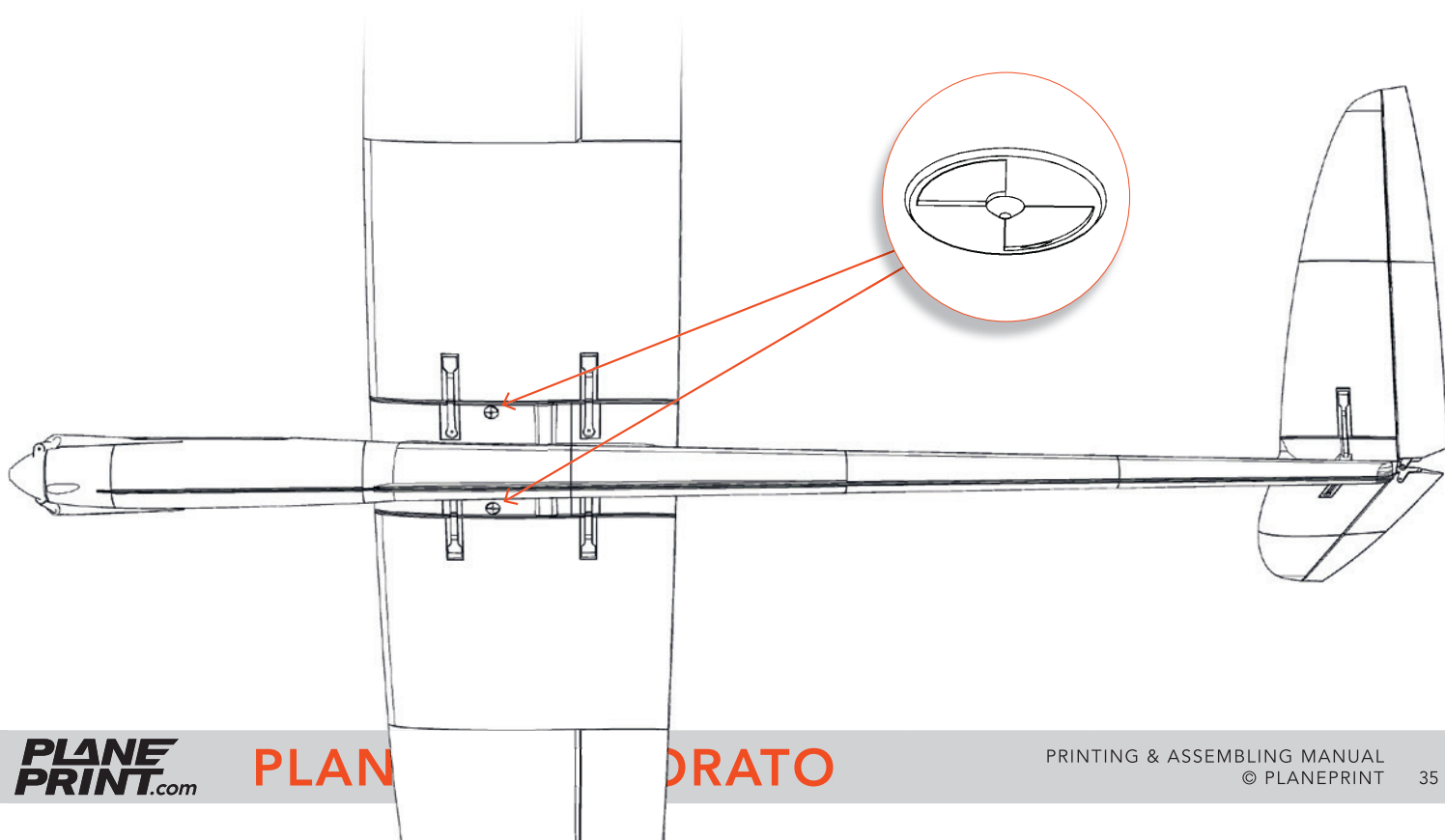
RC components



Center of Gravity (CG)

The aircraft must balance on these points. You should also always check that the glider is **balanced in roll axis** and possibly attach some lead to one of the winglets.

This figure is an average value, the best CG for you personally may be slightly before or after it, depending on your skills and preferences. Further forward the model will be easier to control, further back (maximum a few mm!) the flight performance is best.



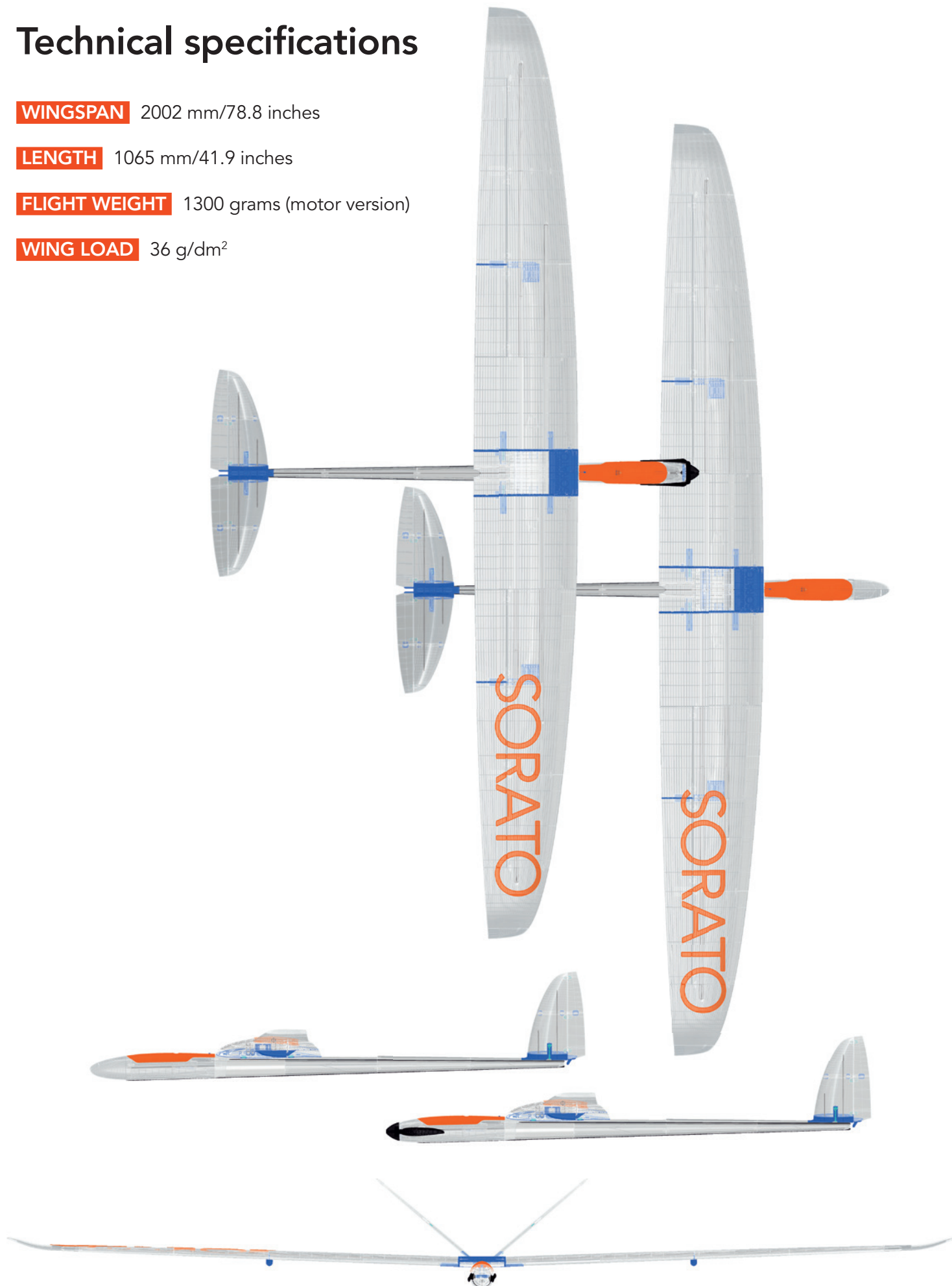
Technical specifications

WINGSPAN 2002 mm/78.8 inches

LENGTH 1065 mm/41.9 inches

FLIGHT WEIGHT 1300 grams (motor version)

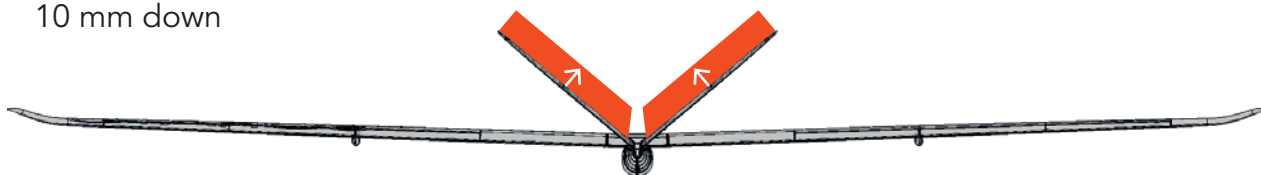
WING LOAD 36 g/dm²



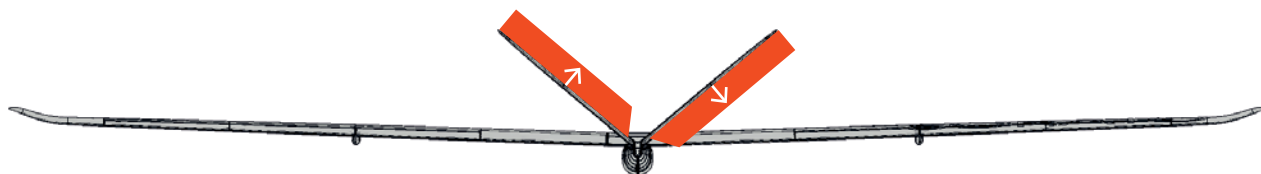
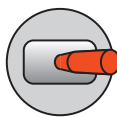
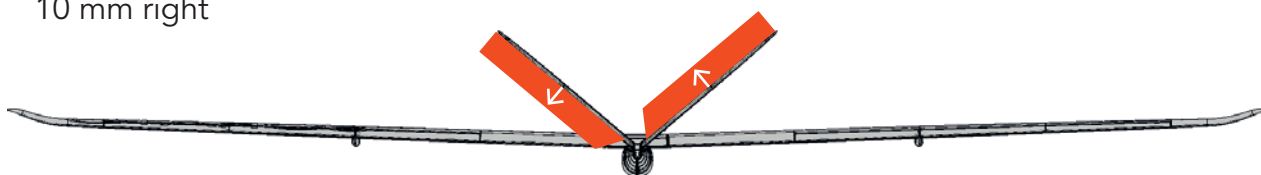
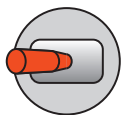
Control Direction Test

Look at the aircraft from behind

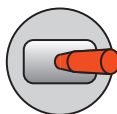
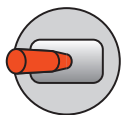
ELEVATOR 10 mm up
10 mm down



RUDDER 10 mm left
10 mm right



AILERON 26 mm up
22 mm down



SPOILER (Throttle gimbal)



The spoiler is used as a brake flap for controlled landings.

Motor version: We recommend that you put the motor on a switch and the Spoiler on the throttle stick.

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!

PLANE PRINT