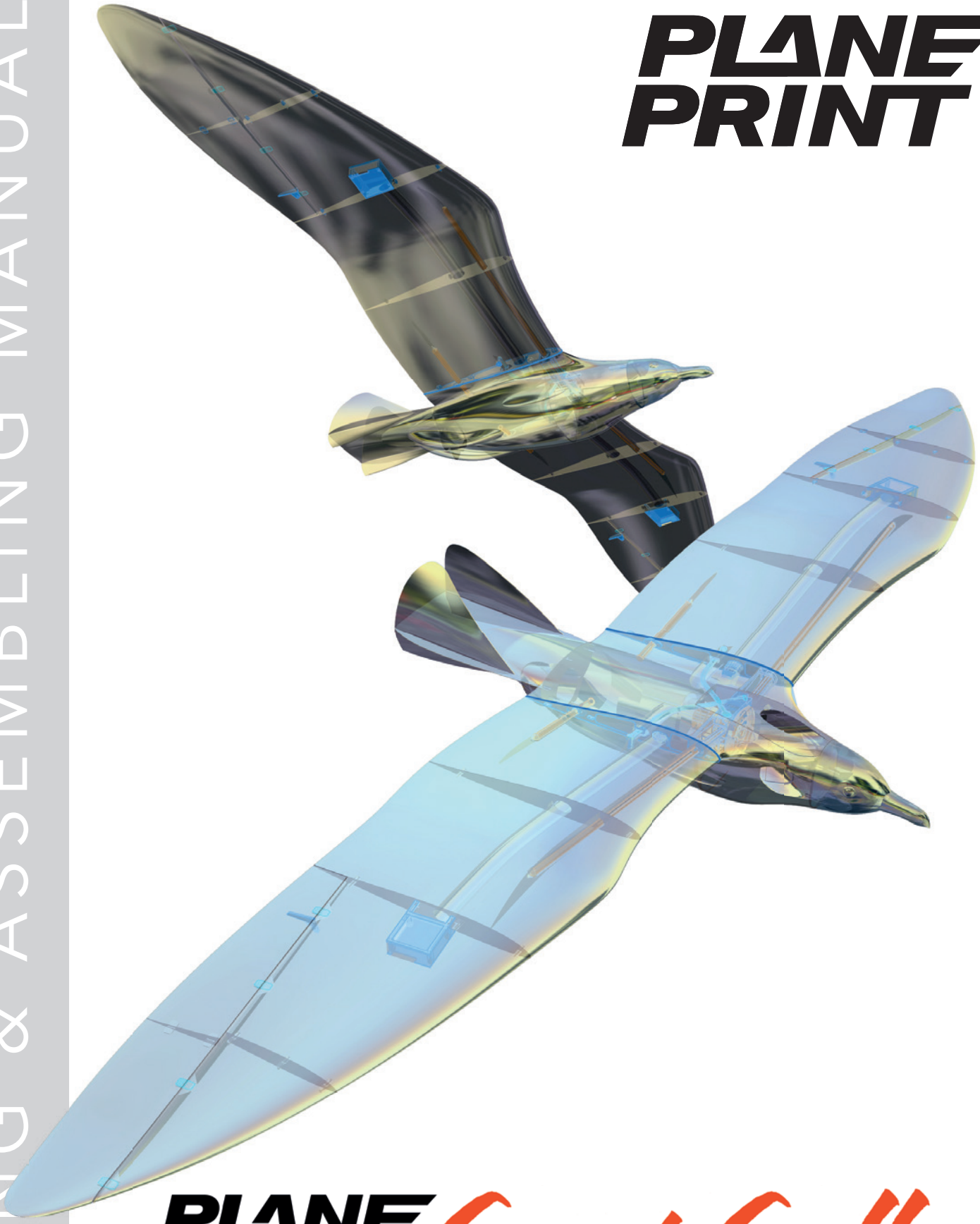
PRINTING & ASSEMBLING MANUAL

PLANE PRINT



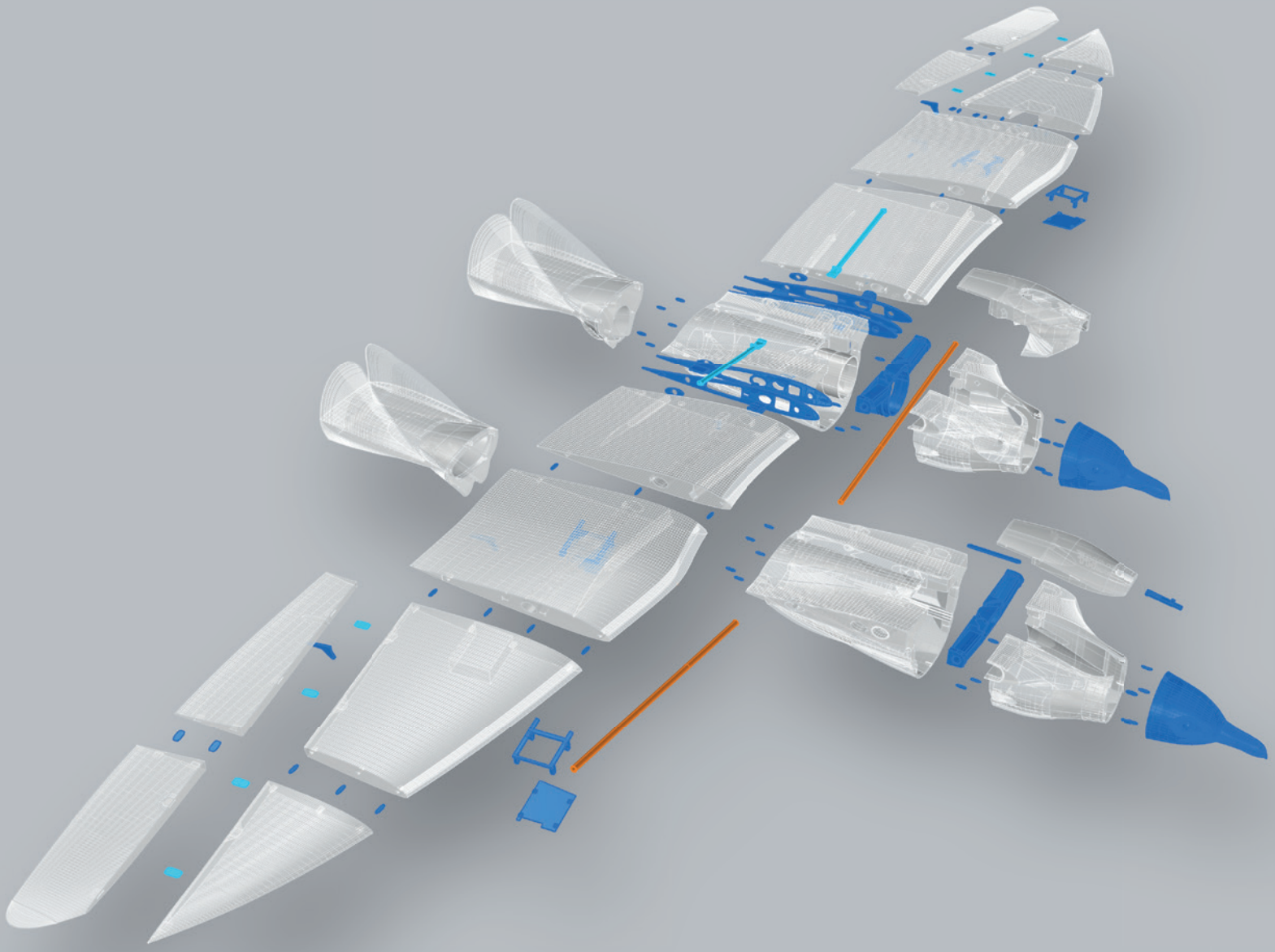
PLANE PRINT Great Gull

Realistic RC airplane „Bird“ – EDF and glider version

www.planeprint.com

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

PLANE PRINT Great Gull



LW-PLA PLA TPU OTHER

RC Components

MOTOR **4S EDF 50 MM** – (We use the FMS EDF)

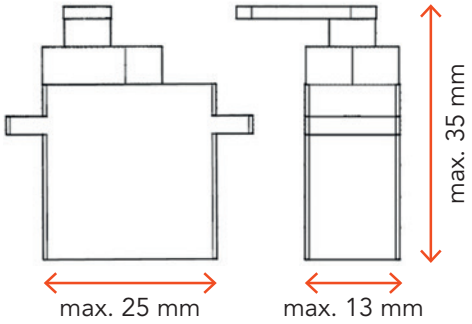
BEC-CONTROLLER min. 50 A (must fit the EDF!)

RECEIVER 3 Channels (Glider 2 Channels)

BATTERY 4S LiPo-Akku, 2300 - 2500 mAh
(ideal weight 250g – A lighter battery does not make sense, because otherwise you need lead)

SERVOS WINGS **2 pieces** like **KST Clubman CM509MG, Corona 929MG, Savöx SH-0254** or equivalent,

SERVO EXTENSION CABLE 100 mm**, 2 Pieces** and 300 mm**, 2 Pieces**



Required accessoires – basic equipment

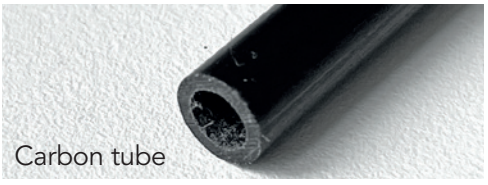
- **LW-PLA** foaming! **(cannot be replaced by PLA!)**, ~660 grams
- **Tough PLA** (or PLA), ~140 grams
- **TPU A95** ~10 grams

Printer space of 200x200x200 (cube) needed!

Materials

- some tapping screws
  (search for: M2 flat head tapping screw assortment)
- CA super glue (liquid and liquid medium)
- CA activator
- Carbon tube Ø8*368mm (inside 6mm), 2 pieces
- Steel wire Ø8.0*~200mm
- Neodym-Super-Magnet 5x5x5mm, 4 pieces (only EDF version)
- Duct Tape
- Self adhesive velcro tape
- Some lead (for the glider version)


Tapping screws 2mm


Carbon tube

Tools

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

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

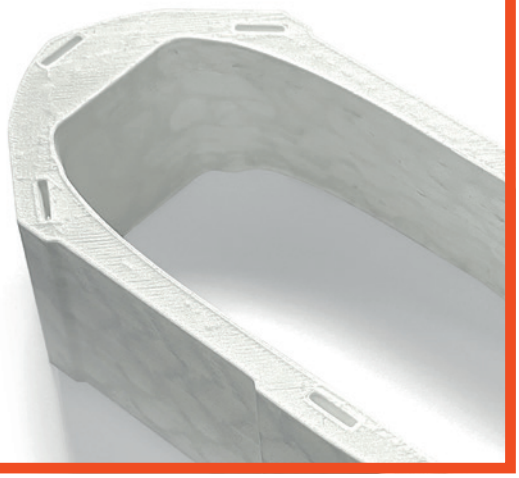
For this model you need the following profiles:

P2 **P4** **P5**

NOTE When printing the PLANEPRINT **Great Gull** 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 P2_Hollowbody Tough PLA or PLA

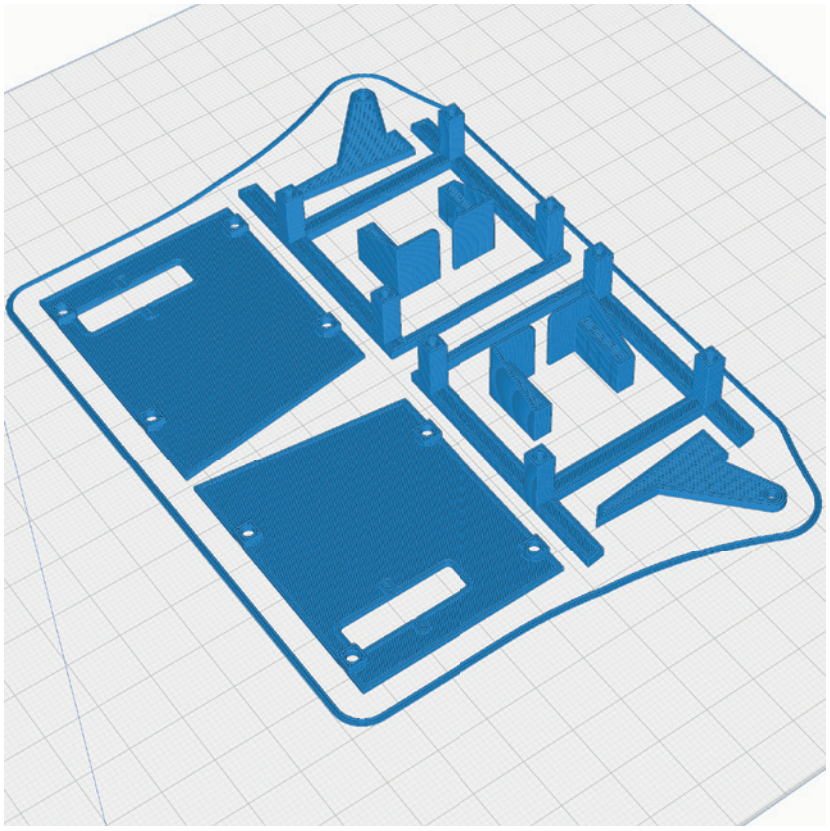
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Elevon Servo_gg.stl

MATERIAL PLA, Weight: ~ 13 g

ADDITIONAL SETTINGS

None required

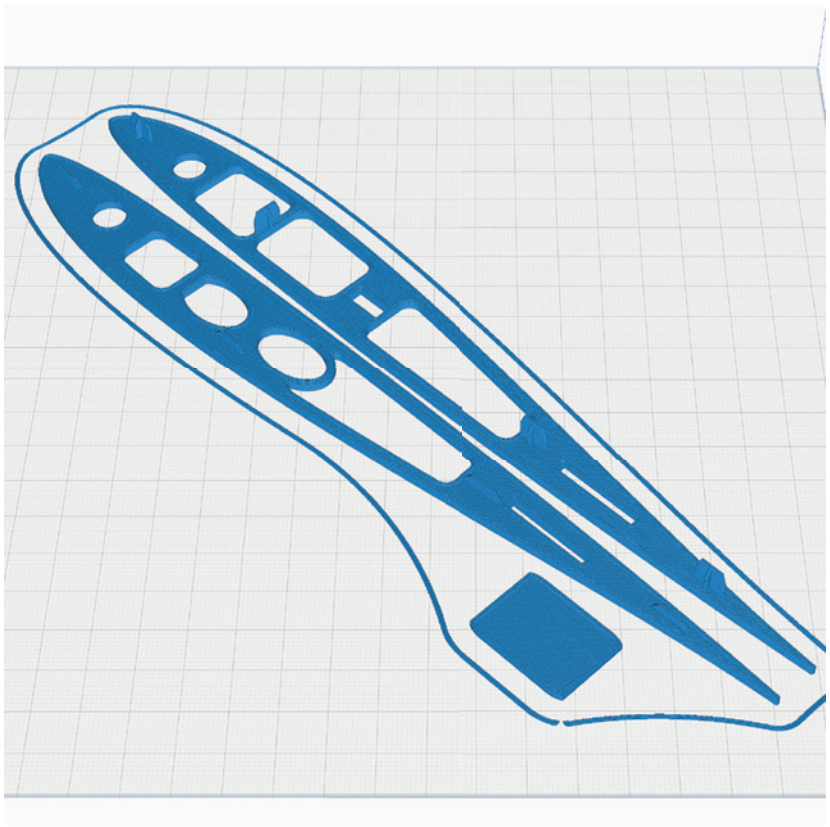


P2_Protectors L_gg.stl and P2_Protectors R_gg.stl

MATERIAL PLA, Weight: ~ 10 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!

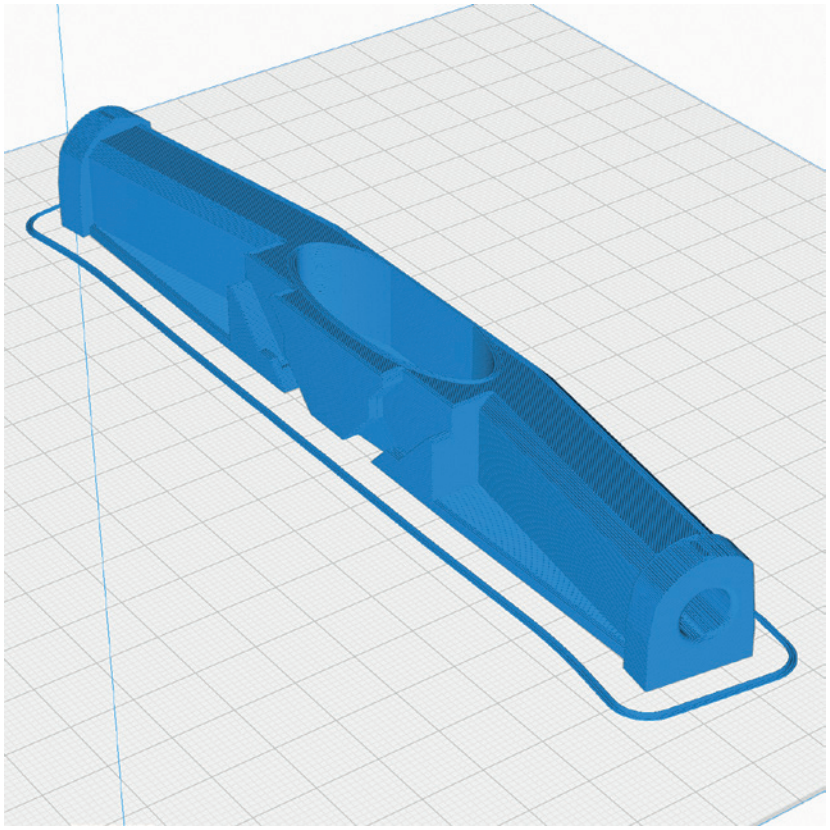
P2_Center Part Glider_gg.stl

MATERIAL PLA, Weight: ~ 19 g

ADDITIONAL SETTINGS

None required

INFO only required if you are building the **glider** version.



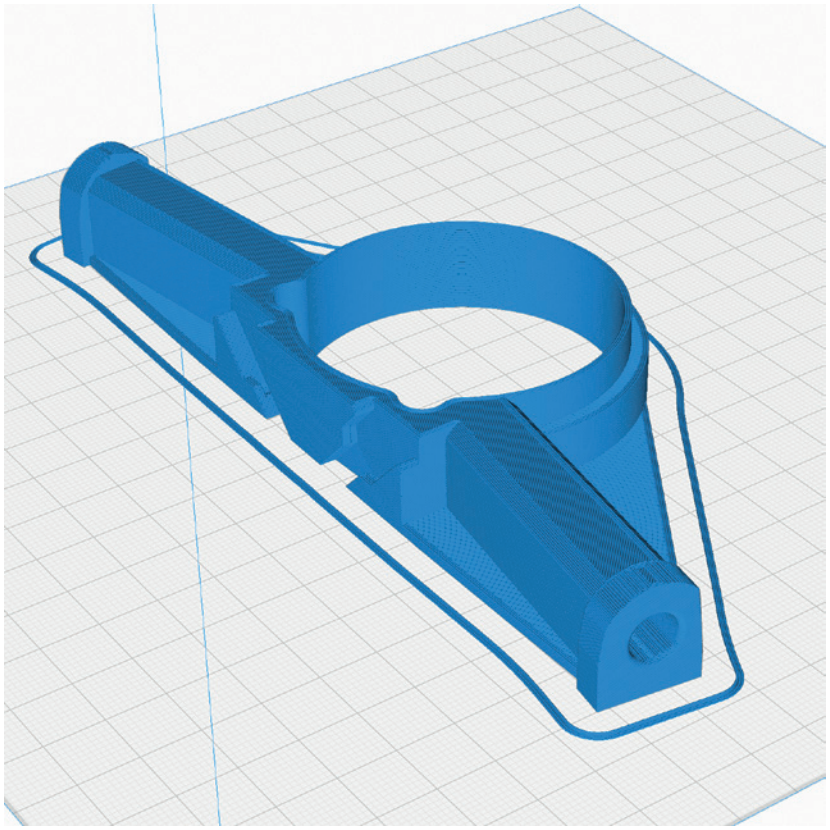
P2_Center Part EDF_gg.stl

MATERIAL PLA, Weight: ~ 22 g

ADDITIONAL SETTINGS

None required

INFO only required if you are building the **EDF** version.



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!

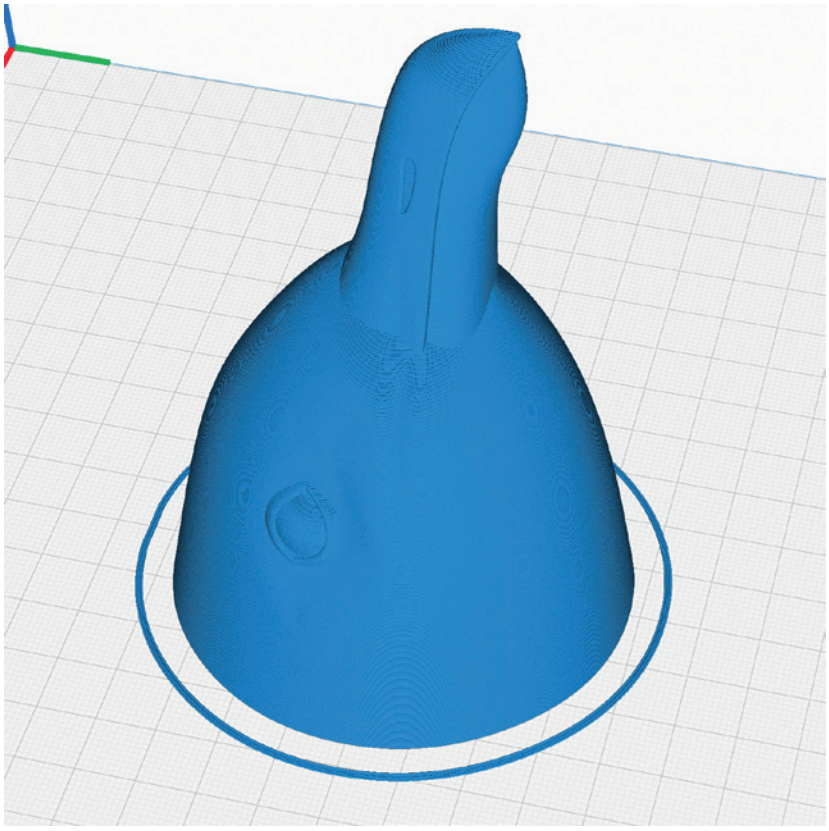
P2_Head Glider_gg.stl

MATERIAL PLA, Weight: ~ 33 g

ADDITIONAL SETTINGS

None required

INFO only required if you are building the **glider** version.



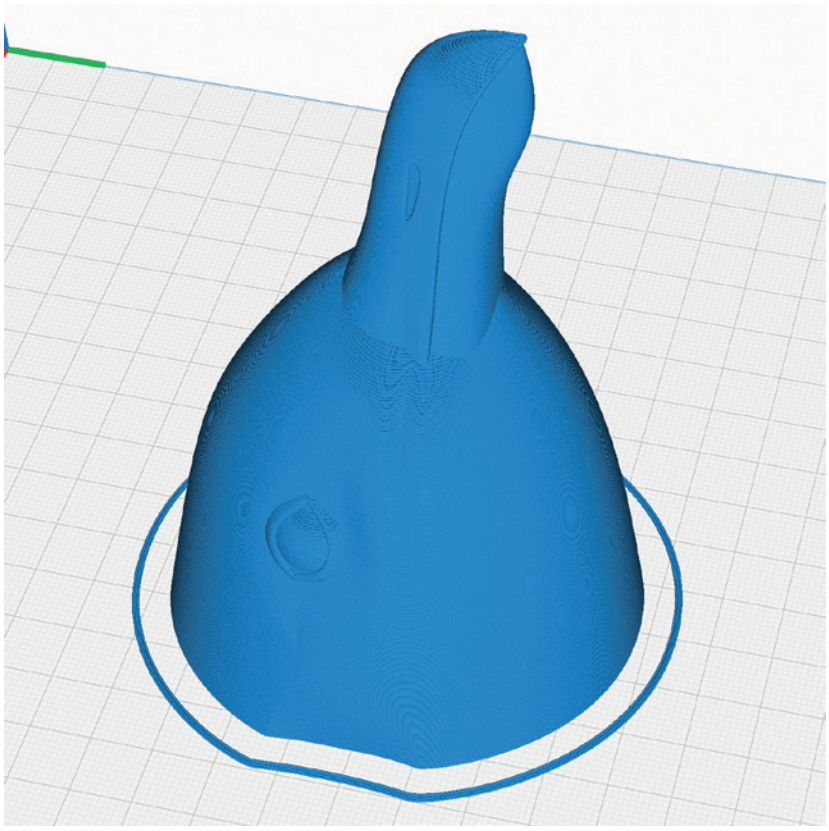
P2_Head EDF_gg.stl

MATERIAL PLA, Weight: ~ 33 g

ADDITIONAL SETTINGS

None required

INFO only required if you are building the **EDF** version.



PROFILE P2_Hollowbody Tough PLA or PLA

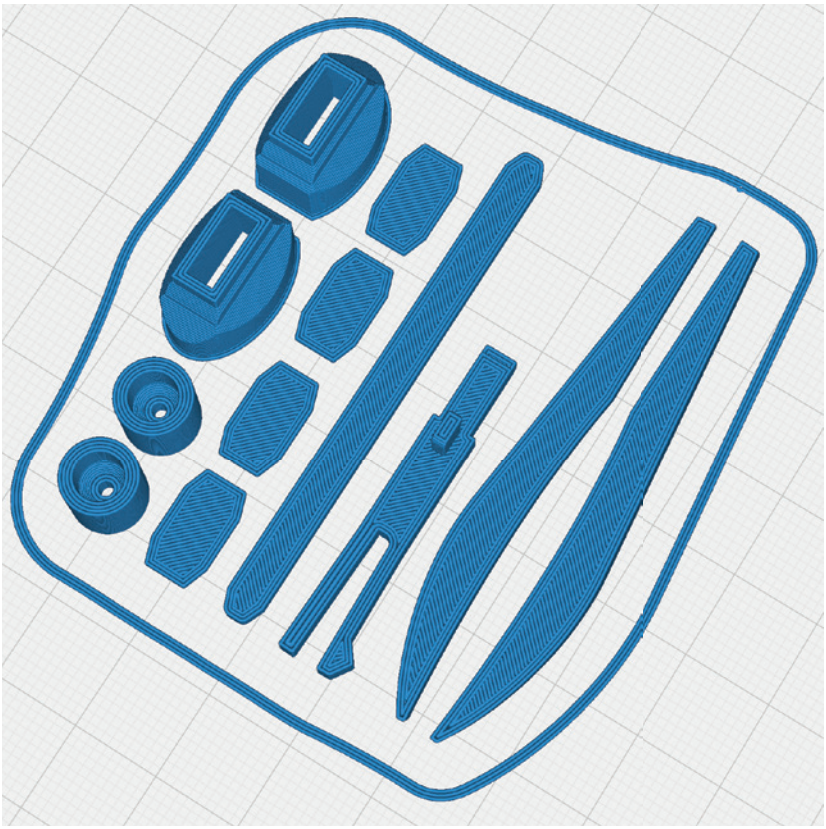
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Parts_gg.stl

MATERIAL PLA, Weight: ~ 6 g

ADDITIONAL SETTINGS

None required

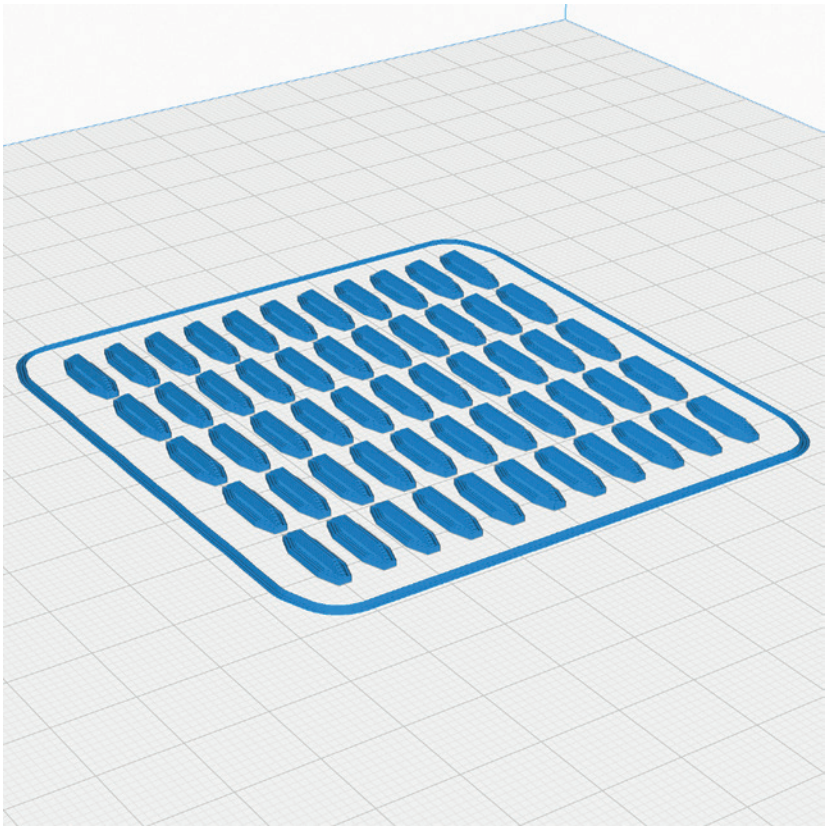


P2_T-Connects_gg.stl

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!

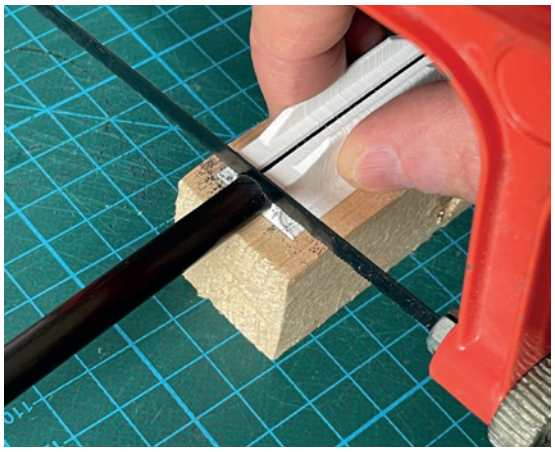
P2_Carbon tool 8mm.stl

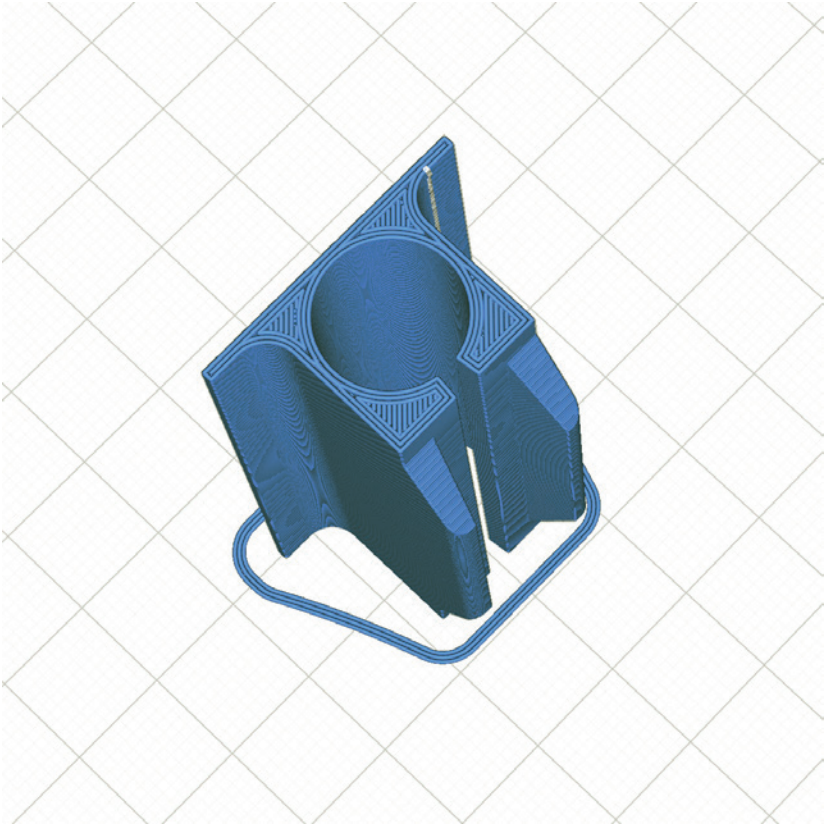
MATERIAL PLA

ADDITIONAL SETTINGS

None required

This tool helps to saw the carbon tubes





PROFILE P4_Flex TPU A95

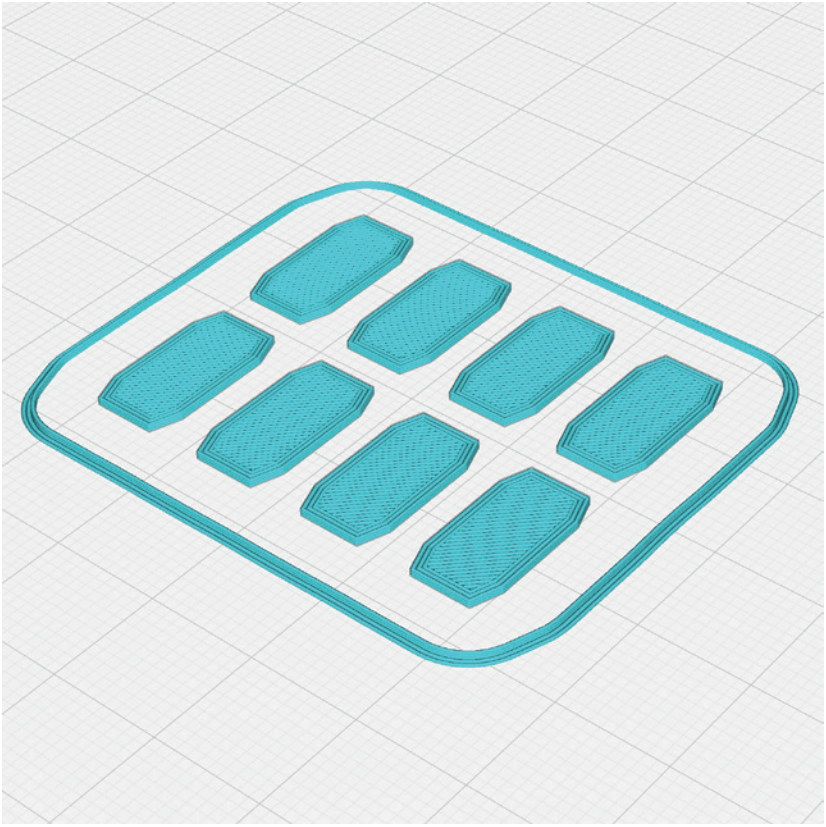
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P4_Hinges_gg.stl

MATERIAL TPU, Weight: ~ 1 g

ADDITIONAL SETTINGS

None required

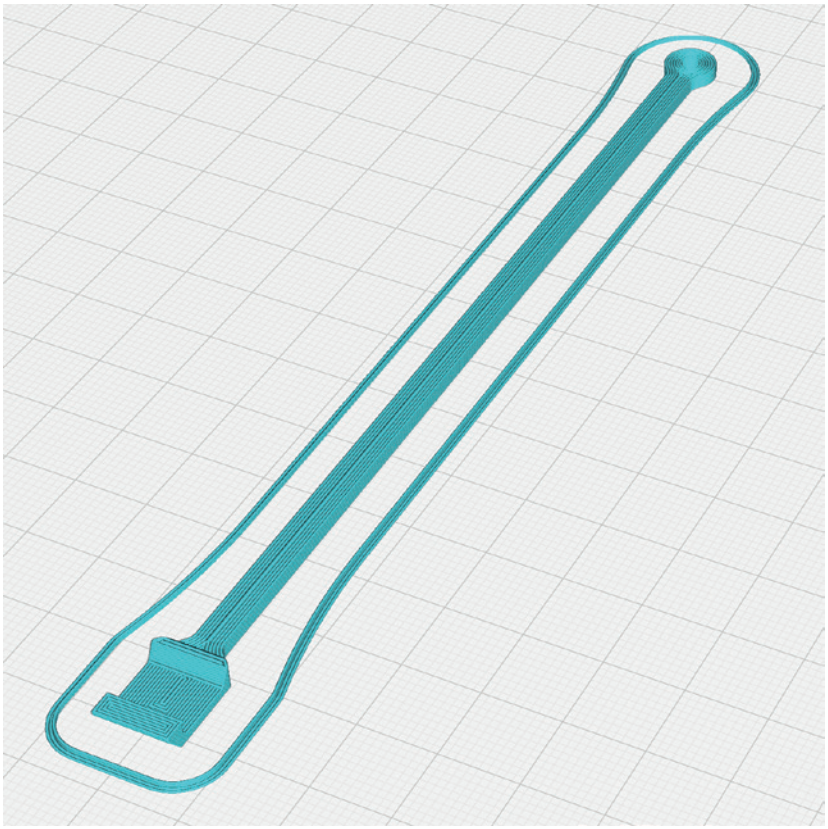


P4_Wingbelt_gg.stl

MATERIAL TPU, Weight: ~ 2 g

ADDITIONAL SETTINGS

- Wall Line Count/Perimeters: 15
- Print it twice



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!

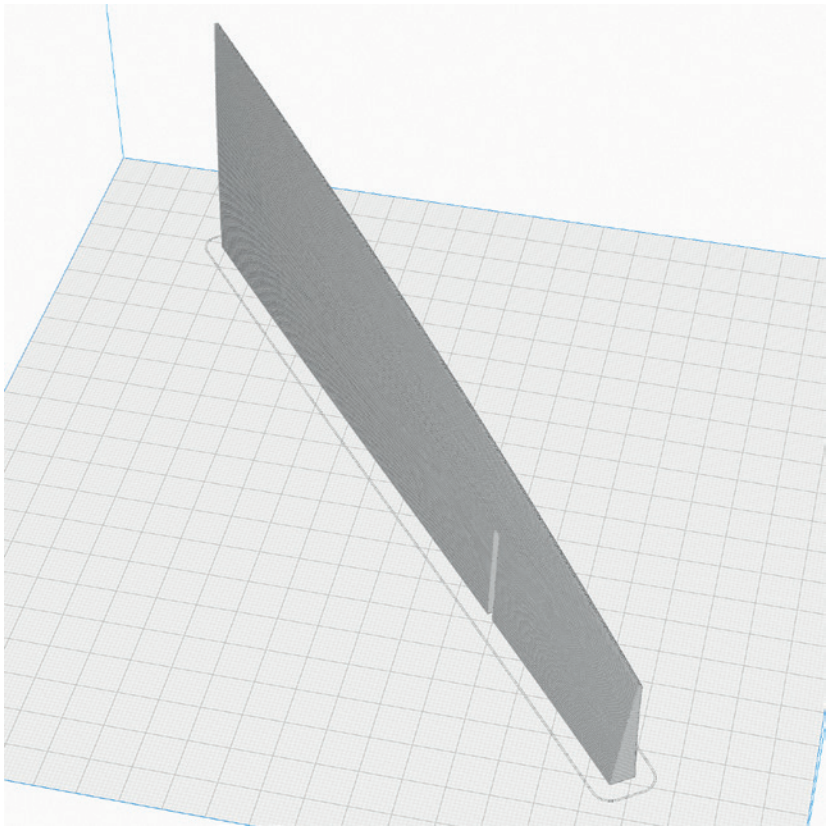
P5_Elevon L1_gg.stl and P5_Elevon R1_gg.stl

MATERIAL LW PLA, Weight: ~ 9 g

TIME ~ 1 hour 10 minutes

ADDITIONAL SETTINGS

None required



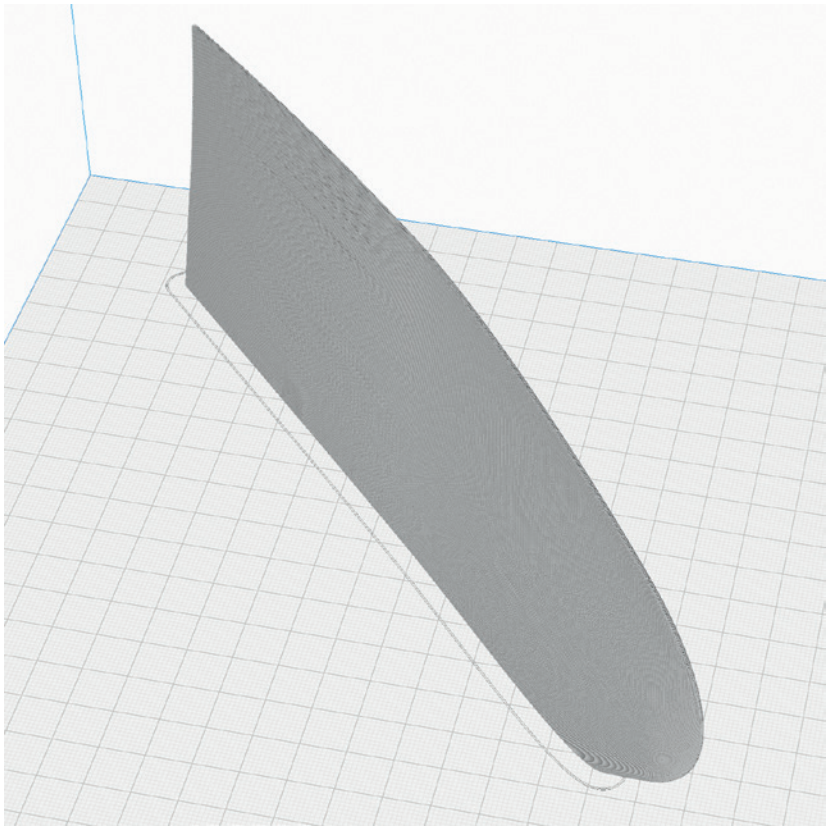
P5_Elevon L2_gg.stl and P5_Elevon R2_gg.stl

MATERIAL LW PLA, Weight: ~ 12 g

TIME ~ 1 hour 30 minutes

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid LW-PLA (foaming)!

P5

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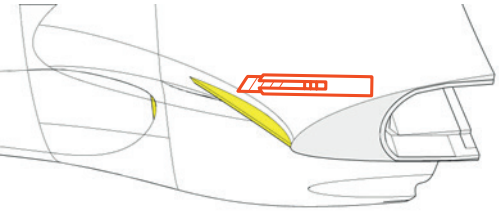
P5_Body1 Glider_gg.stl

MATERIAL LW PLA, Weight: ~ 32 g

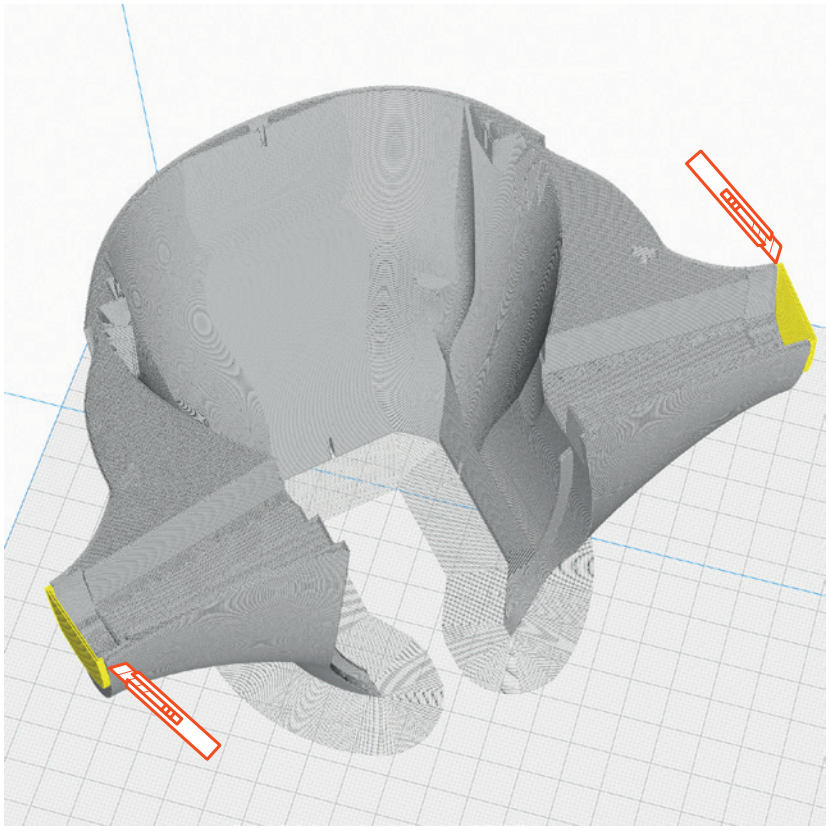
TIME ~ 4 hours

ADDITIONAL SETTINGS

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



INFO only required if you are building the **glider** version.



P5_Body2 Glider_gg.stl

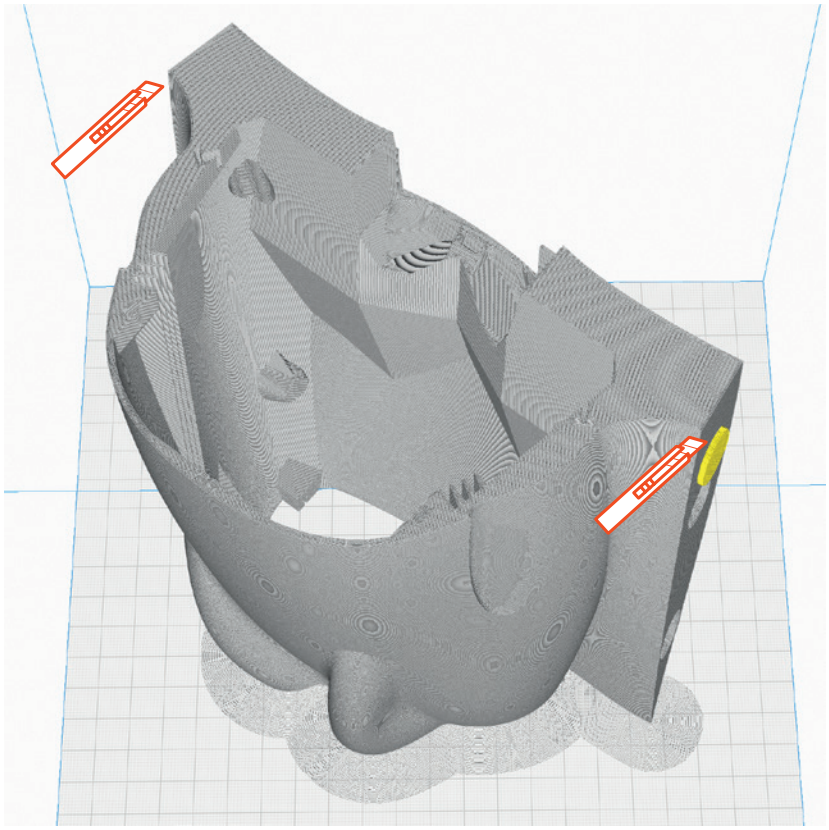
MATERIAL LW PLA, Weight: ~ 60 g

TIME ~ 8 hours 40 minutes

ADDITIONAL SETTINGS

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

INFO only required if you are building the **glider** version.



PROFILE P5_Gyroid LW-PLA (foaming)!

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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_Tail Glider_gg.stl

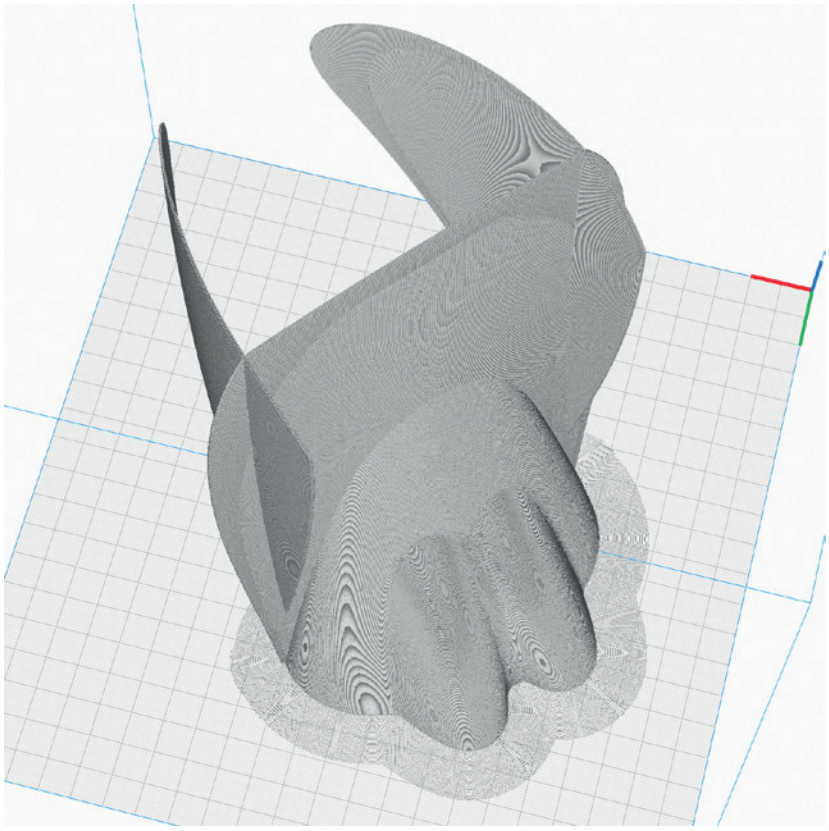
MATERIAL LW PLA, Weight: ~ 33 g

TIME ~ 4 hours 40 minutes

ADDITIONAL SETTINGS

- use Brim

INFO only required if you are building the **glider** version.



P5_Cover Glider_gg.stl

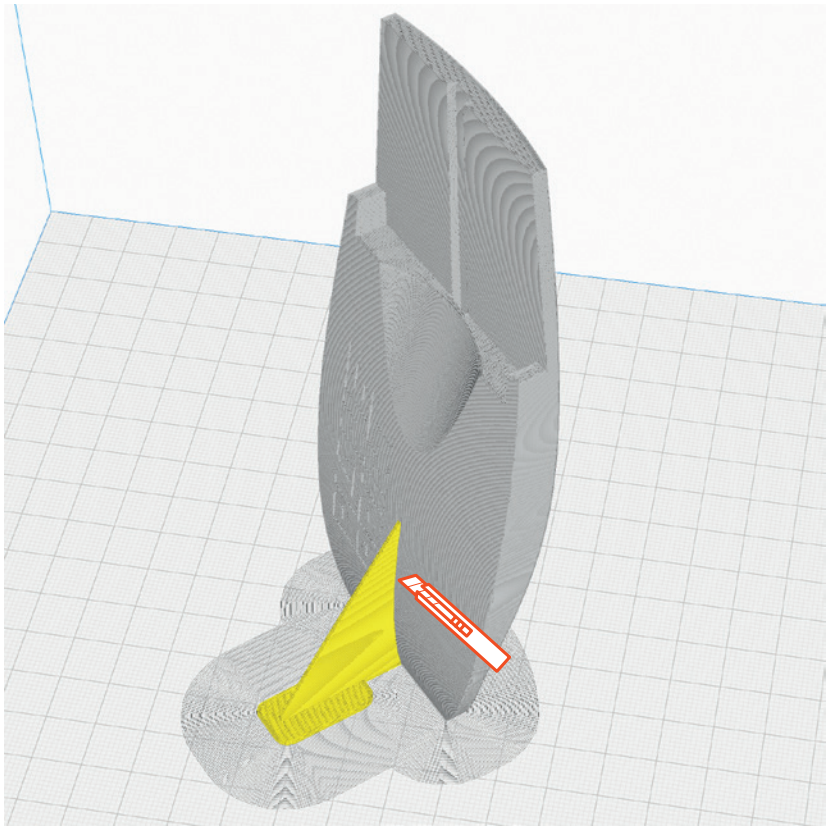
MATERIAL LW PLA, Weight: ~ 7 g

TIME ~ 1 hour 20 minutes

ADDITIONAL SETTINGS

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

INFO only required if you are building the **glider** version.



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!

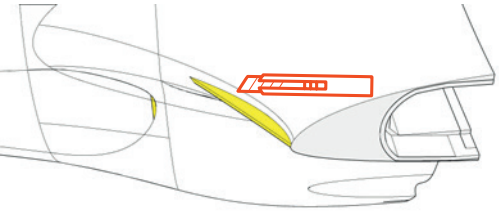
P5_Body1 EDF_gg.stl

MATERIAL LW PLA, Weight: ~ 33 g

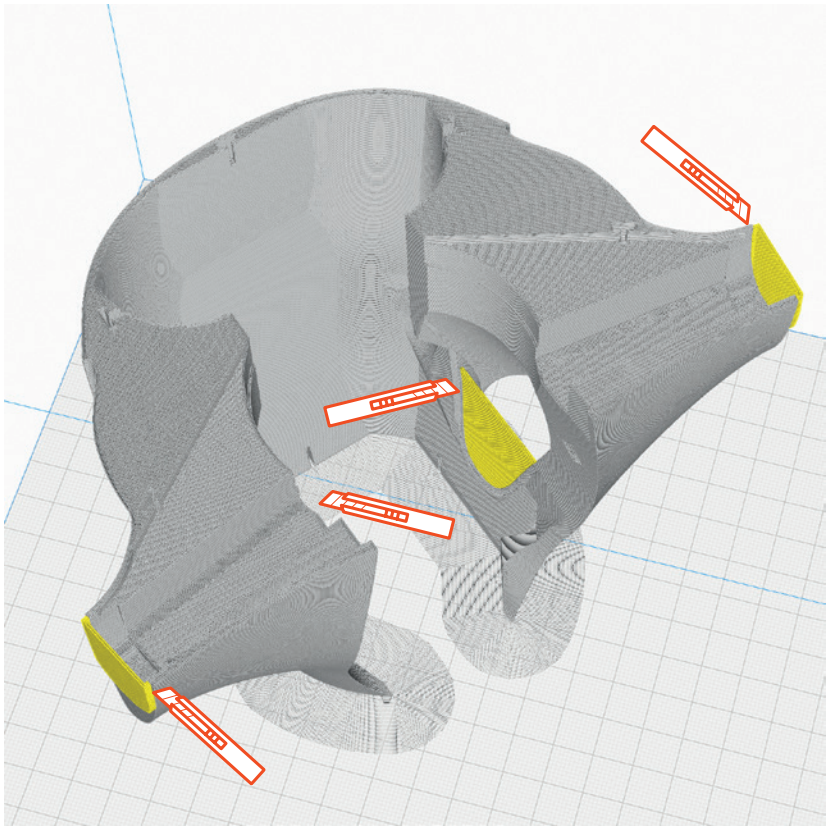
TIME ~ 4 hours

ADDITIONAL SETTINGS

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



INFO only required if you are building the **EDF** version.



P5_Body2 EDF_gg.stl

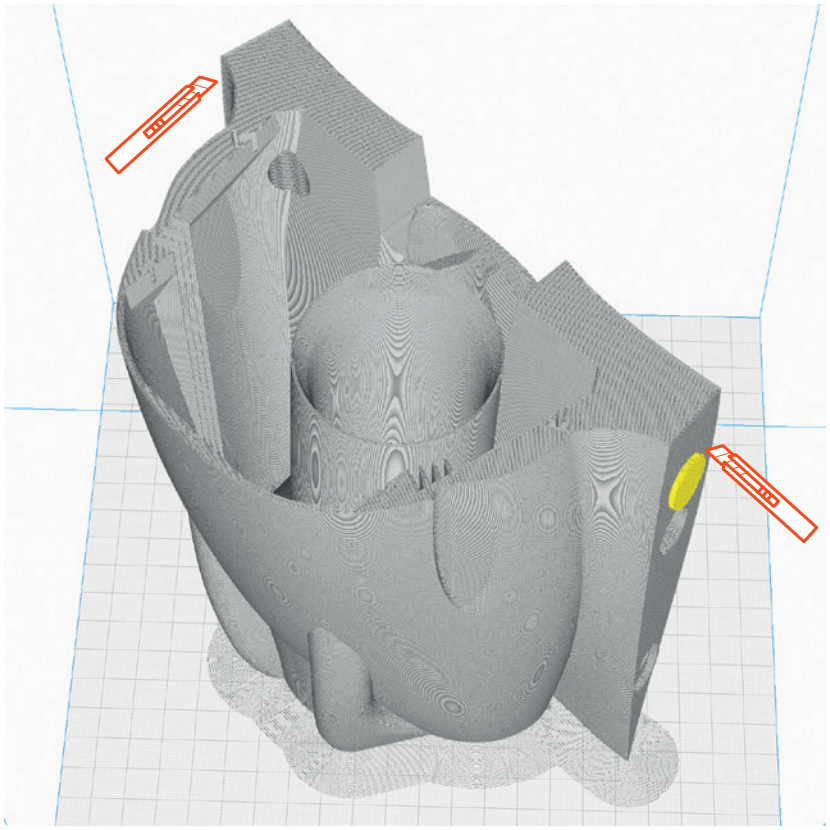
MATERIAL LW PLA, Weight: ~ 83 g

TIME ~ 11 hours

ADDITIONAL SETTINGS

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

INFO only required if you are building the **EDF** version.



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_Tail EDF_gg.stl

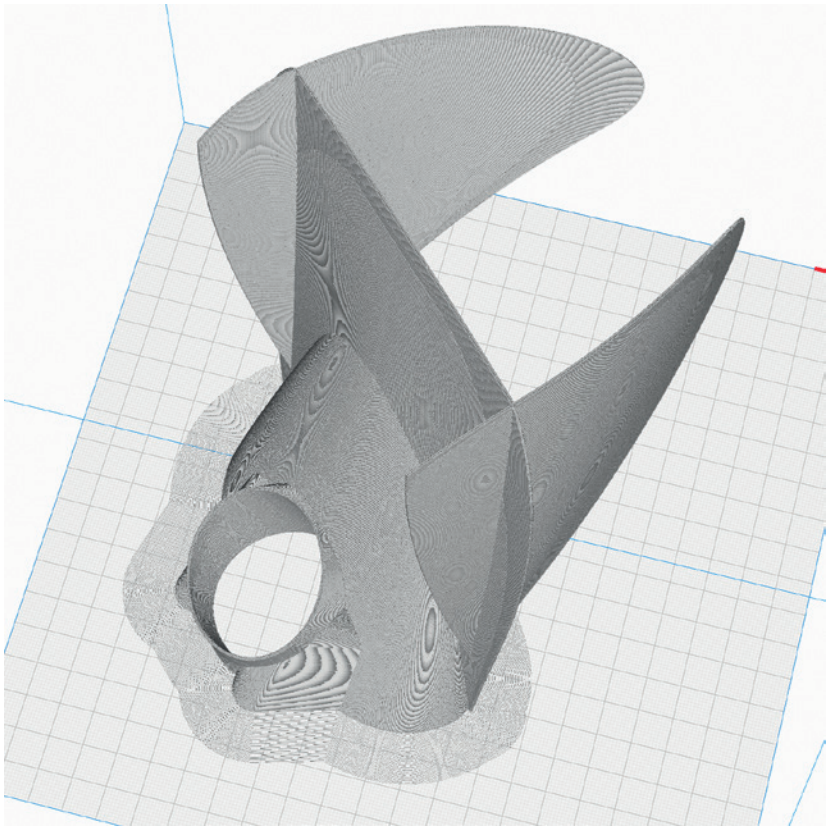
MATERIAL LW PLA, Weight: ~ 36 g

TIME ~ 4 hours 30 minutes

ADDITIONAL SETTINGS

- use Brim

INFO only required if you are building the **EDF** version.



P5_Cover EDF_gg.stl

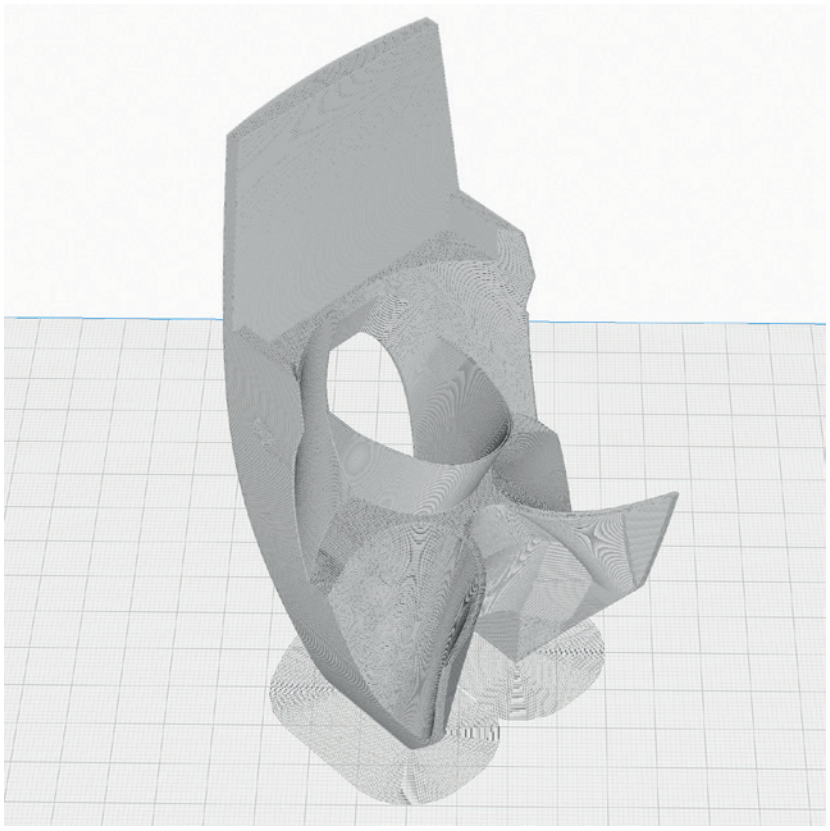
MATERIAL LW PLA, Weight: ~ 12 g

TIME ~ 1 hour 50 minutes

ADDITIONAL SETTINGS

- use Brim

INFO only required if you are building the **EDF** version.



PROFILE P5_Gyroid LW-PLA (foaming)!

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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!

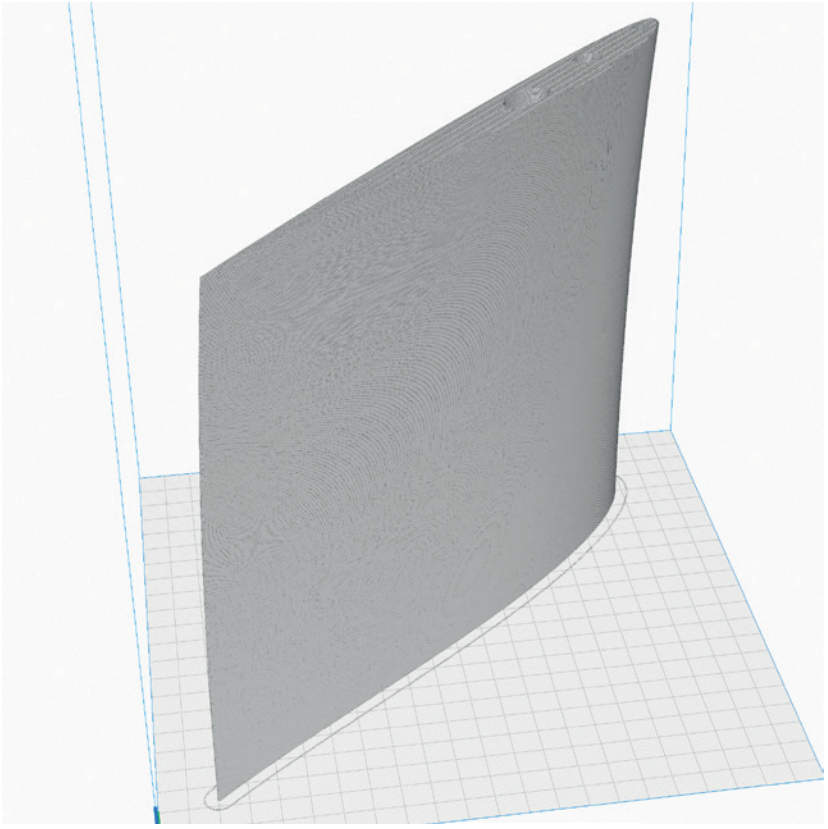
P5_Wing L1_gg.stl and P5_Wing R1_gg.stl

MATERIAL LW PLA, Weight: ~ 55 g

TIME ~ 7 hours 40 minutes

ADDITIONAL SETTINGS

None required



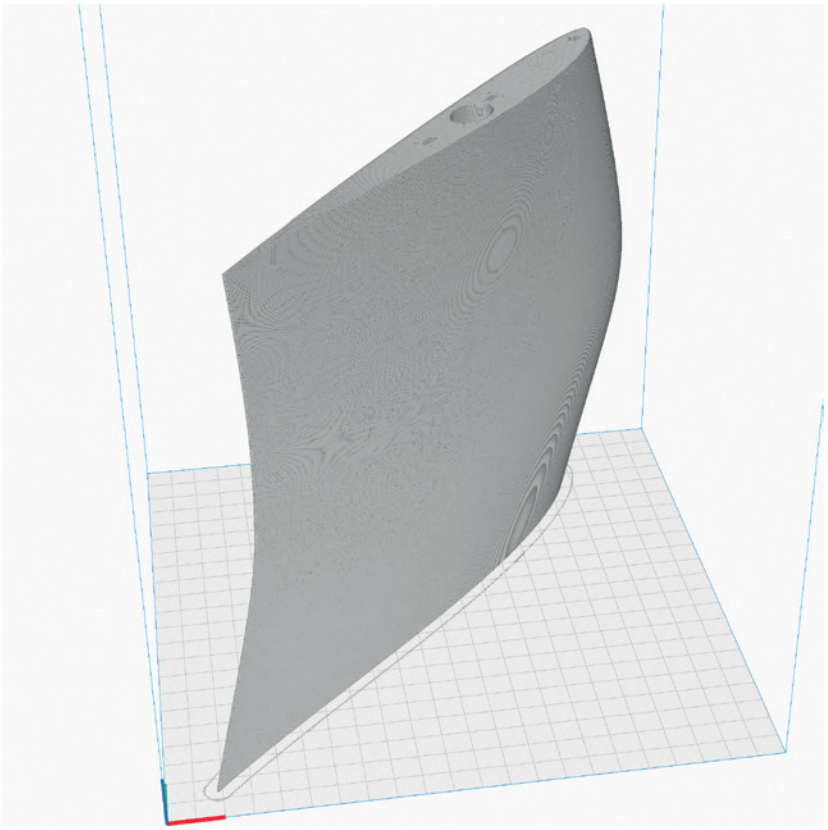
P5_Wing L2_gg.stl and P5_Wing R2_gg.stl

MATERIAL LW PLA, Weight: ~ 55 g

TIME ~ 7 hours 30 minutes

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid LW-PLA (foaming)!

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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_gg.stl and P5_Wing R3_gg.stl

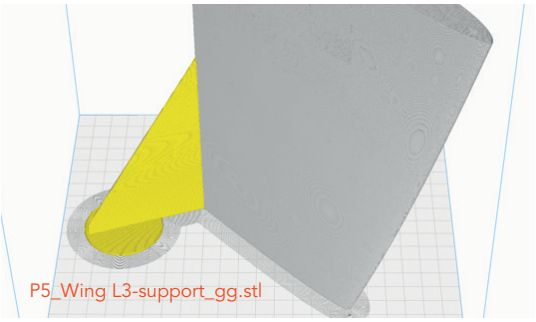
MATERIAL LW PLA, Weight: ~ 35 g

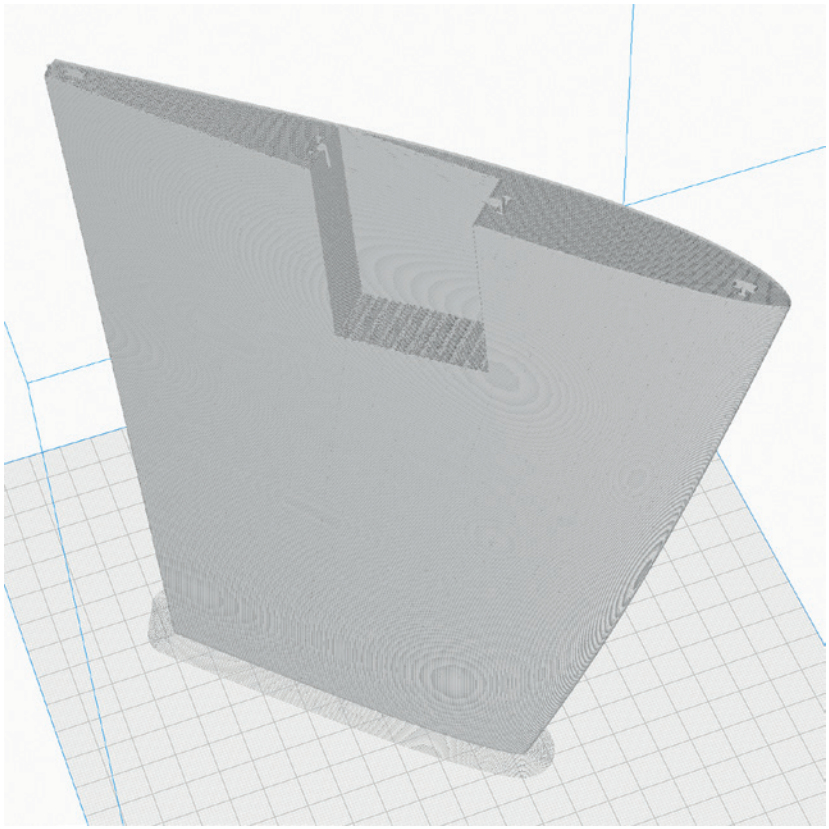
TIME ~ 7 hours

ADDITIONAL SETTINGS

- use Brim

There is an alternative version with support if you are unsure about your build plate:





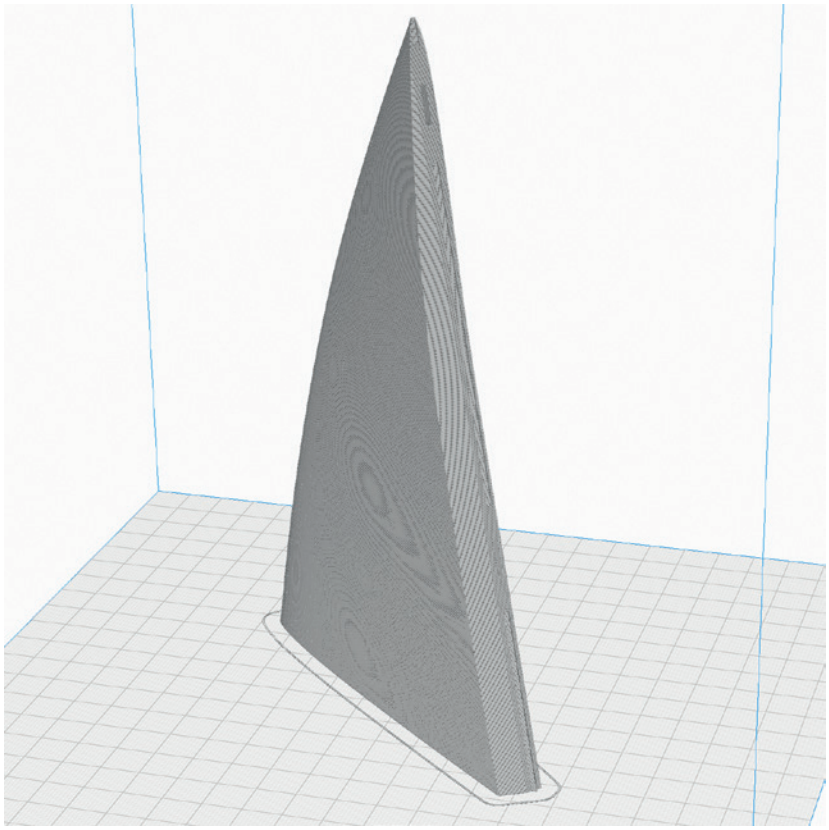
P5_Wing L4_gg.stl and P5_Wing R4_gg.stl

MATERIAL LW PLA, Weight: ~ 11 g

TIME ~ 1 hour 40 minutes

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid LW-PLA (foaming)!

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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!

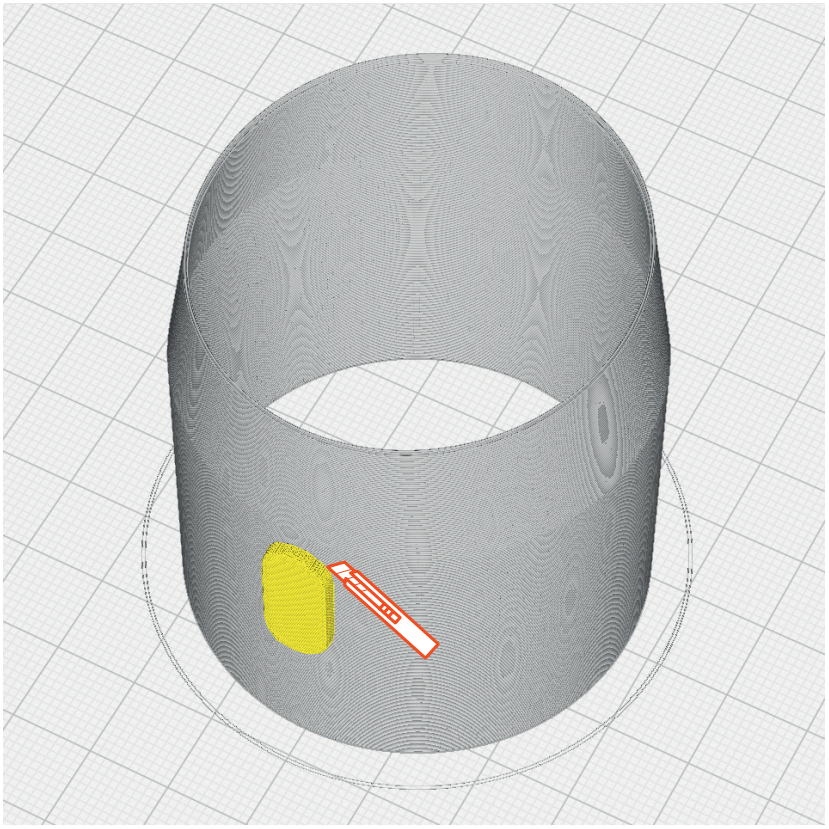
P5_EDF Tube FMS50_gg.stl

MATERIAL LW PLA, Weight: ~ 5 g

TIME ~ 30 minutes

ADDITIONAL SETTINGS

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



Basic Information:

P5

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.

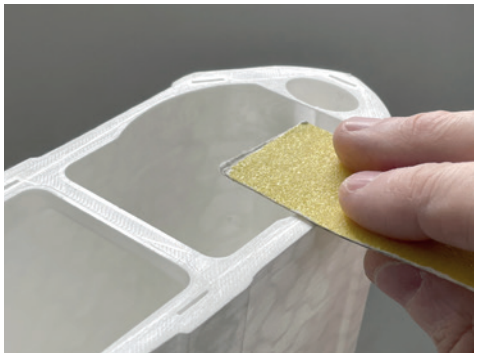
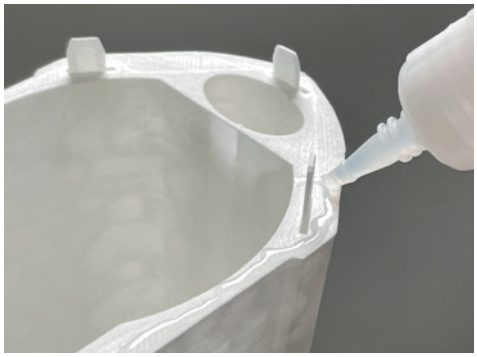
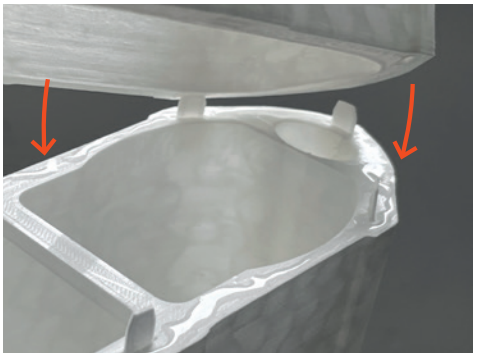
STEP 2 Insert the **interconnects into the slots** provided on one side.

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.

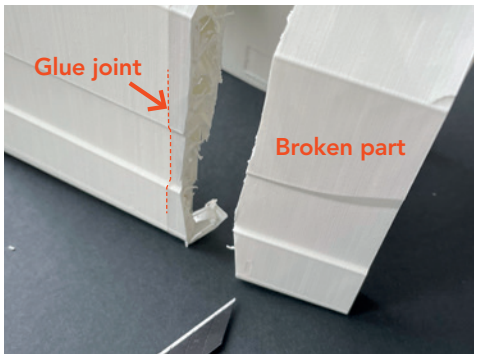




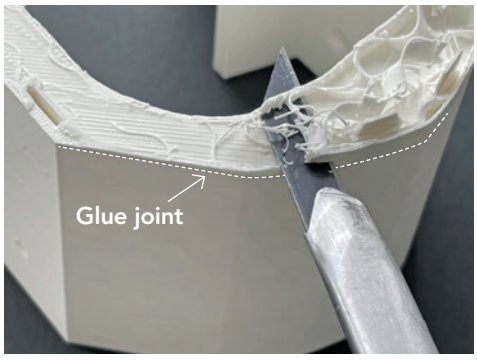
PROFILES 5 parts are easy to repair

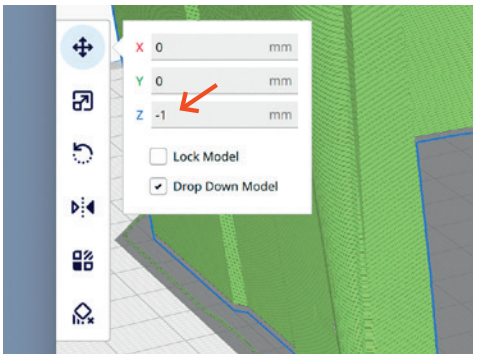
STEP 1 Using the knife, carefully remove the damaged part about 3 mm from the glue joint between two parts.

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.



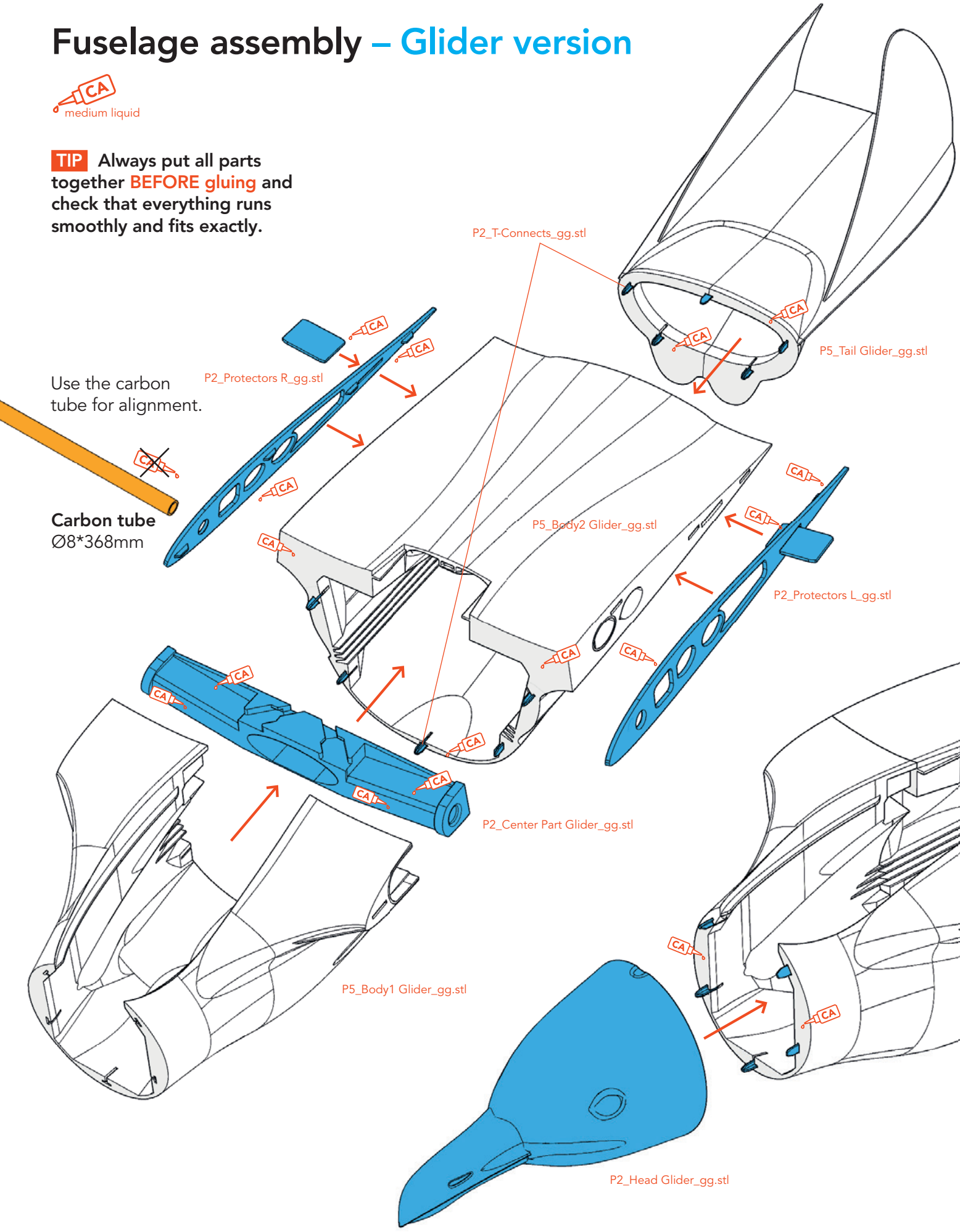




Fuselage assembly – Glider version

CA
medium liquid

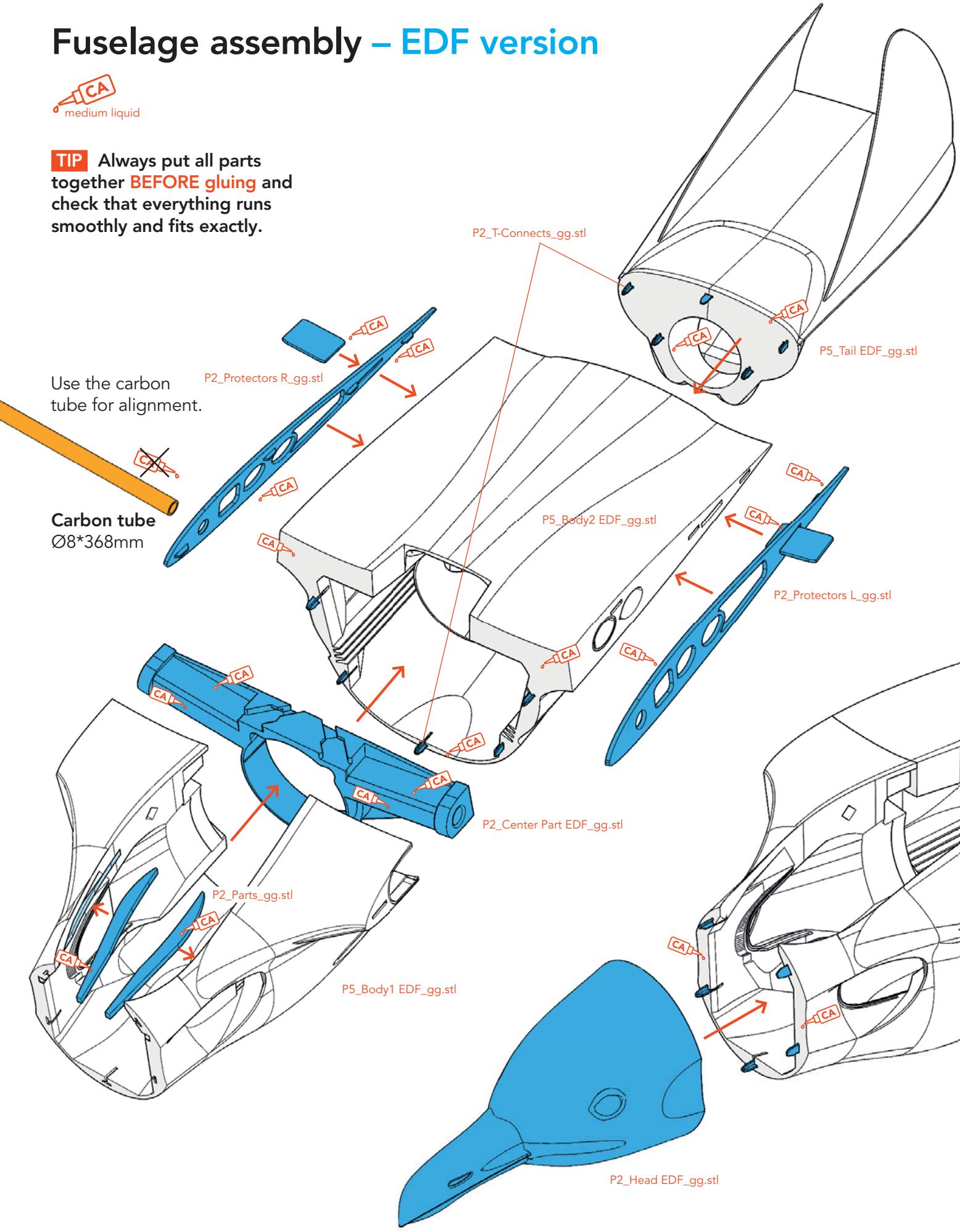
TIP **Always put all parts together BEFORE gluing and check that everything runs smoothly and fits exactly.**



Fuselage assembly – EDF version

CA
medium liquid

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

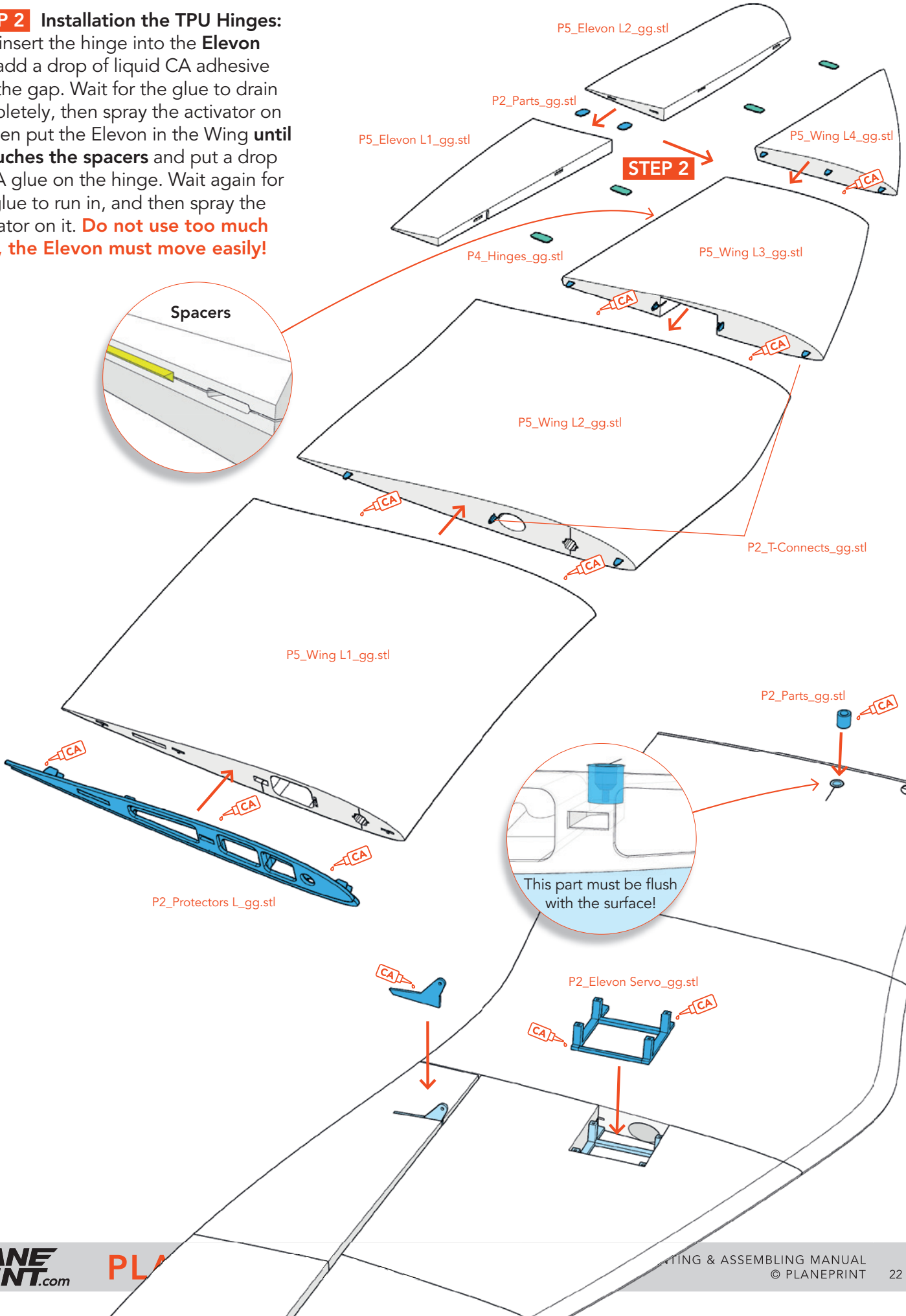


Wing assembly

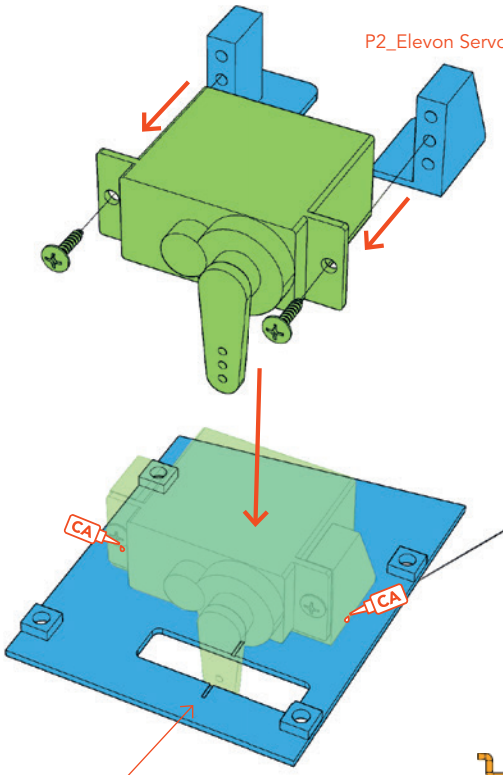
CA medium liquid

Example for the left side:

STEP 2 **Installation the TPU Hinges:** First insert the hinge into the **Elevon** 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 Elevon 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 Elevon must move easily!**

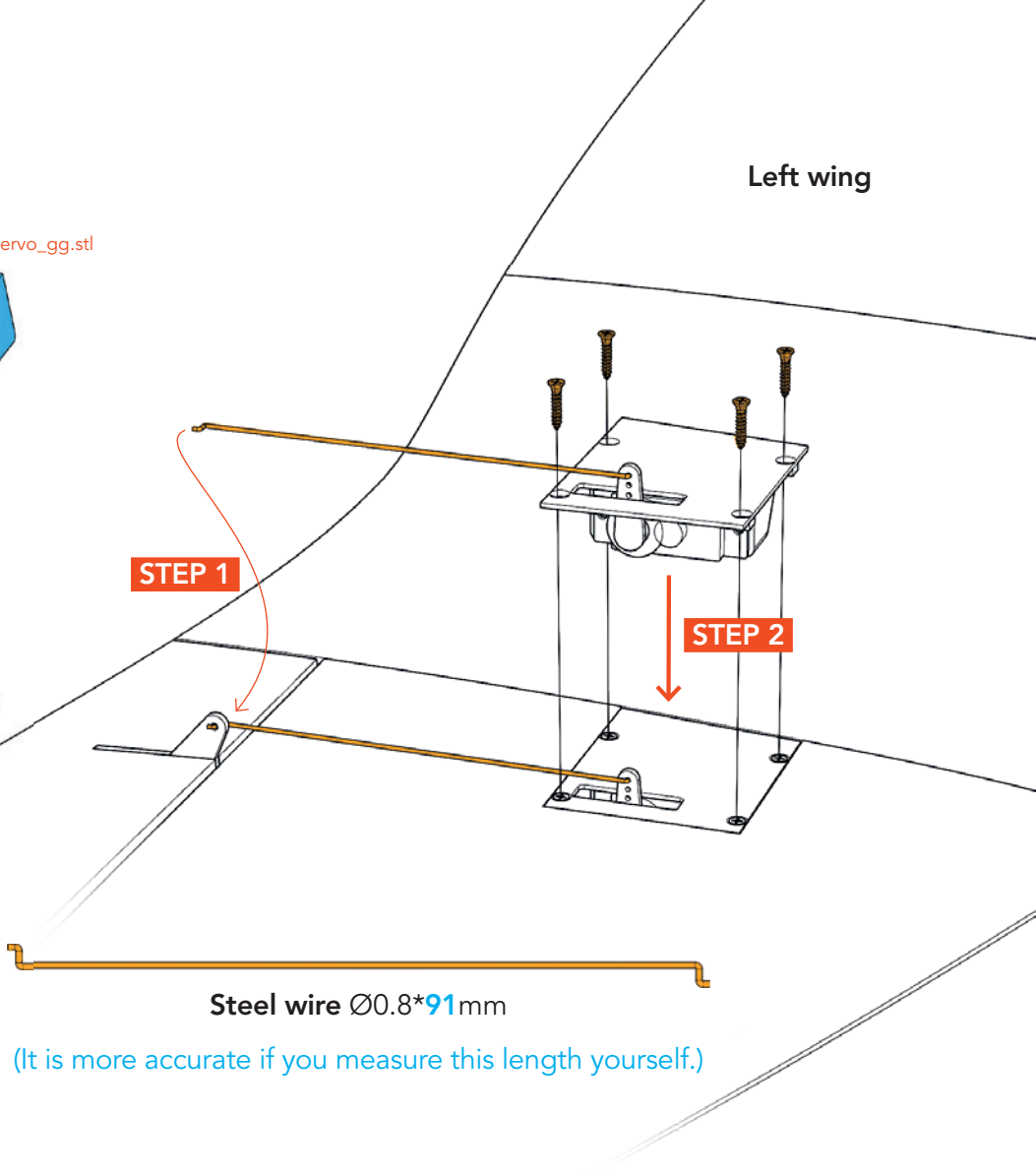


Wing Servos



The servo lever must be centered with this mark.

Left wing

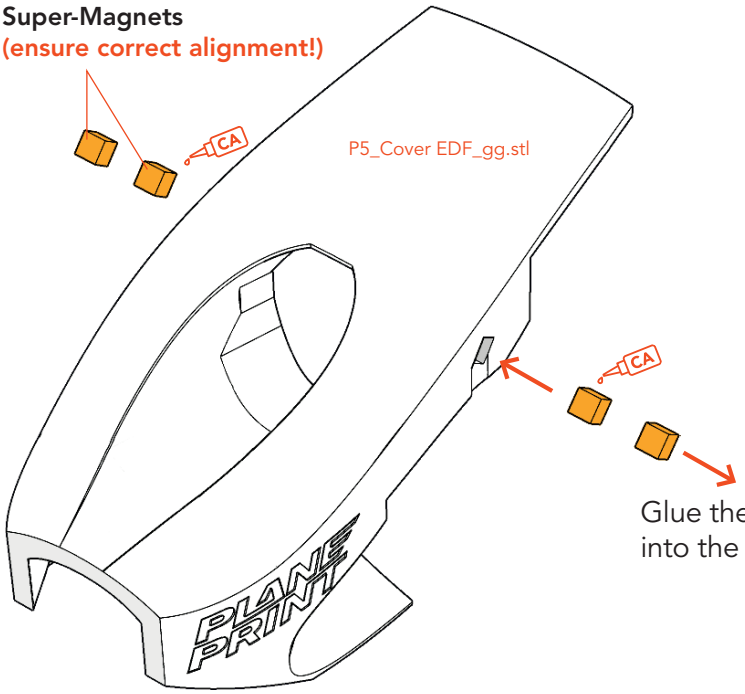


Steel wire Ø0.8*91mm

(It is more accurate if you measure this length yourself.)

Cover EDF version

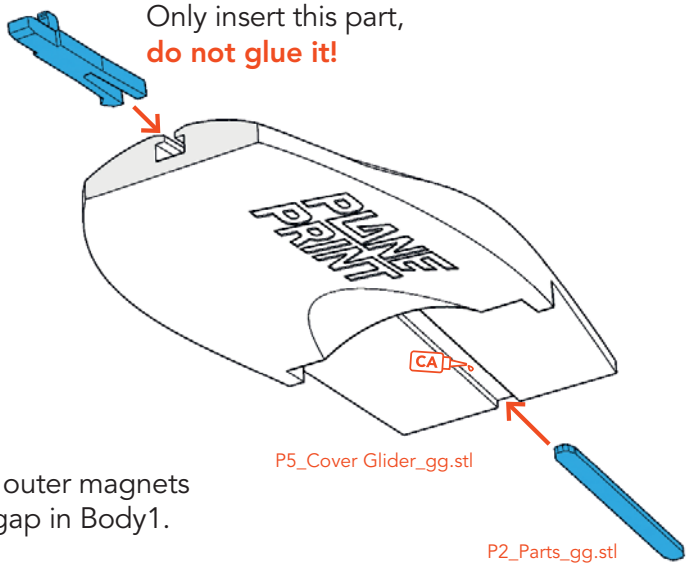
Super-Magnets
(ensure correct alignment!)



Glue the outer magnets into the gap in Body1.

Cover Glider version

Only insert this part,
do not glue it!



Tool-free Wing fastening

PLANEPRINT Innovation

Hang the two wingbelts crosswise here.

P4_Wingbelt_gg.stl

Tapping Screw

You can either use this **plug holder** for the connector in the fuselage or use a longer cable and feed it into the fuselage when mounting the wing.

The wing does not have a fixed plug. It is safer if the cable is flexible here and the plug is relieved of stress.

Carbon tube Ø8*368mm

P2_Parts_gg.stl

Servo Extension Cable 100mm

Servo Extension Cable 300mm

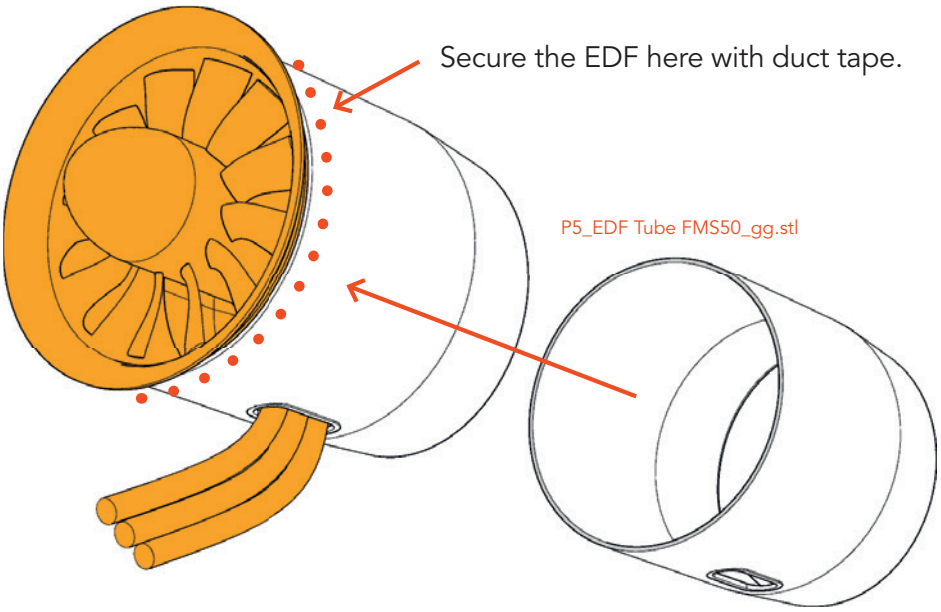
UHU

UHU

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

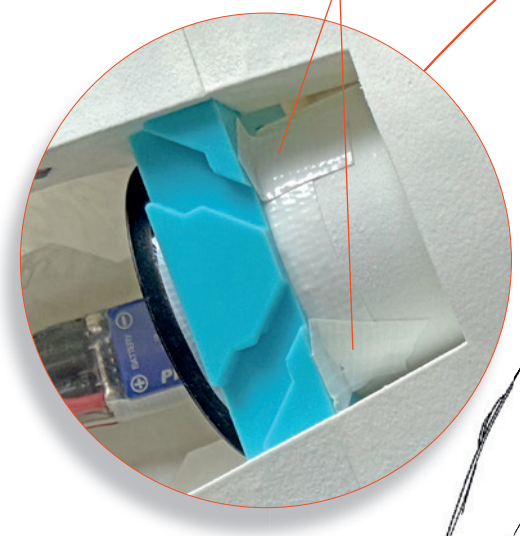
EDF mount

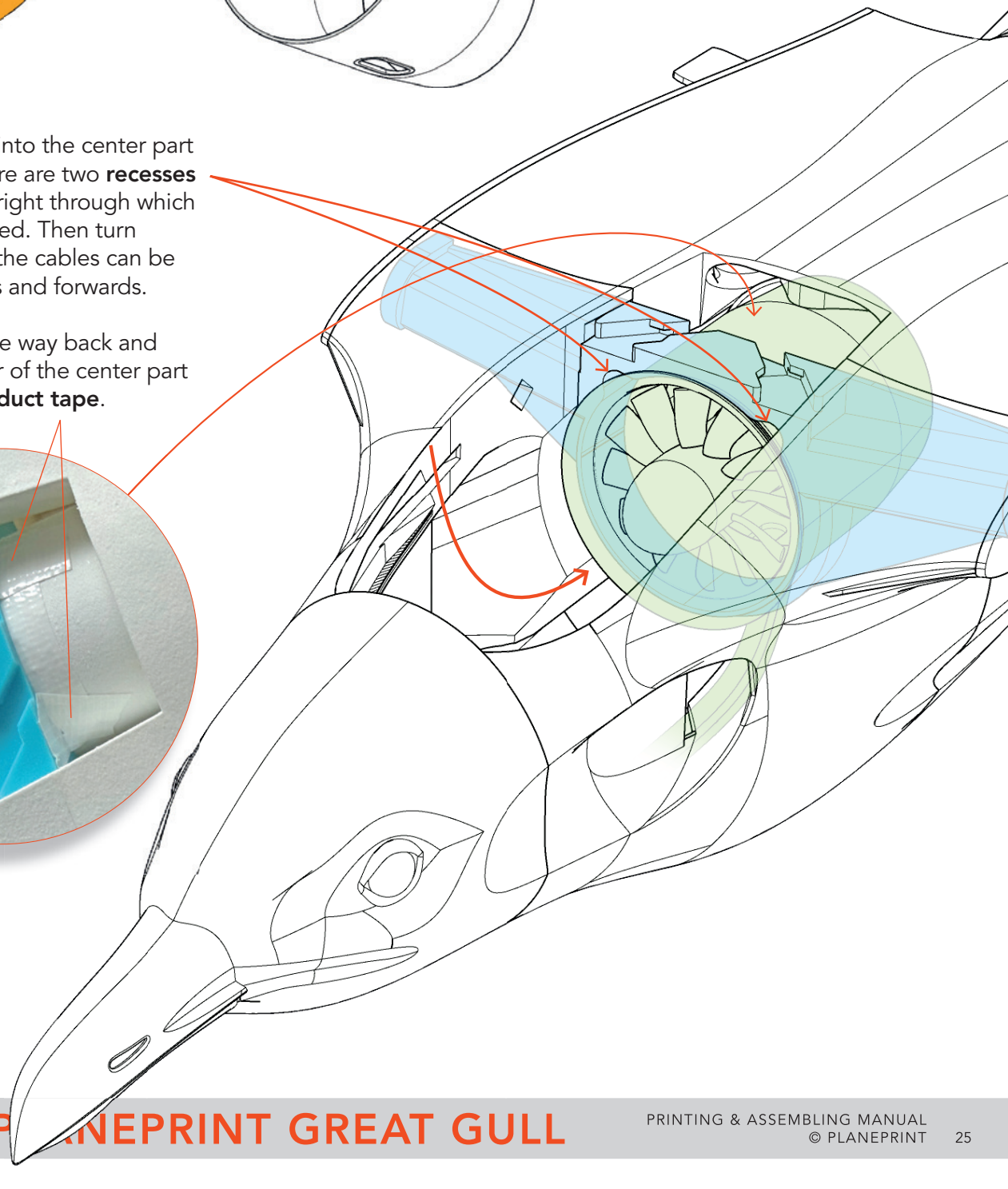
SAFETY FIRST Make sure the fan does not generate vibrations. **Check regularly that the motor mounting is tight!**



Slide the EDF unit into the center part from the front. There are two **recesses** at the top left and right through which the cables can be fed. Then turn everything so that the cables can be fed out downwards and forwards.

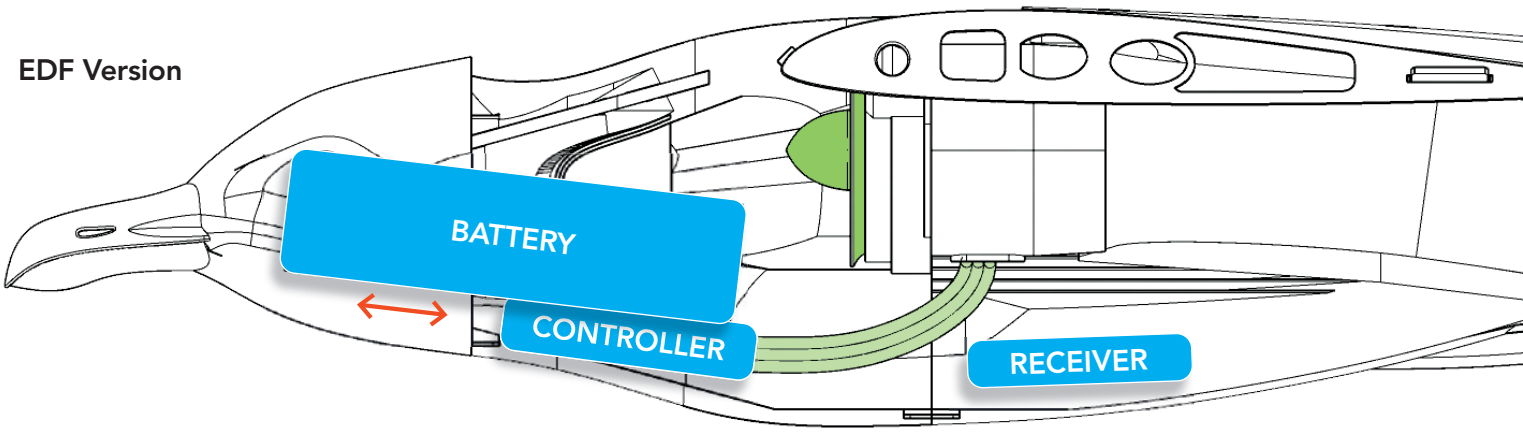
Push the EDF all the way back and secure it to the rear of the center part with **two strips of duct tape**.





RC components

EDF Version



Use **self-adhesive Velcro tape** to position the Battery, Controller and Receiver and mark exactly where it has to be so that the CG is correct. **Be sure to ensure that no cables or parts can be sucked into the EDF!**

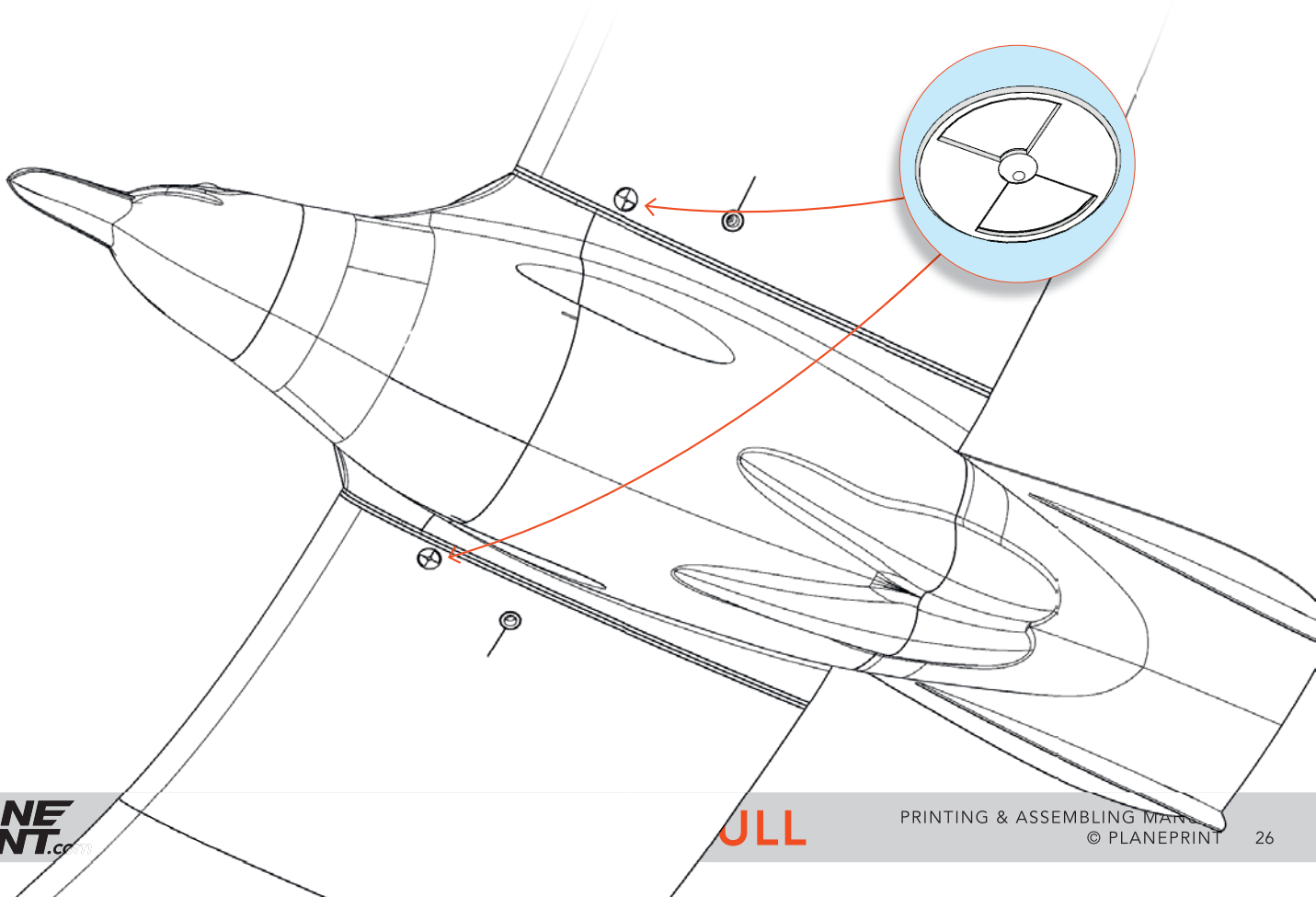
In the **glider version, lead will be needed** at the very **front of the beak** to achieve the CG.

Center of Gravity (CG)

The bird must balance on these points (never behind it!) – **see the markings on the wing**.

NOTE The range of optimum CG is particularly small with a flying wing and you have to find the most comfortable CG for yourself in flight. The further forward it is, the easier the model is to fly, the further back the performance is greatest.

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.



Technical specifications

WINGSPAN 1800 mm/70.8 inches

LENGTH 633 mm/24.9 inches

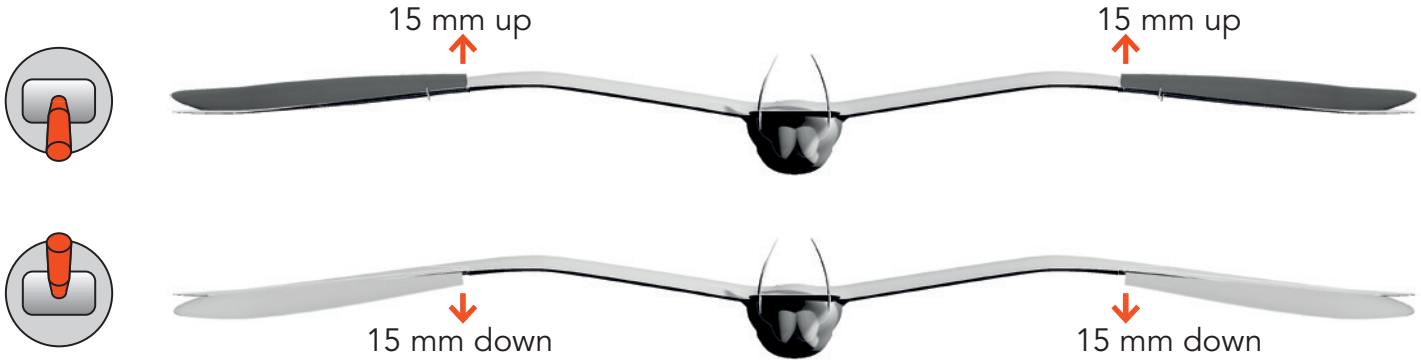
FLIGHT WEIGHT 1030 grams (EDF version)

WING LOAD 27 g/dm^2

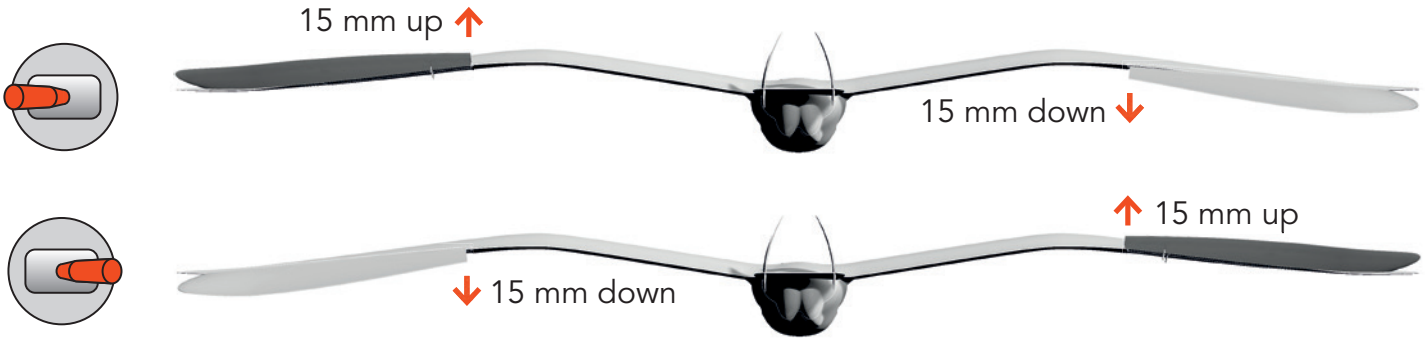
Control Direction Test

Look at the aircraft from behind

ELEVATOR



AILERON

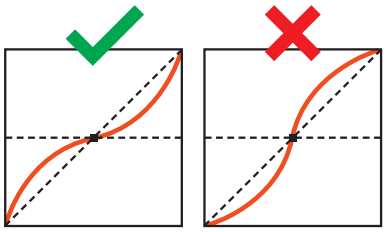


TIP For the first flight, the elevons should be **trimmed up** ↑ by approximately 1 mm.

EXPO

ELEVATOR 30 %

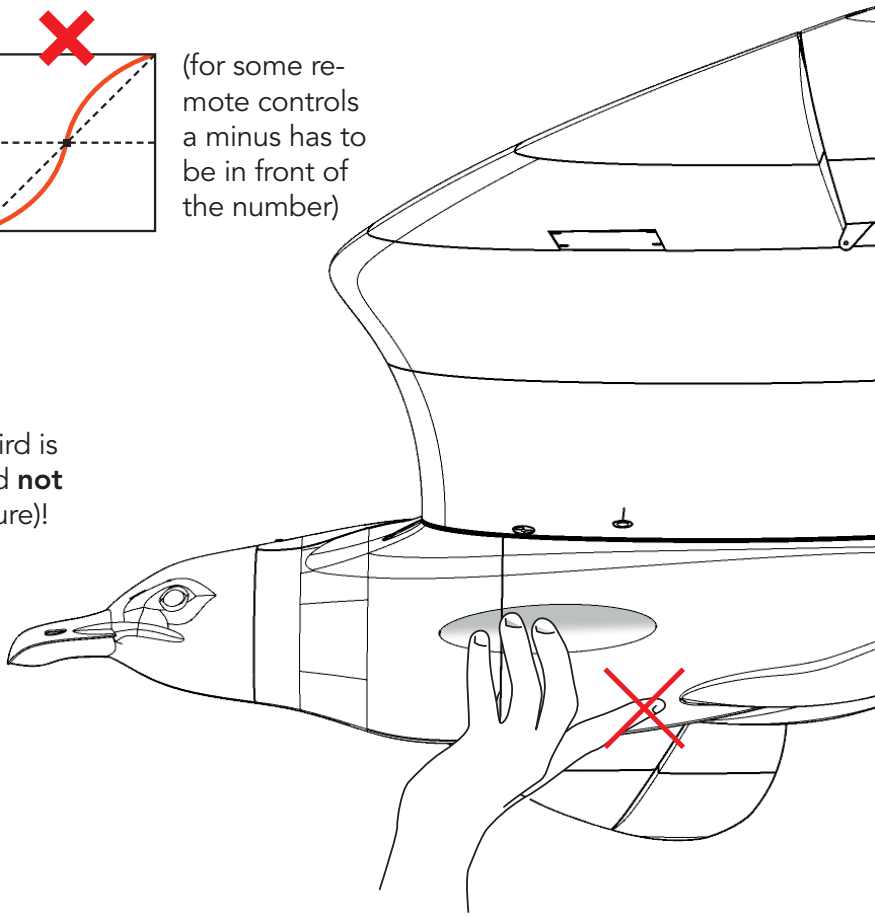
AILERON 30 %



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

Takeoff from the hand

NOTE When throwing, it is important that the bird is **pulled** forward, not pushed. Therefore you should **not** support it behind with your index finger (see picture)!



Please be aware of wildlife and fly the GREAT GULL only in areas where it is allowed!

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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