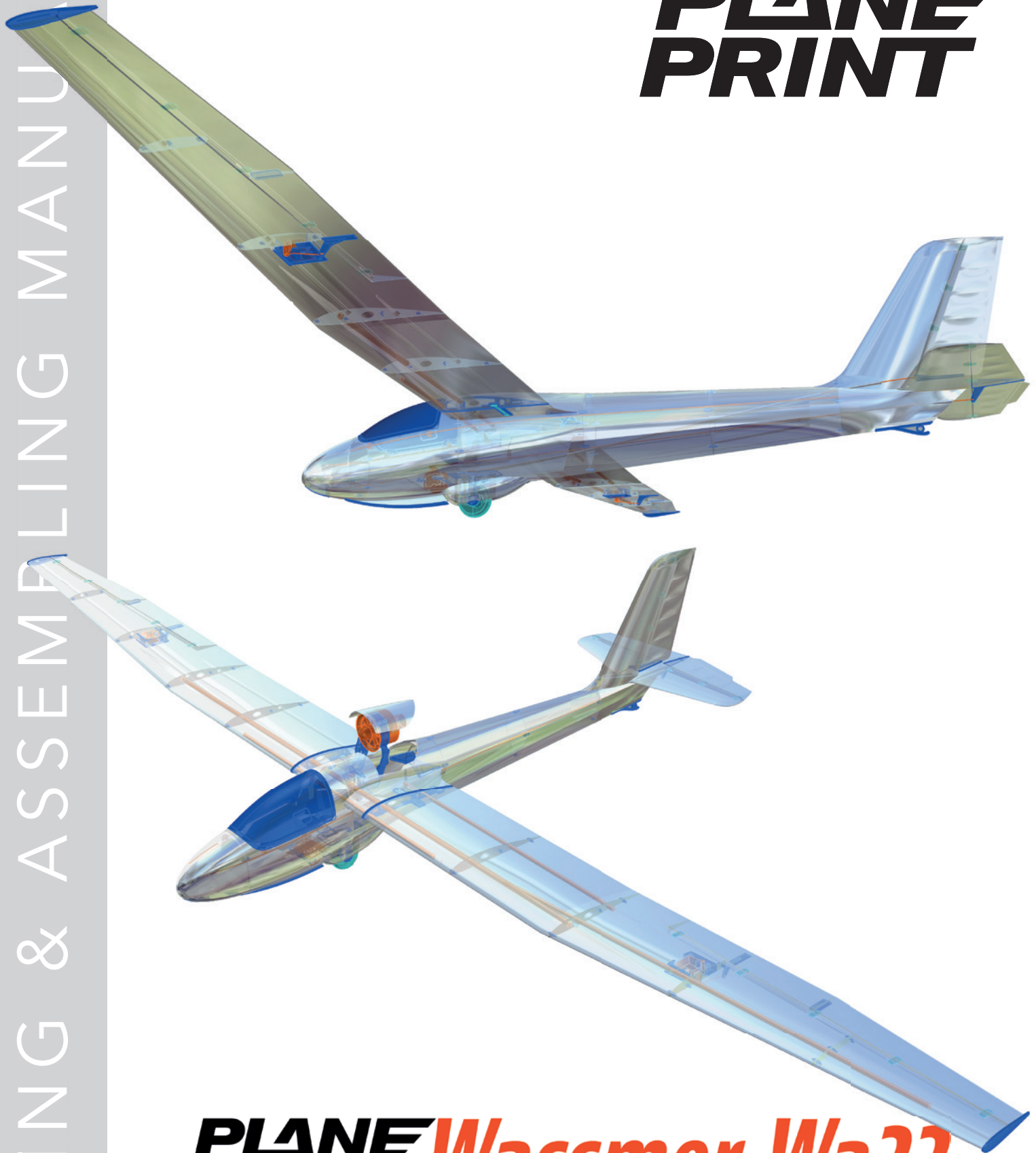


PLANE PRINT



PLANE PRINT *Wassmer-Wa22*

RC scale Glider with tow release and retractable EDF (add-on)



www.planeprint.com

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

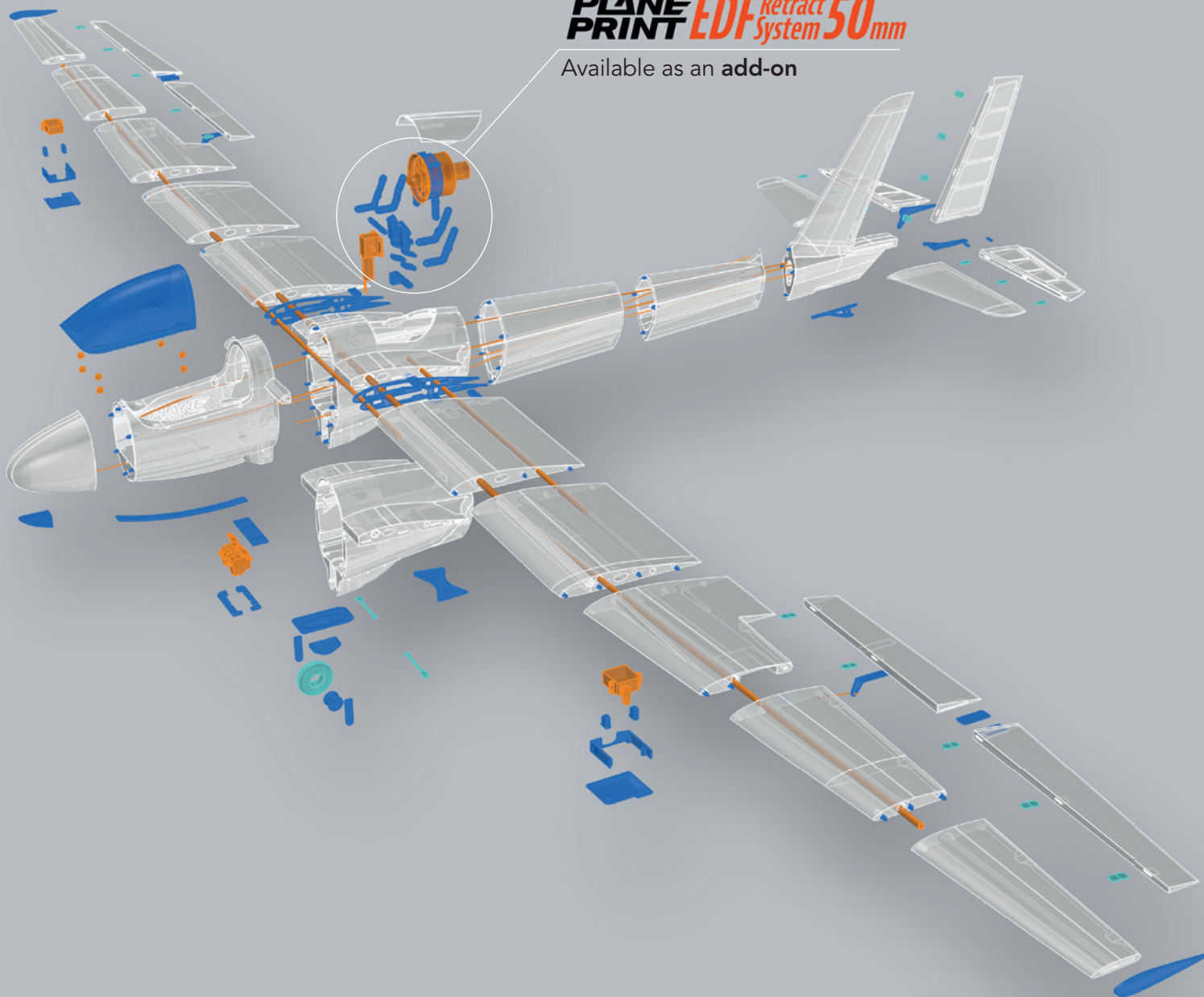
© Copyright info:

The **design** of this aircraft is subject to the copyright of René Marschall
and **PLANEPRINT** and may **not** be used or modified for any other purpose.

PLANEPRINT *Wassmer-Wa22*

PLANEPRINT *EDF* Retract System **50mm**

Available as an **add-on**



 LW-PLA  PLA  TPU  OTHER

RC Components – Glider version

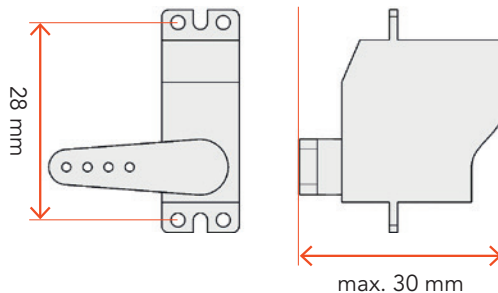
RECEIVER 5 Channel (2 Ailerons, 1 Elevator, 1 Rudder, 1 Tow coupling)

BATTERY A suitable battery for the receiver; it can be a little heavier since it requires lead.

SERVO EXTENSION CABLE 700 mm 2 pieces (Ailerons)

SERVOS 5 pieces like KST Clubman CM509MG V6 or equivalent

Maximum dimensions:



EDF version

ADD-ON **PLANE PRINT** *EDF Retract System 50mm*

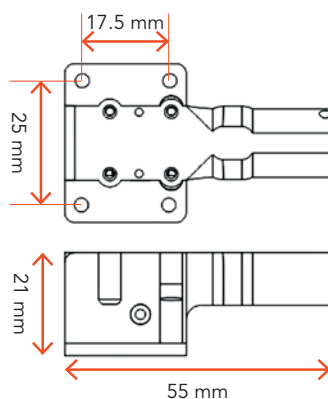
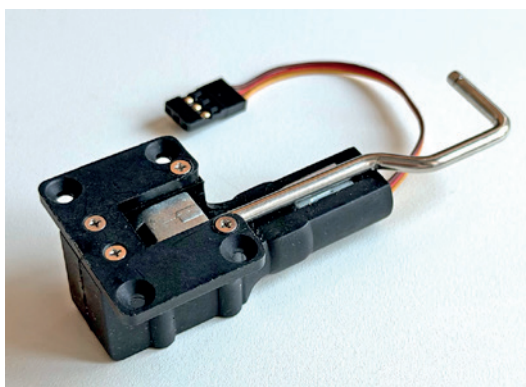
EDF EDF 50 MM – (We use the FMS 4S)

BEC-CONTROLLER Follow the manufacturer's instructions for the EDF

RECEIVER 6 Channel (2 Ailerons, 1 Elevator, 1 Rudder, 1 Retract, 1 Throttle)

BATTERY 4S LiPo Battery, 2300 to 3000 mAh (Ideal weight: 230 grams)

RETRACTION GEAR 1x Servoless Retraction Gear **small**



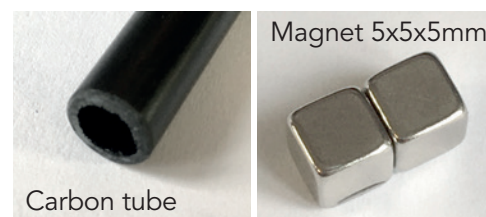
Required accessoires – basic equipment

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

- LW-PLA (**cannot be replaced by PLA!**), ~700 grams
- PLA oder better **Tough PLA**, ~80 grams
- LW-TPU Colorfabb VarioShore (A95 possible), ~40 grams

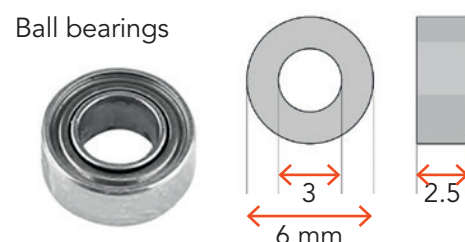
Materials

- CA super glue (thin and medium)
- CA activator
- some M2 tapping screws
(search for: **M2 flat head tapping screw assortment**)
- Metal screw 3*22mm, 1 Piece
- Carbon rod Ø2mm*1000mm, 2 pieces
- Carbon tube Ø8mm*1000mm (inside 6mm), 1 piece
- Carbon tube Ø6mm*1000mm (inside 4mm), 4 pieces
(Cut the tubes to the following lengths (mm):
500, 666, 666, 450, 450)
- Steel wire Ø0.8*1000mm, 3 pieces
- Neodym-Super-Magnet 5x5x5mm, 8 pieces
- Ball bearings 3x6x2.5mm, 2 pieces (optional for better wheel running)
- Cable ties
- Self-adhesive Velcro tape
- some Lead (glider version)



Tools

Cutter knife, small Philips screwdriver, Sandpaper P150, Metal saw, Needle nose pliers





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**.

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

For this model you need the following profiles:

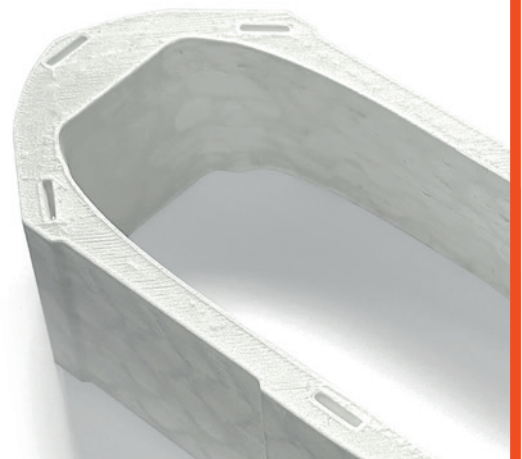


NOTE When printing the PLANEPRINT WASSMER-WA22 you should pay particular attention to a light weight of **each** individual part.

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 60 to 70 % (depending on brand).

Caution: at too high temperatures, LW-PLA becomes brittle and breaks more easily.



PROFILE P1_Fullbody Tough PLA or PLA



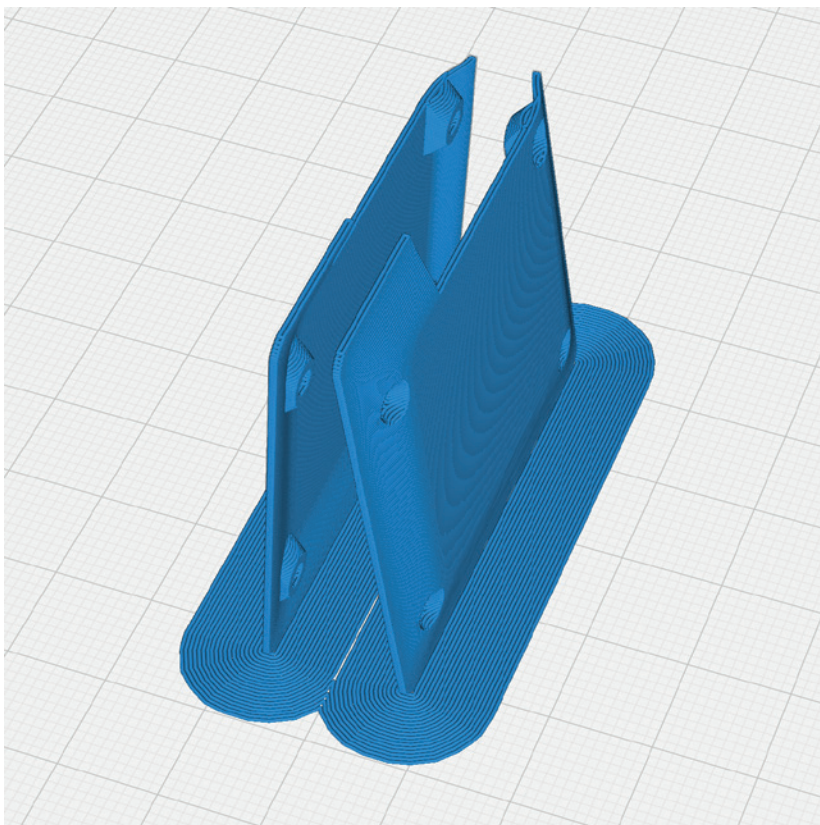
The information about the basic settings you can find on our website at [PRINT](https://www.planeprint.com).
Please note the additional settings for the individual parts!

P1_AIL Covers_wa.stl

MATERIAL PLA, Weight: ~ 5 g

ADDITIONAL SETTINGS

- Set Brim

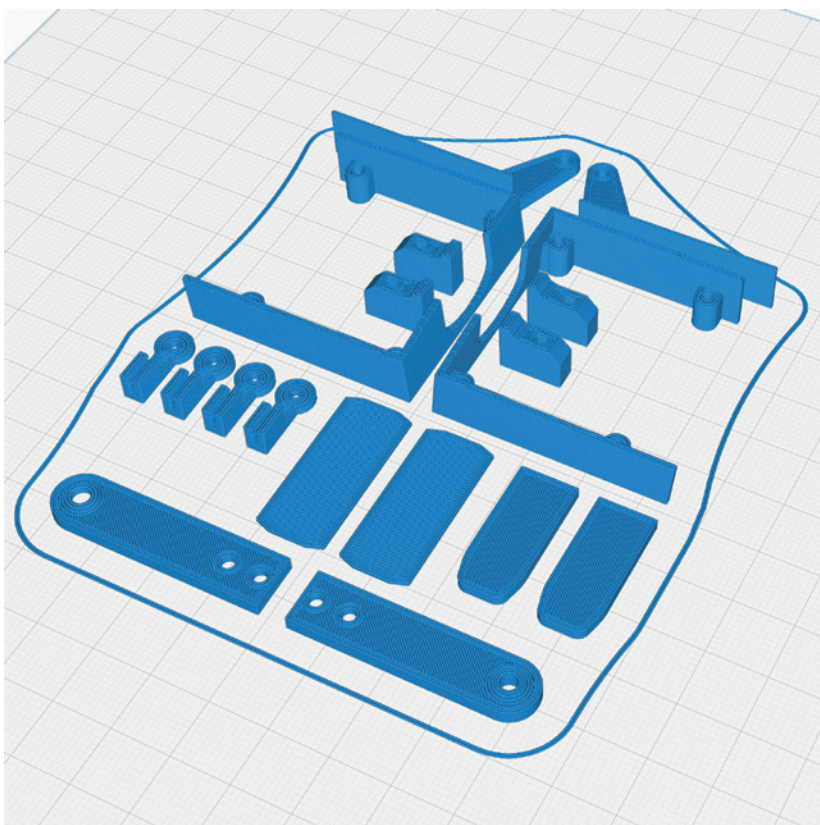


P1_Parts_wa.stl

MATERIAL PLA, Weight: ~ 12 g

ADDITIONAL SETTINGS

None required



PROFILE P1_Fullbody Tough PLA or PLA



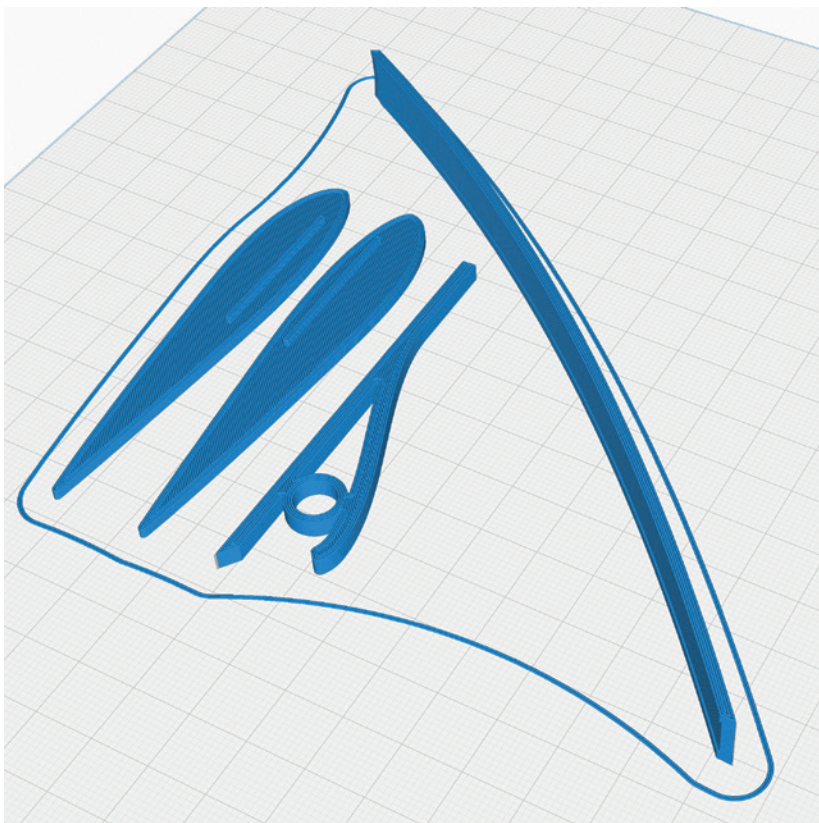
The information about the basic settings you can find on our website at [PRINT](https://www.planeprint.com).
Please note the additional settings for the individual parts!

P1_Skids_wa.stl

MATERIAL PLA, Weight: ~ 10 g

ADDITIONAL SETTINGS

None required

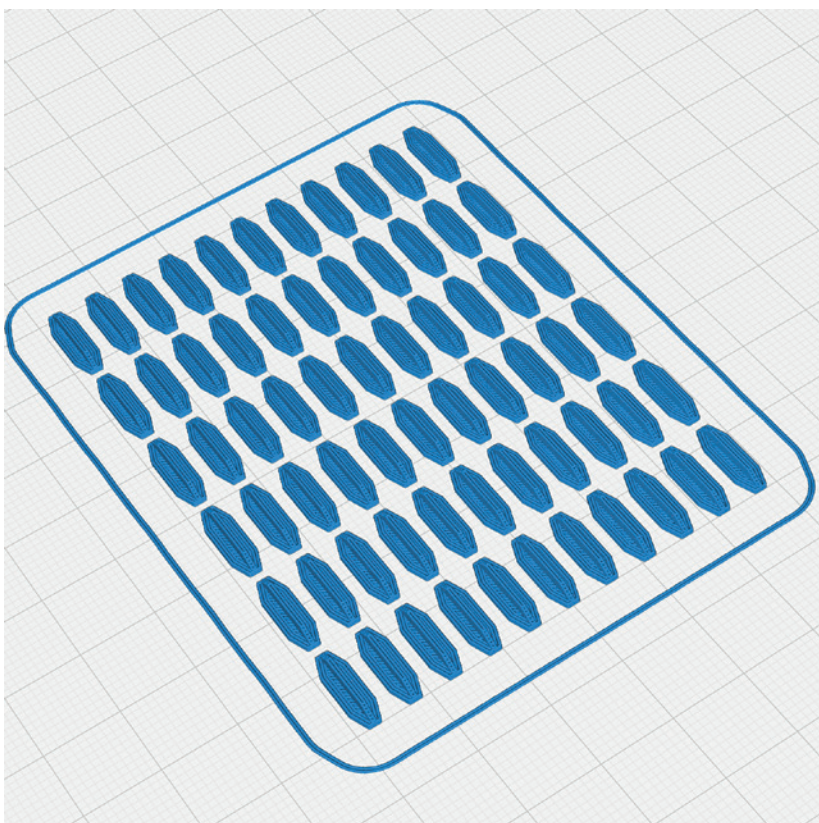


P1_T-Connects_wa.stl

MATERIAL PLA, Weight: ~ 4 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody Tough PLA or PLA



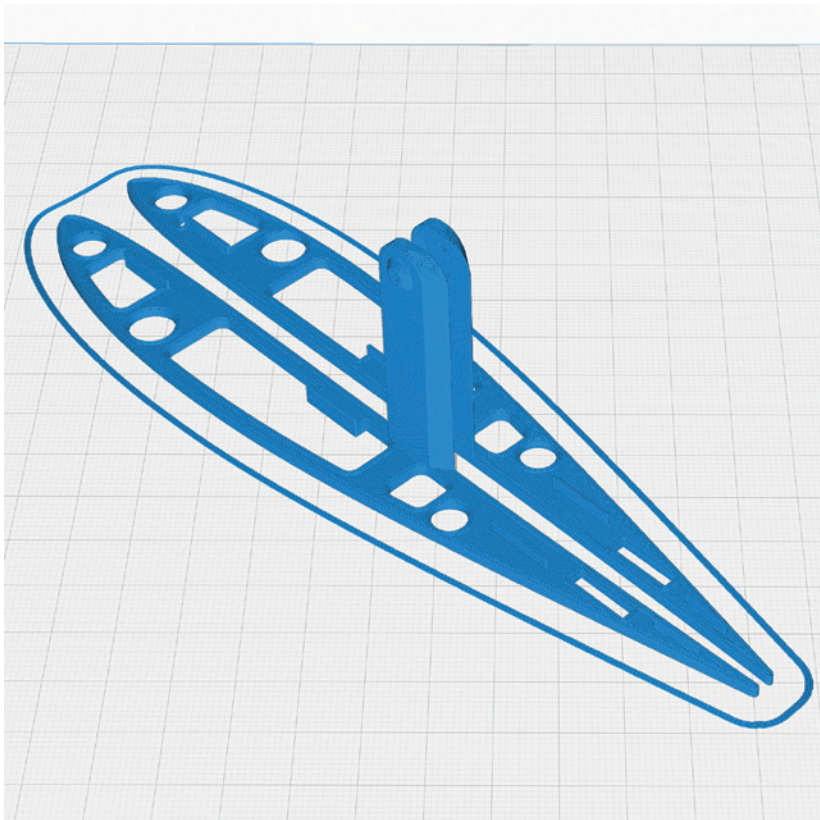
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P2_Protectors FUS_wa.stl

MATERIAL PLA, Weight: ~ 8 g

ADDITIONAL SETTINGS

None required

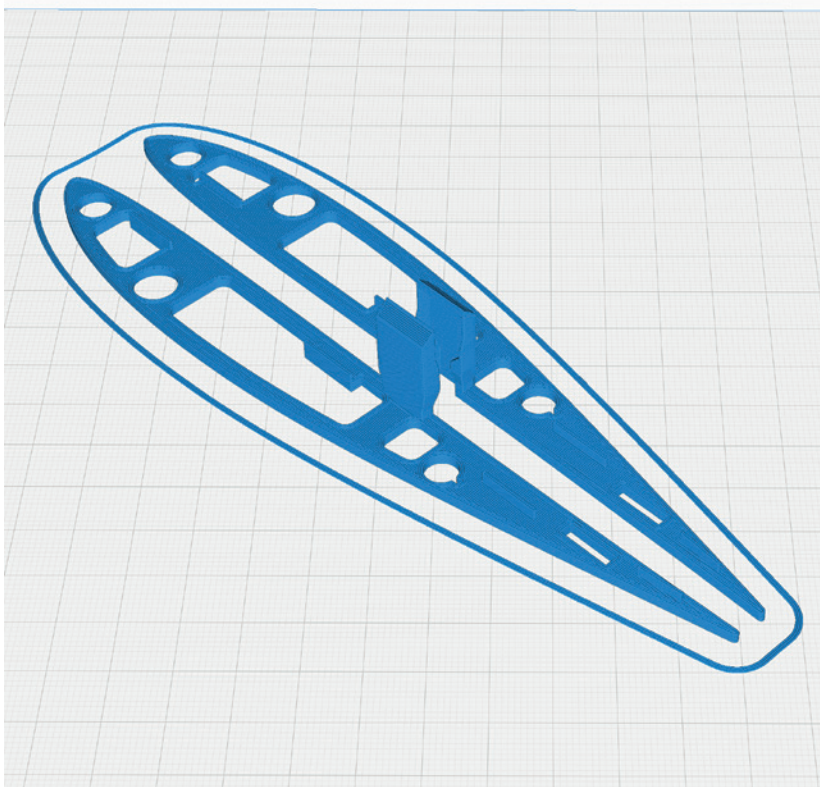


P2_Protectors WING_wa.stl

MATERIAL PLA, Weight: ~ 6 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody Tough PLA or PLA



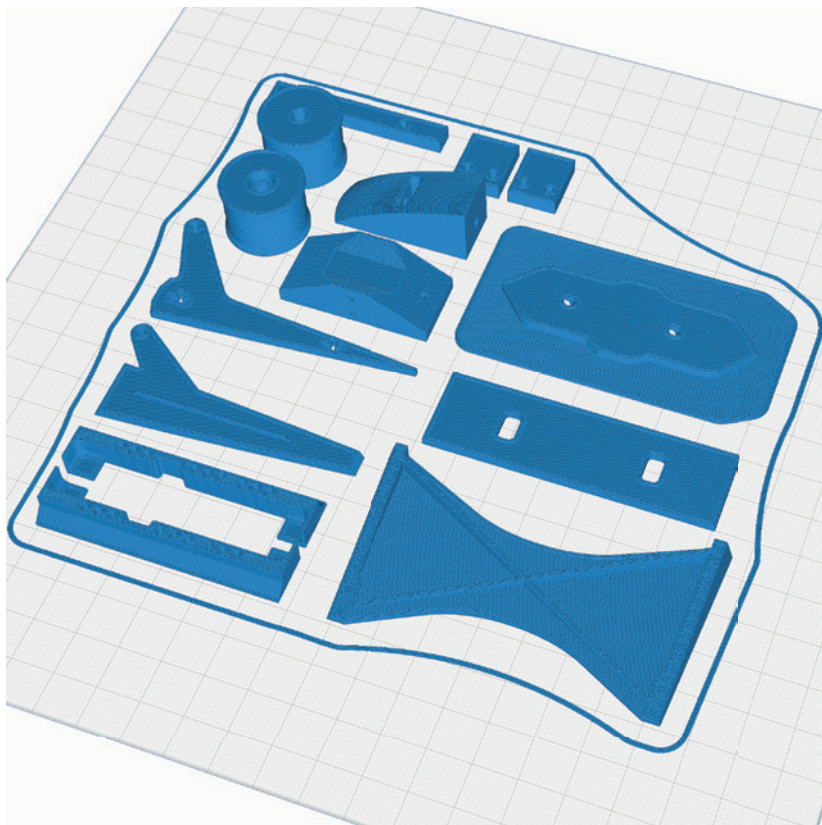
The information about the basic settings you can find on our website at [PRINT](https://www.planeprint.com).
Please note the additional settings for the individual parts!

P2_Parts_wa.stl

MATERIAL PLA, Weight: ~ 28 g

ADDITIONAL SETTINGS

None required



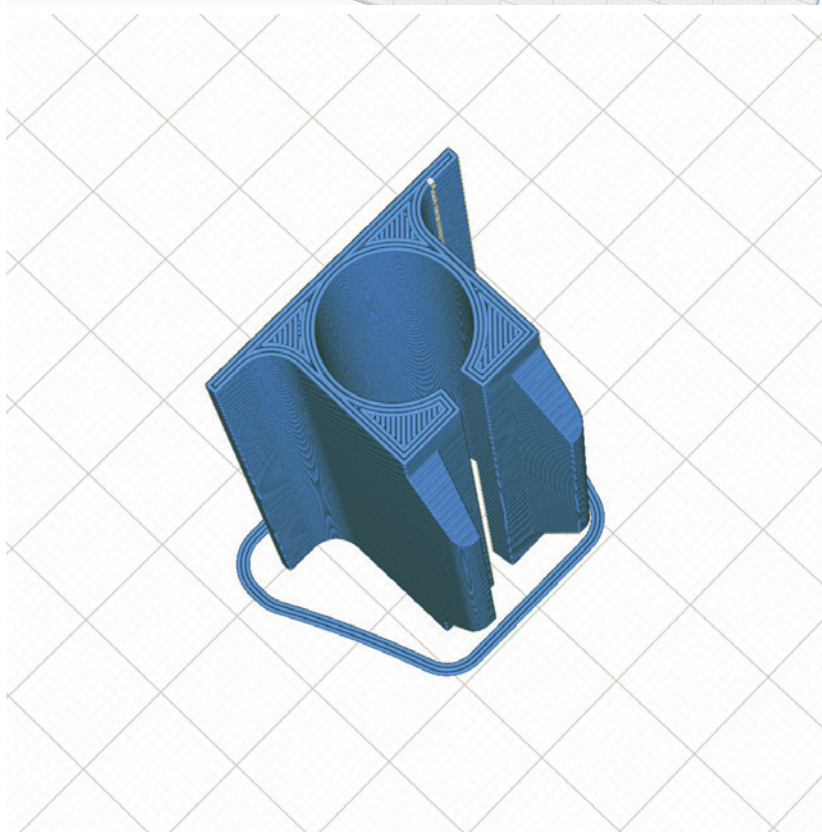
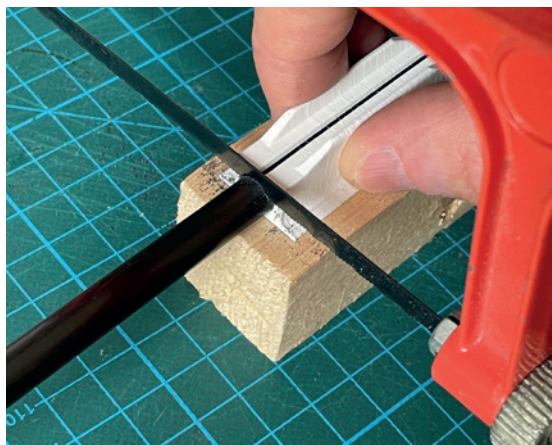
P2_Carbon tool 6mm.stl

MATERIAL PLA

ADDITIONAL SETTINGS

None required

This tool helps to saw the carbon tubes



SPIRALIZE/VASE MODE – Tough PLA or PLA

The following parts must be sliced with the Funktion **Spiralize Outer Contour** (Cura) or **Spiral Vase** (Prusa Slicer). For these parts, only the outer wall (1 line/perimeter) is printed without Z-seam, no top layers.

V_Canopy_wa.stl

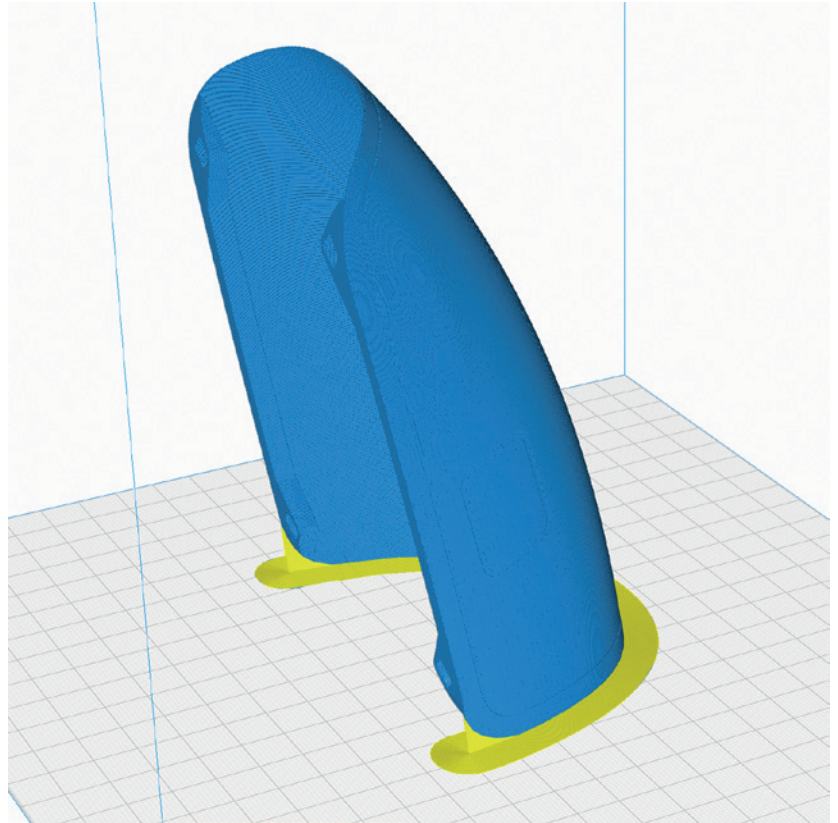
MATERIAL PLA, ~ 22 g

SETTINGS

- Wall Line Count/Perimeters: 1
- Spiralize Outer Contour (Cura)/
Spiral Vase (Prusa)
- Set Brim

TIP If the walls of your print are too thin, you can increase the wall thickness (to 0.5).

Remove the yellow-marked **support** with a pair of scissors or knife.



PROFILE P4_Flex LW TPU (A95/VarioShore)



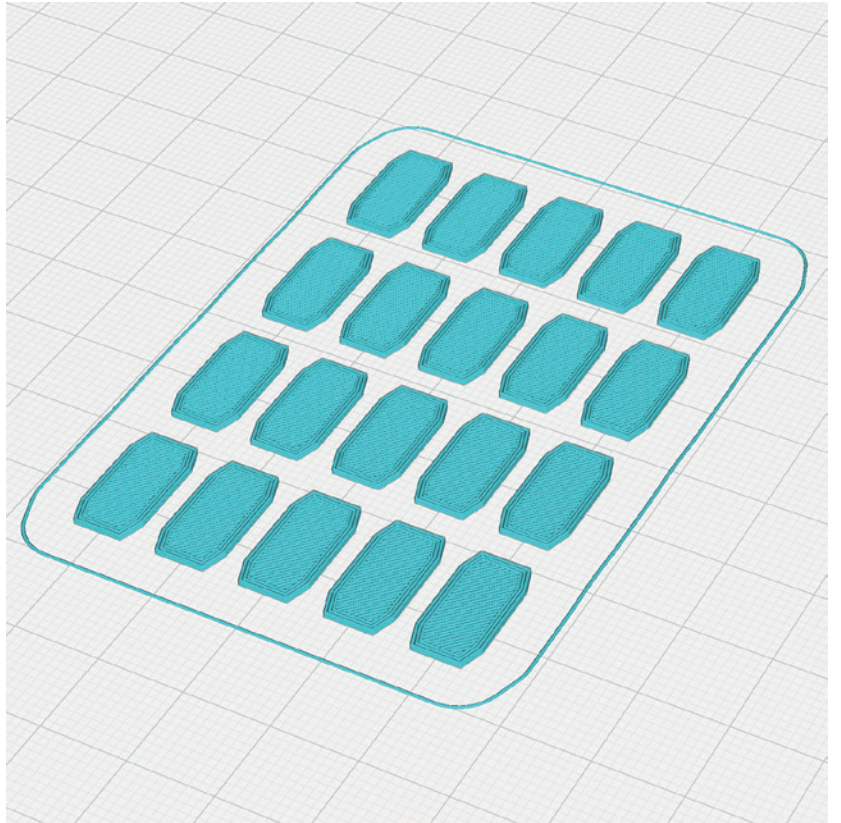
The information about the basic settings you can find on our website at [PRINT](https://www.planeprint.com).
Please note the additional settings for the individual parts!

P4_Hinges_wa.stl

MATERIAL TPU

ADDITIONAL SETTINGS

None required

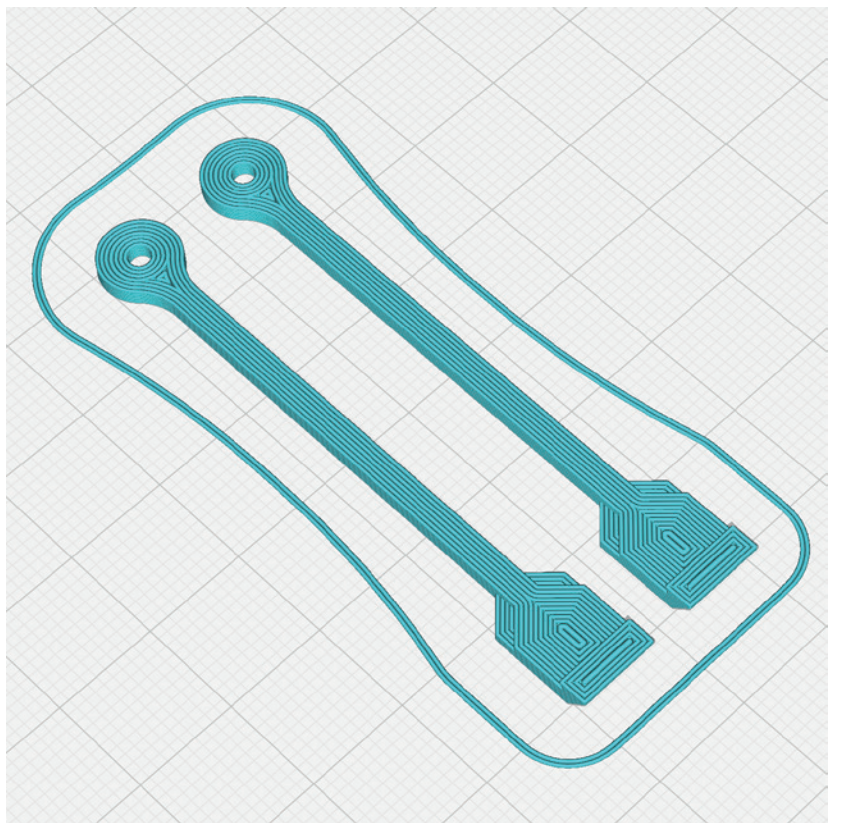


P4_Wing Belts_wa.stl

MATERIAL TPU

ADDITIONAL SETTINGS

- Wall Line Count/Perimeters: 10



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_Tire_wa.stl

MATERIAL VarioShore or TPU A95

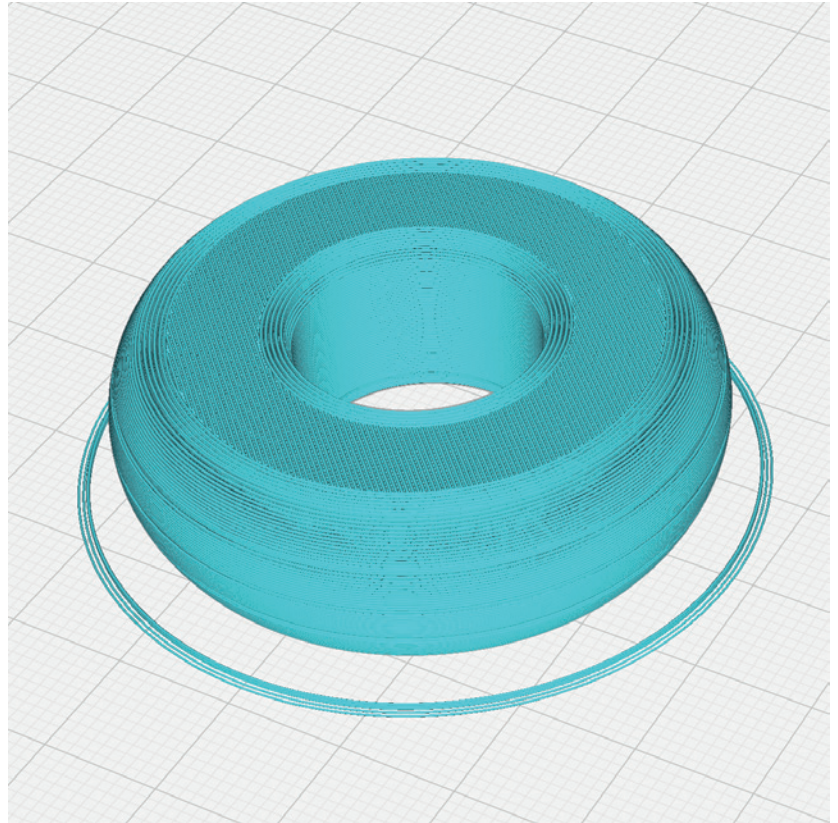
ADDITIONAL SETTINGS

VarioShore with Flow 70 %:

- Wall Line Count/Perimeters: 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 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!

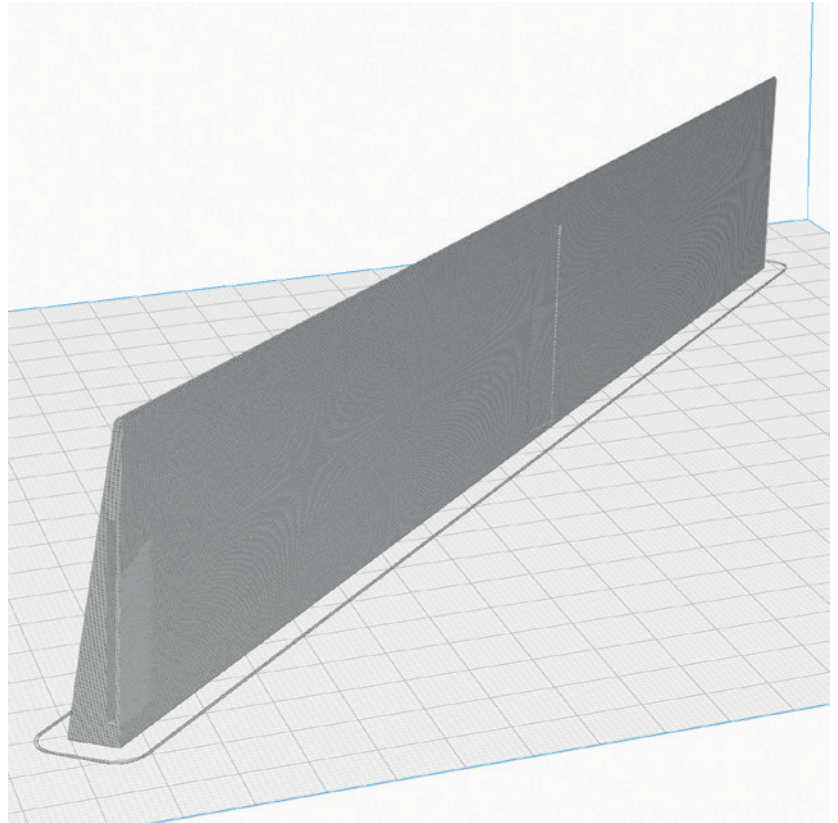
P5_AIL L1_wa.stl and
P5_AIL R1_wa

MATERIAL LW PLA, Weight: ~ 8 g

TIME ~ 1 hour

ADDITIONAL SETTINGS

None required



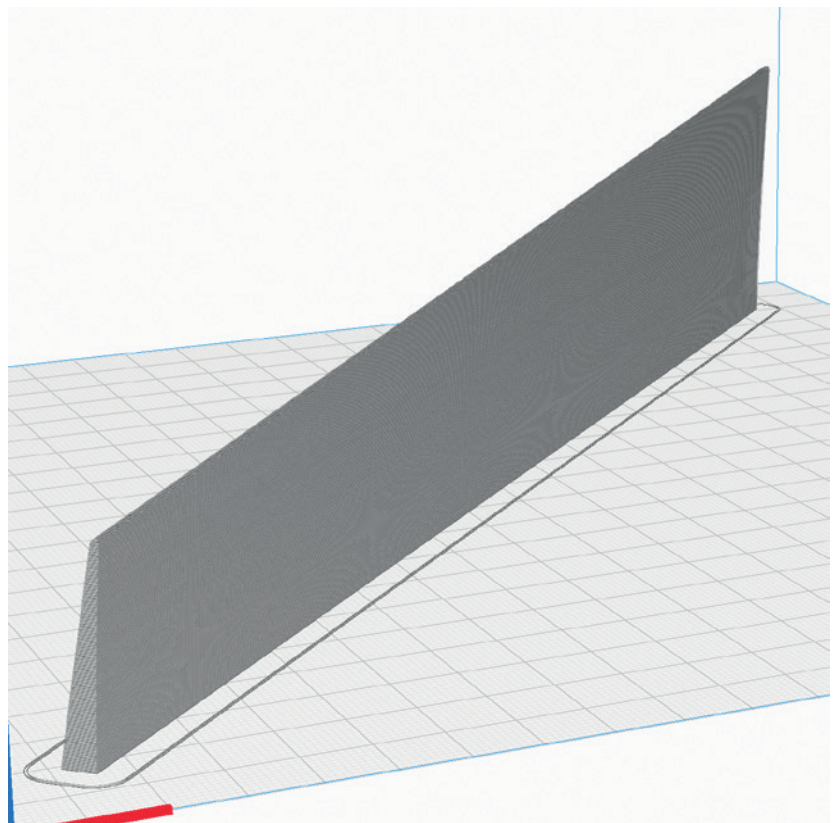
P5_AIL L2_wa.stl and
P5_AIL R2_wa

MATERIAL LW PLA, Weight: ~ 8 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_EDF Cover_wa.stl

MATERIAL LW PLA, Weight: ~ 6 g

TIME ~ 30 minutes

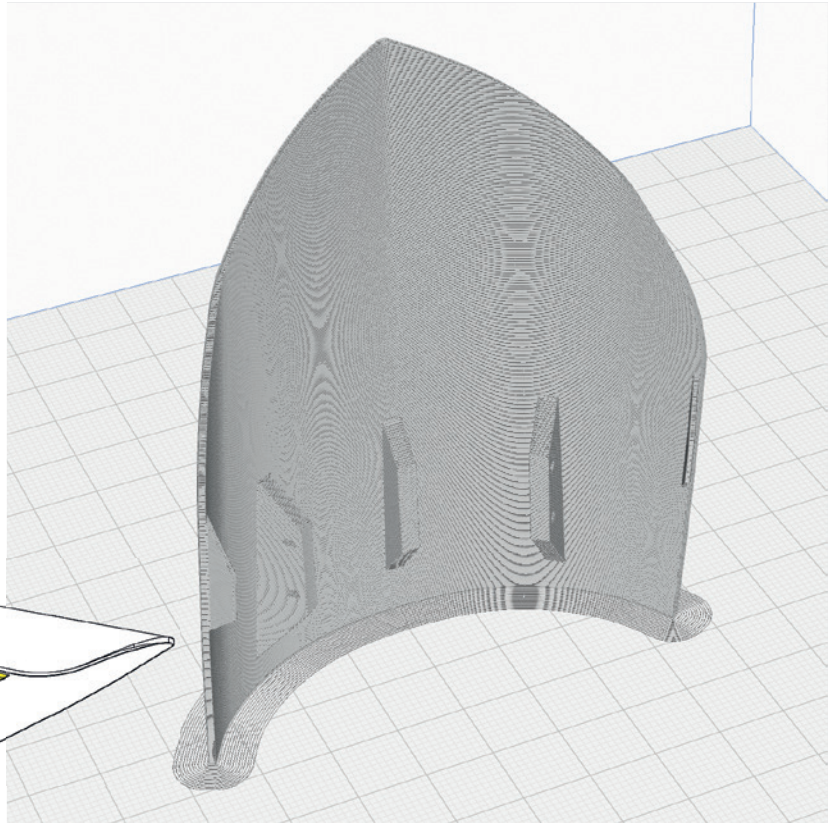
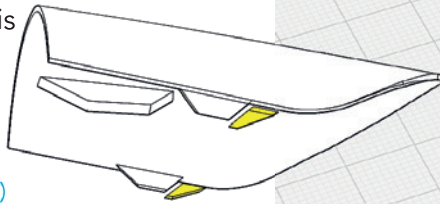
ADDITIONAL SETTINGS

- Set Brim

You'll need this part if you want to equip the Wassmer Wa22 with the **50mm EDF Retract System** (add-on)

CORRECTION

The alignment tabs on this STL are a little too long; you can simply remove these yellow sections or use the new STL (included in manual version 1.1)



P5_Elevator_wa.stl

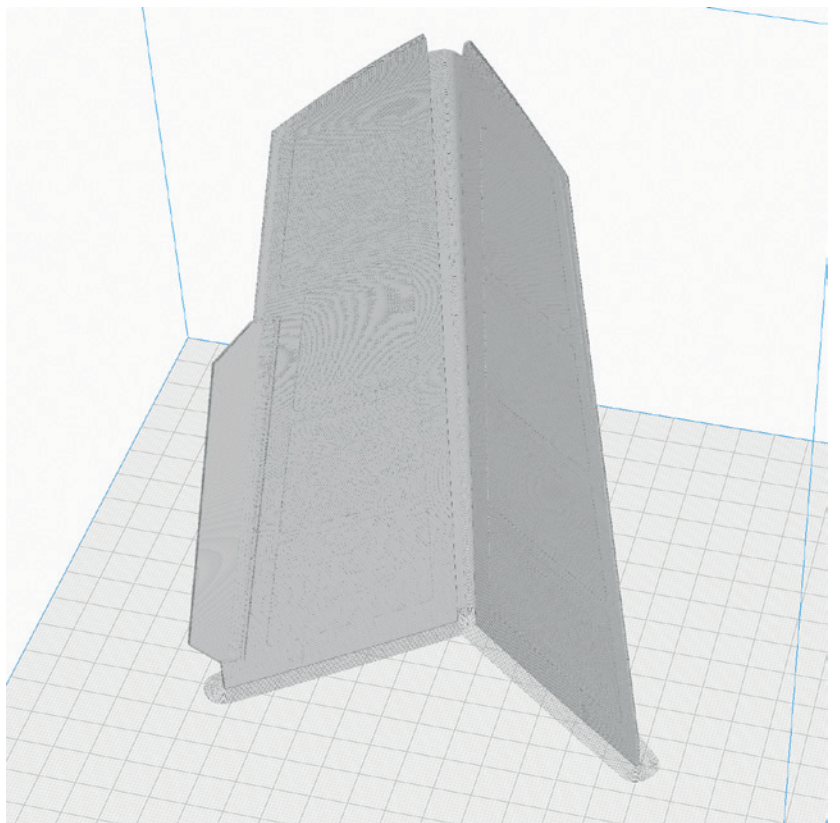
MATERIAL LW PLA, Weight: ~ 18 g

TIME ~ 2 hours

ADDITIONAL SETTINGS

- Set Brim

INFO These parts are also available individually in the OPTIONAL PARTS folder



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!

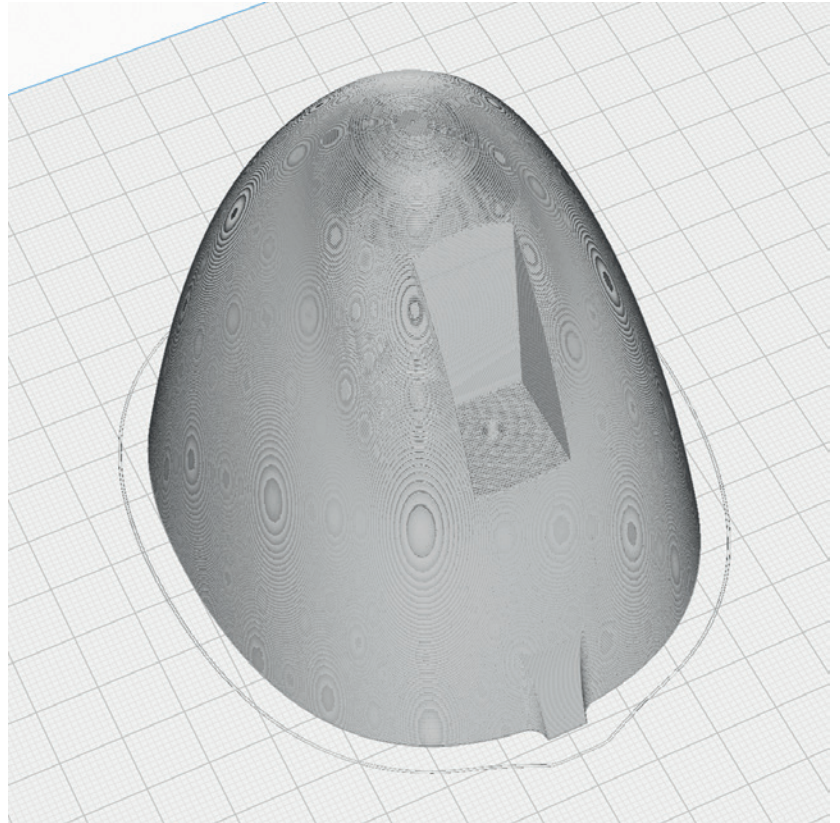
P5_FUS 1_wa.stl

MATERIAL LW PLA, Weight: ~ 16 g

TIME ~ 2 hours

ADDITIONAL SETTINGS

None required



P5_FUS 2_wa.stl

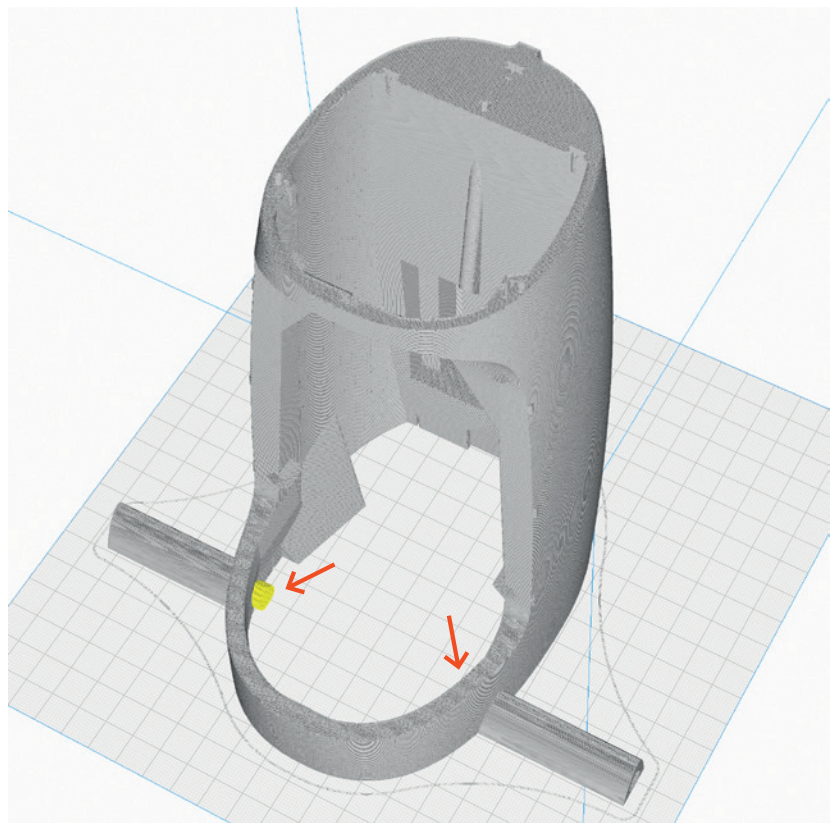
MATERIAL LW PLA, Weight: ~ 53 g

TIME ~ 6 hours

ADDITIONAL SETTINGS

None required

Remove the yellow-marked **support** with a 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 3 EDF_wa.stl

MATERIAL LW PLA, Weight: ~ 82 g

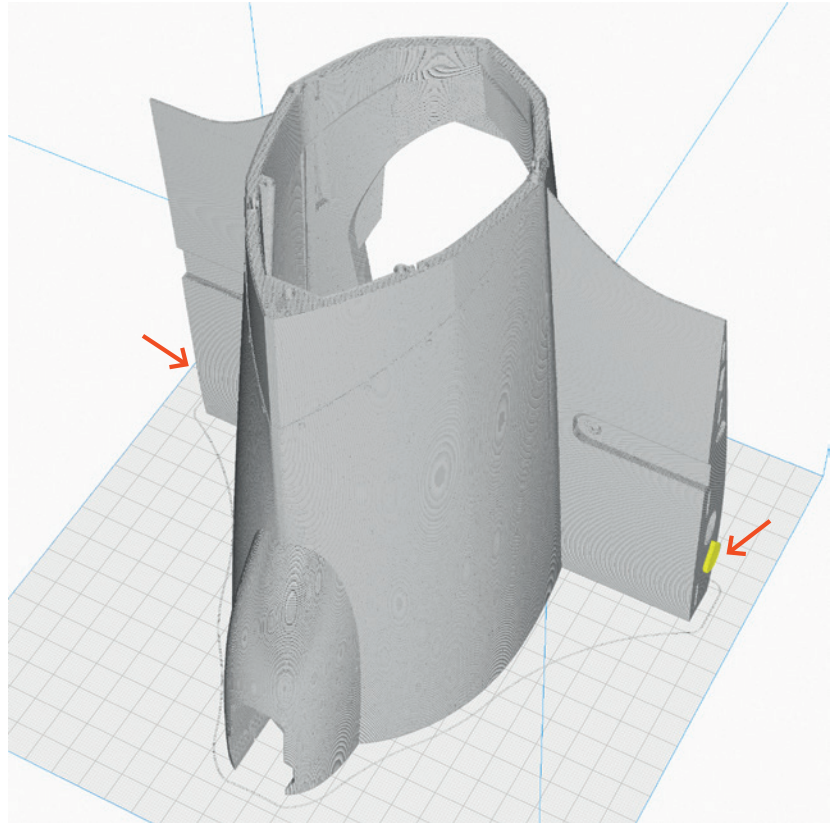
TIME ~ 10 hours

ADDITIONAL SETTINGS

None required

Remove the yellow-marked **support** with a knife.

You'll need this part if you want to equip the Wassmer Wa22 with the **50mm EDF Retract System** (add-on)



P5_FUS 3 Glider_wa.stl

MATERIAL LW PLA, Weight: ~ 80 g

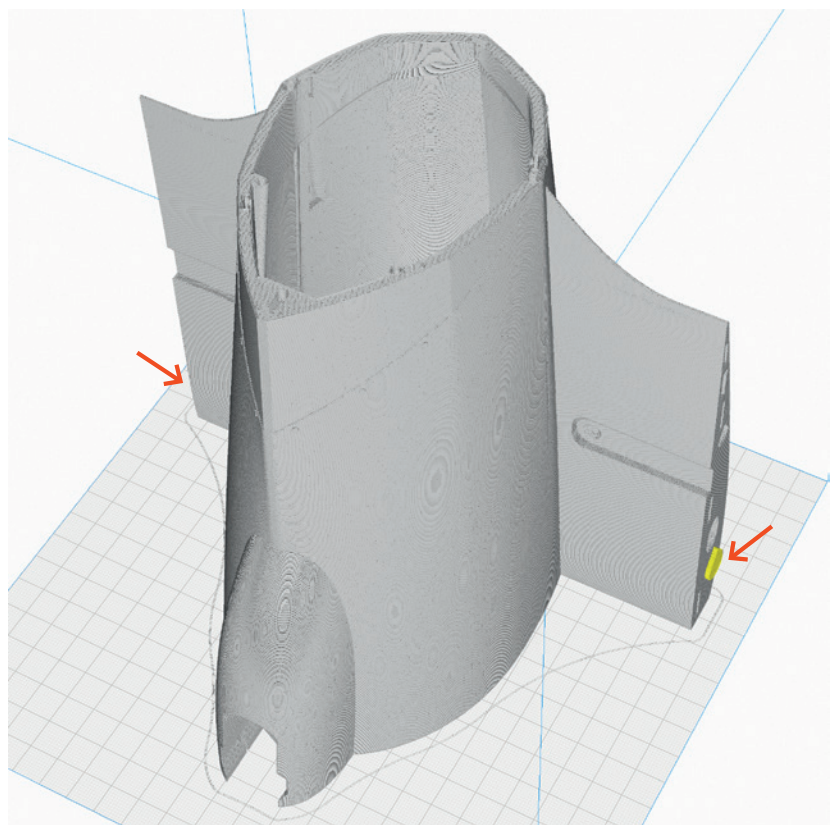
TIME ~ 10 hours

ADDITIONAL SETTINGS

None required

Remove the yellow-marked **support** with a knife.

You'll need this part if you want to build the Wassmer Wa22 as pure Glider with Tow-Coupling



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!

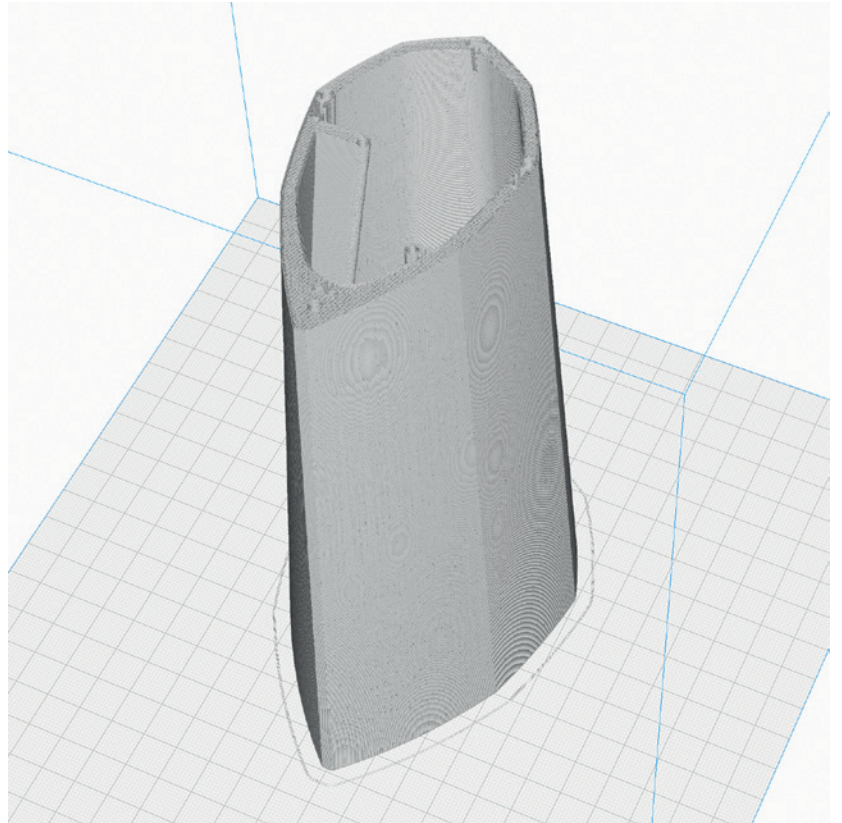
P5_FUS 4_wa.stl

MATERIAL LW PLA, Weight: ~ 38 g

TIME ~ 4 hours 40 minutes

ADDITIONAL SETTINGS

None required



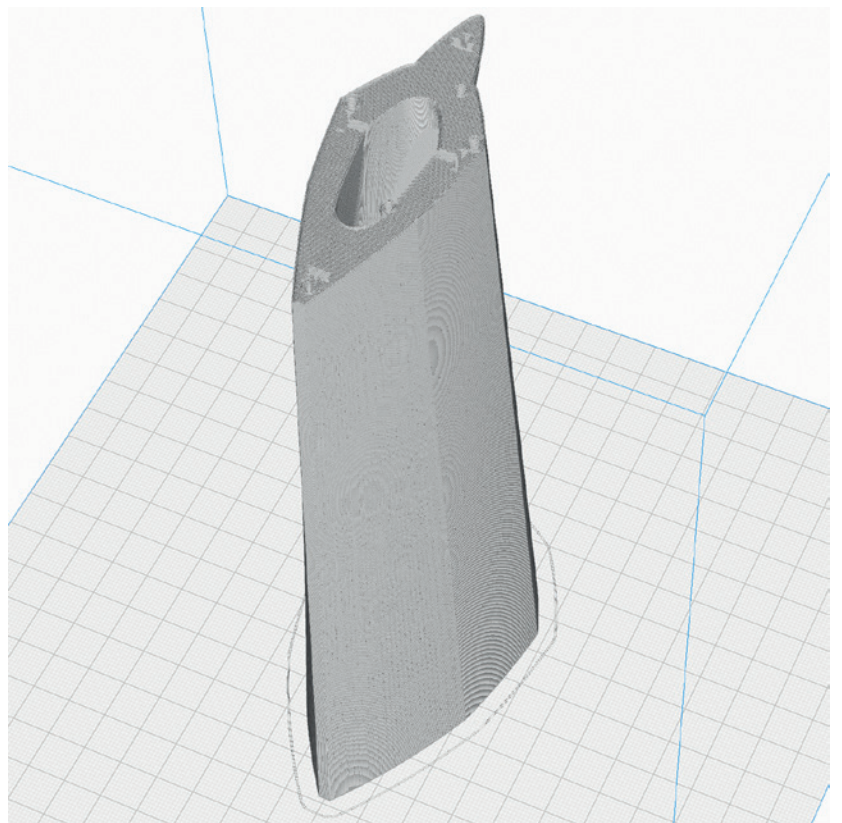
P5_FUS 5_wa.stl

MATERIAL LW PLA, Weight: ~ 30 g

TIME ~ 3 hours 40 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](https://www.planeprint.com).

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!

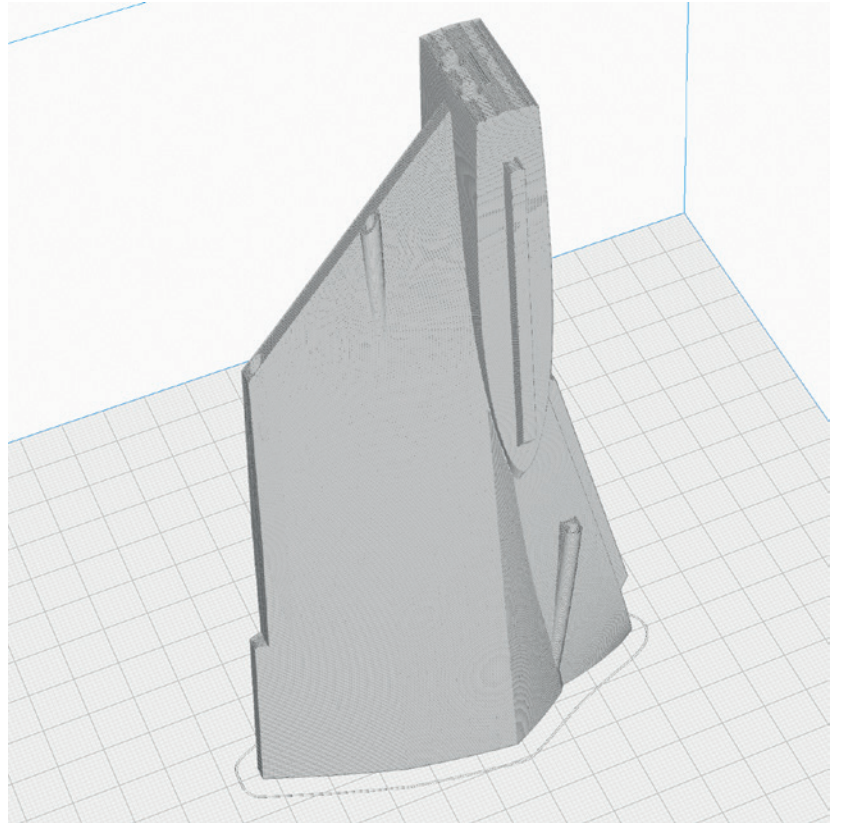
P5_FUS 6_wa.stl

MATERIAL LW PLA, Weight: ~ 16 g

TIME ~ 2 hours

ADDITIONAL SETTINGS

None required



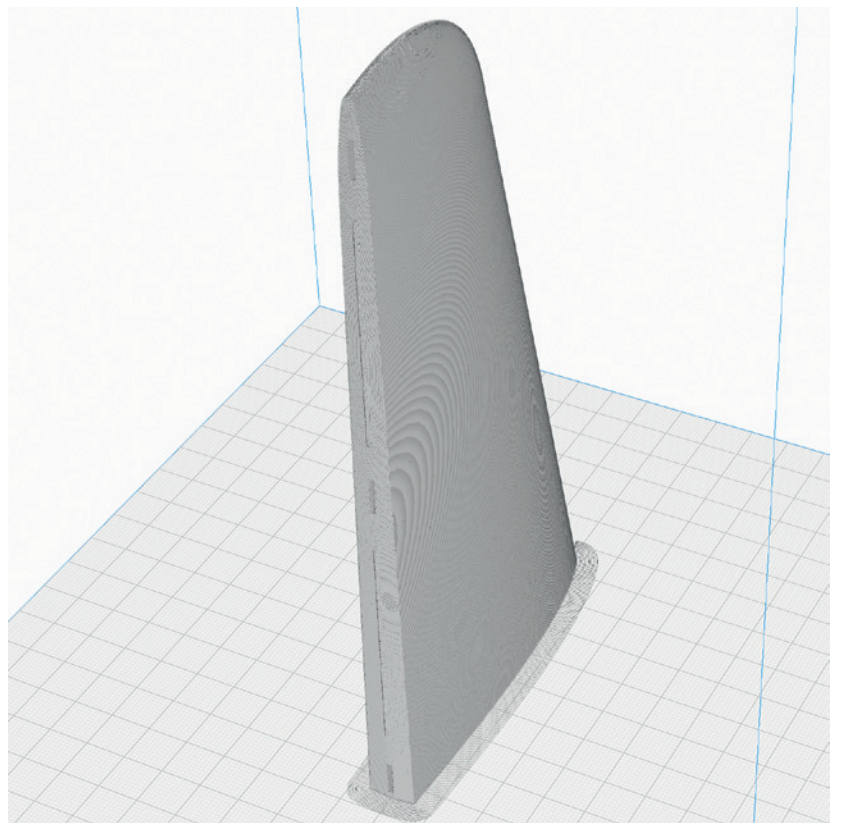
P5_HS L_wa.stl and P5_HS R_wa

MATERIAL LW PLA, Weight: ~ 12 g

TIME ~ 1 hour 15 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!

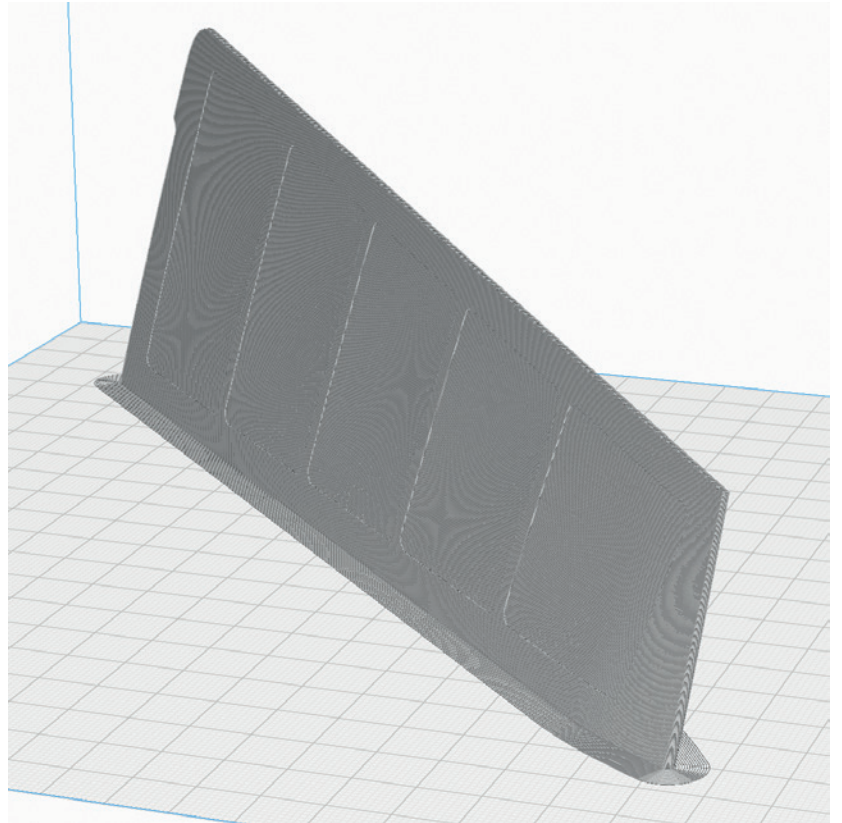
P5_Rudder_wa.stl

MATERIAL LW PLA, Weight: ~ 12 g

TIME ~ 1 hour 20 minutes

ADDITIONAL SETTINGS

None required



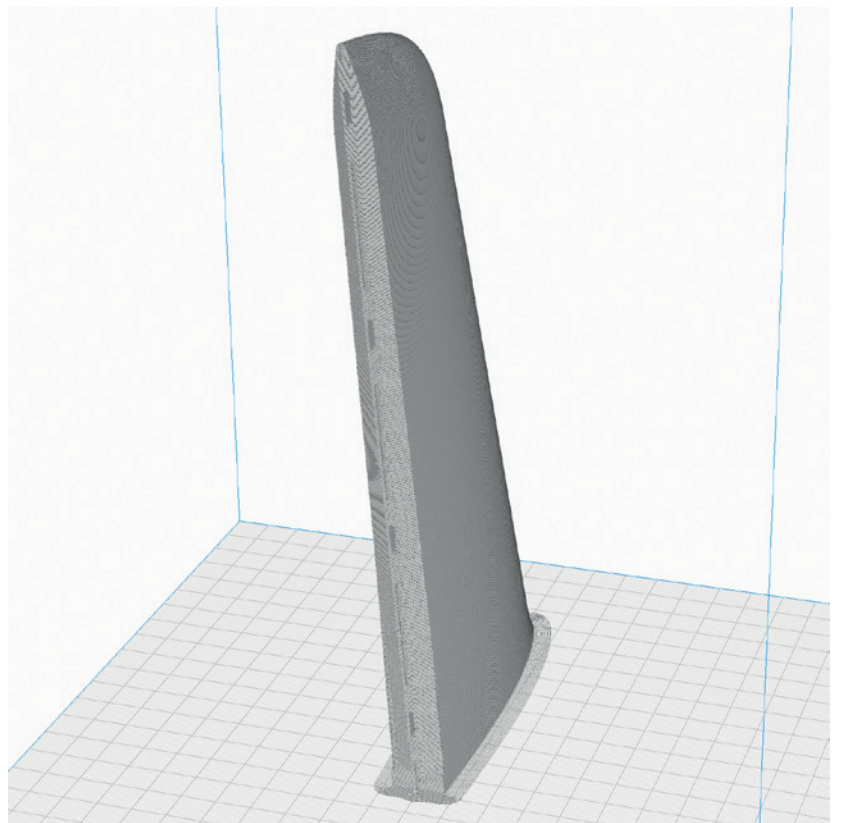
P5_VS_wa.stl

MATERIAL LW PLA, Weight: ~ 18 g

TIME ~ 1 hour 50 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!

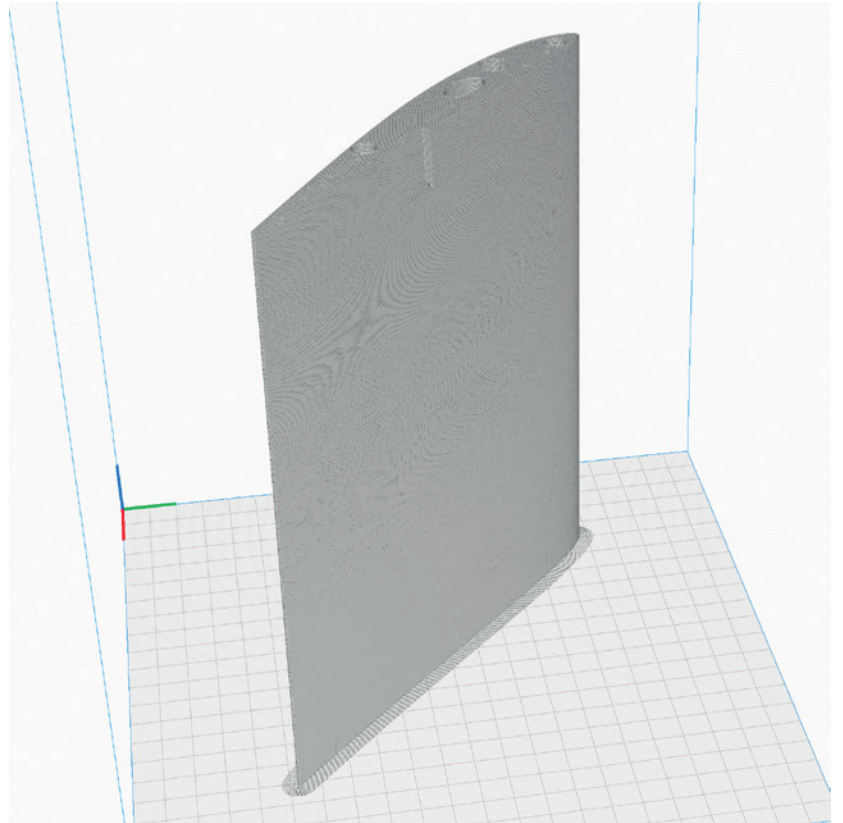
P5_Wing L1_wa.stl and P5_Wing R1_wa

MATERIAL LW PLA, Weight: ~ 42 g

TIME ~ 5 hours 15 minutes

ADDITIONAL SETTINGS

None required



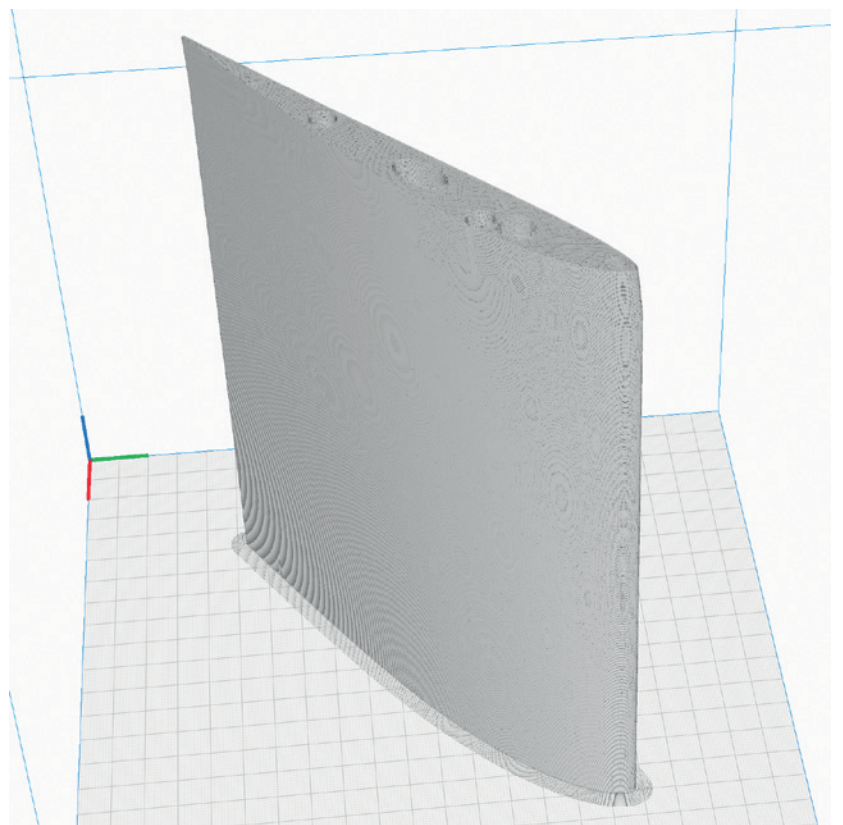
P5_Wing L2_wa.stl and P5_Wing R2_wa

MATERIAL LW PLA, Weight: ~ 41 g

TIME ~ 5 hours

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!

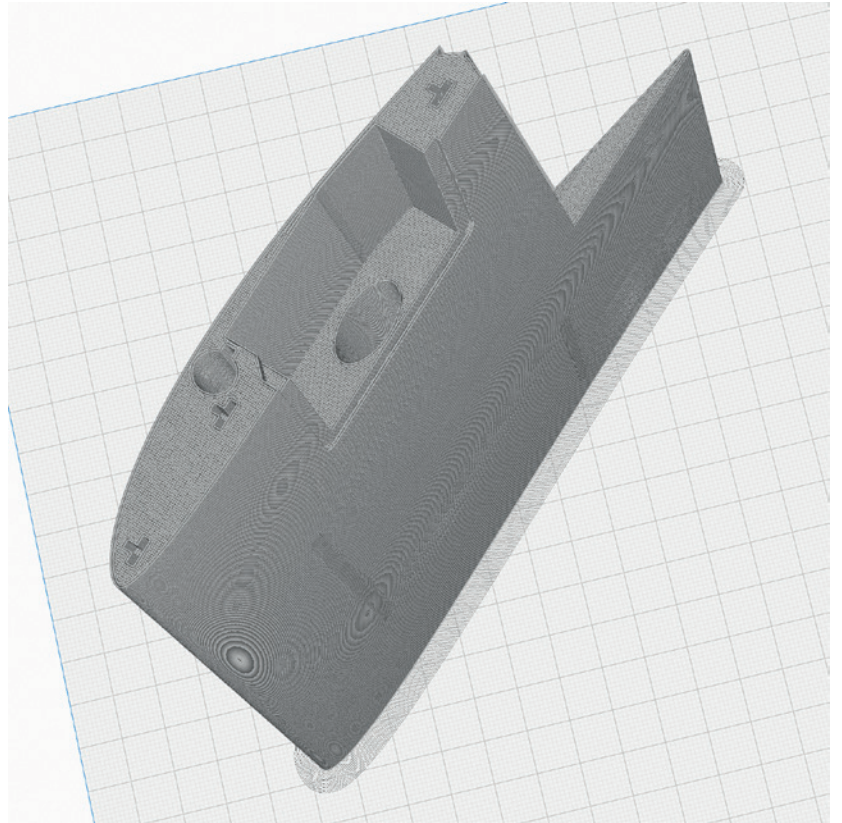
P5_Wing L3_wa.stl and P5_Wing R3_wa

MATERIAL LW PLA, Weight: ~ 32 g

TIME ~ 3 hours 50 minutes

ADDITIONAL SETTINGS

None required



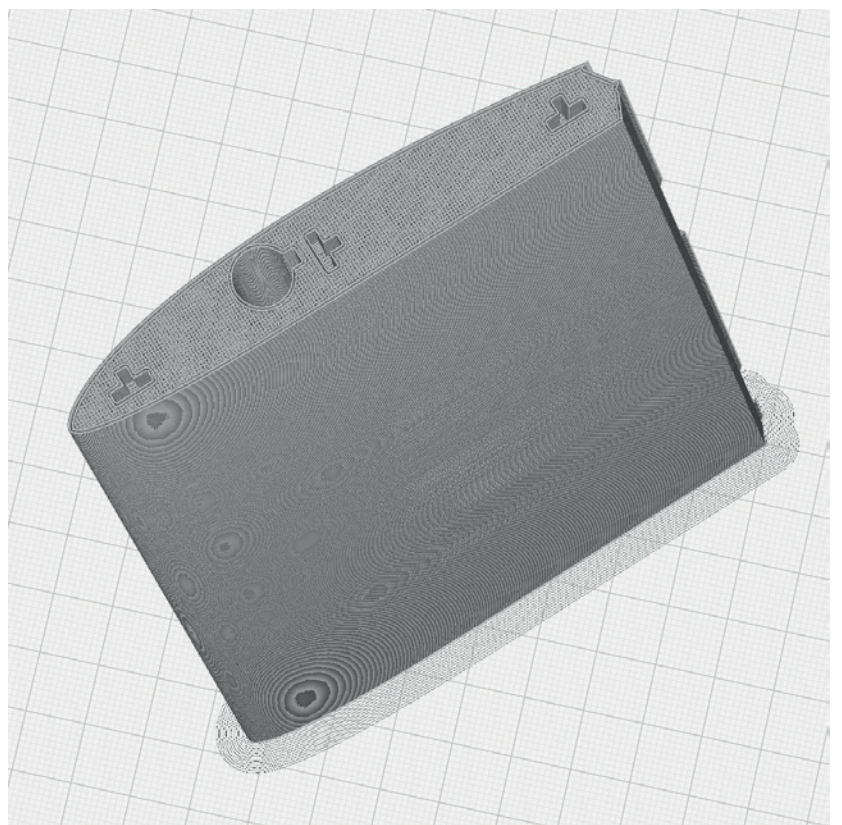
P5_Wing L4_wa.stl and P5_Wing R4_wa

MATERIAL LW PLA, Weight: ~ 19 g

TIME ~ 2 hours 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!

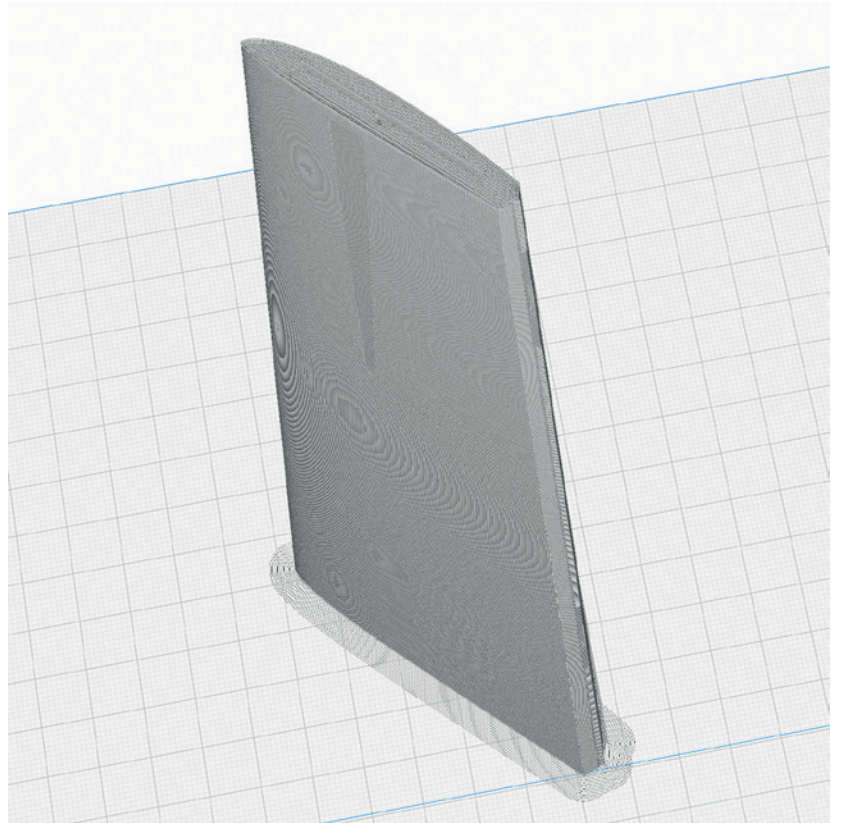
P5_Wing L5_wa.stl **and**
P5_Wing R5_wa

MATERIAL LW PLA, Weight: ~ 12 g

TIME ~ 1 hour 30 minutes

ADDITIONAL SETTINGS

None required



Basic Information:

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.

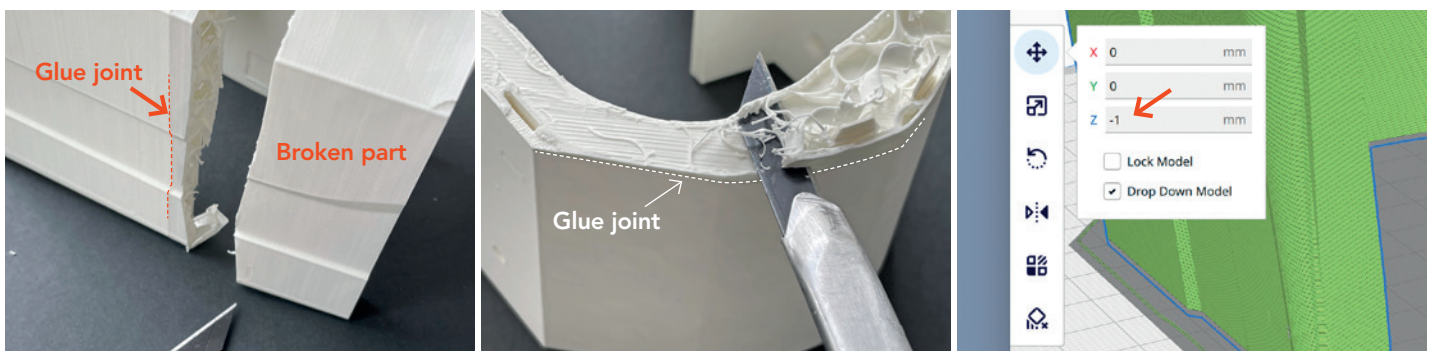
After assembly, **align the two parts exactly** and wipe off the excess CA glue from the surface with a cloth. Now spray with activator spray along the gluing surface and carefully press the parts together.

- 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.

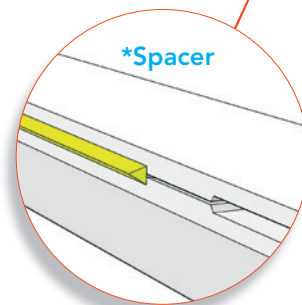
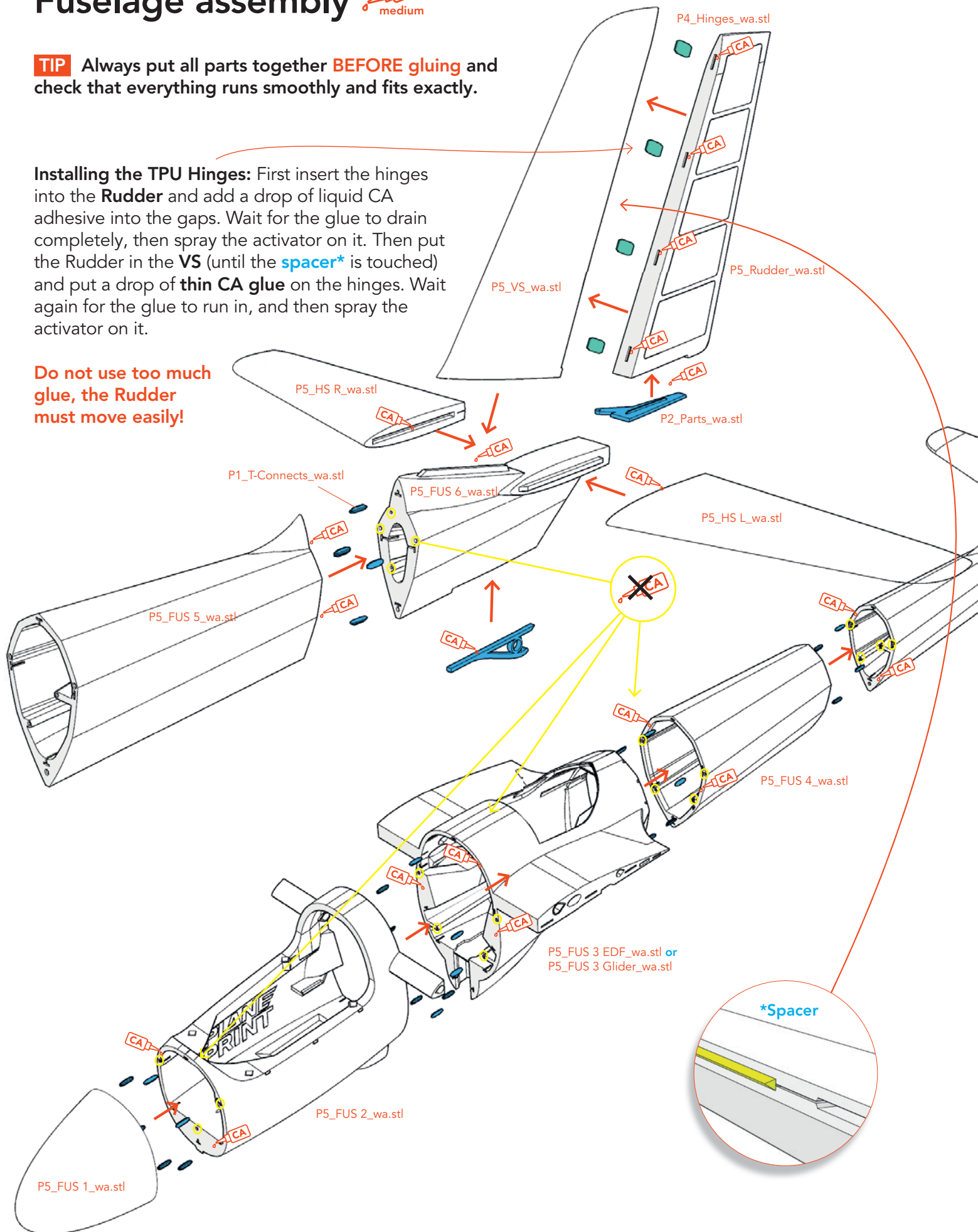


Fuselage assembly

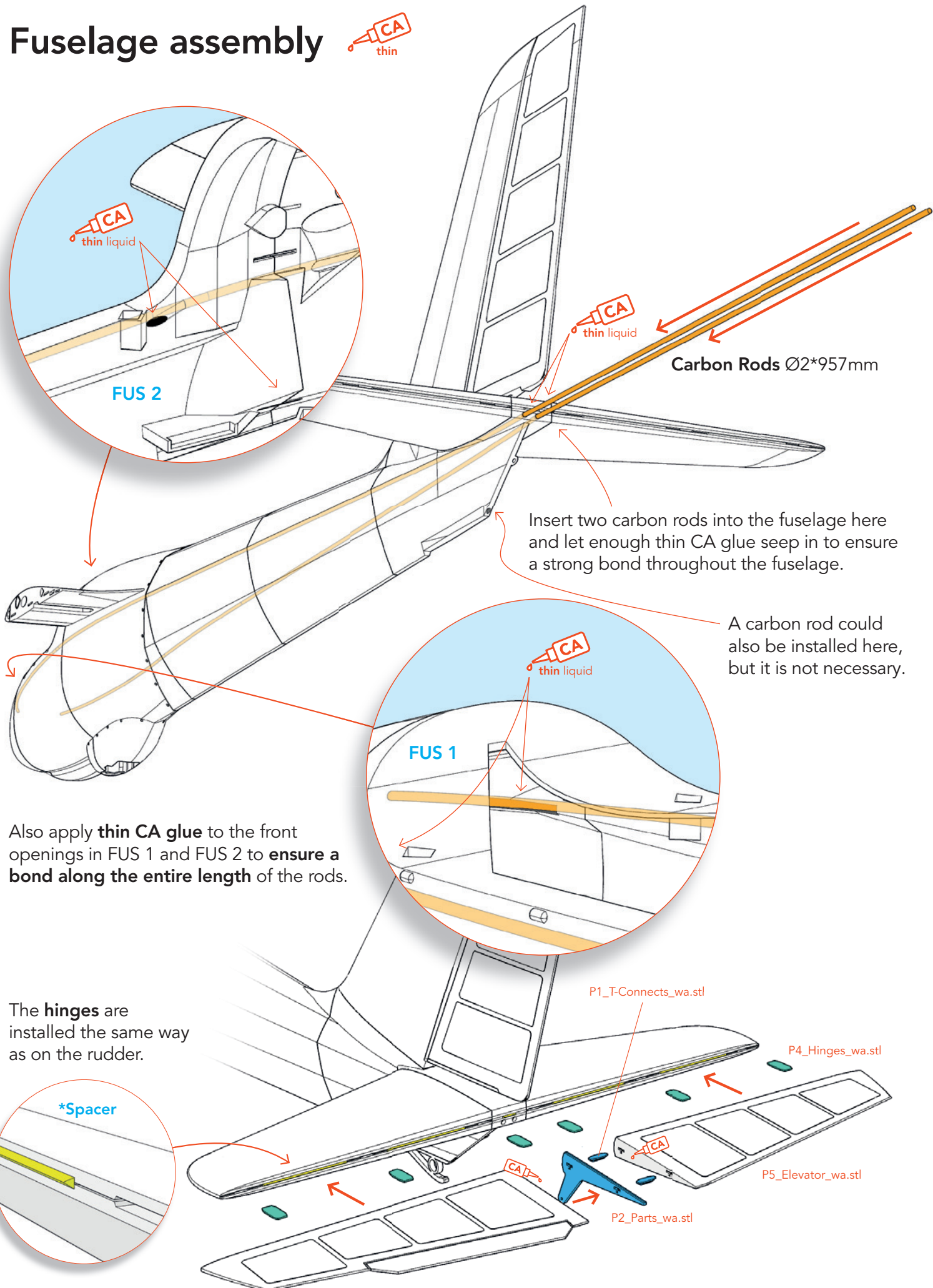
TIP Always put all parts together **BEFORE** gluing and check that everything runs smoothly and fits exactly.

Installing the TPU Hinges: First insert the hinges into the **Rudder** and add a drop of liquid CA adhesive into the gaps. Wait for the glue to drain completely, then spray the activator on it. Then put the Rudder in the **VS** (until the **spacer*** is touched) 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.

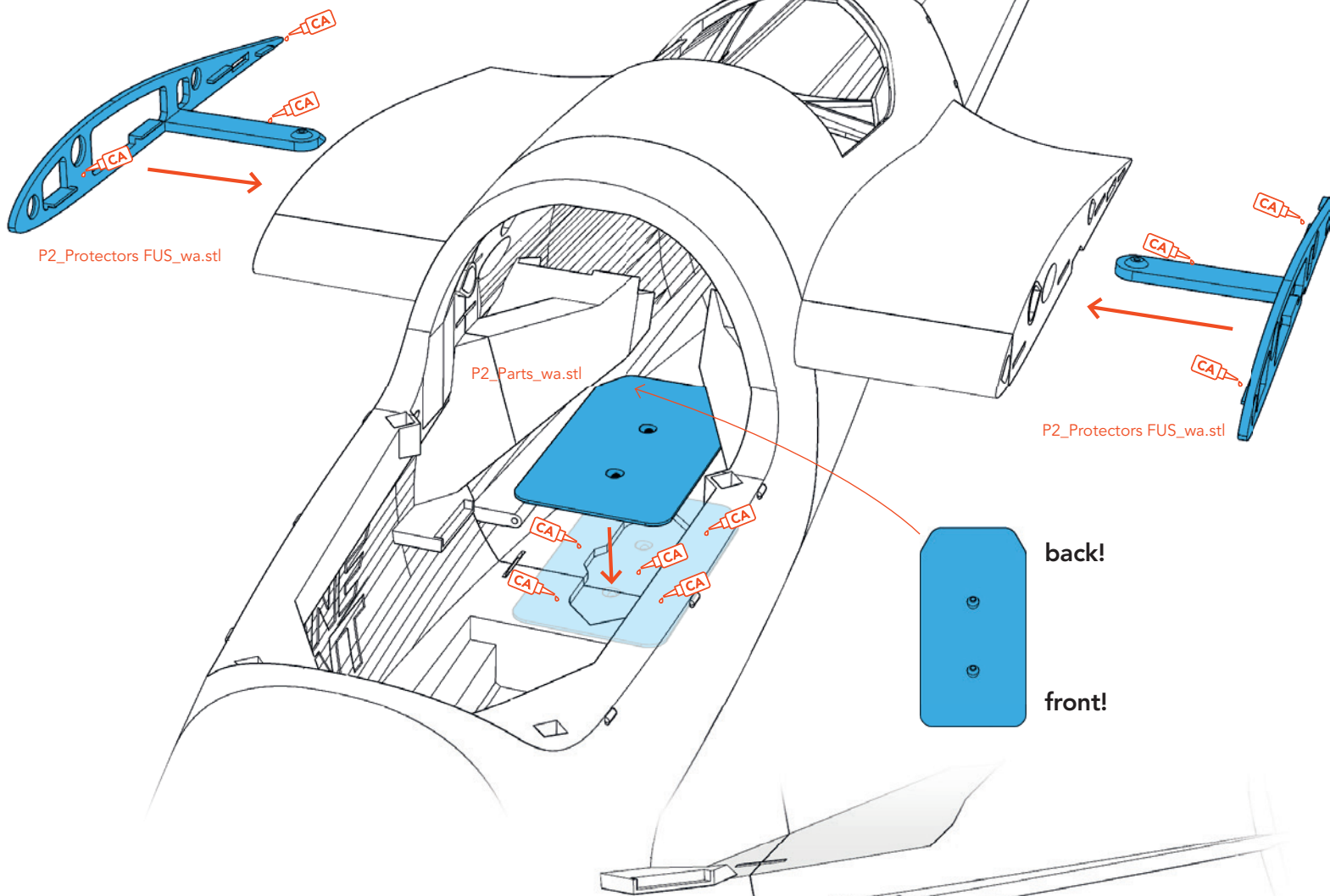
Do not use too much glue, the Rudder must move easily!



Fuselage assembly



Fuselage assembly

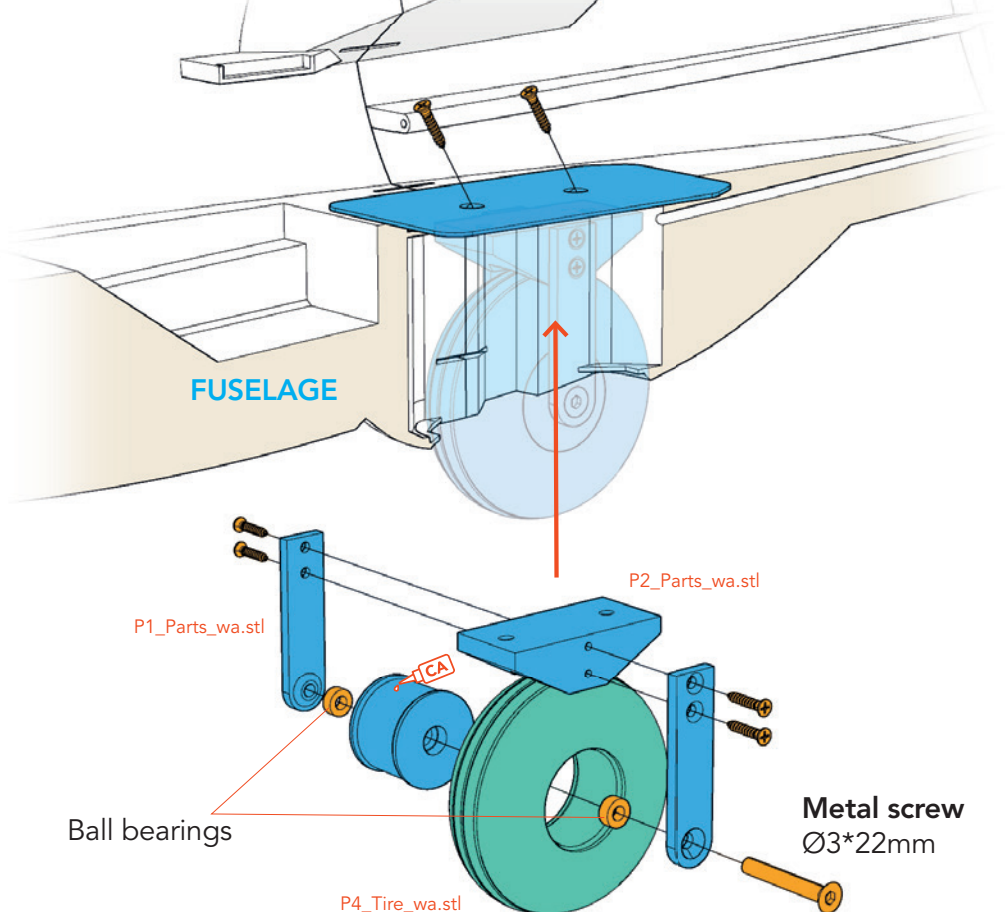


Wheel assembly

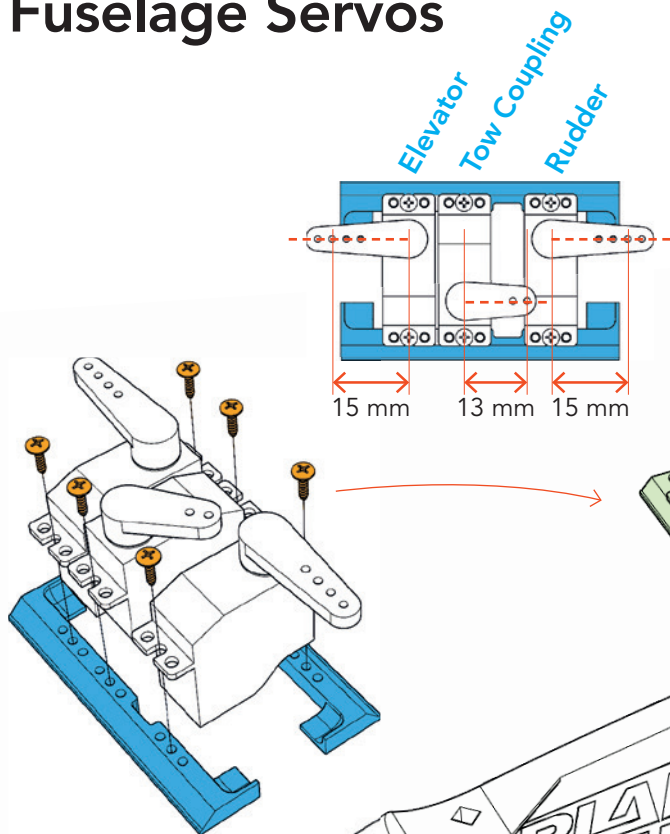
The wheel can be disassembled and easily replaced if damaged.

There are **two versions of the rim**: one with recesses for **ball bearings** (**recommended**) and one without.

We **recommend** the version with **ball bearings**, as they prevent the PLA from softening due to frictional heat and causing the wheel to jam. In addition, the rolling resistance is significantly lower.

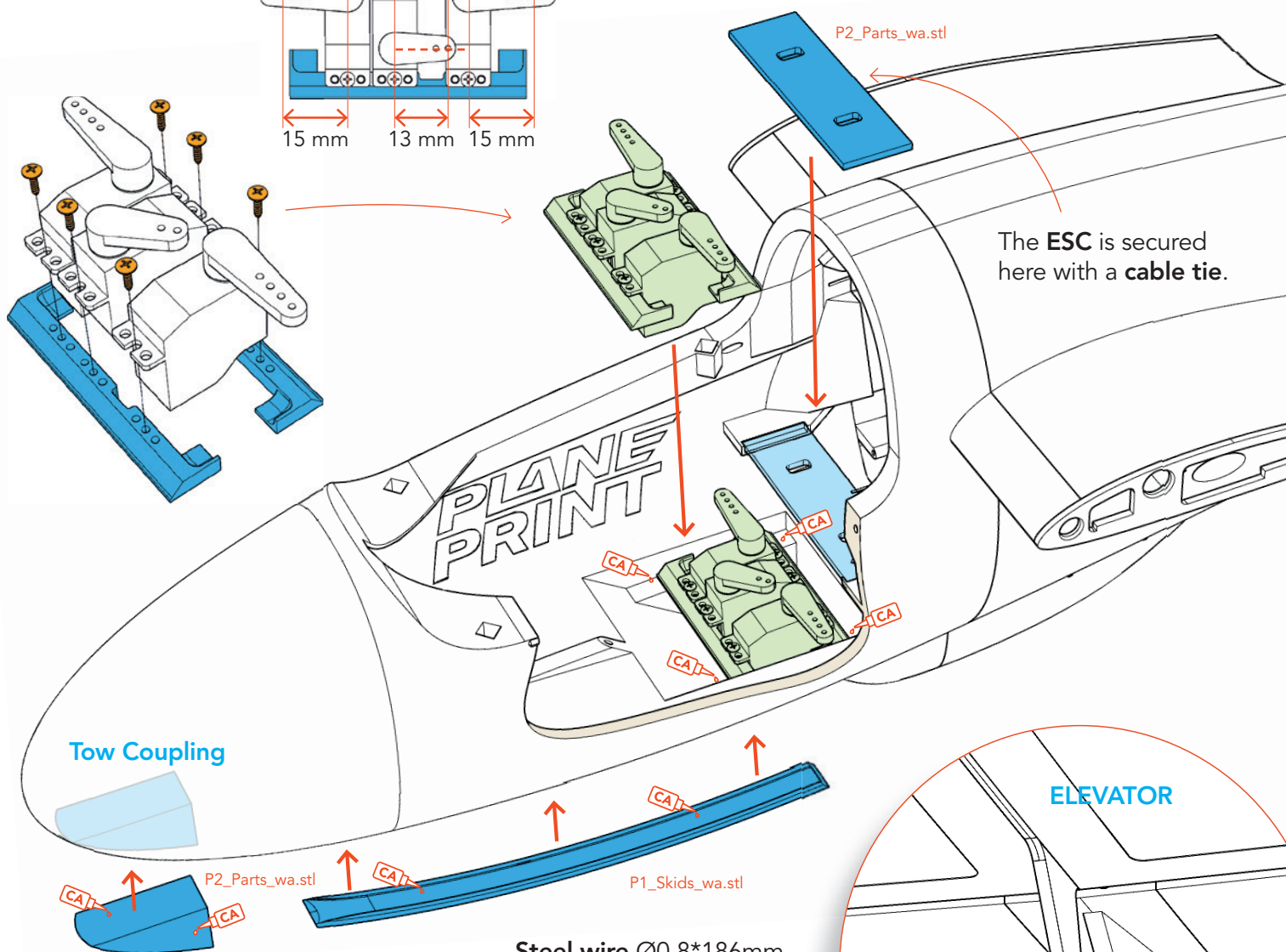


Fuselage Servos



Install the servos as shown left (if you don't need a tow coupling, you can omit the middle servo).

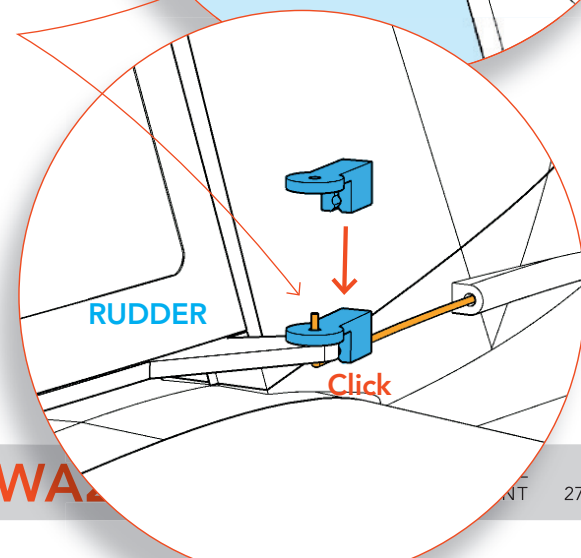
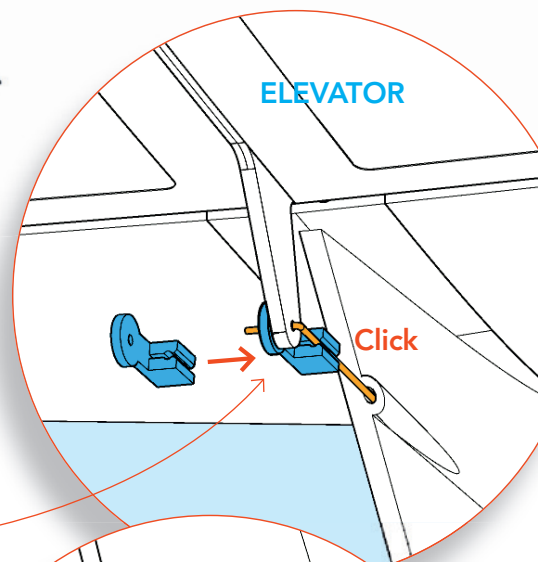
The levers are in the **center position**.
The levers must **not collide** in any position!



Steel wire $\varnothing 0.8 \times 186 \text{ mm}$

Attach the $\varnothing 0.8 \text{ mm}$ steel wires to the servo levers as shown and set the servos to zero. Then bend the wire at the rear of the rudder and elevator so that they are in the neutral position. Next, clip the clips onto the wire and secure it with a drop of glue.

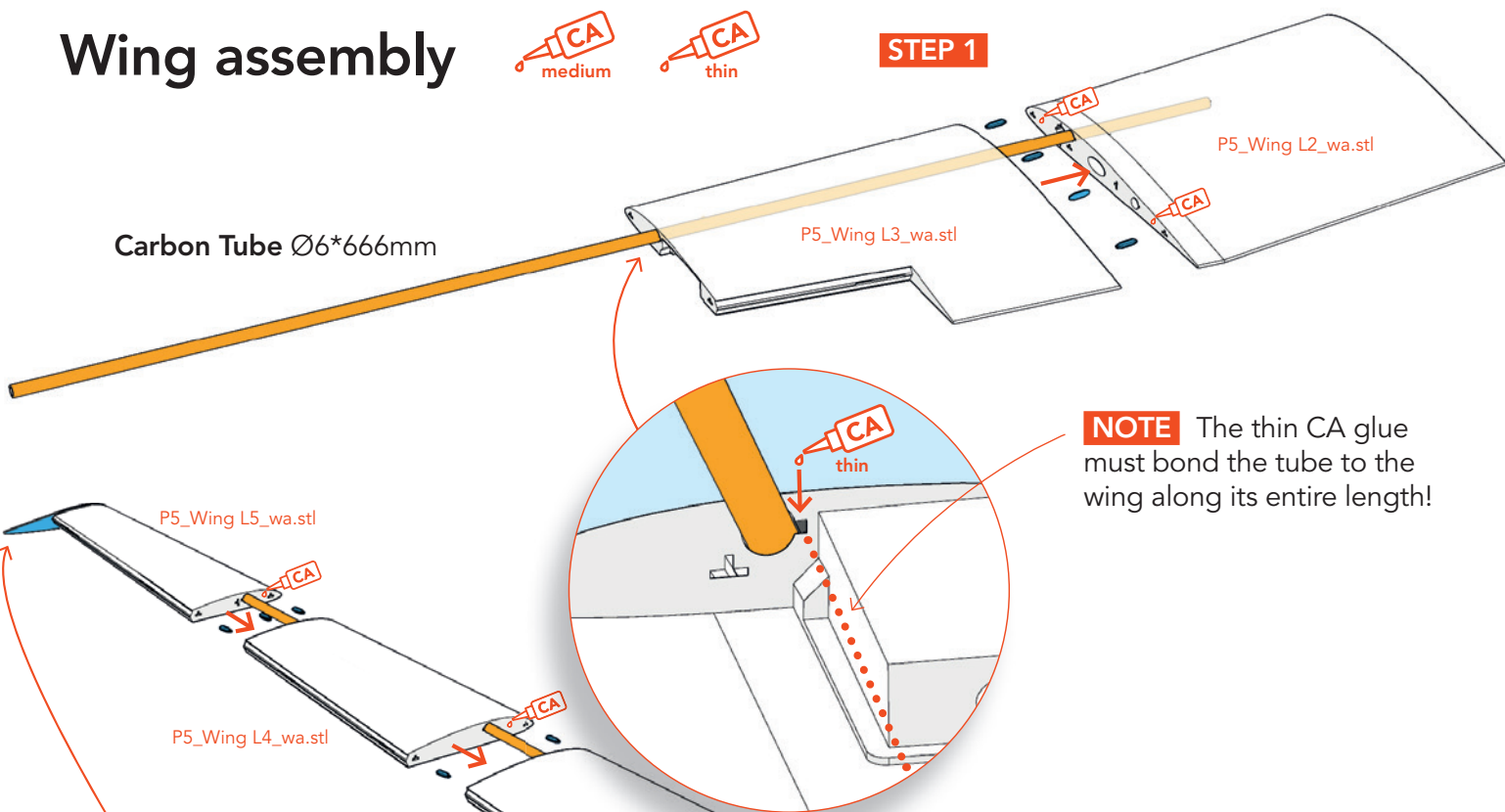
9 mm



Wing assembly

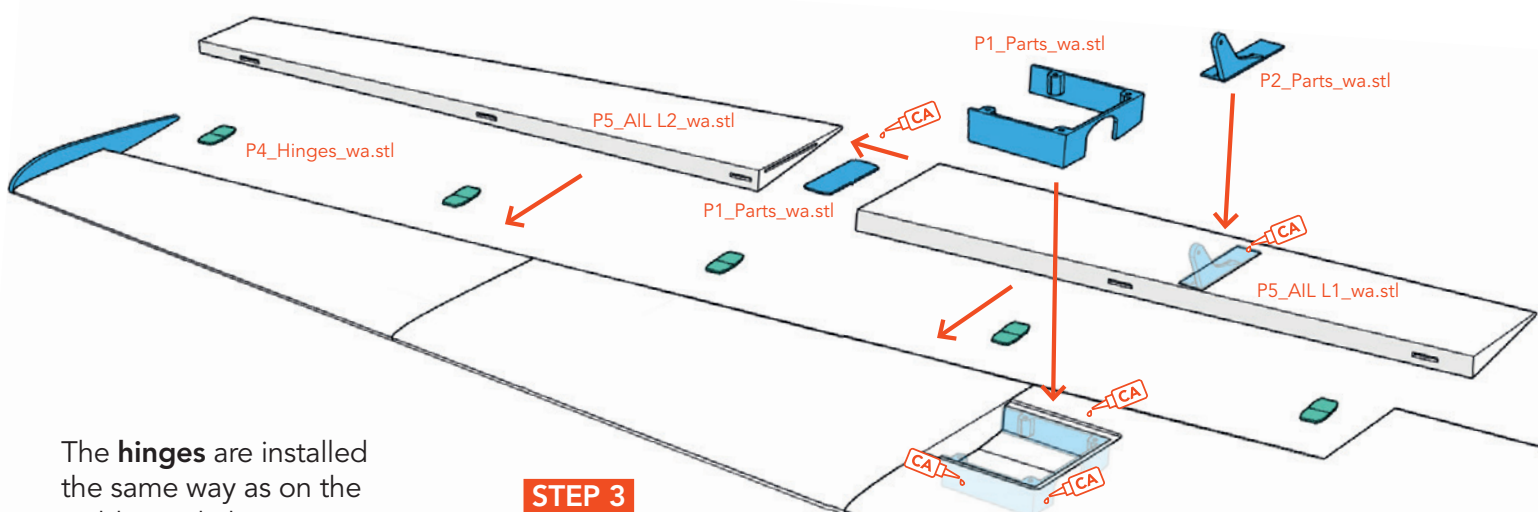
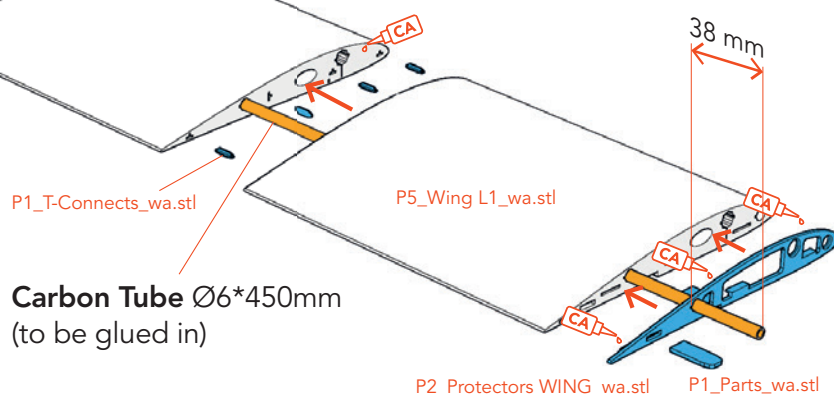
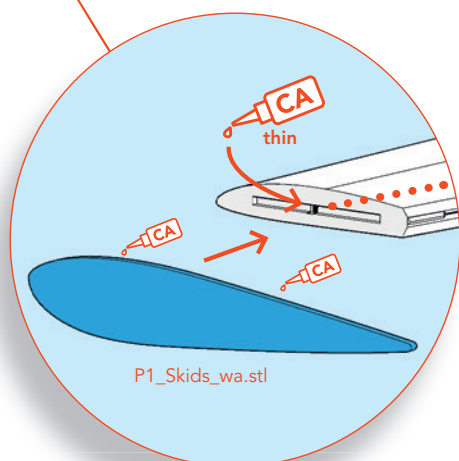


STEP 1



NOTE The thin CA glue must bond the tube to the wing along its entire length!

STEP 2

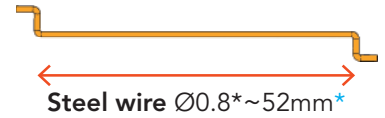


The **hinges** are installed the same way as on the rudder and elevator.

STEP 3

LEFT WING

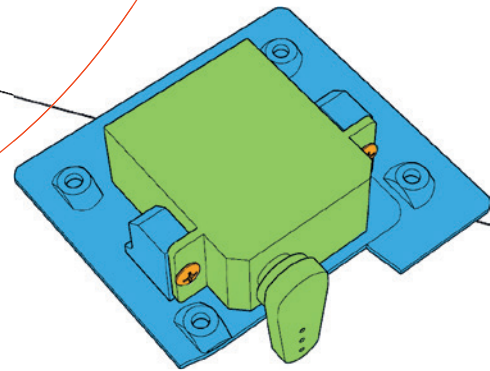
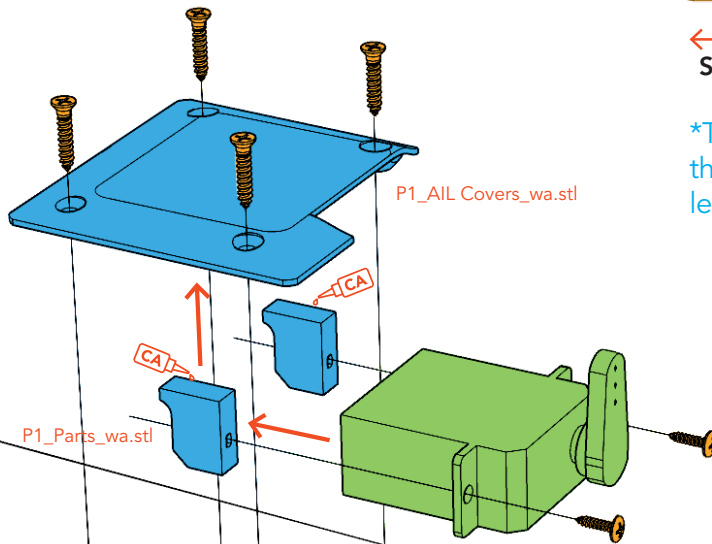
Aileron Servos



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

LEFT WING

CABLE DUCT

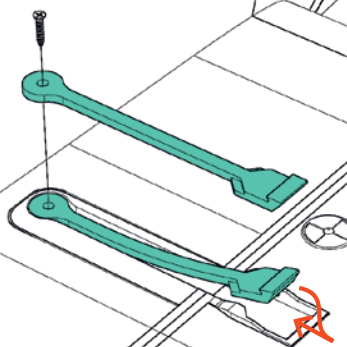


Wing fastening

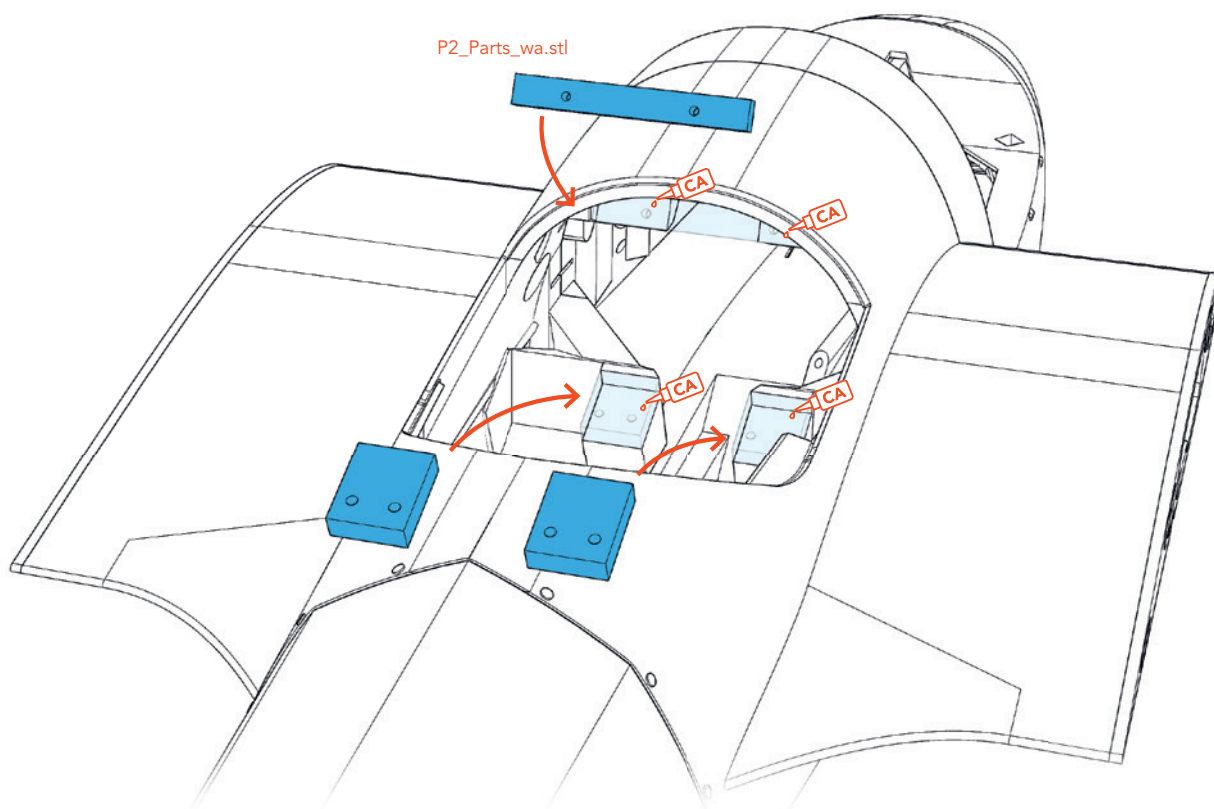
PLANEPRINT
Innovation

- The wings are secured to the underside with the TPU wing belts.

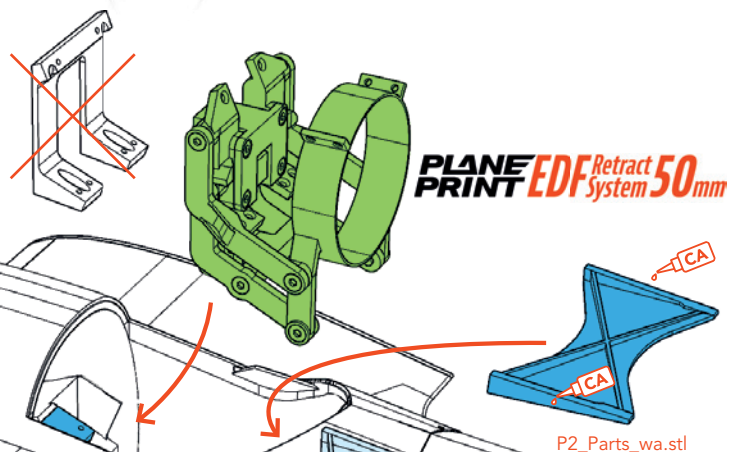
Tapping Screw Ø2mm



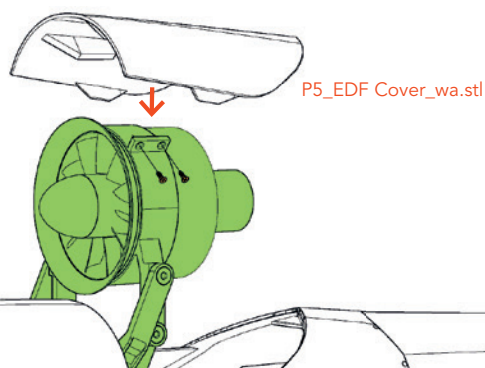
EDF Version – You'll need this add-on: **PLANE PRINT EDF Retract System 50mm**

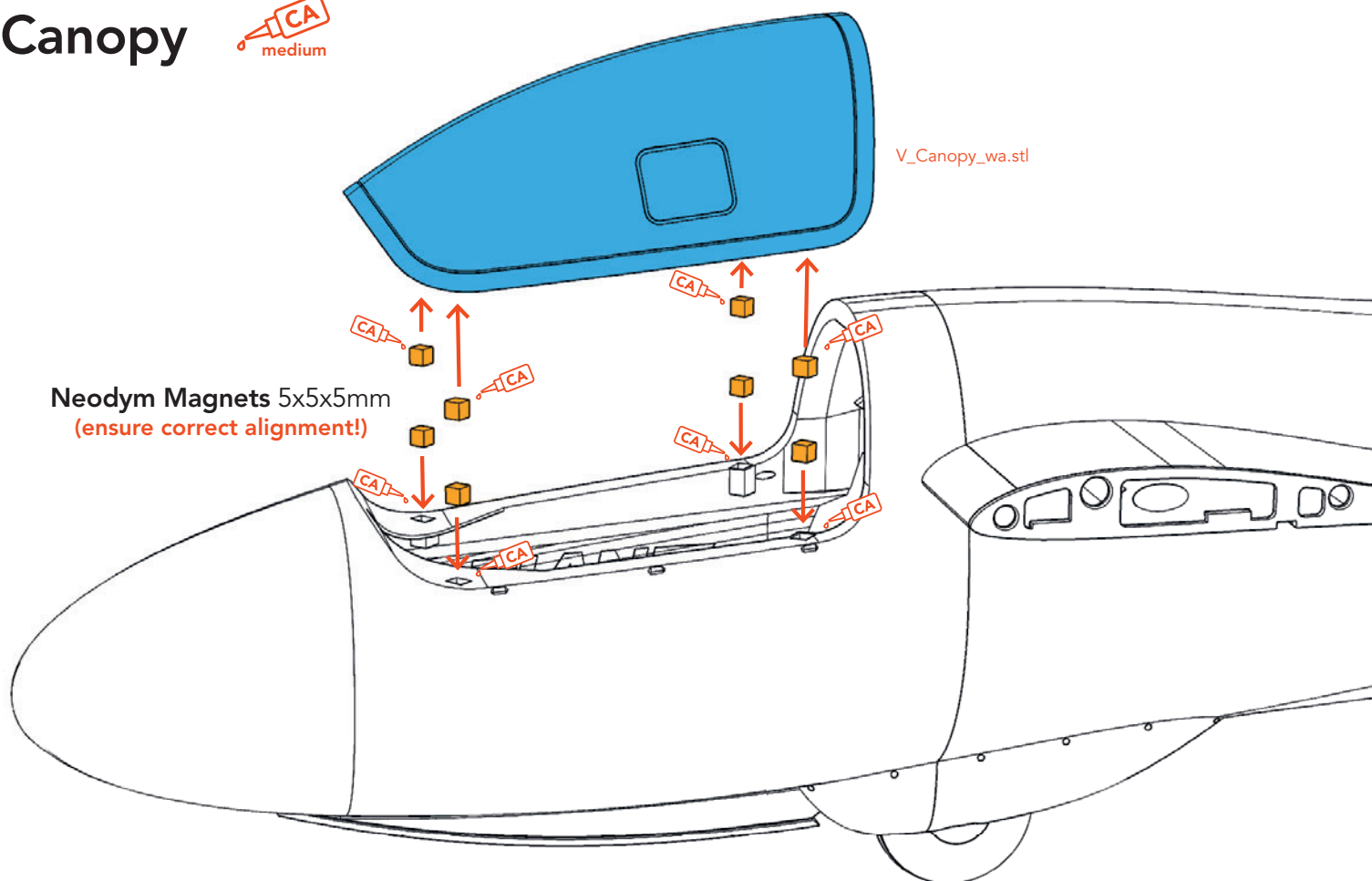


Screw the fully assembled **50mm EDF Retract System** into the fuselage using four metal screws.



Attach the EDF cover to the EDF ring using four short tapping screws.



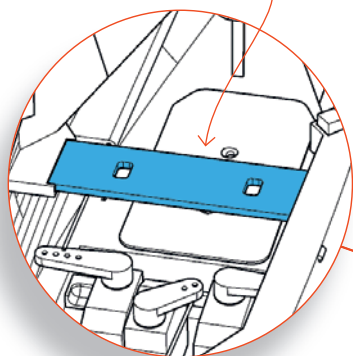


RC components

GLIDER VERSION



Secure the ESC here
with a **cable tie**:



EDF VERSION



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

PLANEPRINT *Wassmer-Wa22*

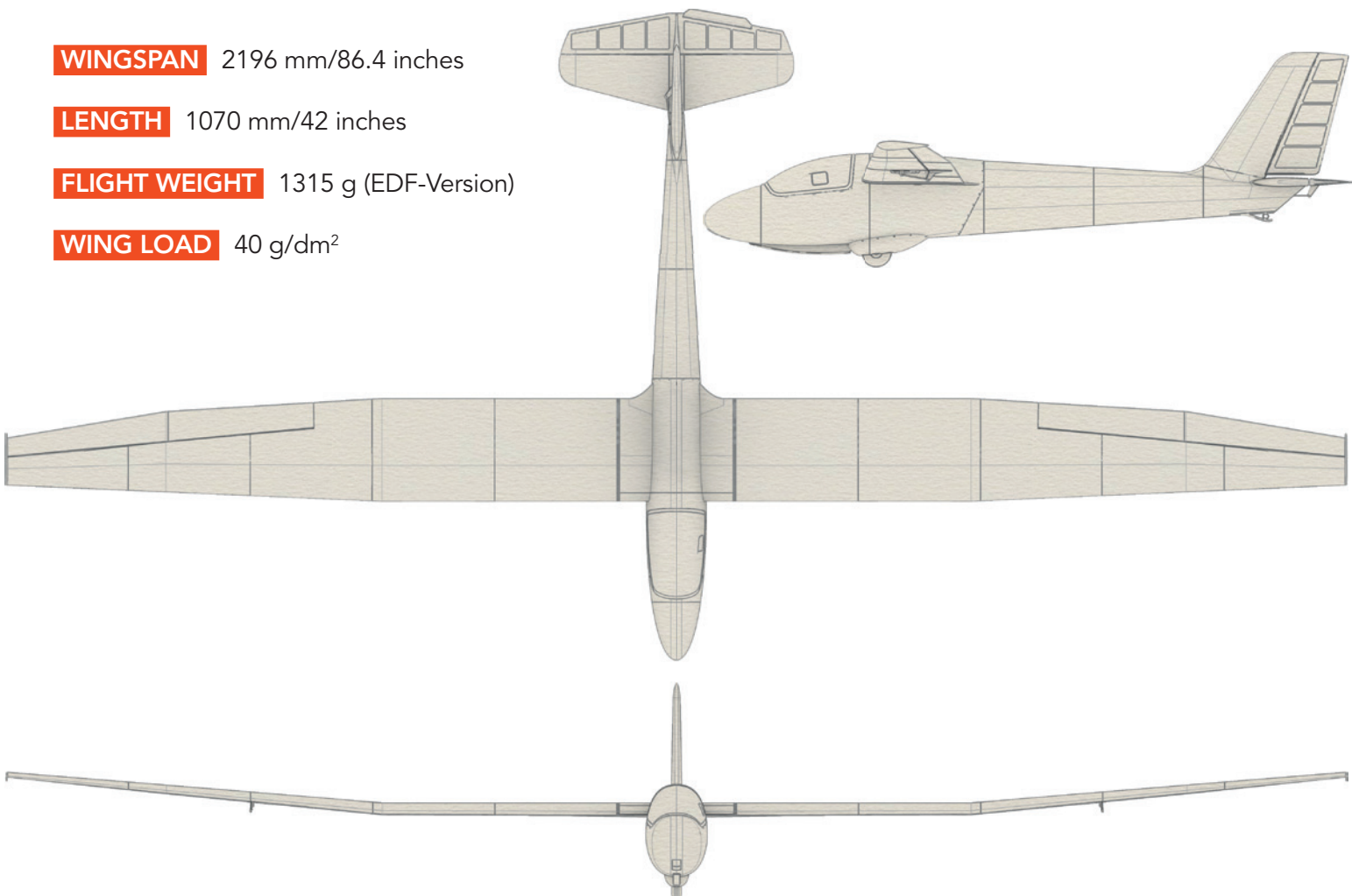
Technical specifications

WINGSPAN 2196 mm/86.4 inches

LENGTH 1070 mm/42 inches

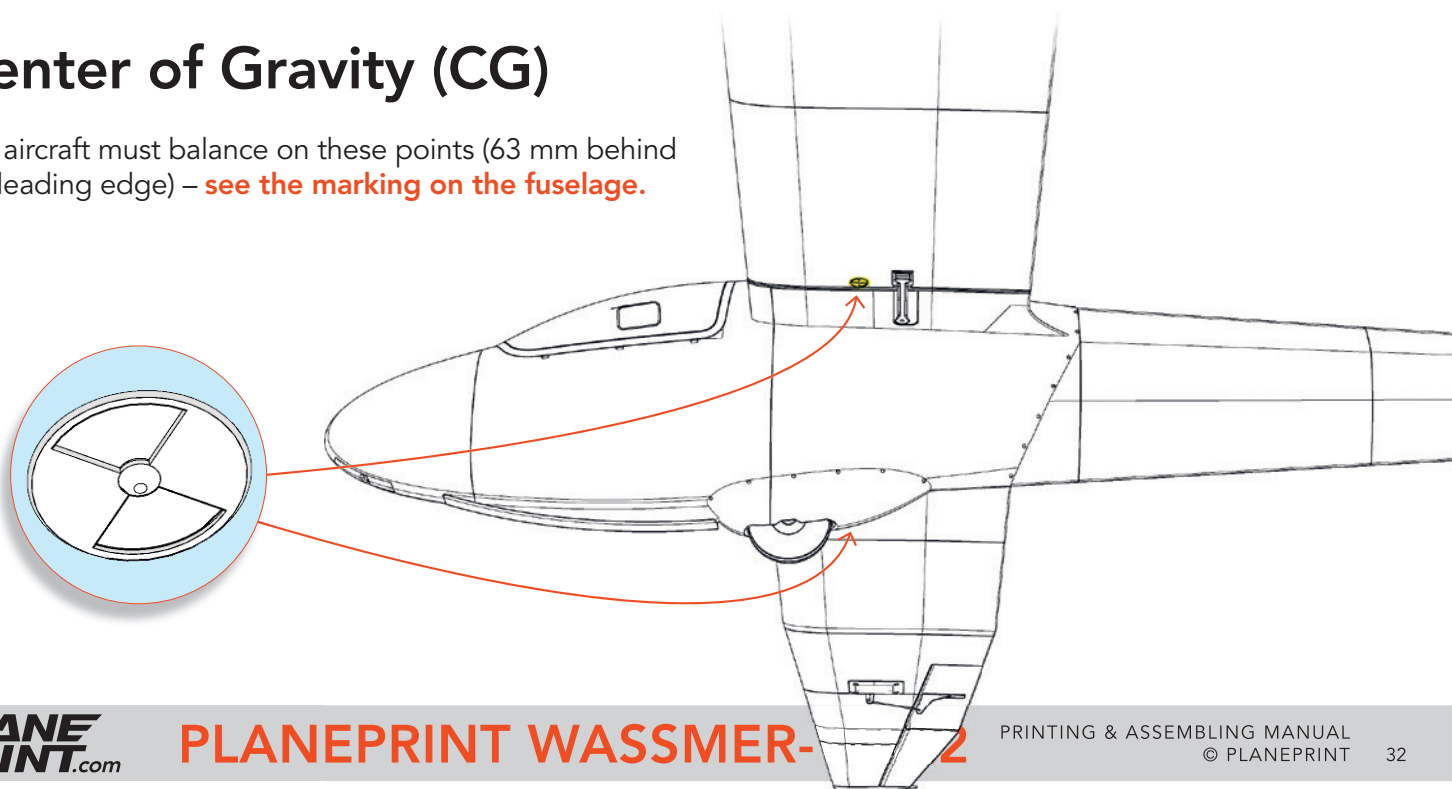
FLIGHT WEIGHT 1315 g (EDF-Version)

WING LOAD 40 g/dm²



Center of Gravity (CG)

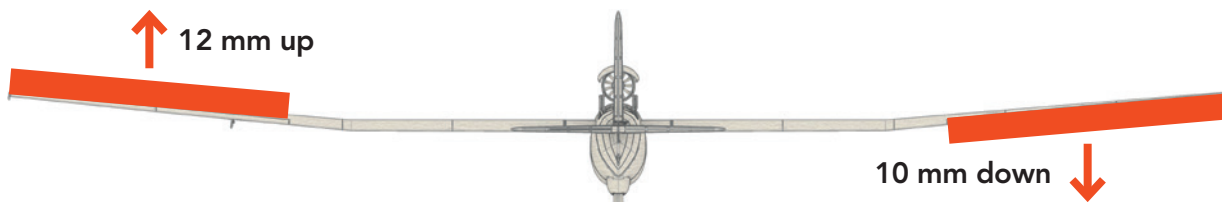
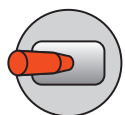
The aircraft must balance on these points (63 mm behind the leading edge) – **see the marking on the fuselage.**



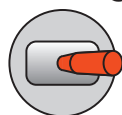
Control Direction Test

Look at the aircraft from behind

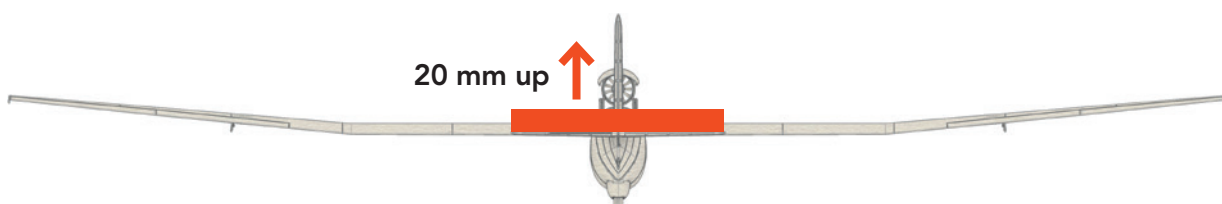
Aileron left



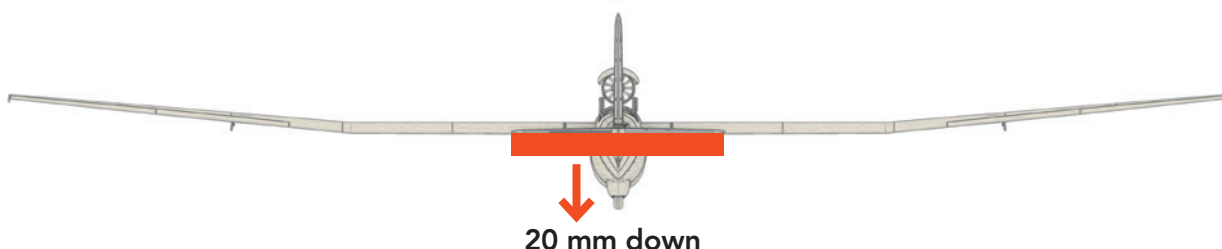
Aileron right



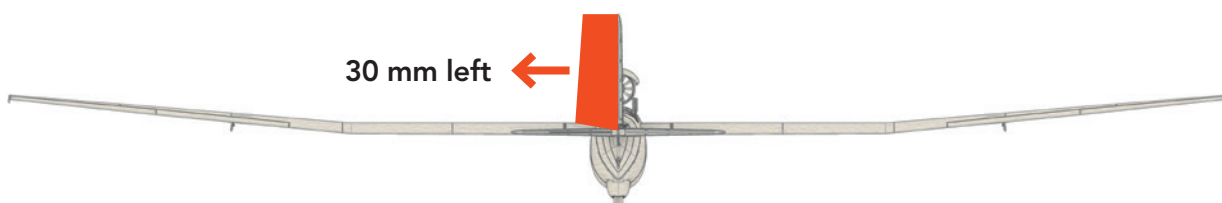
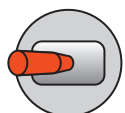
Elevator up



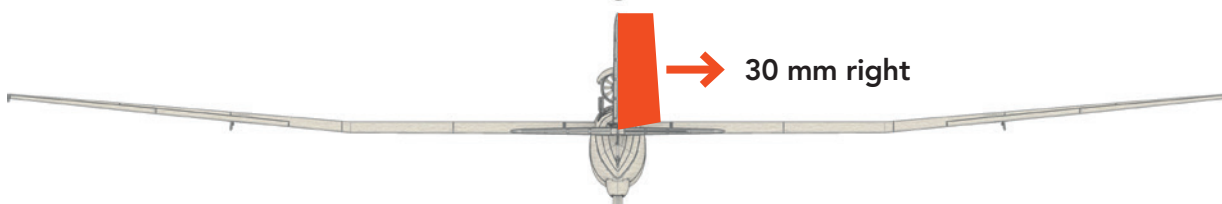
Elevator down



Rudder left



Rudder right



Tow coupling



EDF retract

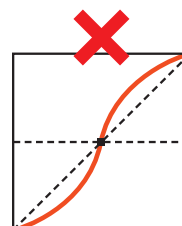
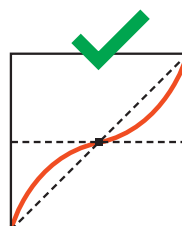


Assign the tow coupling (if installed) and the EDF retract to separate switches.

Since the EDF is located above the model's center of mass, it pulls the model down slightly at full thrust. To correct this, approximately **10% elevator up must be mixed with the throttle** as a corrective measure.

Expo setting

AILERON 20 % **ELEVATOR** 20 % **RUDDER** 0 %



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

TIP We recommend **disabling the EDF throttle** when the EDF is retracted into the fuselage (**logic switch**).

LANDING Since the model does not have flaps, the **extended EDF is used as a landing brake**. If you're using the glider version, you can raise both ailerons to achieve a braking effect.

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