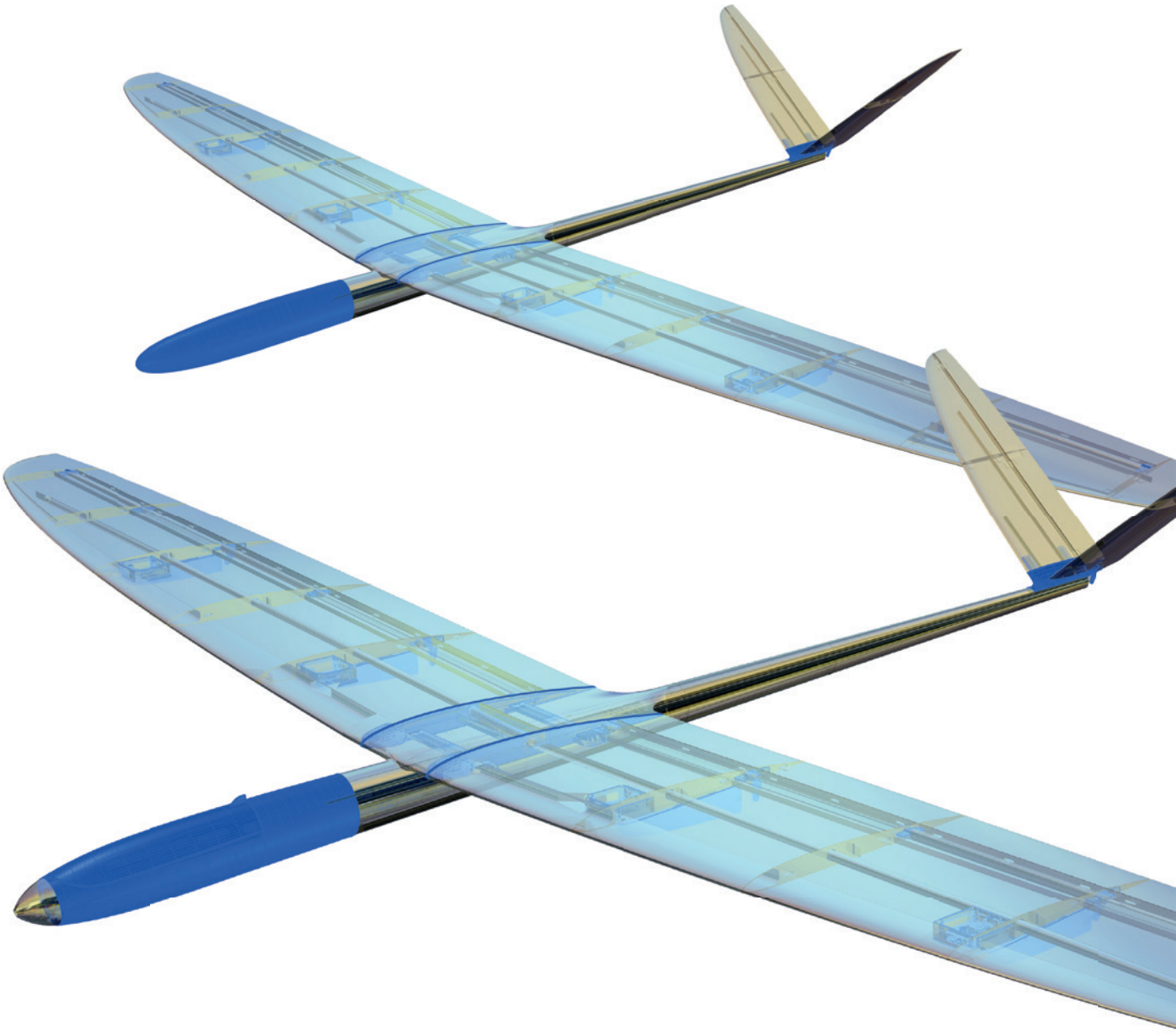
PRINTING & ASSEMBLING MANUAL

PLANE PRINT



AERON

High-performance glider/motor glider

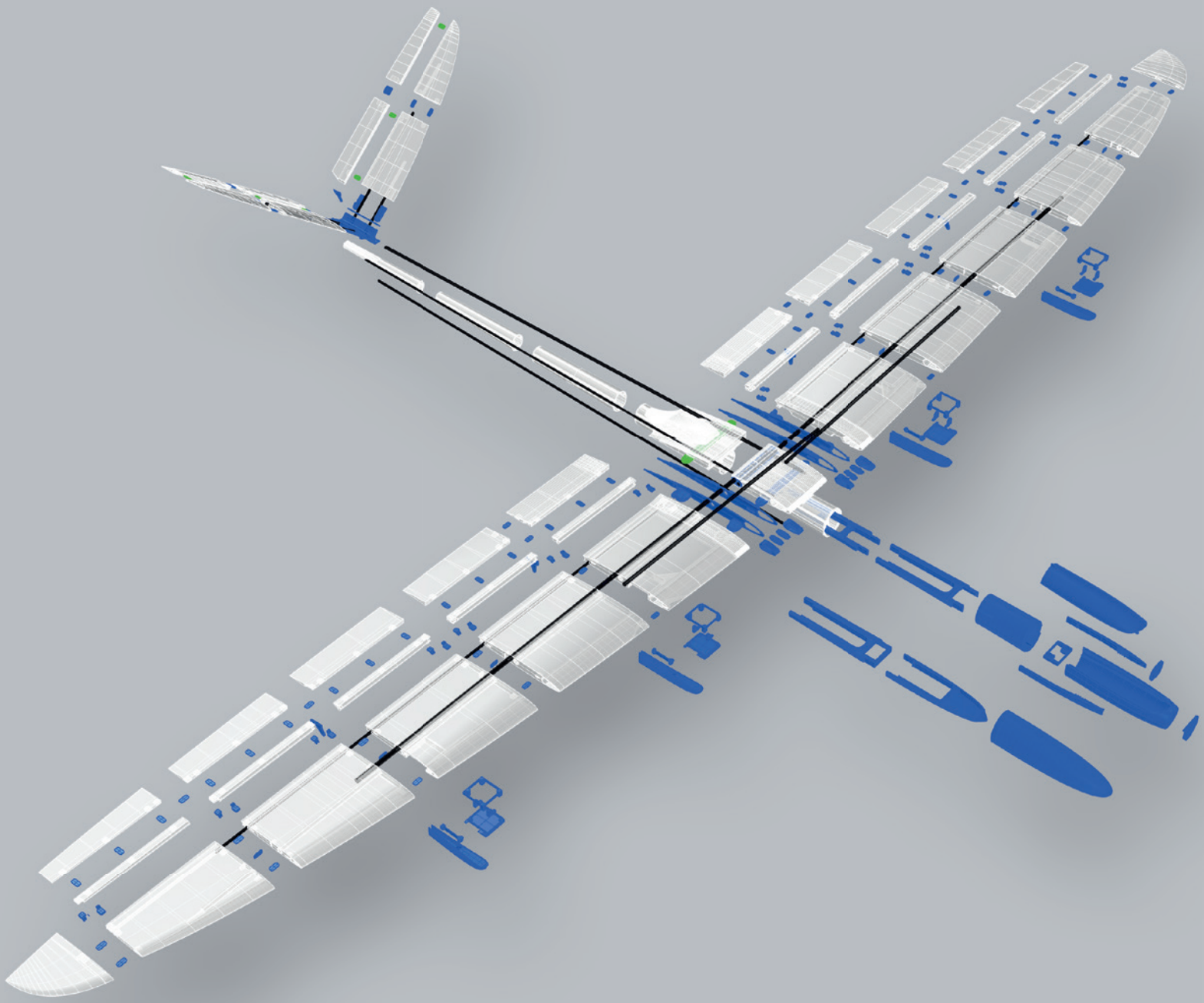
NOTE:
Slicing works best with CURA!

FAIR DATA USE

www.planeprint.com

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

PLANE PRINT AERON



LW-PLA PLA TPU CARBON

Required accessoires

Filament

- **LW-PLA (cannot be replaced by PLA!)**, ~800 grams
- **PLA** oder better **Tough PLA**, ~300 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), 2 pieces
- Carbon rod Ø6*1000mm, 1 piece
- Carbon fiber strips (flat profile) 1*5*1000mm, 6 pieces
- Steel wire Ø0.8*1000mm, 6 pieces (Ø1mm is also possible)
- Rod connection, 2 pieces
- Servo cable and soldering accessories
- MPX Connector, 2 pairs
- Self-adhesive Velcro tape
- Some lead (about 150 grams for the glider version)

Tools

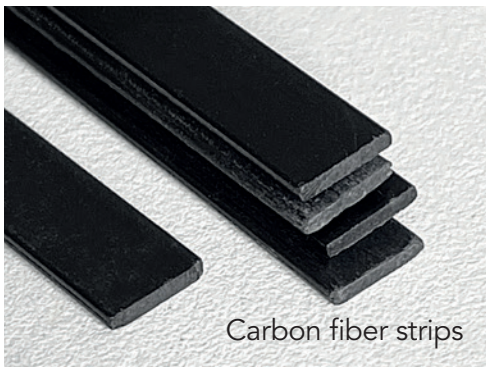
Cutter knife, small Philips screwdriver, Sandpaper, Metal saw, Needle nose pliers, Soldering tool



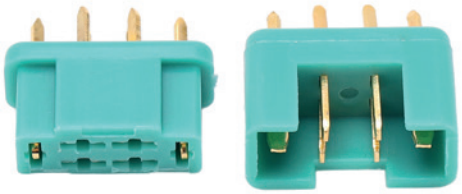
Tapping screws 2mm

Rod connection




Carbon fiber strips

MPX Connector

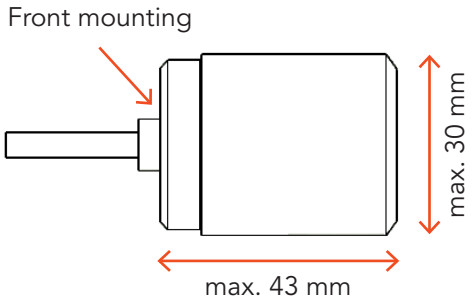


RC Components

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** (We recommend a Ø40 mm spinner with cooling function)

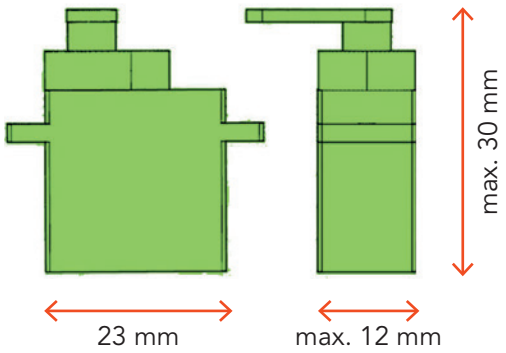
BEC-CONTROLLER **50 A** (must fit the engine!)

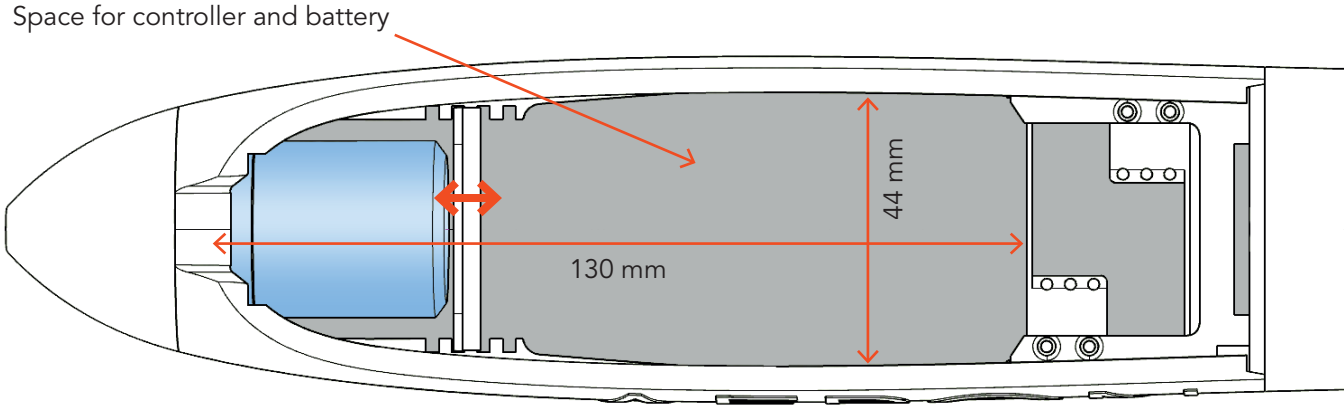
RECEIVER **7 Channel**

BATTERY **3S Lipo, 1000 MaH** (The battery should have a weight of 90 grams)

SERVOS **6 pieces** like **KST DS215 V3 MG Digital HV** or comparable
Dimensions (The optimal distance between screws is 28 mm):







Printing the parts – Printing profiles

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

For slicing all Planeprint models, these profiles have to be created in Cura:

PROFILE P1_Fullbody
PROFILE P2_Hollowbody
PROFILE P3_Surface (Not necessary for this plane)
PROFILE P4_Flex
PROFILE P5_Gyroid

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

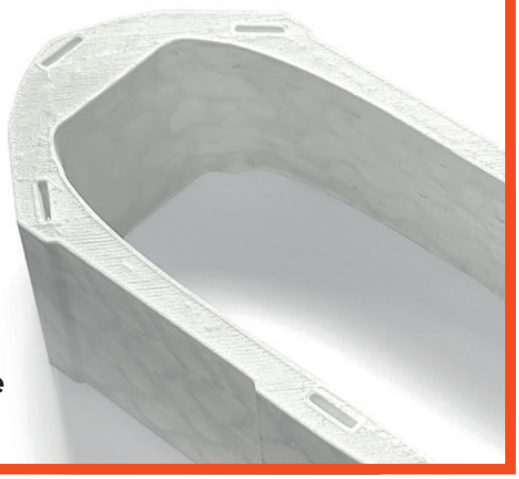
Important for the 1-wall-print (P3, P5)!

In order to print airfoils of the lowest possible weight with high stability, it is necessary to print with only one wall line (Nozzle 0.4 mm). Decisive here is the adhesion between the layers! To achieve this, you must print at a much higher temperature than normal. As a **guideline**, 230° C is a good starting point. The parts-cooling fan should be set to 0% or a maximum of 20%. Since not every printer works the same, it may be necessary to make small adjustments to these settings.

For the new PROFILE P5_Gyroid it is essential to use **Cura Version 5 or later**, It will work with older versions, but the weight of the parts will be higher and the printing time longer.

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.



FAIR USE DATA ©

The development of a complex, airworthy RC flight model to express on any standard 3D printer is a very complex and 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!

PROFILE P1_Fullbody PLA or Tough PLA

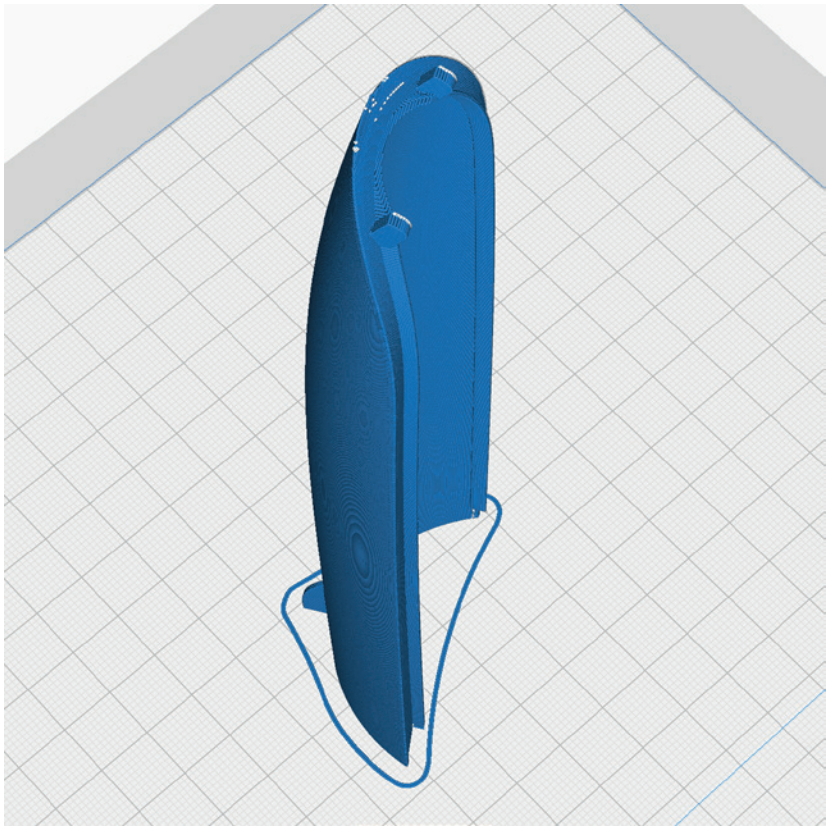
The following parts should be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

P1_Cowling_ae.stl

MATERIAL PLA, Weight: ~ 16 g

ADDITIONAL SETTINGS

- Brim may be needed here

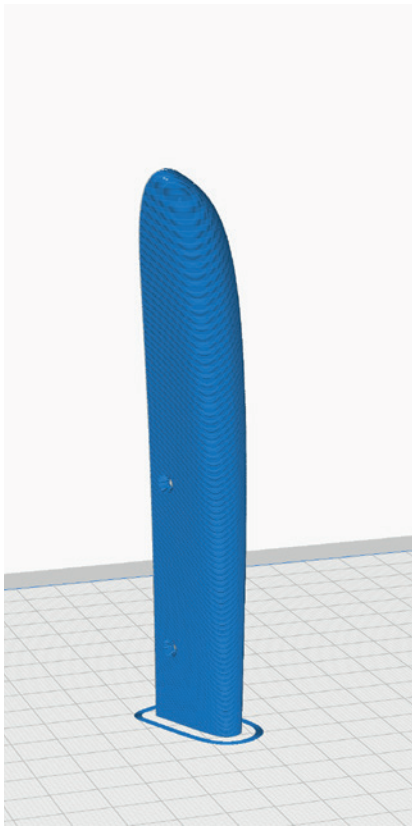


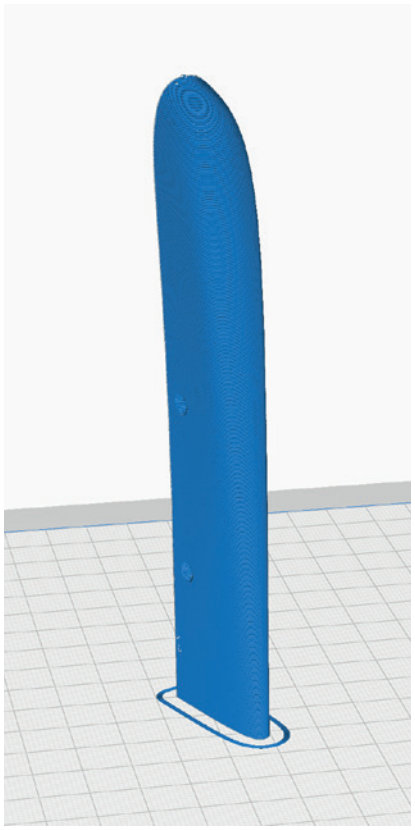
P1_Fairing Aileron_ae and P1_Fairing flap_ae.stl

MATERIAL PLA, Weight: ~ 3 g

ADDITIONAL SETTINGS

- Wall Line Count: 1
- Bottom Layers: 0
- Infill Density: 0 %
- prints two of both STL





PROFILE P1_Fullbody PLA or Tough PLA

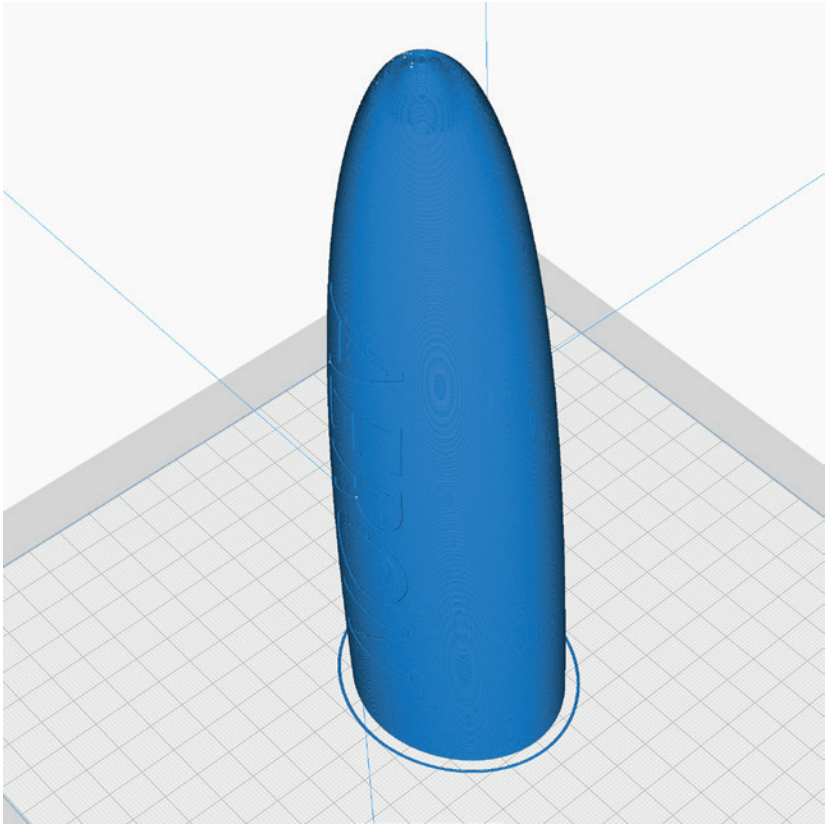
The following parts should be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

P1_Fuselage 1 glider_ae.stl

MATERIAL PLA, Weight: ~ 40 g

ADDITIONAL SETTINGS

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

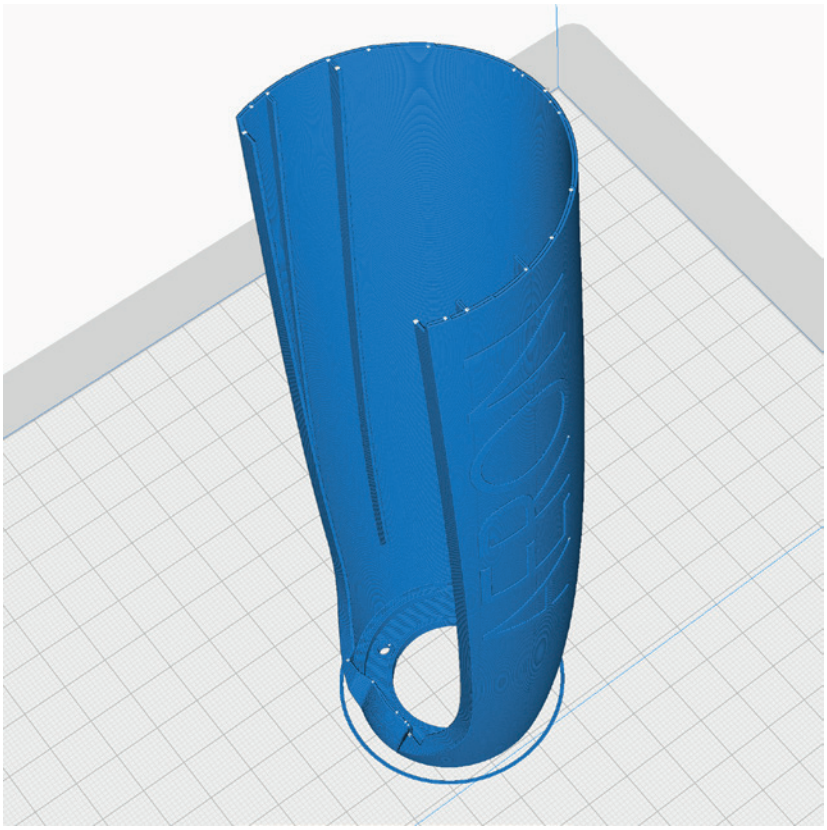


P1_Fuselage 1 motor_ae.stl

MATERIAL PLA, Weight: ~ 30 g

ADDITIONAL SETTINGS

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



PROFILE P1_Fullbody PLA or Tough PLA

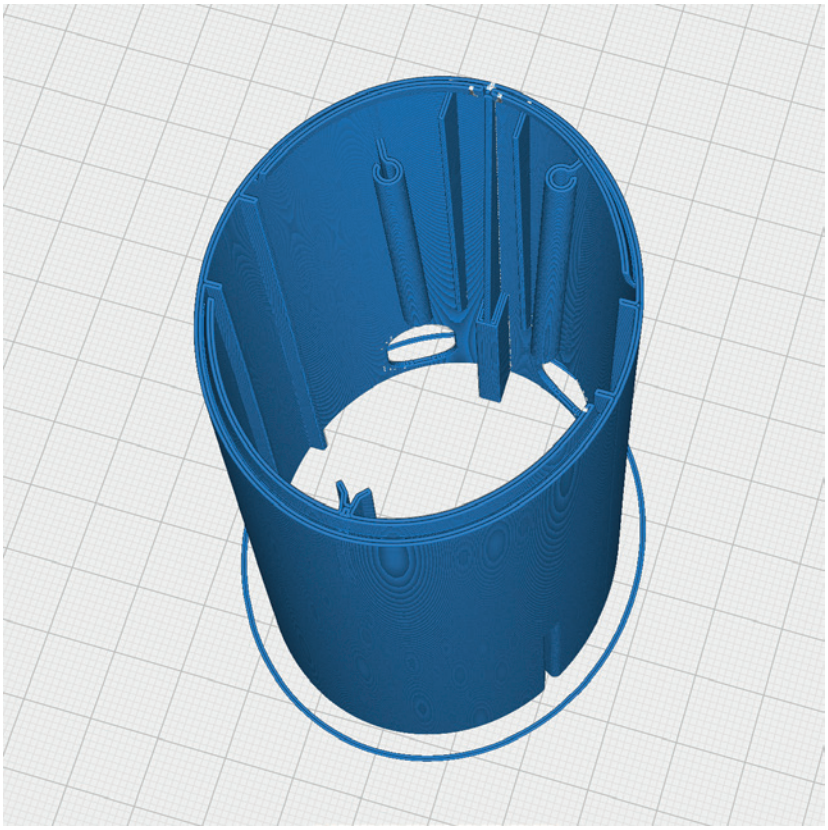
The following parts should be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

P1_Fuselage 2_ae.stl

MATERIAL PLA, Weight: ~ 24 g

ADDITIONAL SETTINGS

None required

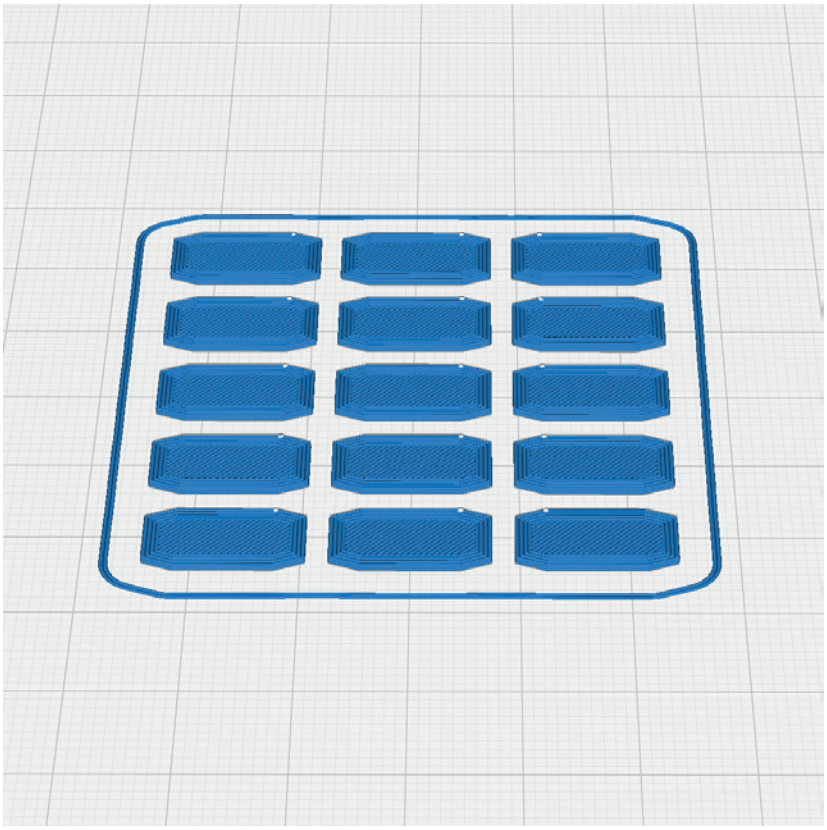


P1_Interconnects_ae.stl

MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required



PROFILE P1_Fullbody PLA or Tough PLA

The following parts should be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

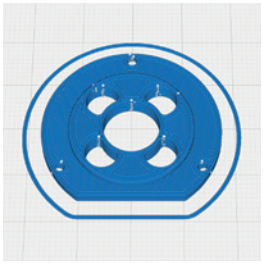
P1_Motor mount 16/19_ae.stl

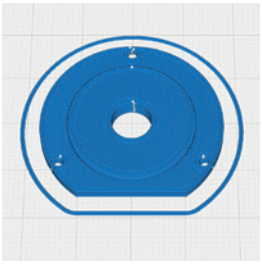
MATERIAL PLA, Weight: ~ 2 g

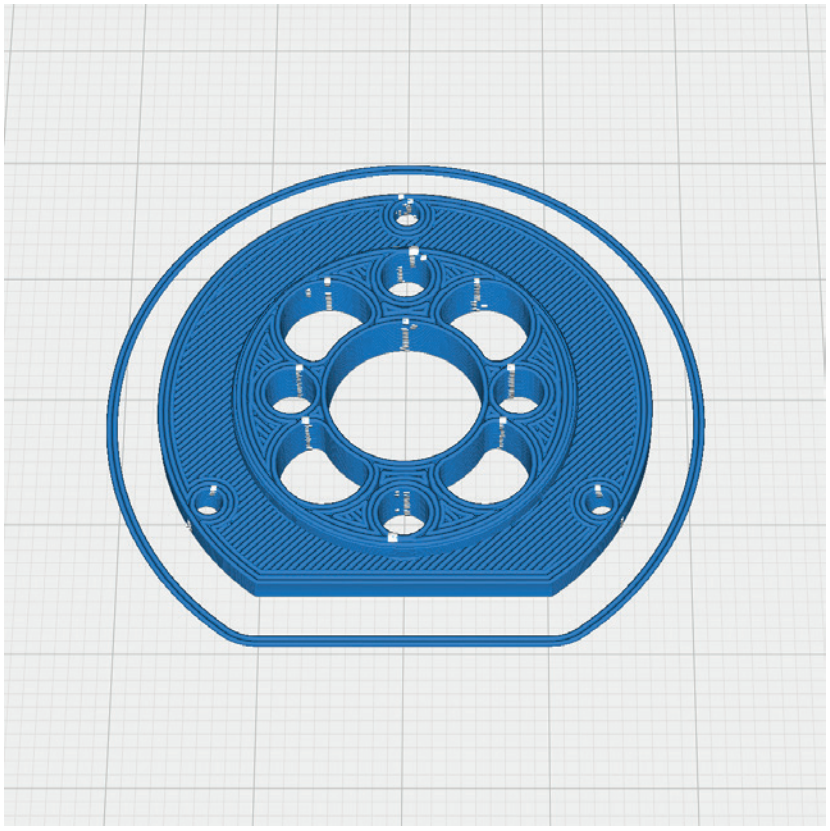
ADDITIONAL SETTINGS

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

If your engine needs different hole positions there are alternative STL





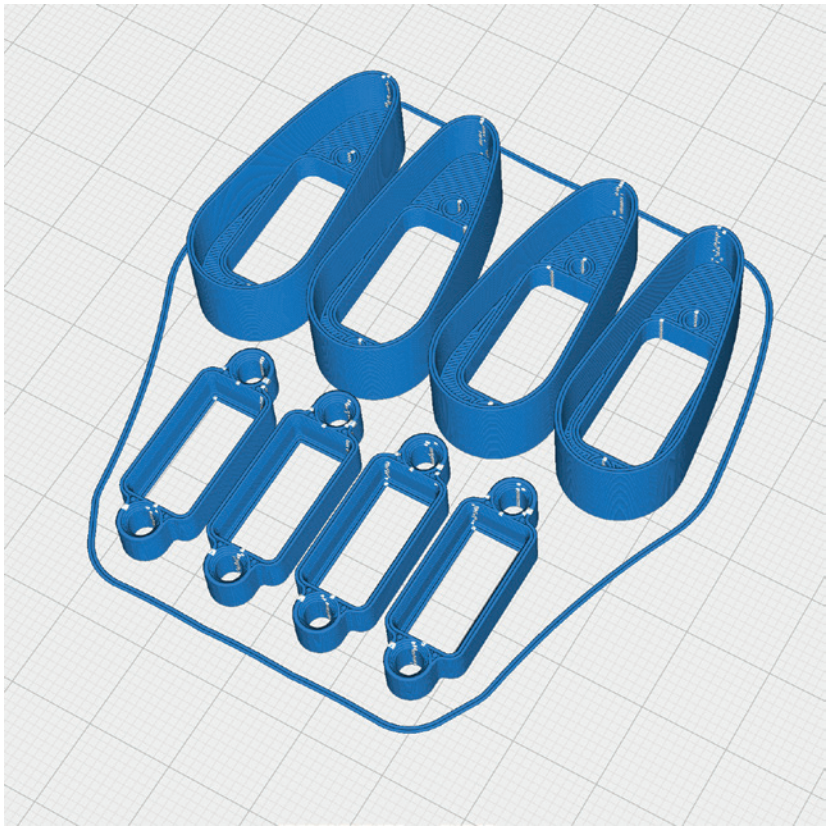


P1_MPX connectors_ae.stl

MATERIAL PLA, Weight: ~ 5 g

ADDITIONAL SETTINGS

None required



PROFILE P1_Fullbody PLA or Tough PLA

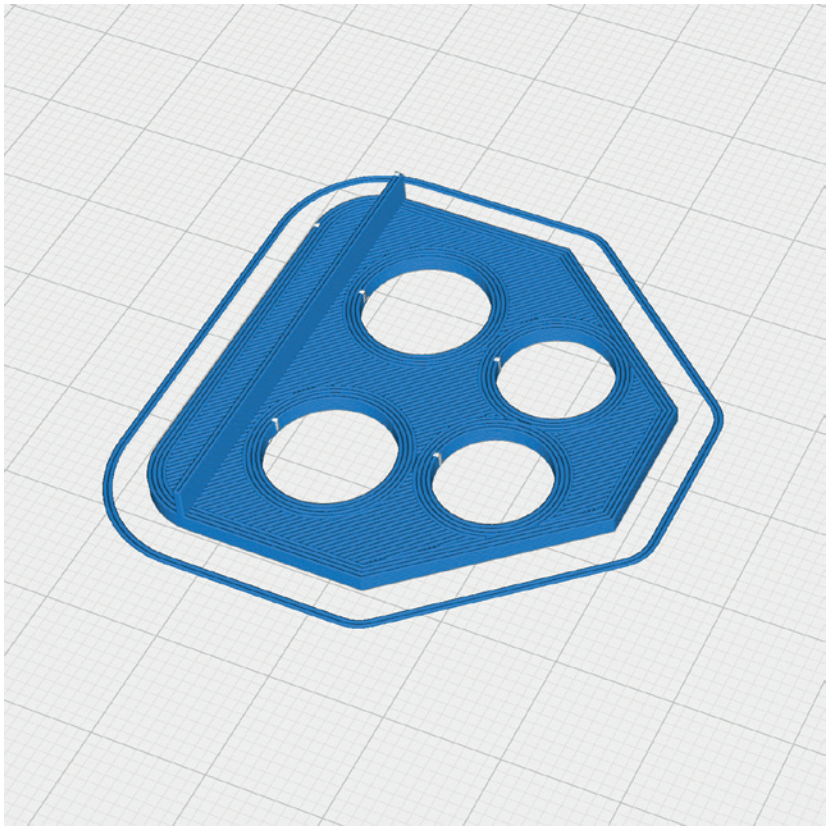
The following parts should be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

P1_Protective wall_ae.stl

MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

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

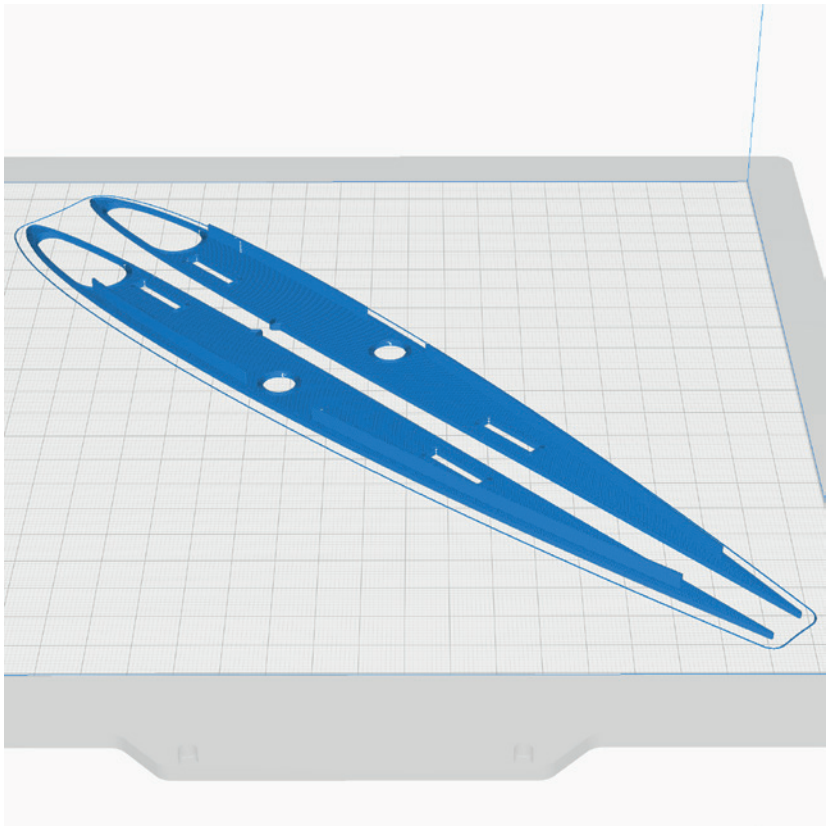


P1_Protector Fuselage_ae.stl

MATERIAL PLA, Weight: ~ 14 g

ADDITIONAL SETTINGS

None required



PROFILE P1_Fullbody PLA or Tough PLA

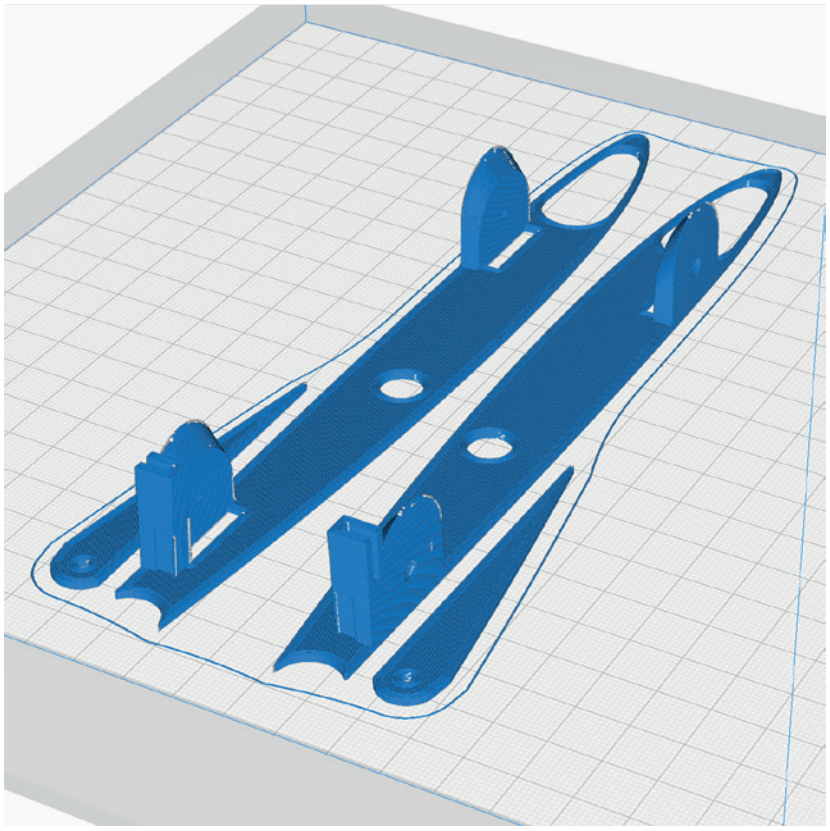
The following parts should be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

P1_Protector Wing_ae.stl

MATERIAL PLA, Weight: ~ 21 g

ADDITIONAL SETTINGS

None required

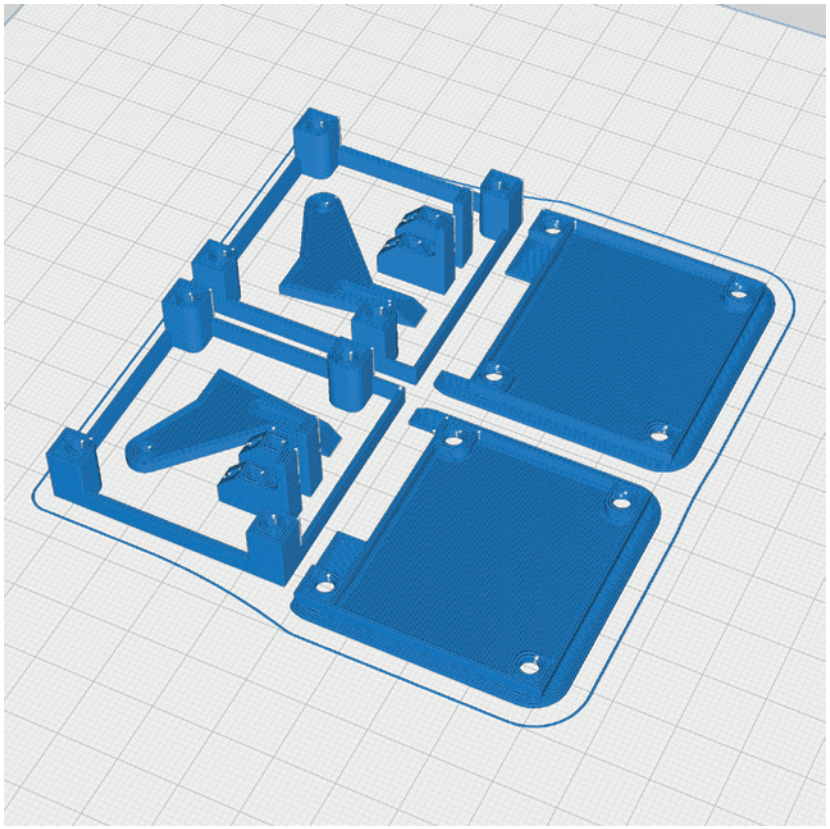


P1_Servo mount ailerons_ae.stl

MATERIAL PLA, Weight: ~ 13 g

ADDITIONAL SETTINGS

None required



PROFILE P1_Fullbody PLA or Tough PLA

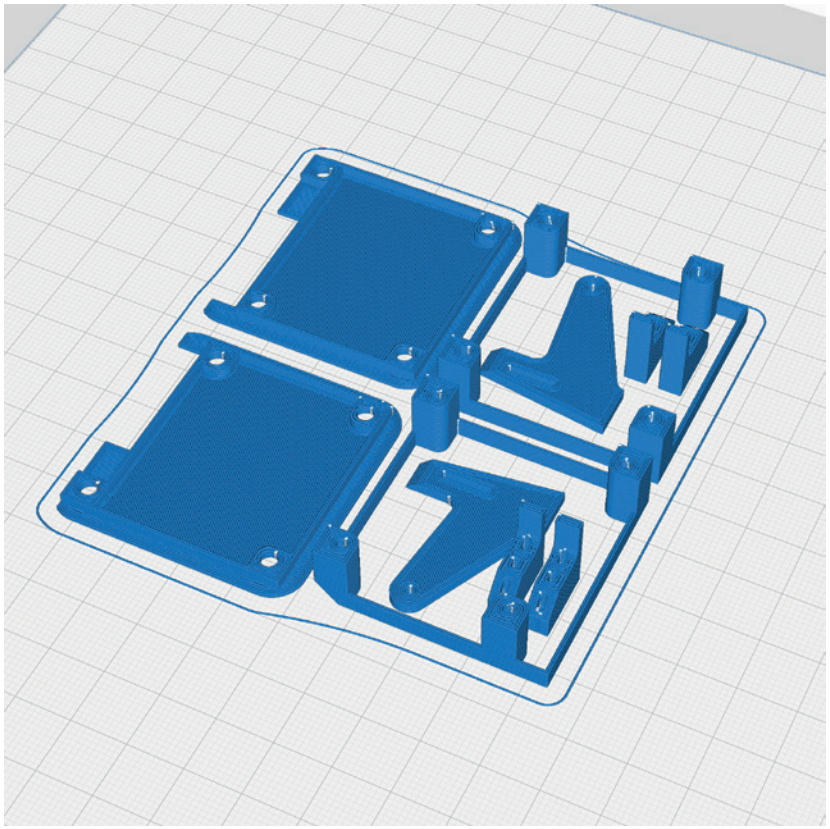
The following parts should be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

P1_Servo mount flaps_ae.stl

MATERIAL PLA, Weight: ~ 14 g

ADDITIONAL SETTINGS

None required

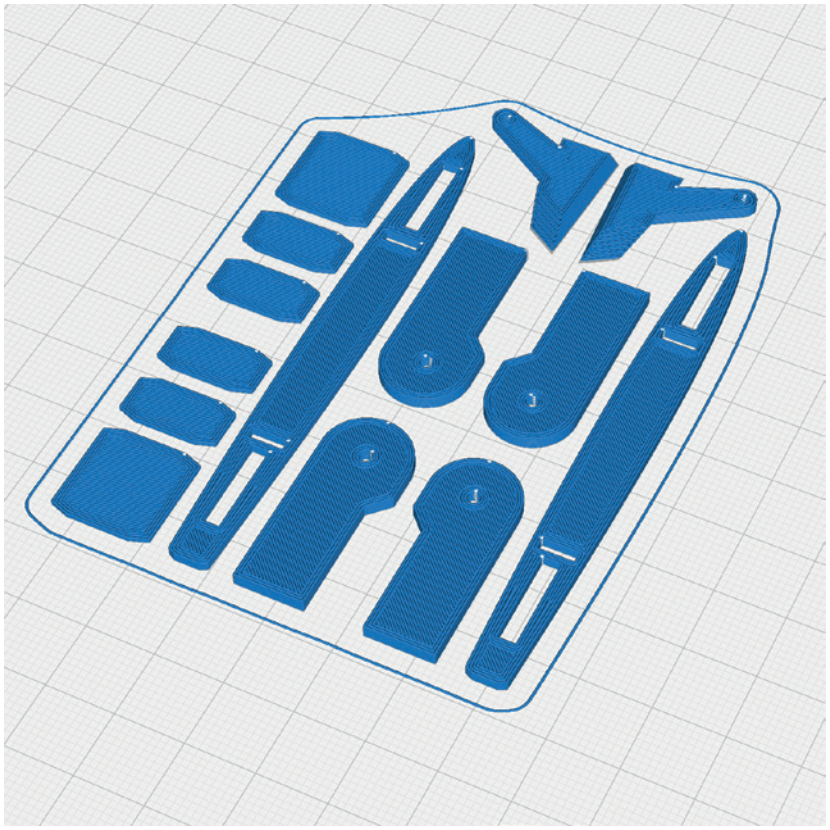


P1_V-Tail parts_ae.stl

MATERIAL PLA, Weight: ~ 7 g

ADDITIONAL SETTINGS

None required



PROFILE P1_Fullbody PLA or Tough PLA

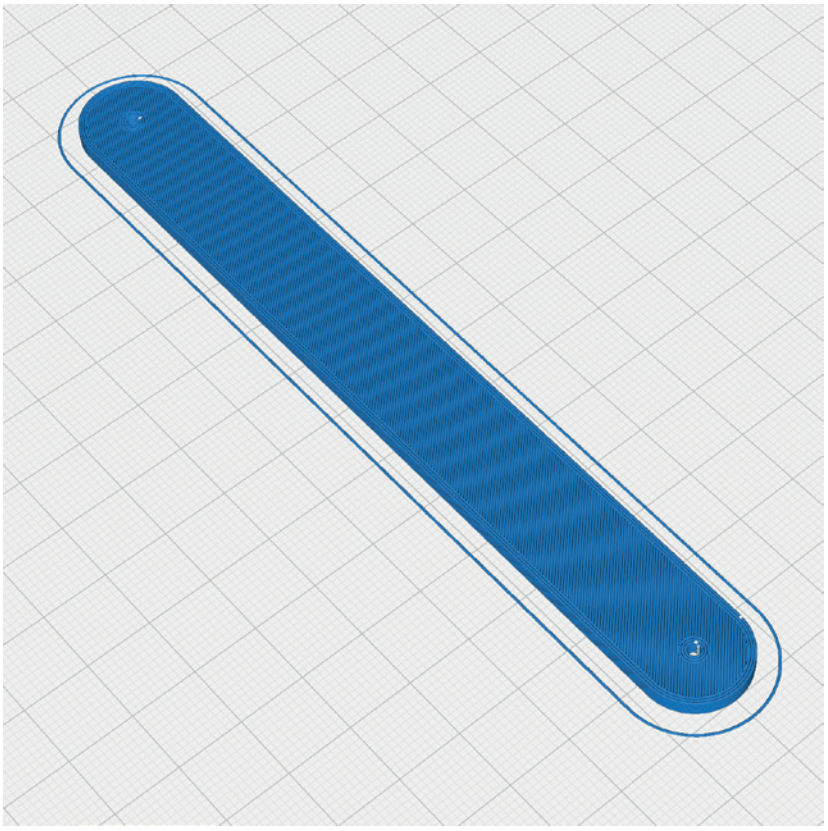
The following parts should be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

P1_Wing belt_ae.stl

MATERIAL PLA, Weight: ~ 7 g

ADDITIONAL SETTINGS

None required

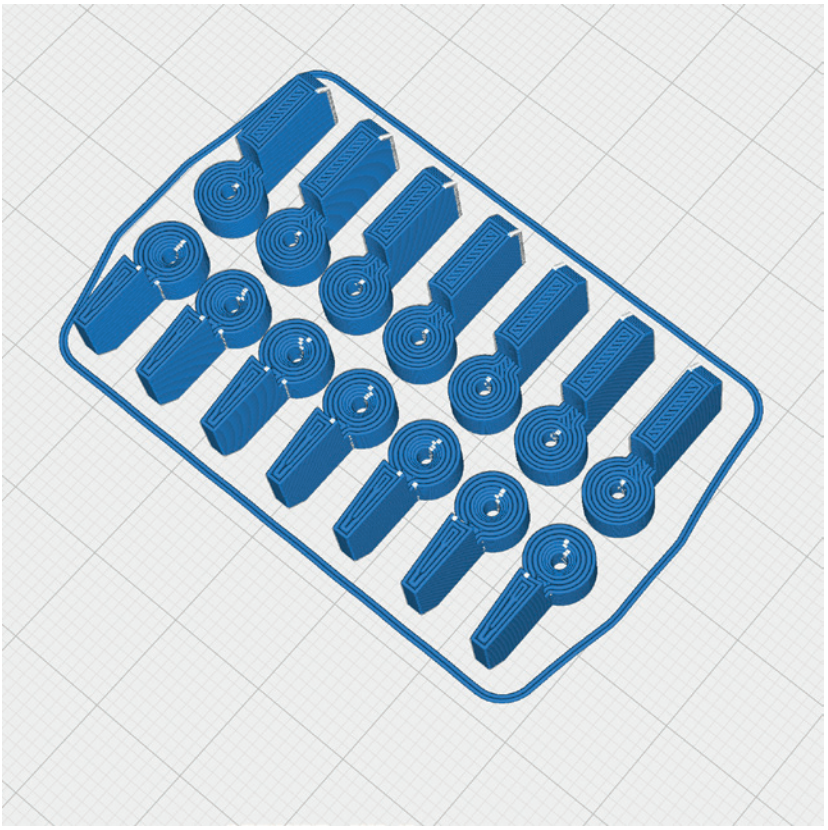


P1_Wing hinges L_ae.stl and P1_Wing hinges R_ae.stl

MATERIAL PLA, Weight: ~ 5 g

ADDITIONAL SETTINGS

None required



PROFILE P1_Fullbody PLA or Tough PLA

The following parts should be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

P1_wingconnector_ae.stl

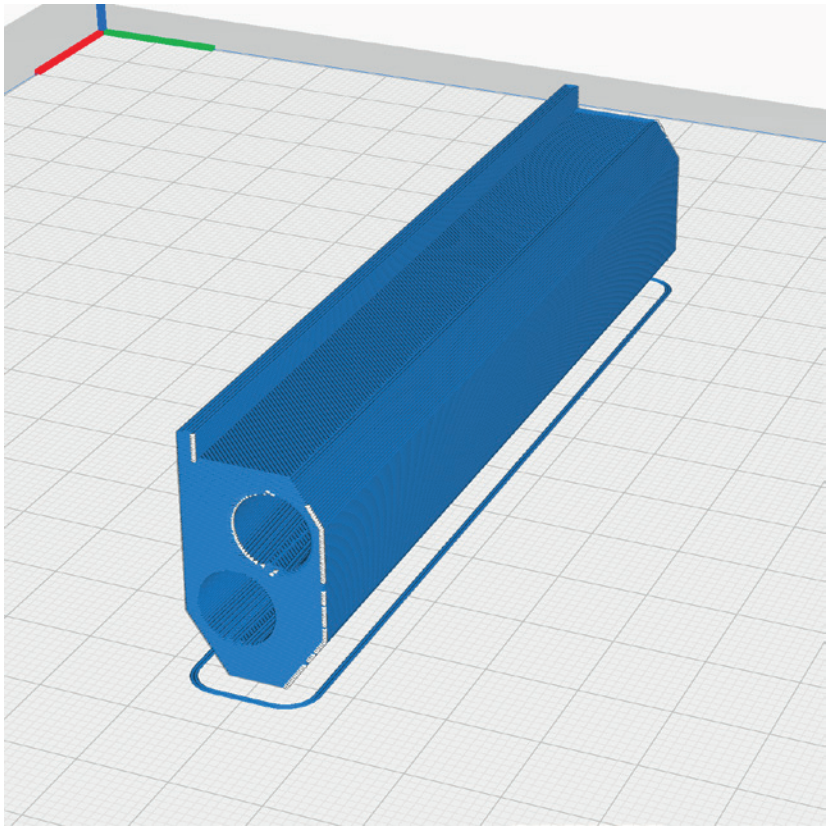
MATERIAL PLA, Weight: ~ 29 g

ADDITIONAL SETTINGS

None required

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).

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

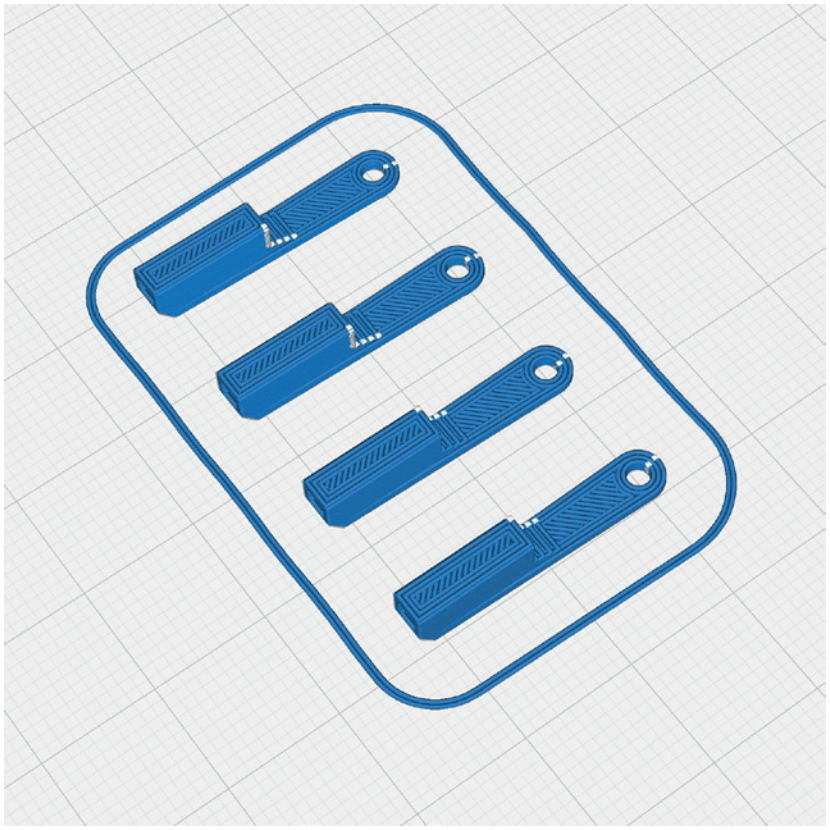


P1_Clips 1mm wire.stl

MATERIAL PLA, Weight: ~ 1 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody PLA or Tough PLA

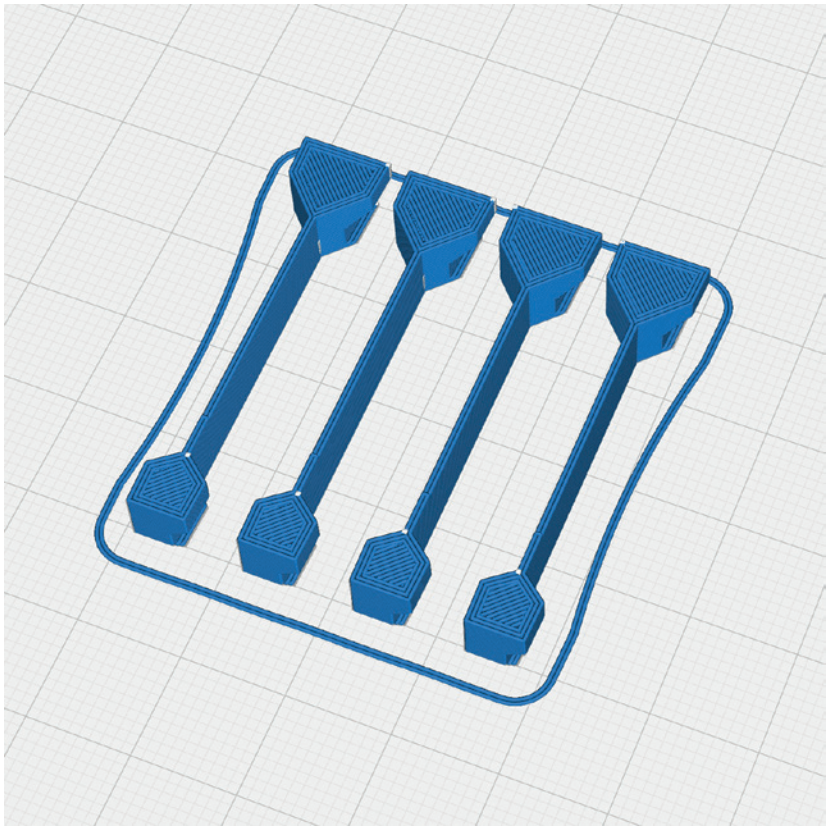
The following parts should be sliced with the PROFILE P2_Hollowbody.
Please note the additional settings for the individual parts!

P2_Fairing mount_ae.stl

MATERIAL PLA, Weight: ~ 3 g

ADDITIONAL SETTINGS

None required



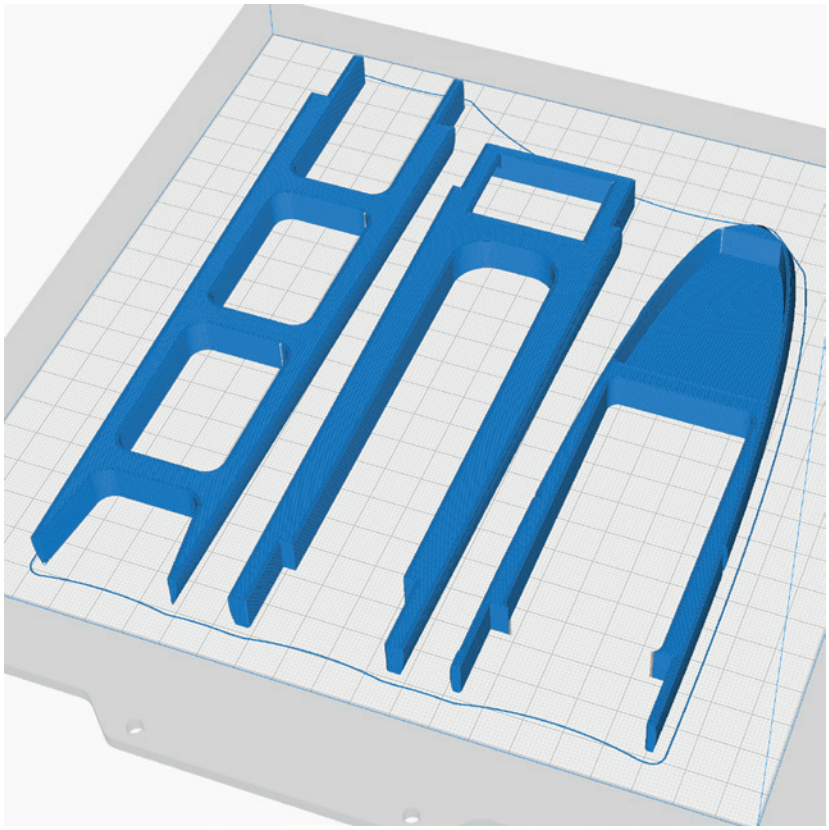
P2_RC Frame glider_ae.stl

MATERIAL PLA, Weight: ~ 45 g

ADDITIONAL SETTINGS

- Top Layers: 3
- Bottom Layers: 3

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



PROFILE P2_Hollowbody PLA or Tough PLA

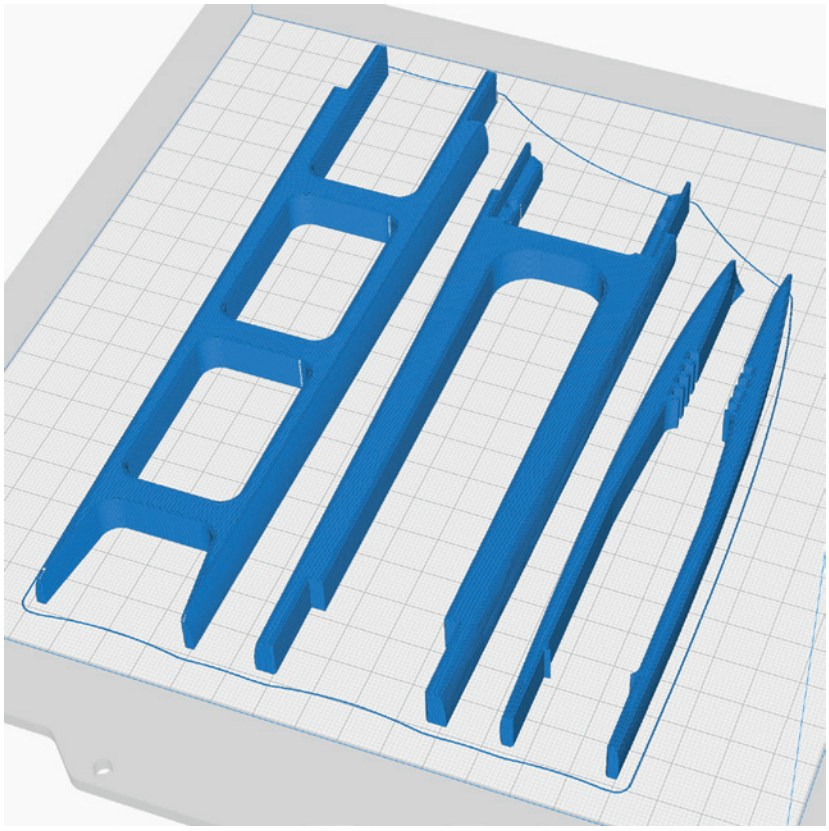
The following parts should be sliced with the PROFILE P2_Hollowbody.
Please note the additional settings for the individual parts!

P2_RC Frame motor_ae.stl

MATERIAL PLA, Weight: ~ 43 g

ADDITIONAL SETTINGS

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

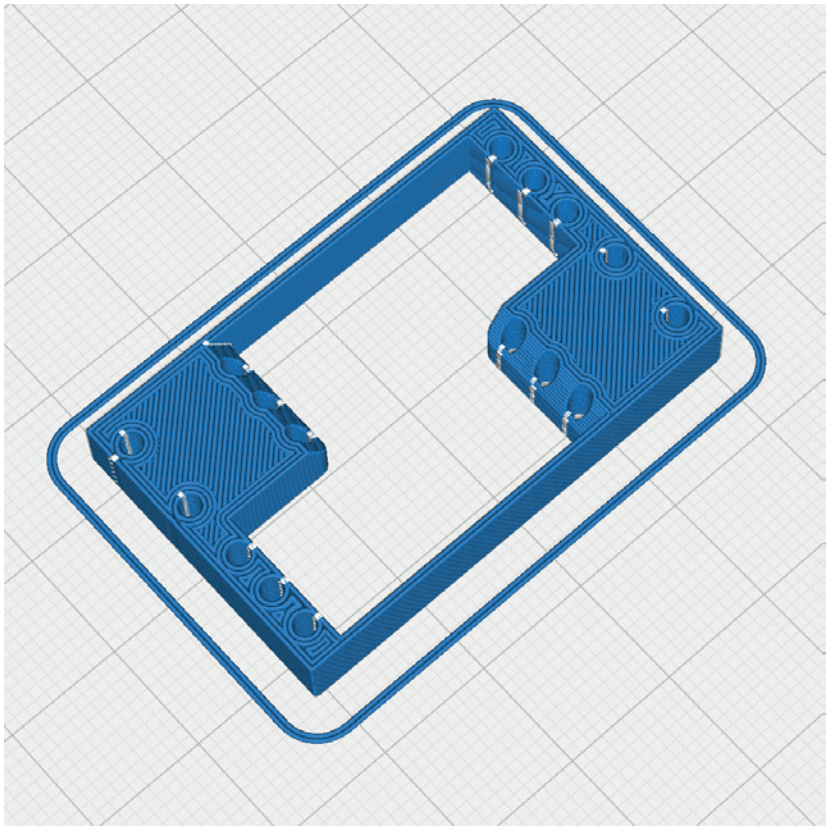


P2_Servo frame_ae.stl

MATERIAL PLA, Weight: ~ 3 g

ADDITIONAL SETTINGS

None required



PROFILE P2_Hollowbody PLA or Tough PLA

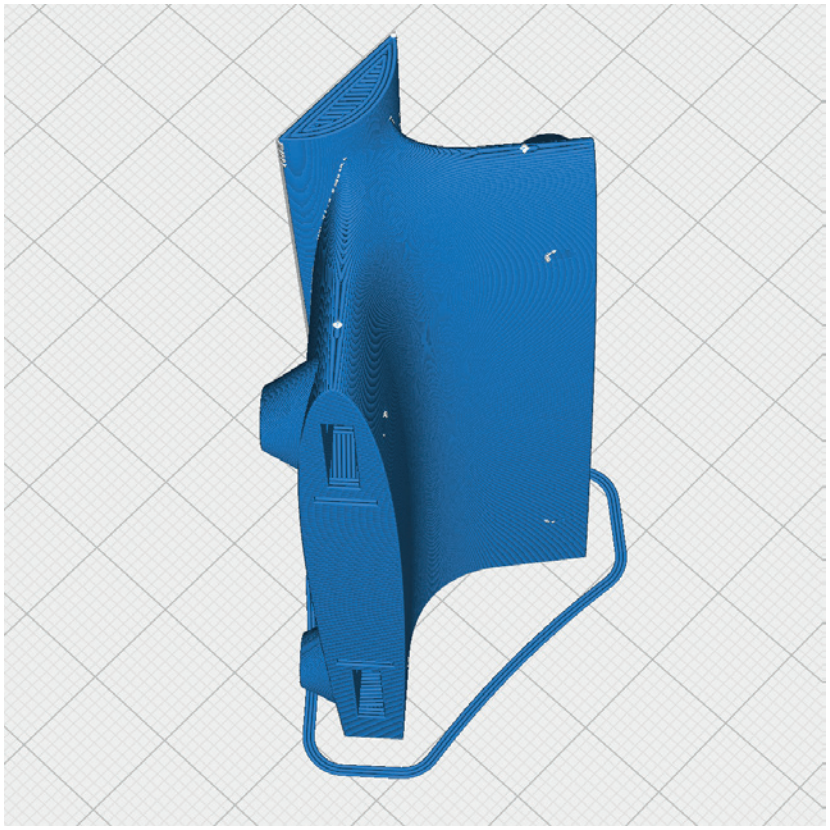
The following parts should be sliced with the PROFILE P2_Hollowbody.
Please note the additional settings for the individual parts!

P2_V-Tail center_ae.stl

MATERIAL PLA, Weight: ~ 15 g

ADDITIONAL SETTINGS

- Infill Pattern: Gyroid



PROFILE P4_Flex

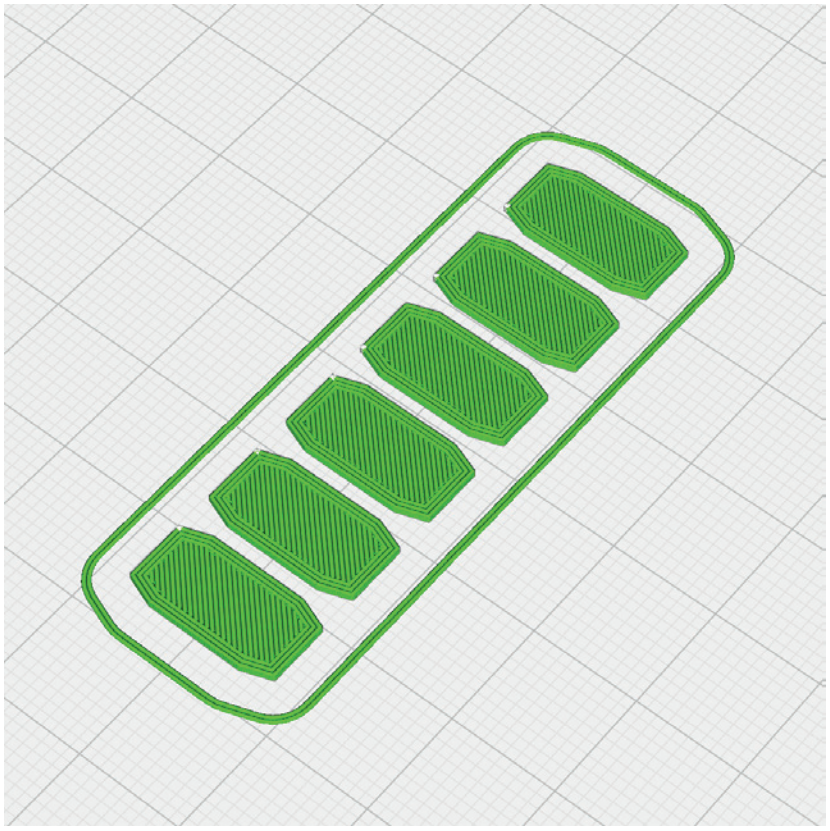
The following parts should be sliced with the PROFILE P4_Flex.
Please note the additional settings for the individual parts!

P4_Hinges_ae.stl

MATERIAL TPU A95, Weight: ~ 1 g

ADDITIONAL SETTINGS

None required

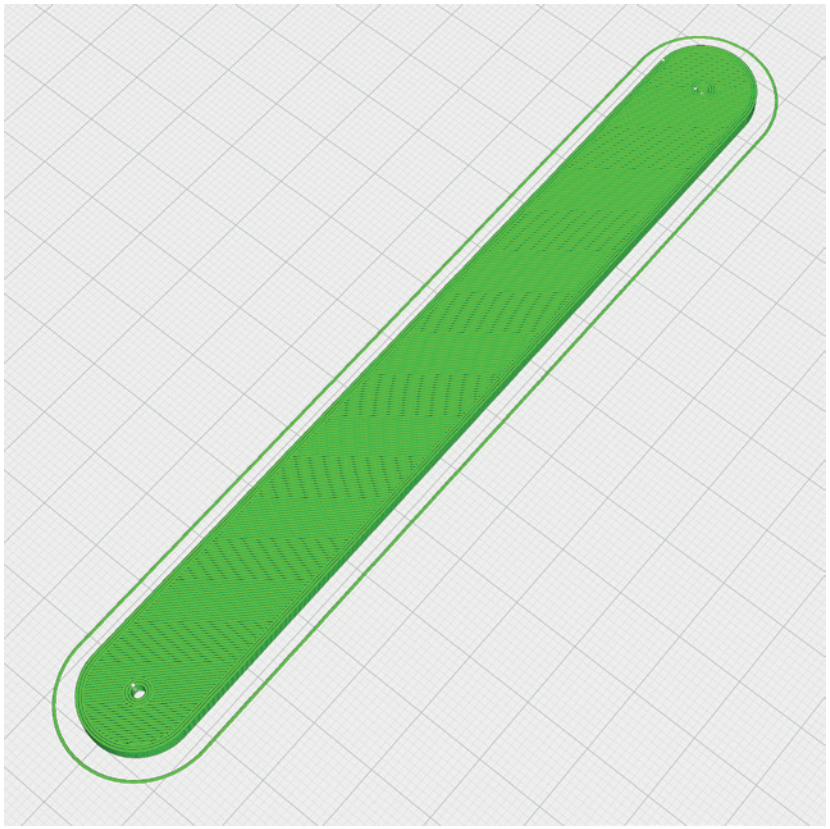


P4_Wing belt flex_ae.stl

MATERIAL TPU A95, Weight: ~ 4 g

ADDITIONAL SETTINGS

- Infill Density: 100 %



© PLANEPRINT

PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

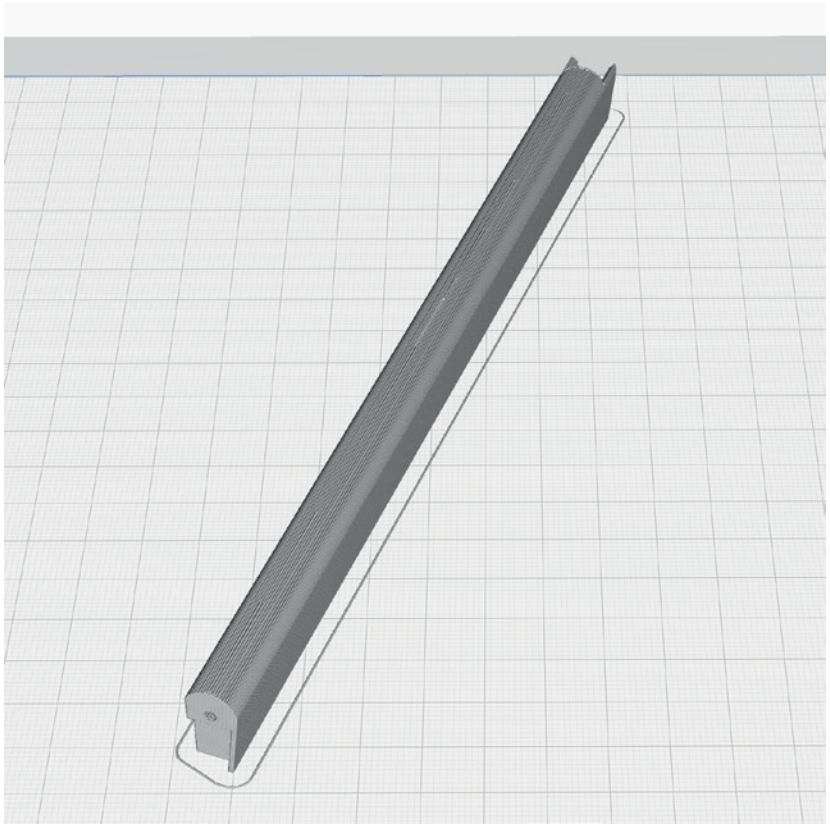
P5_AIL 1 L_ae.stl and P5_AIL 1 R_ae.stl

MATERIAL **LW-PLA**, ~ 5 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required

TIP Label the Aileron parts with adhesive tape so you don't mix them up during assembly.

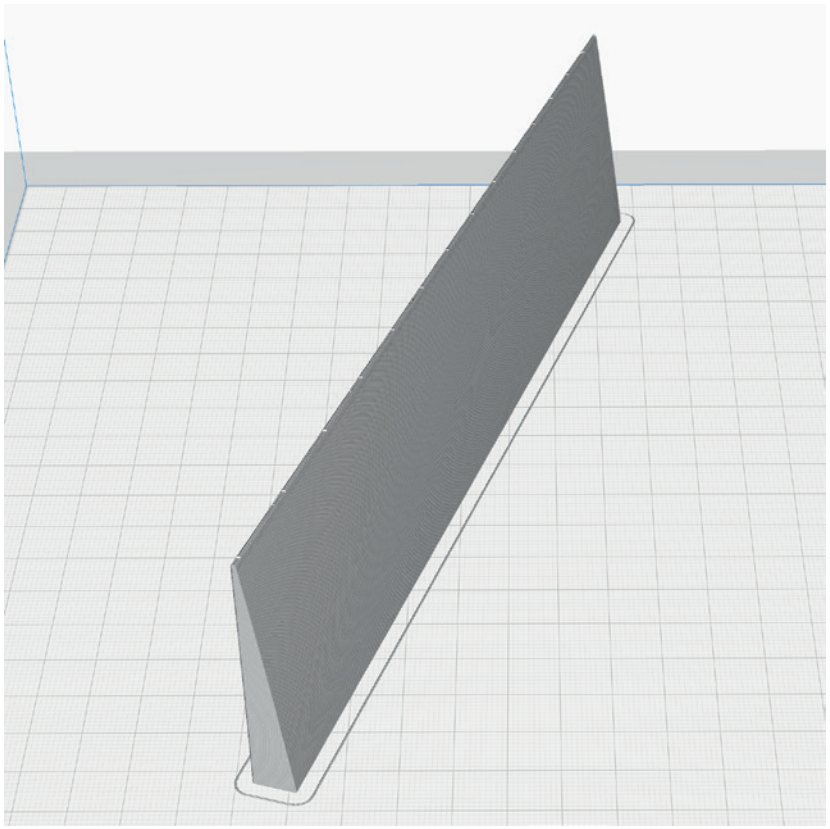


P5_AIL 2 L_ae.stl and P5_AIL 2 R_ae.stl

MATERIAL **LW-PLA**, ~ 8 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

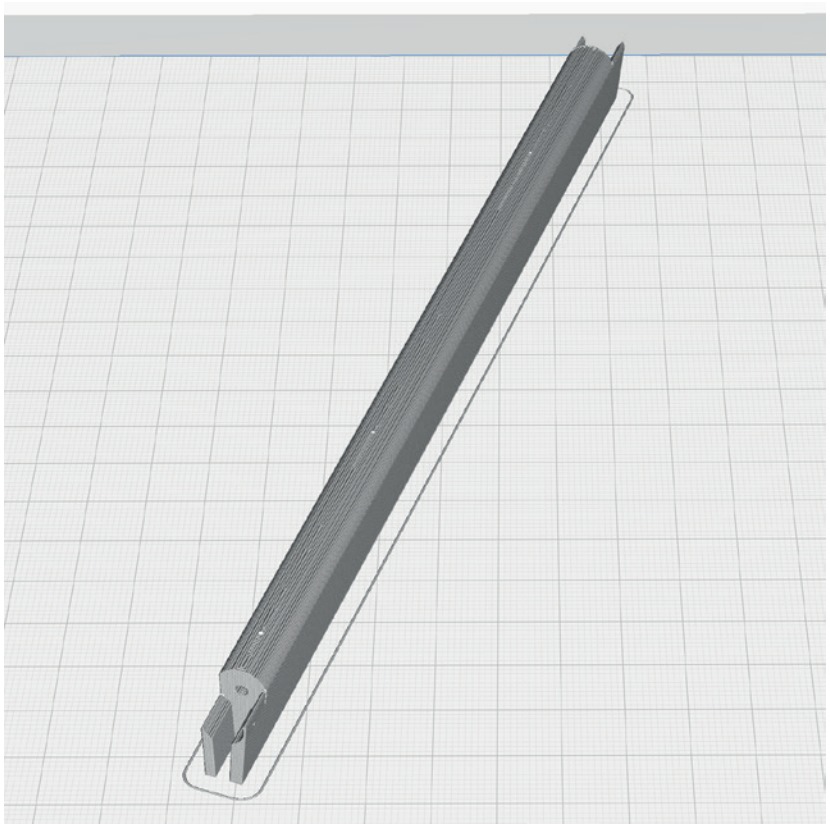
Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

P5_AIL 3 L_ae.stl and
P5_AIL 3 R_ae.stl

MATERIAL **LW-PLA**, ~ 4 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required

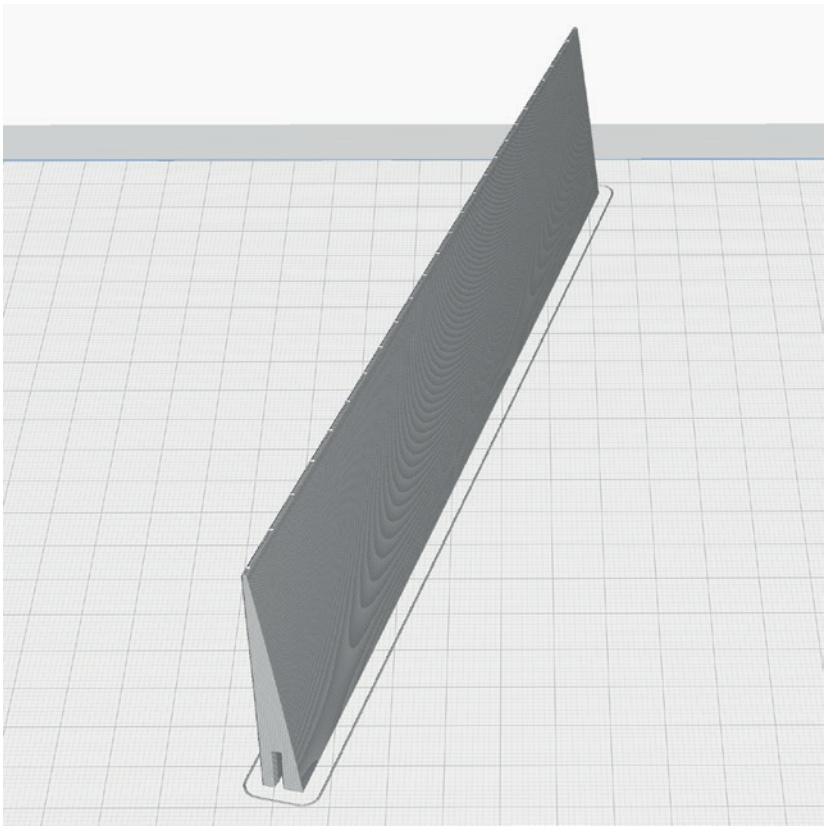


P5_AIL 4 L_ae.stl and
P5_AIL 4 R_ae.stl

MATERIAL **LW-PLA**, ~ 7 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

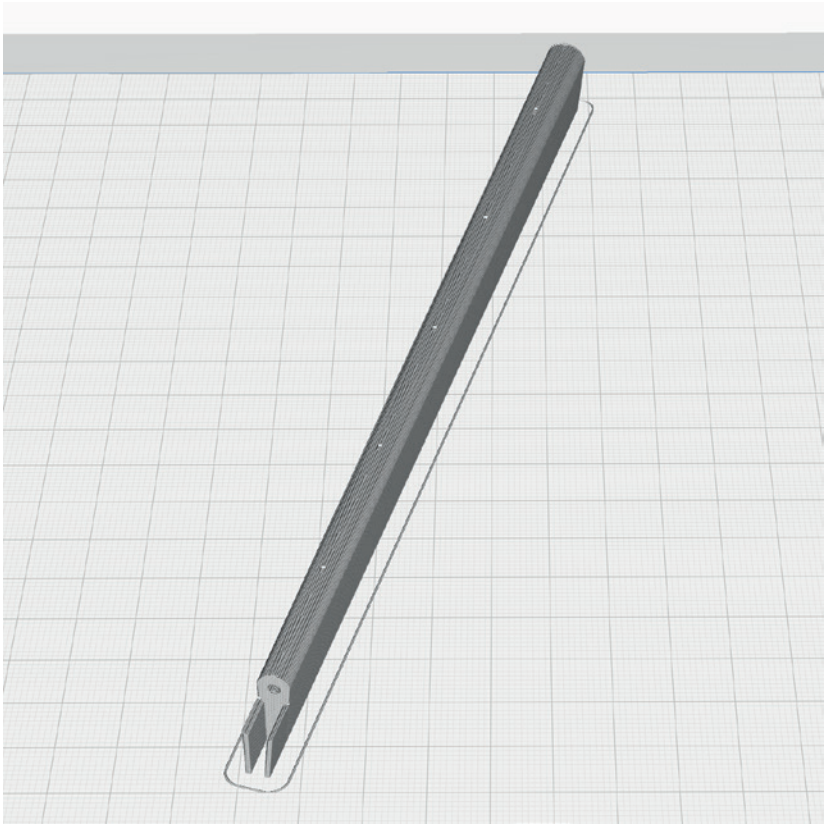
Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

P5_AIL 5 L_ae.stl and
P5_AIL 5 R_ae.stl

MATERIAL **LW-PLA**, ~ 4 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required

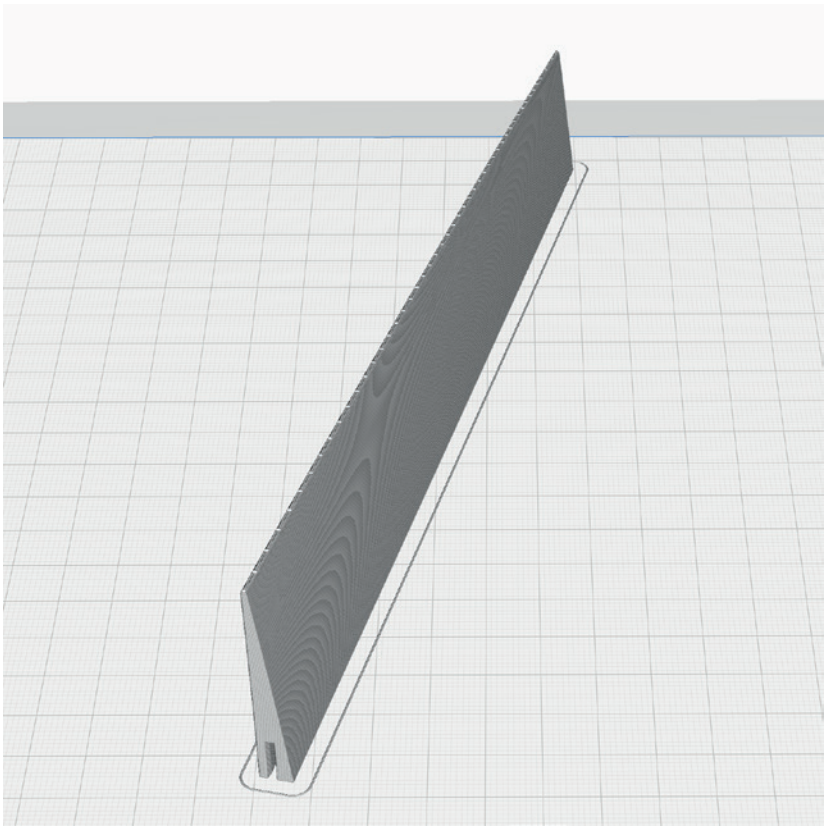


P5_AIL 6 L_ae.stl and
P5_AIL 6 R_ae.stl

MATERIAL **LW-PLA**, ~ 5 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

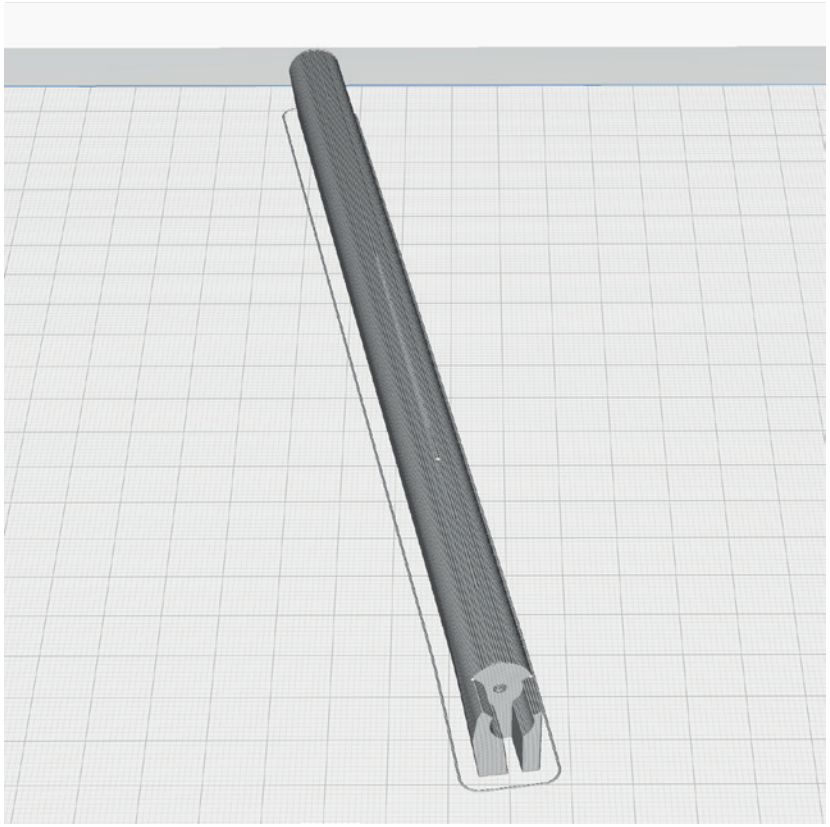
P5_Flap 1 L_ae.stl and **P5_Flap 1 R_ae.stl**

MATERIAL **LW-PLA**, ~ 5 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required

TIP Label the Flap parts with adhesive tape so you don't mix them up during assembly.

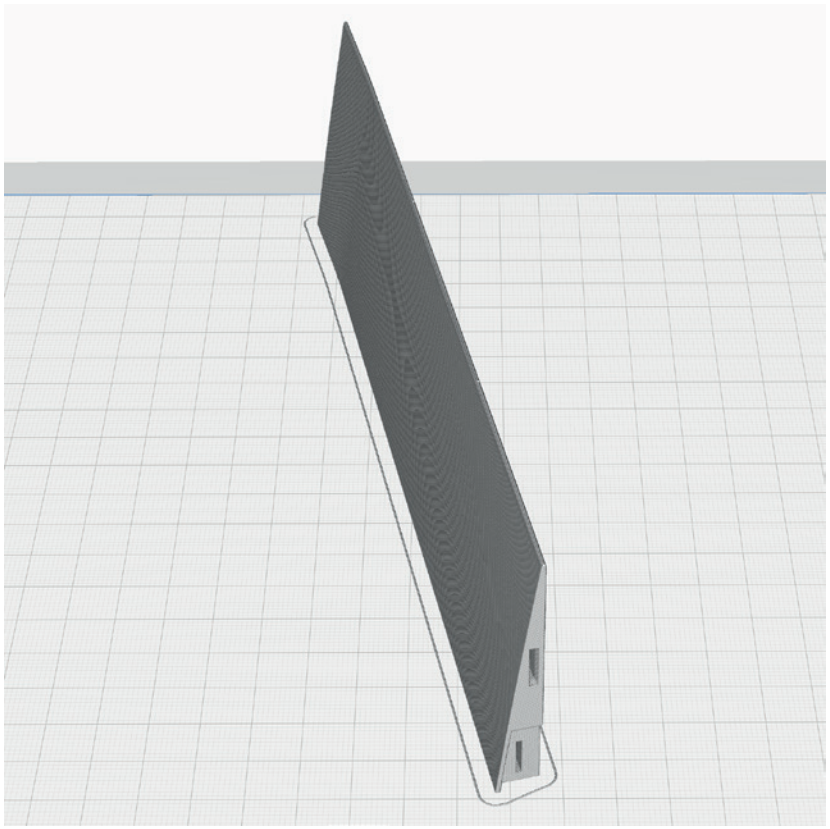


P5_Flap 2 L_ae.stl and **P5_Flap 2 R_ae.stl**

MATERIAL **LW-PLA**, ~ 9 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

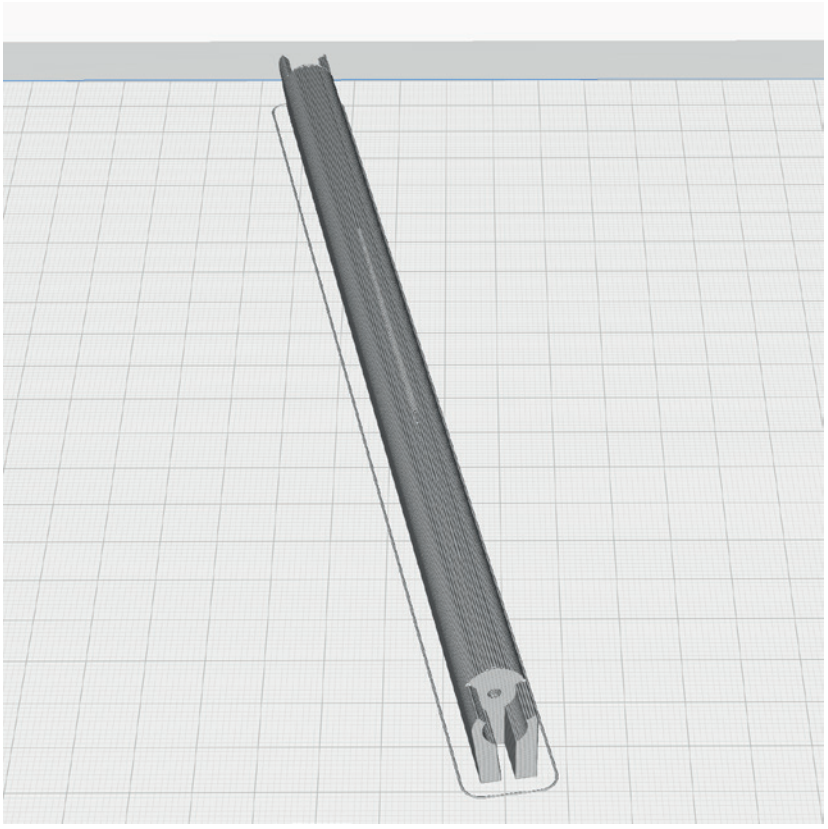
Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

P5_Flap 3 L_ae.stl and **P5_Flap 3 R_ae.stl**

MATERIAL **LW-PLA**, ~ 5 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required

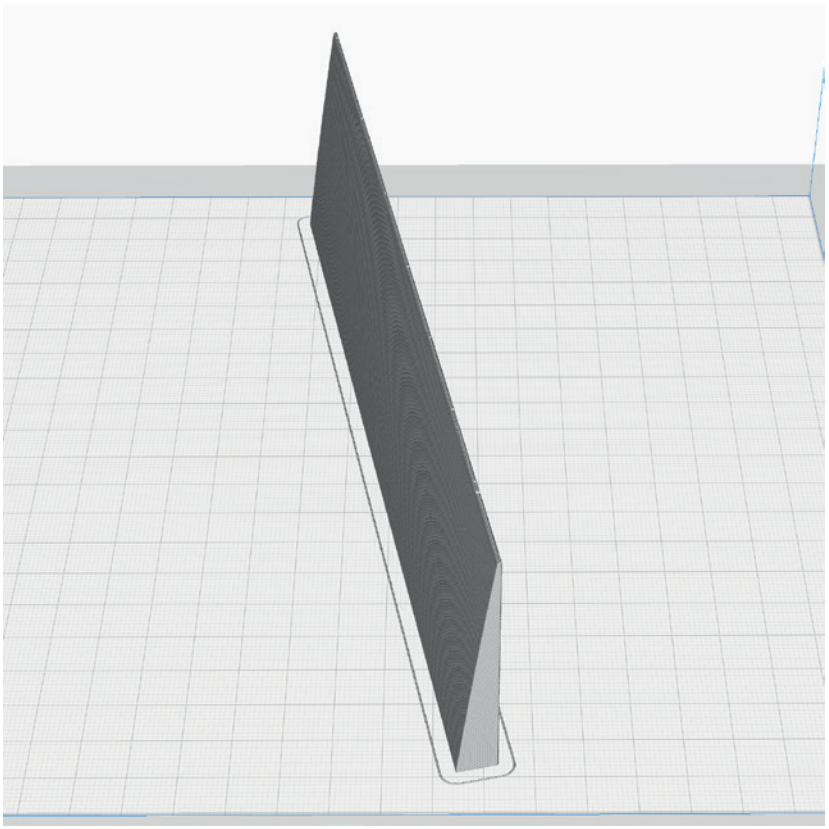


P5_Flap 4 L_ae.stl and **P5_Flap 4 R_ae.stl**

MATERIAL **LW-PLA**, ~ 9 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts!** **It is essential to print these parts with LW-PLA!**

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

P5_Fuselage 3_ae.stl

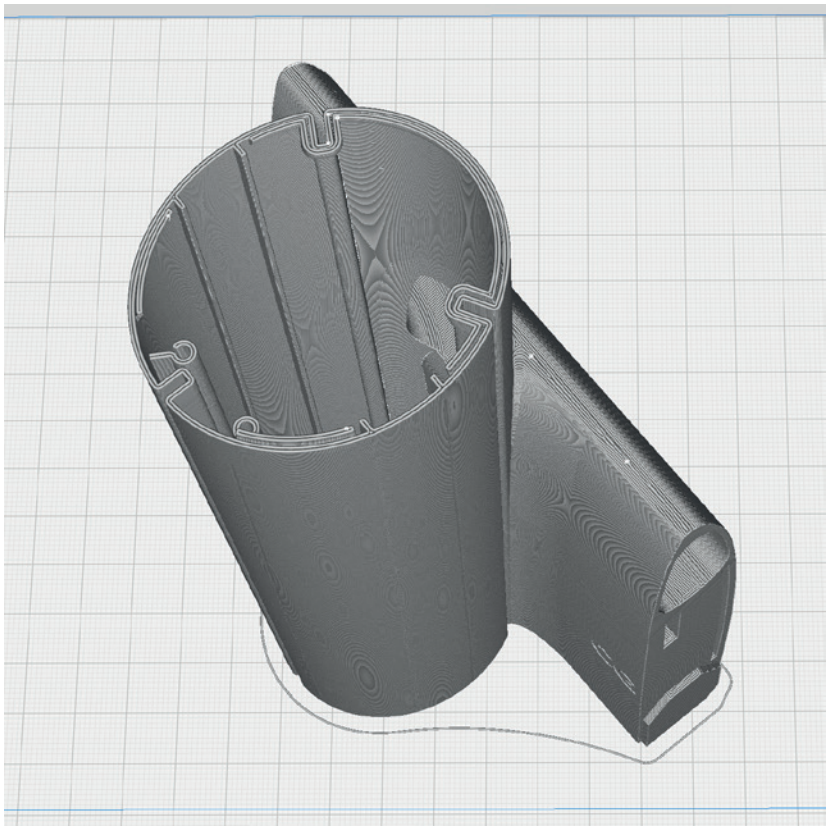
MATERIAL **LW-PLA**, ~ 43 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



Remove support.
Please be careful with the knife!

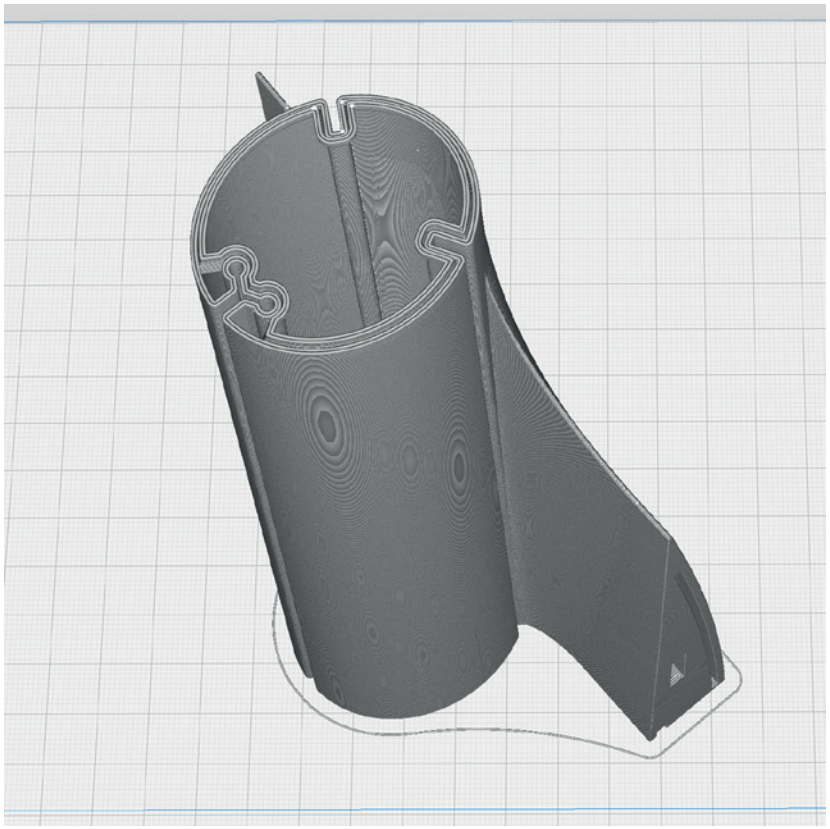


P5_Fuselage 4_ae.stl

MATERIAL **LW-PLA**, ~ 39 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

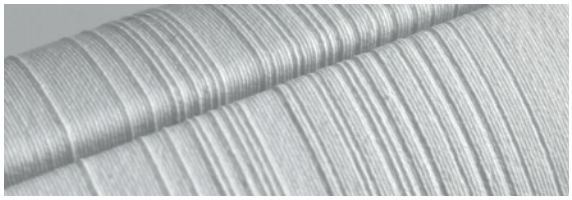
Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

P5_Fuselage 5_ae.stl

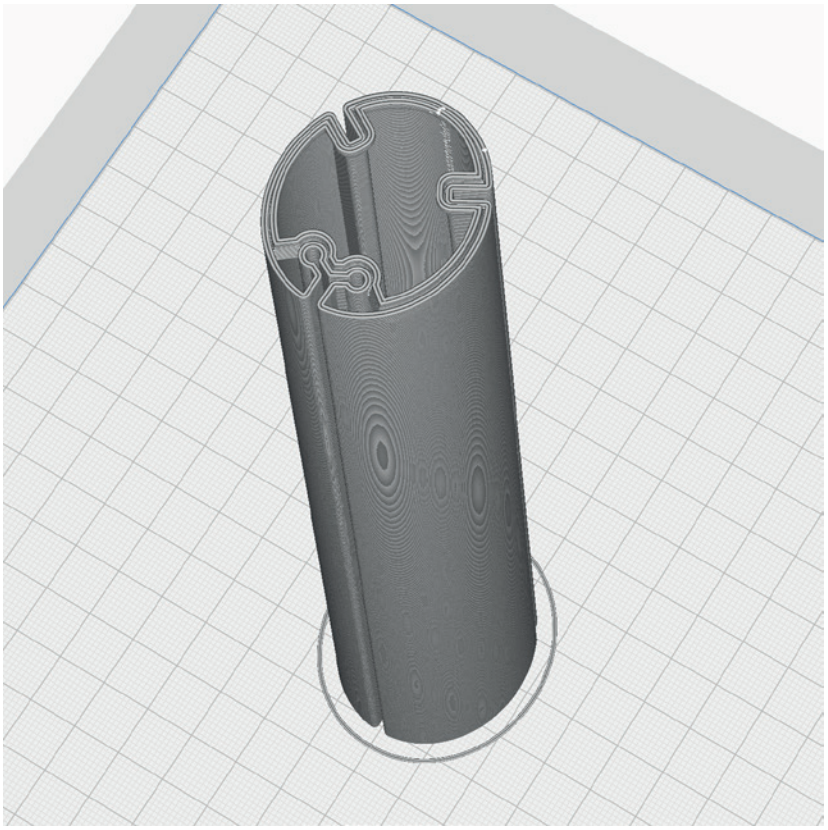
MATERIAL **LW-PLA**, ~ 22 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



Due to the properties of LW-PLA, grooves may appear in the 2-wall print. You can either lower the flow or simply smooth them out later with sandpaper. But here, stability comes first.

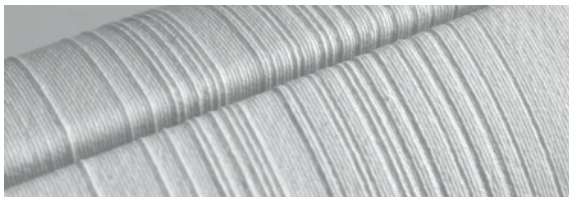


P5_Fuselage 6_ae.stl

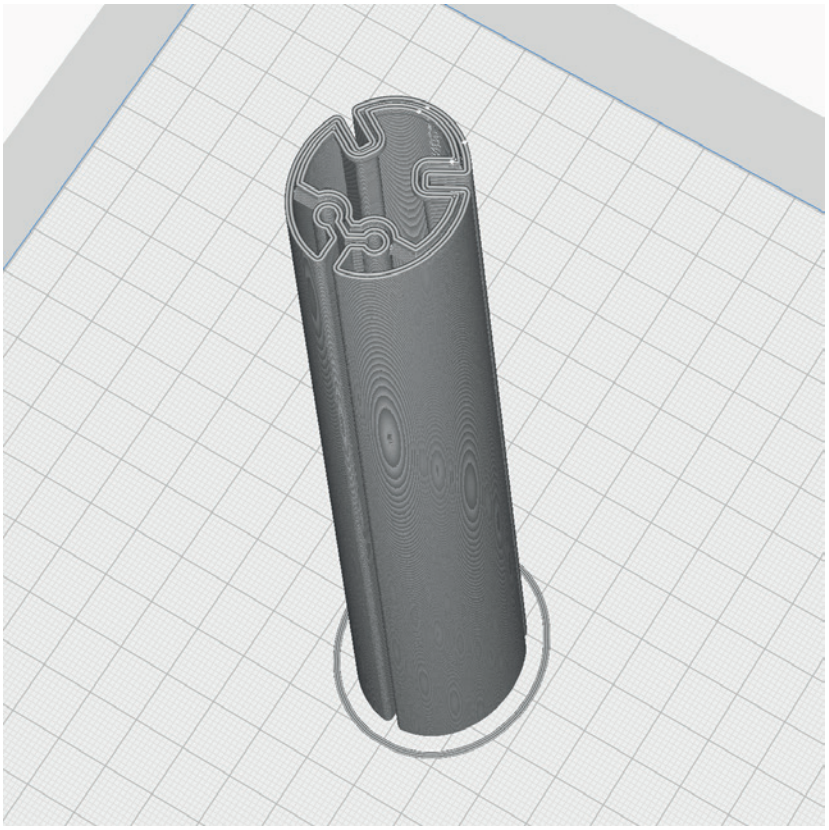
MATERIAL **LW-PLA**, ~ 19 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



Due to the properties of LW-PLA, grooves may appear in the 2-wall print. You can either lower the flow or simply smooth them out later with sandpaper. But here, stability comes first.



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

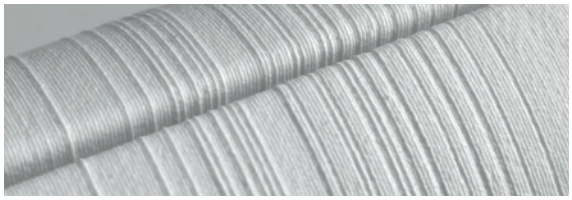
Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

P5_Fuselage 7_ae.stl

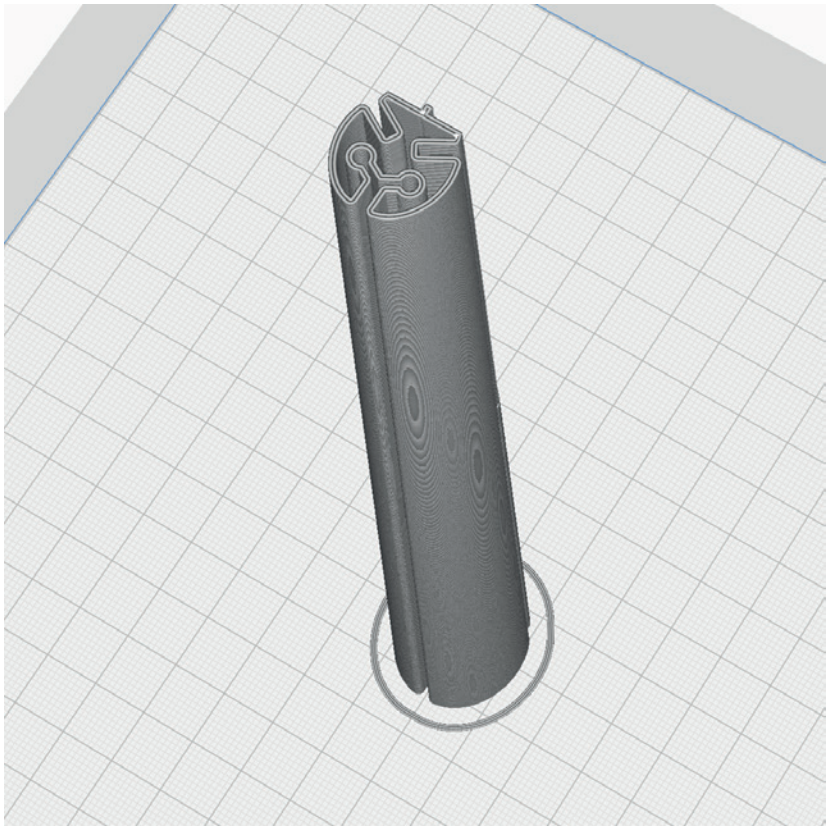
MATERIAL **LW-PLA**, ~ 15 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



Due to the properties of LW-PLA, grooves may appear in the 2-wall print. You can either lower the flow or simply smooth them out later with sandpaper. But here, stability comes first.

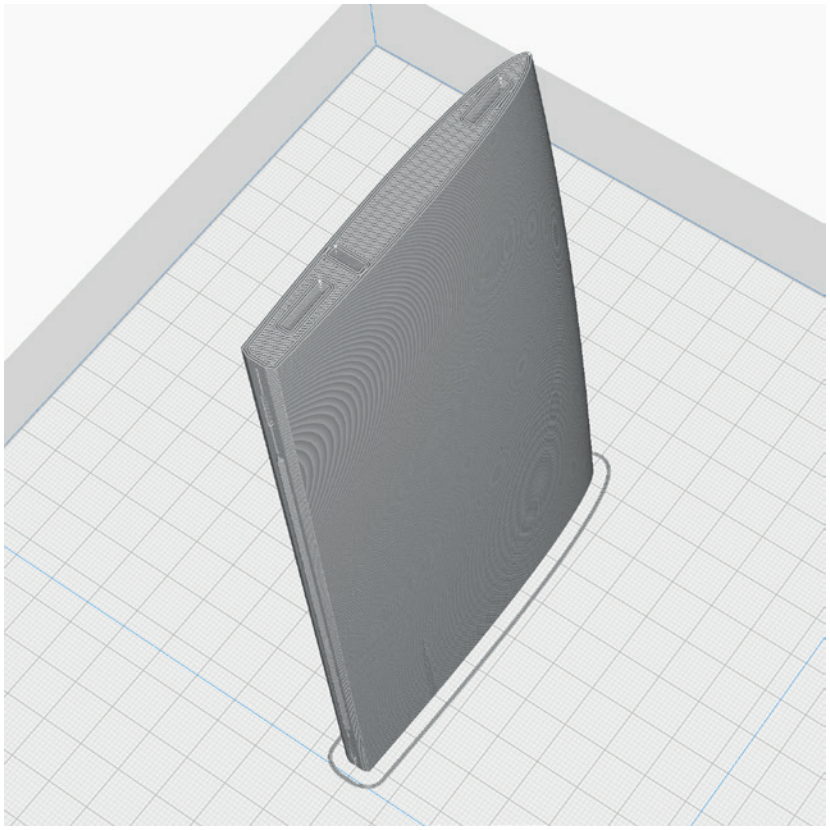


P5_V-Tail 1 L_ae.stl and P5_V-Tail 1 R_ae.stl

MATERIAL **LW-PLA**, ~ 13 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

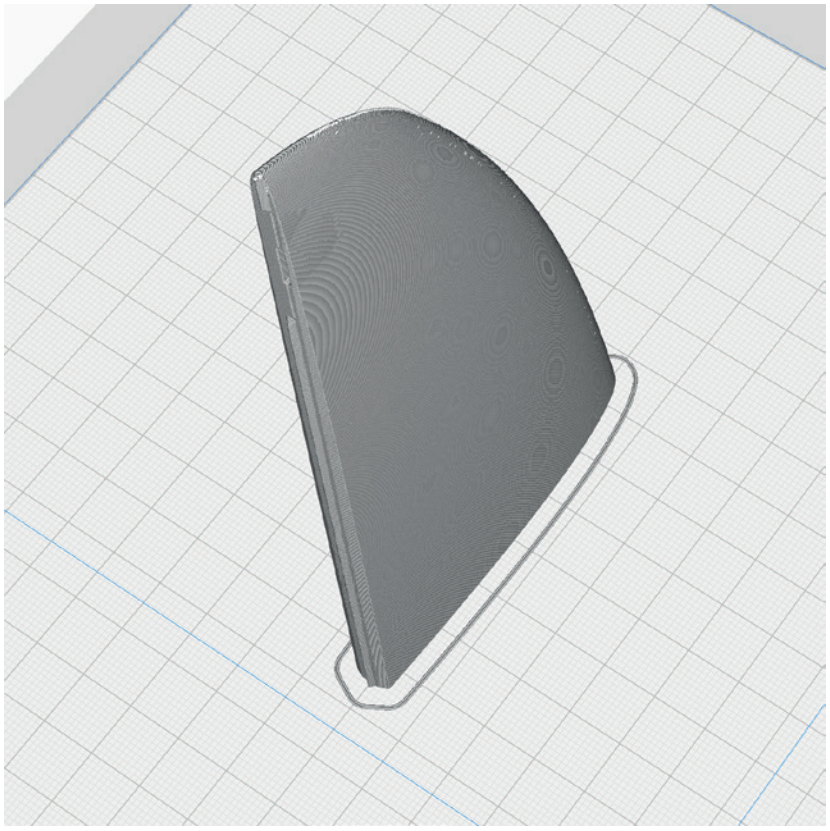
Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

P5_V-Tail 2 L_ae.stl and P5_V-Tail 2 R_ae.stl

MATERIAL **LW-PLA**, ~ 7 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required

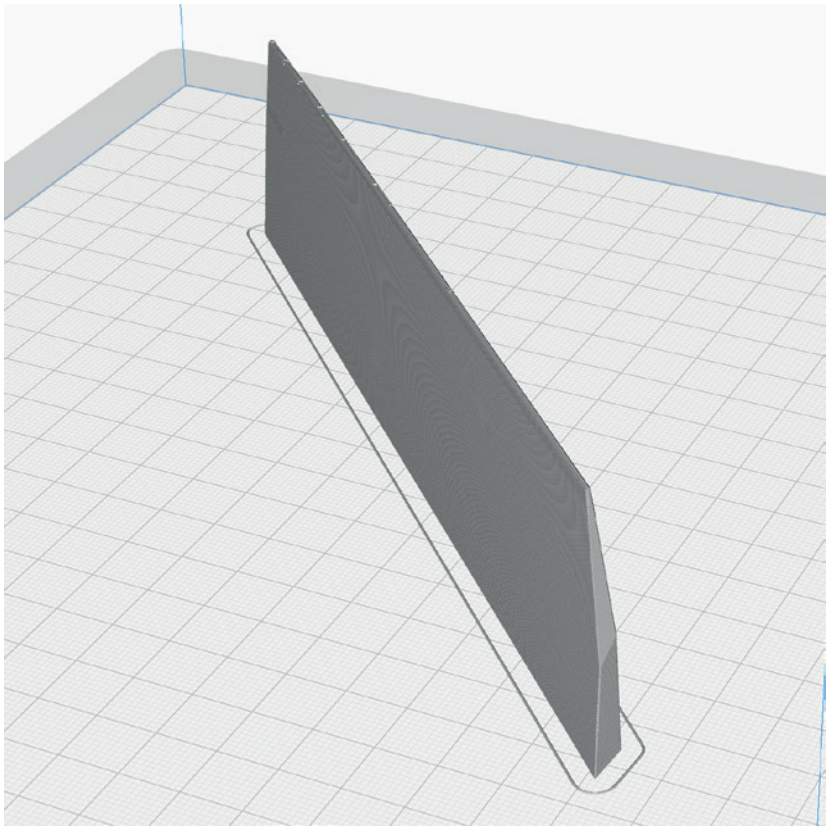


P5_V-Tail 3 L_ae.stl and P5_V-Tail 3 R_ae.stl

MATERIAL **LW-PLA**, ~ 5 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

- Z Seam Position: Back Left



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

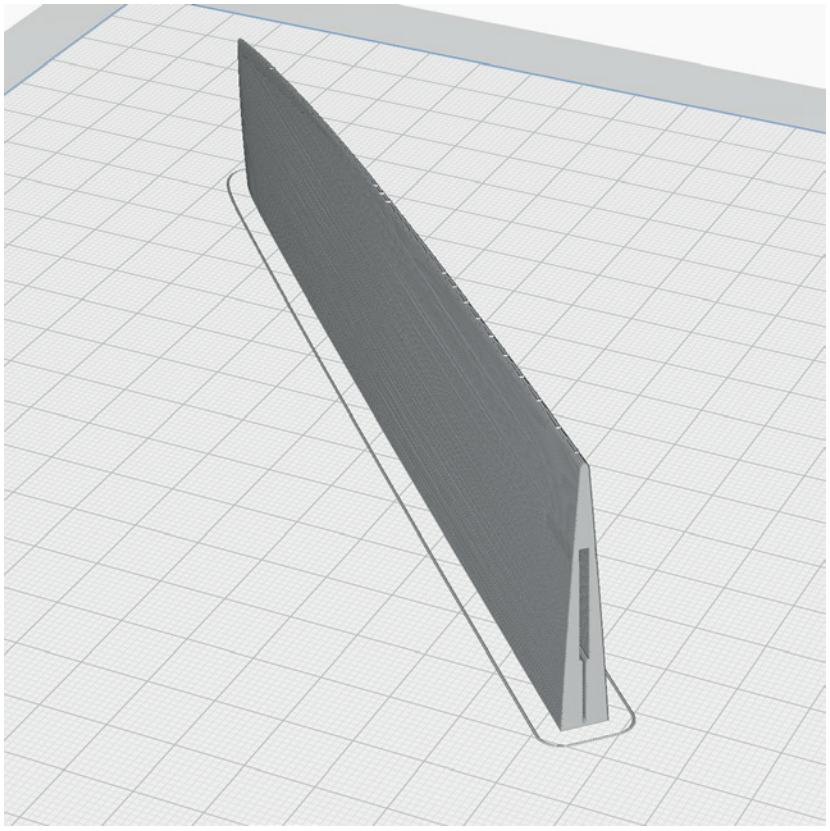
Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

P5_V-Tail 4 L_ae.stl and P5_V-Tail 4 R_ae.stl

MATERIAL **LW-PLA**, ~ 4 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

- Z Seam Position: Back Left



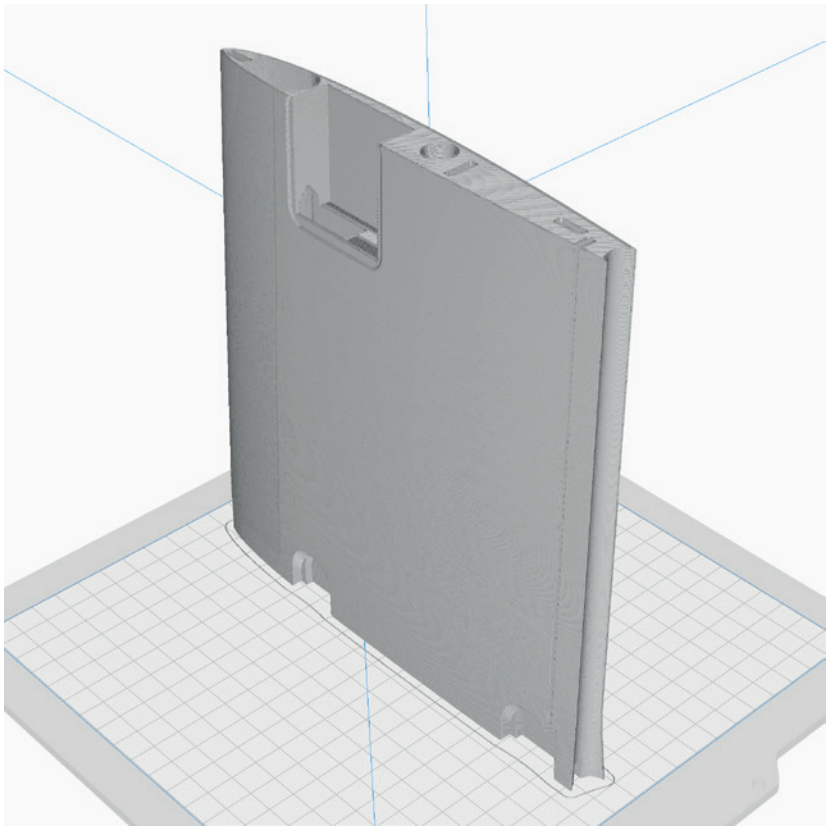
P5_Wing 1 L_ae.stl and P5_Wing 1 R_ae.stl

MATERIAL **LW-PLA**, ~ 54 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required

NOTE Do not mirror in the slicer! The left and right sides of the wing are different.



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

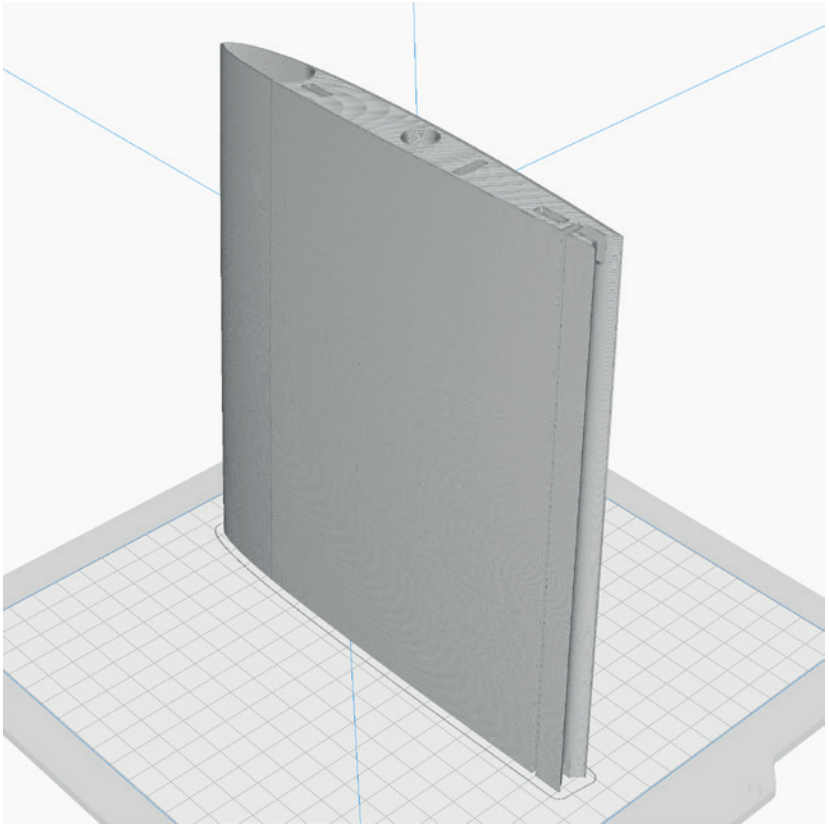
Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

P5_Wing 2 L_ae.stl and P5_Wing 2 R_ae.stl

MATERIAL **LW-PLA**, ~ 50 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required

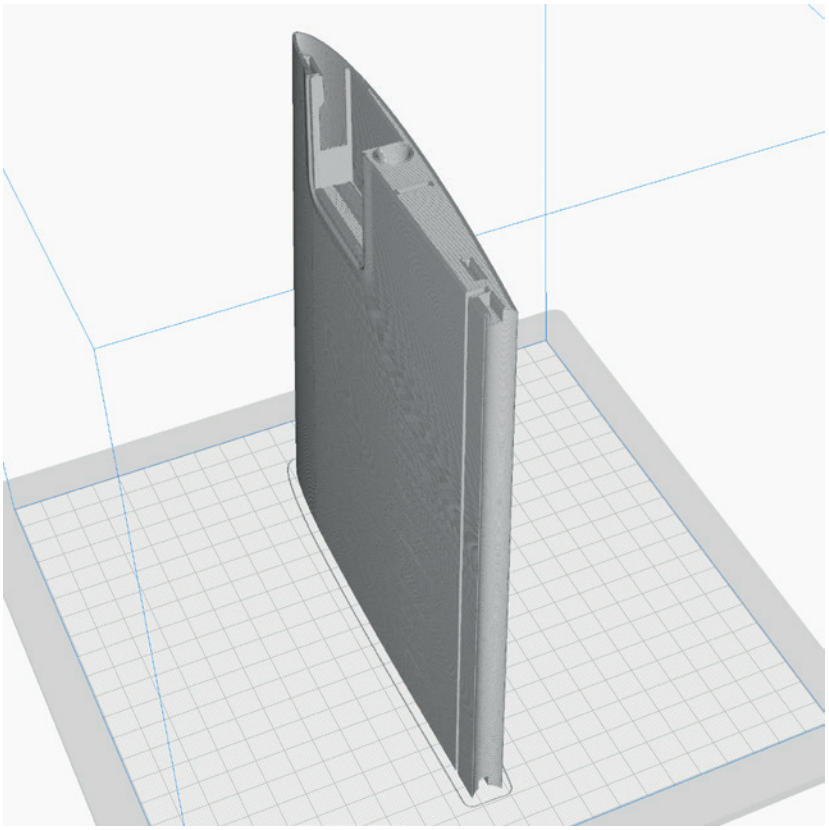


P5_Wing 3 L_ae.stl and P5_Wing 3 R_ae.stl

MATERIAL **LW-PLA**, ~ 45 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

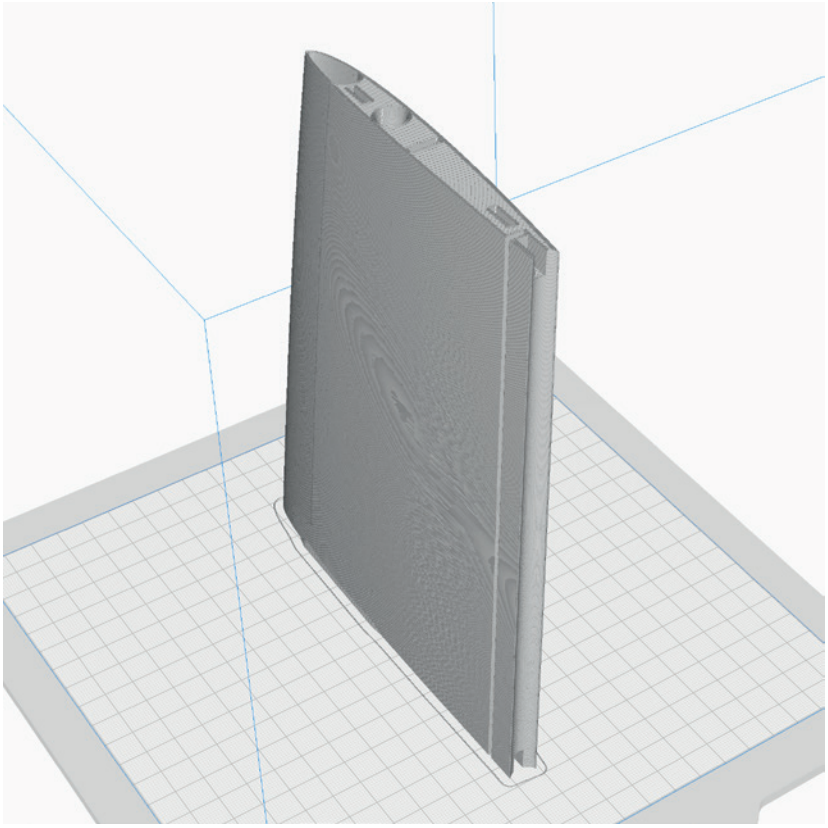
Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

P5_Wing 4 L_ae.stl and **P5_Wing 4 R_ae.stl**

MATERIAL **LW-PLA**, ~ 37 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required

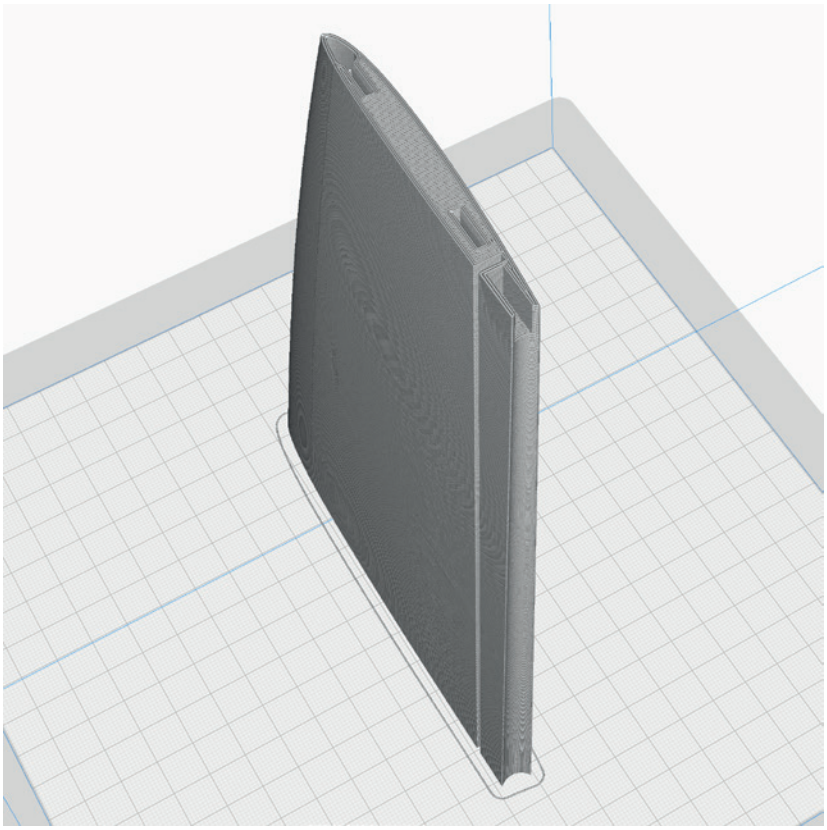


P5_Wing 5 L_ae.stl and **P5_Wing 5 R_ae.stl**

MATERIAL **LW-PLA**, ~ 25 g*
*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



PROFILE P5_Gyroid Light-Weight LW-PLA!

The following parts must be sliced with the PROFILE P5_Gyroid. **Please note the additional settings for the individual parts! It is essential to print these parts with LW-PLA!**

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment!

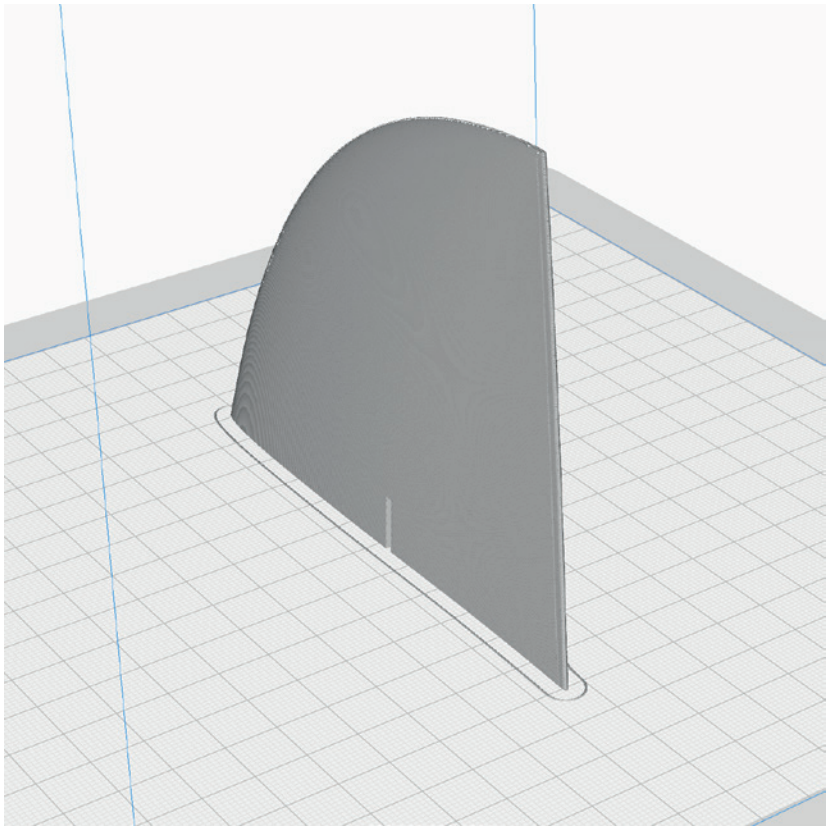
P5_Wing 6 L_ae.stl and **P5_Wing 6 R_ae.stl**

MATERIAL **LW-PLA**, ~ 12 g*

*Weighed (approximate guideline)

ADDITIONAL SETTINGS

- Wall Line Count: 2



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.

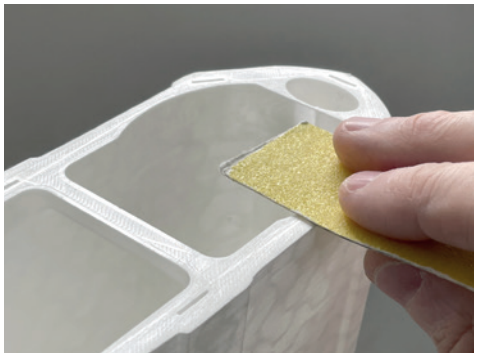
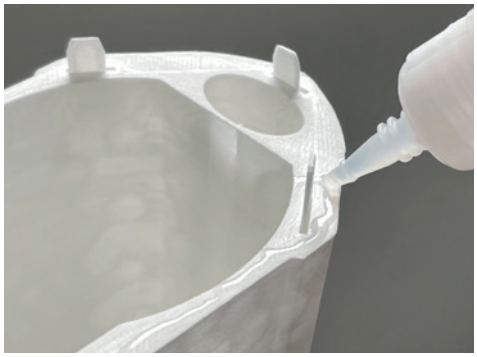
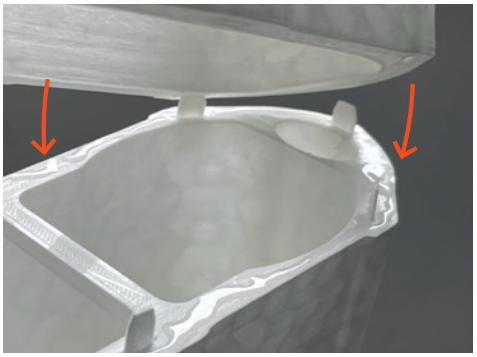
STEP 2 Insert the **interconnects into the slots** provided on one side.

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.

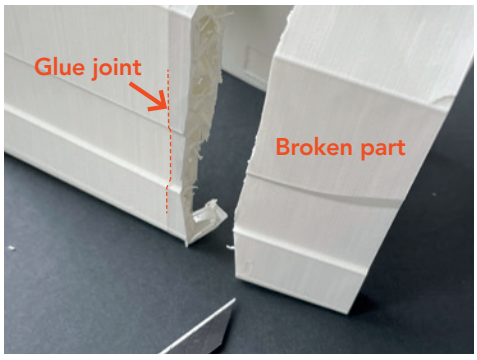




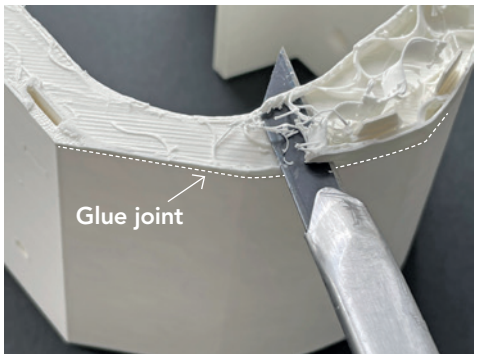
PROFILES 5 parts are easy to repair

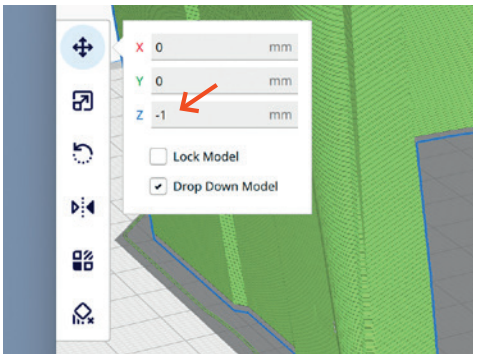
STEP 1 Using the knife, carefully remove the damaged part about 3 mm from the glue joint between two parts.

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

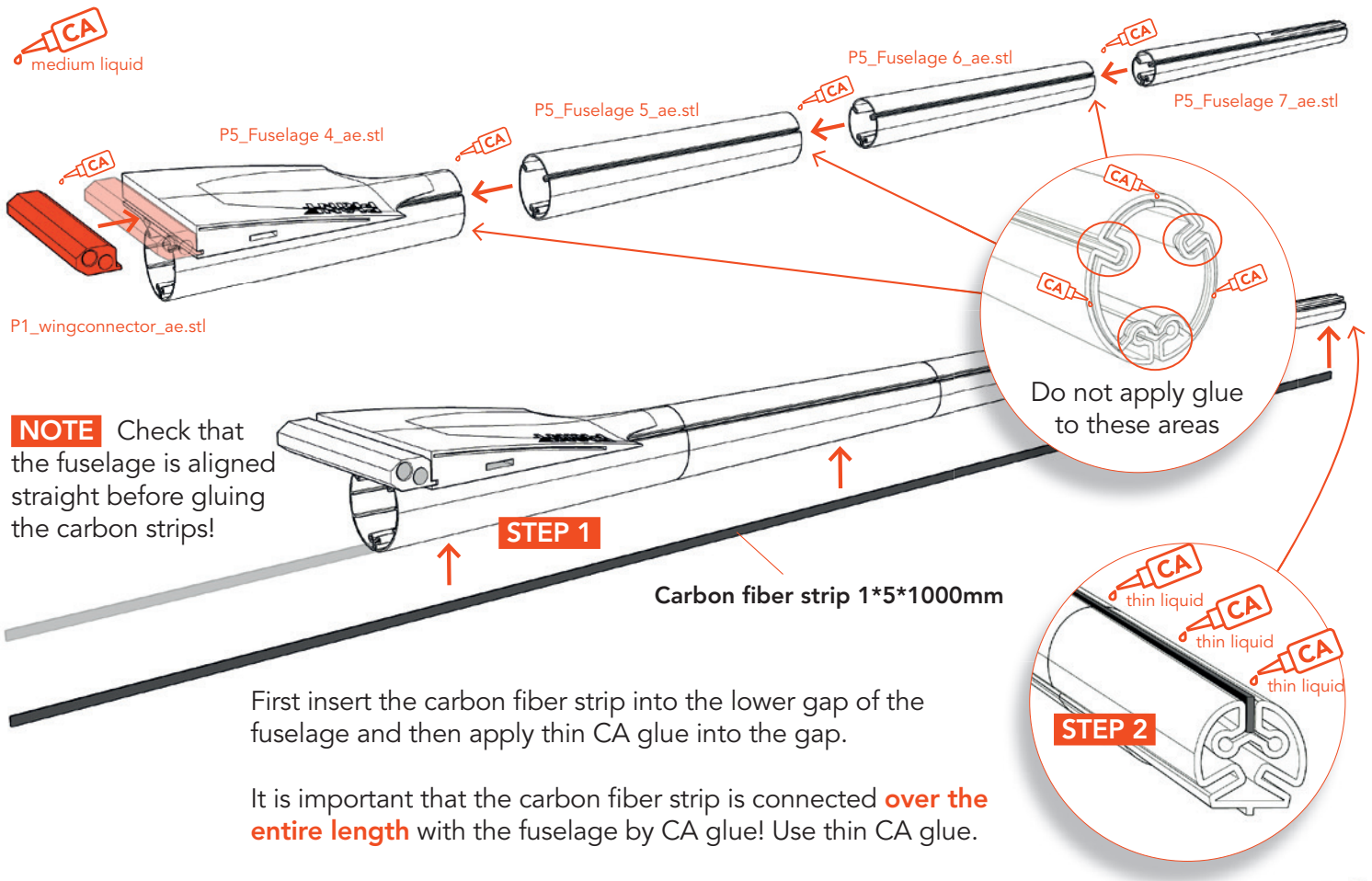
STEP 3 The remaining top surface is about 1 mm thick. To compensate for this, you can move the new part to be printed down the Z axis in Cura by 1 mm.







Fuselage assembly

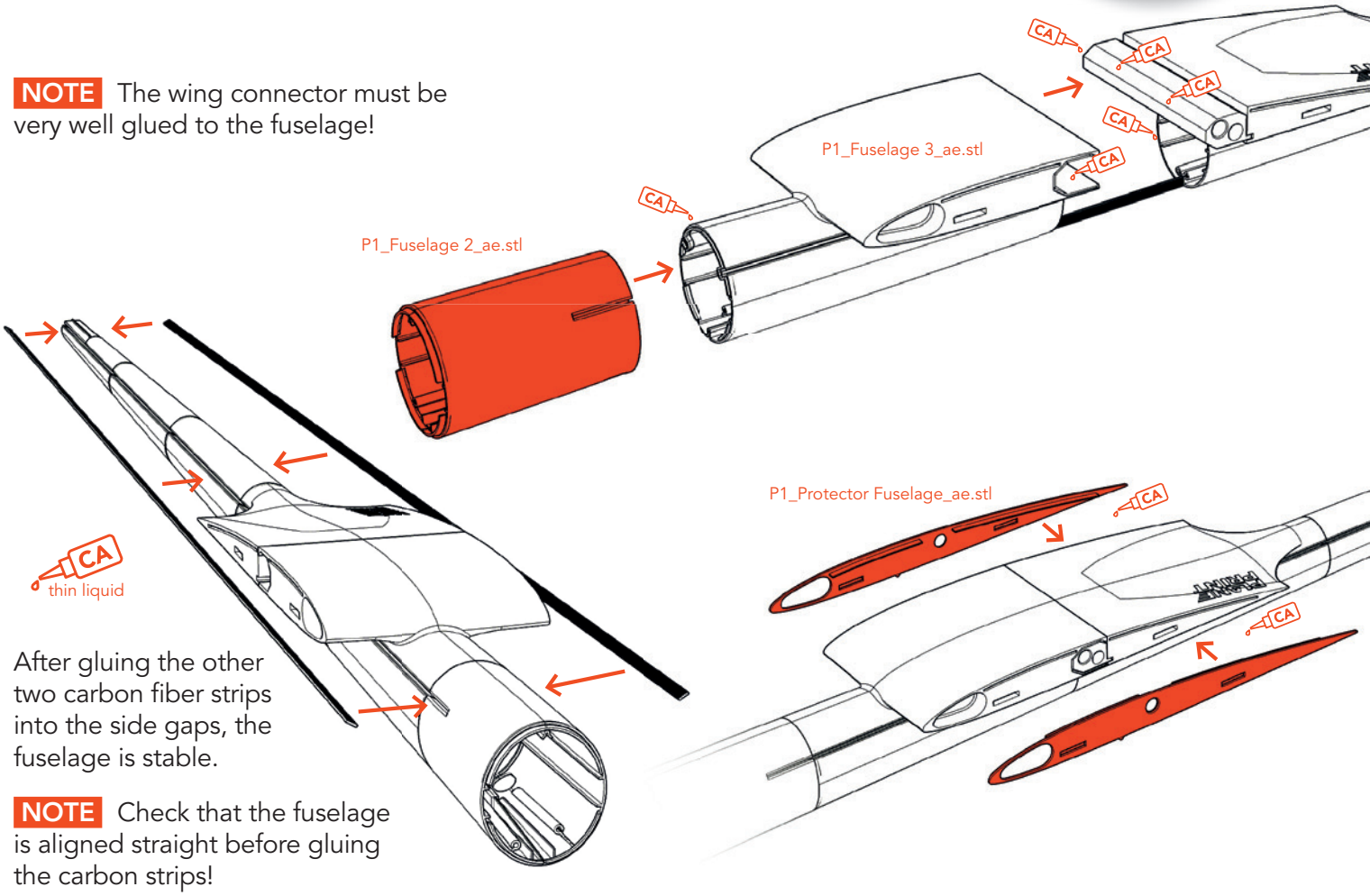


NOTE Check that the fuselage is aligned straight before gluing the carbon strips!

First insert the carbon fiber strip into the lower gap of the fuselage and then apply thin CA glue into the gap.

It is important that the carbon fiber strip is connected **over the entire length** with the fuselage by CA glue! Use thin CA glue.

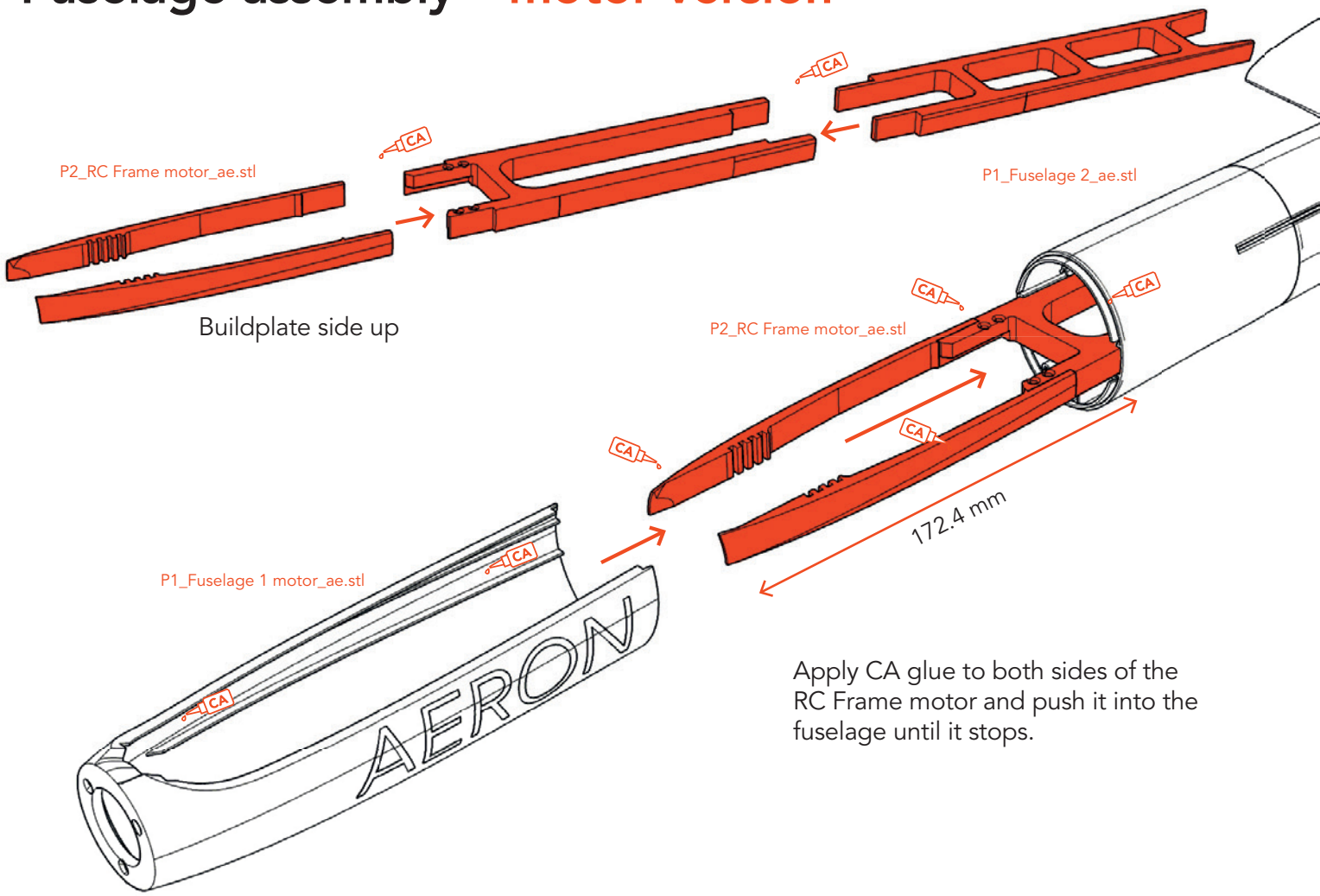
NOTE The wing connector must be very well glued to the fuselage!



After gluing the other two carbon fiber strips into the side gaps, the fuselage is stable.

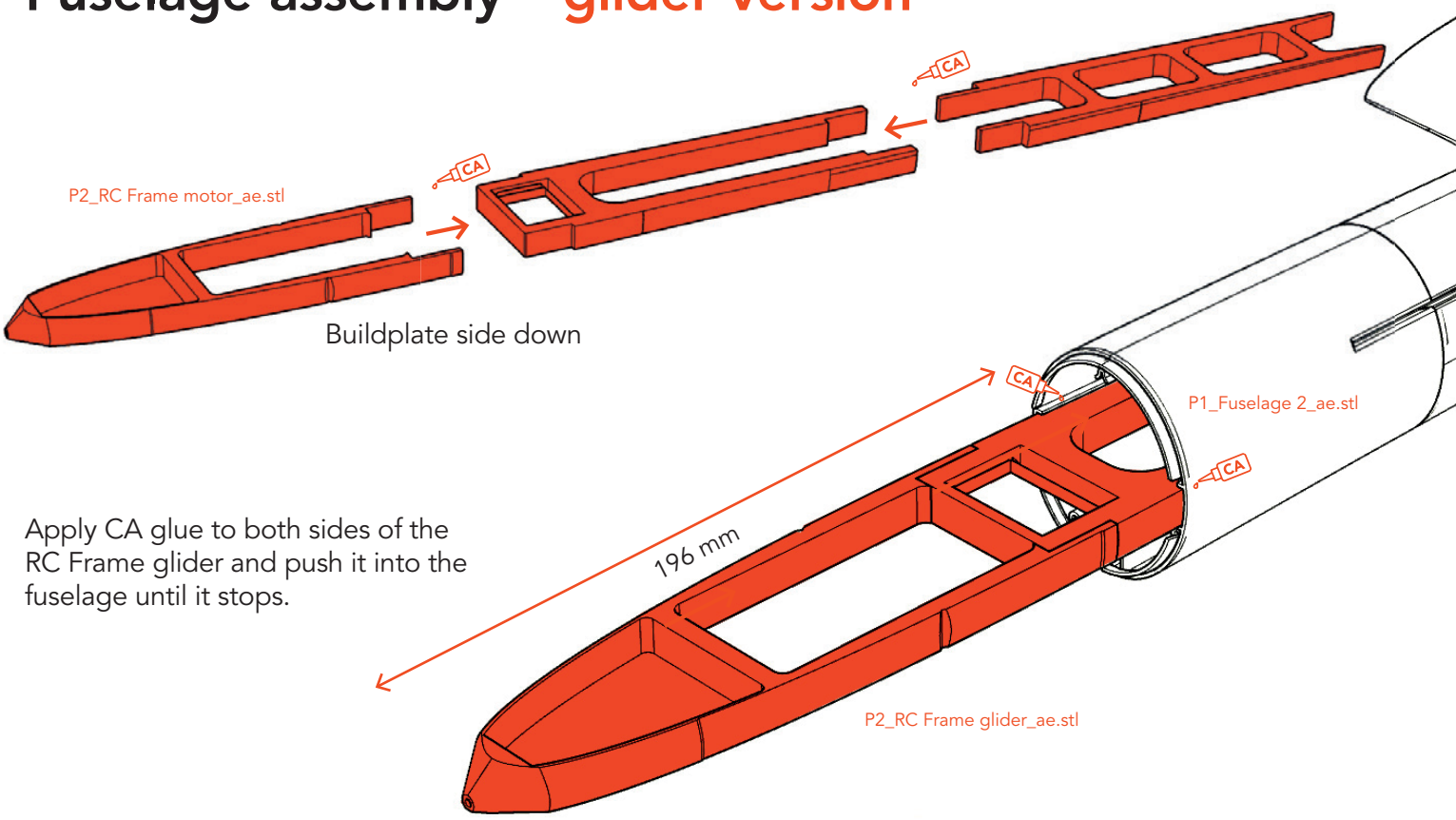
NOTE Check that the fuselage is aligned straight before gluing the carbon strips!

Fuselage assembly – motor version



Apply CA glue to both sides of the RC Frame motor and push it into the fuselage until it stops.

Fuselage assembly – glider version

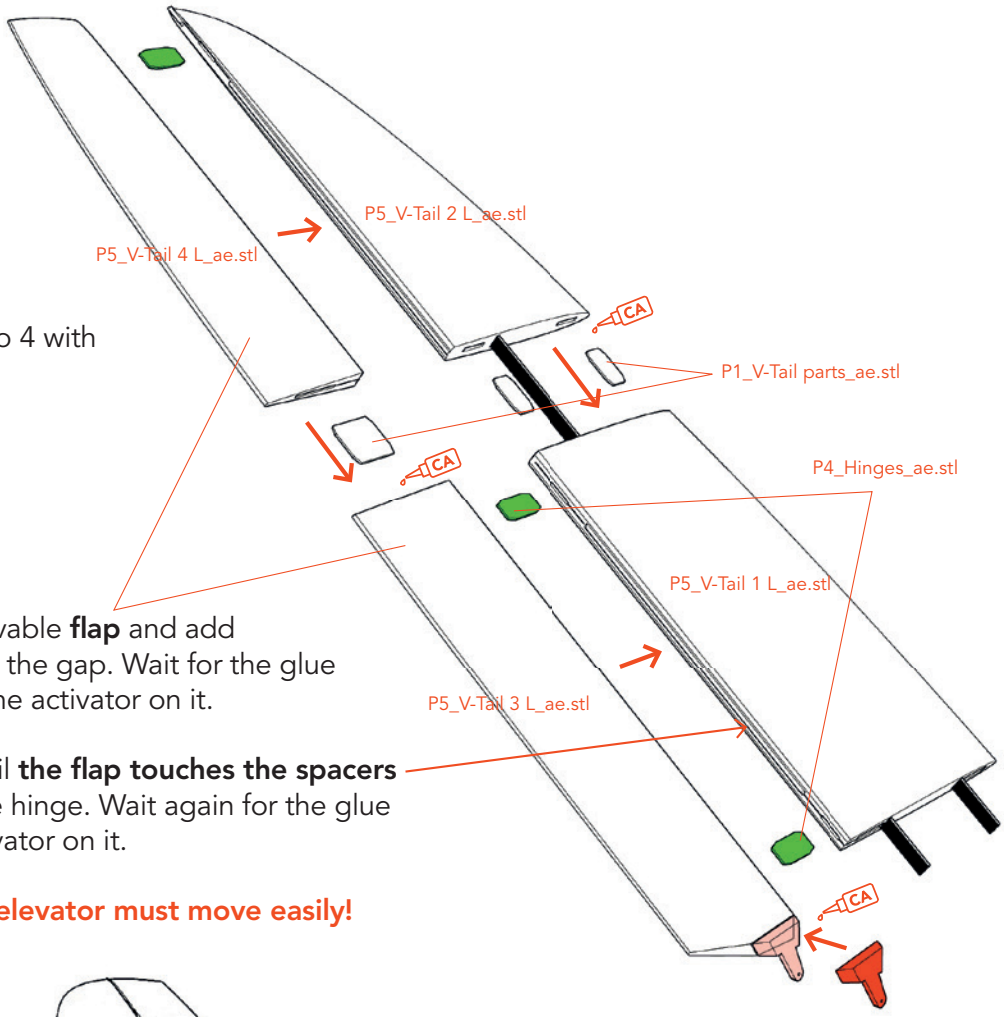


Apply CA glue to both sides of the RC Frame glider and push it into the fuselage until it stops.

V-Tail assembly

CA
medium liquid

First assemble the parts V-Tail 1 to 4 with the help of the interconnects (P1_V-Tail parts_ae.stl).



Installation the TPU Hinges

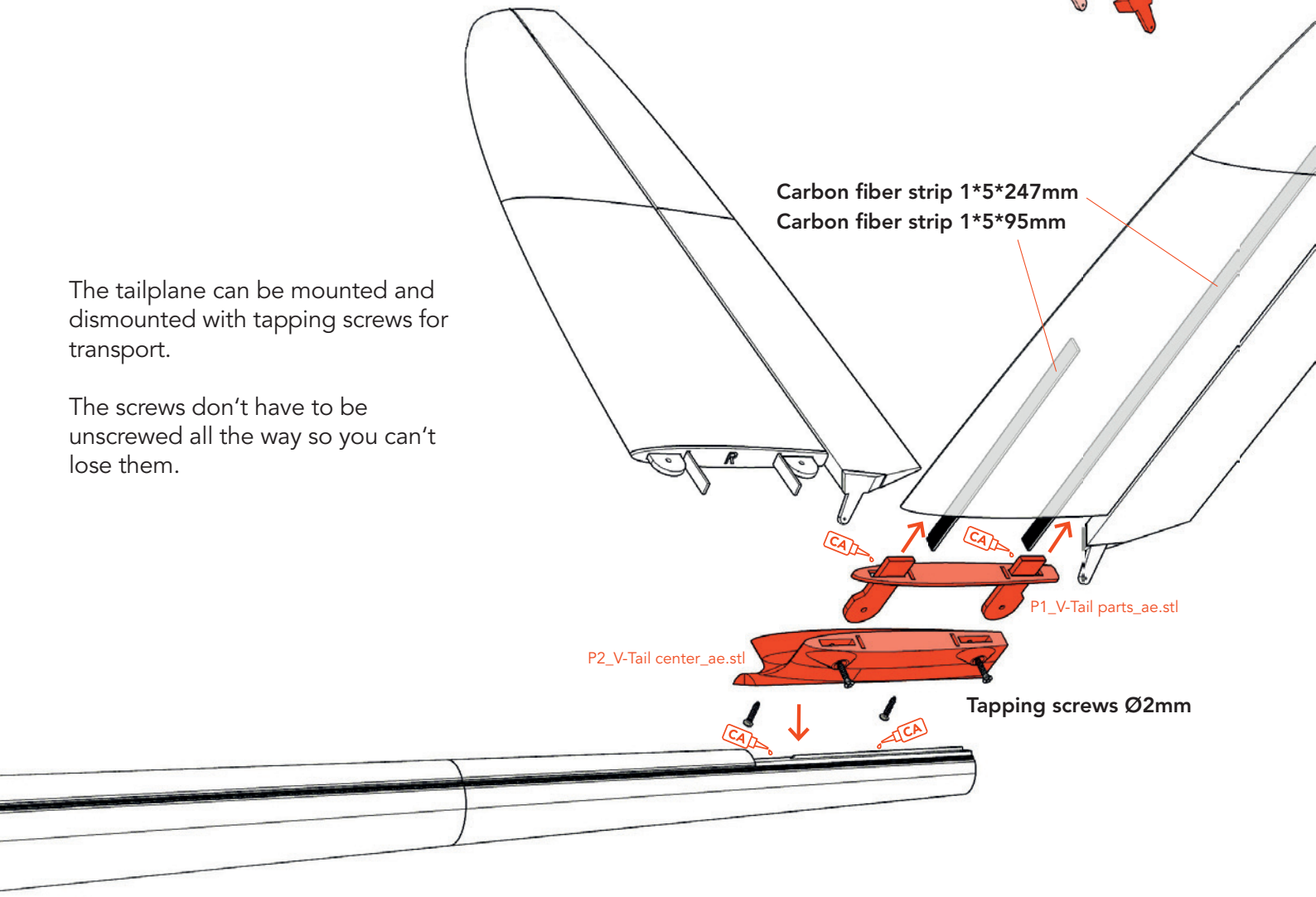
First insert the hinge into the movable **flap** and add a drop of liquid CA adhesive into the gap. Wait for the glue to drain completely, then spray the activator on it.

Then put the flap in the V-tail until **the flap 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!

The tailplane can be mounted and dismounted with tapping screws for transport.

The screws don't have to be unscrewed all the way so you can't lose them.



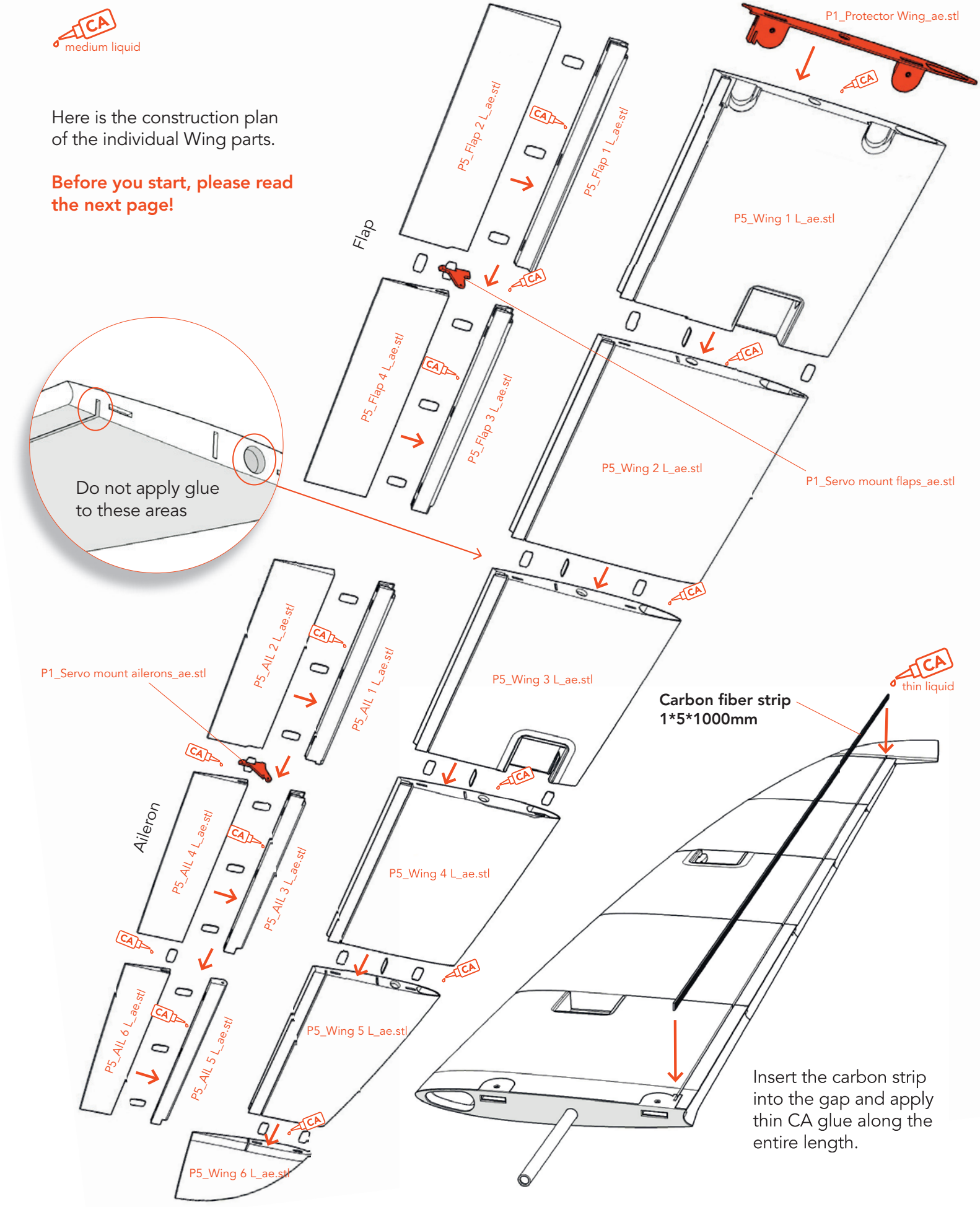
Wing, Flap and Aileron

The wing protector must be well connected to the wing. Do not spare with glue here!

CA medium liquid

Here is the construction plan of the individual Wing parts.

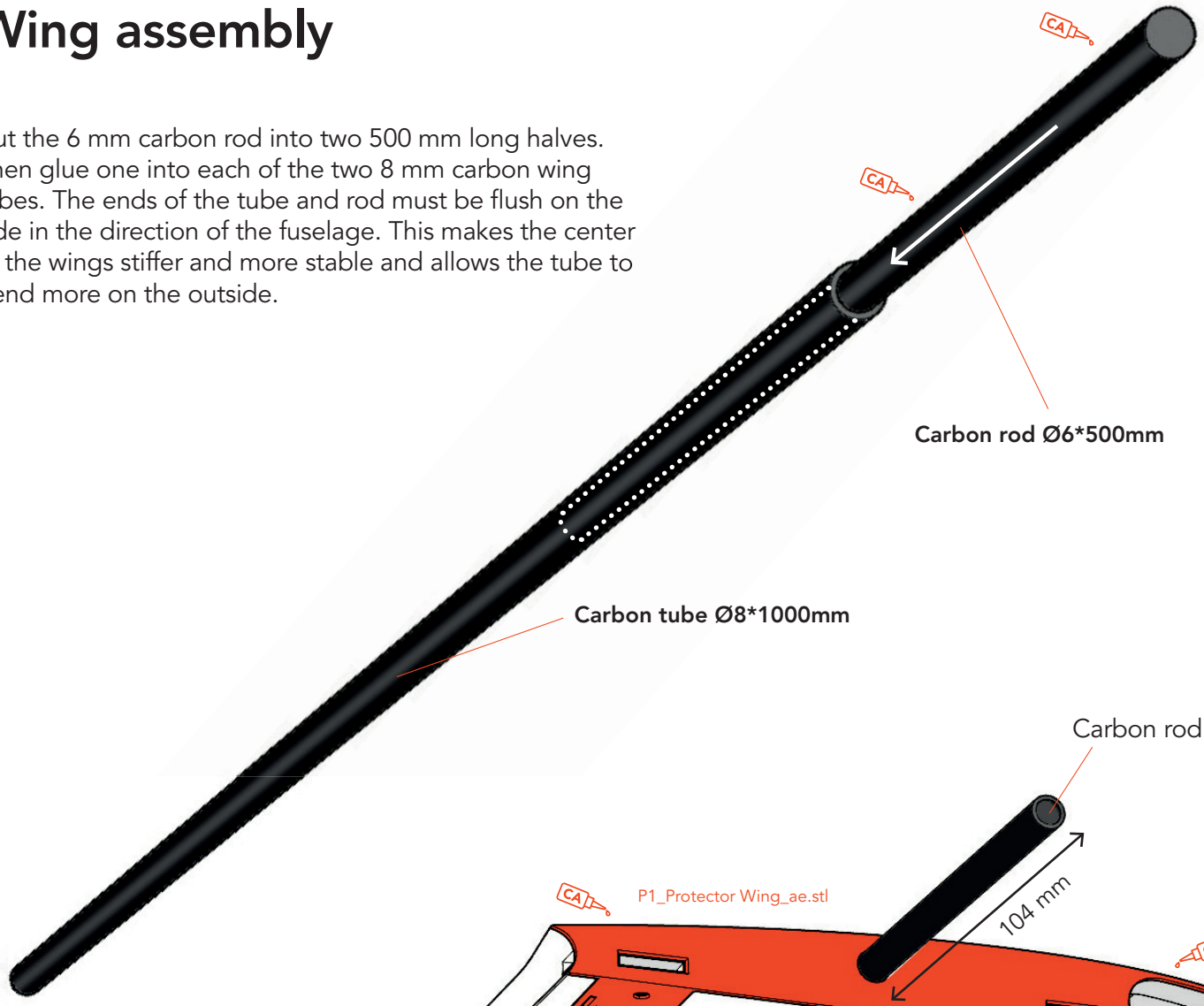
Before you start, please read the next page!



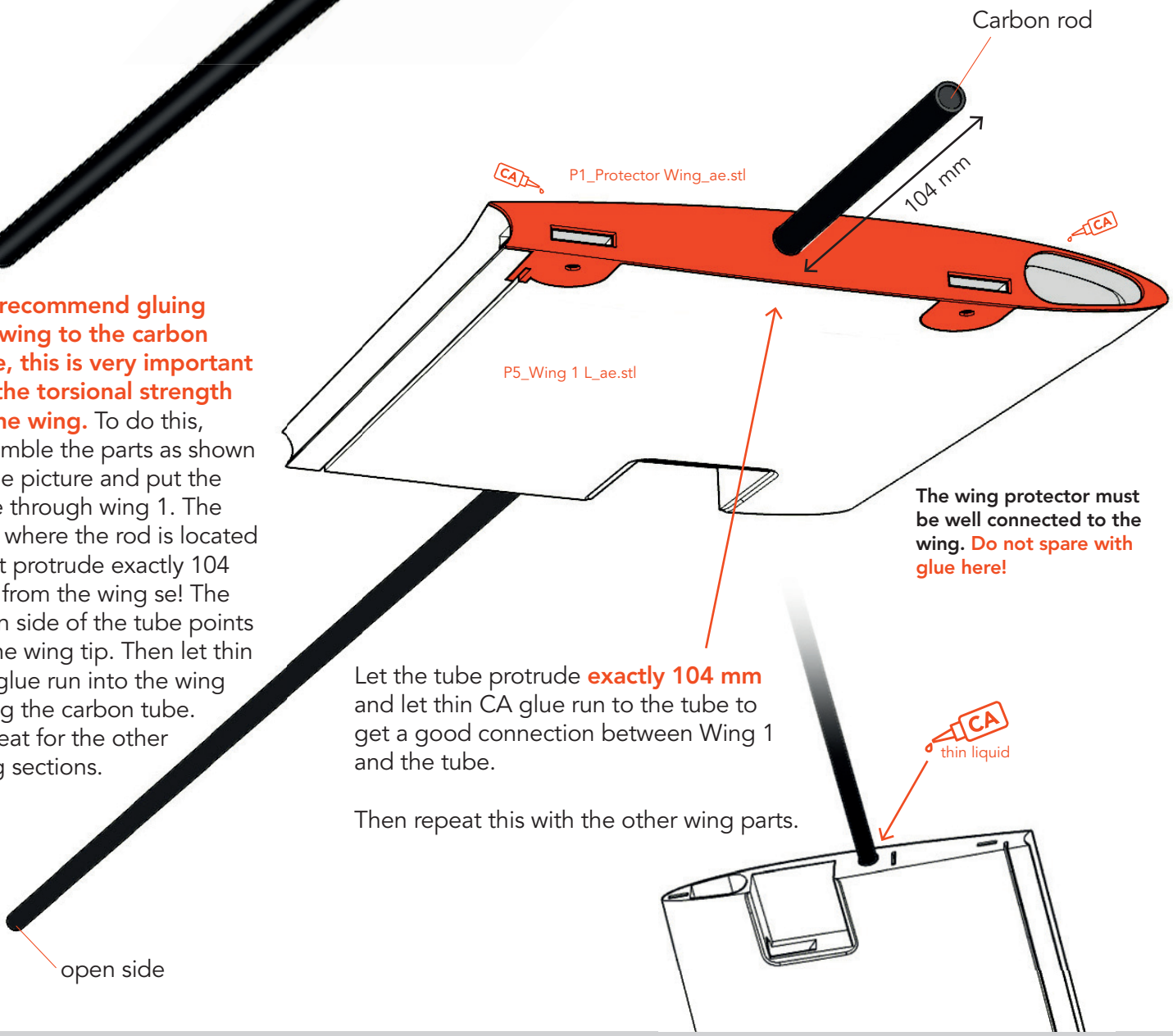
Insert the carbon strip into the gap and apply thin CA glue along the entire length.

Wing assembly

Cut the 6 mm carbon rod into two 500 mm long halves. Then glue one into each of the two 8 mm carbon wing tubes. The ends of the tube and rod must be flush on the side in the direction of the fuselage. This makes the center of the wings stiffer and more stable and allows the tube to bend more on the outside.



We recommend gluing the wing to the carbon tube, this is very important for the torsional strength of the wing. To do this, assemble the parts as shown in the picture and put the tube through wing 1. The side where the rod is located must protrude exactly 104 mm from the wing se! The open side of the tube points to the wing tip. Then let thin CA glue run into the wing along the carbon tube. Repeat for the other wing sections.



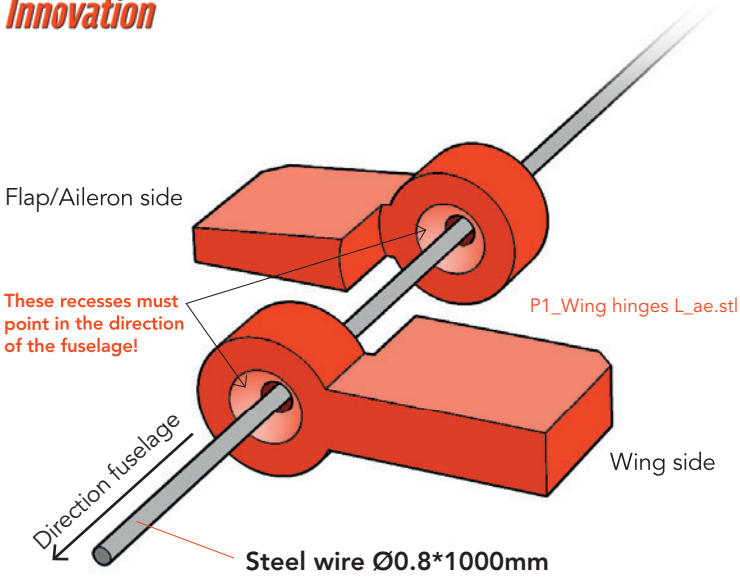
The wing protector must be well connected to the wing. Do not spare with glue here!

Let the tube protrude **exactly 104 mm** and let thin CA glue run to the tube to get a good connection between Wing 1 and the tube.

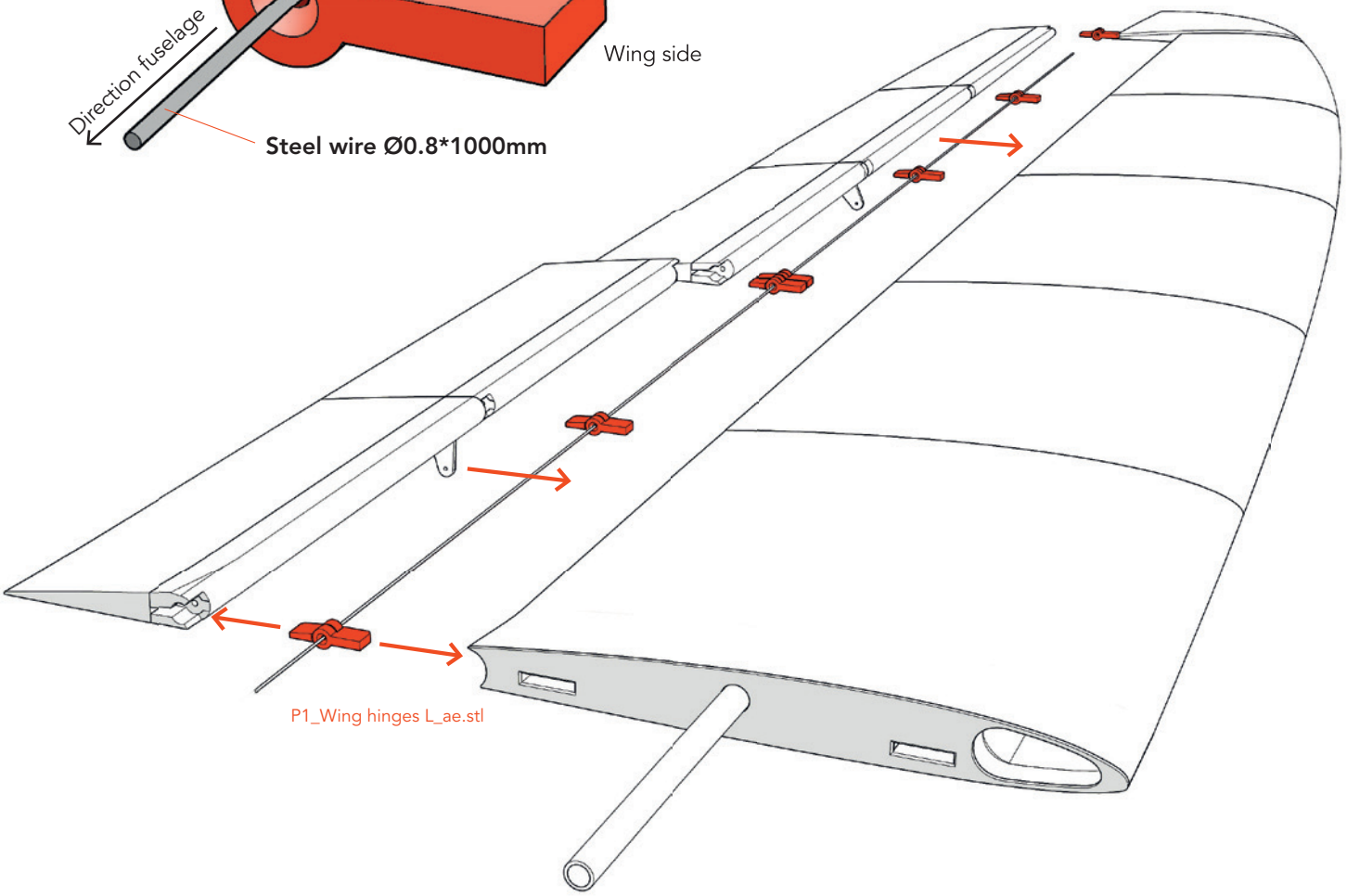
Then repeat this with the other wing parts.

Hinges Aileron and Flaps

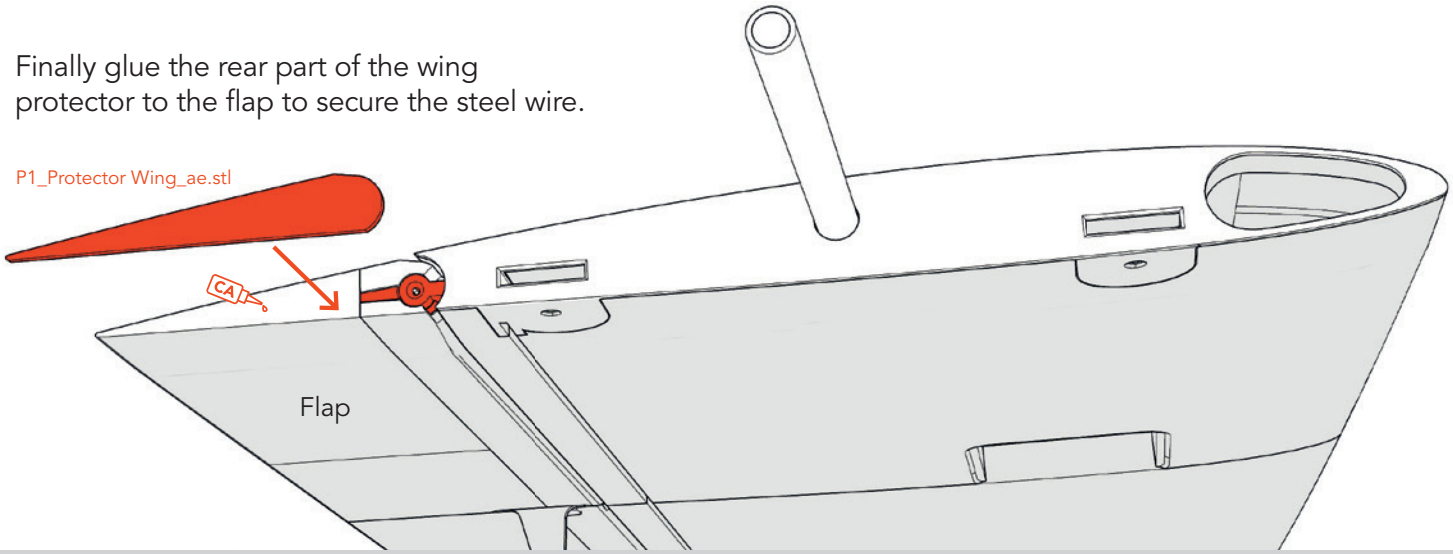
PLANEPRINT Innovation



Thread the wing hinges (do not mix up left and right) onto the steel wire exactly as shown in the picture. Then attach the flap and aileron to the wing and check that everything fits and that the rudders can be moved. Carefully pull out the steel wire and remove the aileron and flap. Now glue the hinges individually. It is best to let some **thin CA glue flow into the gap** so that the position of the hinges is not changed.



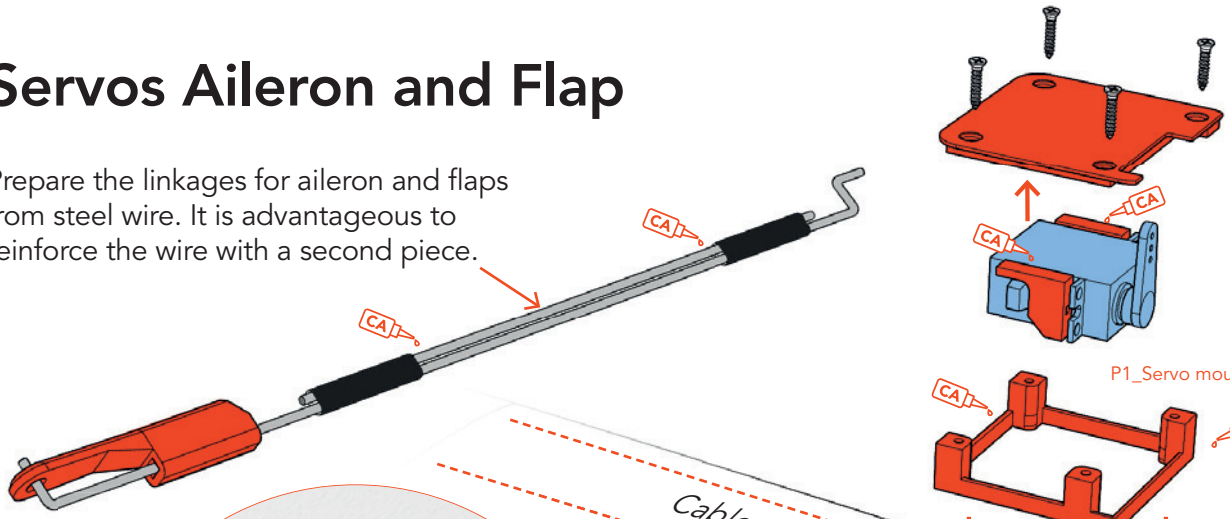
Finally glue the rear part of the wing protector to the flap to secure the steel wire.



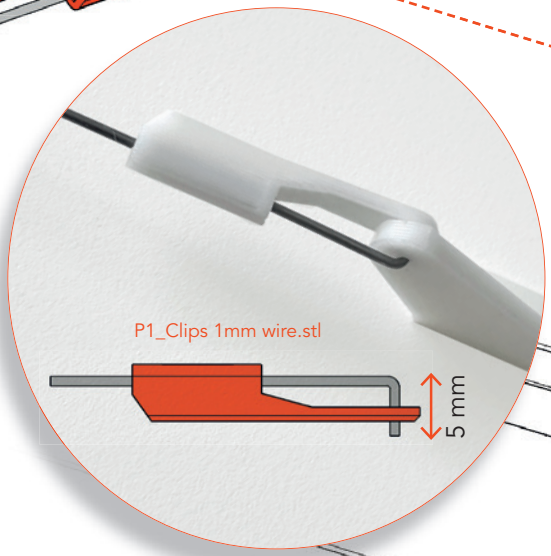
© PLANEPRINT

Servos Aileron and Flap

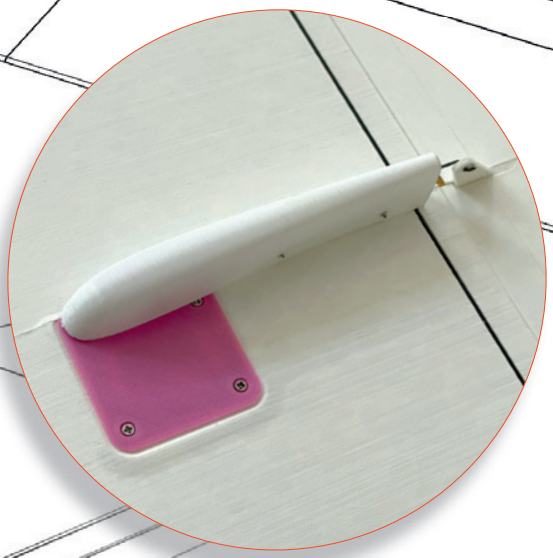
Prepare the linkages for aileron and flaps from steel wire. It is advantageous to reinforce the wire with a second piece.

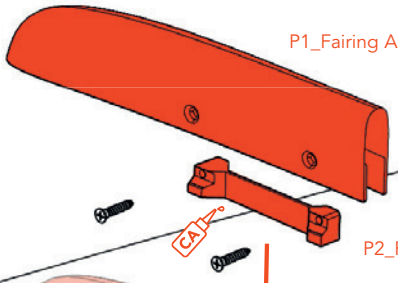


P1_Servo mount ailerons_ae.stl

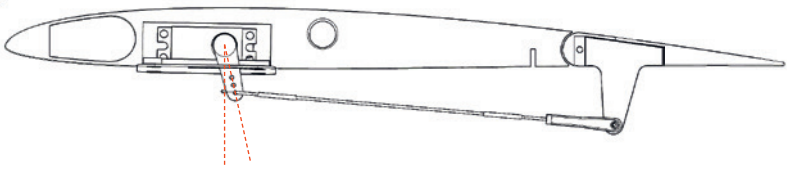


Carefully cut out the **fairings** on the underside with scissors and thread them over the linkage. Screw the base in place, apply some CA glue to the base and position it **so that the servo and linkage are unobstructed**.



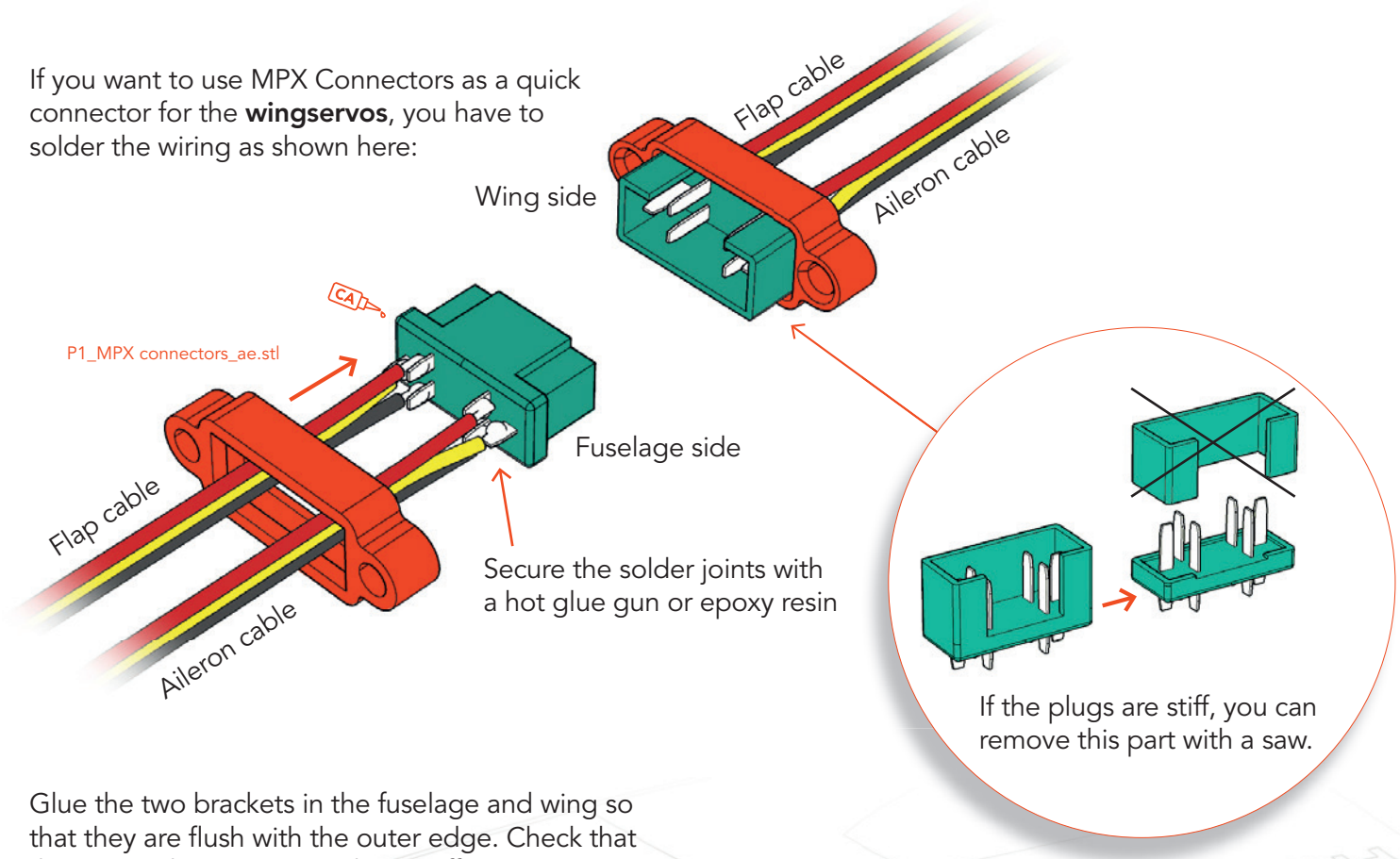


When linking the flap, note that it must deflect only slightly upwards but very far downwards (butterfly).

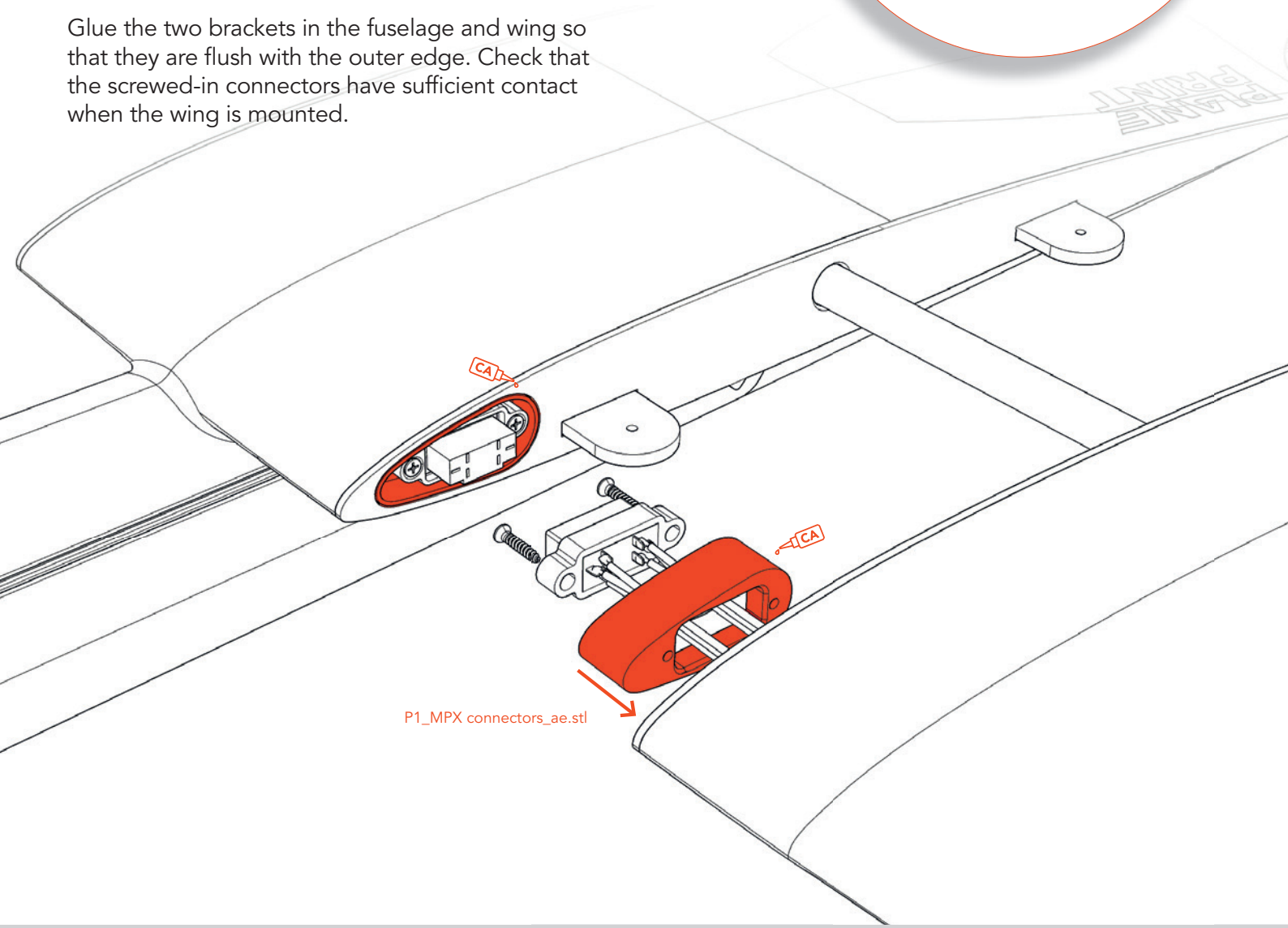


MPX Connectors

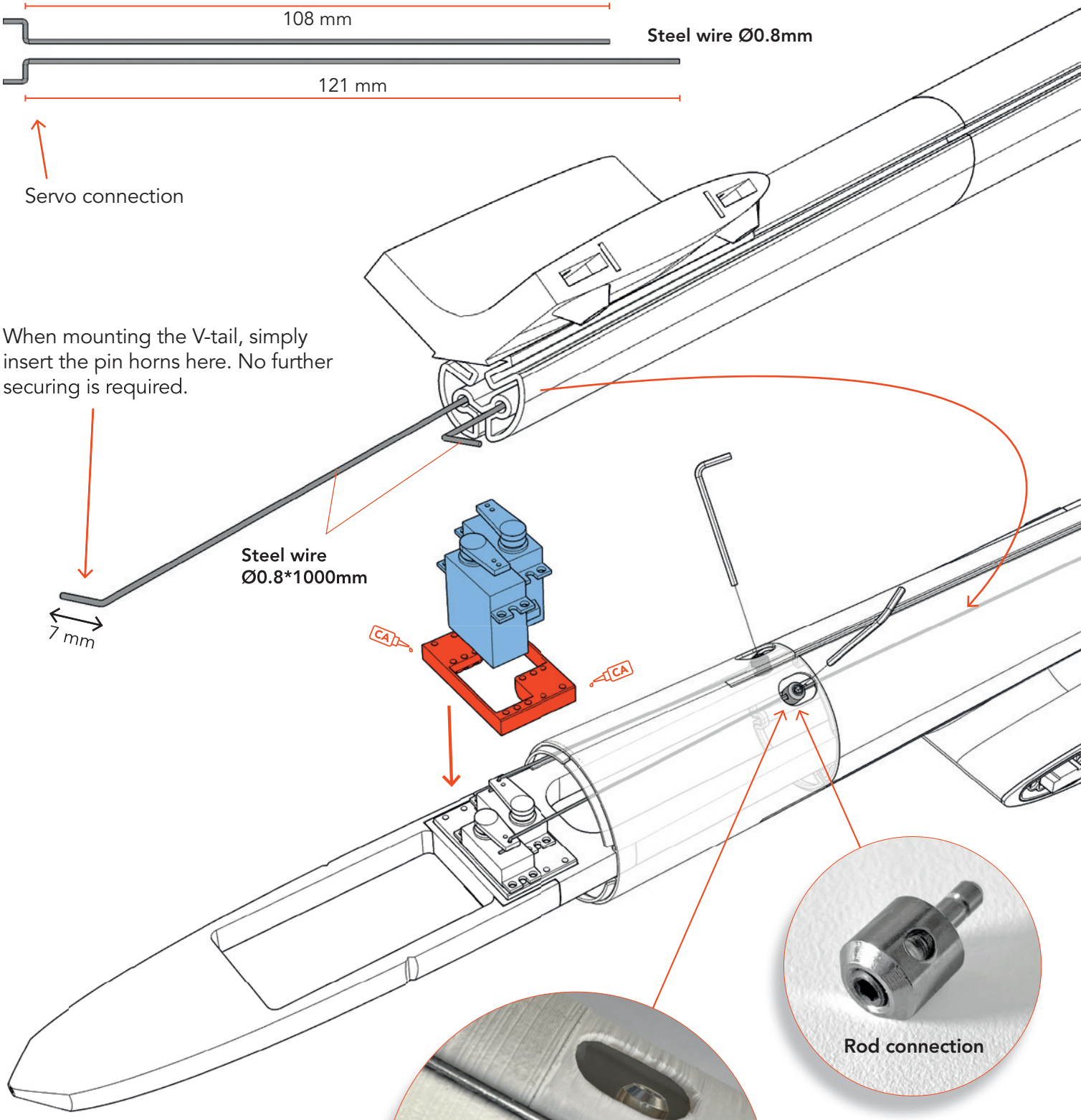
If you want to use MPX Connectors as a quick connector for the **wingservos**, you have to solder the wiring as shown here:



Glue the two brackets in the fuselage and wing so that they are flush with the outer edge. Check that the screwed-in connectors have sufficient contact when the wing is mounted.

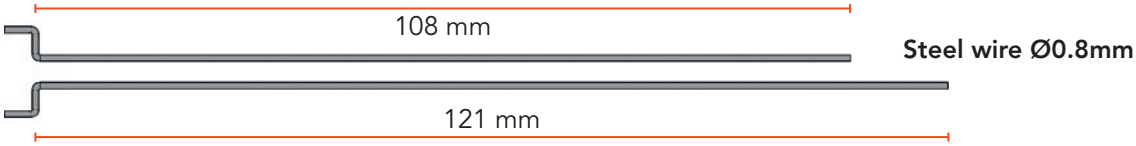


Fuselage Servos – glider version



Here the correct length is set and fixed.

Fuselage Servos – motor version



Steel wire Ø0.8mm

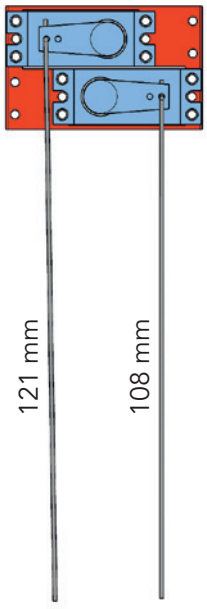
Servo connection

When mounting the V-tail, simply insert the pin horns here. No further securing is required.

Steel wire Ø0.8*1000mm

7 mm

Mount the servos as shown below and insert them into the bowden in the fuselage as shown in the picture on the right. 2. then screw the servo frame tight from below.

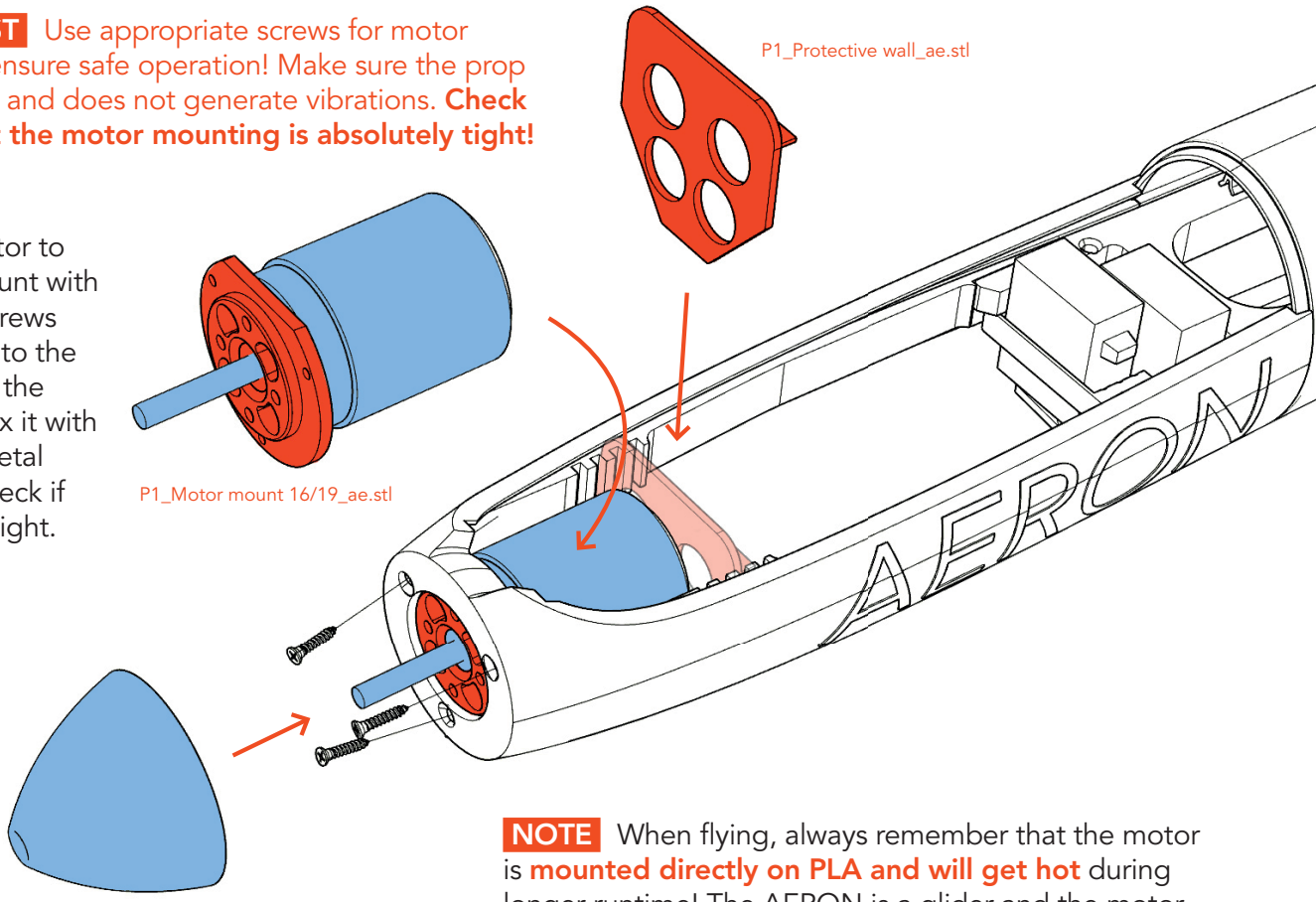


Here the correct length is set and fixed.

Motor mounting

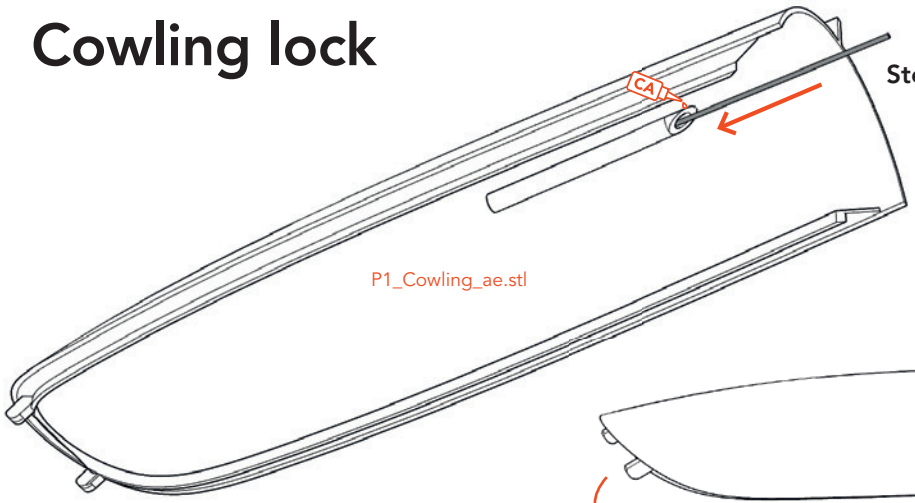
SAFETY FIRST Use appropriate screws for motor mounting to ensure safe operation! Make sure the prop runs smoothly and does not generate vibrations. **Check regularly that the motor mounting is absolutely tight!**

Screw the motor to the motor mount with the original screws and insert it into the fuselage from the inside. Then fix it with three sheet metal screws and check if everything is tight.

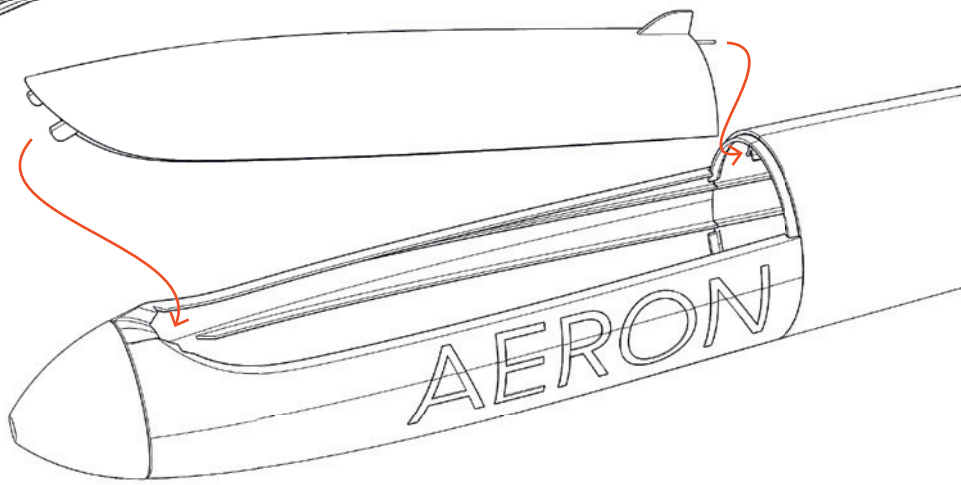


NOTE When flying, always remember that the motor is **mounted directly on PLA and will get hot** during longer runtime! The AERON is a glider and the motor should only be used for short climbs.

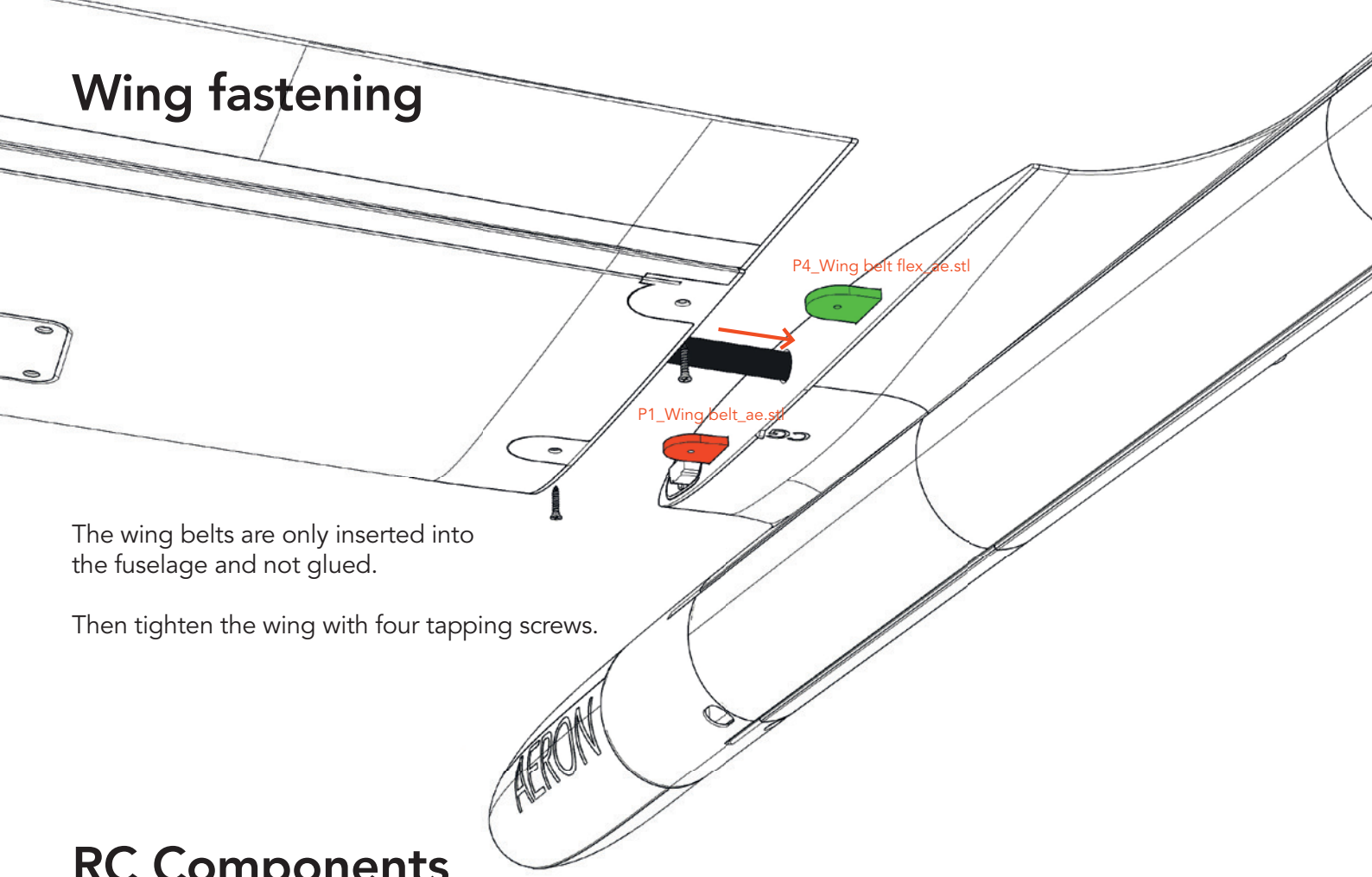
Cowling lock



Insert the wire in the back of the fuselage, lift the cowling slightly in the back and insert it in the front of the fuselage.



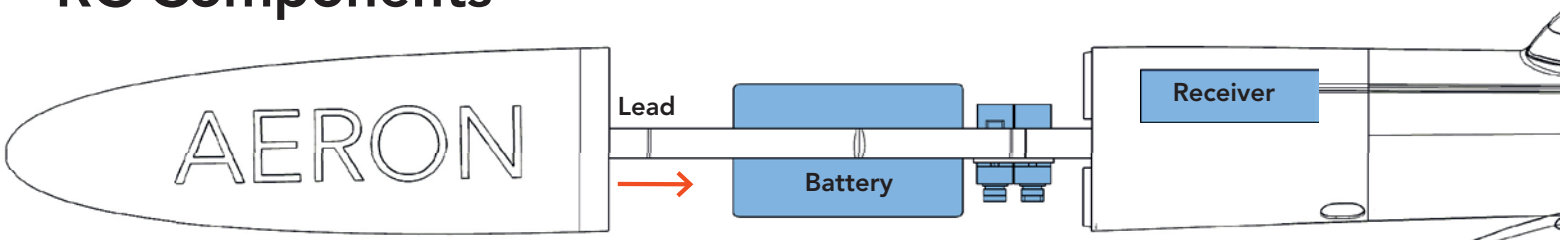
Wing fastening



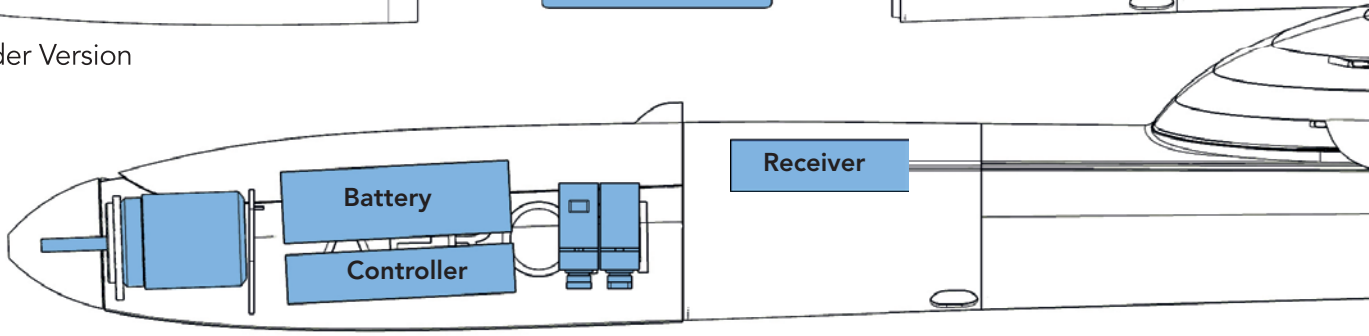
The wing belts are only inserted into the fuselage and not glued.

Then tighten the wing with four tapping screws.

RC Components



Glider Version



Motor Version

Tips for flying

While the AERON's construction is very stable for a 3D printed model (depending on the quality and flow of your wing parts), keep in mind that you are not flying a full carbon model and do not subject the wing to too much elevator maneuvering. You can also fly the AERON fast, but at a certain speed the effect of the ailerons begins to weaken, then simply reduce the speed a little by giving gentle elevator. In this way, it shows you how fast it wants to be flown at maximum. The AERON is a powerful thermal and only needs the motor for short climbs. To prevent overheating of the motor (always remember that it sits directly on the PLA motor mount!), use a slightly smaller prop than recommended by the manufacturer and always give it time to cool down. Check how hot your motor gets after the first few flights to be sure.

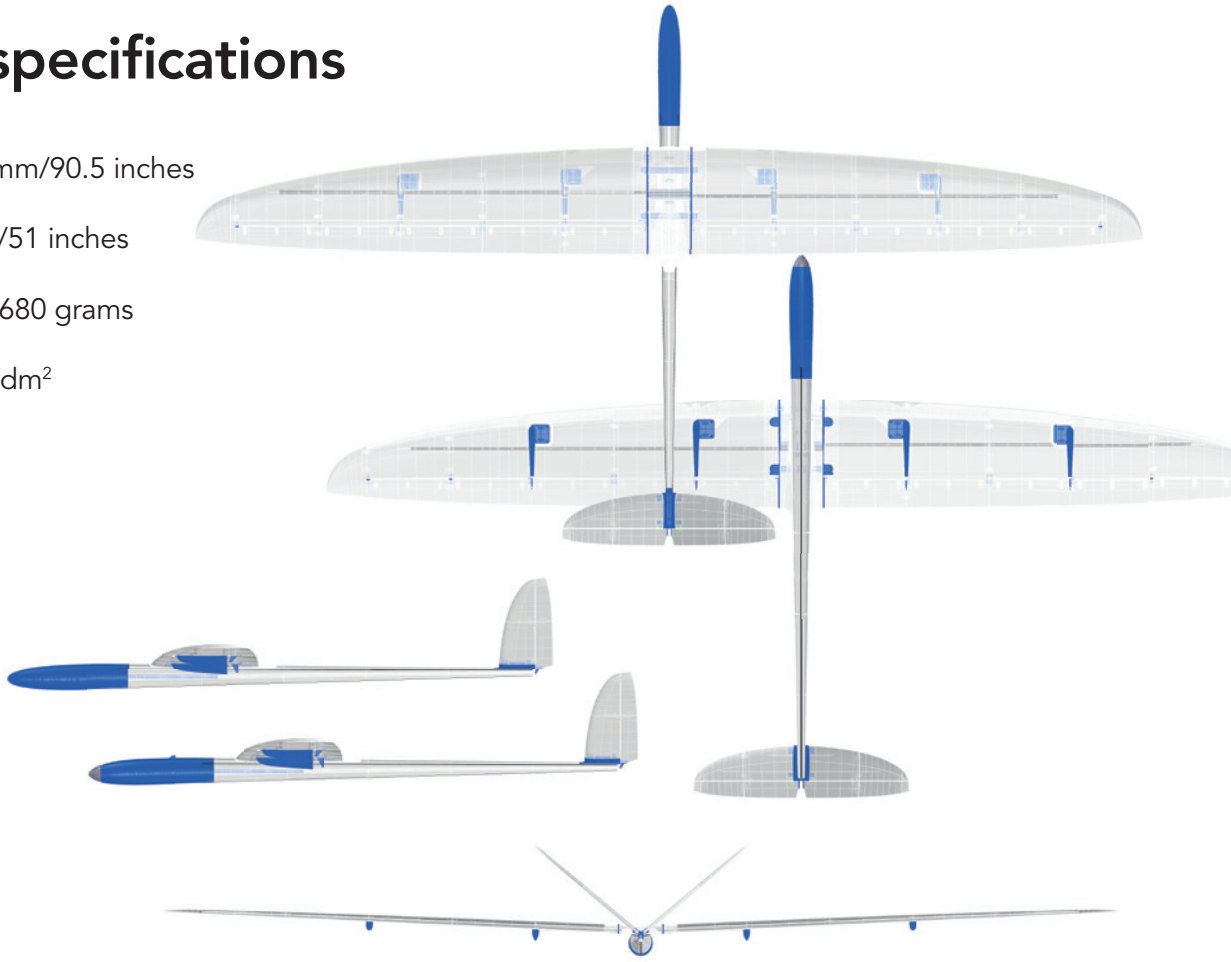
Technical specifications

WINGSPAN 2300 mm/90.5 inches

LENGTH 1300 mm/51 inches

FLIGHT WEIGHT 1680 grams

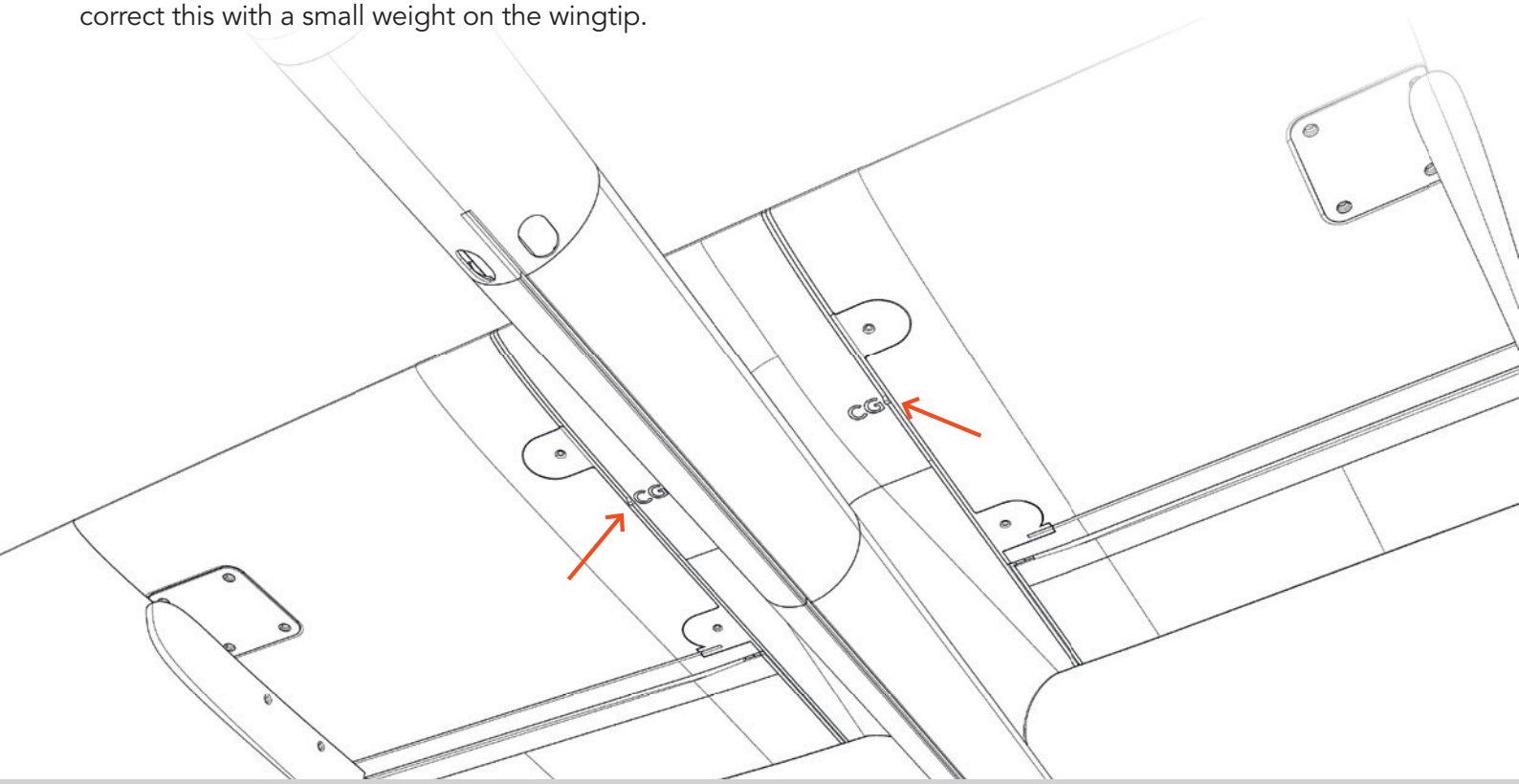
WING LOAD 30 g/dm^2



Center of Gravity (CG)

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

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.

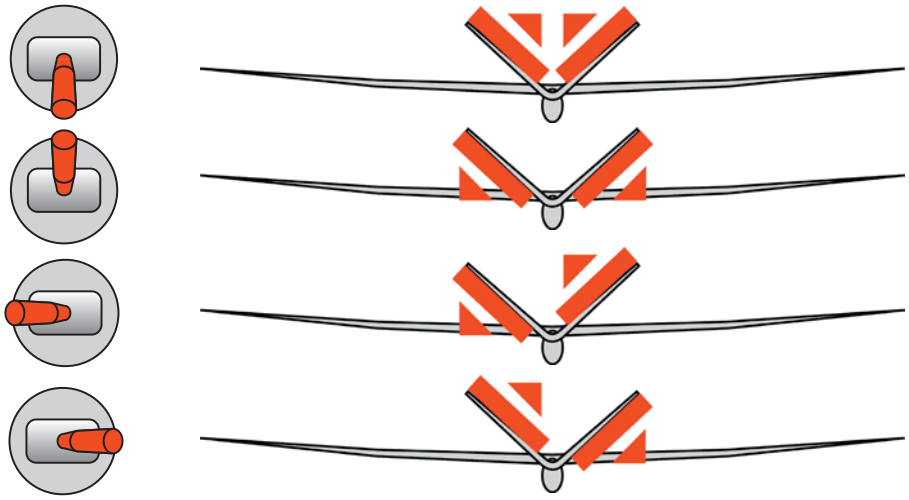


Control Direction Test

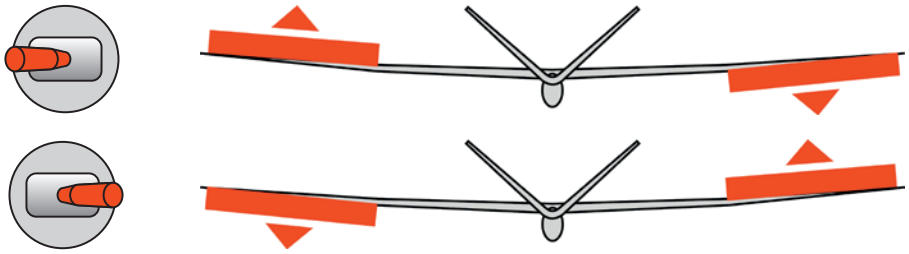
Turn on the transmitter and connect the battery. When checking the control directions, **look at the aircraft from behind.**

ELEVATOR

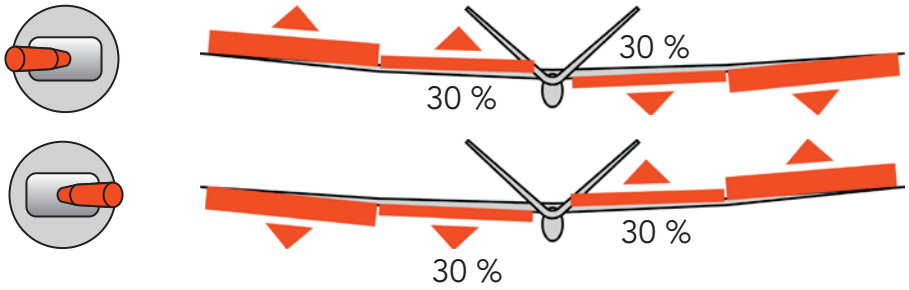
RUDDER



AILERON



AILERON
with four flaps
(advanced)

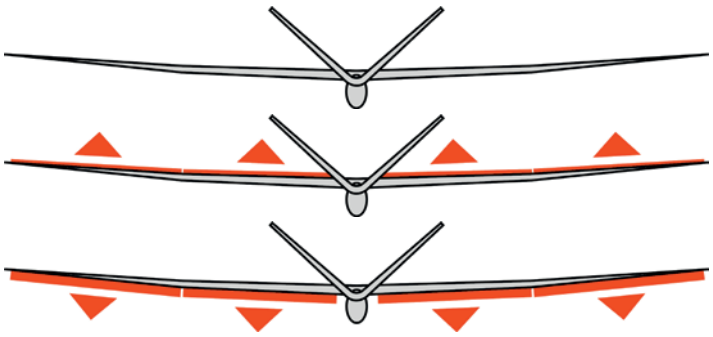


FLIGHT PHASES:

NORMAL

SPEED (1 or 2mm up)

THERMALS (2 or 3mm down)



BUTTERFLY 100 %



Motor version: We recommend that you put the motor on a switch and the Butterfly on the gas 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!

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