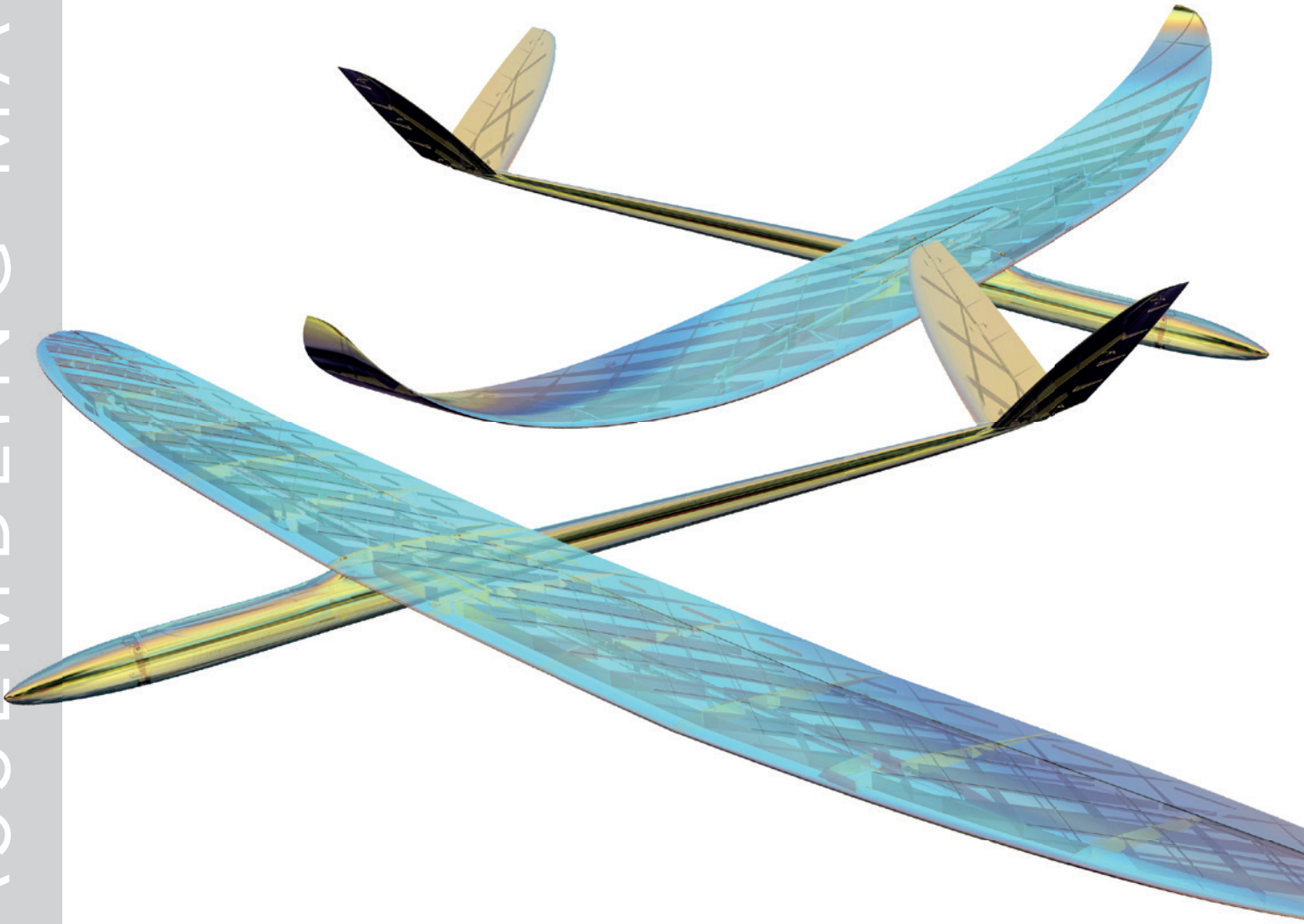
PRINTING & ASSEMBLING MANUAL

PLANE PRINT



Rise

Modular high-performance thermal glider

NOTE: Slicing **only** works with CURA!

FAIR USE DATA

You can find the STL data at **www.planeprint.com**

PRINTING THE PARTS – PRINTING PROFILES

You may wonder why this 3D model is exclusive to CURA?

The most important thing with small RC model airplanes is always the **size to weight ratio.** The lighter a model is, the better its flight characteristics and also the flight time is significantly increased.

With our **unique design process**, we manage to offer weight-relevant parts in a **true 1-wall printing** process for both the outer skin and the filling. This allows us to save weight while maintaining the necessary stability.

Here we show you how to make adjustments from a standard CURA profile. **For this model we need only 4, easy to create profiles.**

It is important to follow the instructions from PLANEPRINT.com to slice the part correctly. However, it can be useful to perfect your 3D printing by making some additional settings depending on the printer and filament used.

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

PROFILE P1_fullbody
PROFILE P2_hollowbody
PROFILE P3_surface
PROFILE P4_flex

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

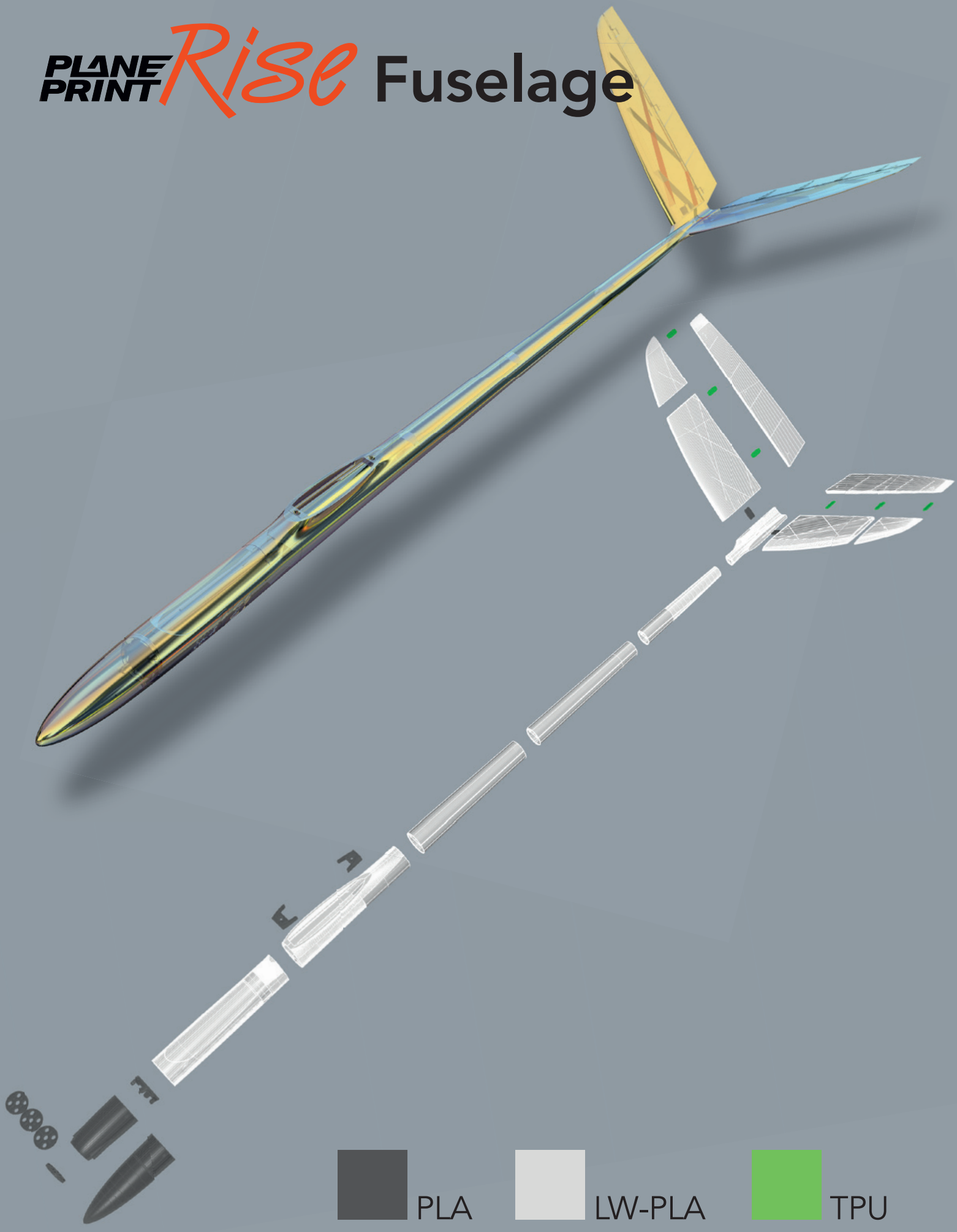
IMPORTANT FOR THE 1-WALL-PRINT!

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.

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. Our STL files are provided with indelible copyright watermarks that can be verified at any time.

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

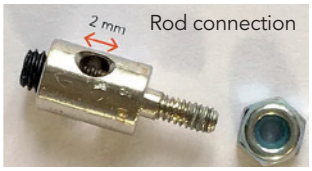
PLANE PRINT Rise Fuselage



REQUIRED ACCESSOIRES

Materials

- CA super glue (liquid and liquid medium)
- CA activator
- Carbon rod Ø1.2mm*1000, 6 pieces (better plus one as reserve)
- Rod connection, 2 pieces
- Socket Head Screw Ø3mm*22mm with nut, 2 pieces
- some tapping screws Ø2*8 mm



Rod connection

Socket Head Screw with nut

Tools

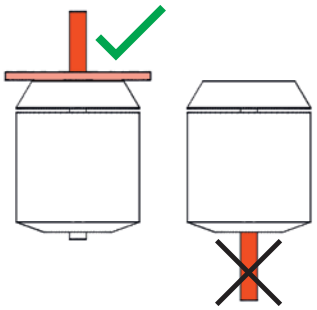
- Cutter knife
- small Philips screwdriver
- needle-nose pliers
- Drill Ø1,5mm

(simply search for:
M2 flat head tapping
screw assortment)

RC Components

ENGINE Motors up to Ø 28 mm,
for example **Torcster Brushless Gold A2822/17-1260**
or comparable motors

Pay attention to the position of the motor shaft



FOLDING PROP 7,5x4 – 8x6

SPINNER Ø 30 – 32 mm

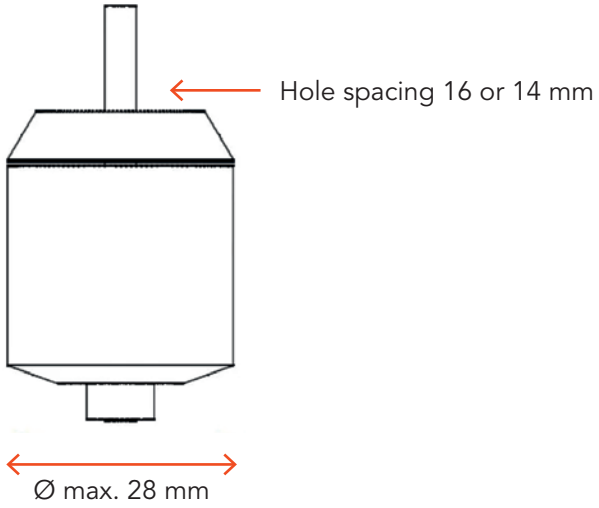
BEC-CONTROLLER min. 15 A (must fit the engine!)

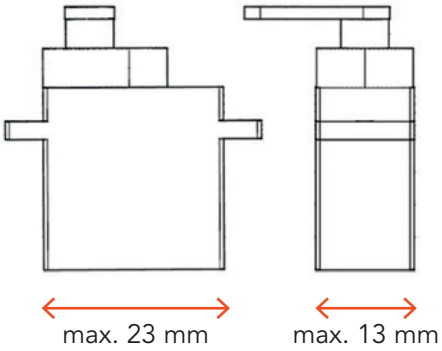
RECEIVER 3 Channel (Glider), 5 Channel (RES), 7 Channel (4-Flap-Wing)

BATTERY 2 or 3S Lipo, about 600-1000 MaH

SERVOS Hitec HS-5055MG (or similar in the same size), 2 pieces

Maximum dimensions:





PROFILE P1_FULLBODY normal PLA

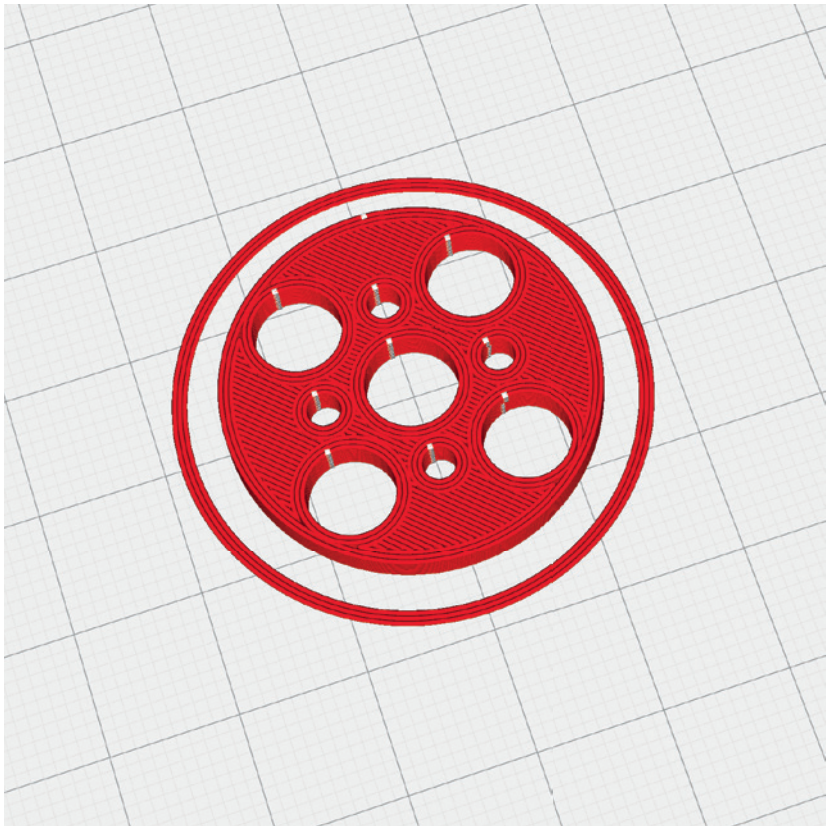
The following parts must be sliced with the PROFILE P1_FULLBODY.
Please note the additional settings for the individual parts!

Motormount XXX_profile1_rise.stl

MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required



NOTE There are different versions for different engines:

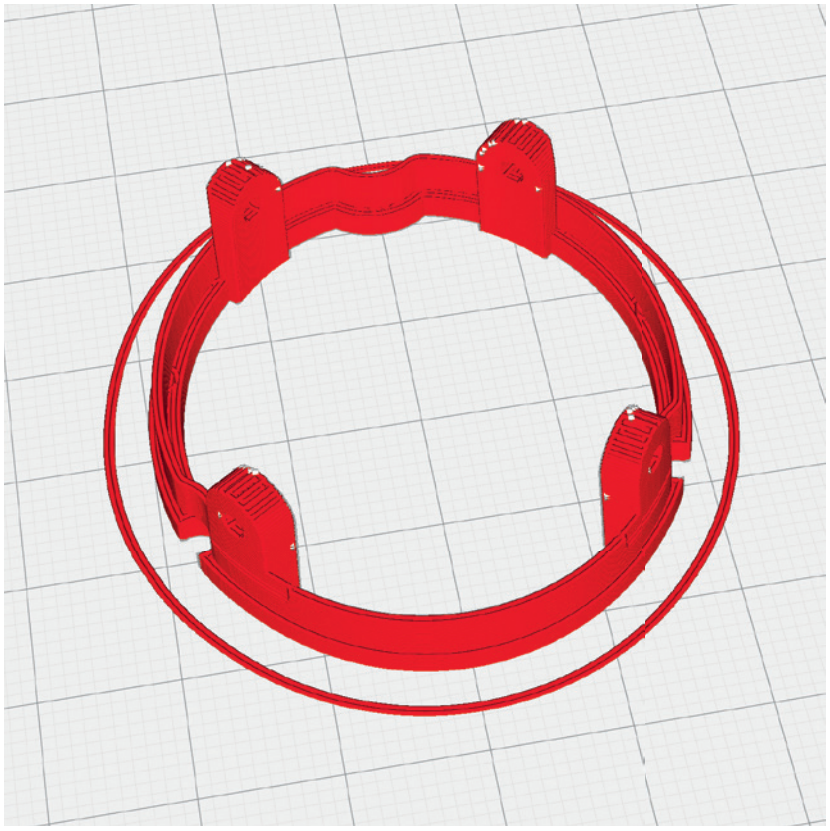
Motormount 14_profile1_rise.stl
Motormount 16_profile1_rise.stl
Motormount undrilled_profile1_rise.stl

Connector_profile1_rise.stl

MATERIAL PLA, ~ 2 g

ADDITIONAL SETTINGS

None required



PROFILE P1_FULLBODY normal PLA

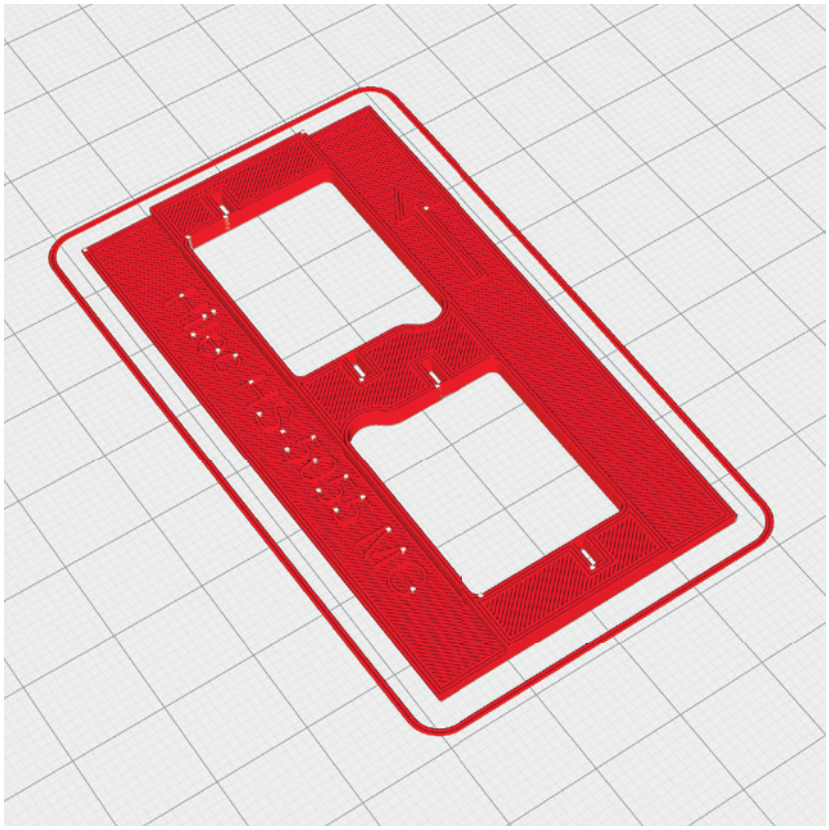
The following parts must be sliced with the PROFILE P1_FULLBODY.
Please note the additional settings for the individual parts!

Servomount_xxx_profile1_rise.stl

MATERIAL PLA, ~ 3 g

ADDITIONAL SETTINGS

None required

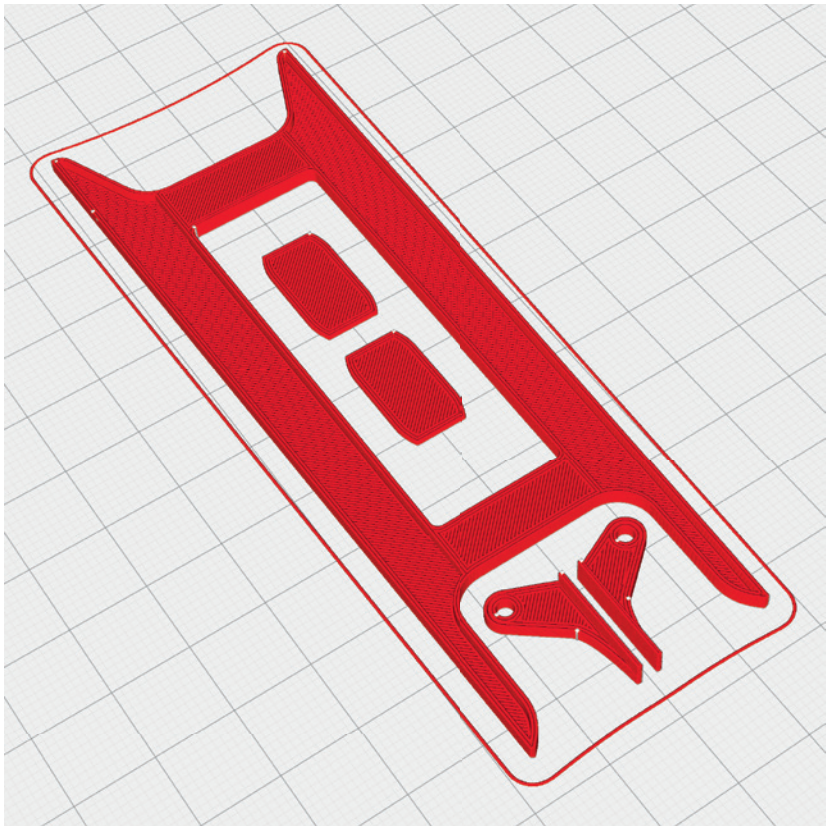


Parts_profile1_rise.stl

MATERIAL PLA, ~ 4 g

ADDITIONAL SETTINGS

None required



PROFILE P1_FULLBODY normal PLA

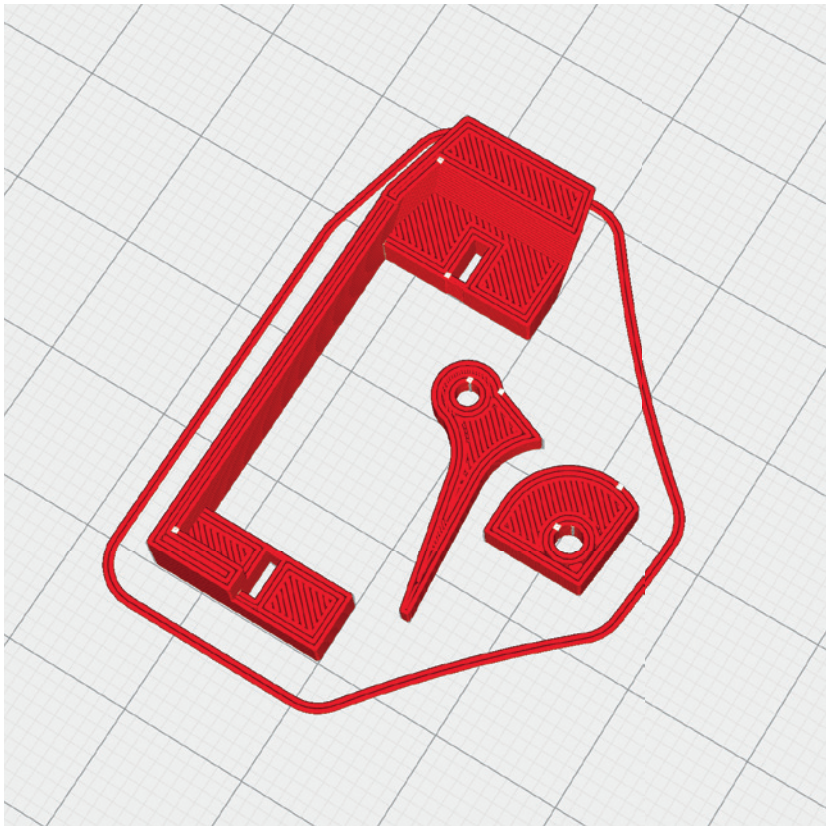
The following parts must be sliced with the PROFILE P1_FULLBODY.
Please note the additional settings for the individual parts!

Spoiler mount_profile1_rise.stl

MATERIAL PLA, ~ 2 g

ADDITIONAL SETTINGS

None required



PROFILE P2_HOLLOWBODY normal PLA

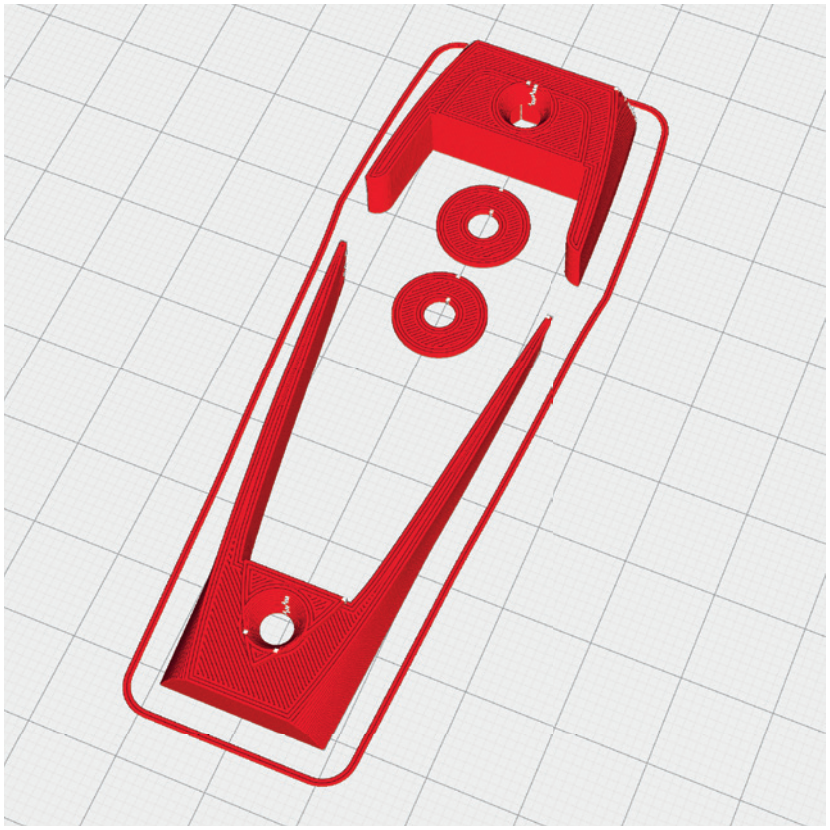
The following parts must be sliced with the PROFILE P2_HOLLOWBODY.
Please note the additional settings for the individual parts!

Wingmount_profile2_rise.stl

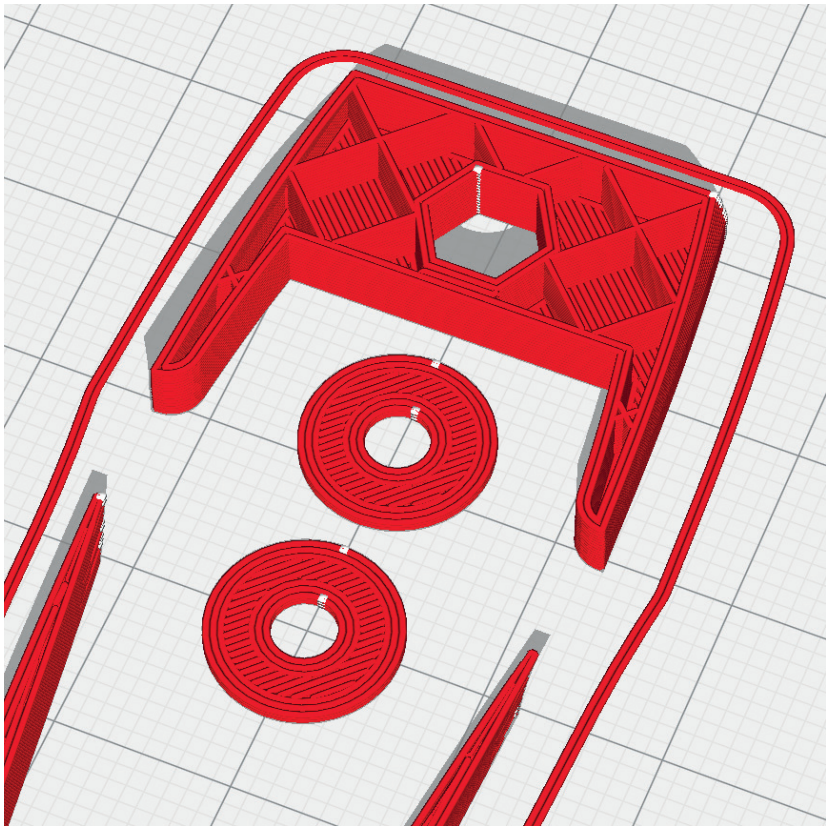
MATERIAL PLA, ~ 3 g

ADDITIONAL SETTINGS

None required



View inside



PROFILE P3_SURFACE normal PLA

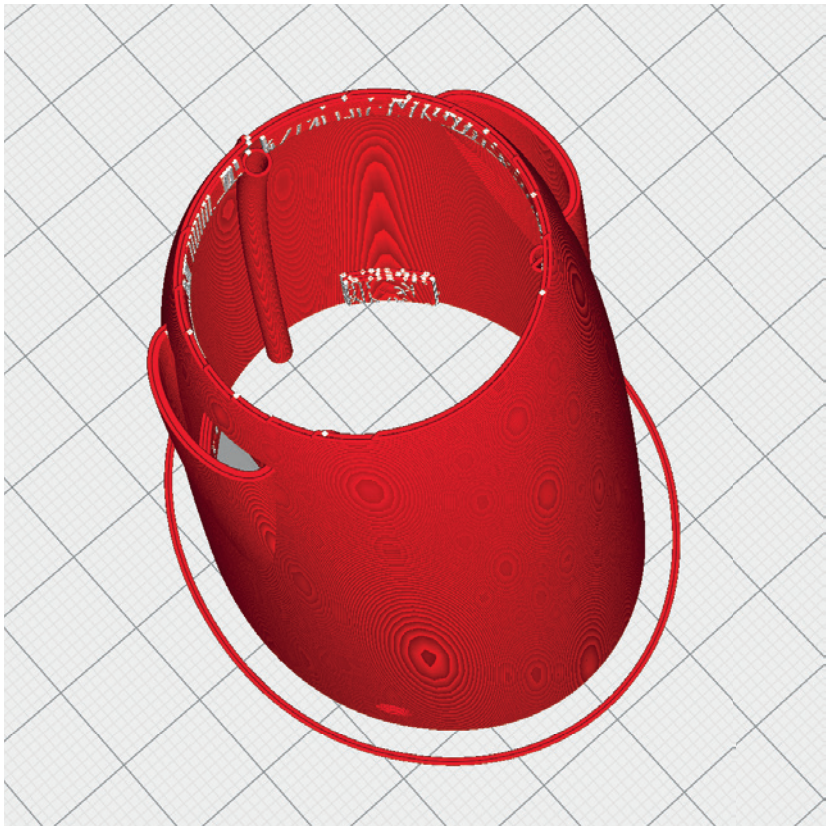
The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

Nose motor_profile3_rise.stl

MATERIAL PLA, ~ 12 g

ADDITIONAL SETTINGS

None required

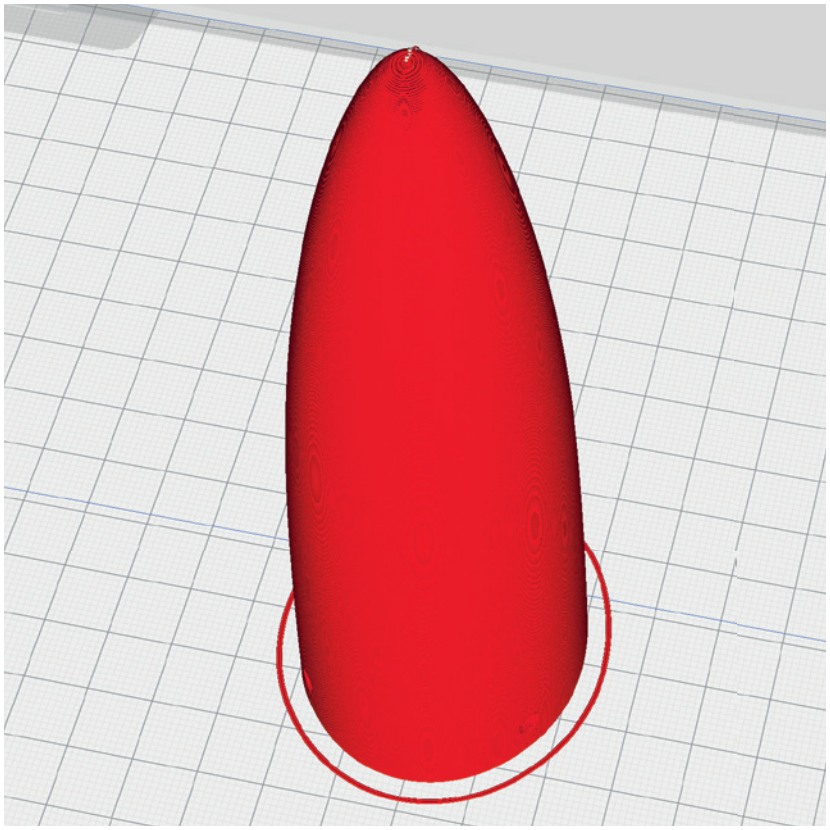


Nose glider_profile3_rise.stl

MATERIAL PLA, ~ 15 g

ADDITIONAL SETTINGS

None required



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Canopy LW_profile3_rise.stl

MATERIAL LW-PLA, ~ 7 g*

***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

Fuselage1 LW_profile3_rise.stl

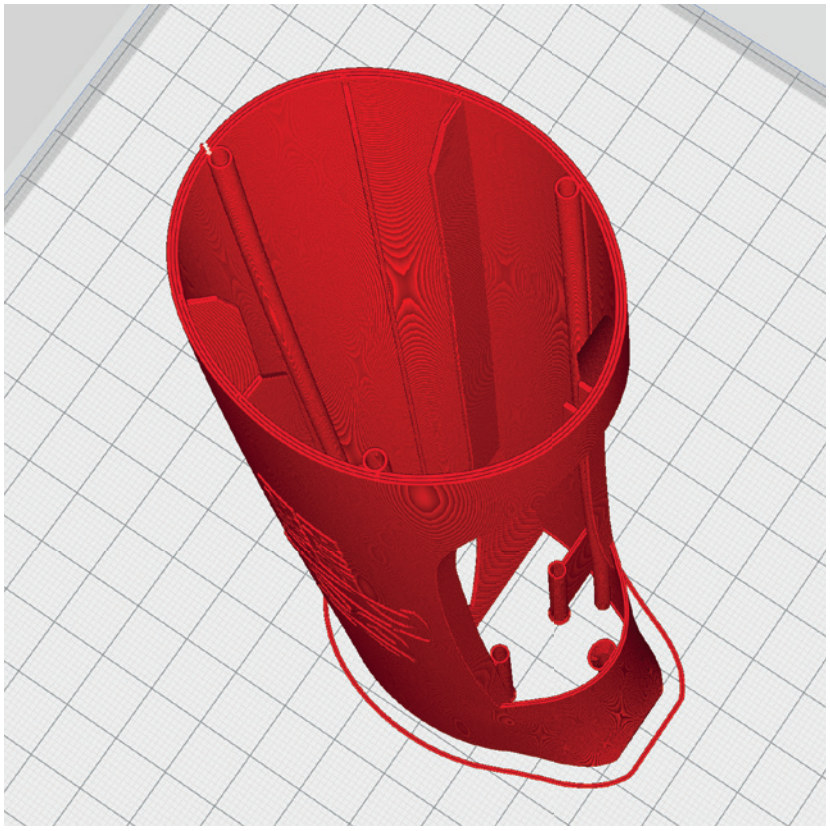
MATERIAL LW-PLA, ~ 32 g*

***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Fuselage2 LW_profile3_rise.stl

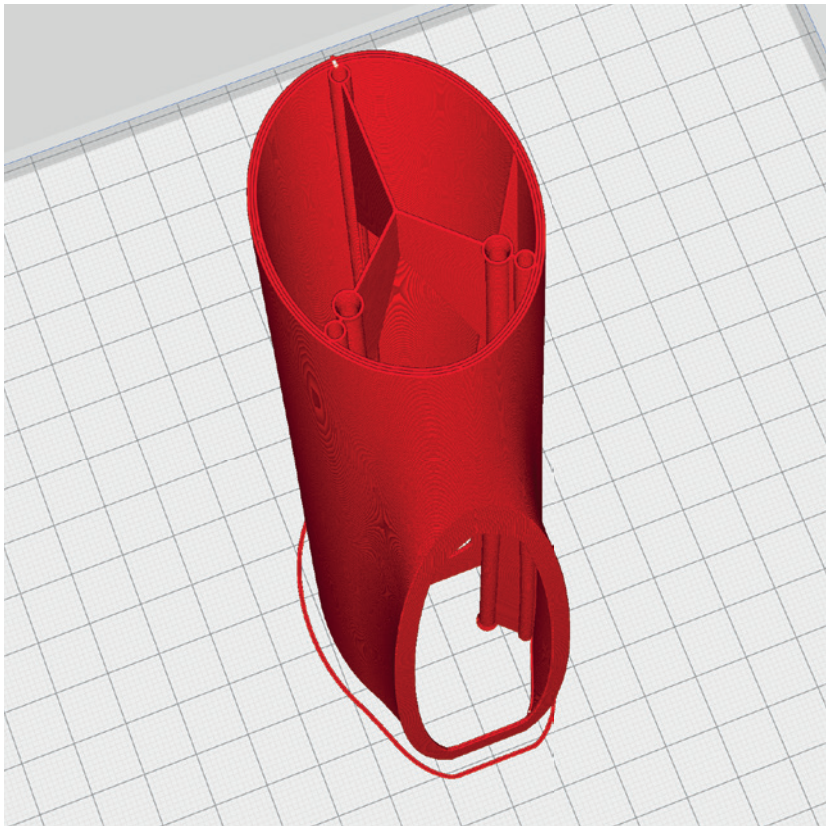
MATERIAL LW-PLA, ~ 34 g*

***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



Fuselage3 LW_profile3_rise.stl

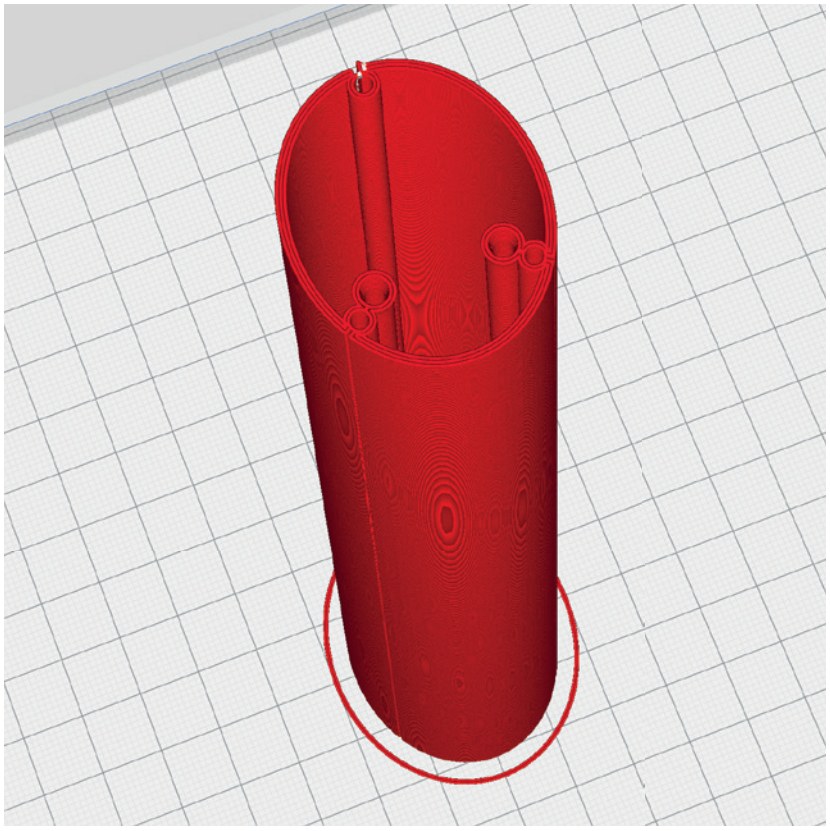
MATERIAL LW-PLA, ~ 29 g*

***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Fuselage4 LW_profile3_rise.stl

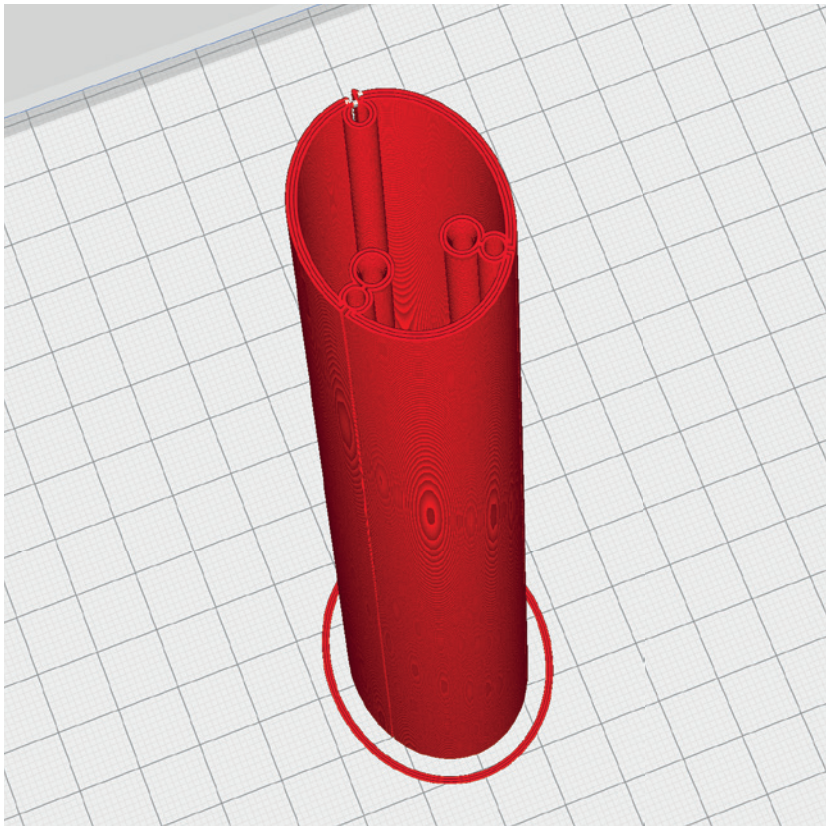
MATERIAL LW-PLA, ~ 25 g*

***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



Fuselage5 LW_profile3_rise.stl

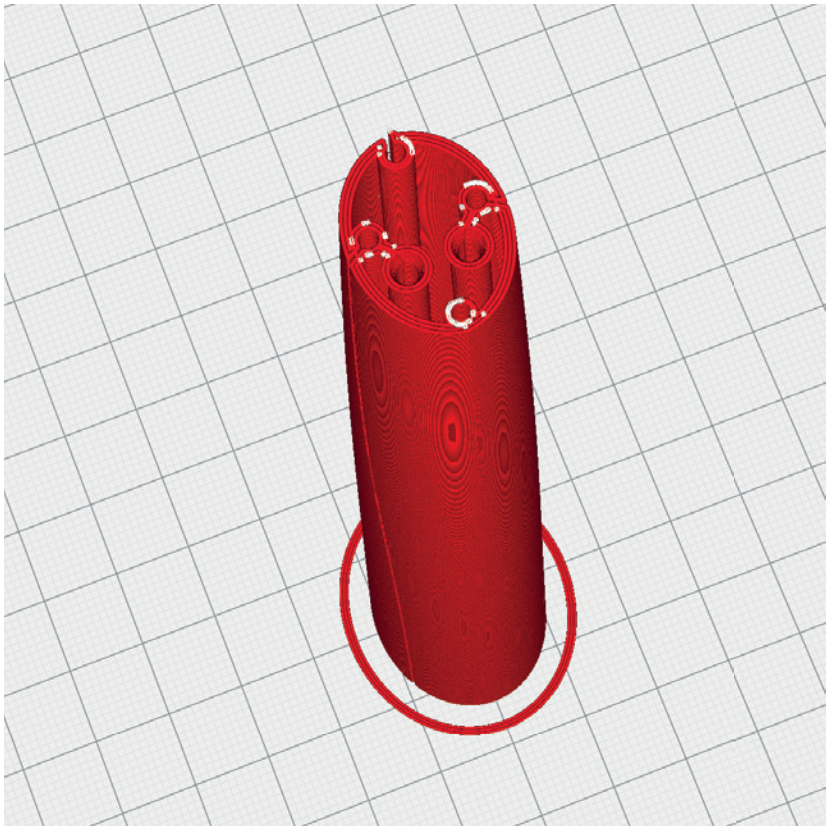
MATERIAL LW-PLA, ~ 18 g*

***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Fuselage6 LW_profile3_rise.stl

MATERIAL LW-PLA, ~ 8 g*

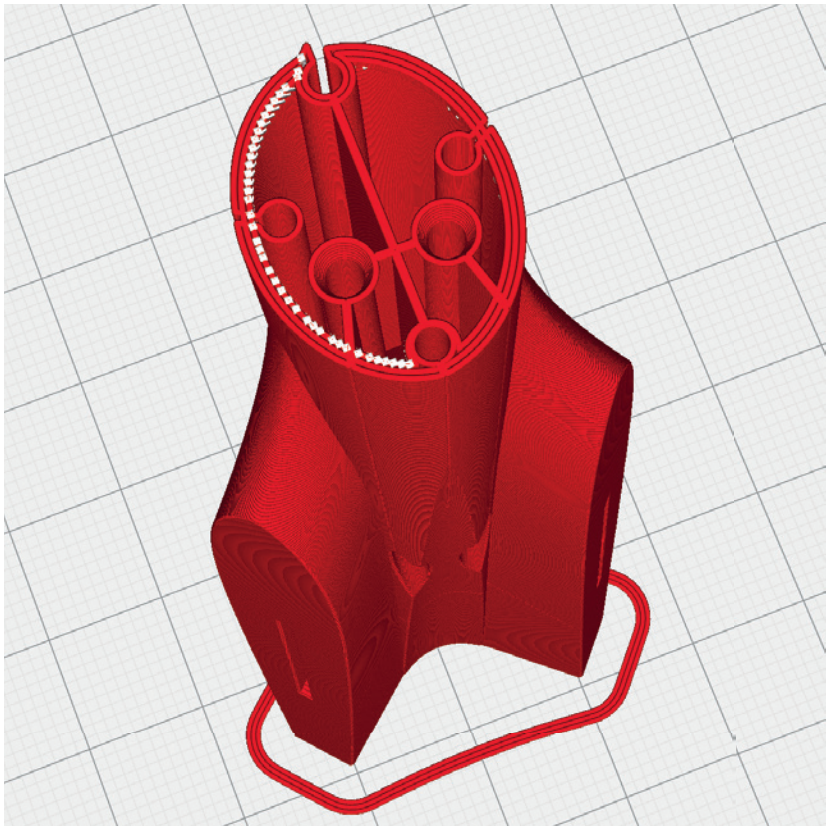
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

• Fan +30 %

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

V-tail-left LW_profile3_rise.stl
V-tail-right LW_profile3_rise.stl

MATERIAL LW-PLA, ~ 20 g*

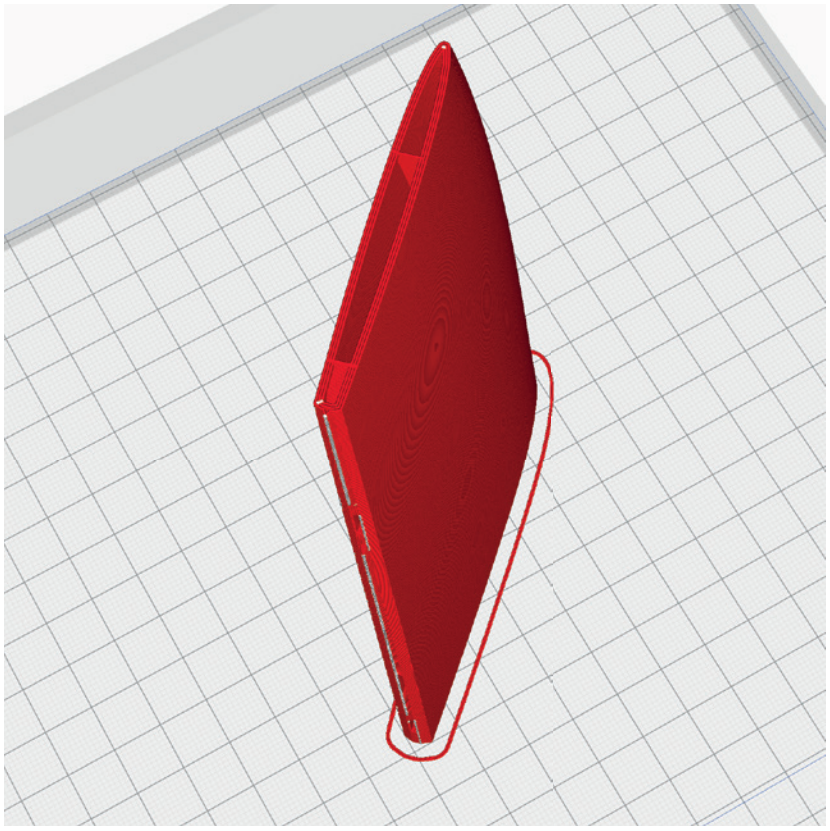
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

NOTE If you have a printer that can print higher parts you will find a combined part in the Alternative parts folder.



V-tail2-left LW_profile3_rise.stl
V-tail2-right LW_profile3_rise.stl

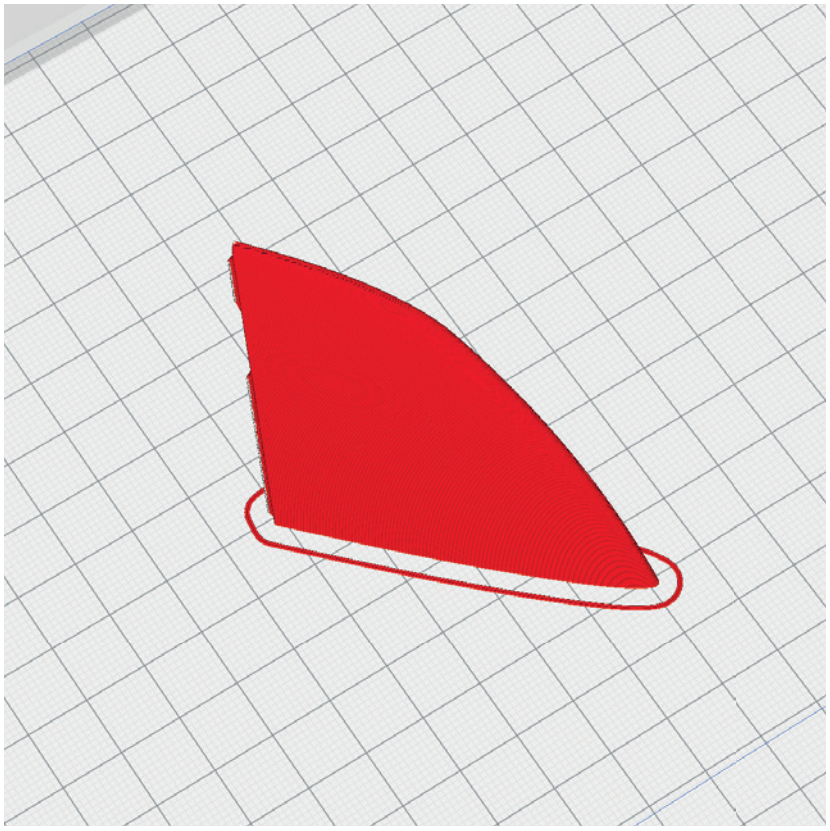
MATERIAL LW-PLA, ~ 5 g*

***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

V-tail3-left LW_profile3_rise.stl
V-tail3-right LW_profile3_rise.stl

MATERIAL LW-PLA, ~ 11 g*

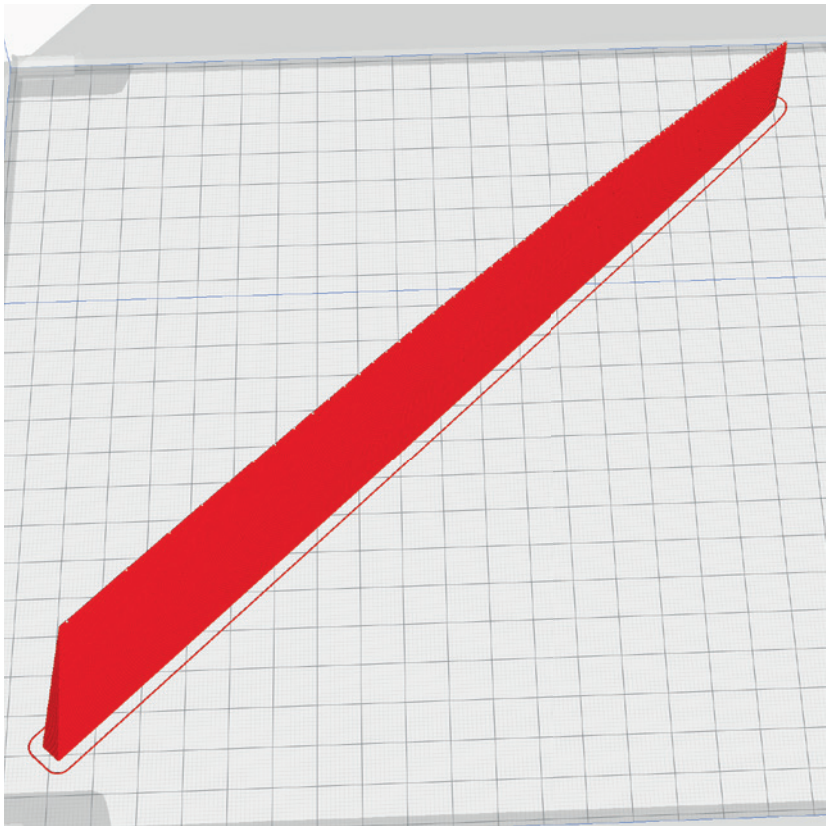
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

left: • Z Seam Position **right**
right: • Z Seam Position **left**

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



PROFILE P4_FLEX TPU A95

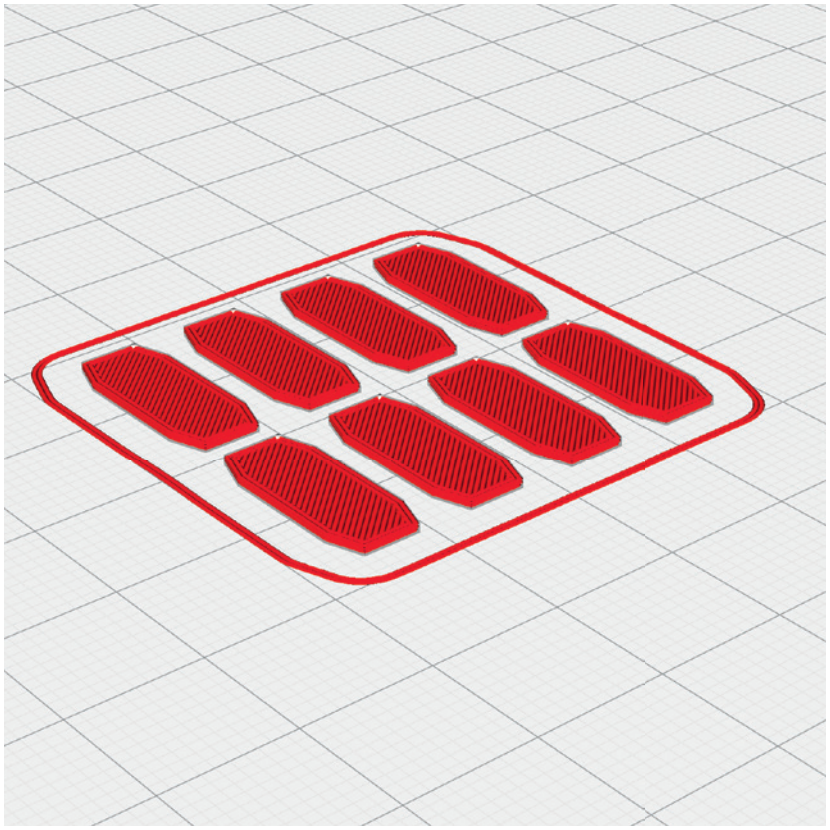
The following parts must be sliced with the PROFILE P4_FLEX.
Please note the additional settings for the individual parts!

N_Hinges_profile4_rise.stl

MATERIAL TPU ~ A95, Weight: ~ 1 g

ADDITIONAL SETTINGS

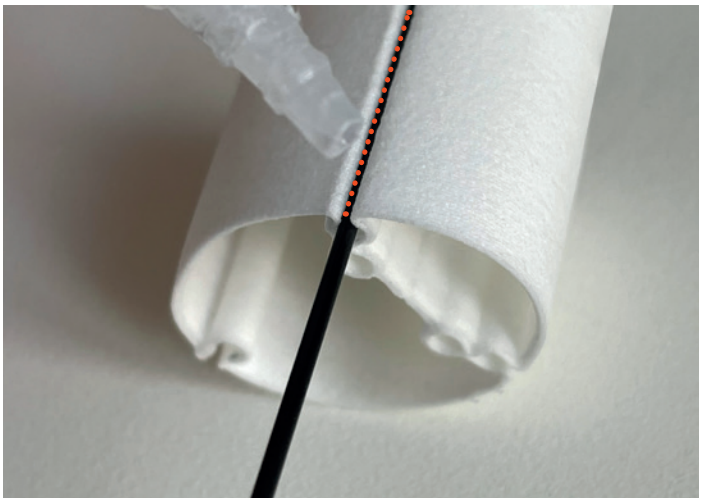
None required



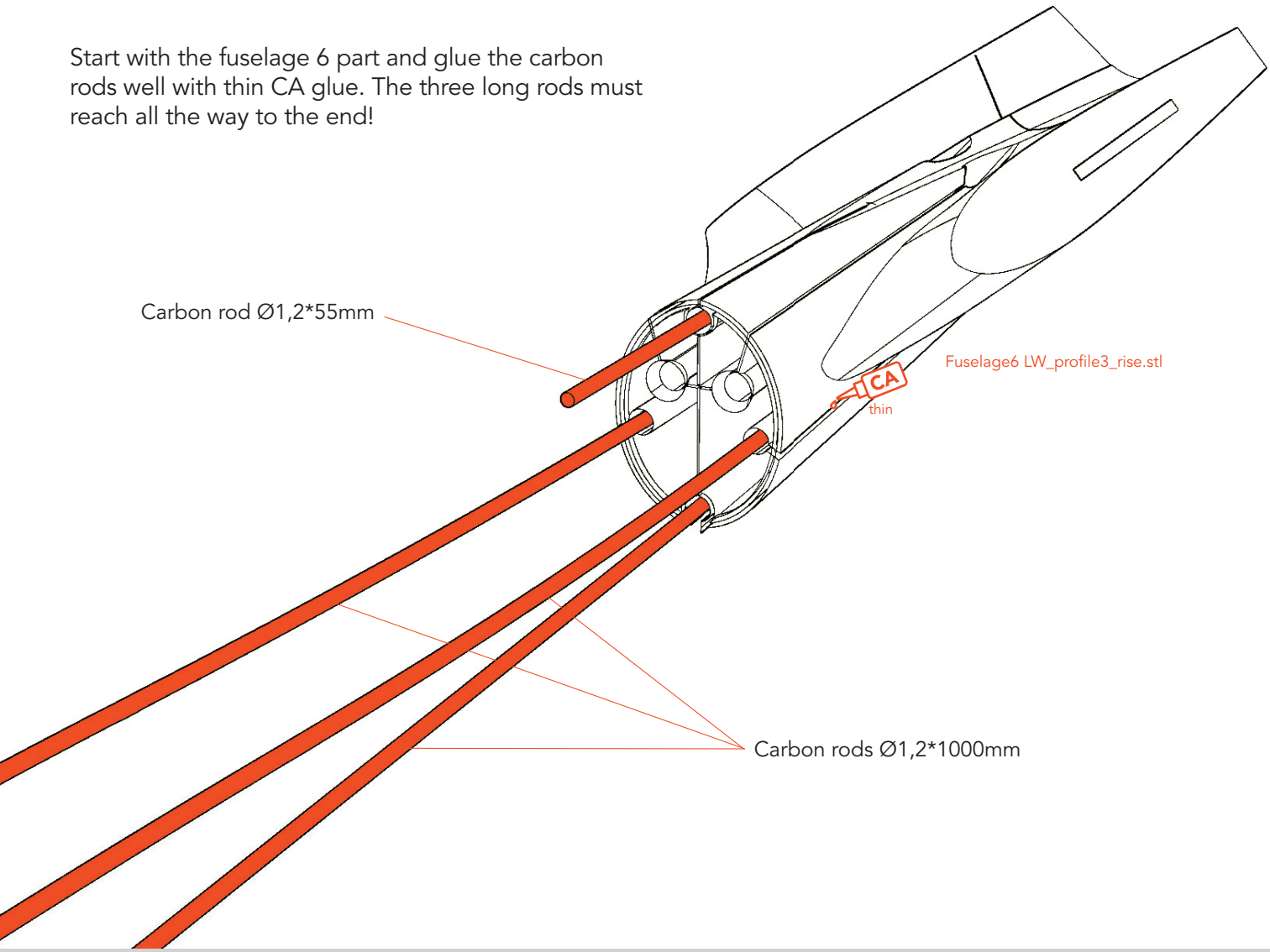
ASSEMBLING MANUAL FUSELAGE

NOTE To build the thin fuselage sufficiently stable, it is very important that the carbon rods are glued to the LW-PLA **over the entire length.**

Therefore, there are open gaps along the carbon rods on the outer surface of the fuselage. Pour **thin CA glue** into these gaps along the entire length to create a complete bond between the LW-PLA and the carbon rod.



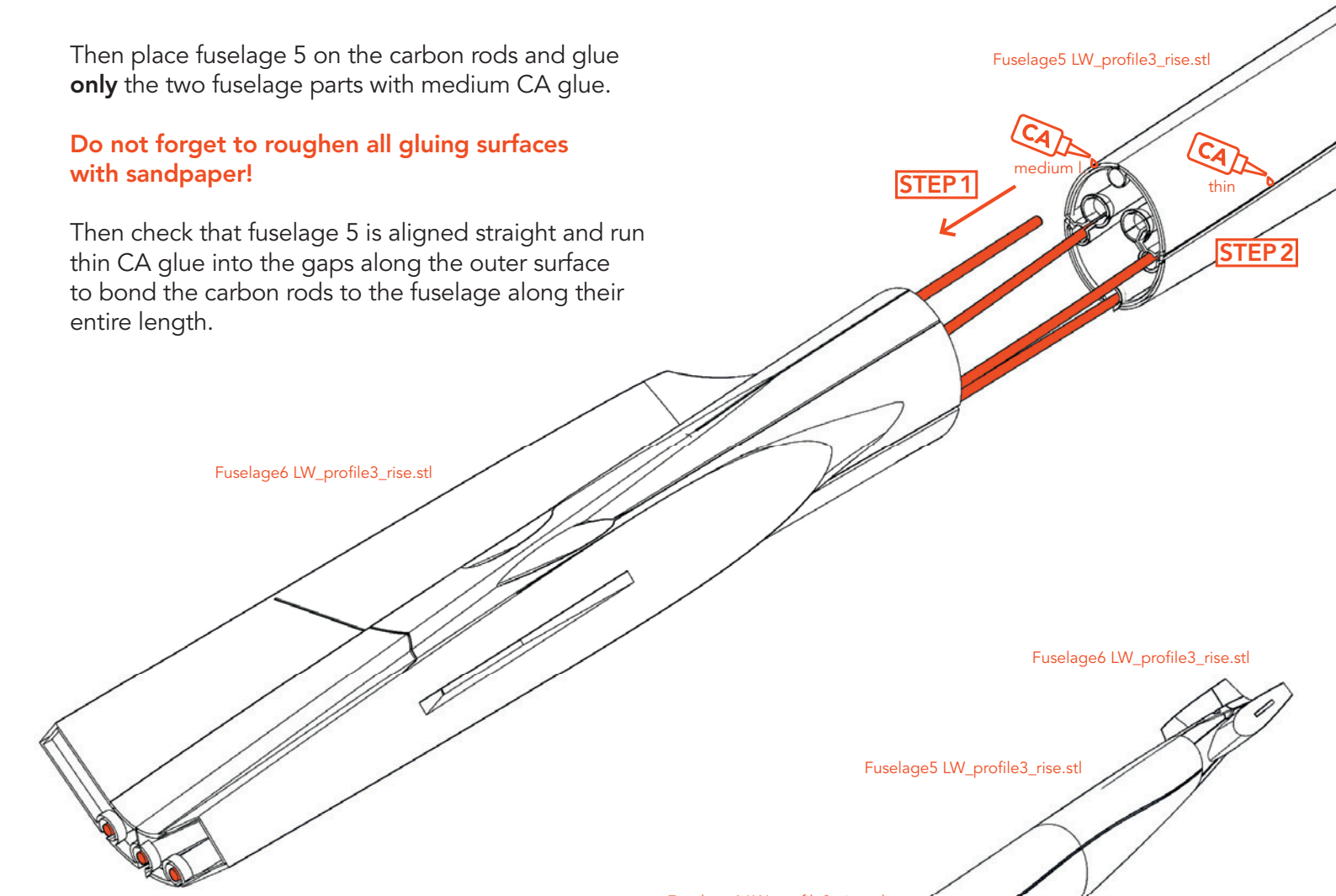
Start with the fuselage 6 part and glue the carbon rods well with thin CA glue. The three long rods must reach all the way to the end!



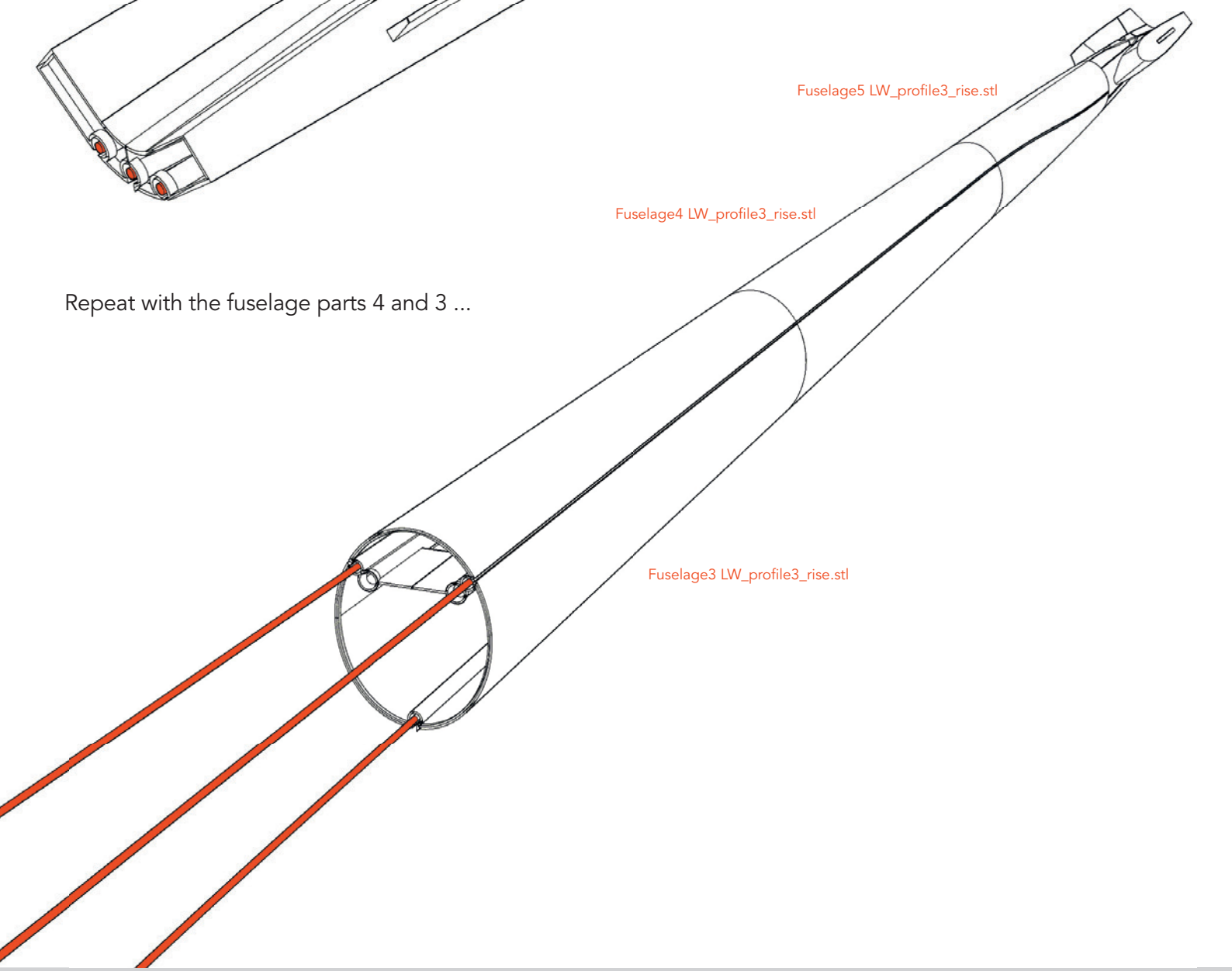
Then place fuselage 5 on the carbon rods and glue **only** the two fuselage parts with medium CA glue.

Do not forget to roughen all gluing surfaces with sandpaper!

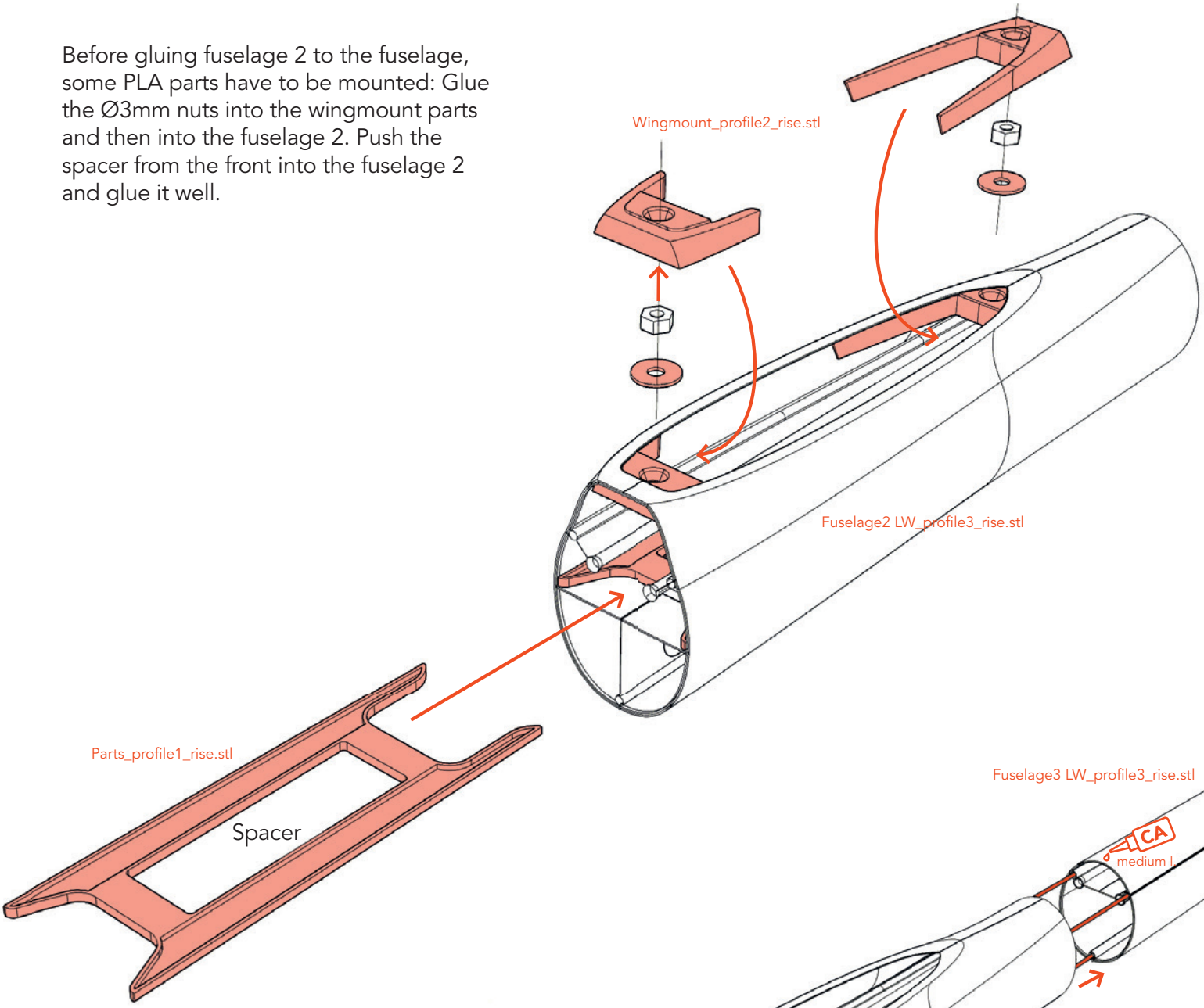
Then check that fuselage 5 is aligned straight and run thin CA glue into the gaps along the outer surface to bond the carbon rods to the fuselage along their entire length.



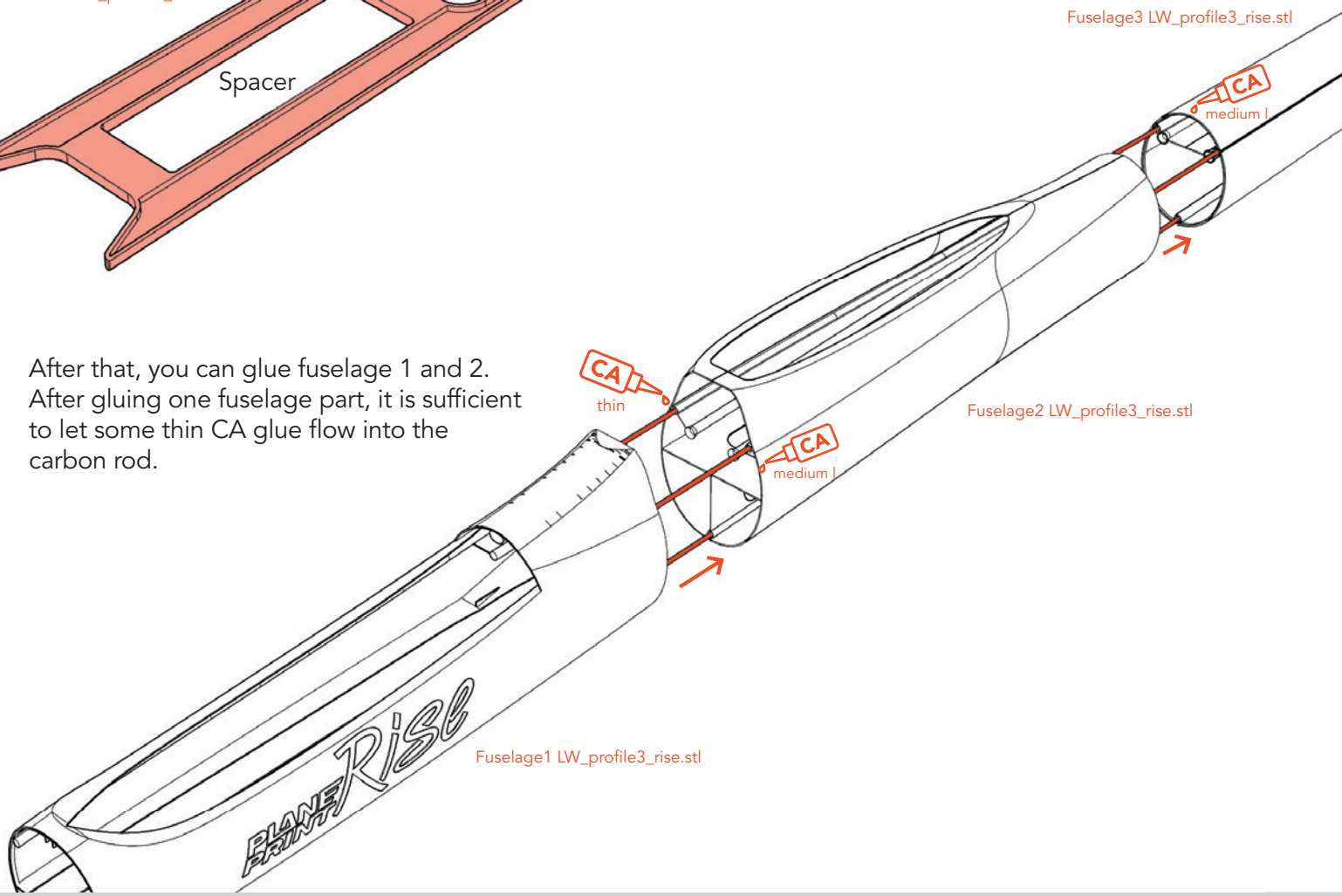
Repeat with the fuselage parts 4 and 3 ...



Before gluing fuselage 2 to the fuselage, some PLA parts have to be mounted: Glue the Ø3mm nuts into the wingmount parts and then into the fuselage 2. Push the spacer from the front into the fuselage 2 and glue it well.

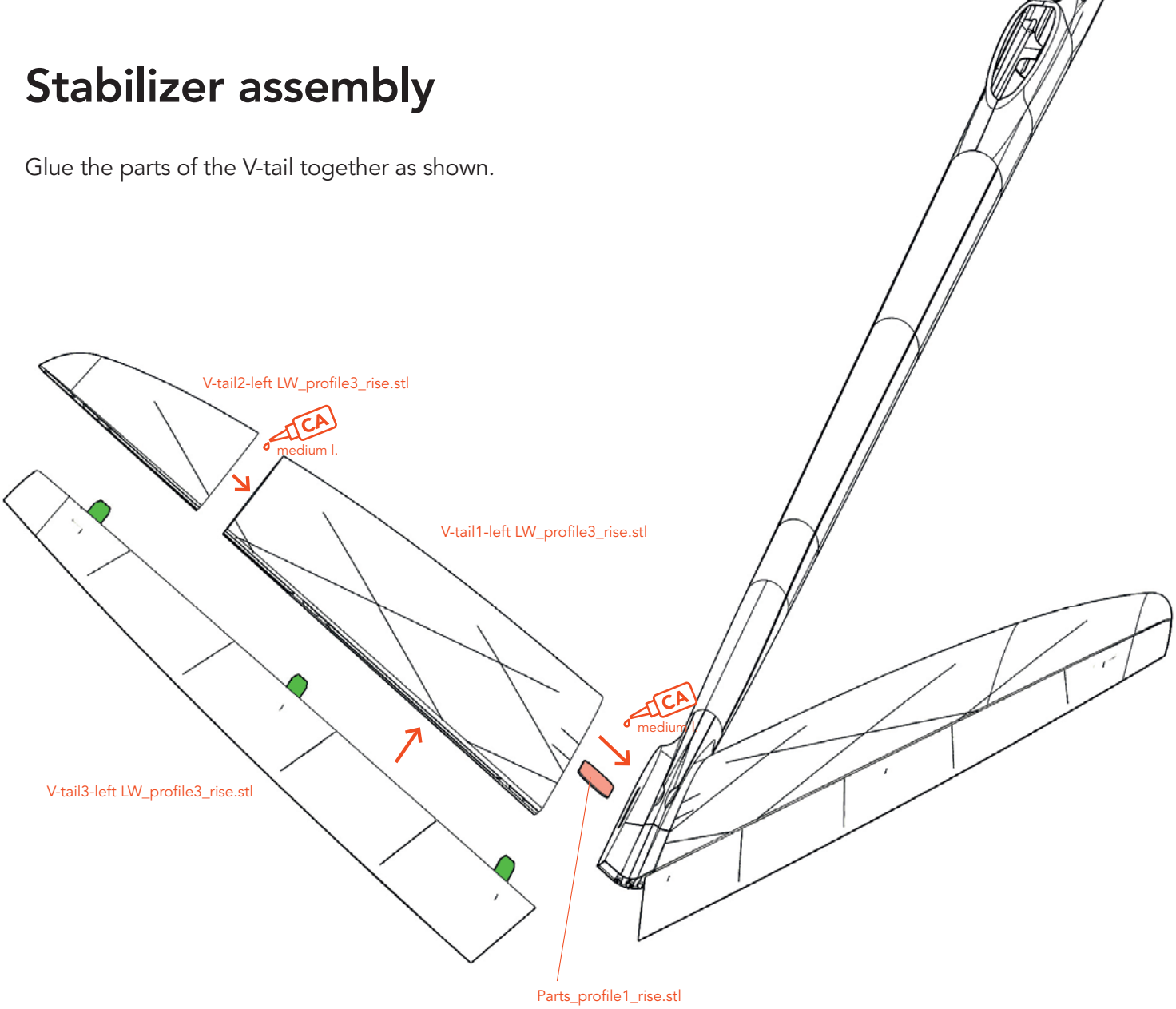


After that, you can glue fuselage 1 and 2. After gluing one fuselage part, it is sufficient to let some thin CA glue flow into the carbon rod.



Stabilizer assembly

Glue the parts of the V-tail together as shown.



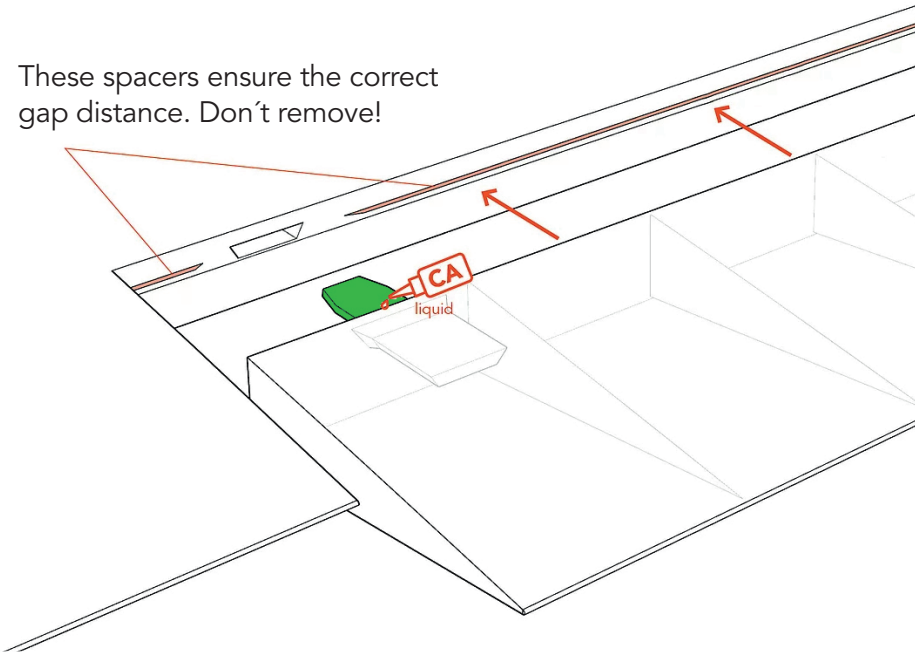
Installation of the TPU Hinges

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 wing 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 flap must move easily!

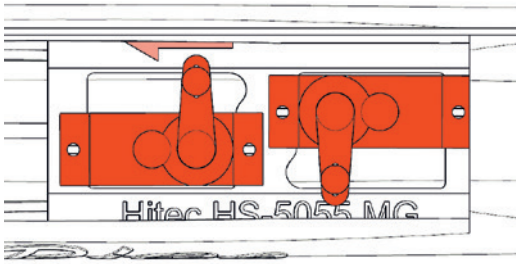
These spacers ensure the correct gap distance. Don´t remove!

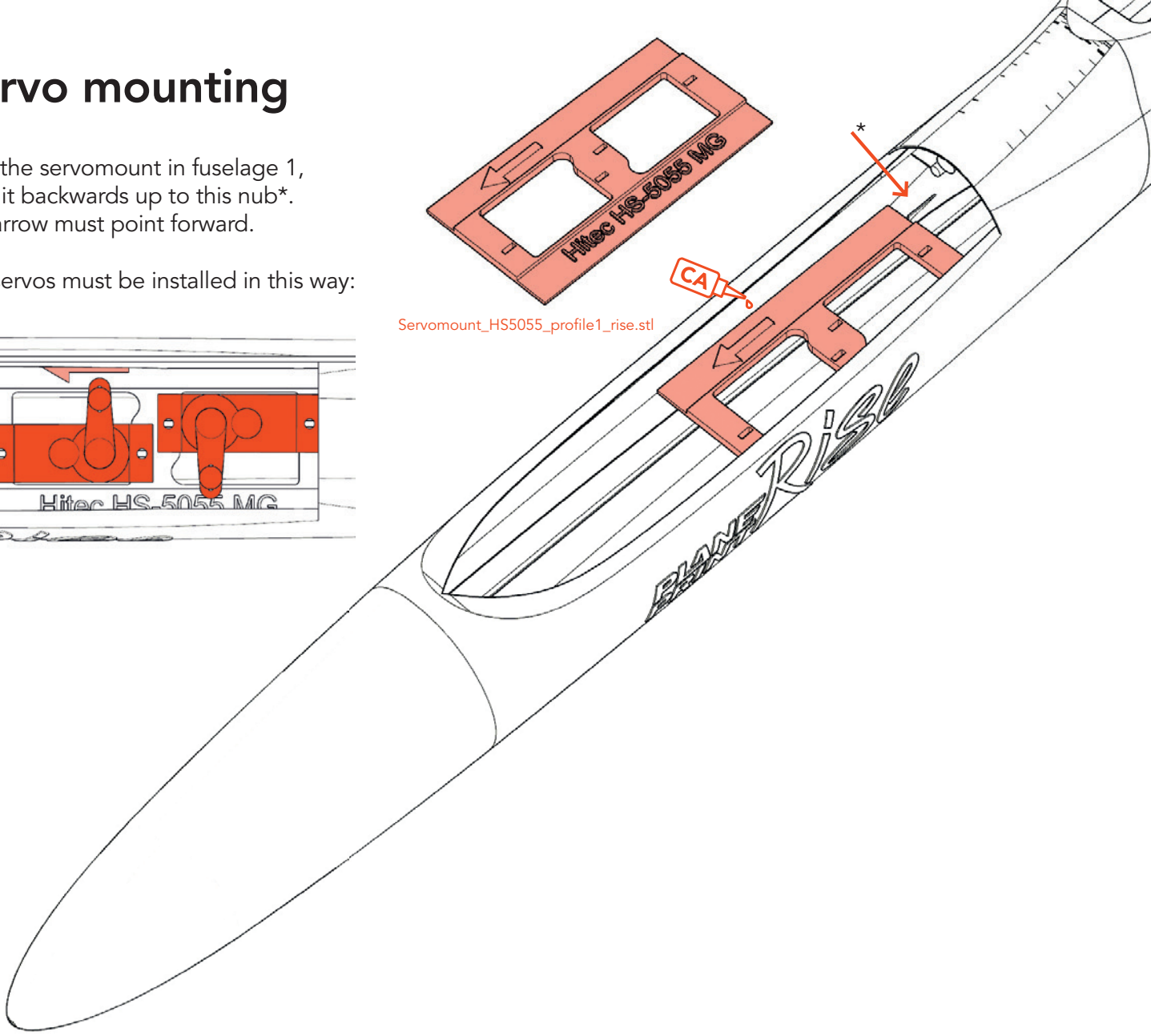


Servo mounting

Stick the servomount in fuselage 1, push it backwards up to this nub*. The arrow must point forward.

The servos must be installed in this way:





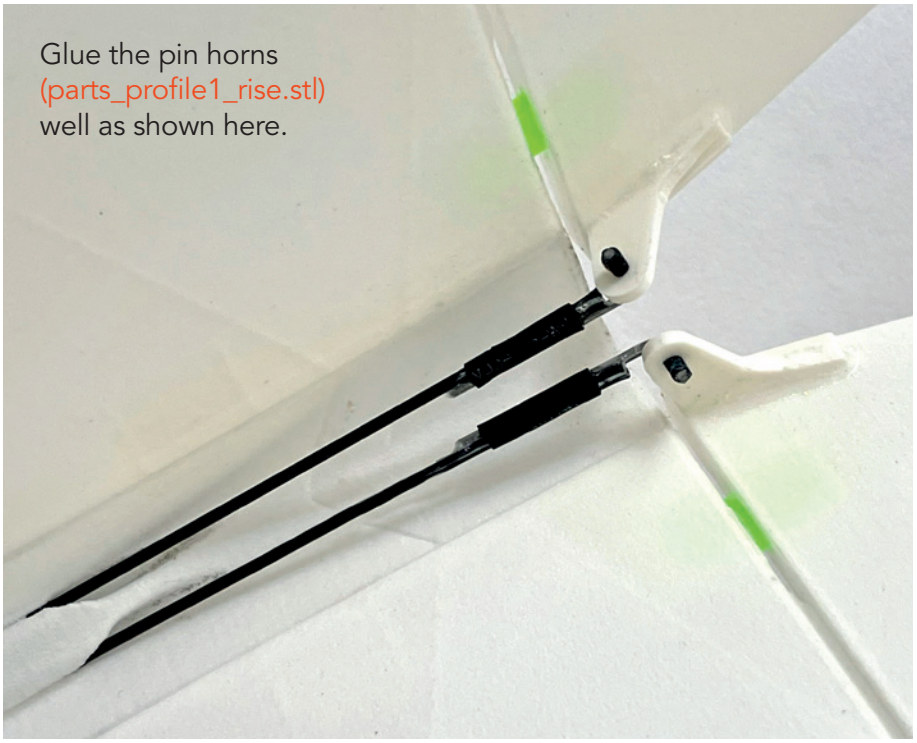
Servomount_HS5055_profile1_rise.stl

Linkage

For the linkage of the V-tail we recommend to bend short pieces of steel wire Ø1mm 90 degrees, to glue it to the carbon rod Ø1.2mm (secure it with heat shrink tube).

Secure the linkages to the pin horn with a short piece of heat shrink tubing (shrink it beforehand on a piece of steel wire and then cut short pieces) and a drop of medium CA glue.

Mount the adjustable rod connections to the servos.

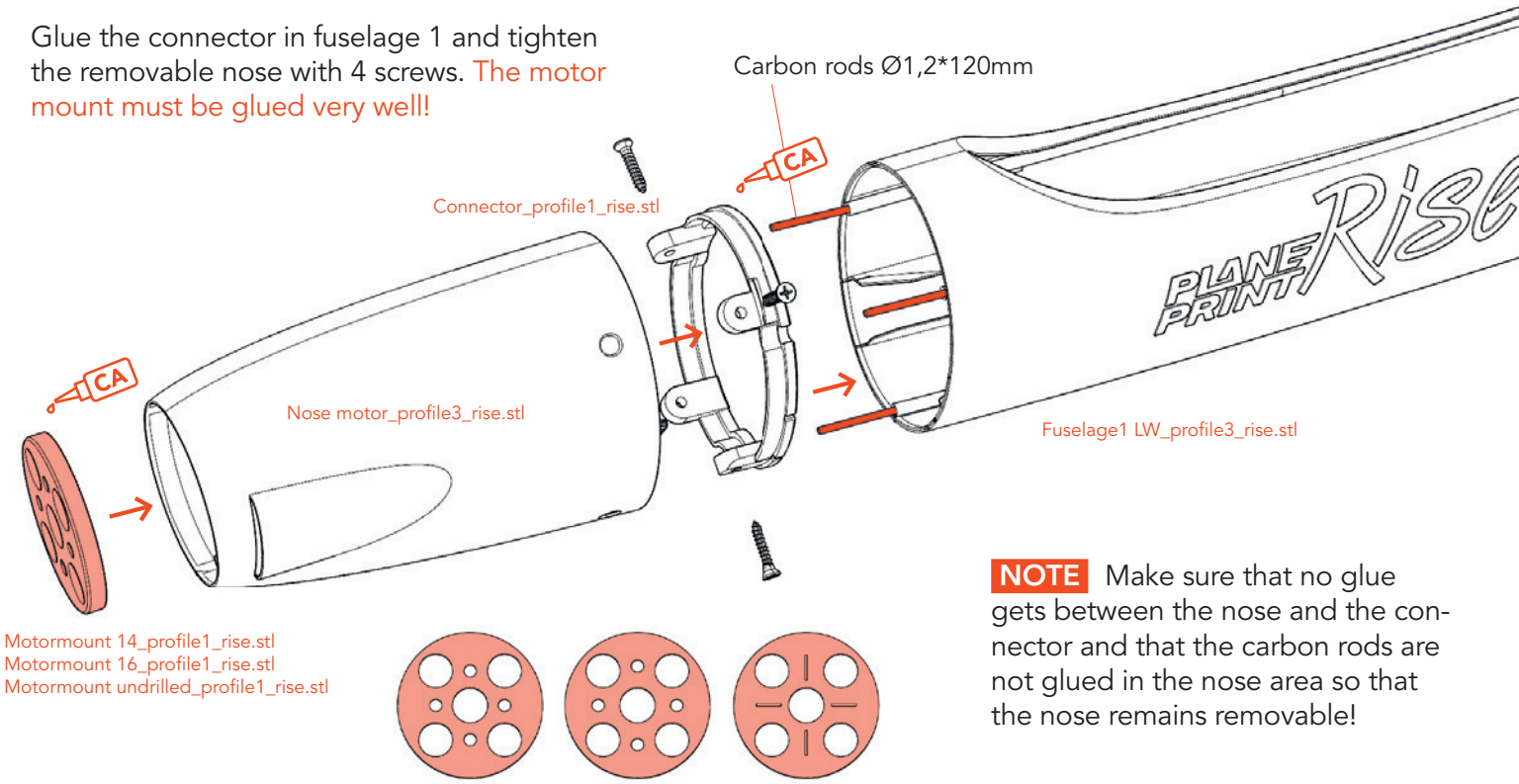


Glue the pin horns (parts_profile1_rise.stl) well as shown here.

Nose 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!

Glue the connector in fuselage 1 and tighten the removable nose with 4 screws. The motor mount must be glued very well!

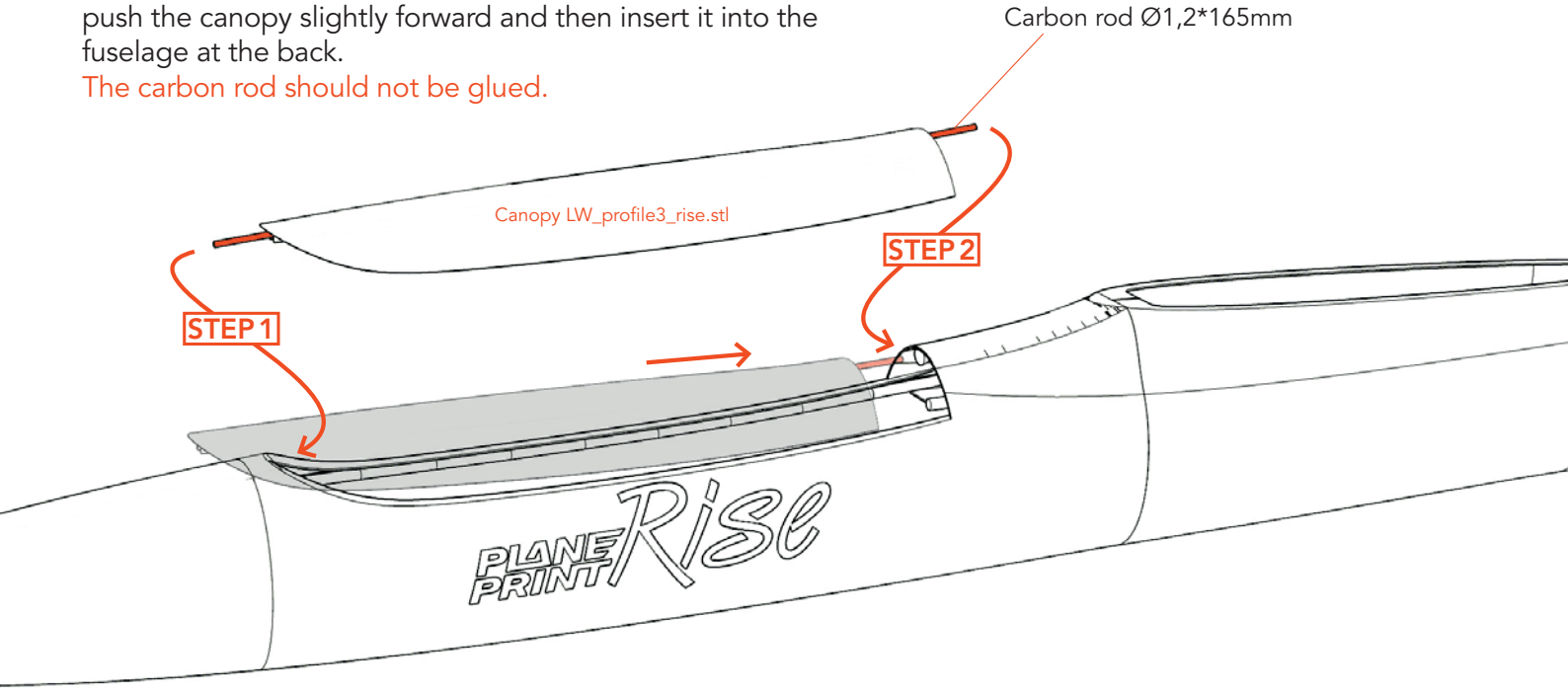


Motormount 14_profile1_rise.stl
Motormount 16_profile1_rise.stl
Motormount undrilled_profile1_rise.stl

NOTE Make sure that no glue gets between the nose and the connector and that the carbon rods are not glued in the nose area so that the nose remains removable!

Canopy fastening

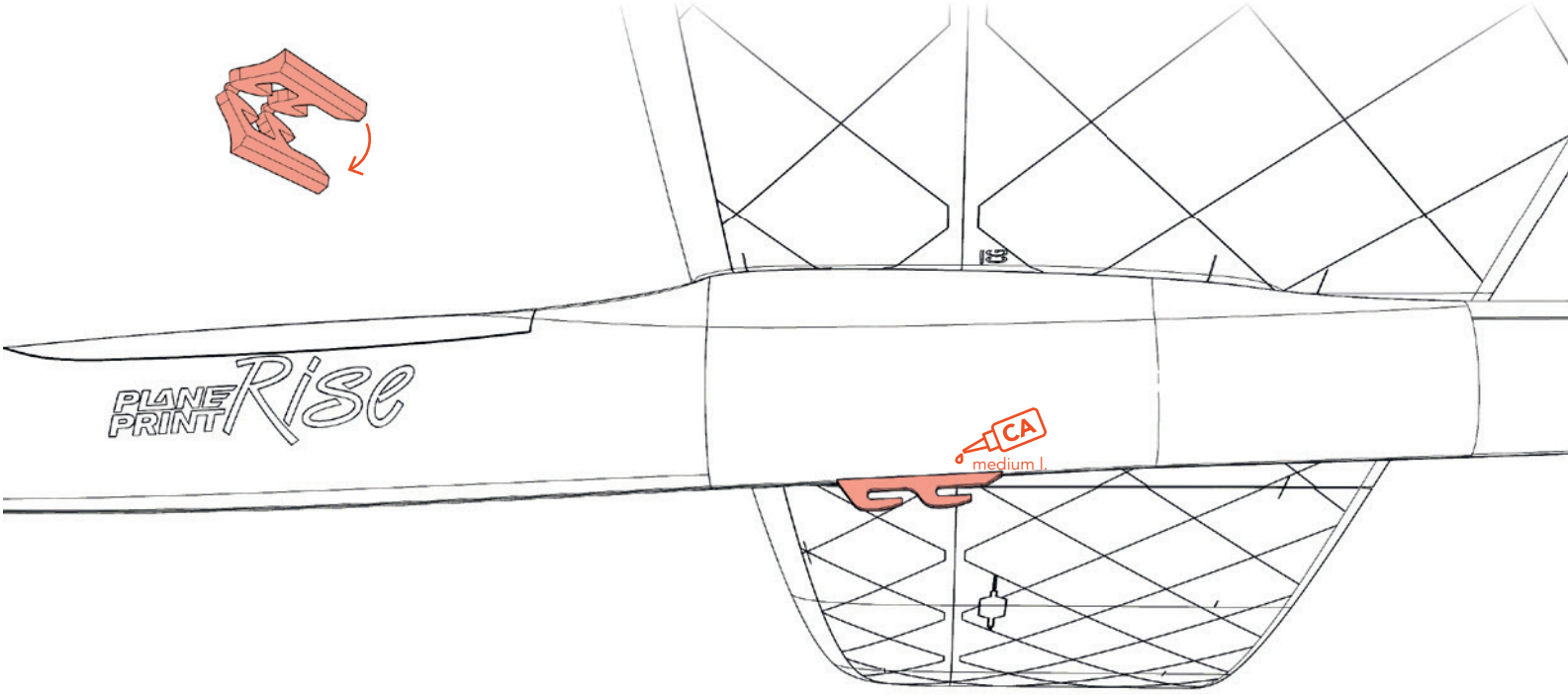
Insert a 165 mm long carbon rod into the bowden of the cap. To attach it, first insert the front end into the fuselage, push the canopy slightly forward and then insert it into the fuselage at the back.
The carbon rod should not be glued.



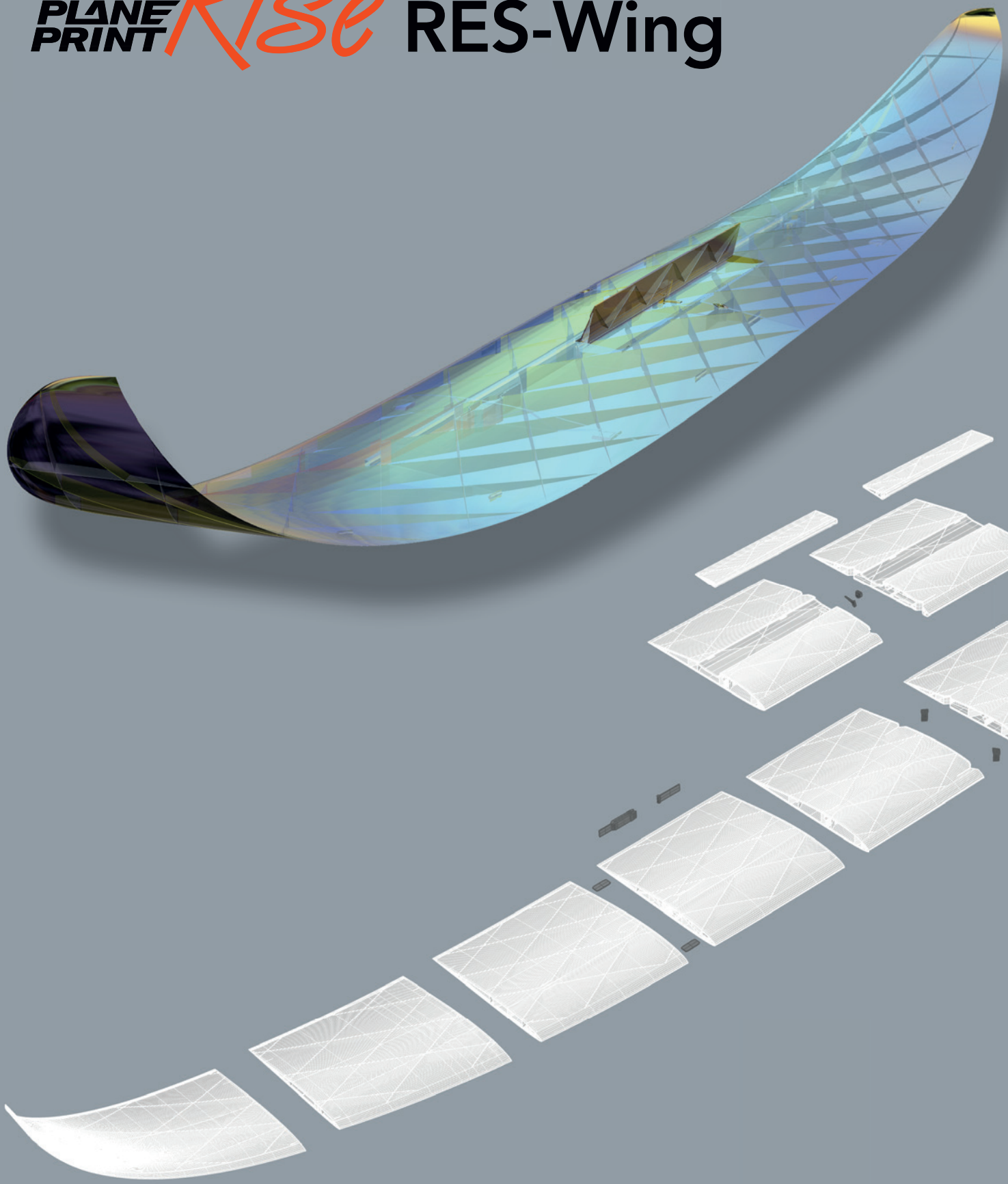
RC components

Launch Hook (if desired)

The launch hook is only recommended for experienced pilots, because the wings made of LW-PLA are very soft and must only be loaded very gently!
The rear hook should be positioned about 5mm in front of the CG.



PLANE PRINT Rise RES-Wing



PLA

LW-PLA

REQUIRED ACCESSOIRES

Materials

- Carbon tube Ø6*1000mm (inside Ø4mm), 1 piece
- Carbon rod Ø1.2mm, some short pieces
- Steel wire Ø1mm, short piece for the servo linkages
- 4 tapping screws Ø2*8 mm

Tools

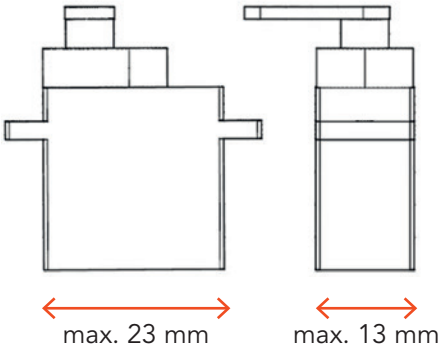
- small Philips screwdriver
- Drill Ø1,5mm

RC Components

(Is only needed for the spoiler version)

SERVO Hitec HS-5055MG
(or similar in the same size), 1 piece

Maximum dimensions:



PROFILE P1_FULLBODY normal PLA

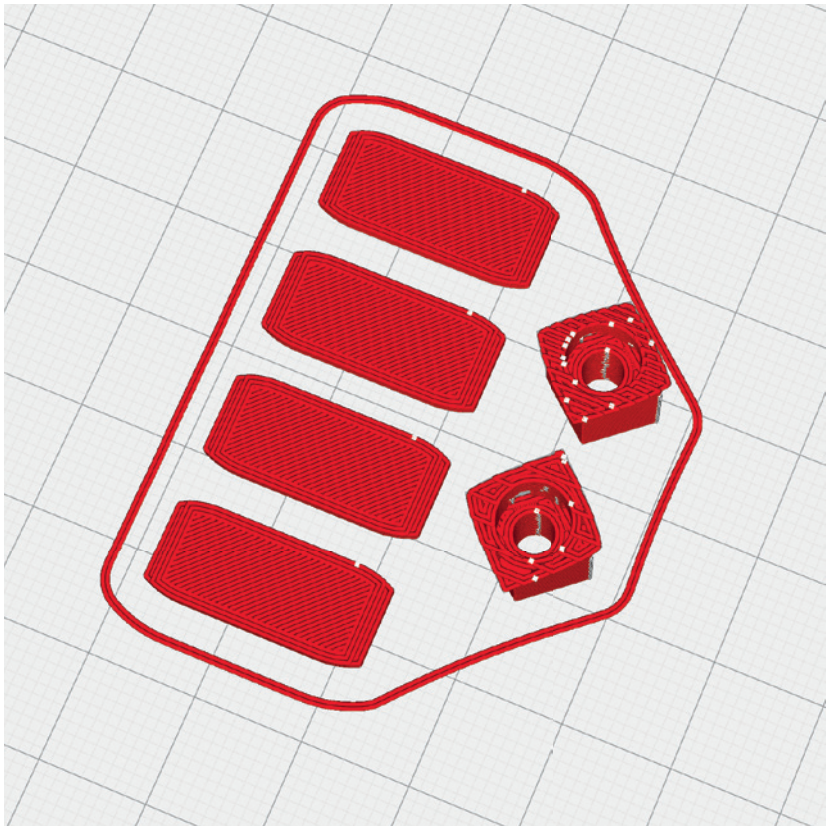
The following parts must be sliced with the PROFILE P1_FULLBODY.
Please note the additional settings for the individual parts!

Wing mount RES_profile1_rise.stl

MATERIAL PLA, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required

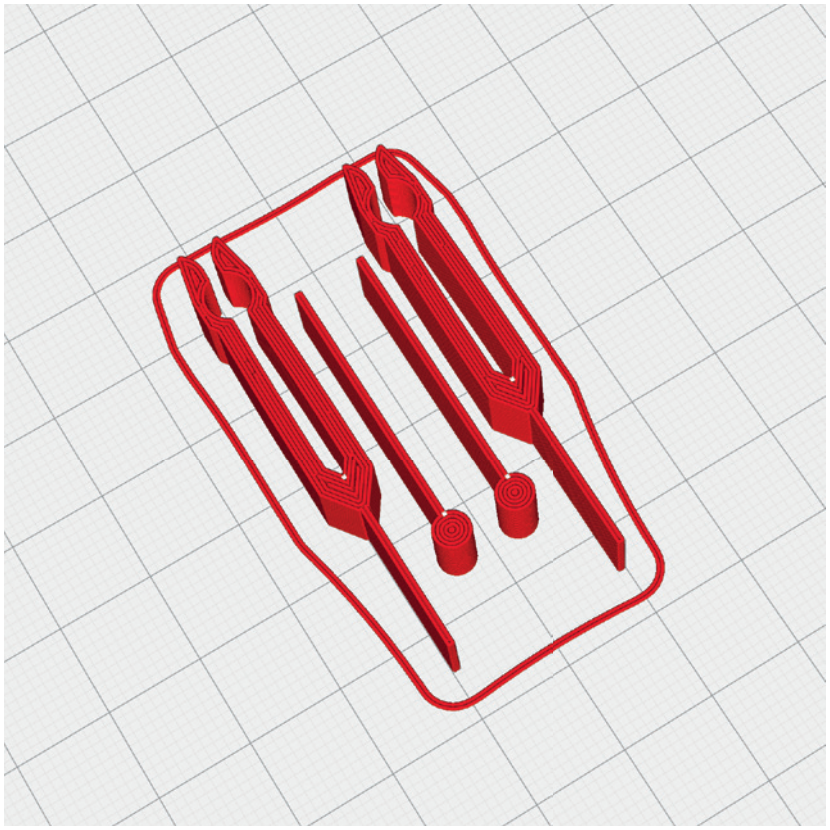


Snap lock_profile1_rise.stl

MATERIAL PLA, ~ 4 g

ADDITIONAL SETTINGS

- Wall Line Count: 6



PROFILE P1_FULLBODY normal PLA

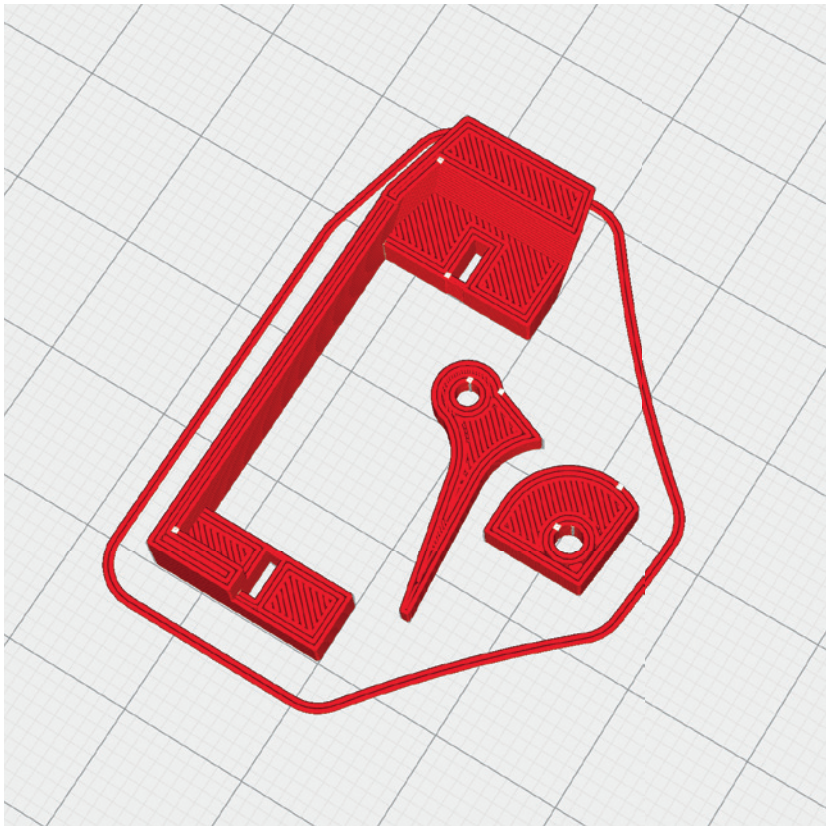
The following parts must be sliced with the PROFILE P1_FULLBODY.
Please note the additional settings for the individual parts!

Spoiler mount_profile1_rise.stl

MATERIAL PLA, ~ 2 g

ADDITIONAL SETTINGS

None required



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

Wing1 spoiler-left LW_profile3_rise.stl
Wing1 spoiler-right LW_profile3_rise.stl

MATERIAL LW-PLA, ~ 69 g*

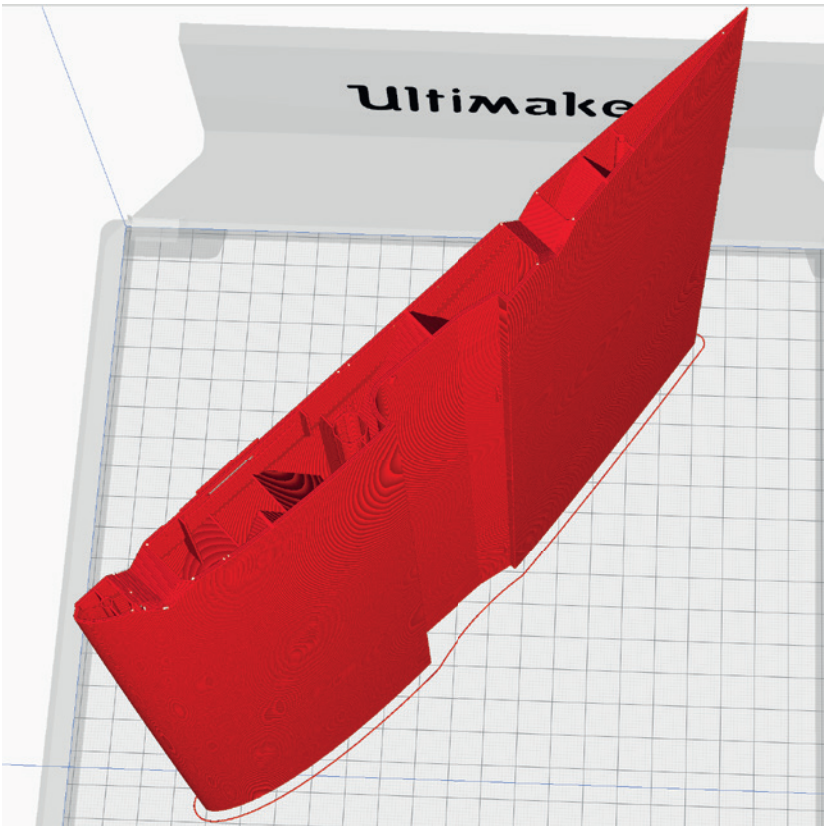
ADDITIONAL SETTINGS

left: • Z Seam Position **right**
right: • Z Seam Position **left**

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

*Display in Cura. The actual weight is then 60% of this.



Spoiler-left LW_profile3_rise.stl
Spoiler-right LW_profile3_rise.stl

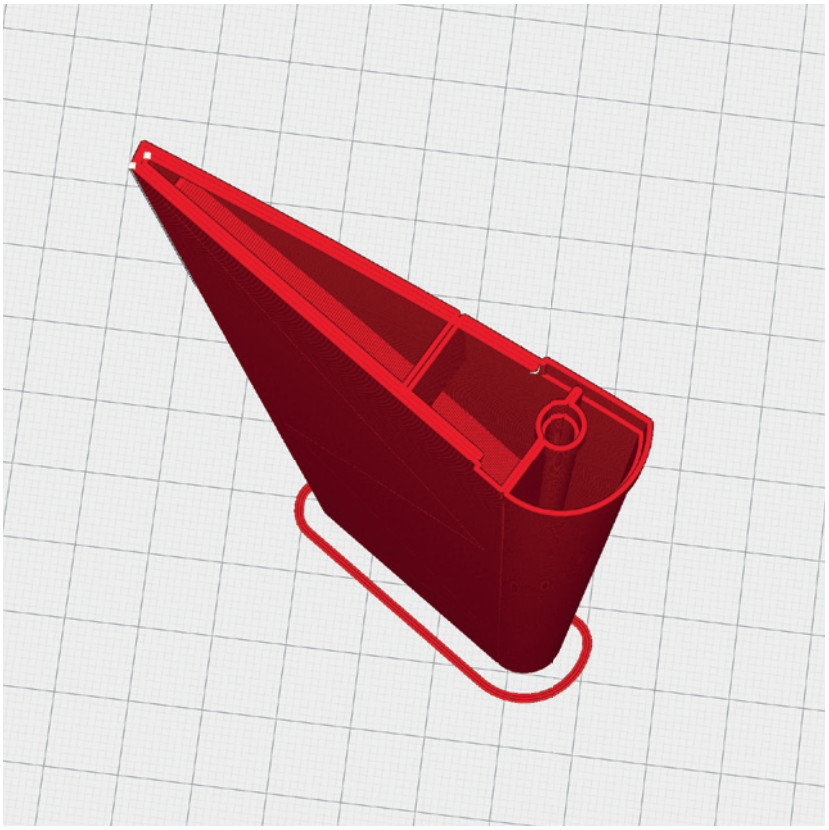
MATERIAL LW-PLA, ~ 10 g*

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

*Display in Cura. The actual weight is then 60% of this.



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Wing1-left LW_profile3_rise.stl
Wing1-right LW_profile3_rise.stl

MATERIAL LW-PLA, ~ 70 g*

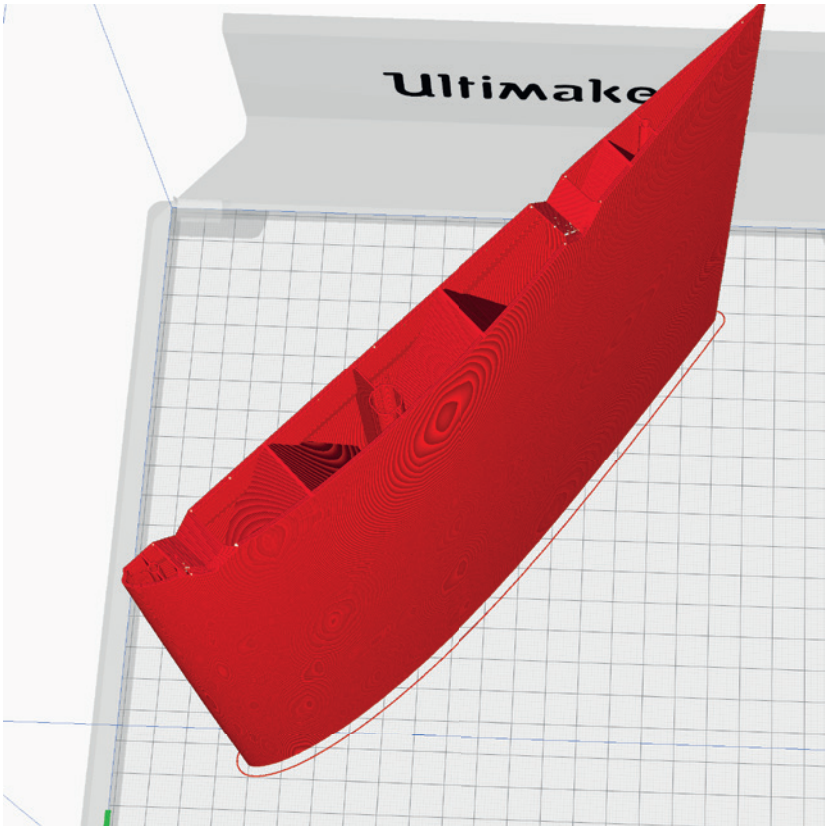
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

left: • Z Seam Position **right**
right: • Z Seam Position **left**

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Wing2-left LW_profile3_rise.stl
Wing2-right LW_profile3_rise.stl

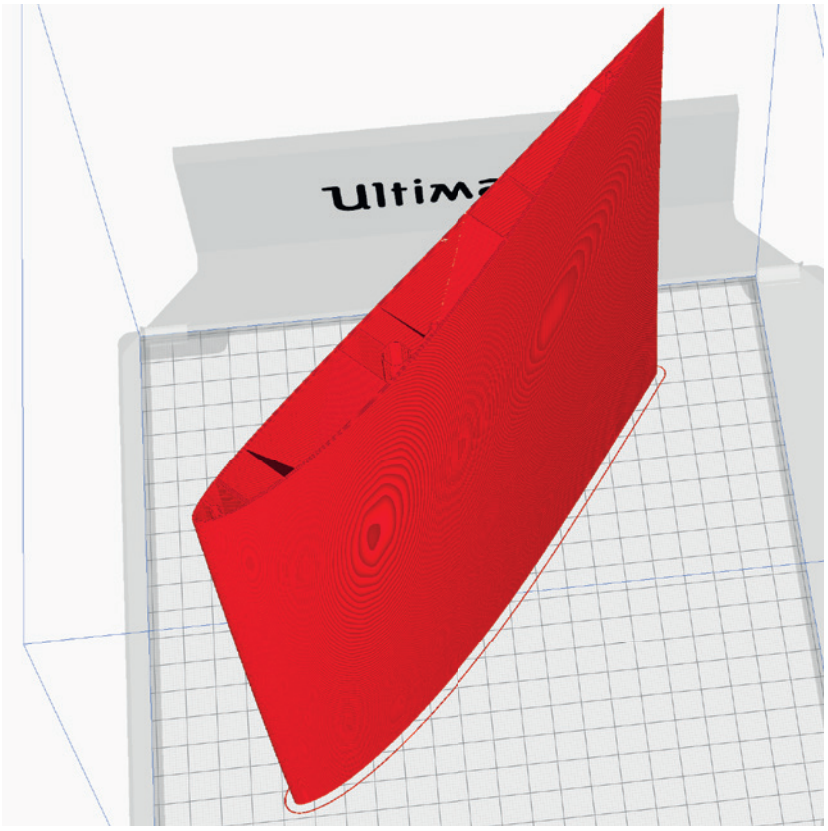
MATERIAL LW-PLA, ~ 68 g*
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

left: • Z Seam Position **right**
right: • Z Seam Position **left**

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



Wing3-left LW_profile3_rise.stl
Wing3-right LW_profile3_rise.stl

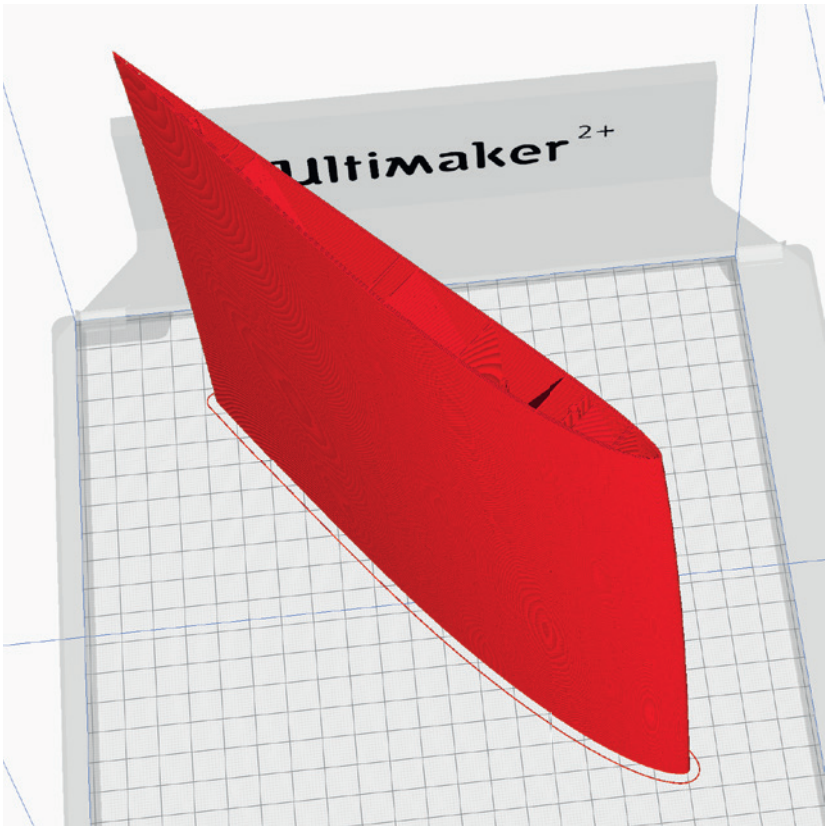
MATERIAL LW-PLA, ~ 63 g*
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

left: • Z Seam Position **left**
right: • Z Seam Position **right**

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Wing4-left LW_profile3_rise.stl
Wing4-right LW_profile3_rise.stl

MATERIAL LW-PLA, ~ 52 g*

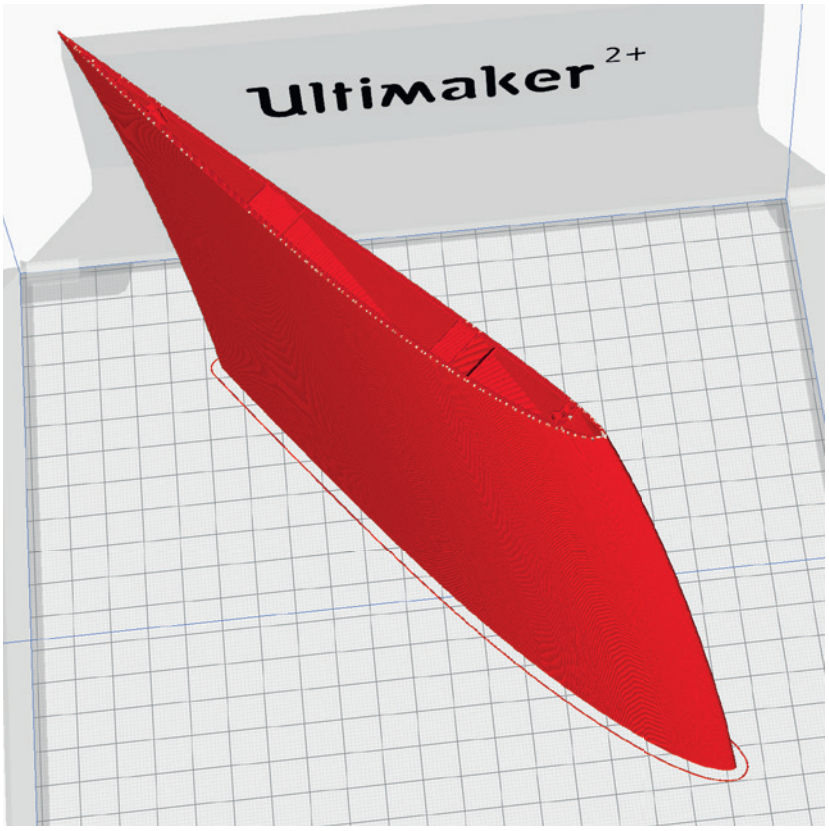
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

left: • Z Seam Position **left**
right: • Z Seam Position **right**

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



Wing5-left LW_profile3_rise.stl
Wing5-right LW_profile3_rise.stl

MATERIAL LW-PLA, ~ 63 g*

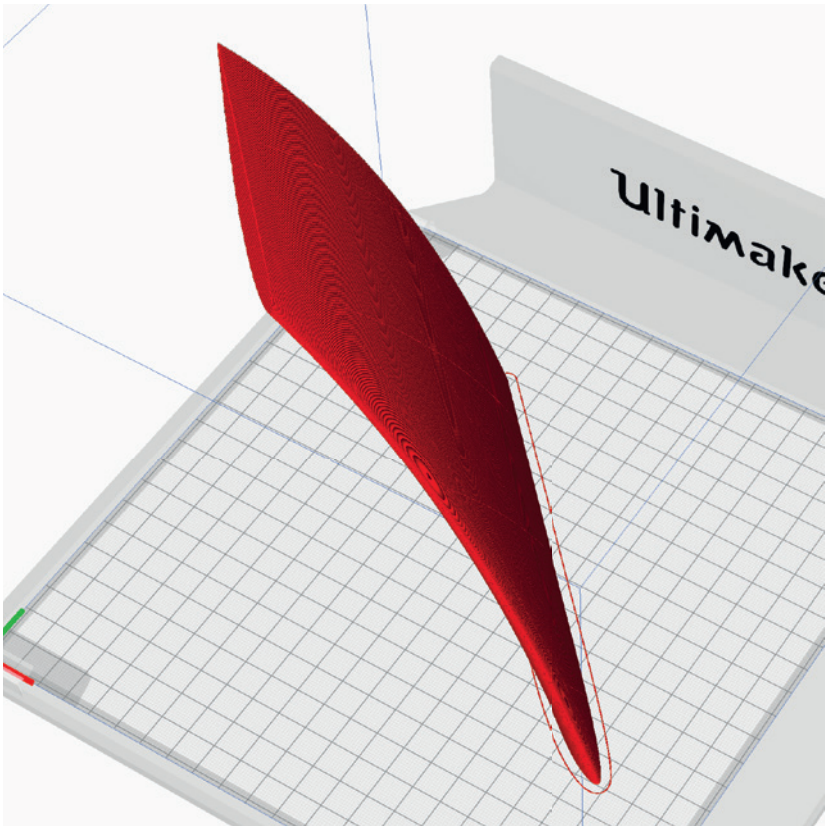
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

left: • Z Seam Position **left**
right: • Z Seam Position **right**

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Winglet-left LW_profile3_rise.stl
Winglet-right LW_profile3_rise.stl

MATERIAL LW-PLA, ~ 5 g*

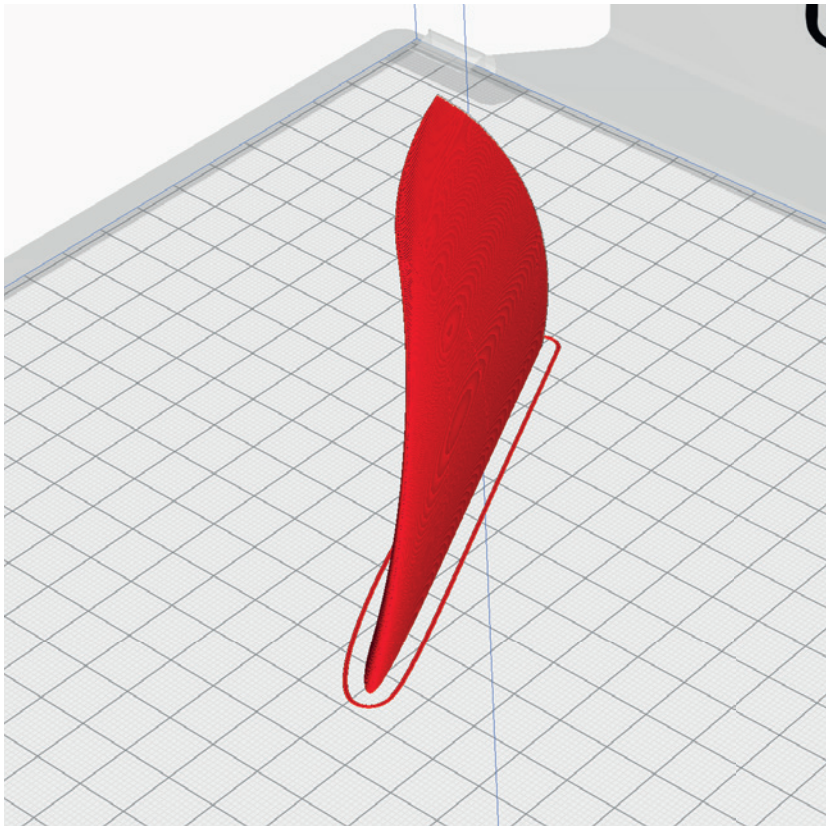
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

Wing2 left: • Z Seam Position right
Wing2 right: • Z Seam Position left

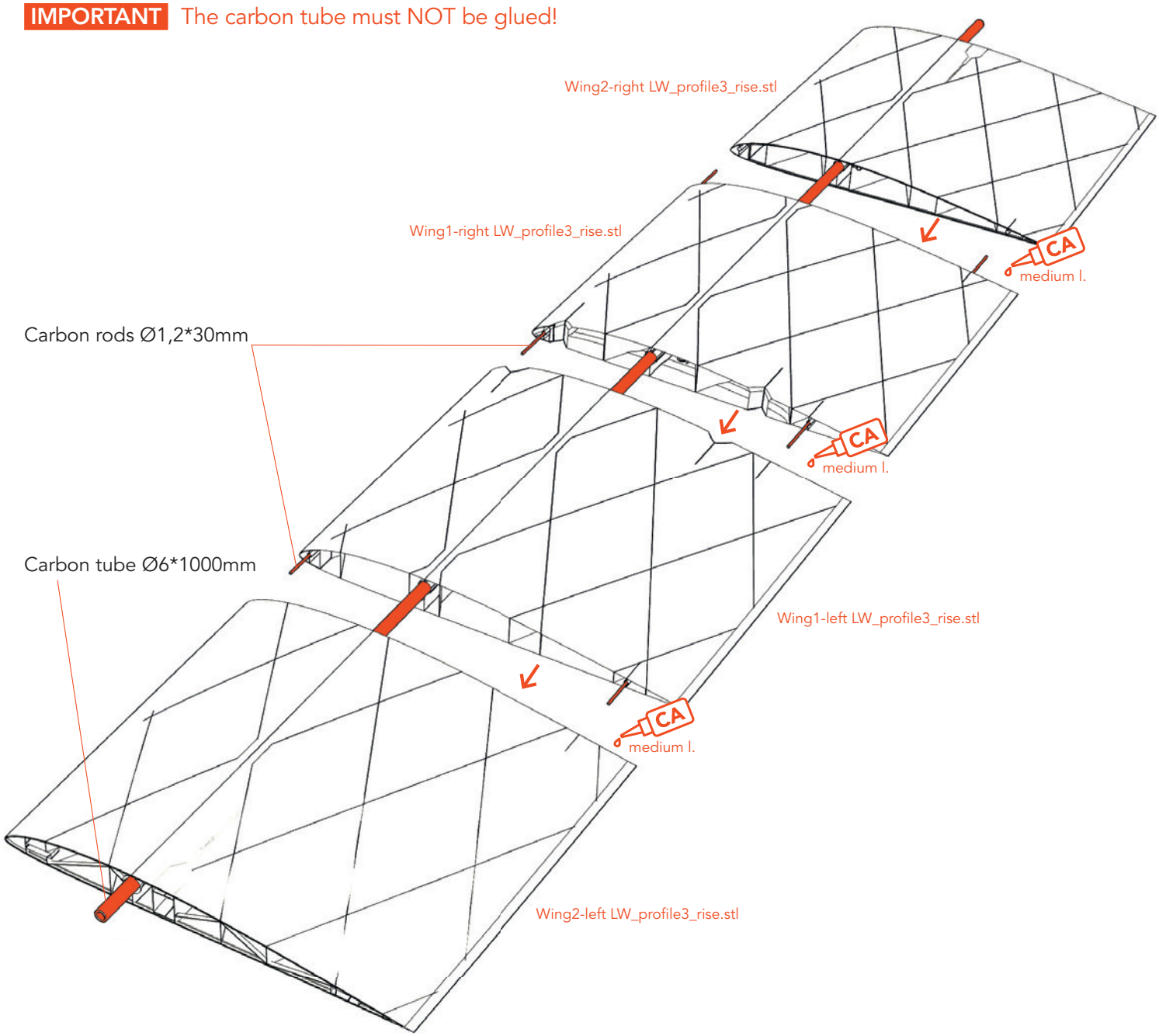
The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).



Wings assembly – Middle part without spoiler

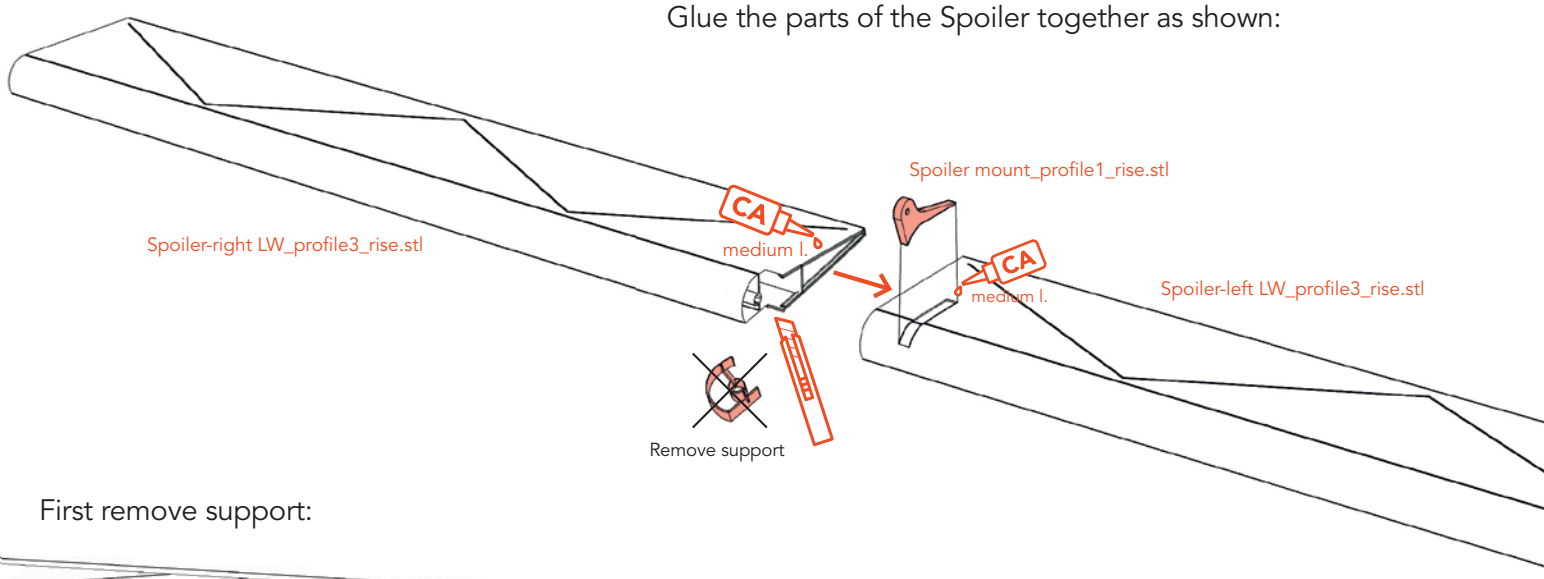
Cut six short pieces of carbon rod with the knife and use them as dowel pins to accurately glue the wing parts together. The bonding surfaces should be roughened with sandpaper beforehand to achieve a perfect bond.

IMPORTANT The carbon tube must NOT be glued!

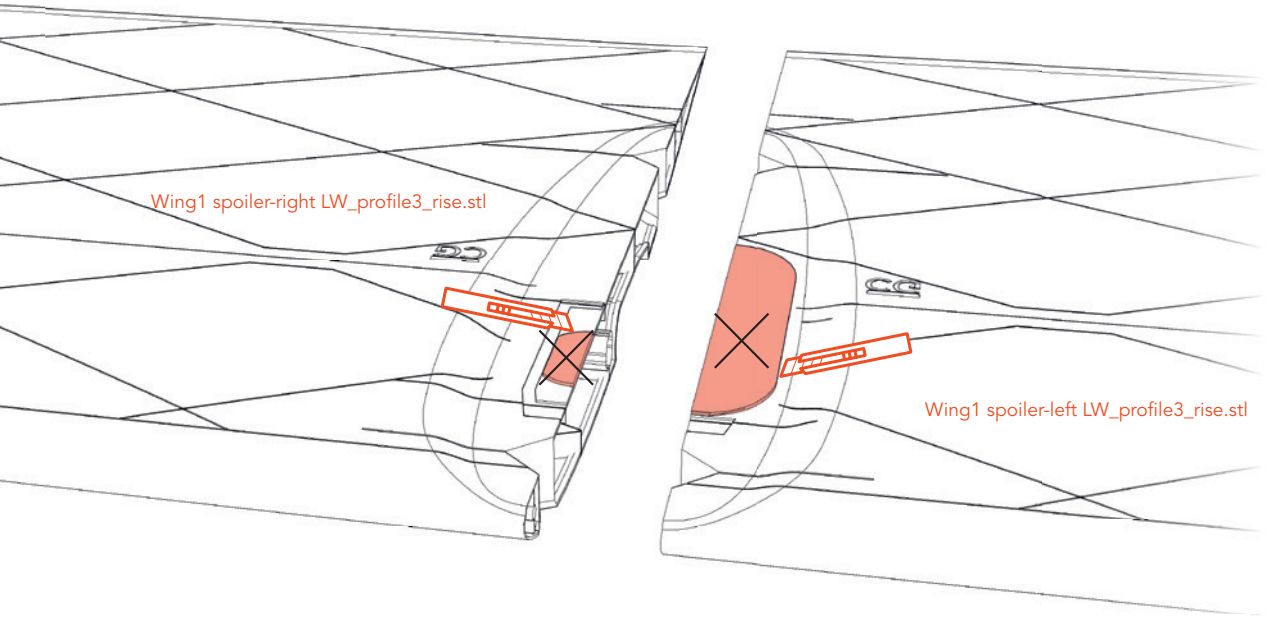


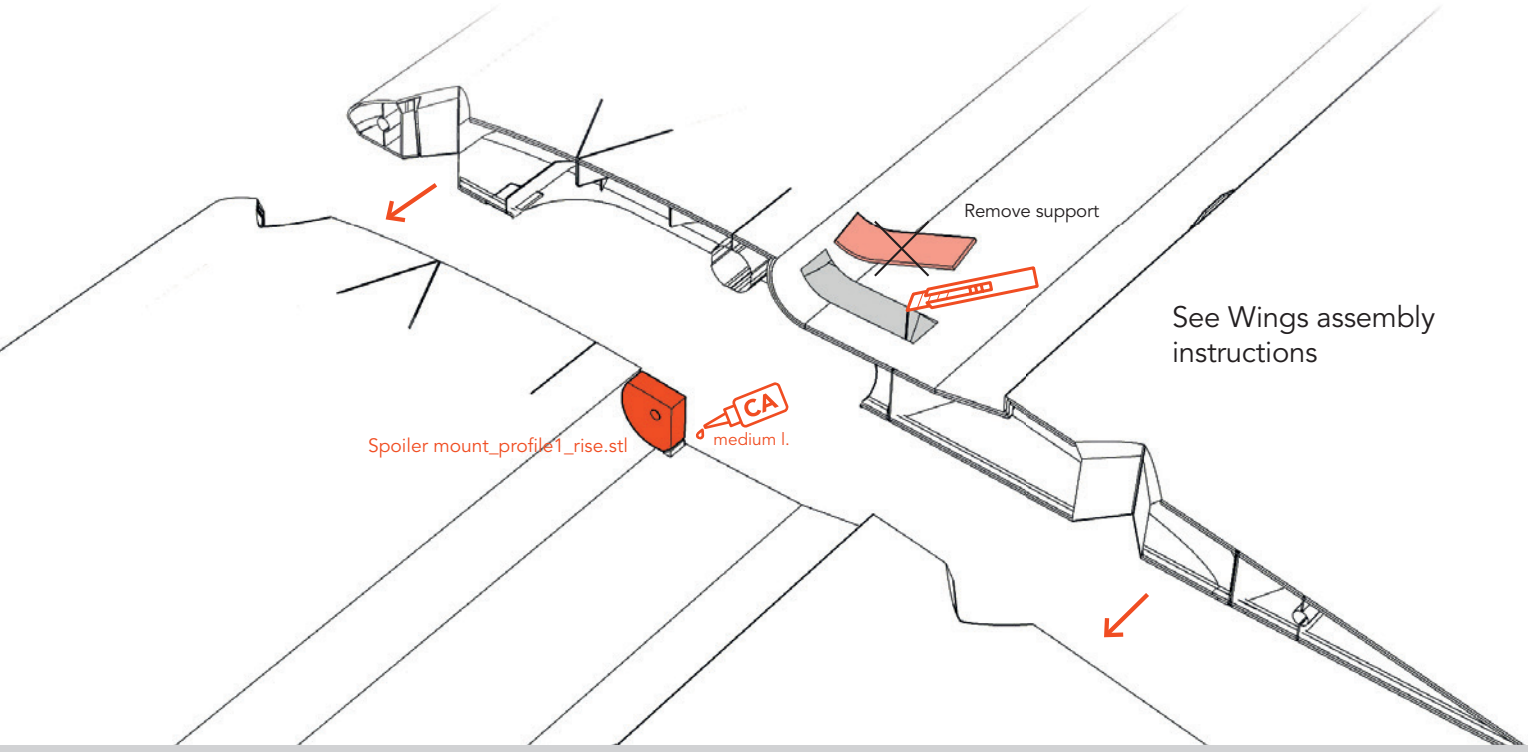
Wings assembly – Middle part with spoiler

Glue the parts of the Spoiler together as shown:



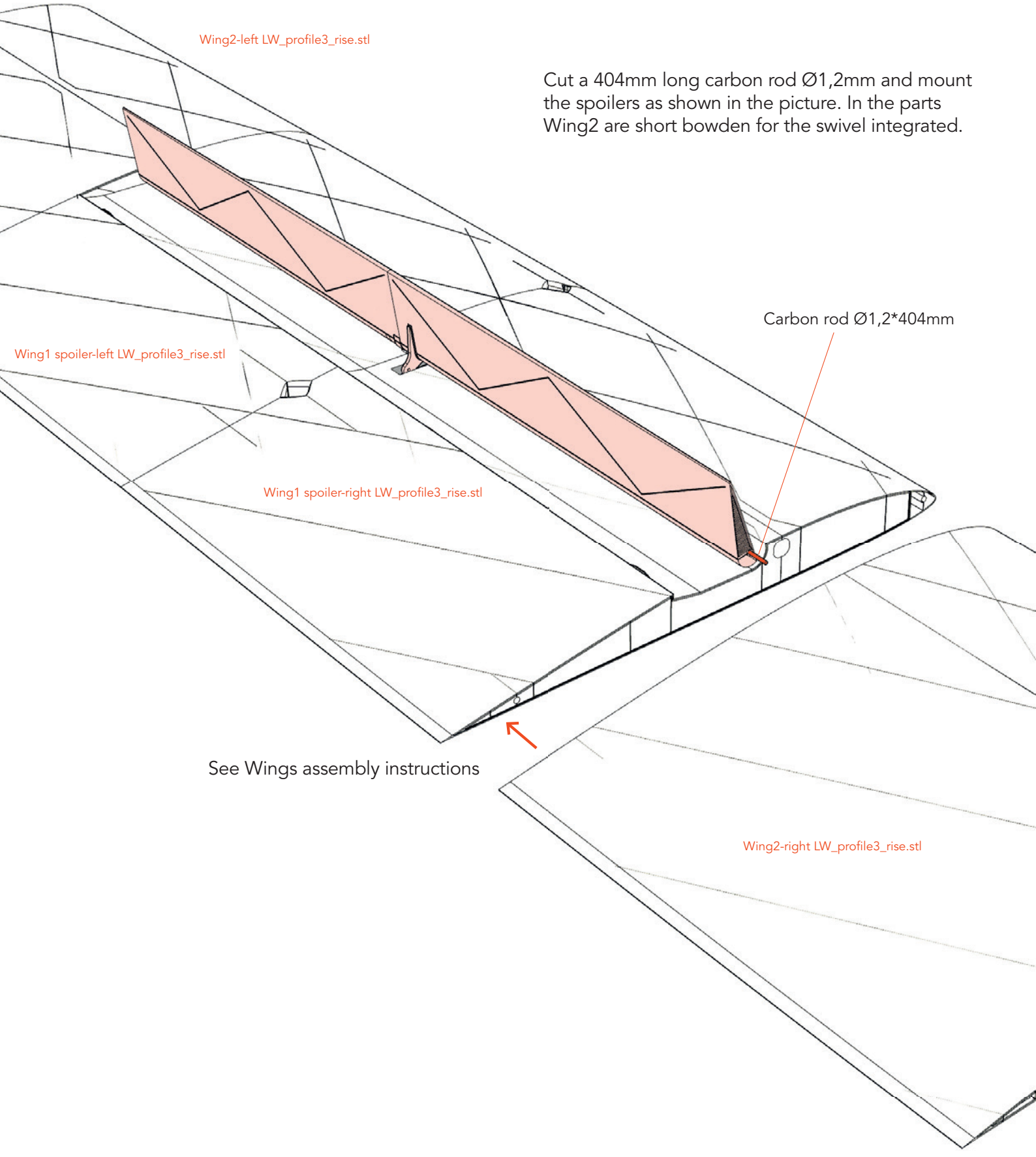
First remove support:





See Wings assembly instructions

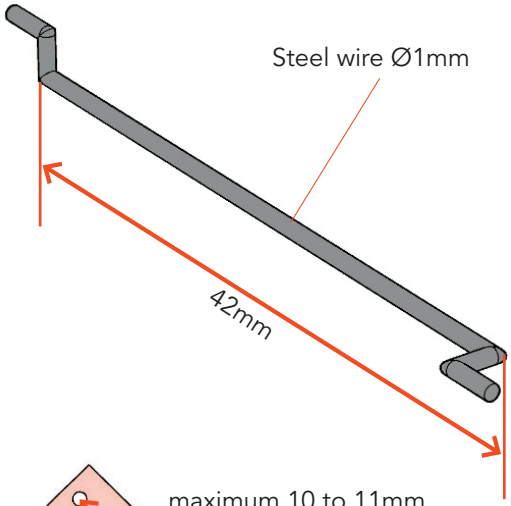
Spoiler assembly

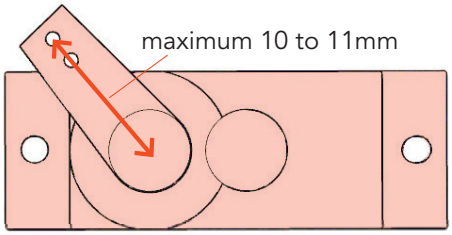


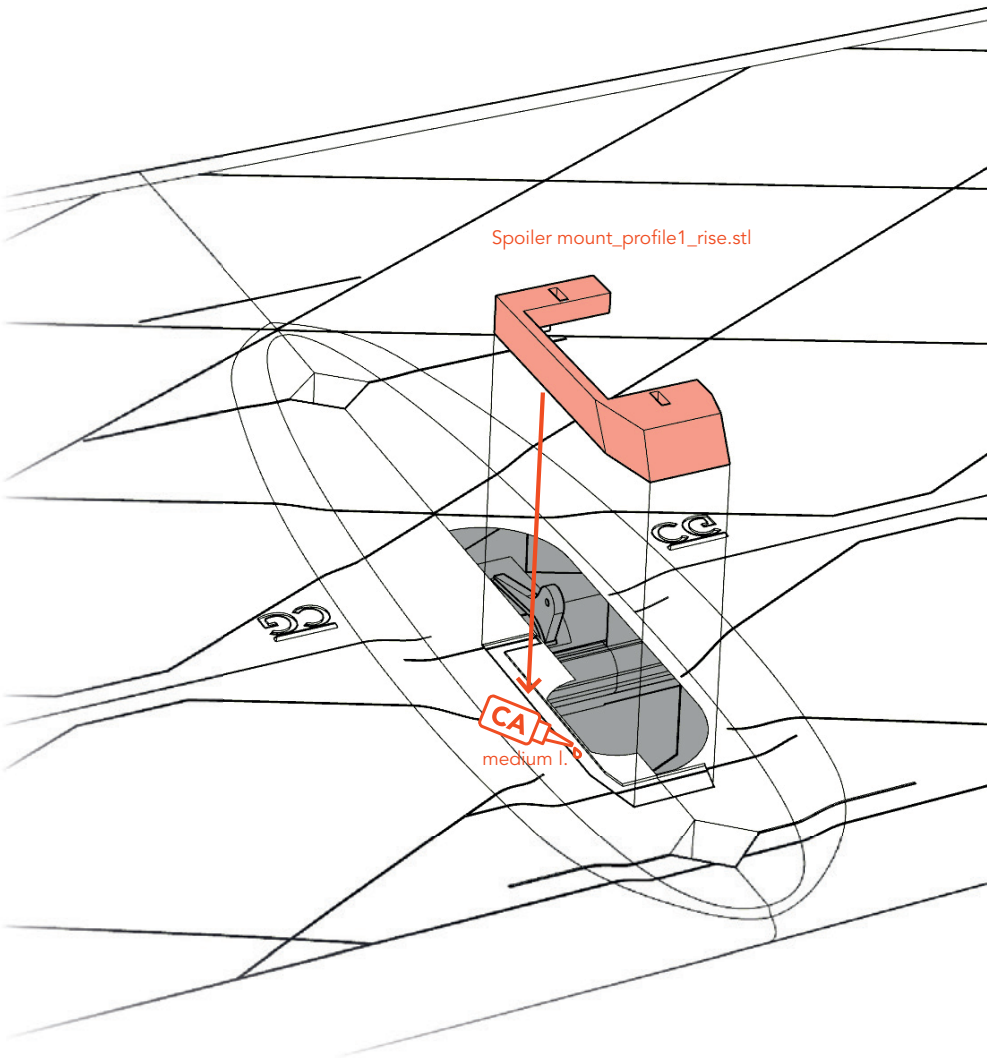
Spoiler linkage

Glue the servo mount to the wing.

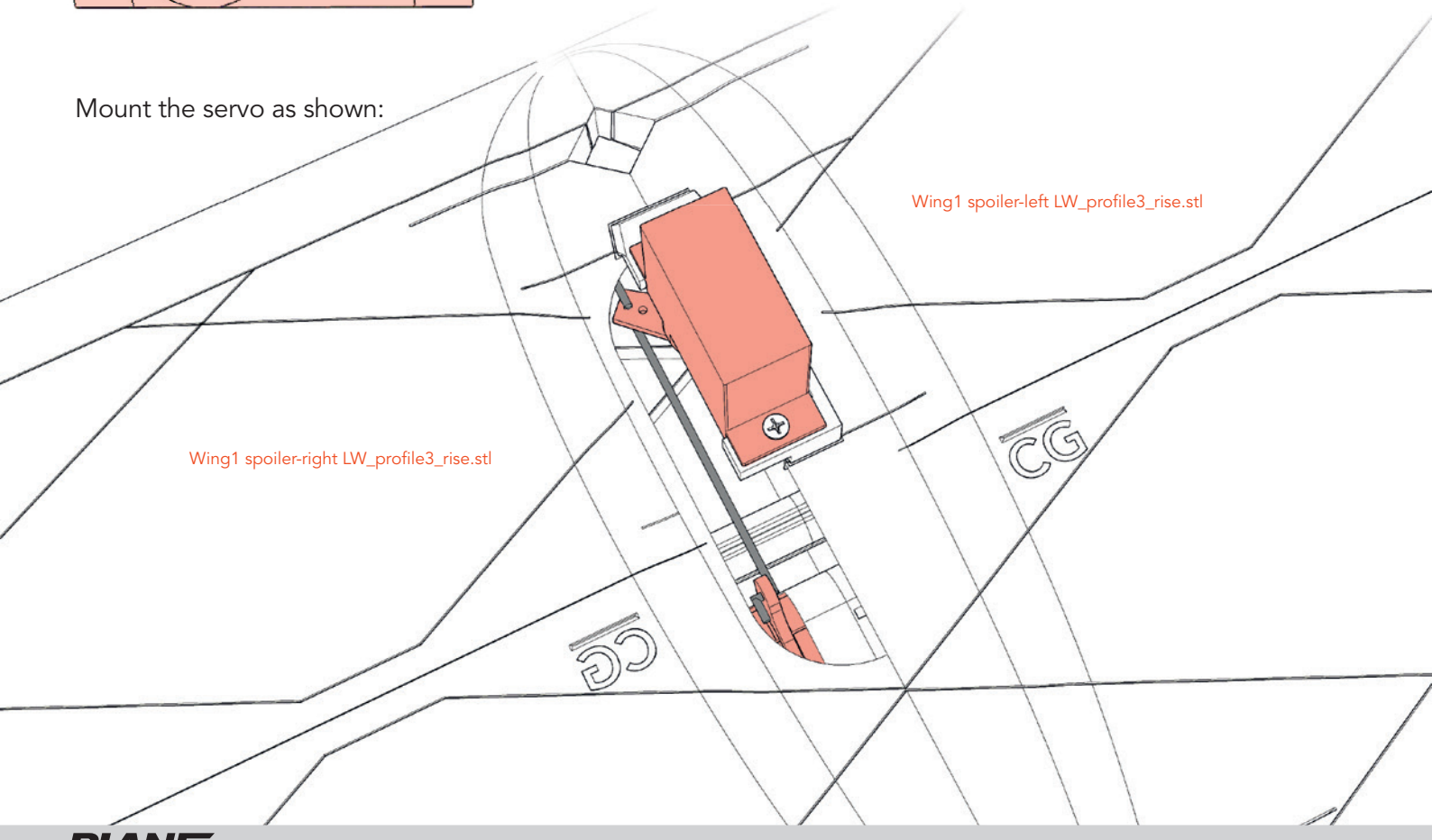
Bend a steel wire Ø1mm as shown. The distance between the axes should be exactly 42mm.





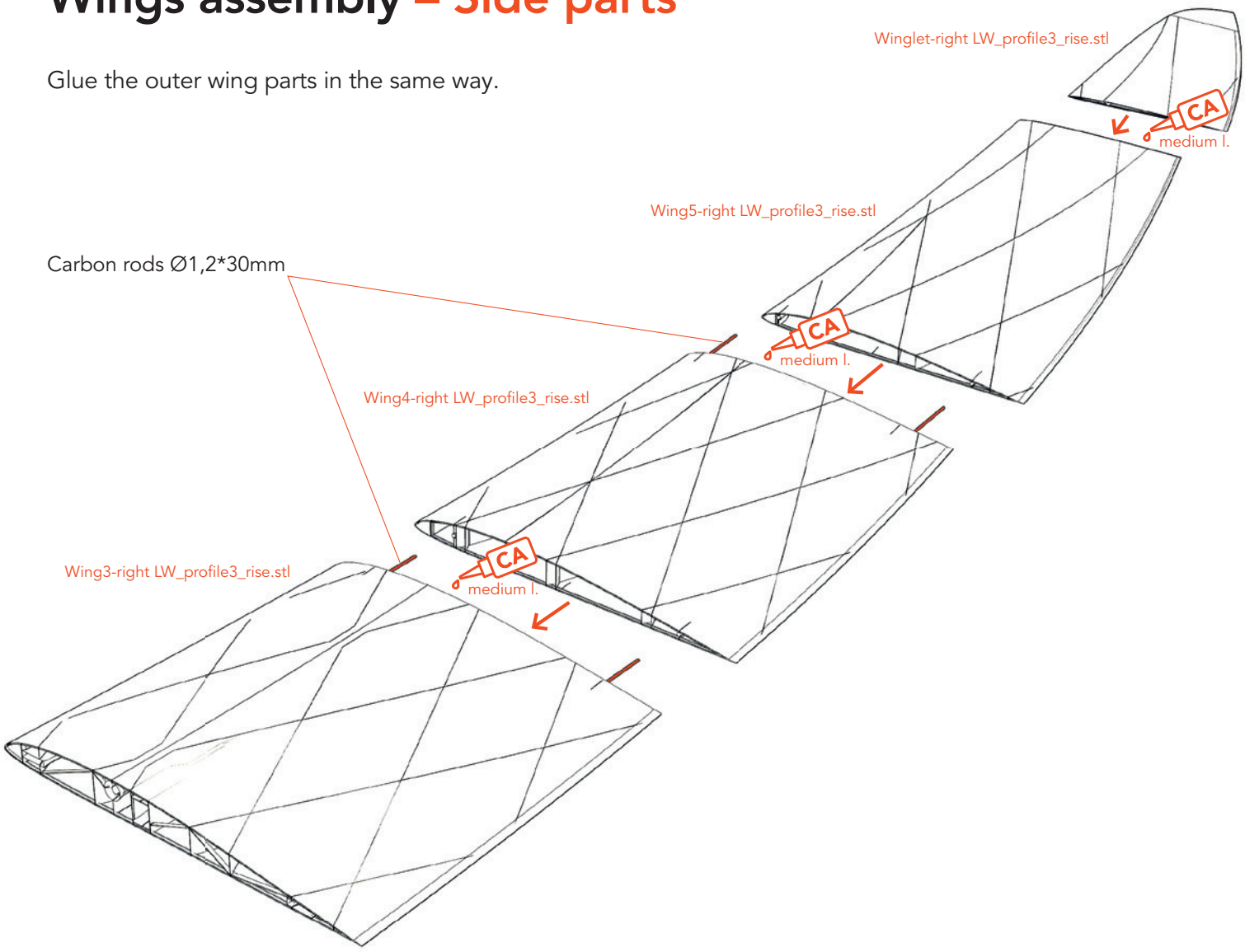


Mount the servo as shown:



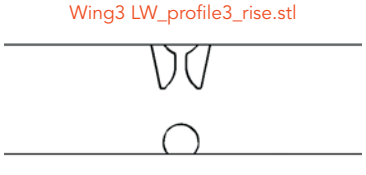
Wings assembly – Side parts

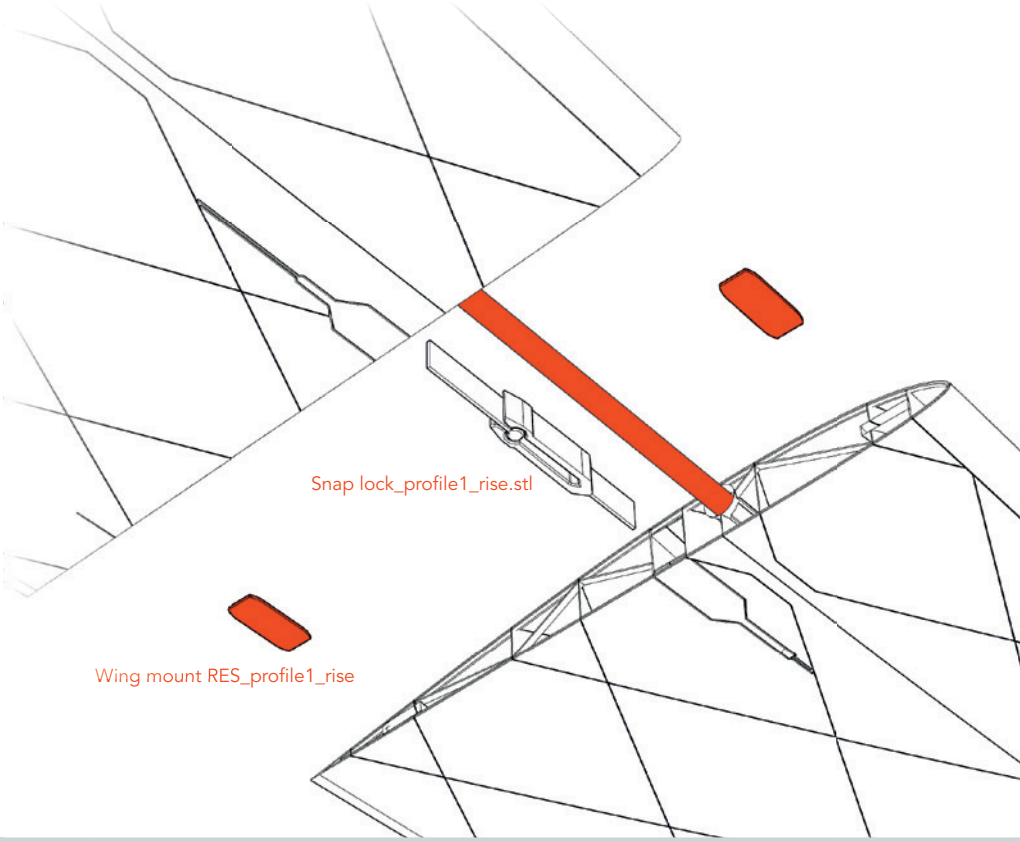
Glue the outer wing parts in the same way.



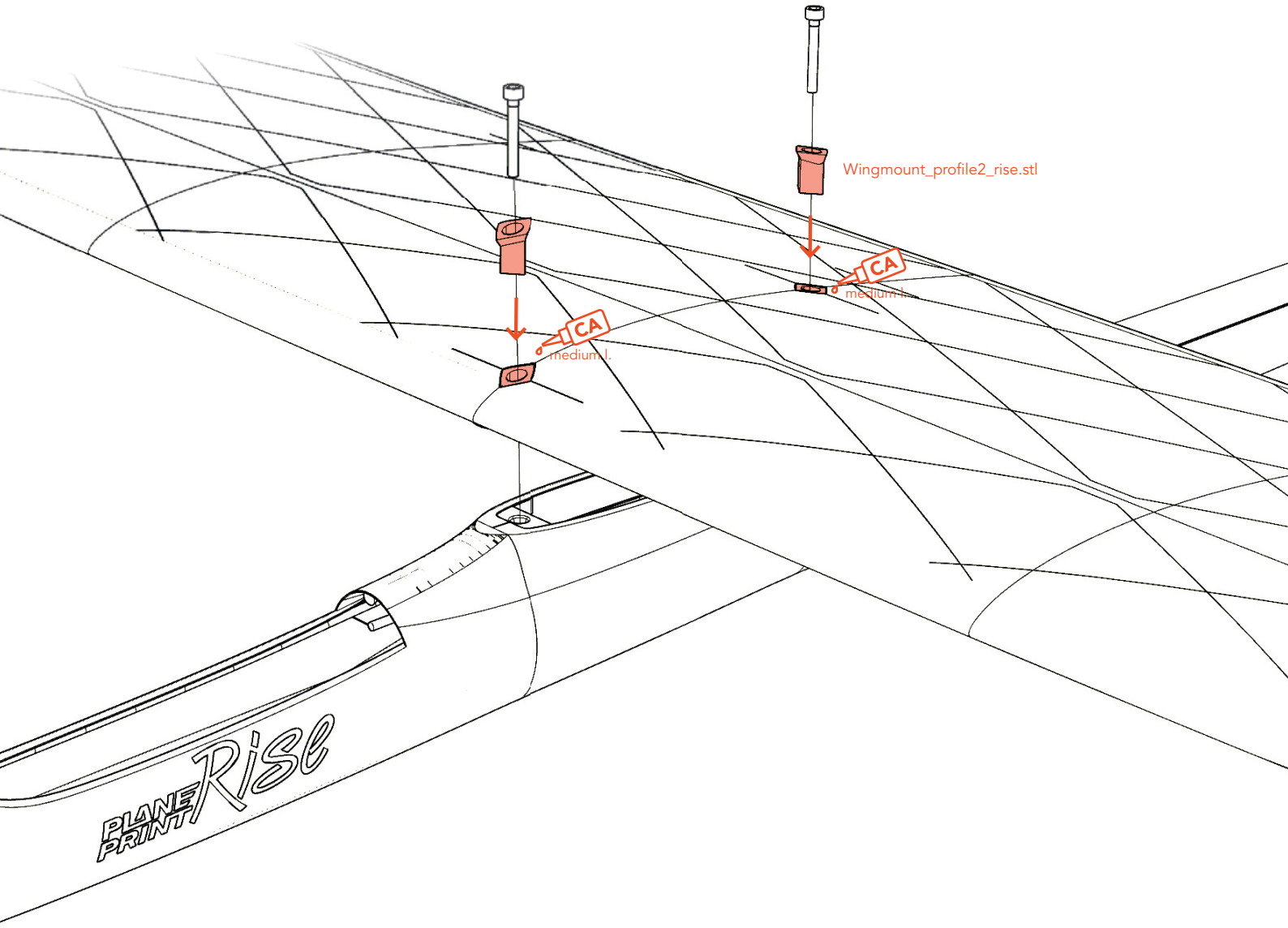
Wing Snap Lock

This mechanism allows easy assembly of the wing parts without tools. Insert the parts into the slots provided as far as they will go and check that they engage exactly when the wing parts are assembled before gluing.





Wing fastening



TECHNICAL SPECIFICATIONS

WINGSPAN 2000 mm/78.7 inches

LENGHT 1198 mm/47 inches

FLIGHT WEIGHT RES/E-RES

Glider version 650 grams
Motor version 680 grams (with 3S/640MaH-Battery)

SETTINGS FOR FLYING

After installing the electronics and setting up the transmitter, check that the control surfaces are aligned correctly. Set the transmitter trim to zero. Align all rudders to zero position. Change the position of the moving parts by changing the length of the linkage from the servo arm to the control horn. In-flight adjustments can be made later with the trim.

Setting the servo travel

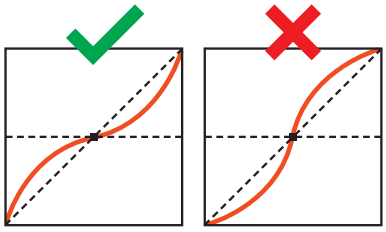
ELEVATOR up: 16 mm, down: 16 mm

RUDDER left: 16 mm, right: 16

Expo setting

ELEVATOR 20 %

RUDDER 20 %

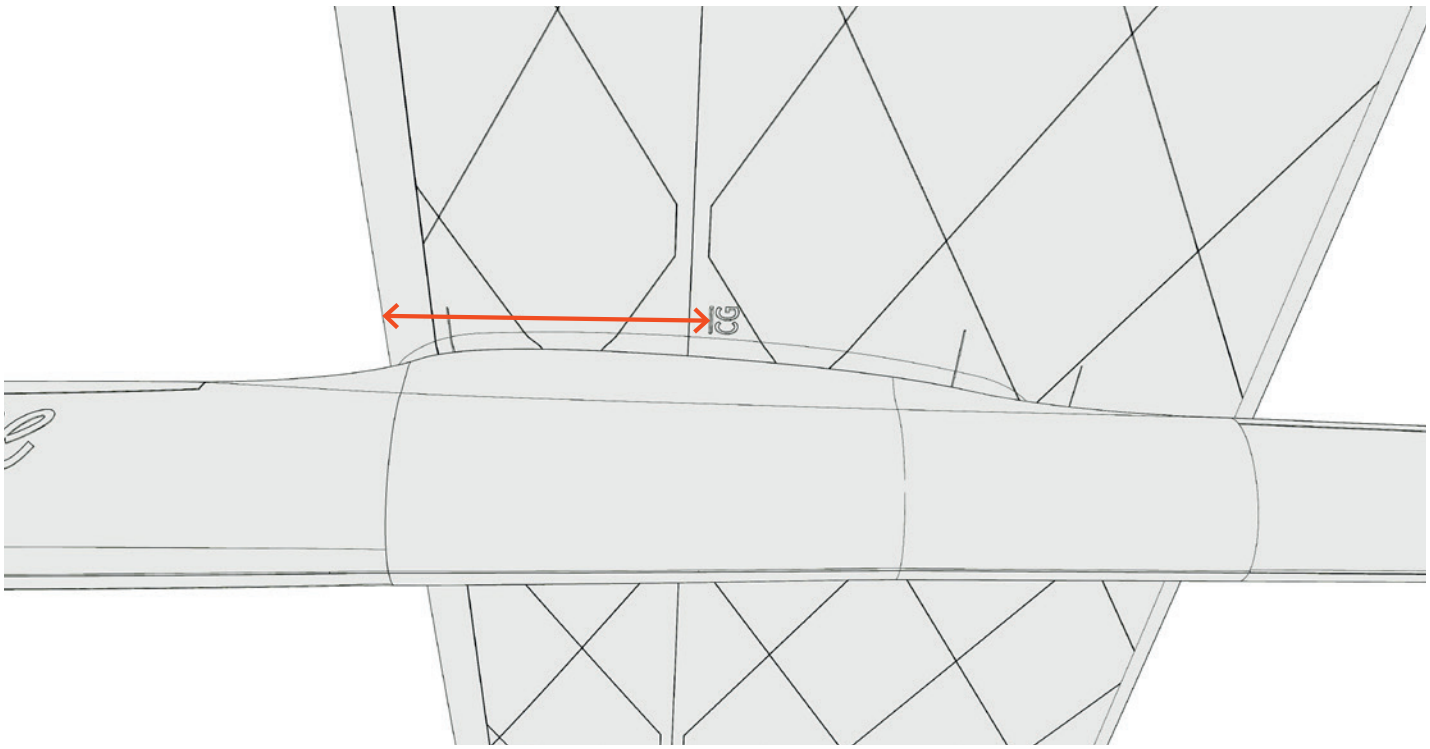


(for some remote controls a minus has to be in front of the number)

Center of Gravity (CG)

The aircraft must balance 76 mm/3 inches behind the leading edge (see markings on the fuselage).
For the first flight we recommend to move the center of gravity about 5 mm/0.2 inches further forward.

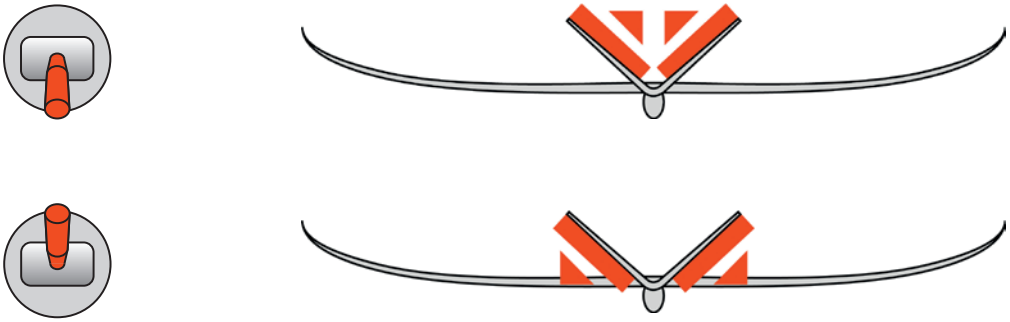
NOTE The CG of 76 mm is the setting we tested with the best flight characteristics.
If you are not yet an expert pilot, your CG should be a few millimeters further forward, not further back!



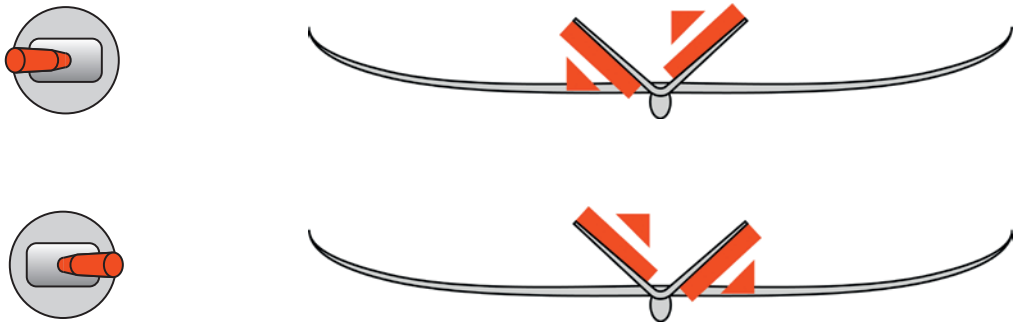
Control Direction Test

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

ELEVATOR

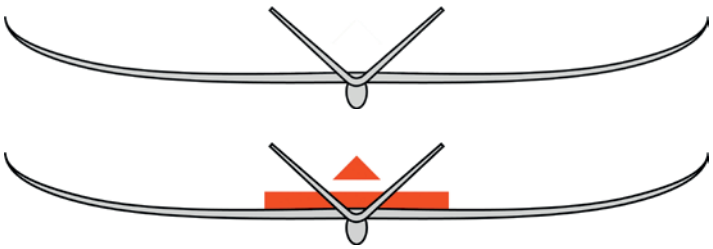


RUDDER



SPOILER 0 %

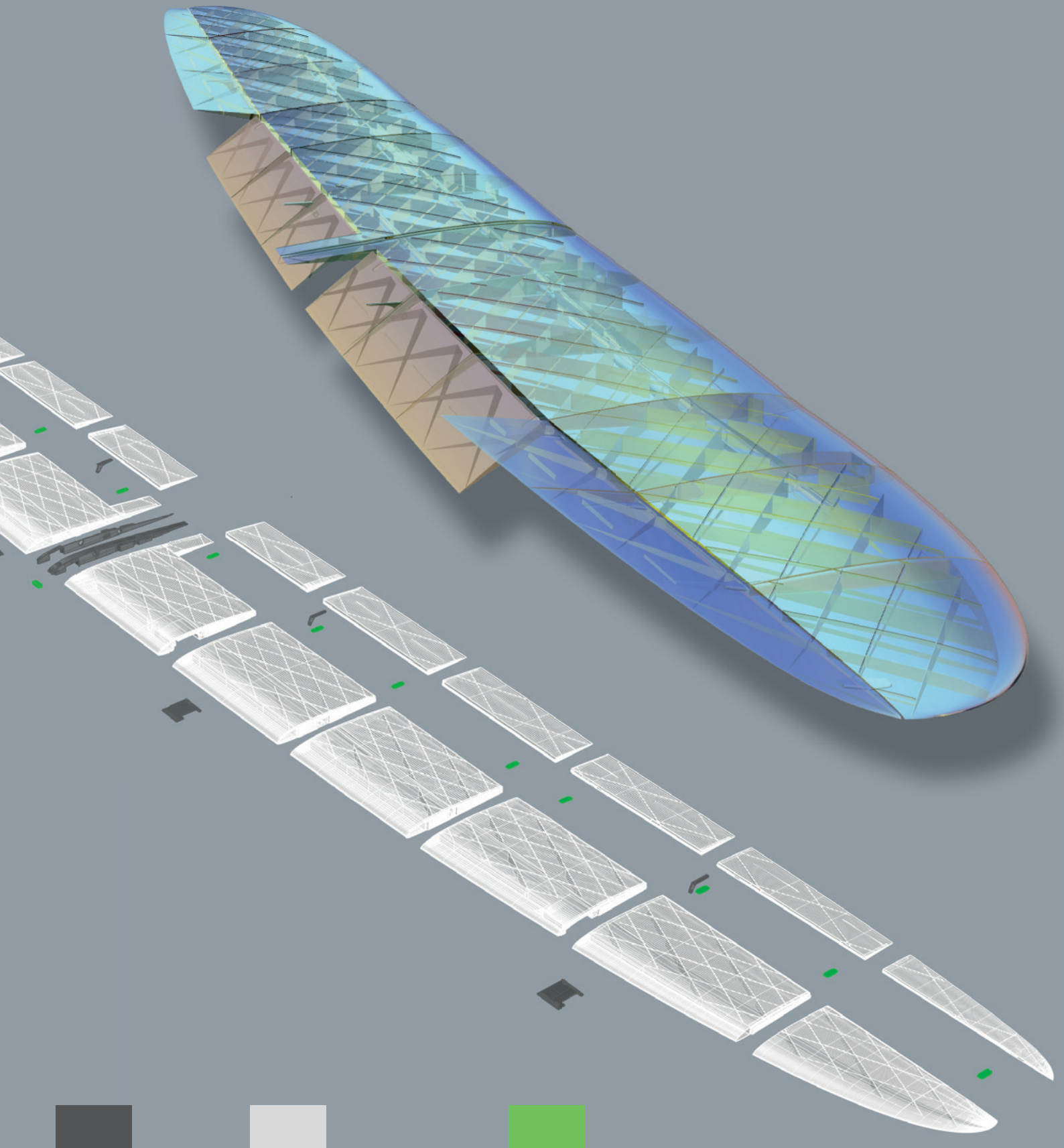
SPOILER 100 %



Motor version

We recommend that you put the engine on a switch and the spoiler on the gas stick.

PLANE PRINT Rise 4-Flap-Wing



PLA LW-PLA TPU

REQUIRED ACCESSOIRES

Materials

- Carbon tube Ø6*1000mm (inside Ø4mm), 3 pieces
- some tapping screw Ø2*8 mm

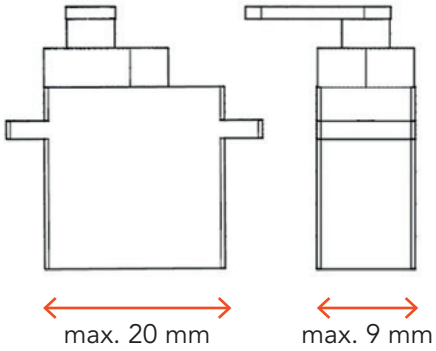
RC Components

SERVOS

- PLANET-HOBBY ECO PLUS
- PICCO 8 DIGITAL SERVO
- Diamond D47
- Hitec HS 40 Eco Servo 4,8g

(or similar in the same size), 4 pieces

Maximum dimensions:



PROFILE P1_FULLBODY normal PLA

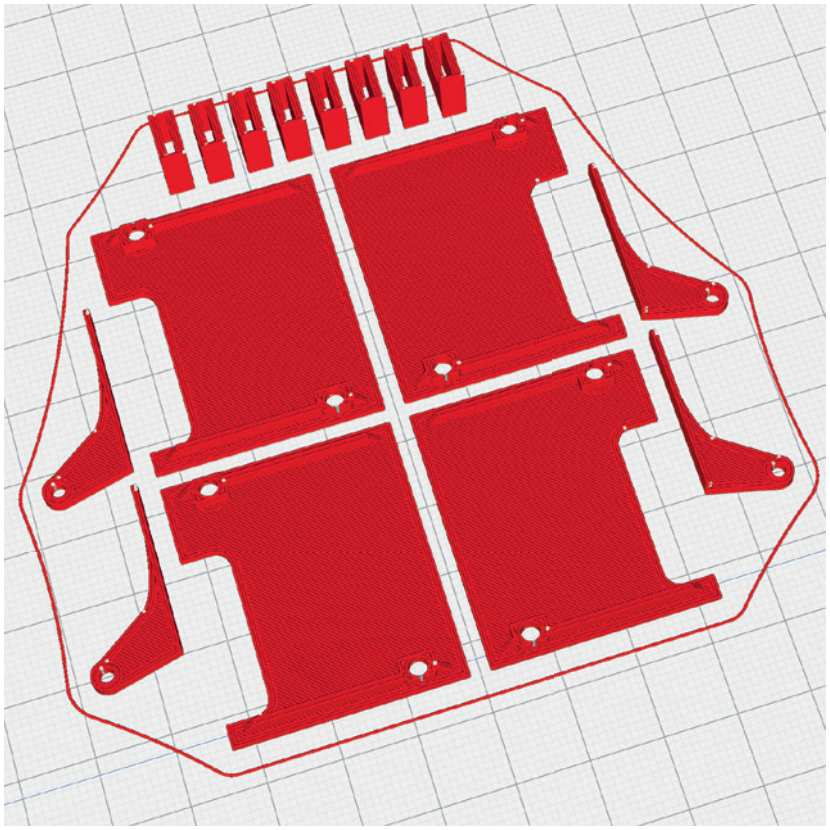
The following parts must be sliced with the PROFILE P1_FULLBODY.
Please note the additional settings for the individual parts!

Servo mount_profile1_4fw.stl

MATERIAL PLA, ~ 9 g

ADDITIONAL SETTINGS

None required



PROFILE P2_HOLLOWBODY normal PLA

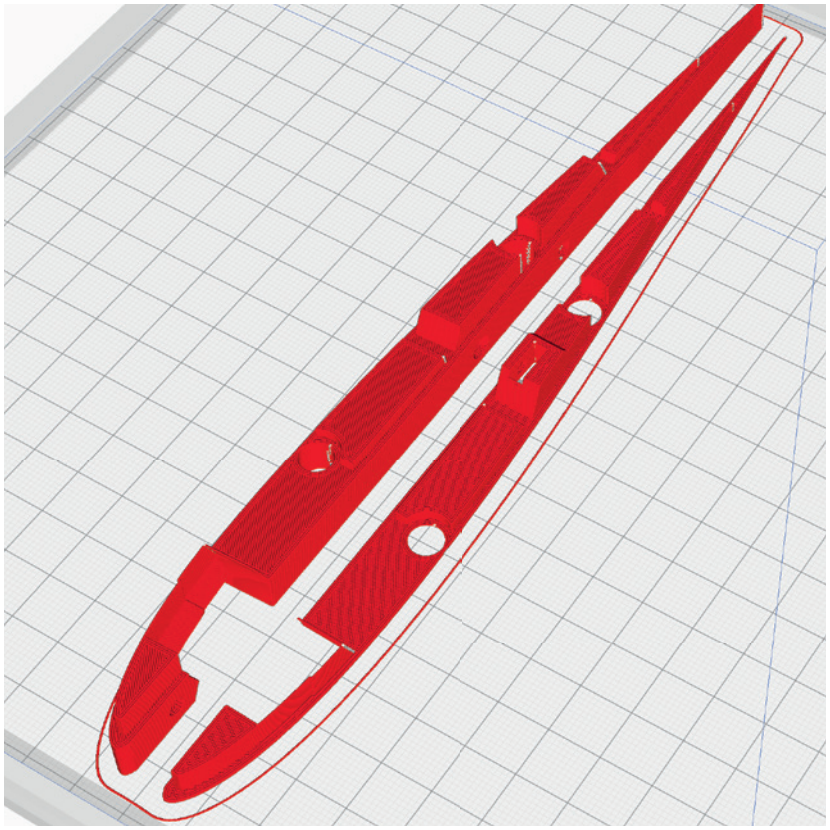
The following parts must be sliced with the PROFILE P2_HOLLOWBODY.
Please note the additional settings for the individual parts!

Wingmount_profile2_4fw.stl

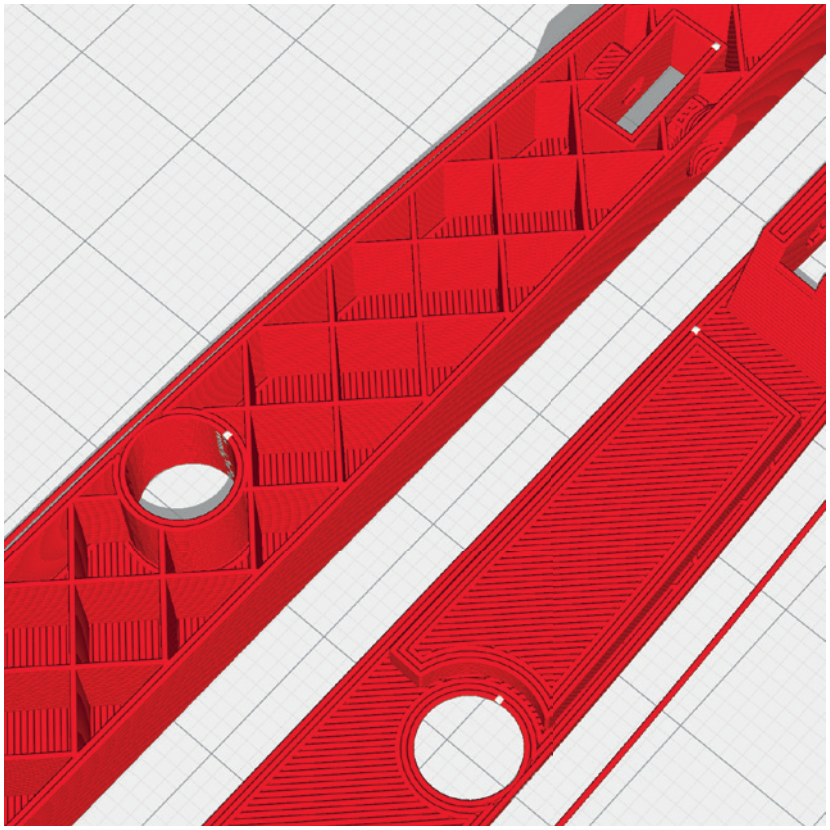
MATERIAL PLA, ~ 11 g

ADDITIONAL SETTINGS

None required



View inside



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Aileron 1 left+right-LW_profile3_4fw.stl

MATERIAL LW-PLA, ~ 28 g*

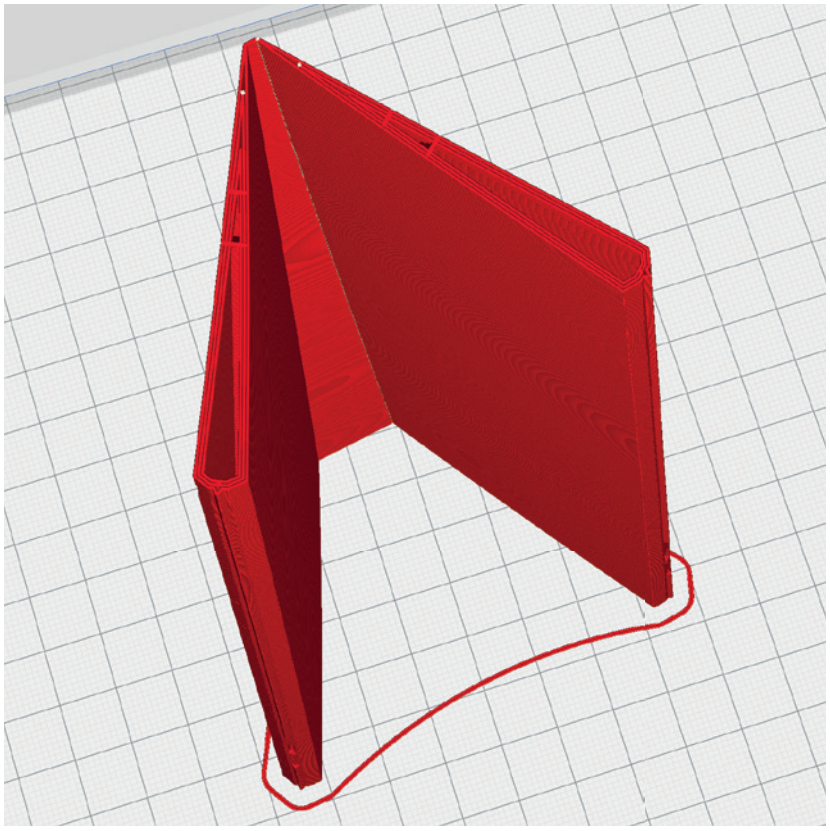
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

If you prefer to print the Parts individually, you can find the STL in the „Alternative parts" folder.



Aileron 2 left+right-LW_profile3_4fw.stl

MATERIAL LW-PLA, ~ 24 g*

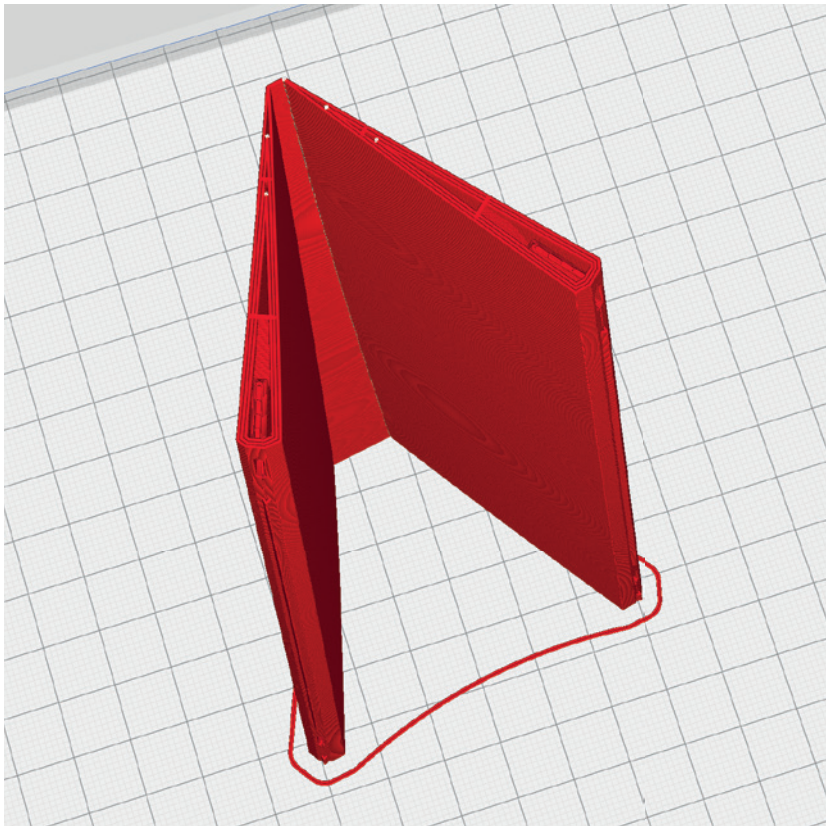
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

If you prefer to print the Parts individually, you can find the STL in the „Alternative parts" folder.



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Aileron 3 left+right-LW_profile3_4fw.stl

MATERIAL LW-PLA, ~ 15 g*

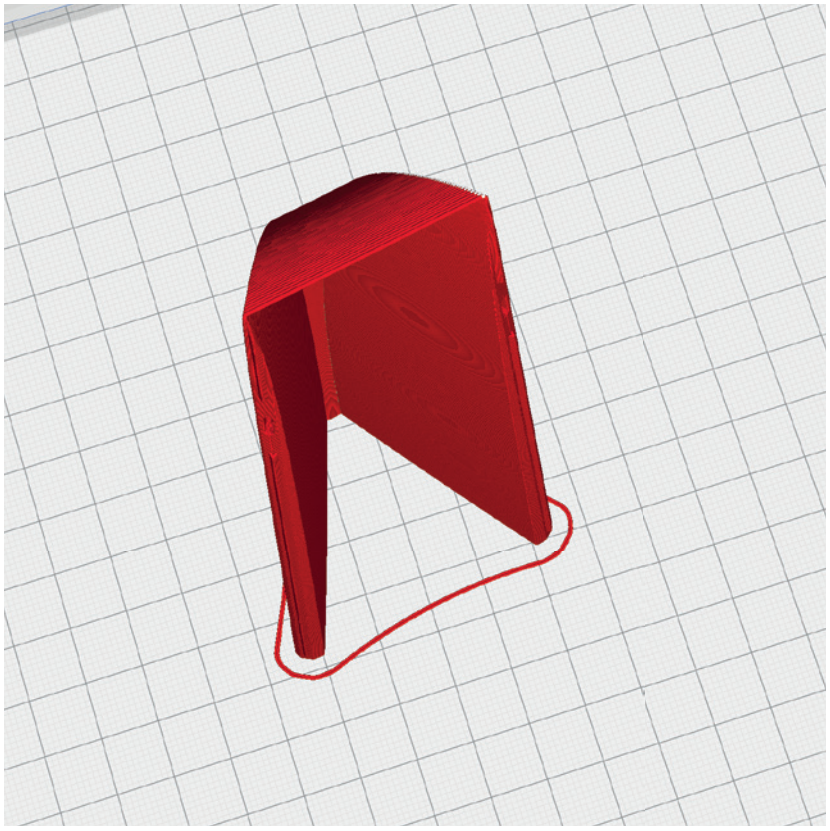
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

If you prefer to print the Parts individually, you can find the STL in the „Alternative parts" folder.



Flap 1 left+right-LW_profile3_4fw.stl

MATERIAL LW-PLA, ~ 27 g*

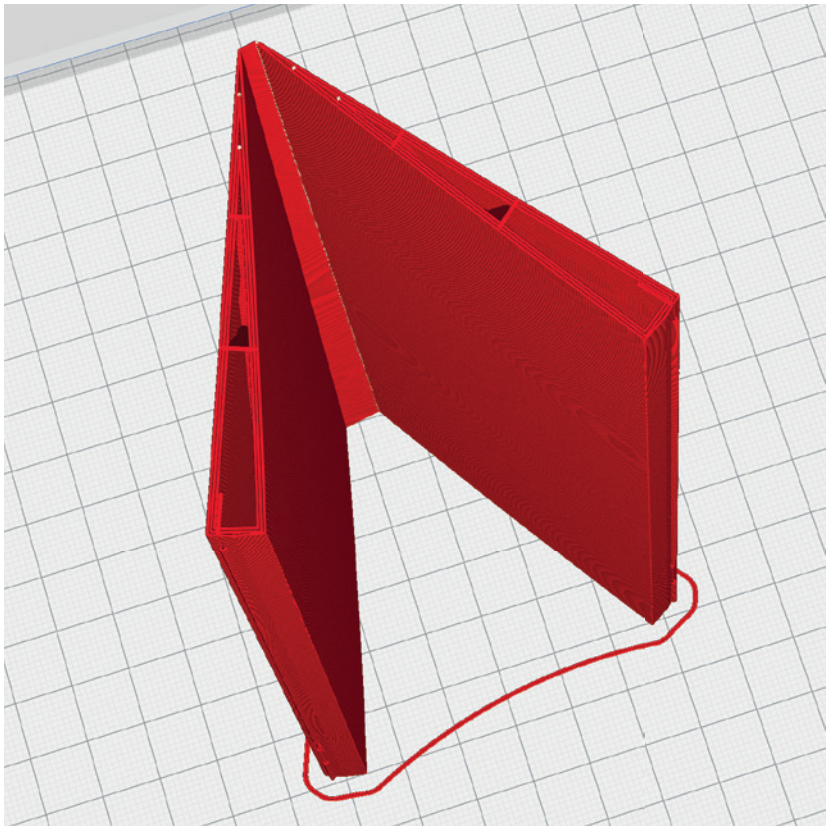
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

If you prefer to print the Parts individually, you can find the STL in the „Alternative parts" folder.



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

Flap 2 left+right-LW_profile3_4fw.stl

MATERIAL LW-PLA, ~ 30 g*

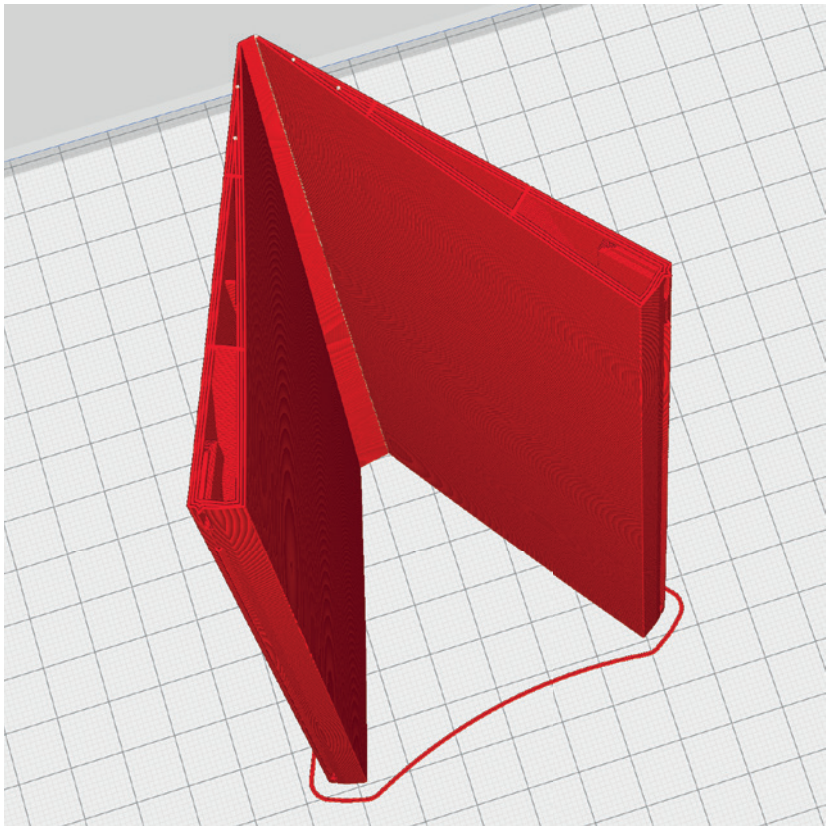
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

If you prefer to print the Parts individually, you can find the STL in the „Alternative parts" folder.



Flap 3 left+right-LW_profile3_4fw.stl

MATERIAL LW-PLA, ~ 28 g*

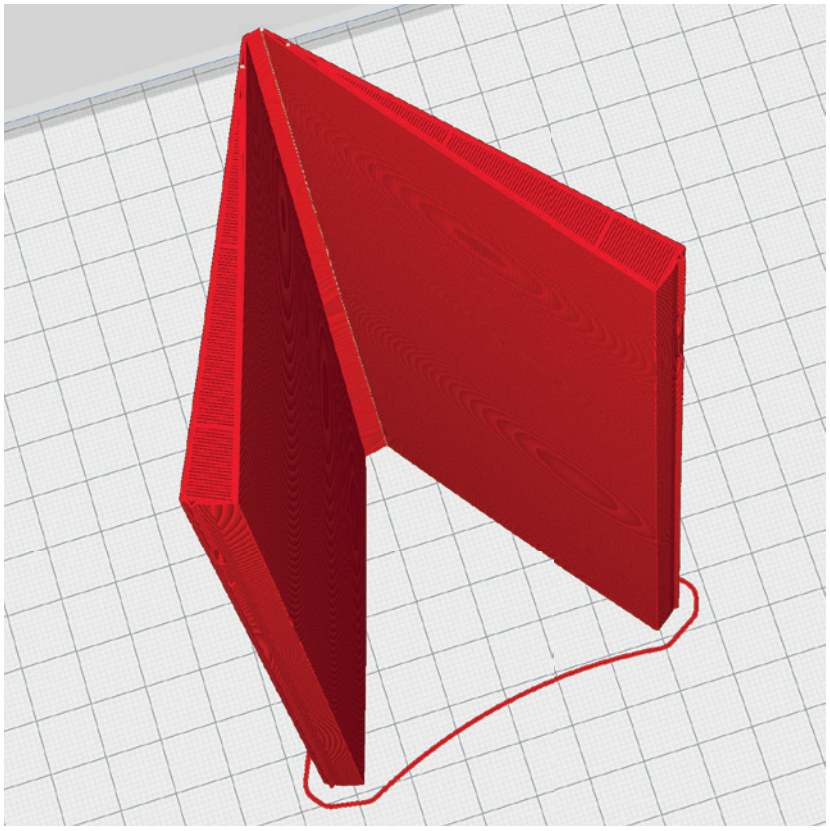
***Display in Cura**. The actual weight is then 60% of this.

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

If you prefer to print the Parts individually, you can find the STL in the „Alternative parts" folder.



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

Wing 1-left-LW_profile3_4fw.stl
Wing 1-right-LW_profile3_4fw.stl

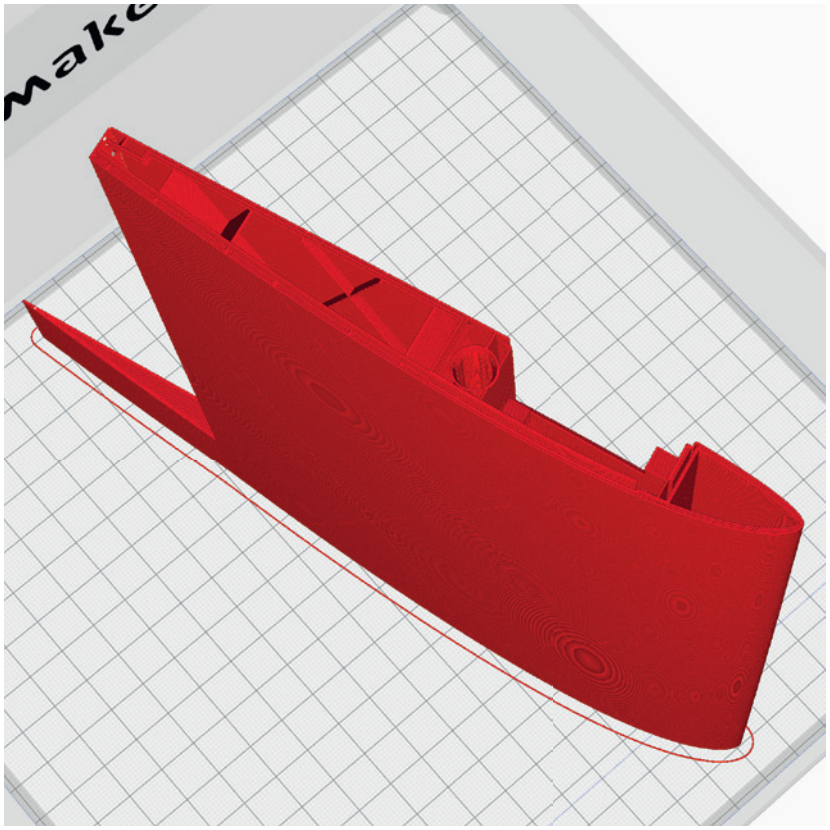
MATERIAL LW-PLA, ~ 60 g*

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

*Display in Cura. The actual weight is then 60% of this.



Wing 2-left-LW_profile3_4fw.stl
Wing 2-right-LW_profile3_4fw.stl

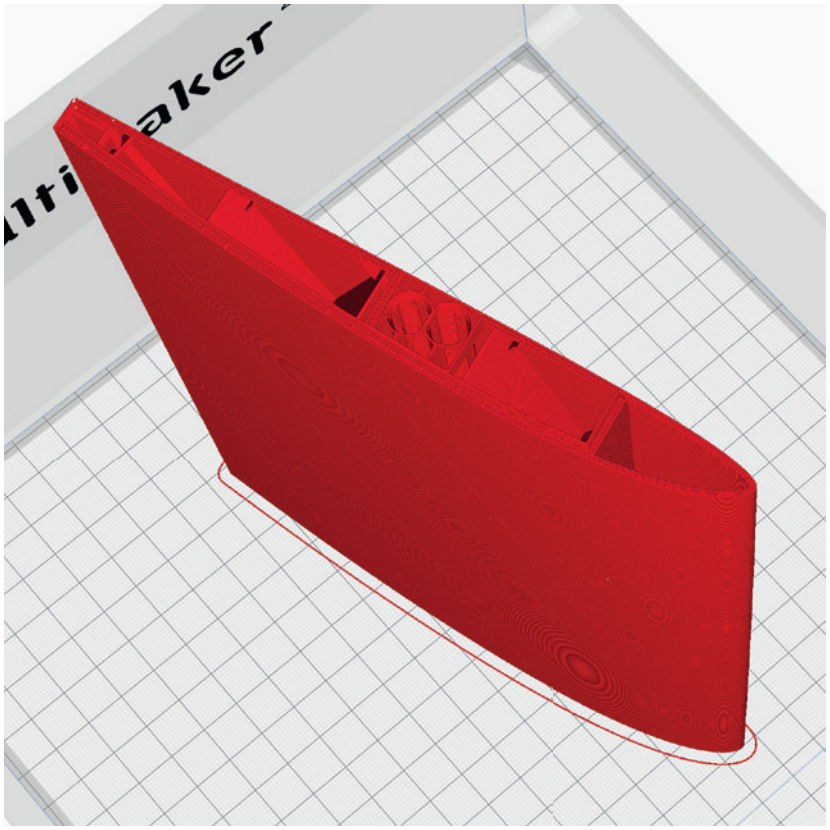
MATERIAL LW-PLA, ~ 56 g*

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

*Display in Cura. The actual weight is then 60% of this.



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

Wing 3-left-LW_profile3_4fw.stl
Wing 3-right-LW_profile3_4fw.stl

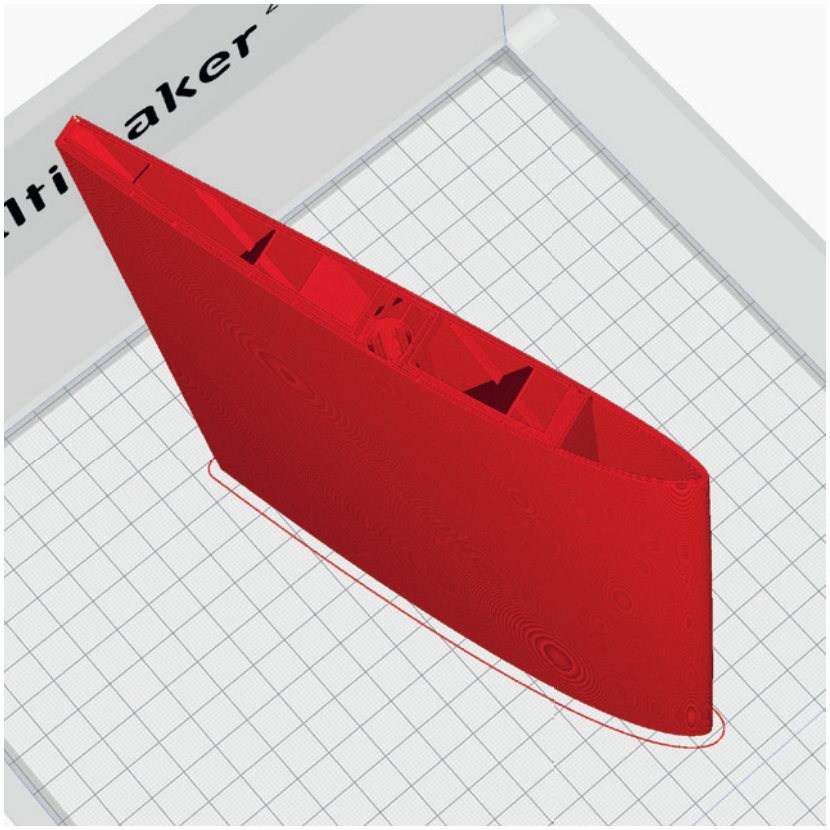
MATERIAL LW-PLA, ~ 51 g*

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

*Display in Cura. The actual weight is then 60% of this.



Wing 4-left-LW_profile3_4fw.stl
Wing 4-right-LW_profile3_4fw.stl

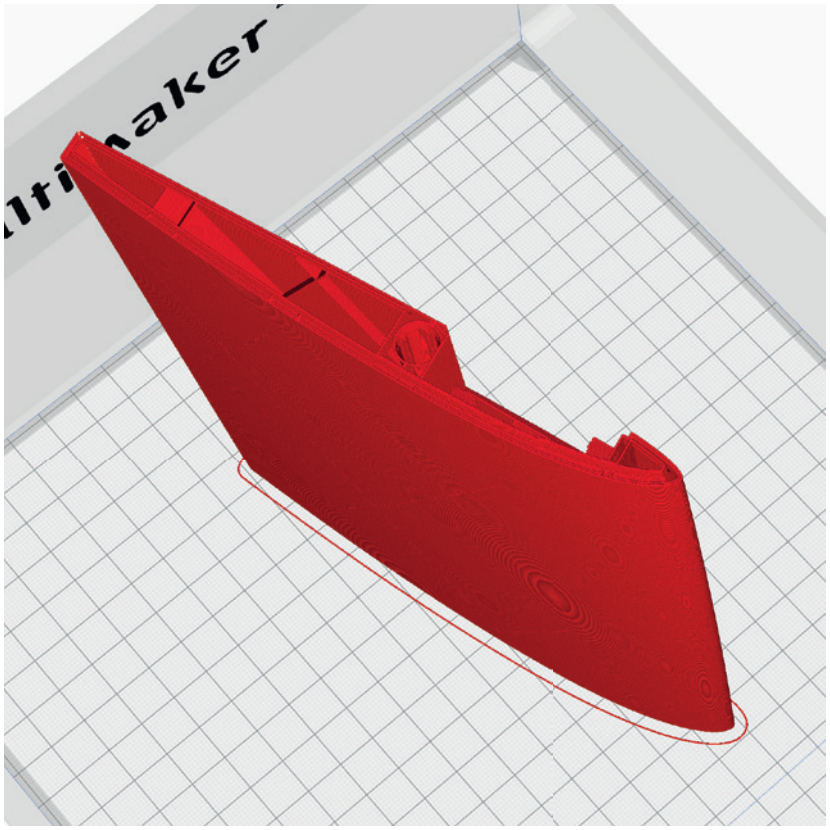
MATERIAL LW-PLA, ~ 49 g*

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

*Display in Cura. The actual weight is then 60% of this.



PROFILE P3_SURFACE Light-Weight LW-PLA

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).
Please note the additional settings for the individual parts!

Wing 5-left-LW_profile3_4fw.stl
Wing 5-right-LW_profile3_4fw.stl

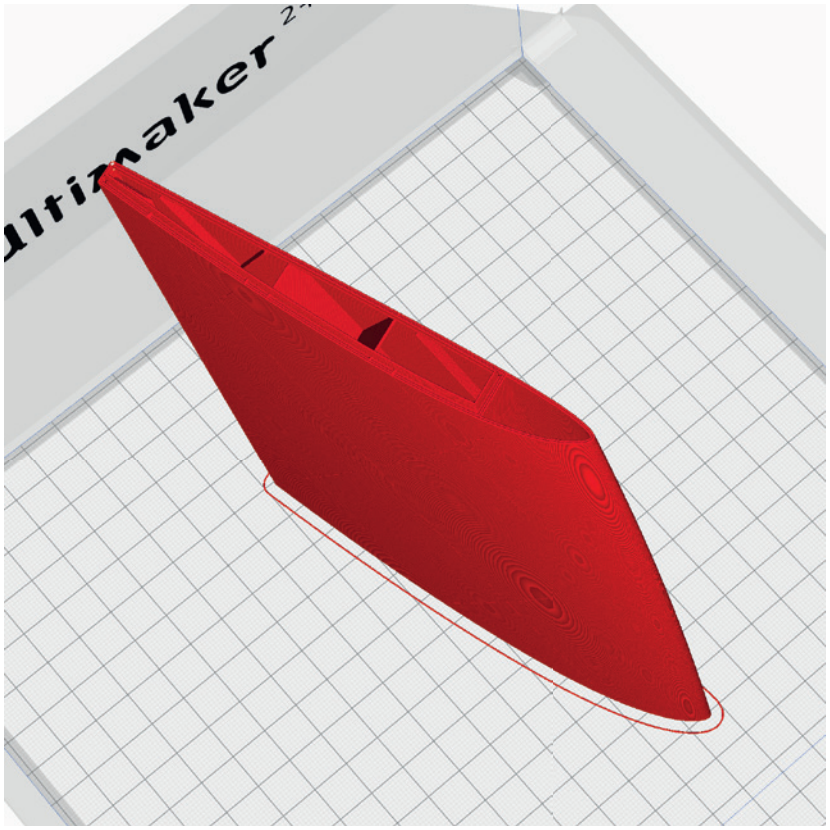
MATERIAL LW-PLA, ~ 41 g*

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

*Display in Cura. The actual weight is then 60% of this.



Wing 6-left-LW_profile3_4fw.stl
Wing 6-right-LW_profile3_4fw.stl

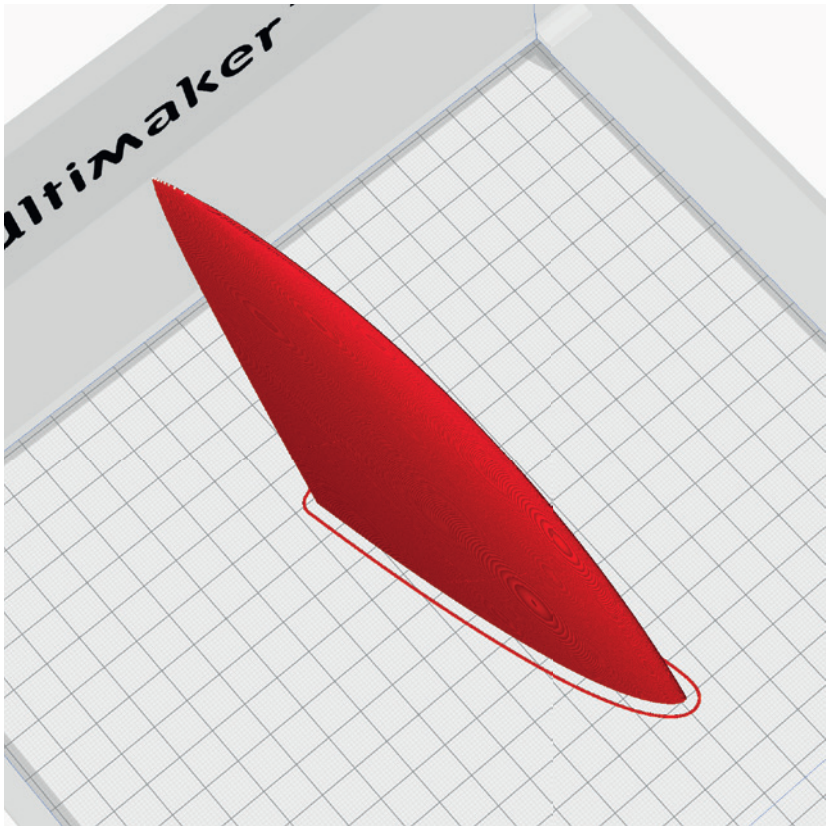
MATERIAL LW-PLA, ~ 24 g*

ADDITIONAL SETTINGS

- Setting Profile3_Surface
- Flow 60 % or less
- Higher nozzle temperature

The optimal weight and sufficient strength is achieved with 60 % flow. Increase the temperature until the wall thickness is 0.4 to 0.5 mm. (We print at 235° and 60% flow).

*Display in Cura. The actual weight is then 60% of this.



PROFILE P4_FLEX TPU A95

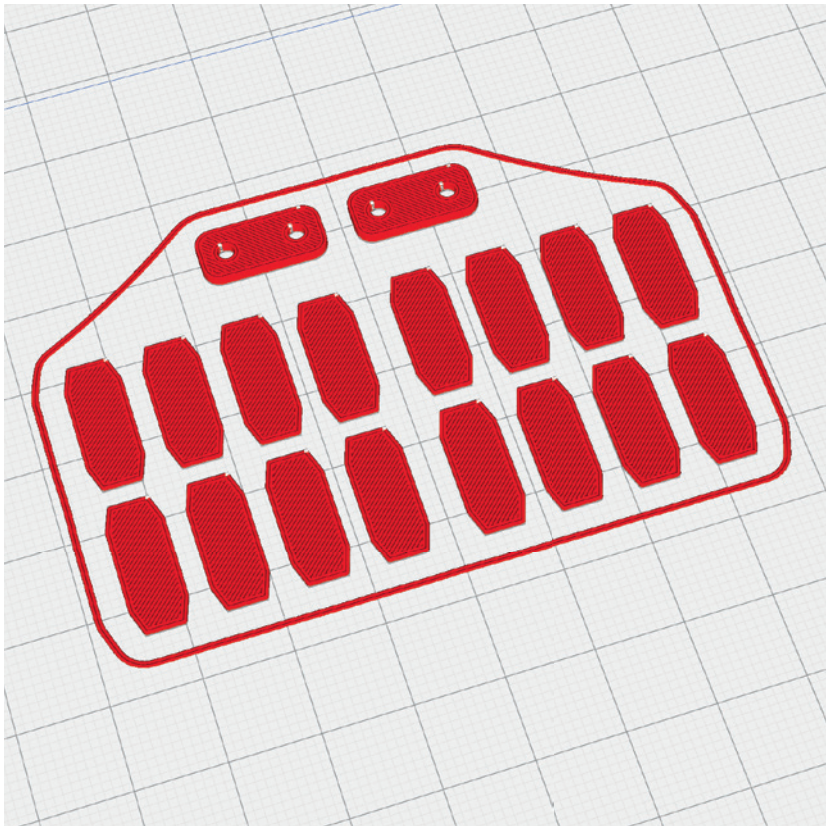
The following parts must be sliced with the PROFILE P4_FLEX.
Please note the additional settings for the individual parts!

TPU parts_profile4_4fw.stl

MATERIAL TPU ~ A95, Weight: ~ 2 g

ADDITIONAL SETTINGS

None required



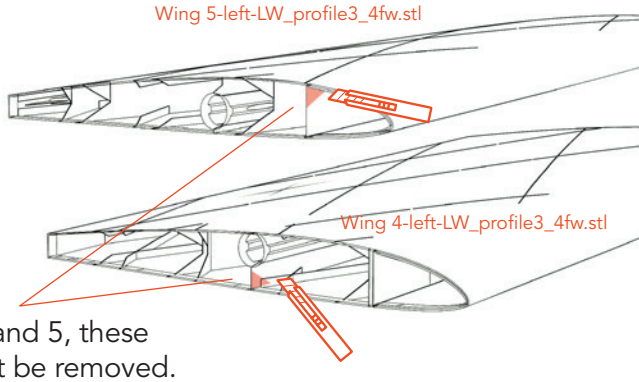
ASSEMBLING MANUAL

Wings assembly – left wing

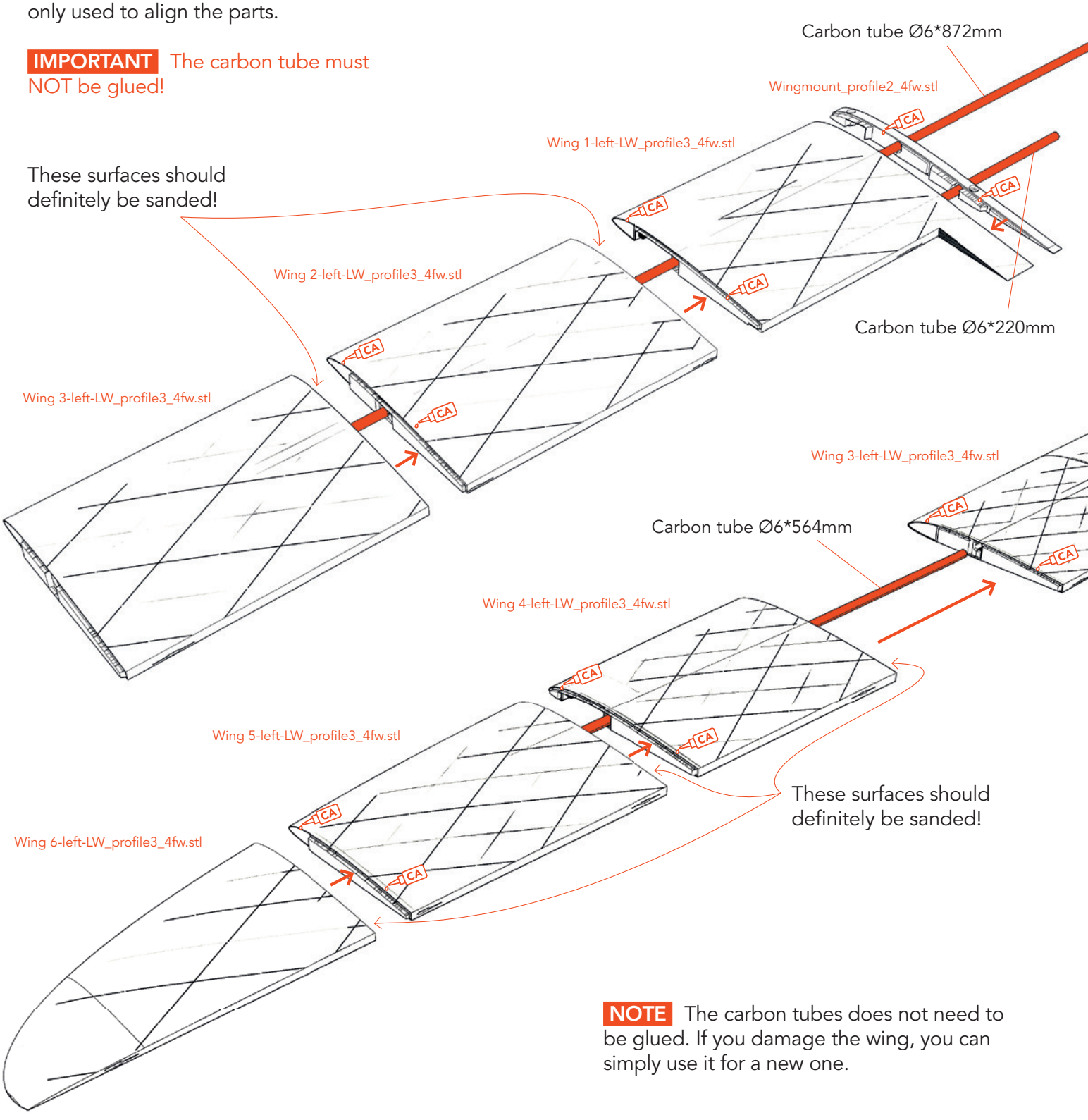
CA
medium I.

Be careful not to apply glue in the area of the carbon tubes, these are currently only used to align the parts.

IMPORTANT The carbon tube must NOT be glued!



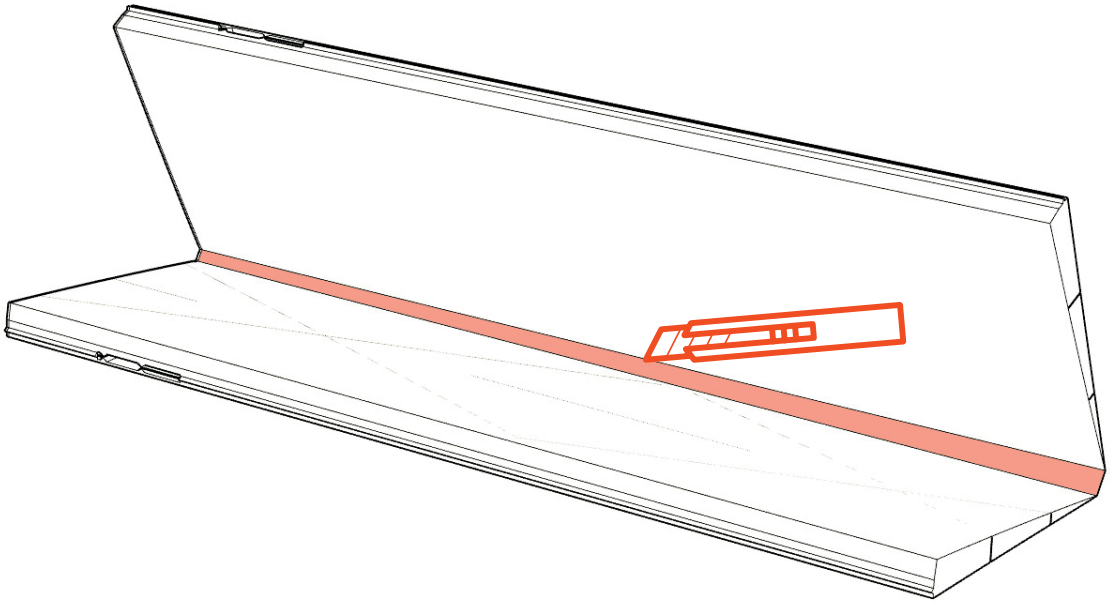
For Wing 4 and 5, these corners must be removed.



NOTE The carbon tubes does not need to be glued. If you damage the wing, you can simply use it for a new one.

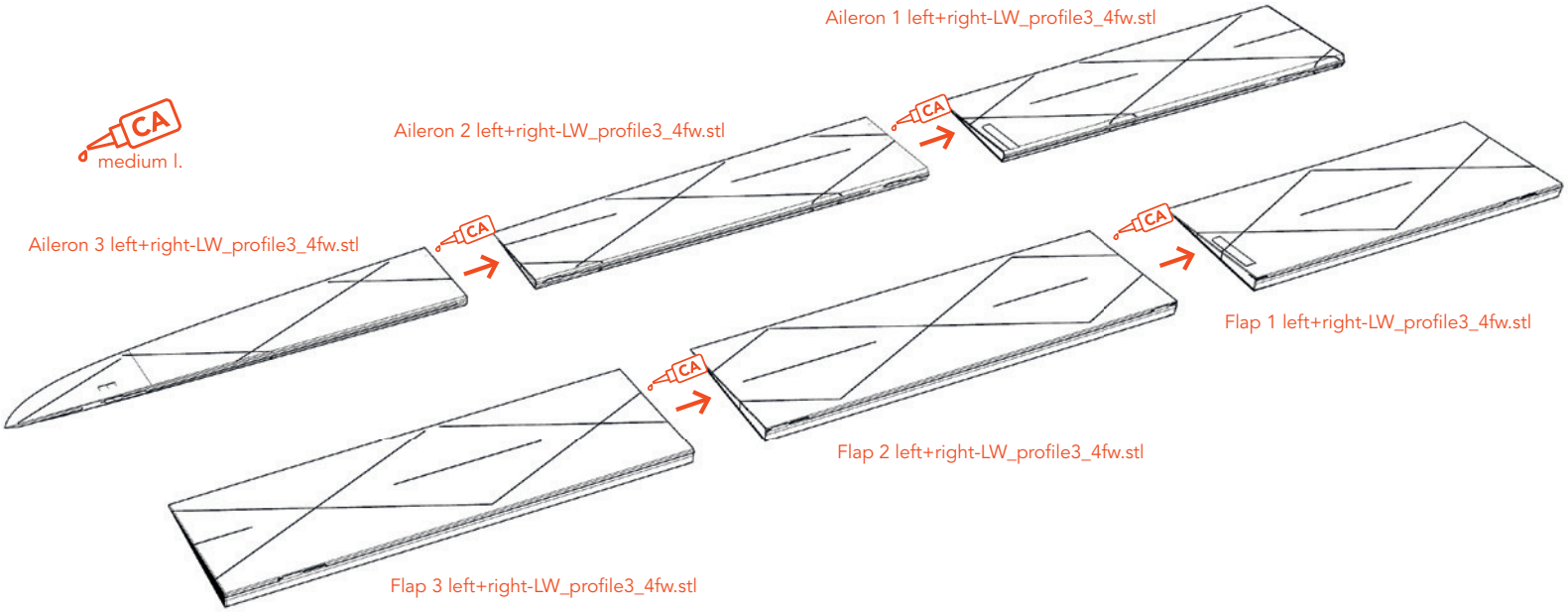
Ailerons assembly

To obtain a good print quality, the flaps and ailerons are printed in combination. The connecting wall must now be removed. This works best if you cut along the edge several times with a sharp cutter knife and little pressure.



Glue the flaps and ailerons together on a flat surface. Use a foil as a base on which the CA adhesive does not stick, for example the base foil of an adhesive film or double-sided adhesive tape.

Do not mix up the parts! You can check the ribs on the underside to see if they fit together.



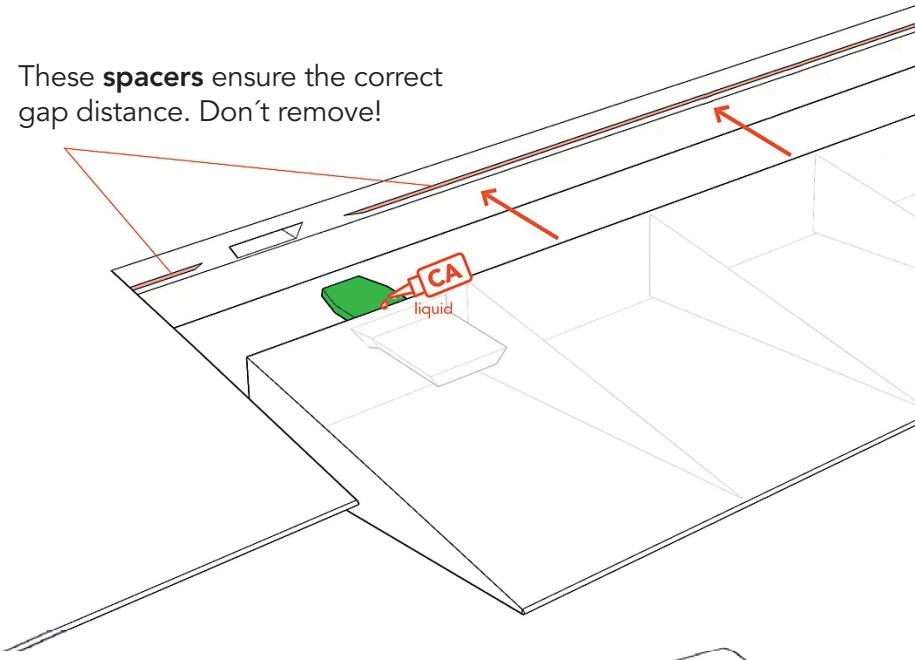
Installation of the TPU Hinges

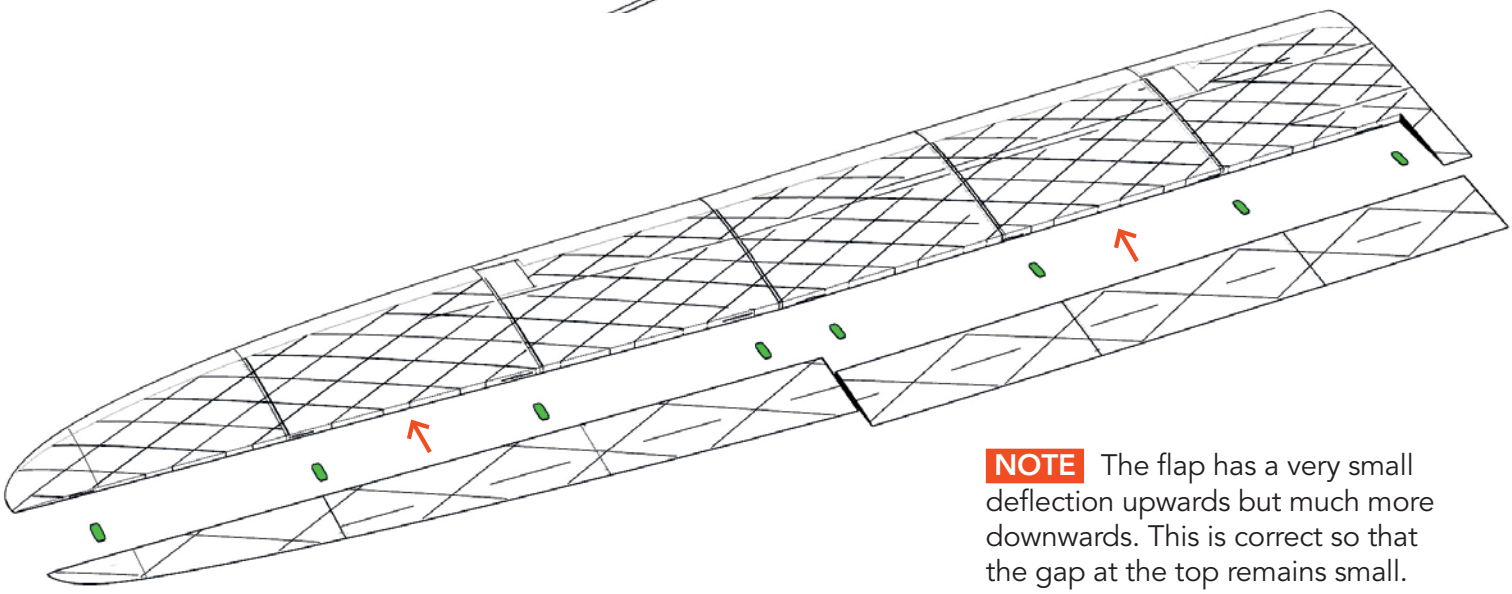
First insert the hinge into the movable flap and add a drop of liquid CA adhesive into the gap. Wait for the glue to drain completely, then spray the activator on it.

Then put the flap in the wing 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.

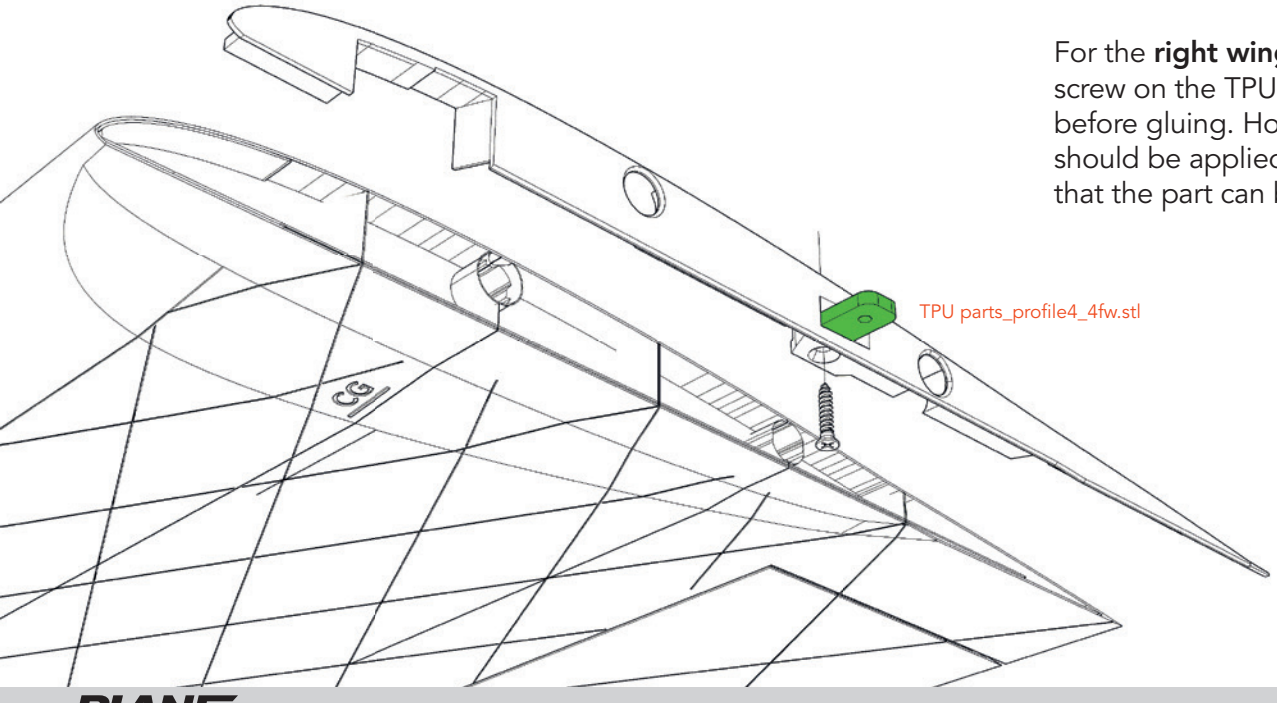
Do not use too much glue, the flap must move easily!

These **spacers** ensure the correct gap distance. Don´t remove!





NOTE The flap has a very small deflection upwards but much more downwards. This is correct so that the gap at the top remains small.

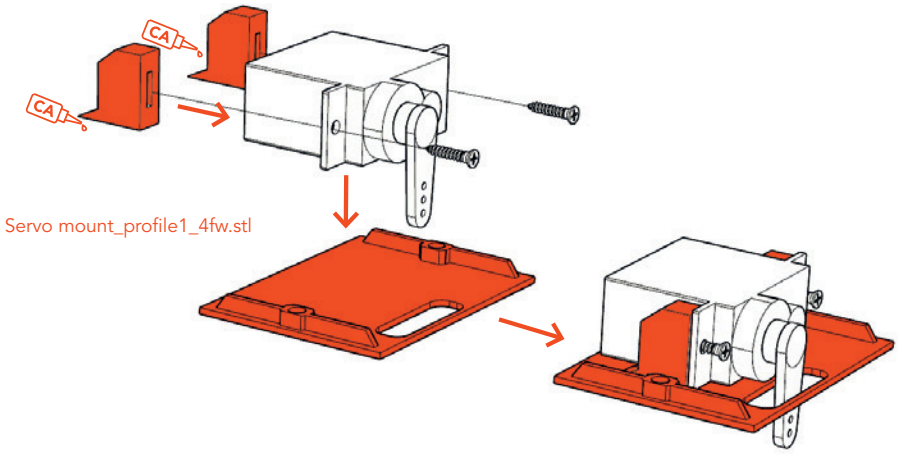


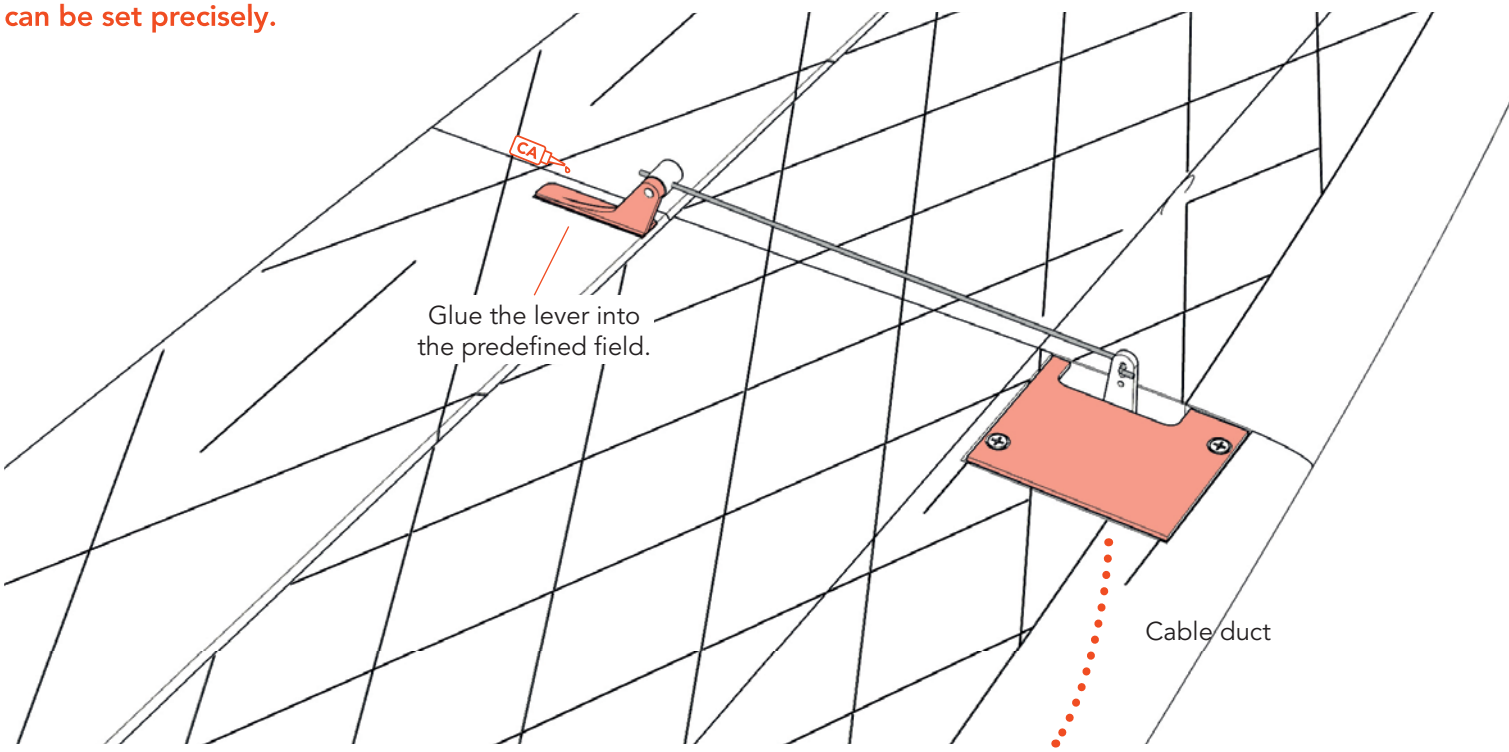
For the **right wing**, it is better to screw on the TPU connecting part before gluing. However, no glue should be applied to the screw so that the part can be replaced later.

Aileron Servo

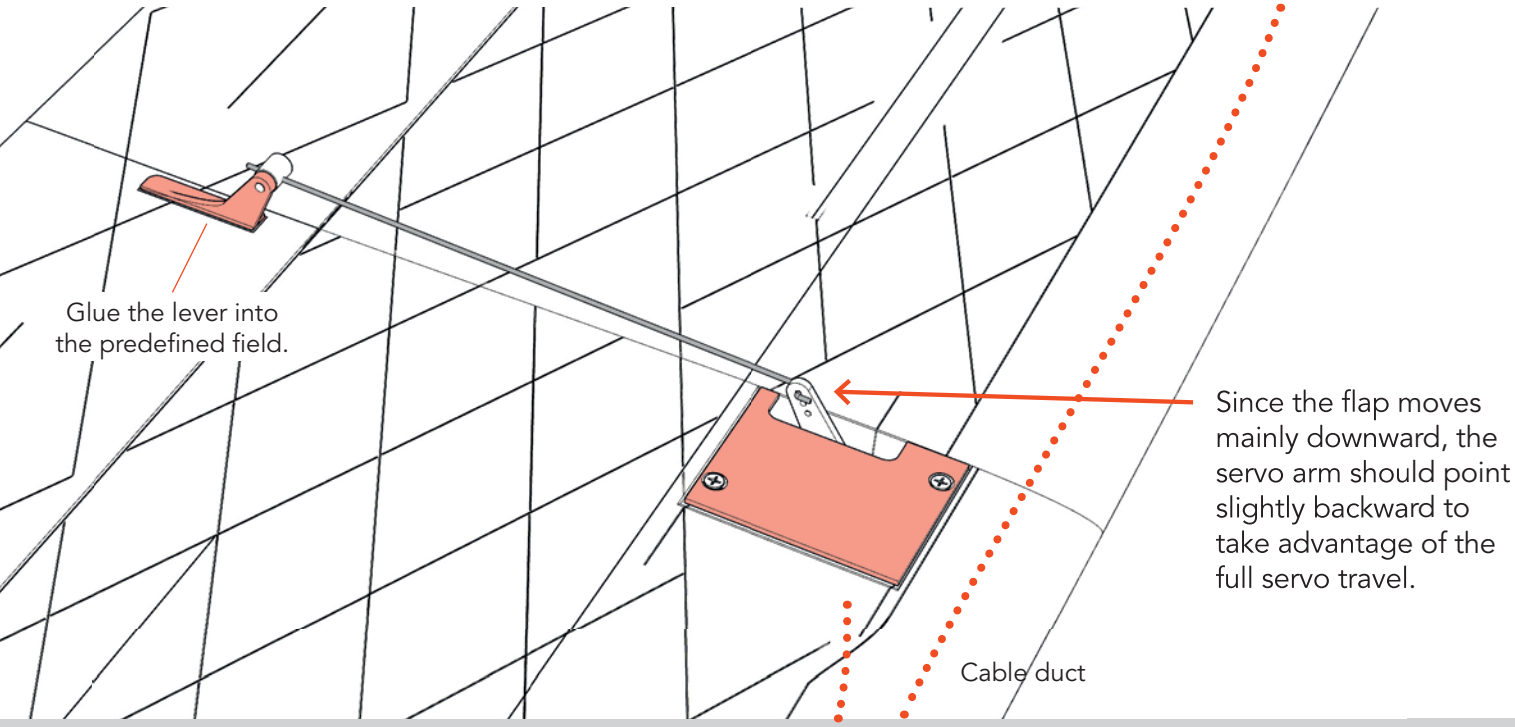
Assemble the parts as shown here. Tighten the servo cover with tapping screws. The holes in the wing must be drilled beforehand. The easiest way to do this is to heat a piece of steel wire with a flame to melt the hole for the screw.

The linkages should work very accurately so that the flight phases can be set precisely.



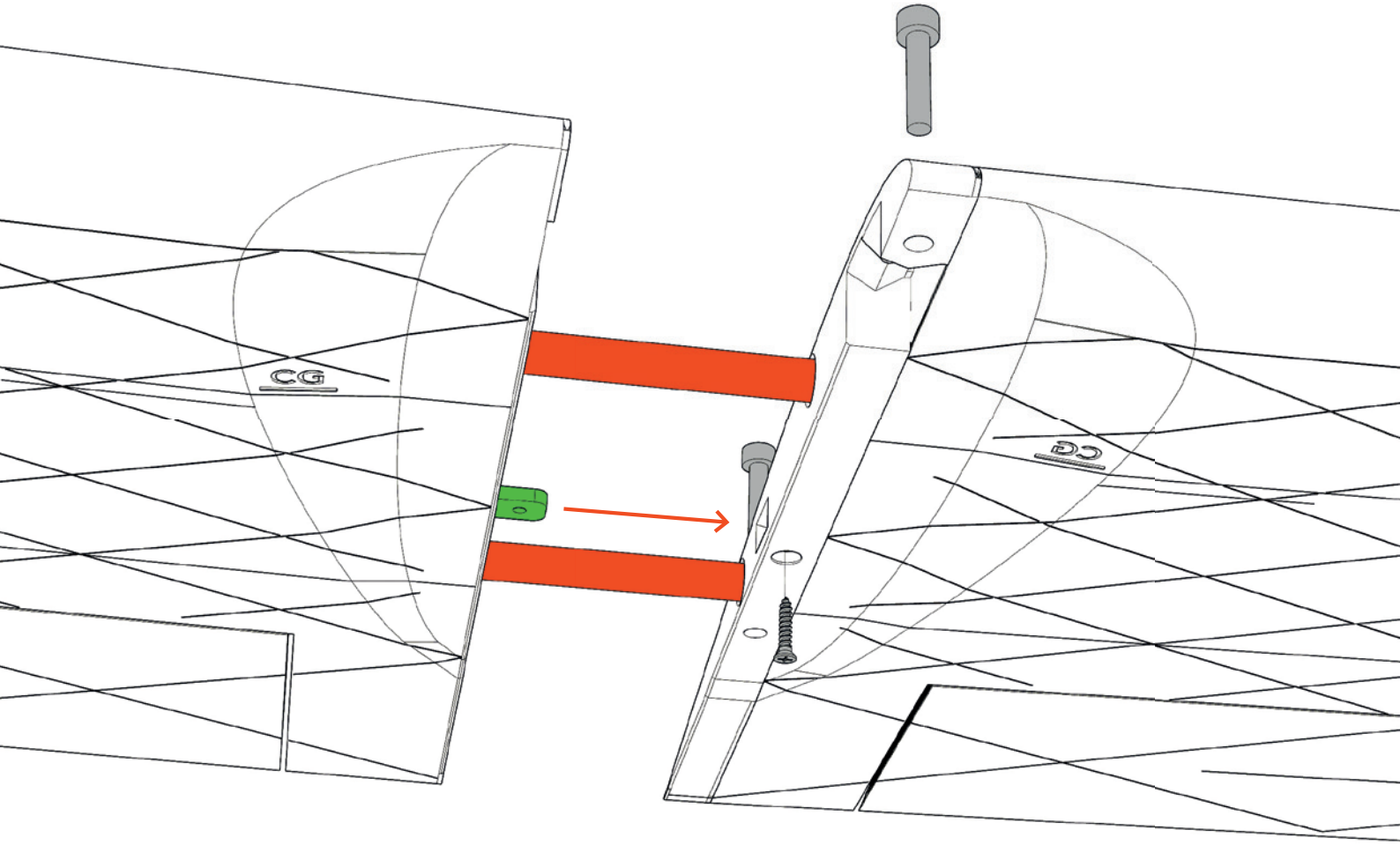


Flap Servo



Wing fastening

To assemble the wings, put them together and fix them with a tapping screw. Then screw the wings to the fuselage.



TECHNICAL SPECIFICATIONS

WINGSPAN 2350 mm/92.5 inches

LENGHT 1198 mm/47 inches

SETTINGS FOR FLYING

After installing the electronics and setting up the transmitter, check that the control surfaces are aligned correctly. Set the transmitter trim to zero. Align all rudders to zero position. Change the position of the moving parts by changing the length of the linkage from the servo arm to the control horn. In-flight adjustments can be made later with the trim.

Setting the servo travel

AILERON up: 24 mm, down: 20 mm

ELEVATOR up: 16 mm, down: 16 mm

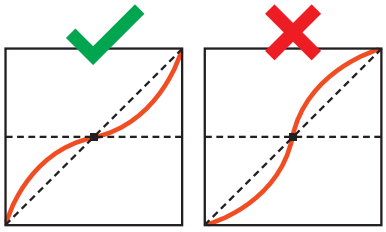
FLAP up: max 12 mm, down: max 48

RUDDER left: 16 mm, right: 16

Expo setting

AILERON 20 %

FLAP 0 %

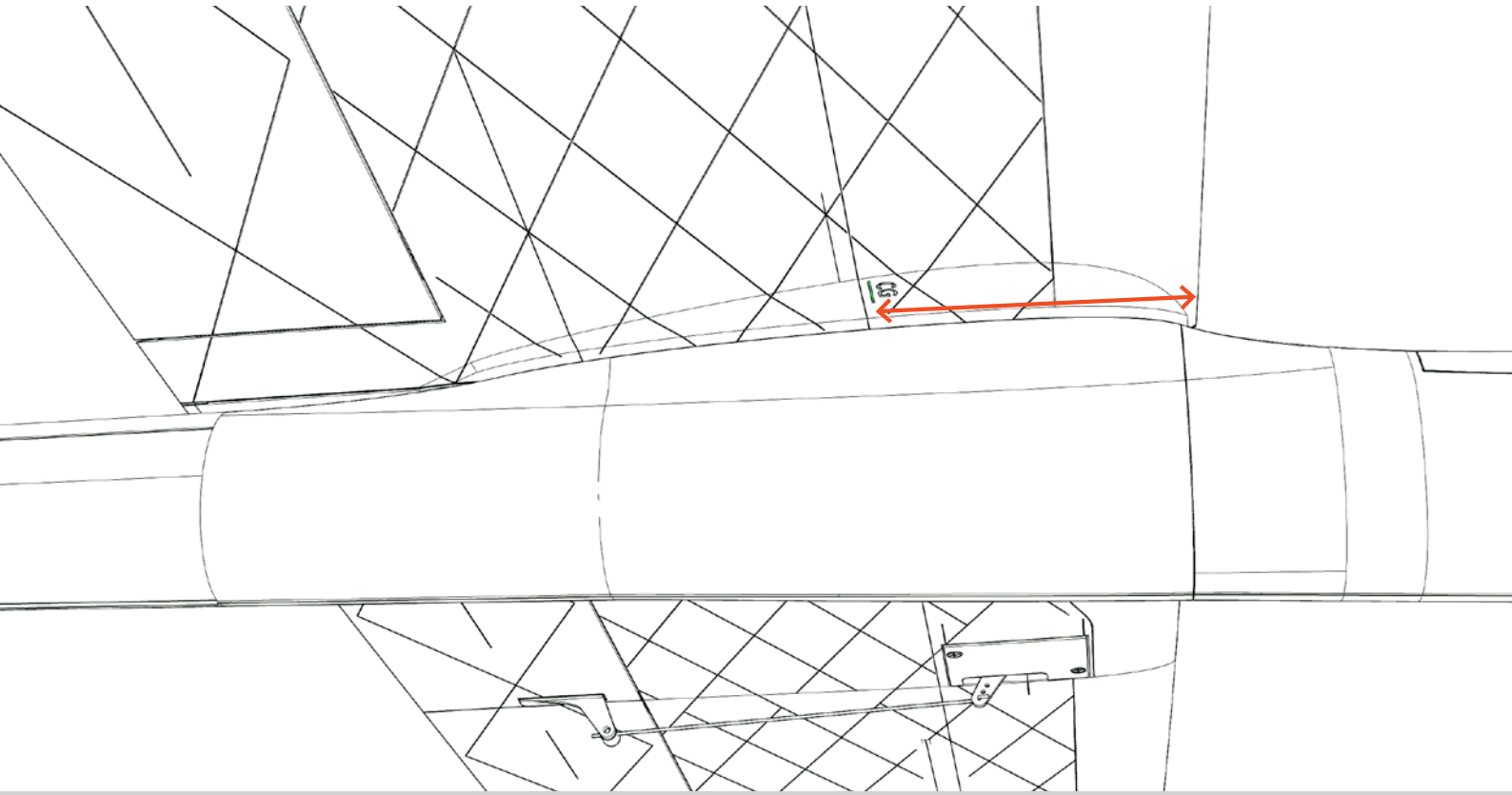


(for some remote controls a minus has to be in front of the number)

Center of Gravity (CG)

The aircraft must balance 63 mm/2.48 inches behind the leading edge (see markings on the fuselage).

NOTE **The CG for maximum performance is a bit further back.**

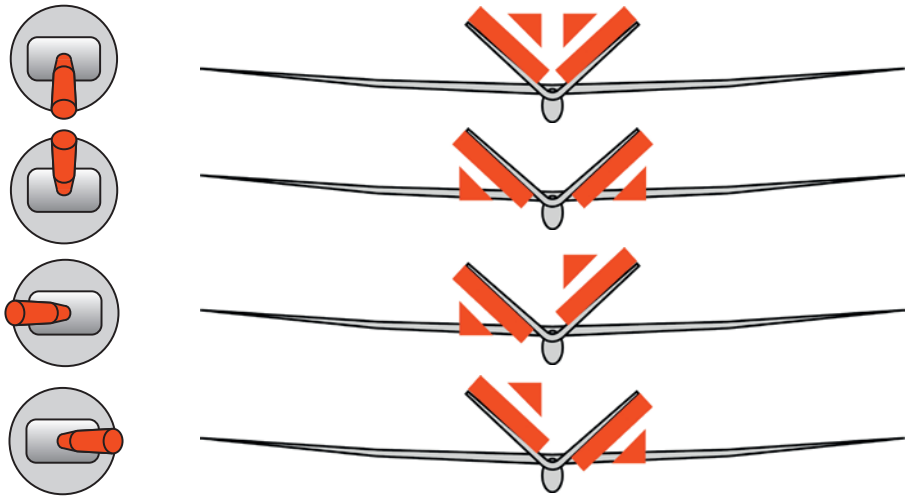


Control Direction Test

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

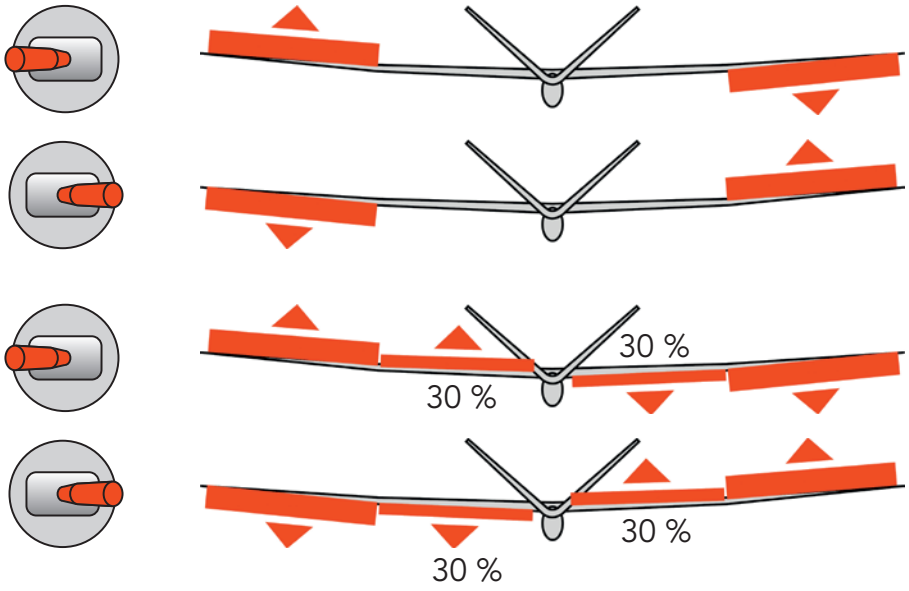
ELEVATOR

RUDDER



AILERON

AILERON with four flaps (advanced)

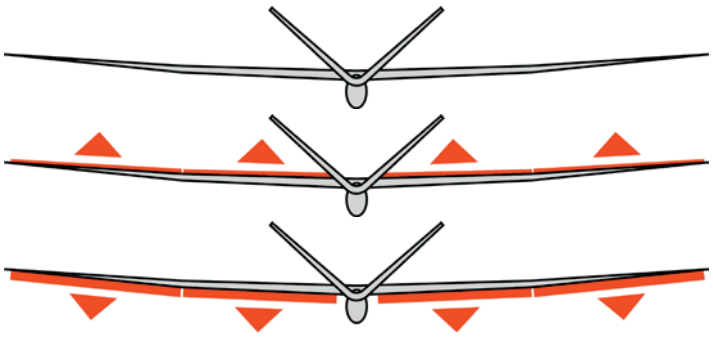


FLIGHT PHASES:

NORMAL

SPEED (1 or 2mm up)

THERMIK (1 or 2mm down)



BUTTERFLY 100 %

Motor version: We recommend that you put the engine on a switch and the Butterfly on the gas stick.

AGE RECOMMENDATION 14+

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

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. **Please be careful when handling motors, batteries and propellers** and only move your model with insurance and in approved places!

PLANE PRINT