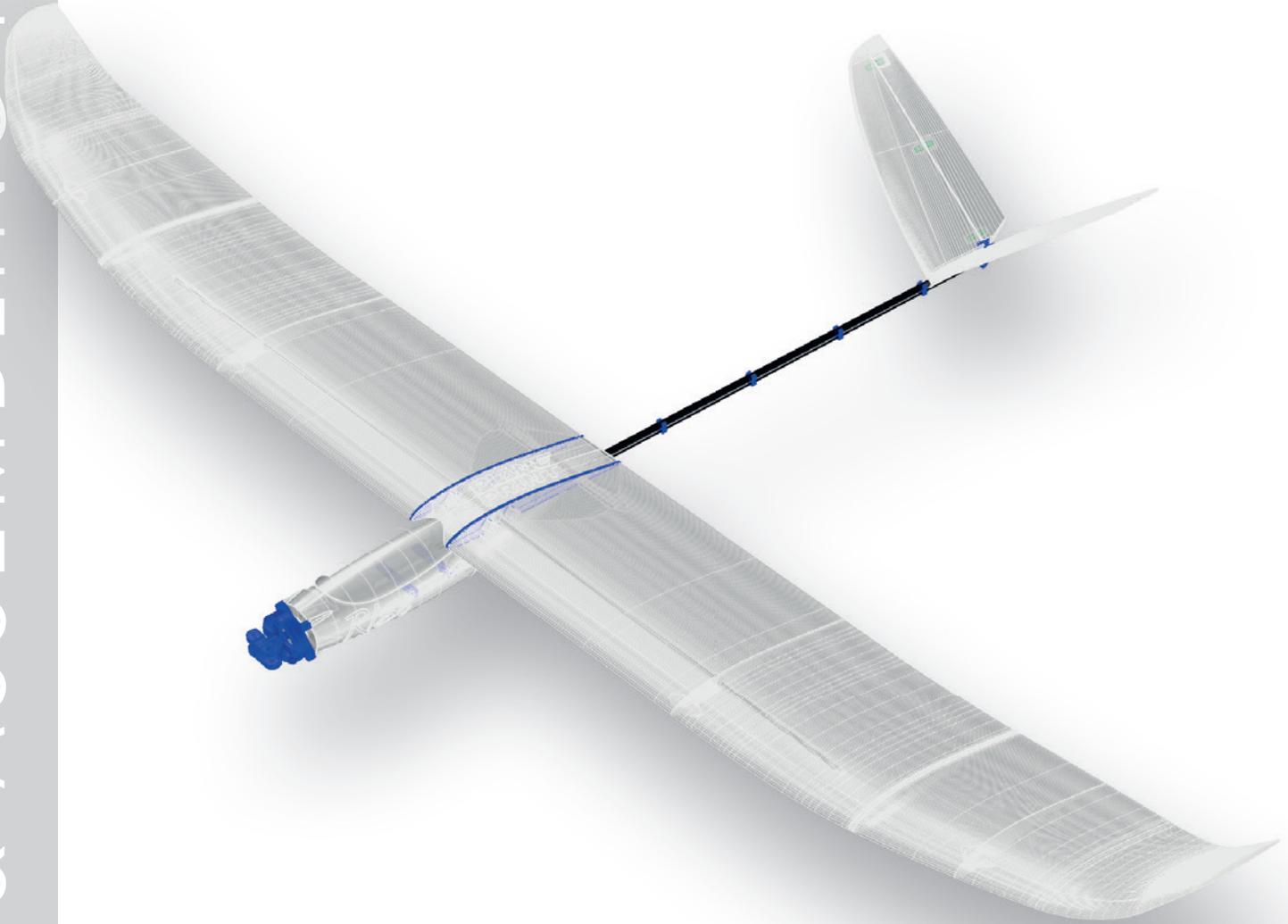


PLANE PRINT



PLANE PRINT *Rise* nano



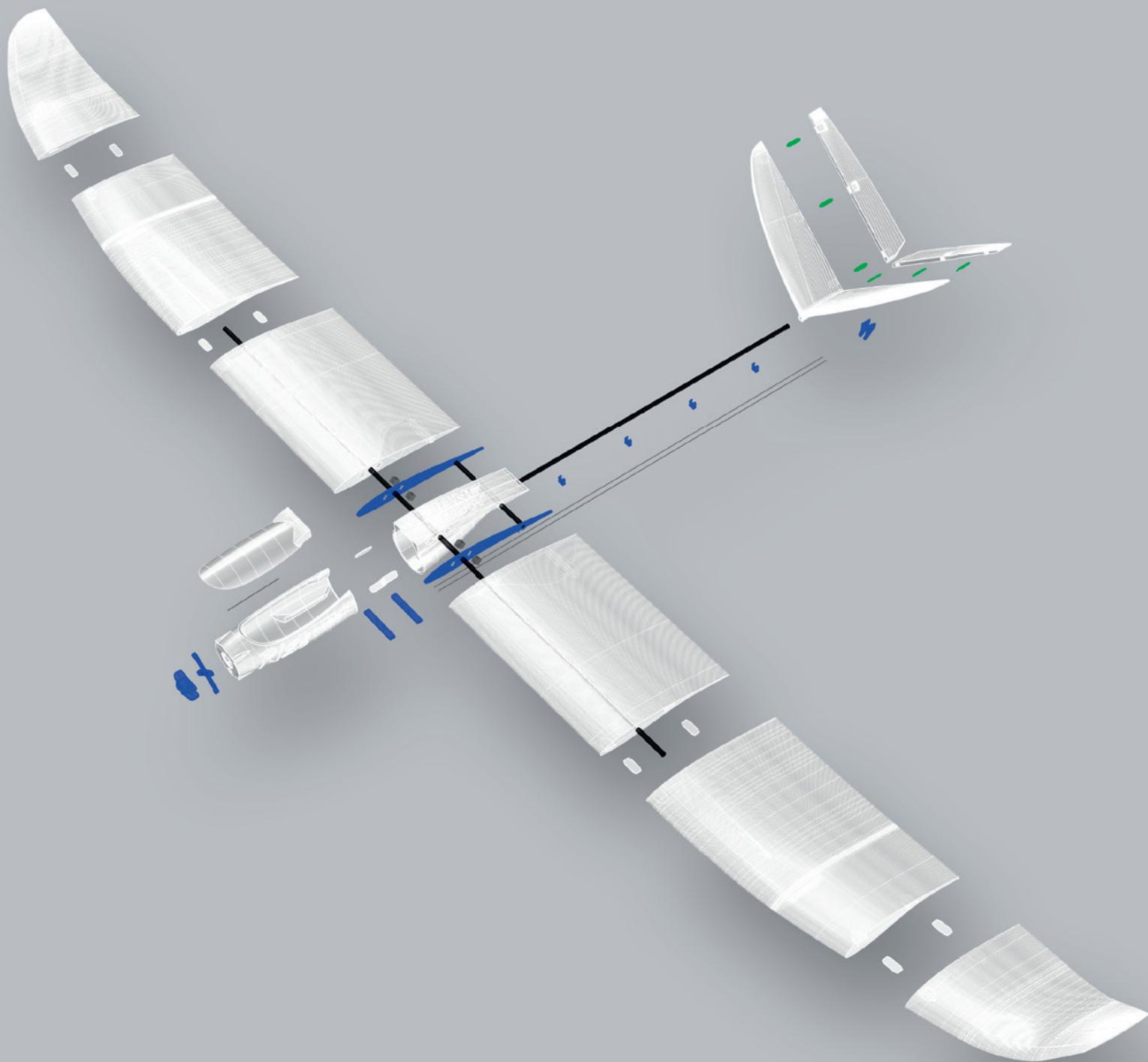
www.planeprint.com

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

© Copyright info:

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

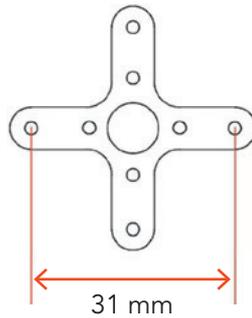
PLANE PRINT *Rise* nano



 LW-PLA  PLA  TPU  CARBON  STEEL

RC Components

ENGINE AXI 2203/40 VPP or comparable indoor-20 grams-motors.



PROP Aeronaut folding prop 6x3 or comparable, also possible 6x4, 7x3, 7x4

BEC-CONTROLLER 15 A (one matching the motor)

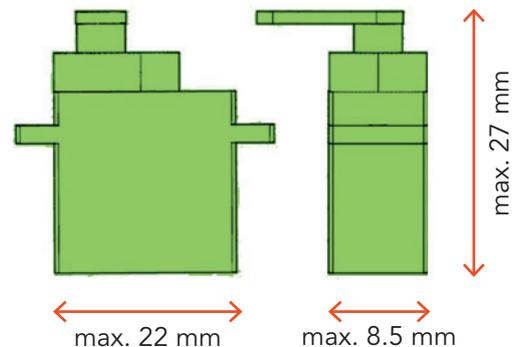
RECEIVER 3 Channel

BATTERY 2S Lipo, 350 MaH (ideal weight 24 to 27 grams)

SERVOS

- Stemedu Micro 3.7g Servo GH-S37D
- PLANET-HOBBY ECO PLUS
- PICCO 8 DIGITAL SERVO
- Diamond D47
- Hitec HS 40 Eco Servo 4,8g

or similar in the same size, **2 pieces**



There are also ready-made indoor drive sets with motor, servos and battery available from many dealers.

Required accessoires – basic equipment

- LW-PLA (cannot be replaced by PLA!), ~100 grams
- PLA or Tough PLA, ~20 grams
- TPU A95, ~10 grams
- CA super glue (liquid and liquid medium)
- CA activator
- Steel wire $\varnothing 0.8 \times 1000$ mm, 1 piece
- Carbon rod (no tube!) $\varnothing 4 \times 1000$ mm, 1 piece
- Rod connection small, 2 pieces
- Neodym-Super-Magnet 5x5x5mm, 4 pieces



Tools

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



The development of a complex, airworthy RC flight model to express on any standard 3D printer is a very extensive process. **Therefore, we appeal to your fairness not to forward the STL data you have acquired to third parties.**

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

Printing the parts – Printing profiles

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

To print all **PLANEPRINT** models **you need to set some basic profiles in Cura** (If you use another slicer, please set the same parameters).

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

For this model you need the following profiles:



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

PROFILE P5_Gyroid

It is **essential for the necessary stability** of the **LW parts printed with PROFILE_5 are as stable as possible**. Please use a test part to check the strength by fracture tests. It must not break along the layer lines under any circumstances! Also note that the printing temperature for LW-PLA is as low as possible to obtain a wall thickness of 0.4 to 0.6 mm at a flow of 55 to 65 % (depending on brand and printer).

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



PROFILE P1_Fullbody **PLA or Tough PLA**

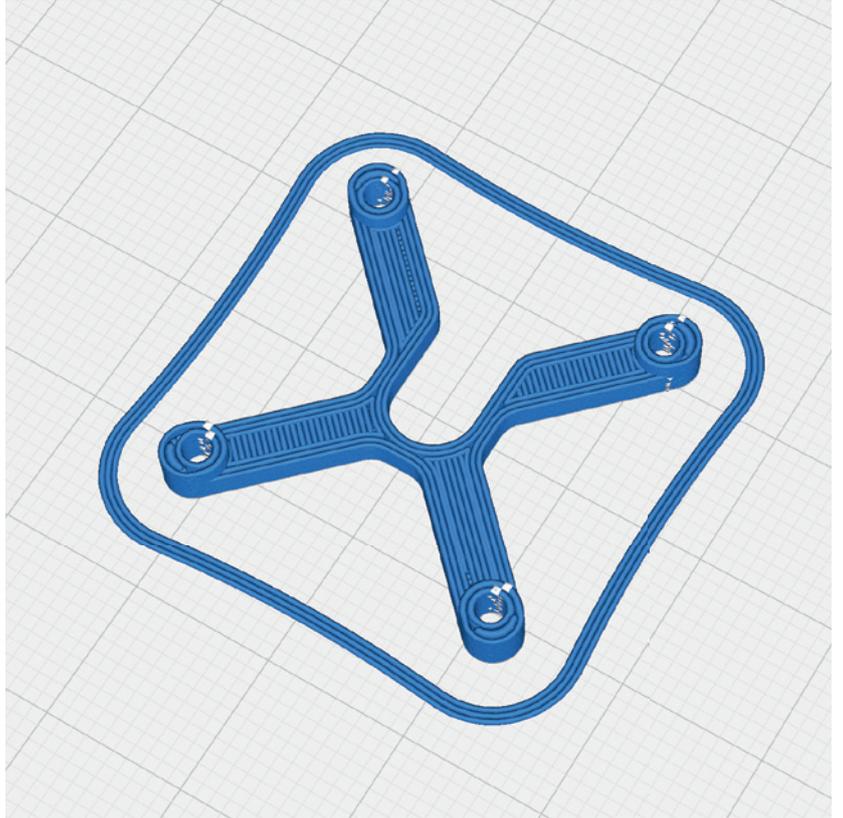
The following parts must be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

P1_Motormount-XXX_Rn.stl

MATERIAL PLA, Weight: ~ 1 g

ADDITIONAL SETTINGS

None required

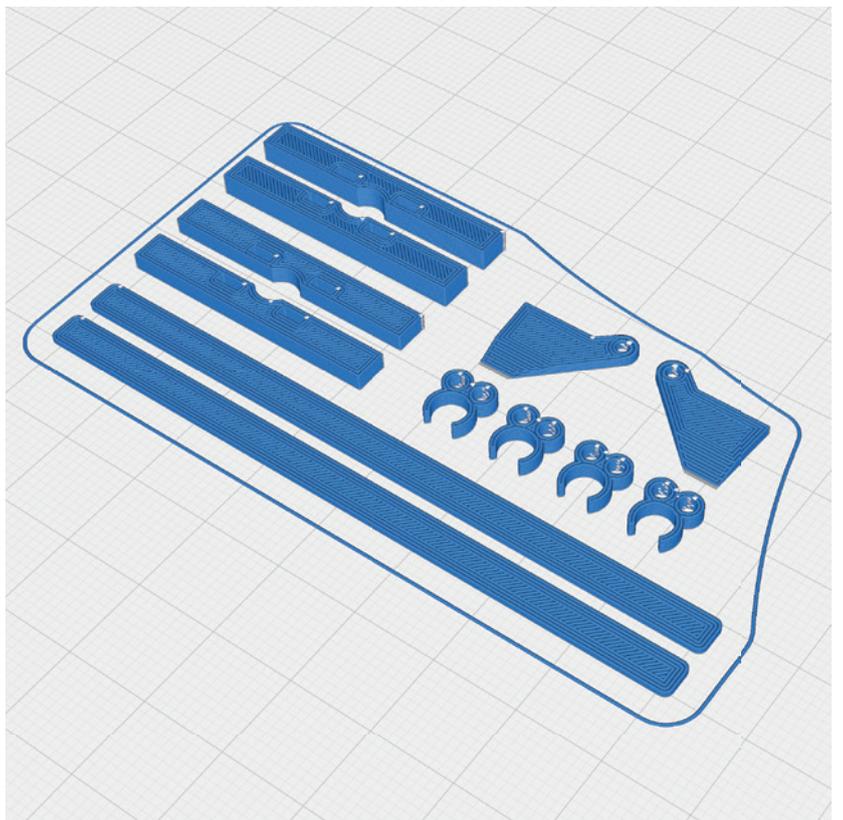


P1_Parts_Rn.stl

MATERIAL PLA, Weight: ~ 3 g

ADDITIONAL SETTINGS

None required



PROFILE P1_Fullbody **PLA or Tough PLA**

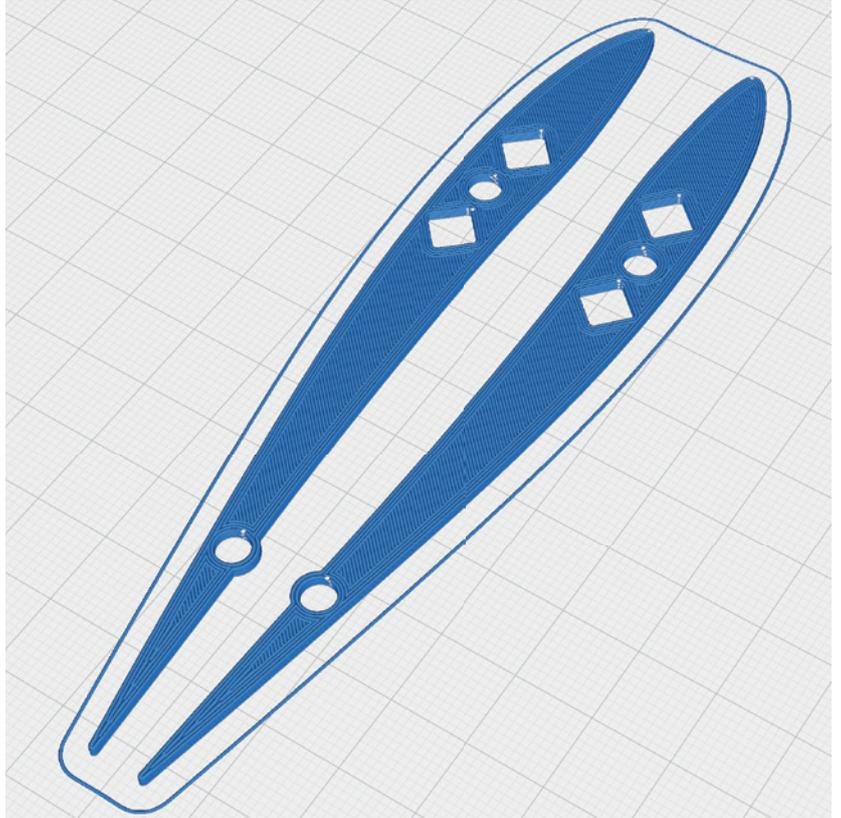
The following parts must be sliced with the PROFILE P1_Fullbody.
Please note the additional settings for the individual parts!

P1_Protector_Rn.stl

MATERIAL PLA, Weight: ~ 3 g

ADDITIONAL SETTINGS

None required

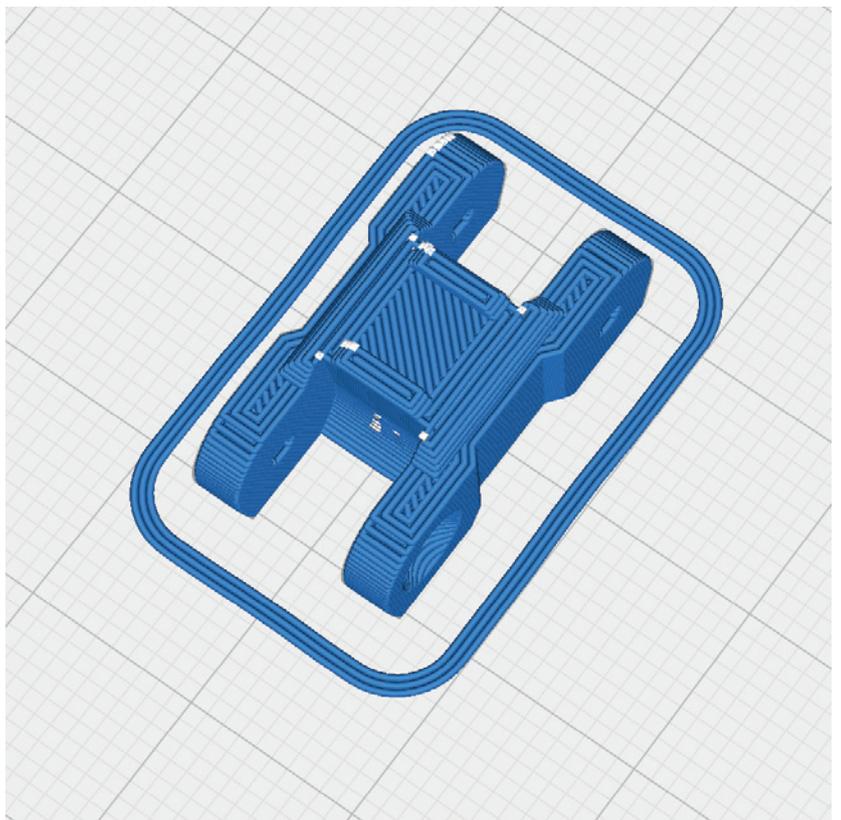


P1_Spinner folding prop Xmm_Rn.stl

MATERIAL PLA, Weight: ~ 1 g

ADDITIONAL SETTINGS

None required



PROFILE P4_Flex TPU A95

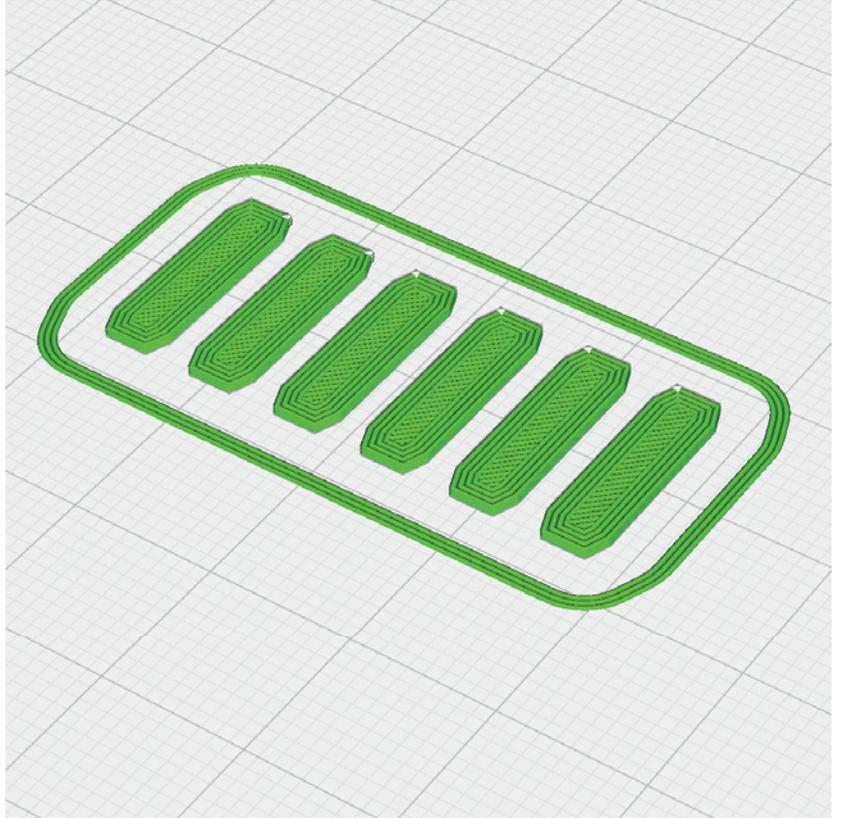
The following parts must be sliced with the PROFILE P4_Flex.
Please note the additional settings for the individual parts!

P4_Hinges_Rn.stl

MATERIAL TPU ~ A95, Weight: ~ 1 g

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!

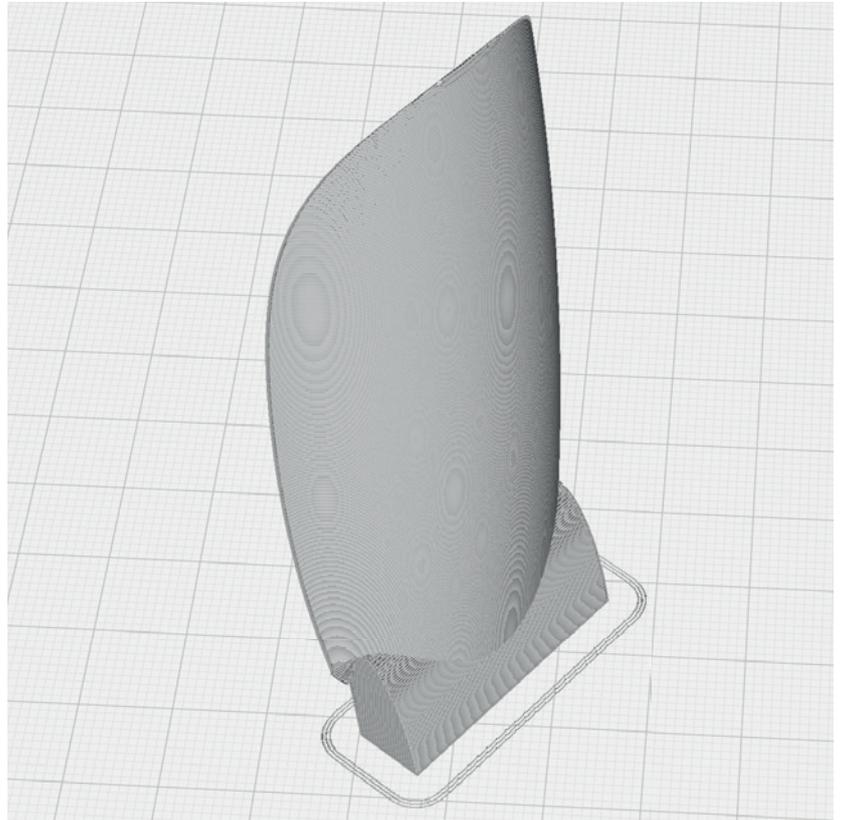
P5_Canopy_Rn.stl

MATERIAL LW-PLA, ~ 2 g*

*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



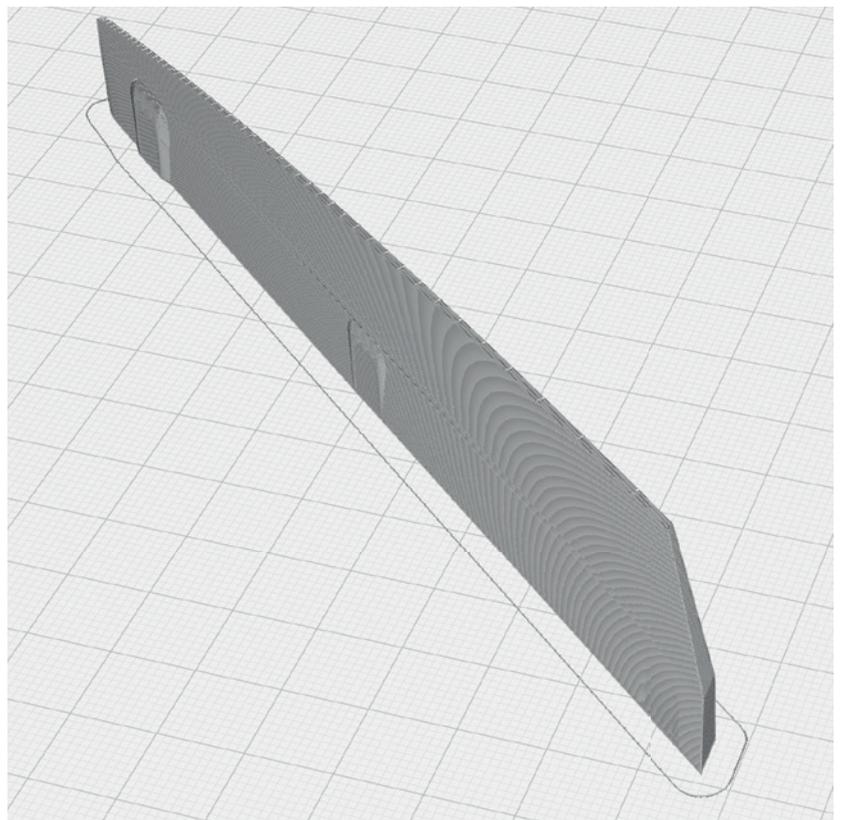
P5_Elevator-L_Rn.stl and P5_Elevator-R_Rn.stl

MATERIAL LW-PLA, ~ 2 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 1_Rn.stl

MATERIAL LW-PLA, ~ 6 g*

*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



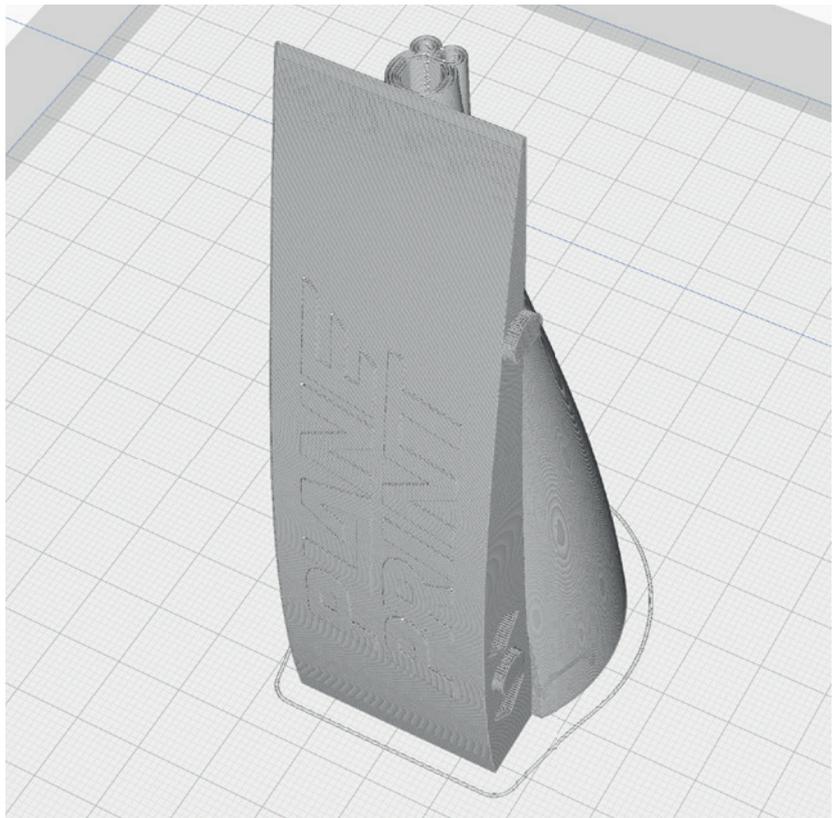
P5_Fuselage 2_Rn.stl

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!

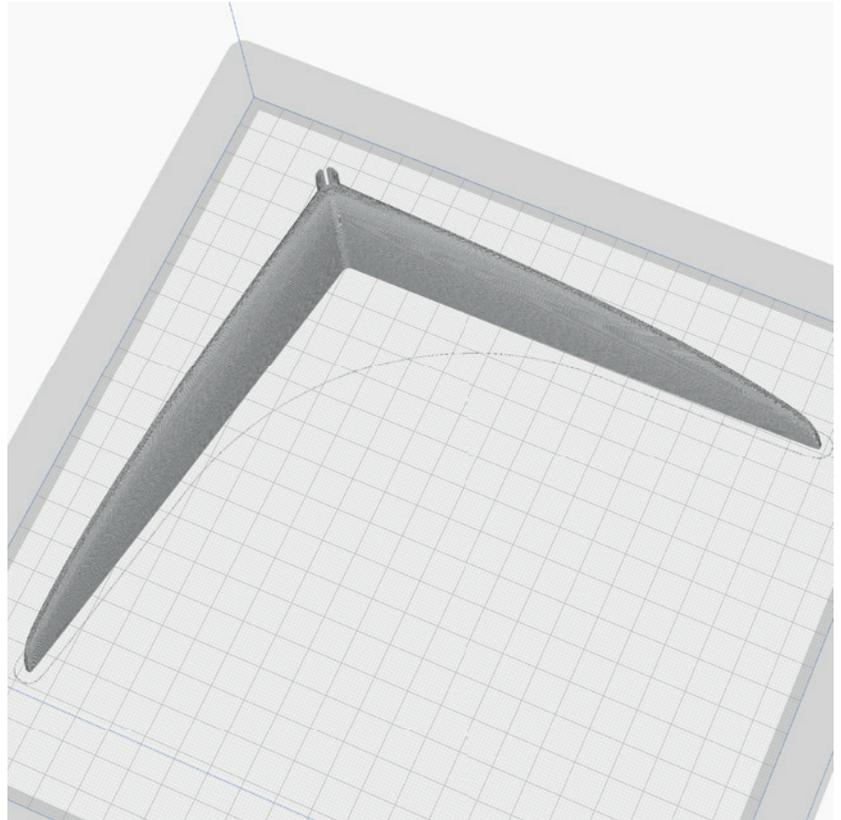
P5_V-Tail_Rn.stl

MATERIAL LW-PLA, ~ 8 g*

*Weighed (approximate guideline)

ADDITIONAL SETTINGS

- Z Seam Position: **back left**



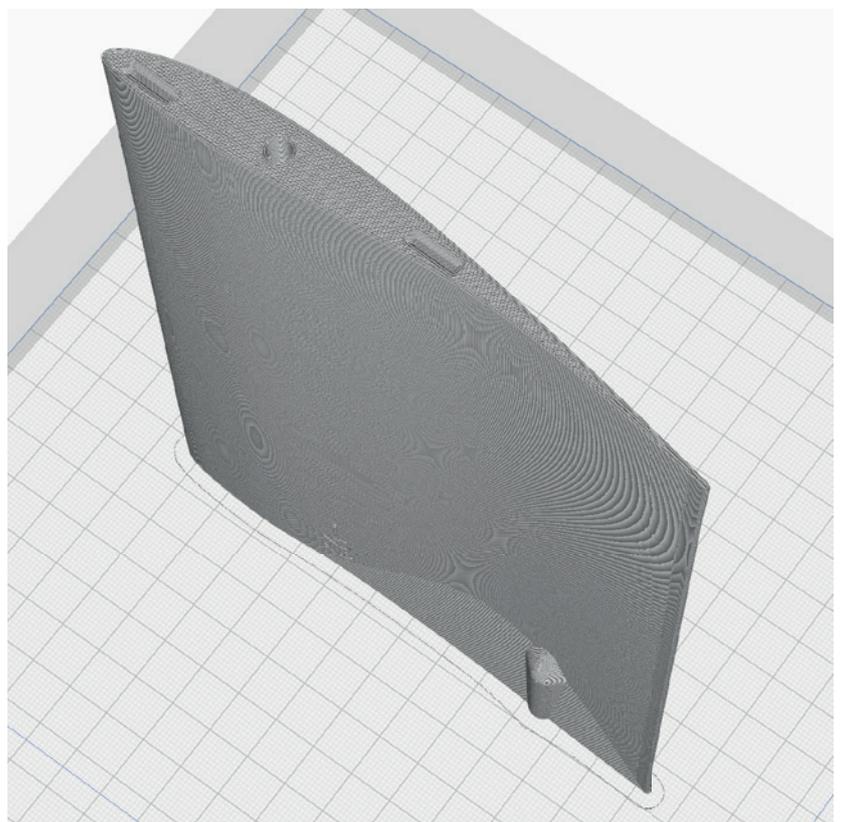
P5_Wing 1-L_Rn.stl and P5_Wing 1-R_Rn.stl

MATERIAL LW-PLA, ~ 20 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!

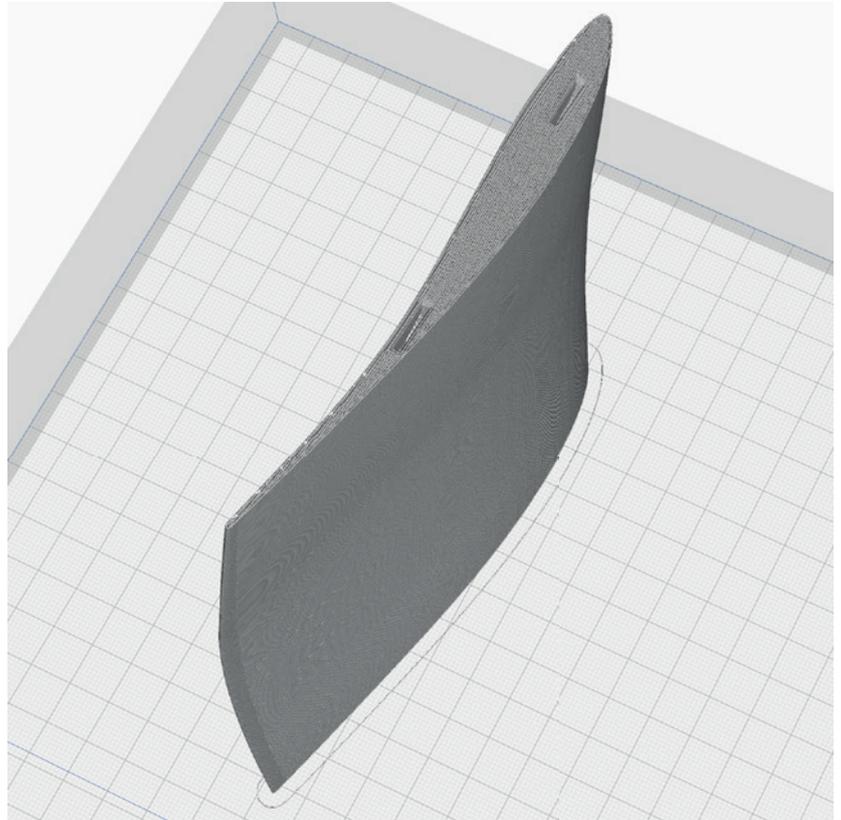
P5_Wing 2-L_Rn.stl and
P5_Wing 2-R_Rn.stl

MATERIAL LW-PLA, ~ 19 g*

*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



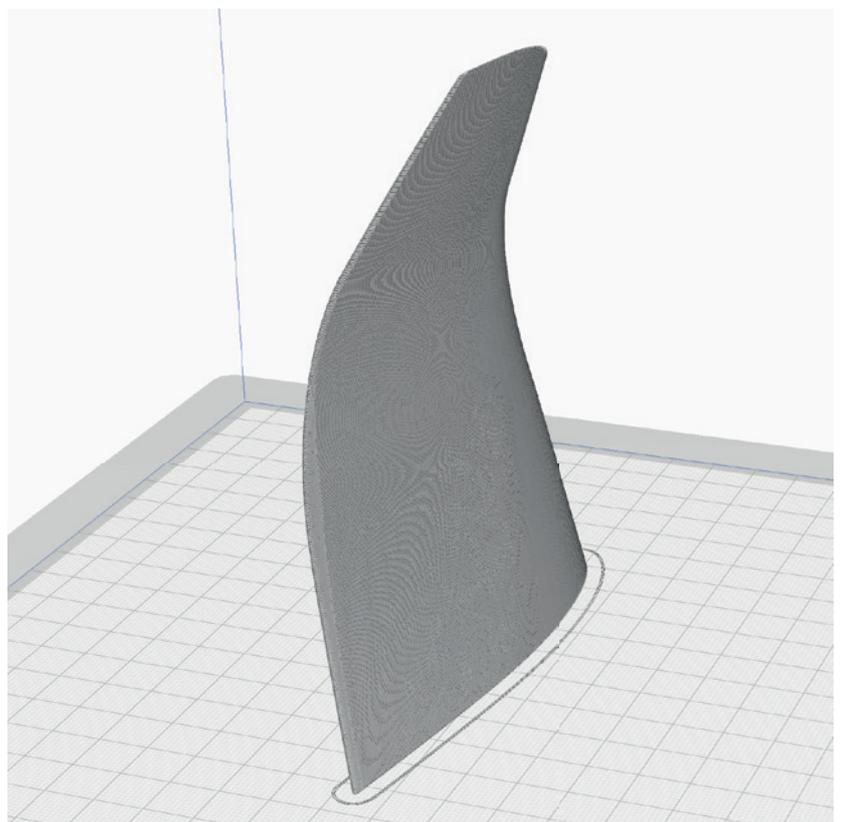
P5_Wing 3-L_Rn.stl and
P5_Wing 3-R_Rn.stl

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!

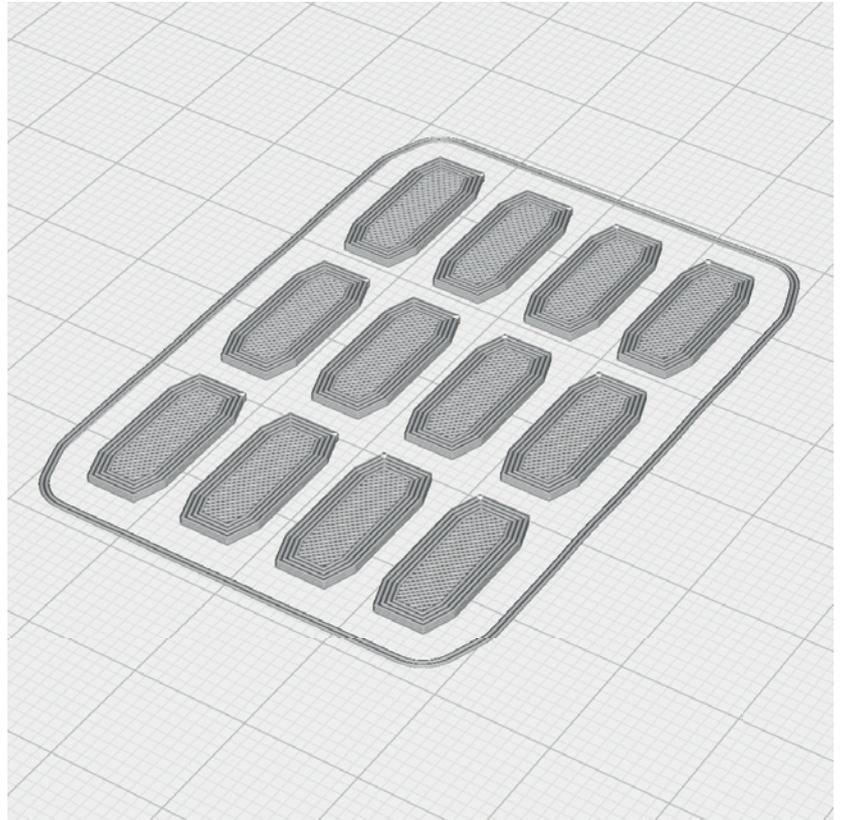
P5_Interconnects_Rn.stl

MATERIAL LW-PLA, ~ 1 g*

*Weighed (approximate guideline)

ADDITIONAL SETTINGS

None required



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.

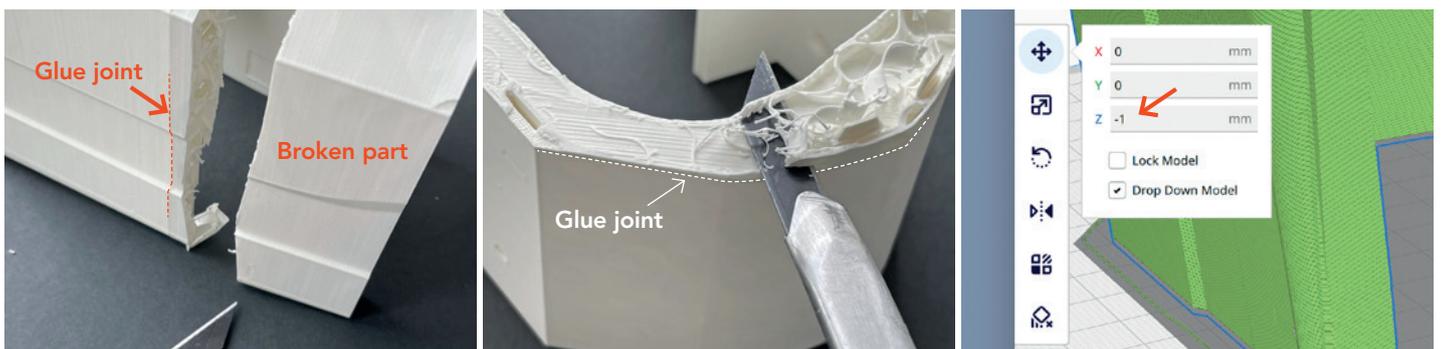
After assembly, **align the two parts exactly** and wipe off the excess CA glue from the surface with a cloth. Now spray with activator spray along the gluing surface and carefully press the parts together.

- STEP 4** Clean the glued areas slightly with a **sharp-bladed cutter**.



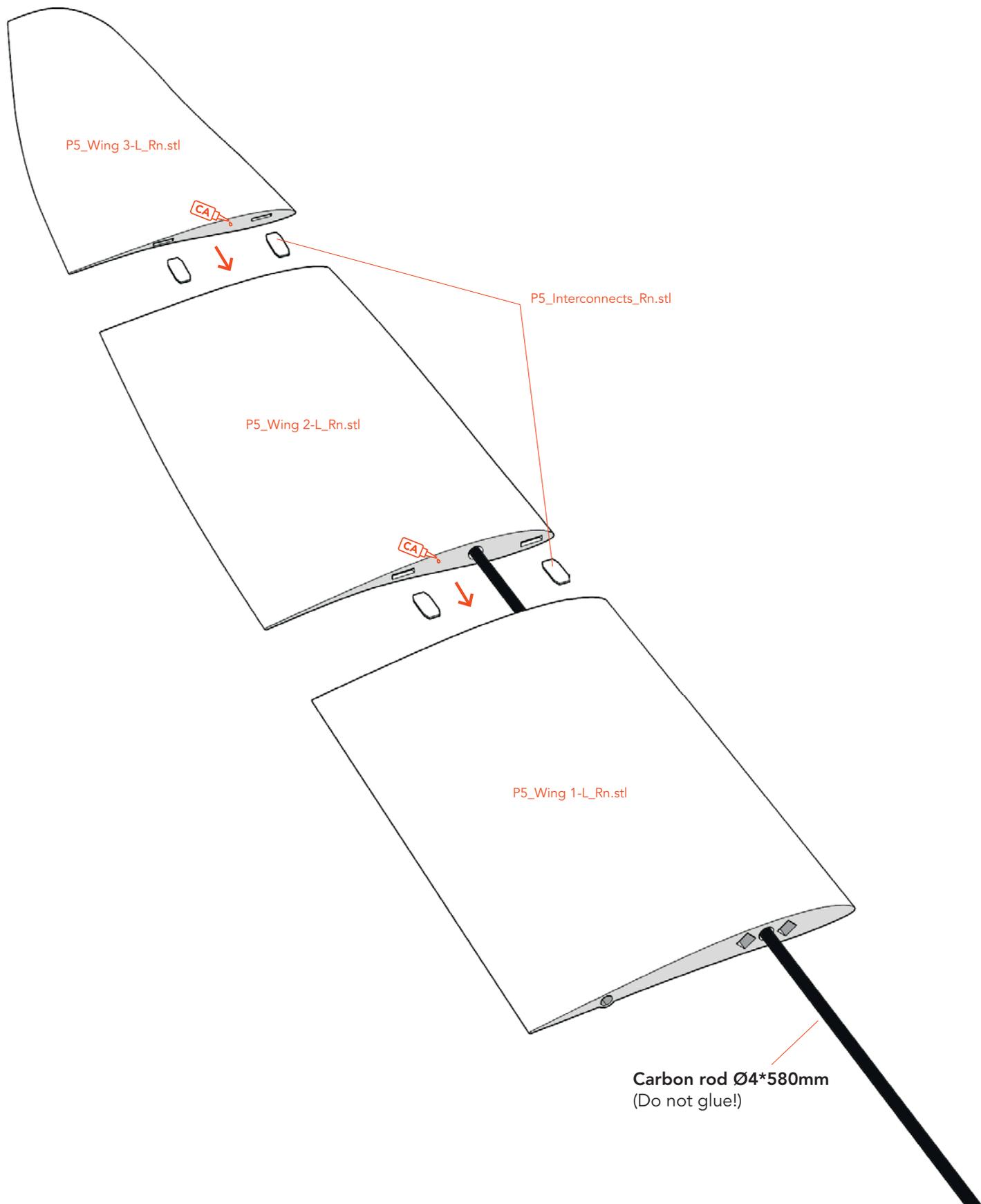
PROFILES 5 parts are easy to repair

- 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.

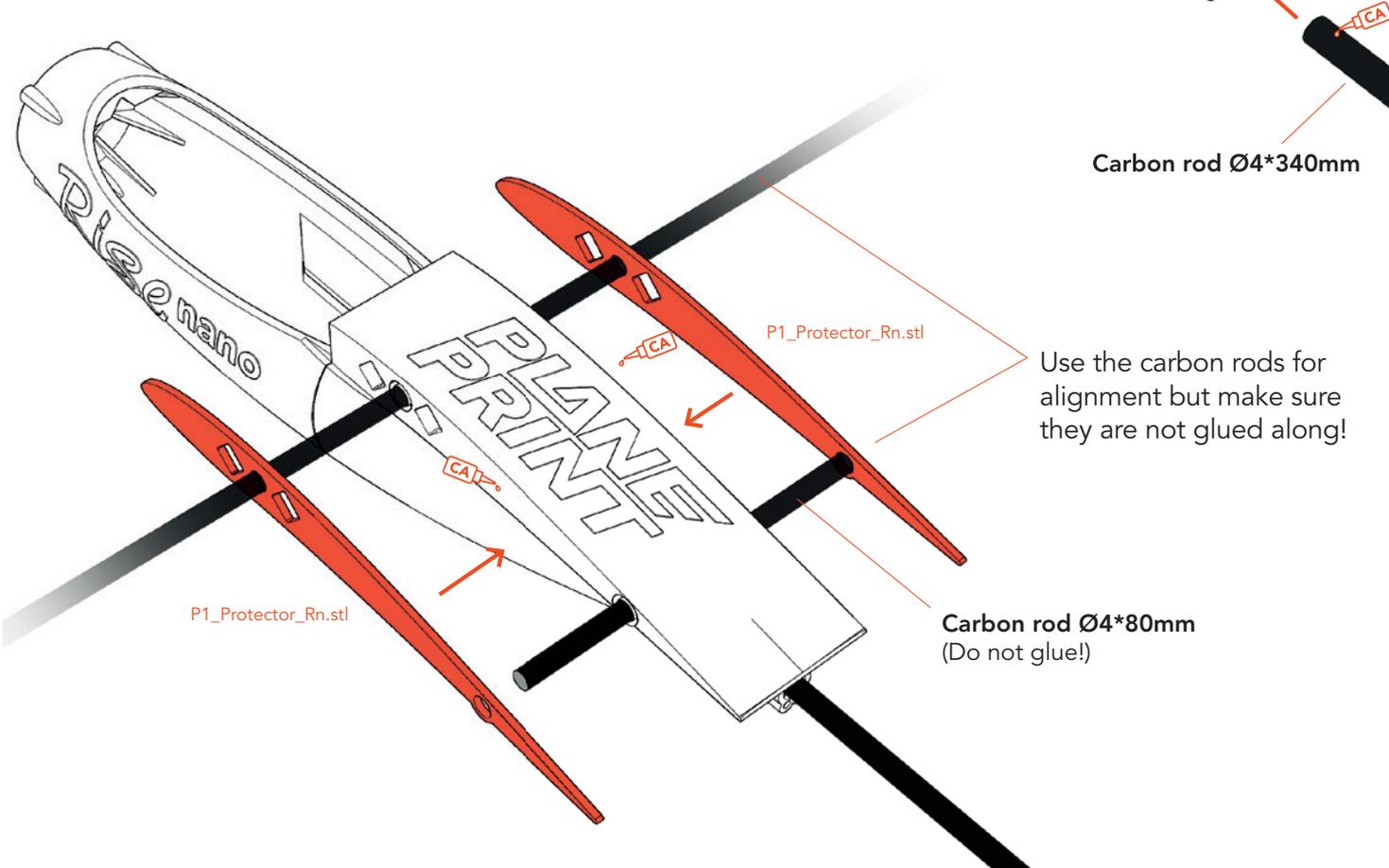
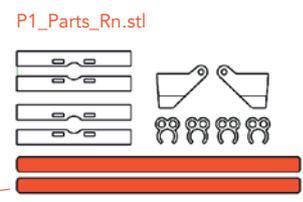
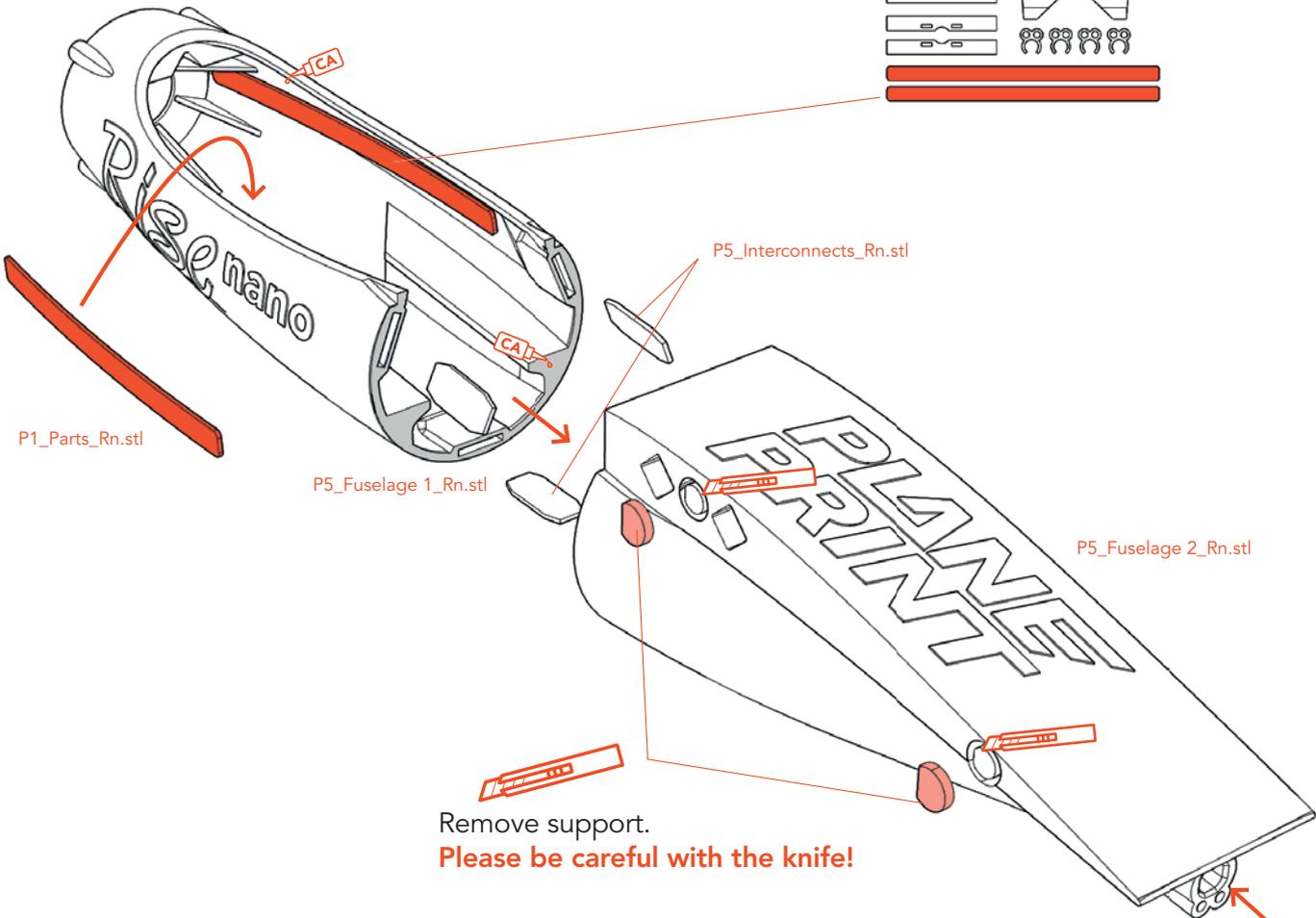


Wings assembly

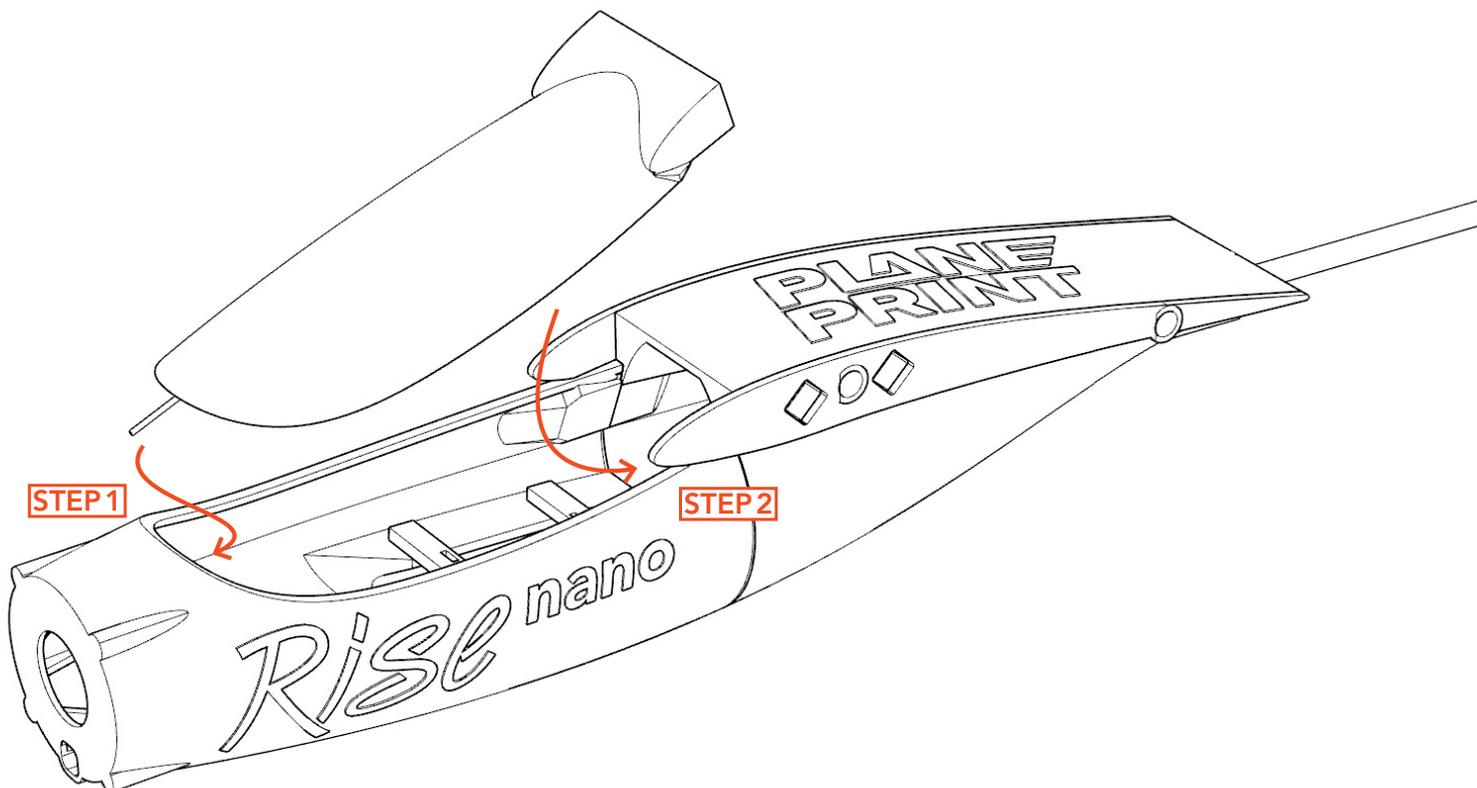
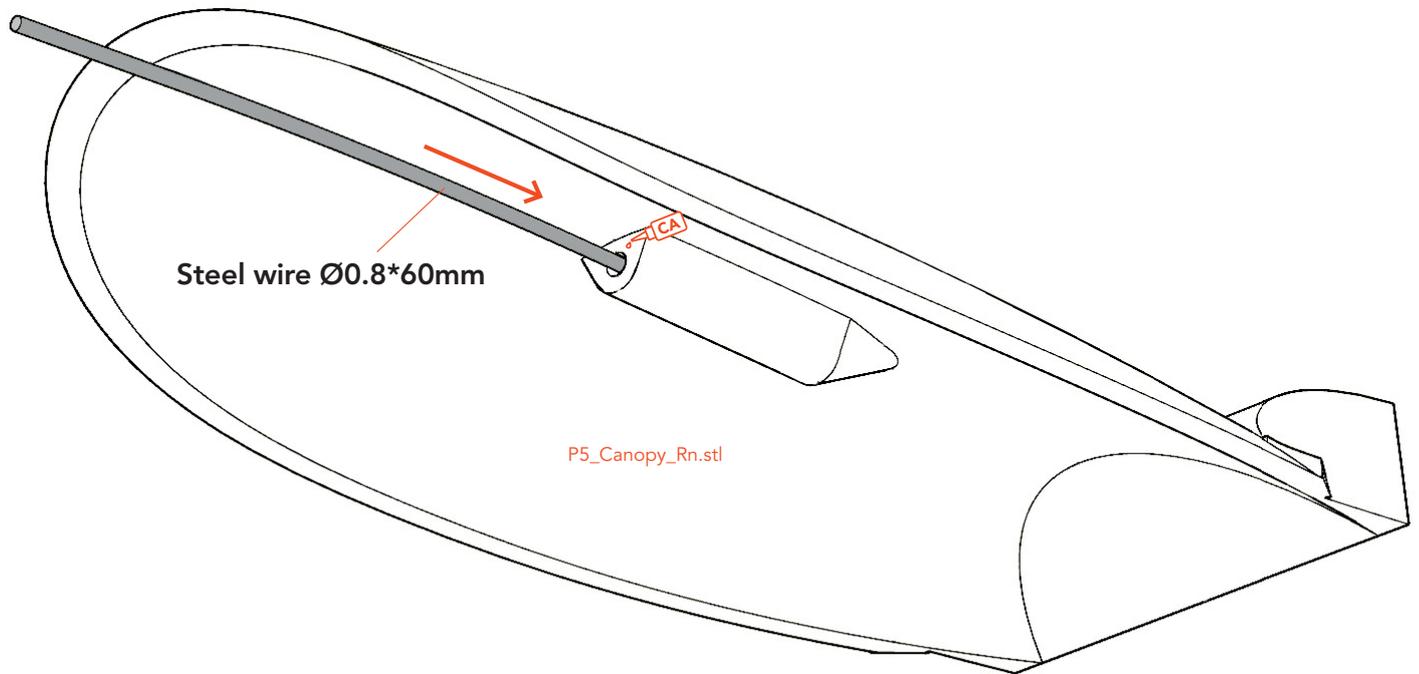
Use the carbon rod for alignment **but make sure that it is not glued!**



Fuselage assembly



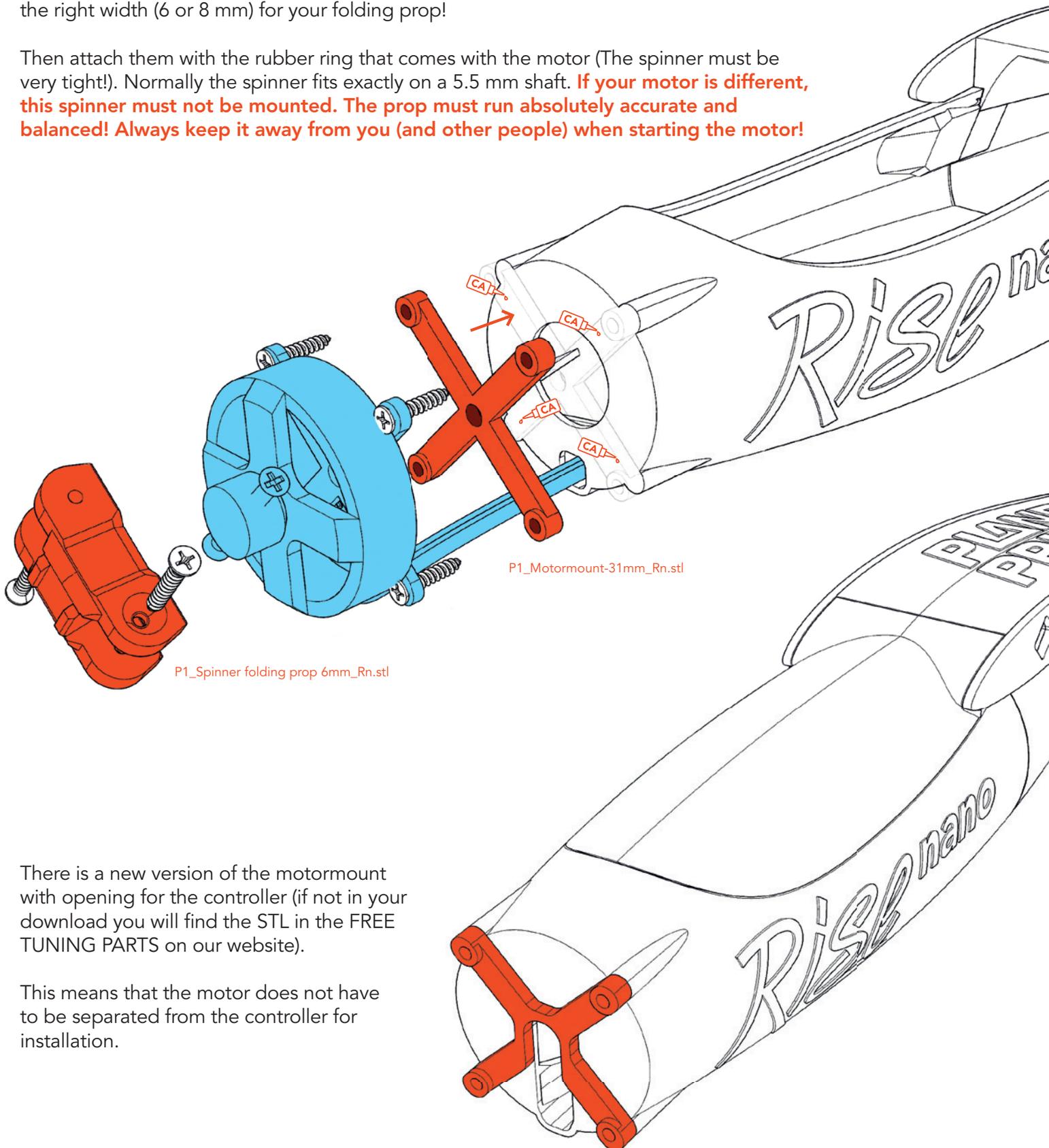
Canopy assembly



Motor mount

Tape the motor mount well to the fuselage and screw the motor on. Mount the folding prop blades to the spinner, making sure they move easily but the screw is tight. Choose the right width (6 or 8 mm) for your folding prop!

Then attach them with the rubber ring that comes with the motor (The spinner must be very tight!). Normally the spinner fits exactly on a 5.5 mm shaft. **If your motor is different, this spinner must not be mounted. The prop must run absolutely accurate and balanced! Always keep it away from you (and other people) when starting the motor!**



There is a new version of the motormount with opening for the controller (if not in your download you will find the STL in the FREE TUNING PARTS on our website).

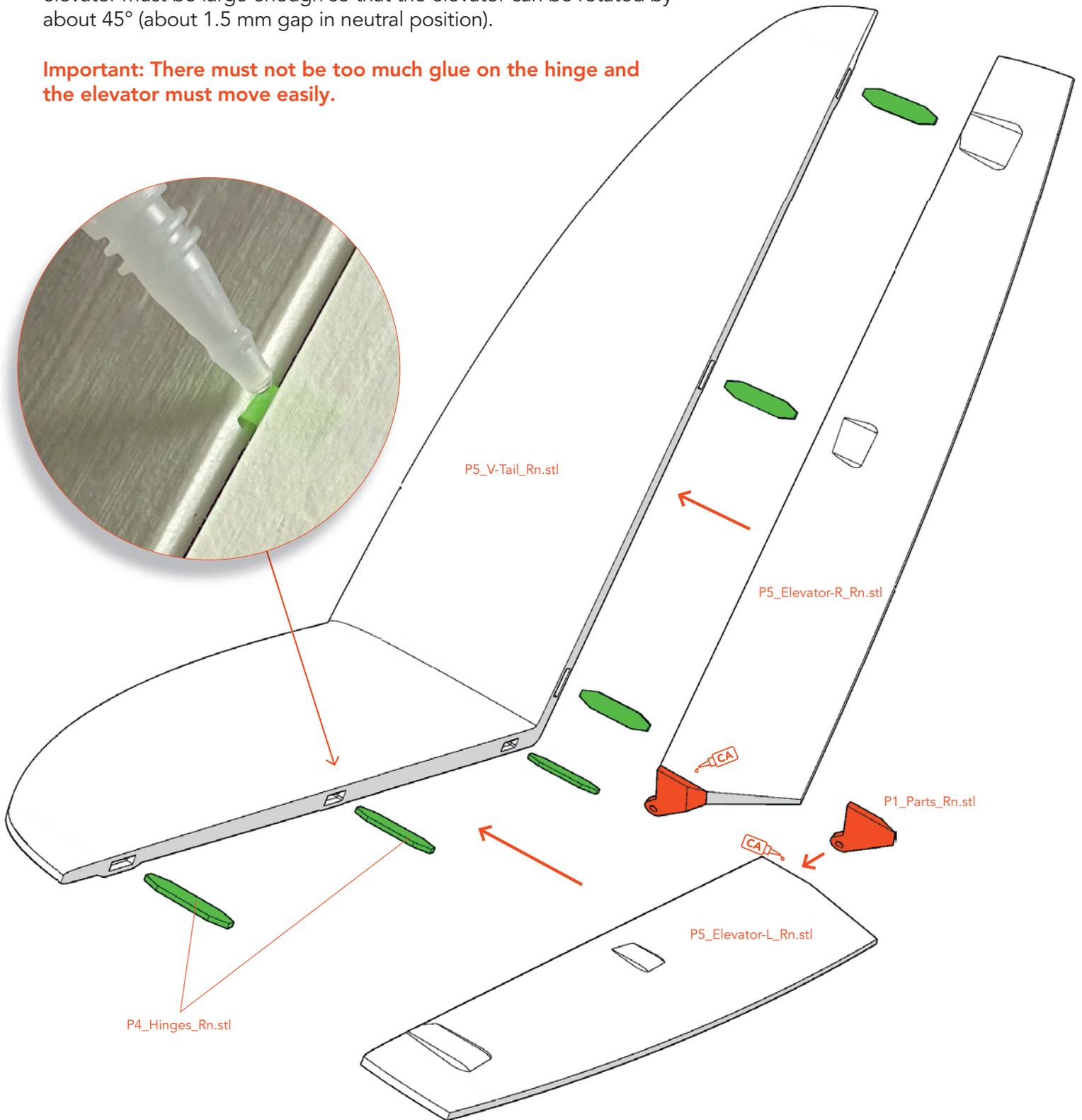
This means that the motor does not have to be separated from the controller for installation.

Tailplane assembly



Hinges: Put V-Tail, hinges and an elevator together and add a drop of **thin! CA glue** on each hinge (photo). Due to the capillary effect, the glue runs into the gaps. The distance between the V-tail and the elevator must be large enough so that the elevator can be rotated by about 45° (about 1.5 mm gap in neutral position).

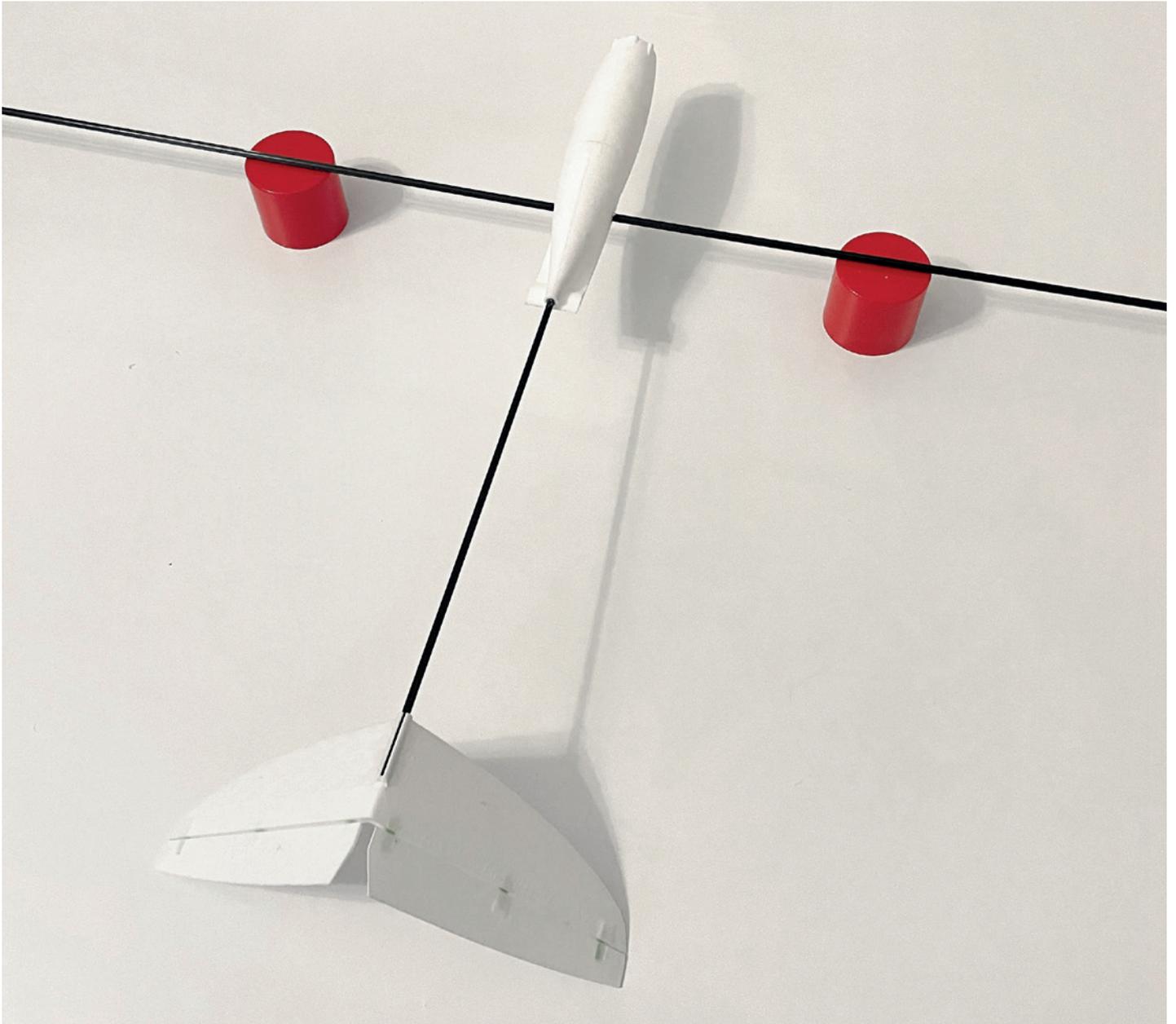
Important: There must not be too much glue on the hinge and the elevator must move easily.



Tailplane assembly



Insert the carbon rod for the wing into the fuselage and place it upside down on two supports of the same height so that it is absolutely parallel to the ground (in this case, caps from activator spray cans). Then place the V-tail on the rear carbon rod. When the V-tail rests on the table, it is automatically in the correct position relative to the fuselage. Then put **thin CA glue** in the gap of the carbon rod.

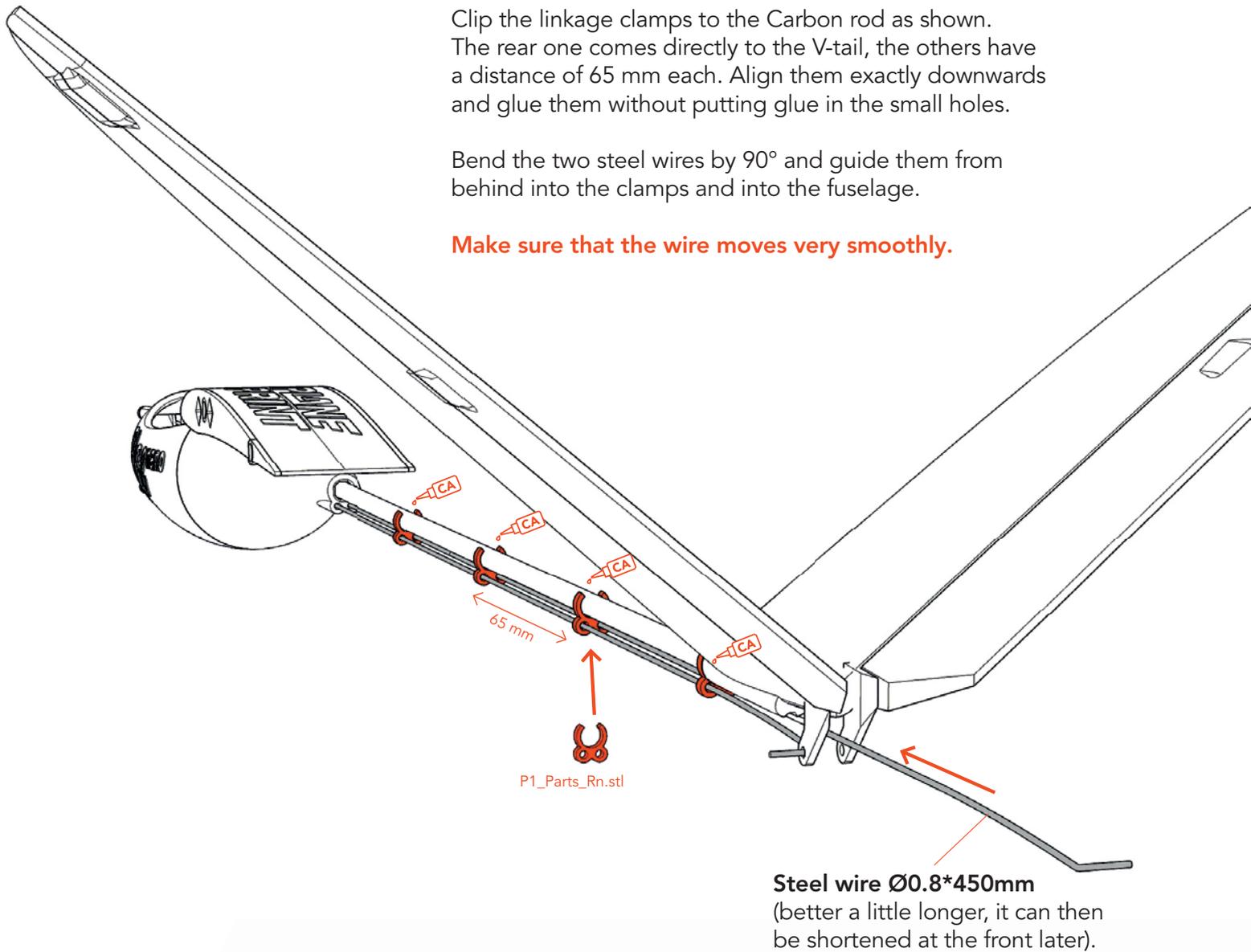


Linkage

Clip the linkage clamps to the Carbon rod as shown. The rear one comes directly to the V-tail, the others have a distance of 65 mm each. Align them exactly downwards and glue them without putting glue in the small holes.

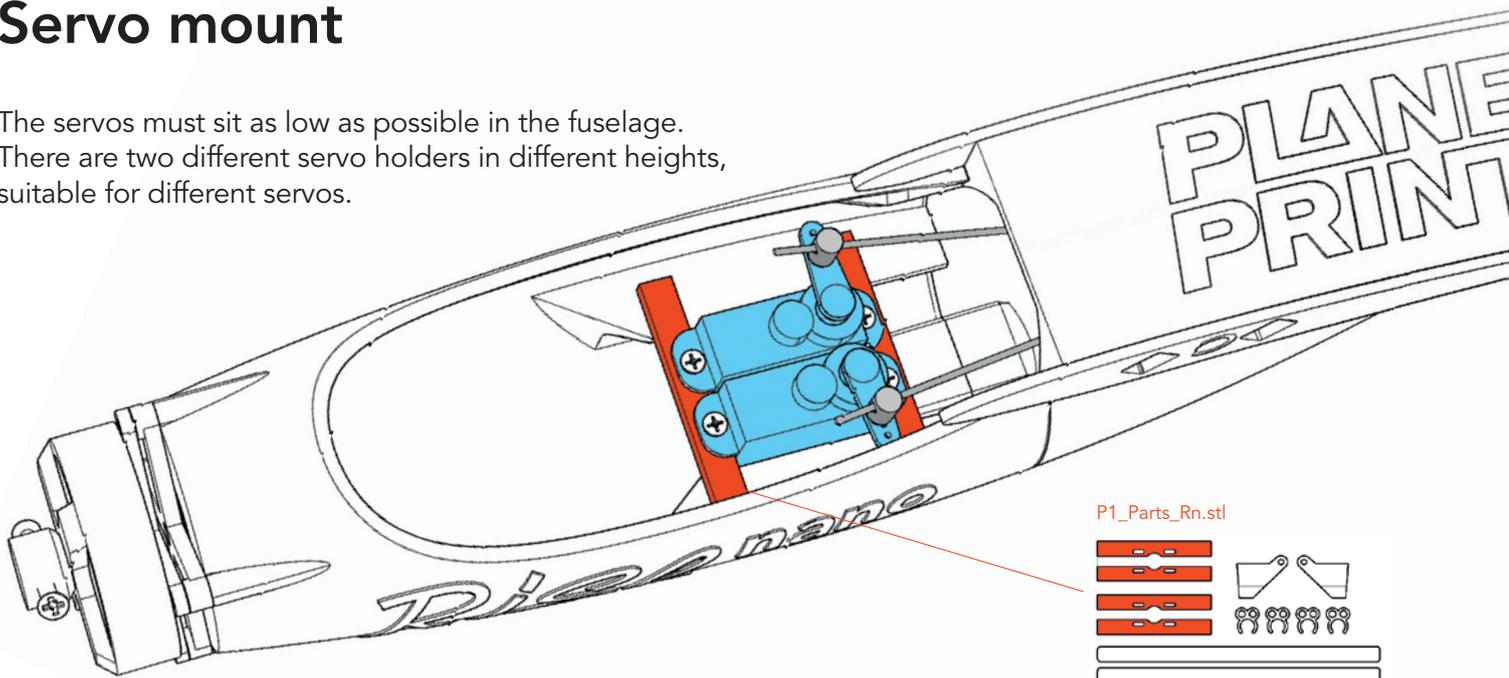
Bend the two steel wires by 90° and guide them from behind into the clamps and into the fuselage.

Make sure that the wire moves very smoothly.



Servo mount

The servos must sit as low as possible in the fuselage. There are two different servo holders in different heights, suitable for different servos.

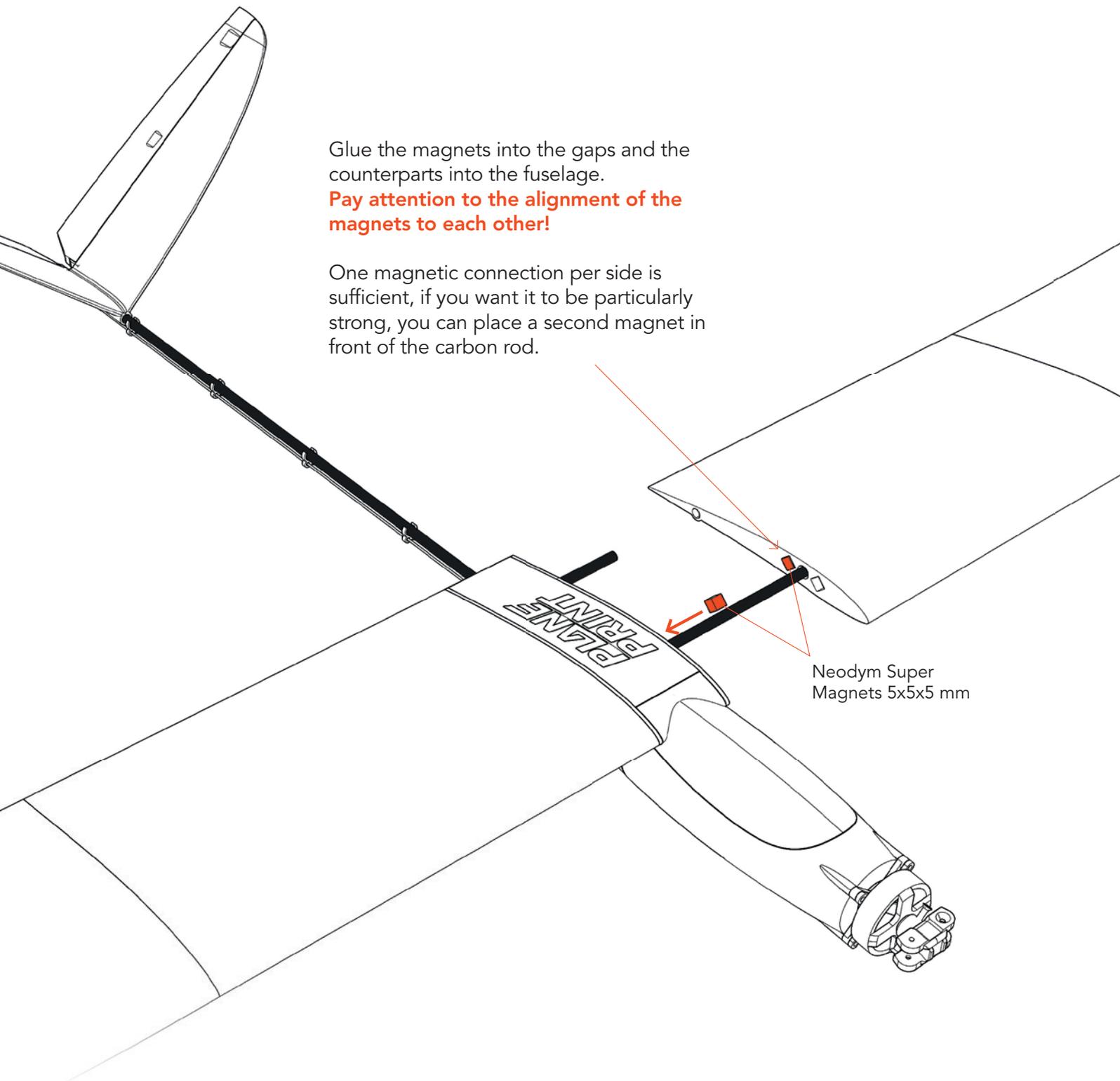


Wing mount

Glue the magnets into the gaps and the counterparts into the fuselage.

Pay attention to the alignment of the magnets to each other!

One magnetic connection per side is sufficient, if you want it to be particularly strong, you can place a second magnet in front of the carbon rod.



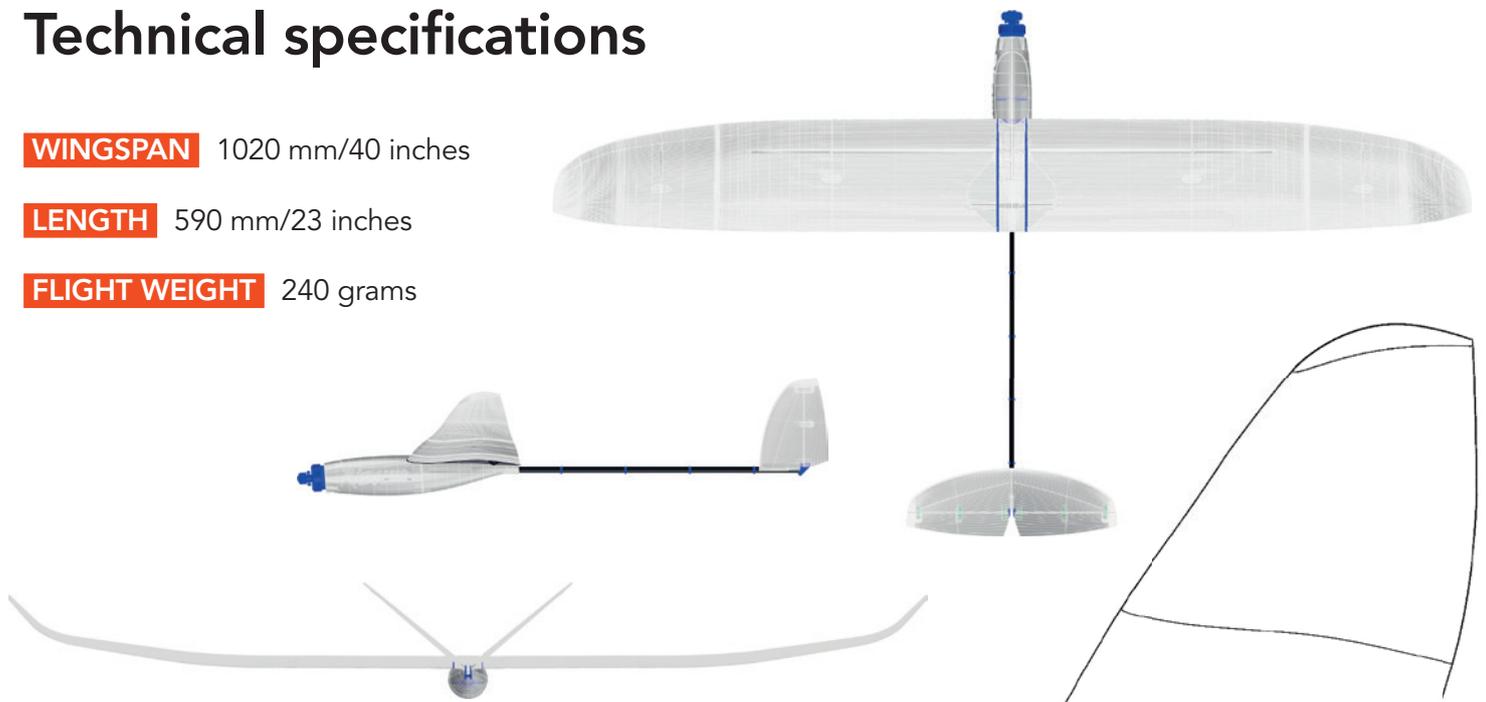
Neodym Super
Magnets 5x5x5 mm

Technical specifications

WINGSPAN 1020 mm/40 inches

LENGTH 590 mm/23 inches

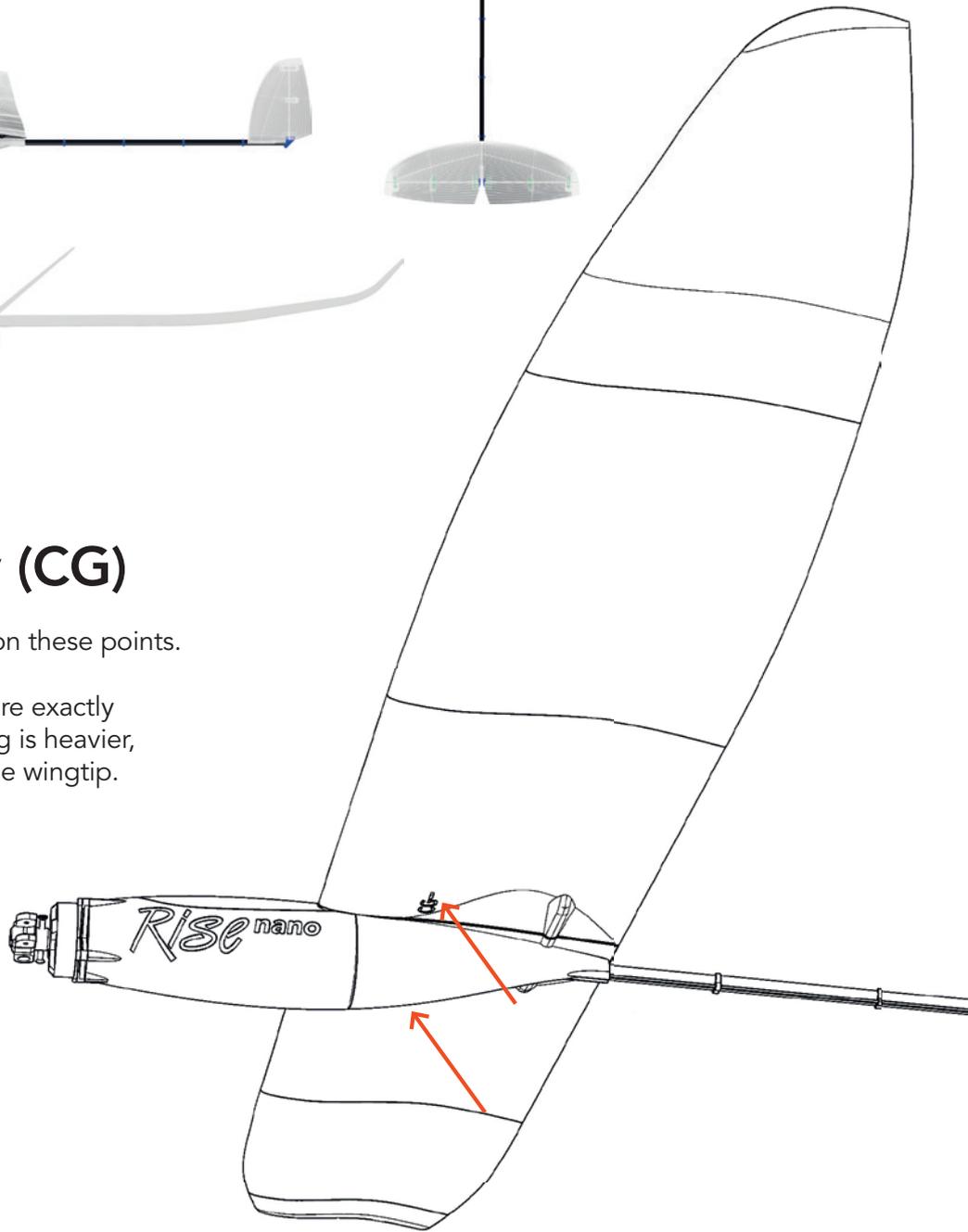
FLIGHT WEIGHT 240 grams



Center of Gravity (CG)

The aircraft must balance **precisely** on these points.

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.



Flying tips

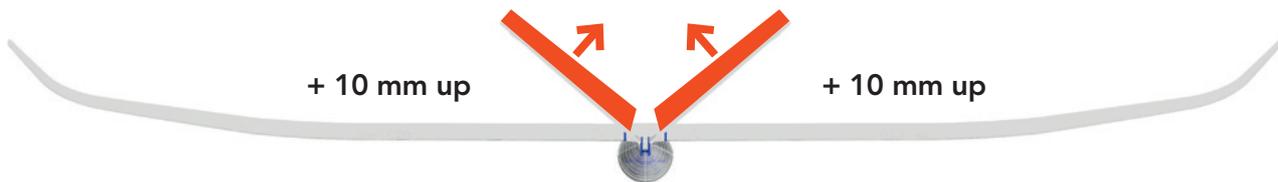
The RISE nano is **controlled by elevator and rudder only** and has no ailerons. However, it is recommended to use the rudder function in parallel on both control sticks (rudder and aileron). To do this, simply mix the aileron stick with the rudder stick.

The RISE nano has a wide speed range, which means you can fly it very fast or relatively slow. **In thermal conditions, the elevator should be trimmed up a few clicks** to climb optimally in the updraft. You can also program two flight phases for this.

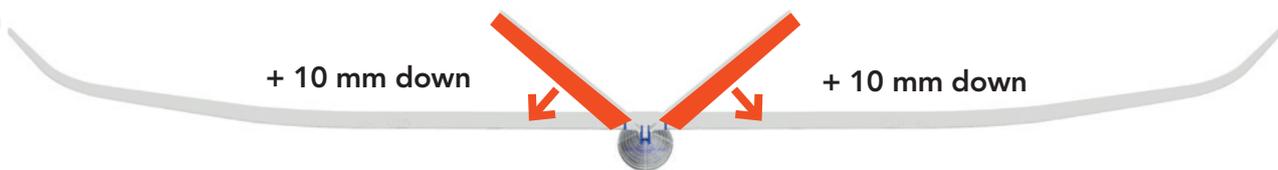
Settings for flying

When checking the control directions, **look at the aircraft from behind.**

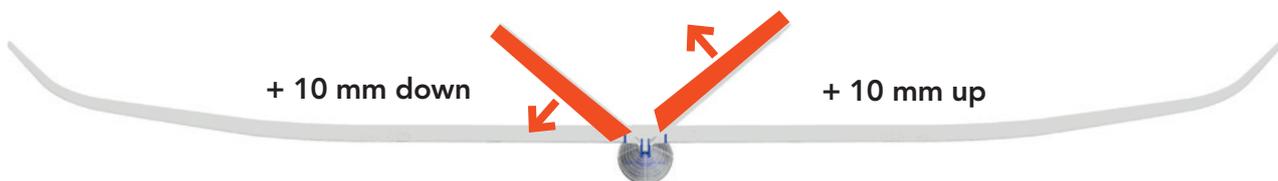
Elevator up



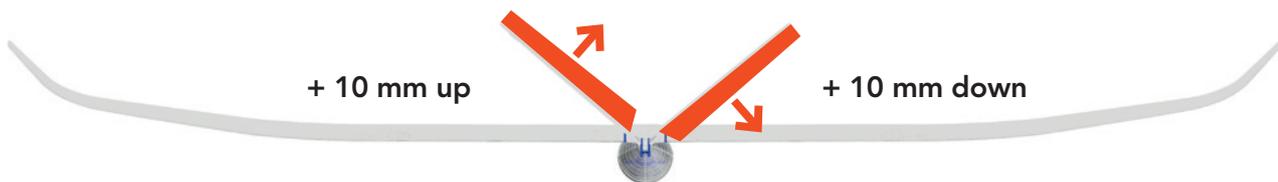
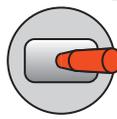
Elevator down



Rudder left

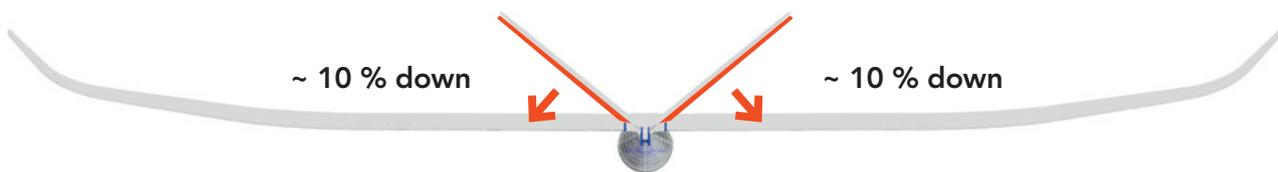


Rudder right



At full throttle the nose pulls up a bit, to avoid this you can mix some elevator down to the throttle (about 10%). But do not test this at the first start but at high altitude!

Full Throttle

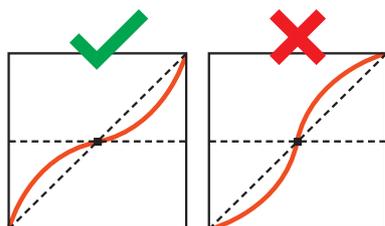


Do not forget to **program the motor brake in your controller**, otherwise the folding propeller will not stop.

Expo setting

ELEVATOR 20 %

RUDDER 20 %



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

AGE RECOMMENDATION 14+

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

The STL data (or data processed from it, such as G codes) must never be passed on to third parties!

The purchase of the STL does not authorize the production of models for third parties.

By using the download data, an RC model airplane, called „model“ for short, can be manufactured using a 3D printer. As a user of this model, only you are responsible for safe operation that does not endanger you or others, or that does not damage the model or property of others.

PLANEPRINT.com assumes no responsibility for damage to persons and property caused by pressure, transport or use of the product. Filaments, printing supplies, hardware or consumables that can not be used after faulty 3D printing will not be replaced by PLANEPRINT.com in any way.

When operating, always keep a safe distance from your model in all directions to avoid collisions and injuries.

This model is controlled by a radio signal. Radio signals can be disturbed from outside without being able to influence it. Interference can lead to a temporary loss of control.

Always operate your model on open terrains, far from cars, traffic and people.

Always follow the instructions and warnings for this product and any optional accessories (servos, receivers, motors, propellers, chargers, rechargeable batteries, etc.) carefully.

Keep all chemicals, small parts and electrical components out of the reach of children.

Avoid water contact with all components that are not specially designed and protected. Moisture damages the electronics.

Never take an item of the model or accessory in your mouth as this can lead to severe injuries or even death.

Never operate your model with low batteries in the transmitter or model.

Always keep the model in view and under control.
Use only fully charged batteries.

Always keep the transmitter switched on when the model is switched on.

Always remove the battery before disassembling the model.

Keep moving parts clean and dry at all times.

Always allow the parts to cool before touching them.

Always remove the battery after use.

Make sure that the Failsafe is properly set before the flight.

Never operate the model with damaged wiring.

Never touch moving parts.

We develop our models to the best of our knowledge and belief.
We accept no liability for consequential damage and injuries caused by improper use or incorrectly printed parts. **Please be careful when handling motors, batteries and propellers** and only move your model with insurance and in approved places!

PLANE PRINT