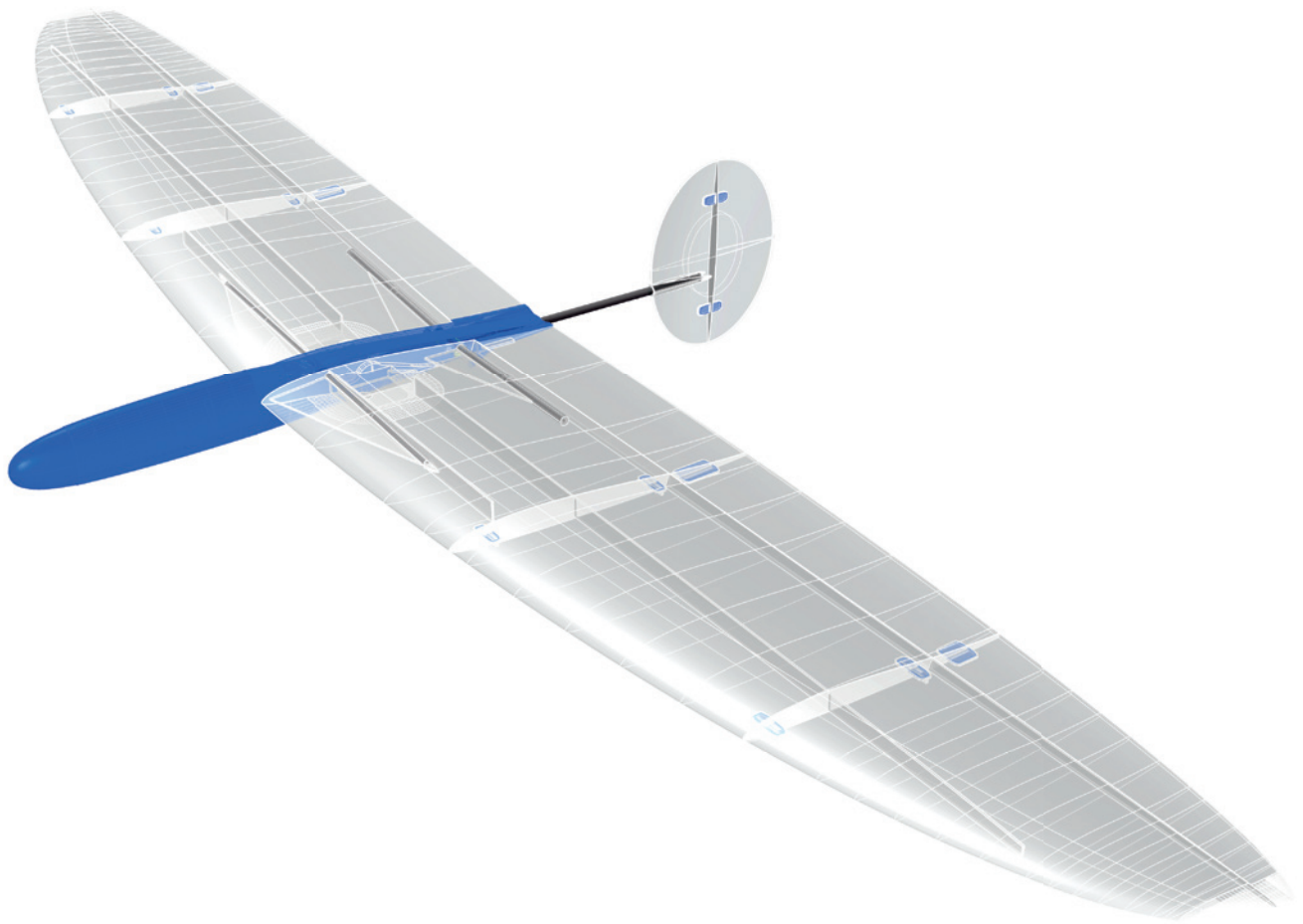# PLANE PRINT

PLANE PRINT *Halo*
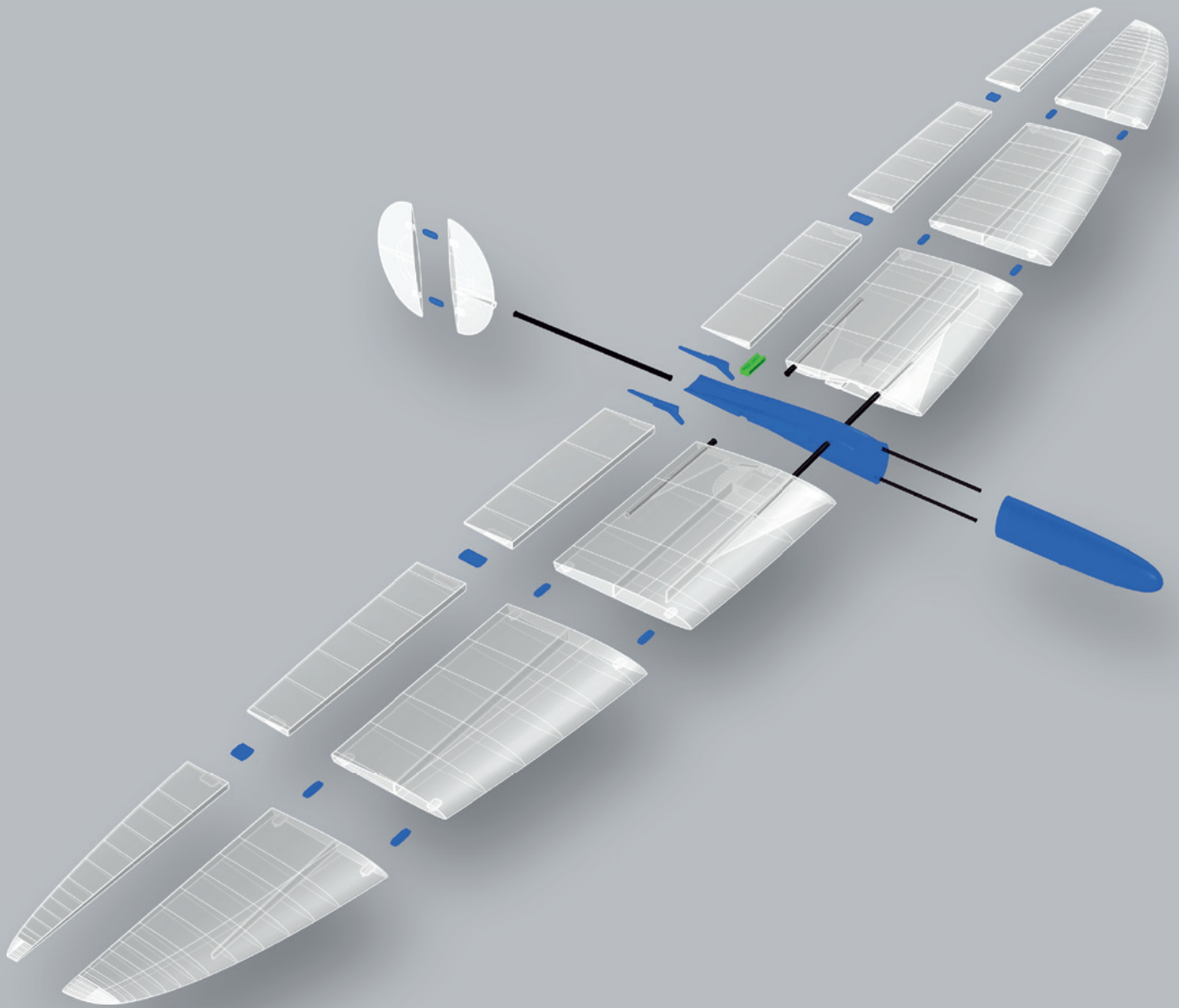
Flying wing for slope and coast flying

www.planeprint.com

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

PLANE PRINT Halo

PRINT.com

LW-PLA   PLA   TPU   CARBON

RC Components

2 Channel

If you use high voltage servos you can use a small 2S/350 mAh Lipo battery, otherwise a receiver battery (size maximum 50x27x17mm)

2 Nano Servos (8 mm thick, maximum 9 mm) for example:

- CHASERVO D S 06 high voltage (fits perfectly)
- Hitec HS 40 Eco Servo 4,8g

Required accessoires – basic equipment

- **LW-PLA (cannot be replaced by PLA or pre-foamed LW)**, ~190 grams
- **PLA** or **Tough PLA**, ~50 grams
- **TPU A95**, ~10 grams (Can be replaced by LW-PLA)

- some tapping screws Ø2mm
- CA super glue (liquid and medium)
- CA activator
- Carbon **tube** Ø5*1000mm, 1 piece
- Carbon **rod** Ø3*1000mm, 1 piece
- Steel wire Ø0.8*100mm (Ø1 also possible), 2 pieces
- UHU POR glue (or another handicraft glue)
- Fabric tape for the aileron hinges
- some lead

Tapping screws Ø2mm

Tools

- Cutter knife
- Drill Ø1.5mm
- small Phillips screwdriver
- Metal saw
- Side cutter
- Needle nose pliers
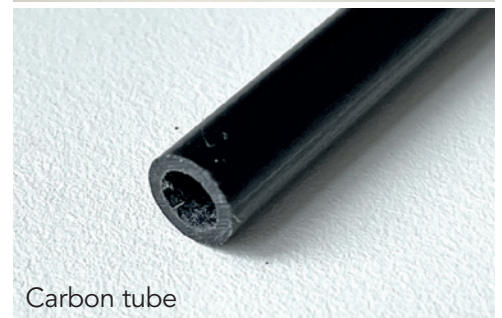
Carbon tube

Carbon rod

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:

P1 **P4** **P5**
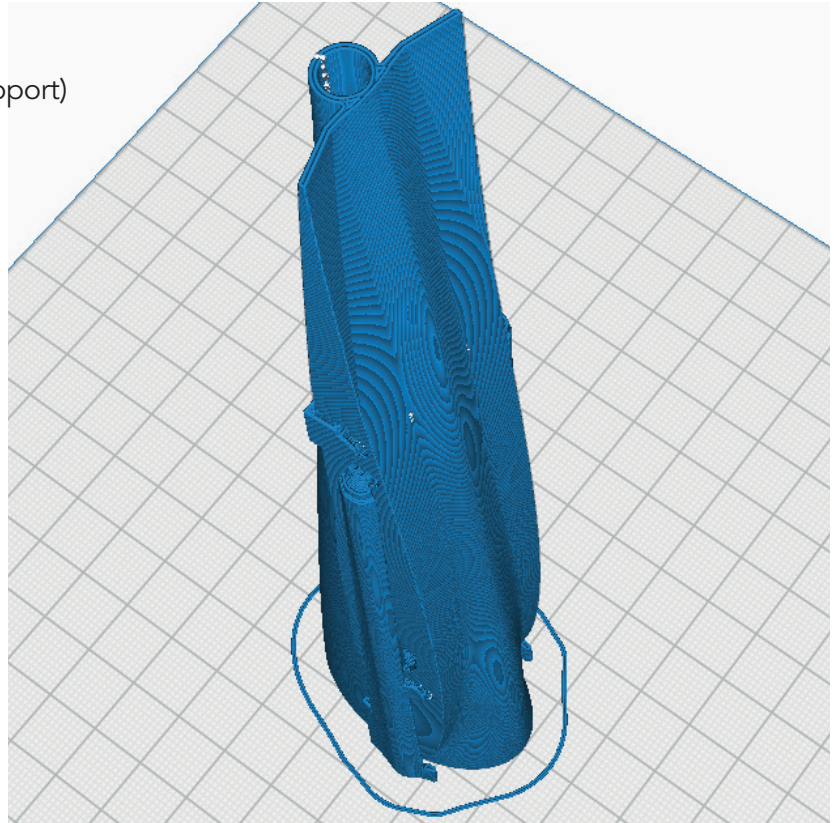
PROFILE P1_Fullbody Tough PLA or PLA

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

P1_Fuselage_halo.stl

MATERIAL   PLA, Weight: ~ 18 g (without support)

ADDITIONAL SETTINGS

• Wall Line Count/Perimeters: 1
• Infill Density/Fill Density: 6 %
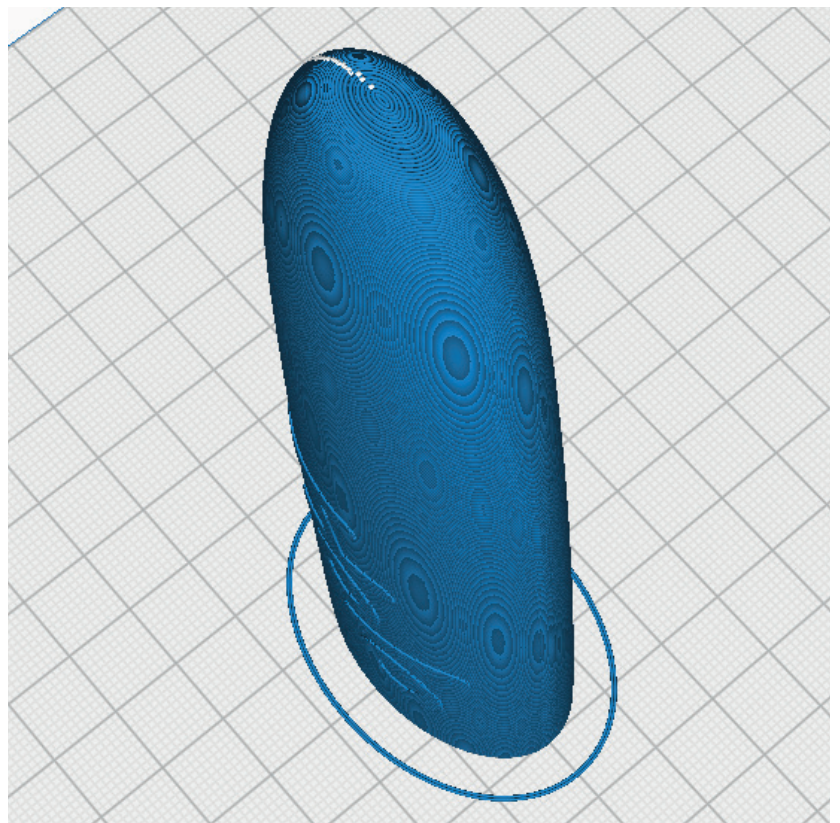• Infill Pattern/Fill Pattern: Gyroid
• set Support

P1_Nose_halo.stl

MATERIAL   PLA, Weight: ~ 19 g

ADDITIONAL SETTINGS

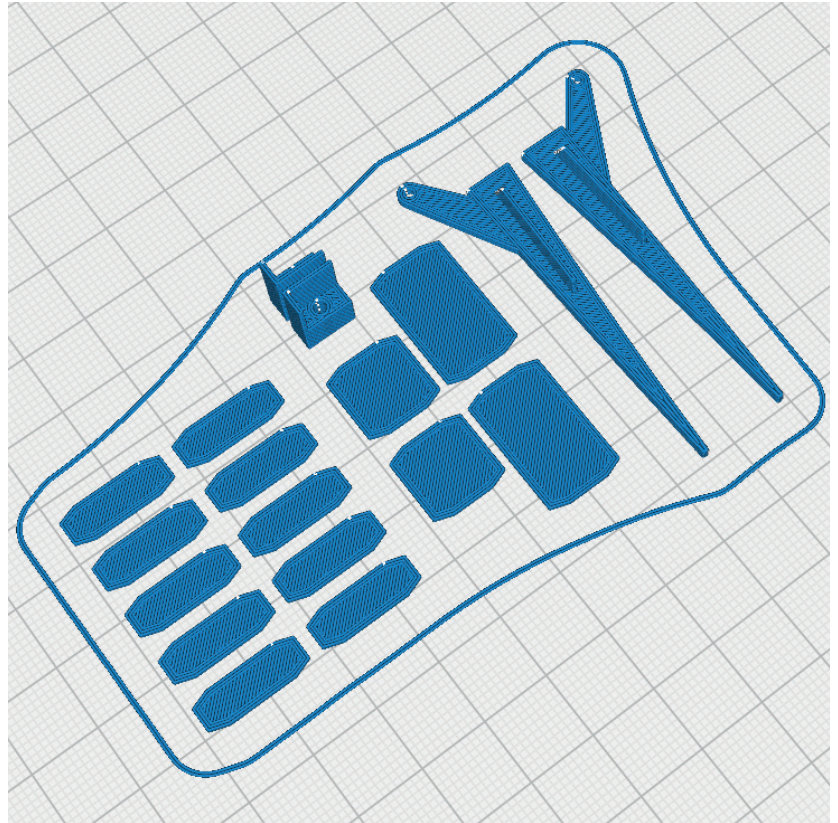None required

PROFILE P1_Fullbody Tough PLA or PLA

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

P1_Parts_halo.stl

MATERIAL   PLA, Weight: ~ 4 g

ADDITIONAL SETTINGS

None required

PROFILE P4_Flex TPU A95
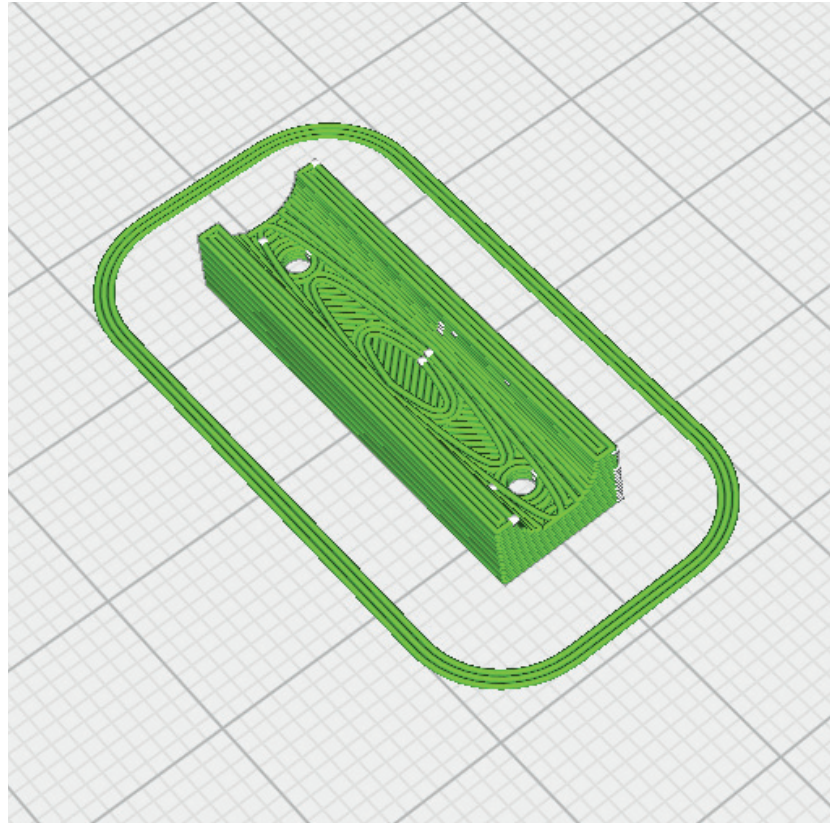
The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!

P4_Wing mount_halo.stl

MATERIAL TPU A95, Weight: ~ 1 g

ADDITIONAL SETTINGS

• Infill Density: 100 %

PROFILE P5_Gyroid Light-Weight LW-PLA!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
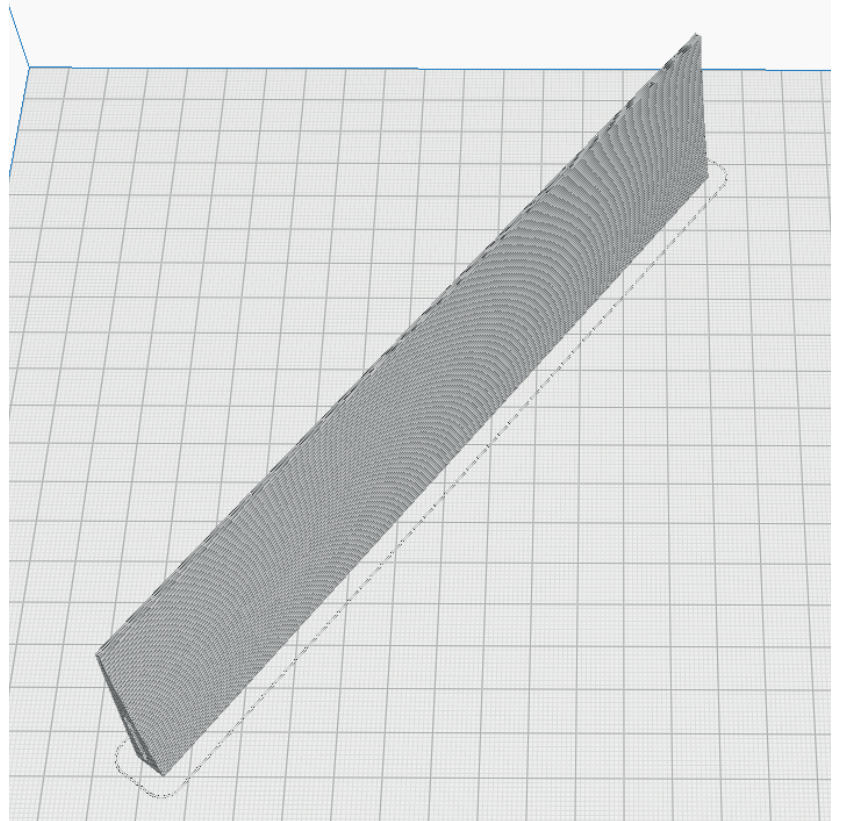**It is essential to print these parts with LW-PLA!**

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! **For optimum quality, there should only ever be one part on the build plate!**

P5_Aileron L 1_halo.stl and P5_Aileron R 1_halo.stl

MATERIAL   LW PLA, Weight: ~ 7 g

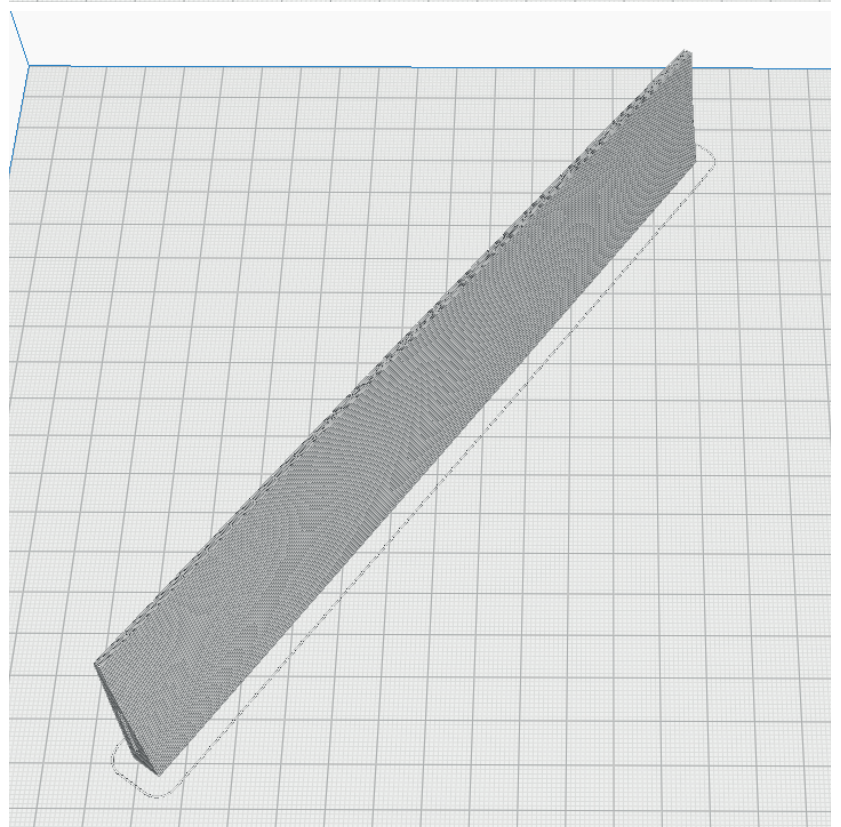**ADDITIONAL SETTINGS**

• Infill Density/Fill Density: 4 %

P5_Aileron L 2_halo.stl and P5_Aileron R 2_halo.stl

MATERIAL   LW PLA, Weight: ~ 7 g

ADDITIONAL SETTINGS

• Infill Density/Fill Density: 4 %

PROFILE P5_Gyroid Light-Weight LW-PLA!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
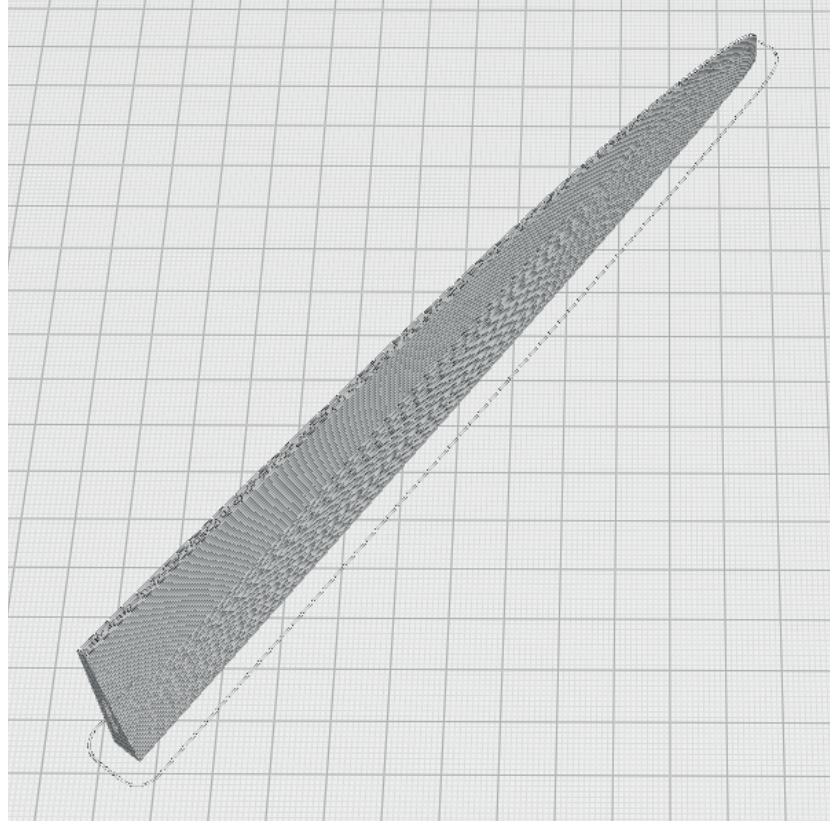**It is essential to print these parts with LW-PLA!**

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! **For optimum quality, there should only ever be one part on the build plate!**

P5_Aileron L 3_halo.stl and P5_Aileron R 3_halo.stl

MATERIAL   LW PLA, Weight: ~ 4 g

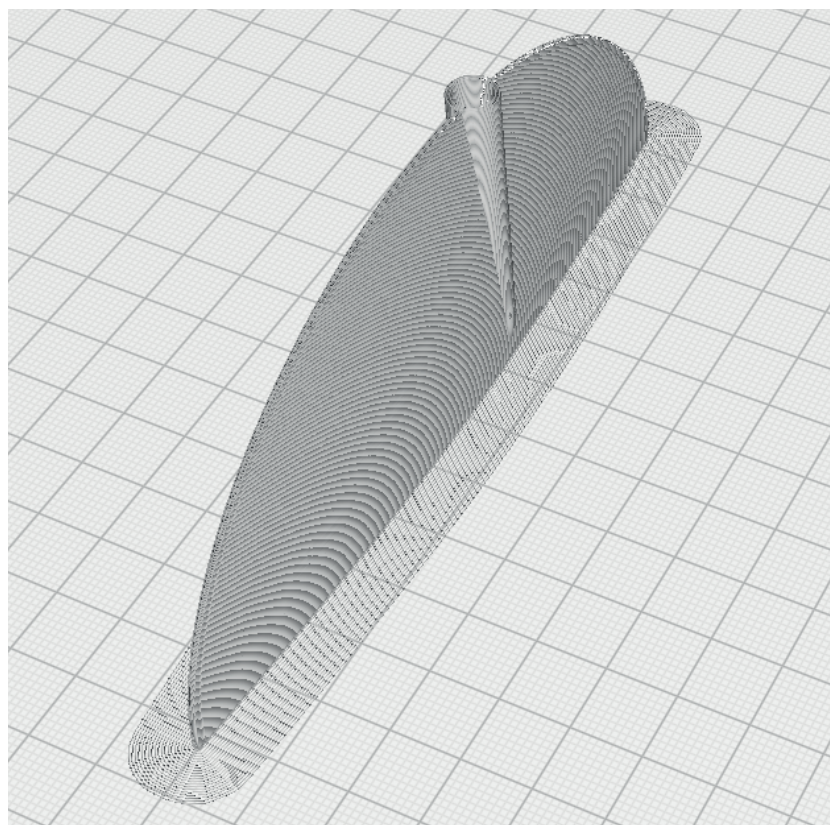**ADDITIONAL SETTINGS**

• Infill Density/Fill Density: 4 %

P5_Rudder 1_halo.stl

MATERIAL   LW PLA, Weight: ~ 4 g

ADDITIONAL SETTINGS

• Infill Density/Fill Density: 4 %
• set Brim

PROFILE P5_Gyroid Light-Weight LW-PLA!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
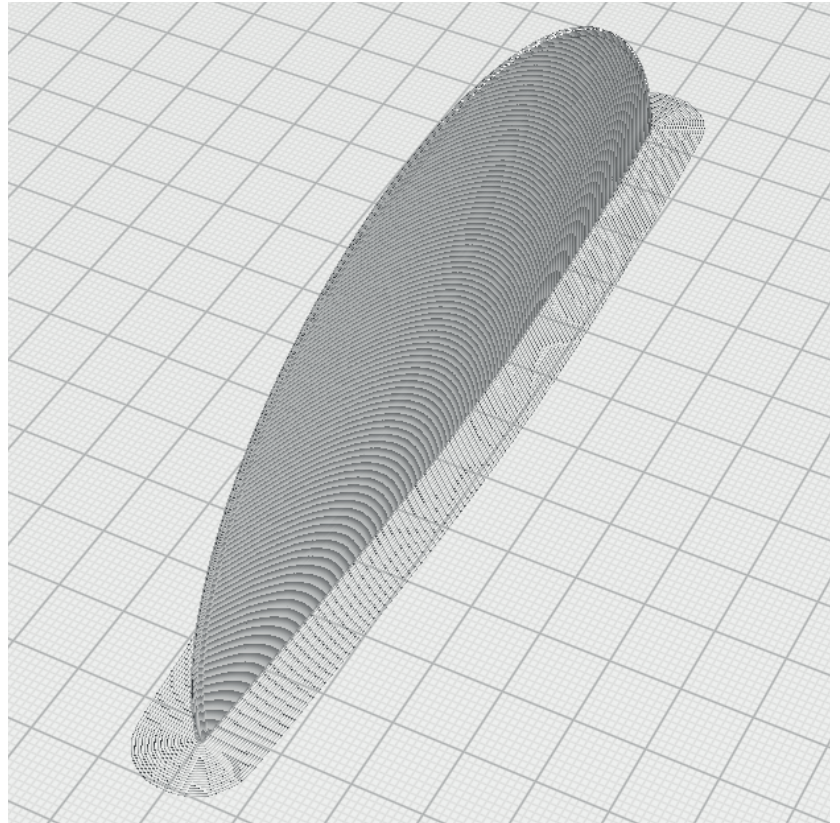**It is essential to print these parts with LW-PLA!**

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! **For optimum quality, there should only ever be one part on the build plate!**

P5_Rudder 2_halo.stl

MATERIAL   LW PLA, Weight: ~ 4 g

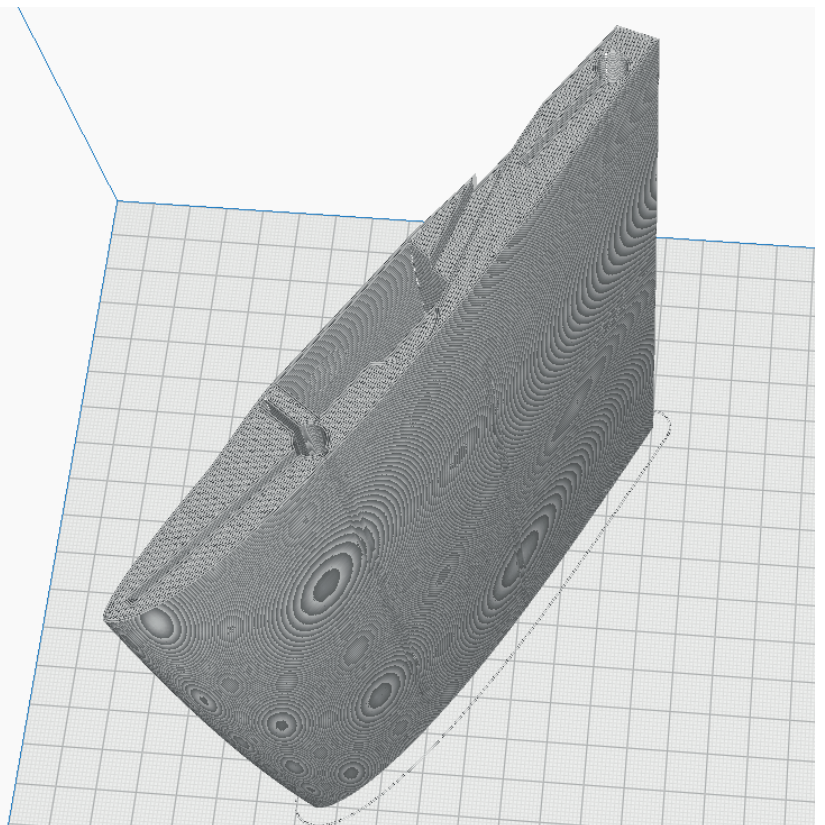**ADDITIONAL SETTINGS**

• Infill Density/Fill Density: 4 %
• set Brim

P5_Wing L 1_halo.stl and P5_Wing R 1_halo.stl

MATERIAL   LW PLA, Weight: ~ 33 g

ADDITIONAL SETTINGS

• Infill Density/Fill Density: 4 %

PROFILE P5_Gyroid Light-Weight LW-PLA!

The information about the basic settings you can find on our website at PRINT.
Please note the additional settings for the individual parts!
**It is essential to print these parts with LW-PLA!**

Basic settings for LW-PLA: Please follow the instructions in our **WINGTEST AND CALIBRATION TOOL** on our website for correct adjustment! **For optimum quality, there should only ever be one part on the build plate!**

P5_Wing L 2_halo.stl and
P5_Wing R 2_halo.stl

`MATERIAL` LW PLA, Weight: ~ 24 g

`ADDITIONAL SETTINGS`

• Infill Density/Fill Density: 4 %
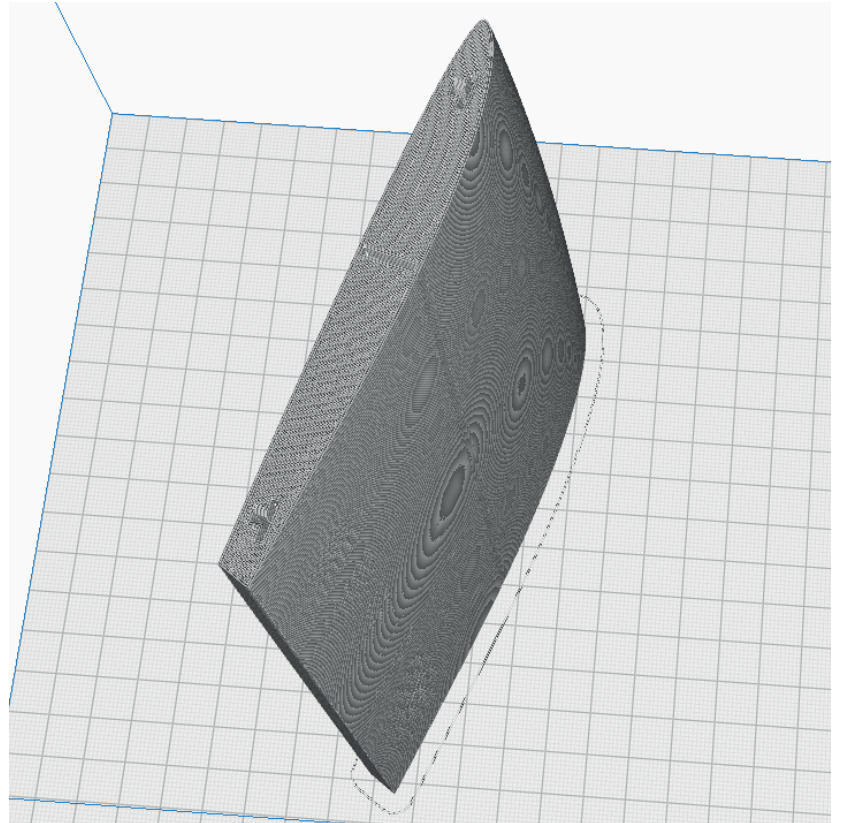
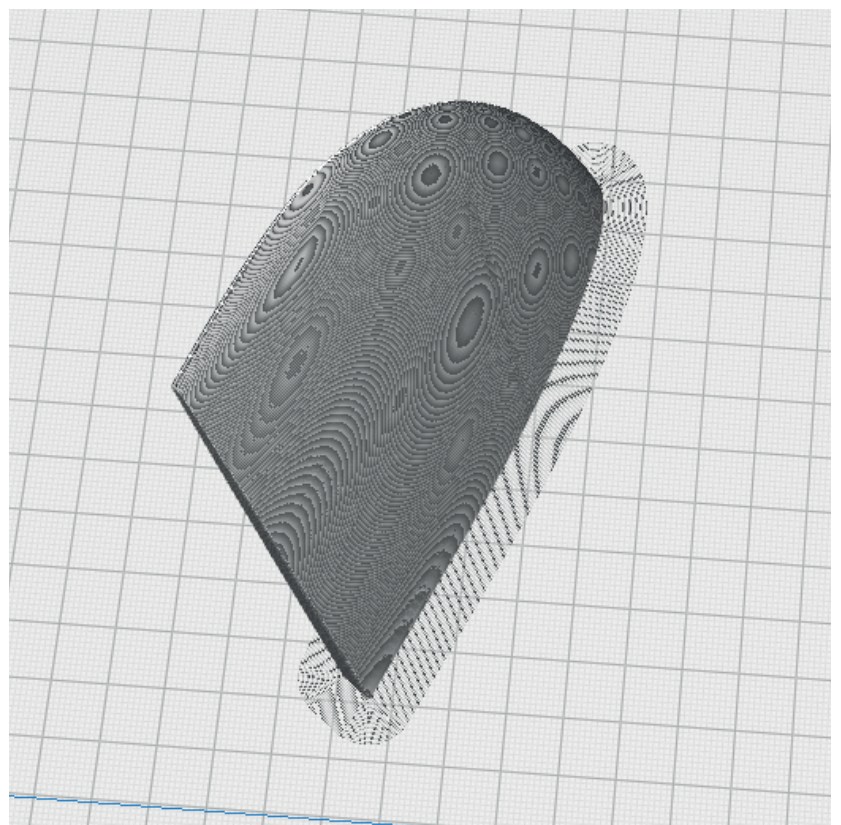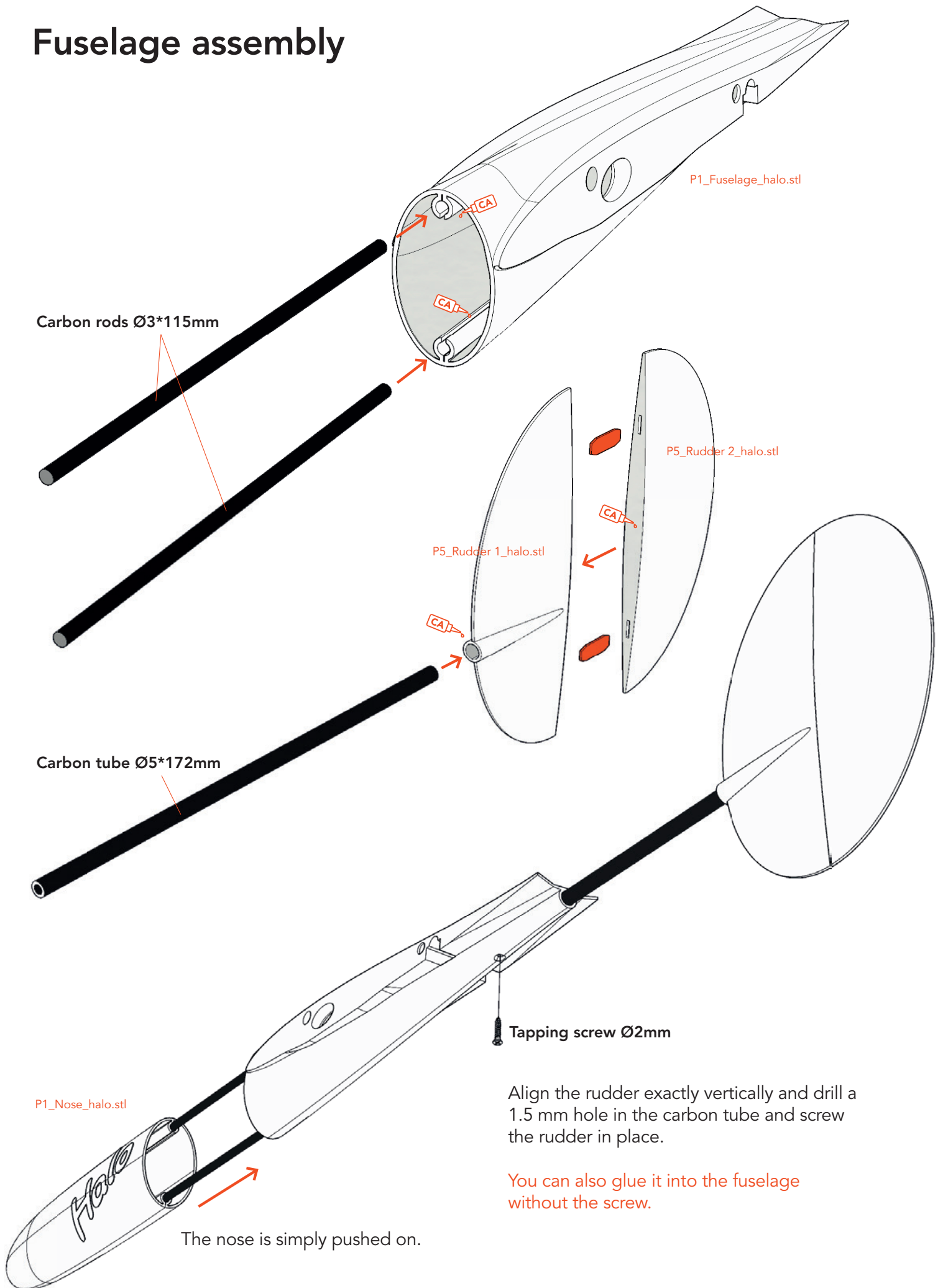**P5_Wing L 3_halo.stl** and
P5_Wing R 3_halo.stl

`MATERIAL` LW PLA, Weight: ~ 13 g

`ADDITIONAL SETTINGS`

• Infill Density/Fill Density: 4 %
• set Brim

Fuselage assembly

P1_Fuselage_halo.stl

Carbon rods Ø3*115mm

P5_Rudder 2_halo.stl

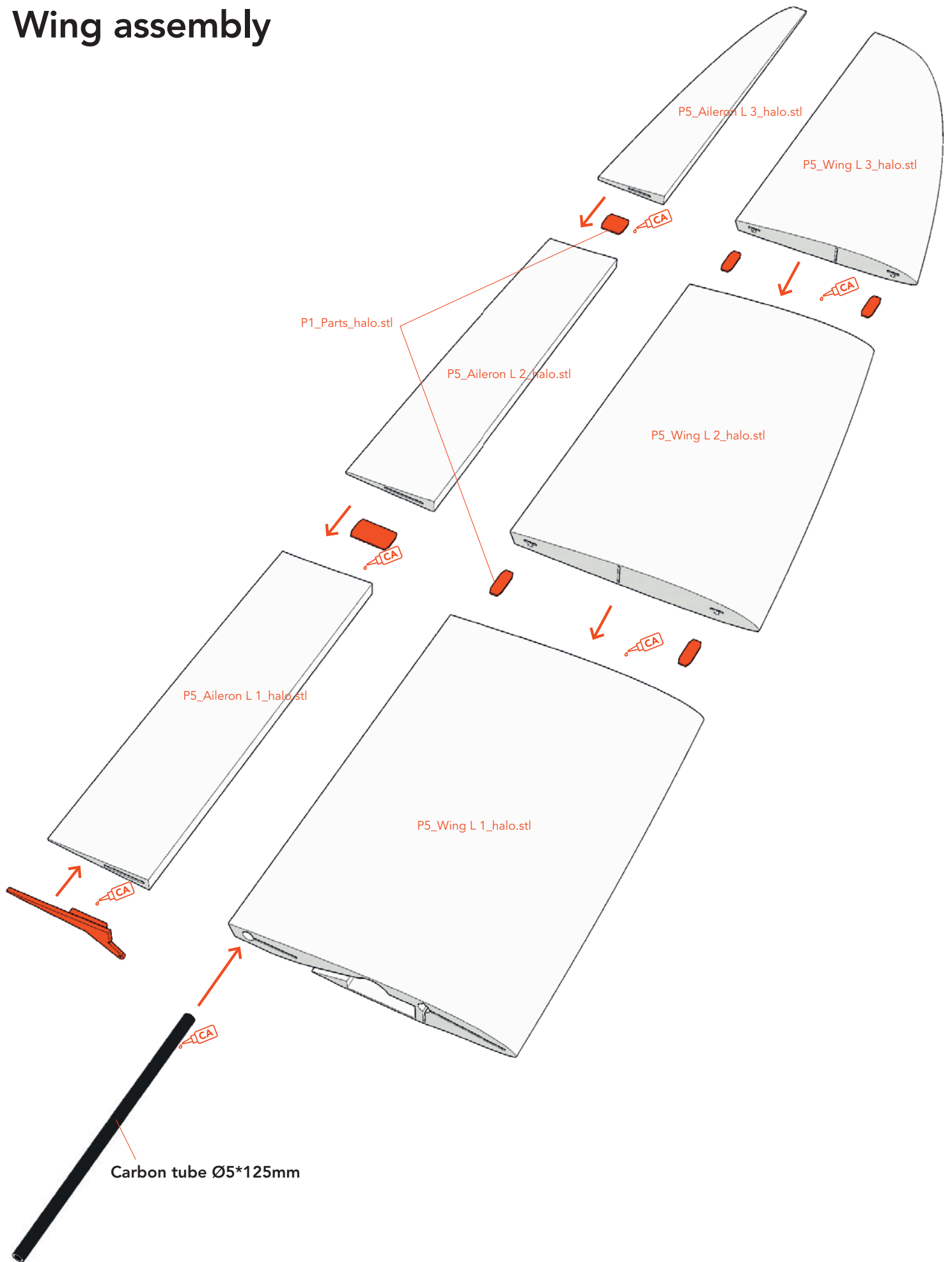P5_Rudder 1_halo.stl

Carbon tube Ø5*172mm

Tapping screw Ø2mm

P1_Nose_halo.stl

Align the rudder exactly vertically and drill a 1.5 mm hole in the carbon tube and screw the rudder in place.

You can also glue it into the fuselage without the screw.

The nose is simply pushed on.

Wing assembly

P5_Aileron L 3_halo.stl

P5_Wing L 3_halo.stl

CA

P1_Parts_halo.stl

P5_Aileron L 2_halo.stl

CA

P5_Wing L 2_halo.stl

CA

P5_Aileron L 1_halo.stl

CA

P5_Wing L 1_halo.stl

CA

Carbon tube Ø5*125mm

Aileron assembly

The hinges are simply made with **adhesive tape**. To ensure that the tape holds well, you should coat the gluing area (LW PLA) with UHU (or UHU POR) beforehand. Once the adhesive has dried, stick the tape first to the wing and then to the aileron. **Leave a small gap so that the ailerons can be moved easily.**

Tape
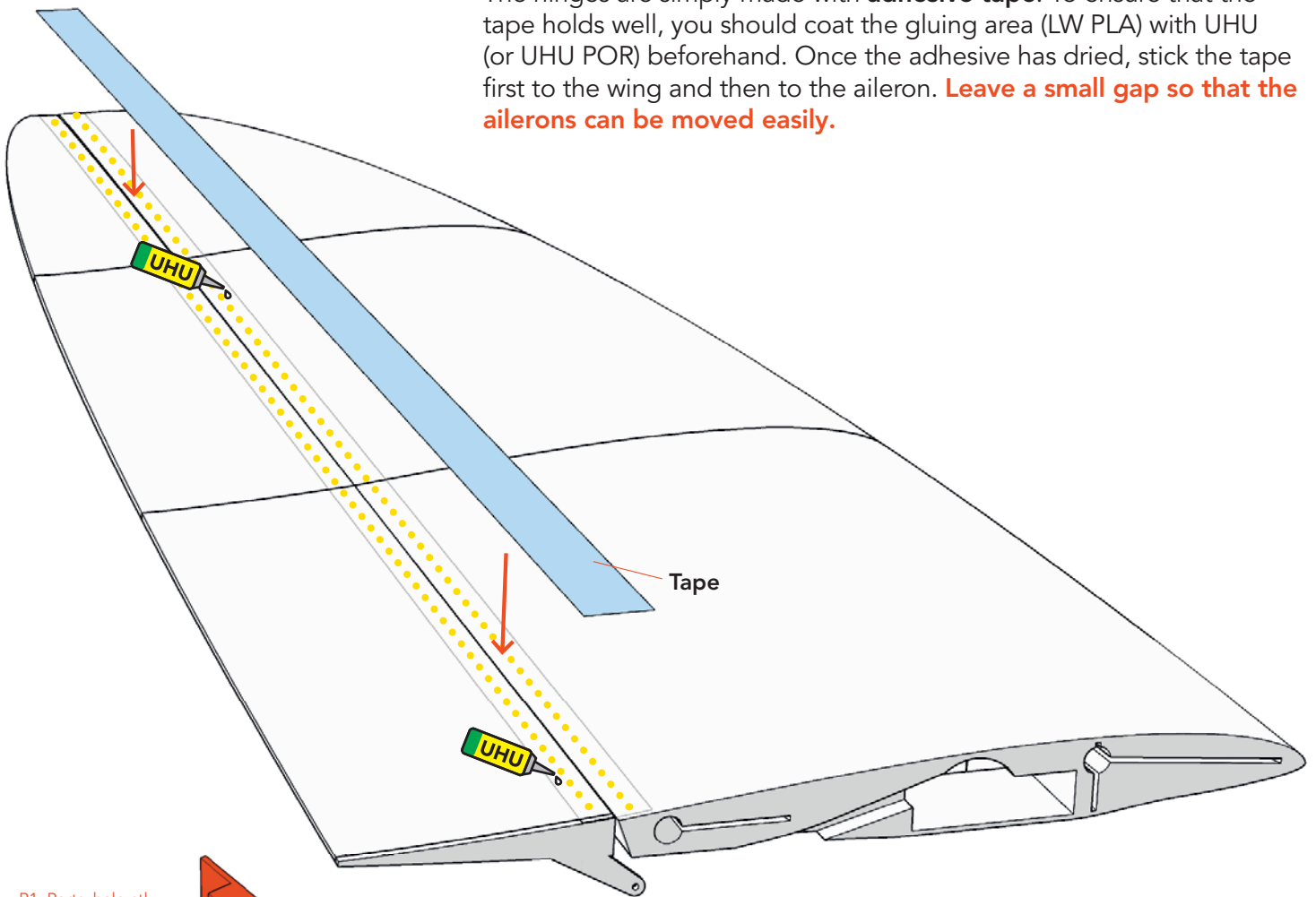
P1_Parts_halo.stl
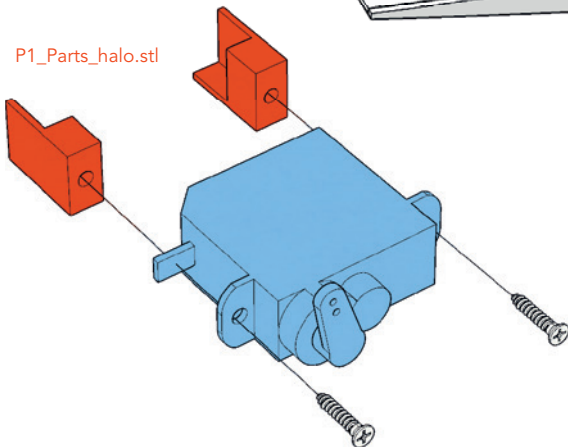
Screw the servo brackets to the servo and position the servo in the wing as shown here. The servo arm must be at 90° to the wire at zero position. When the position is correct, carefully let some CA glue run to the servo brackets without touching the servo or the wire. Then carefully unscrew the servo and glue the brackets firmly in place.
The servo must not protrude over the wing!

Steel wire Ø0.8*66.4mm

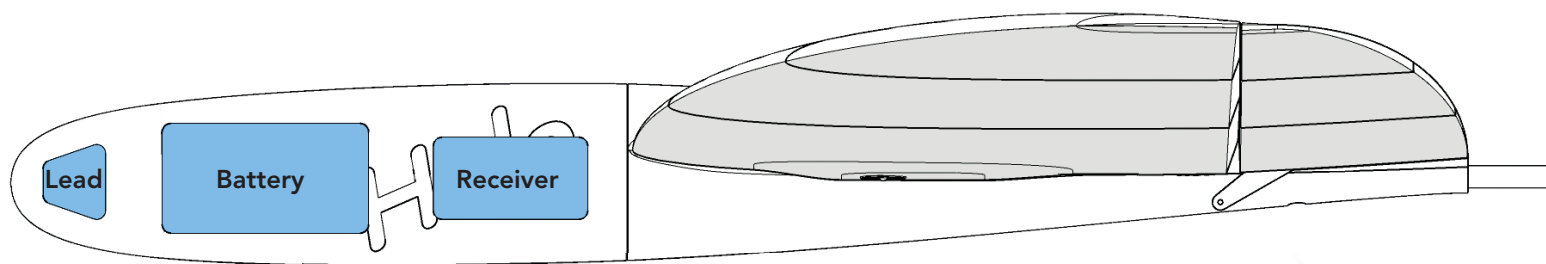The servo must be as close as possible to the underside of the wing.
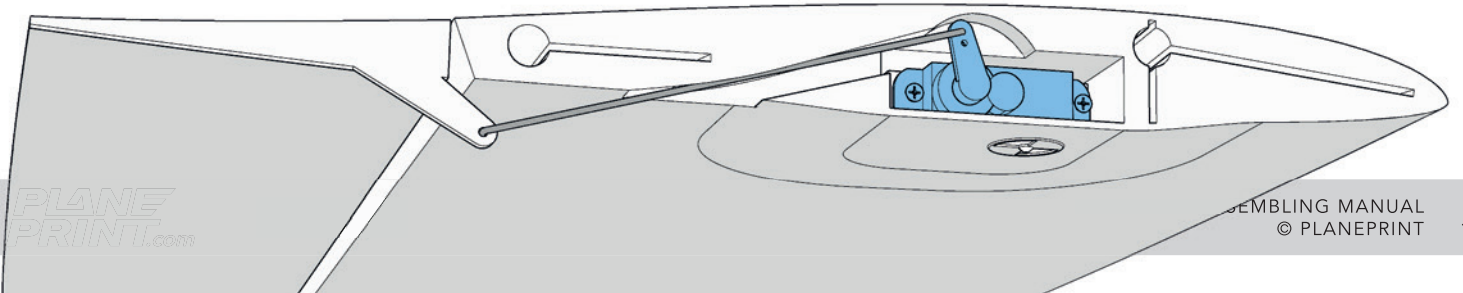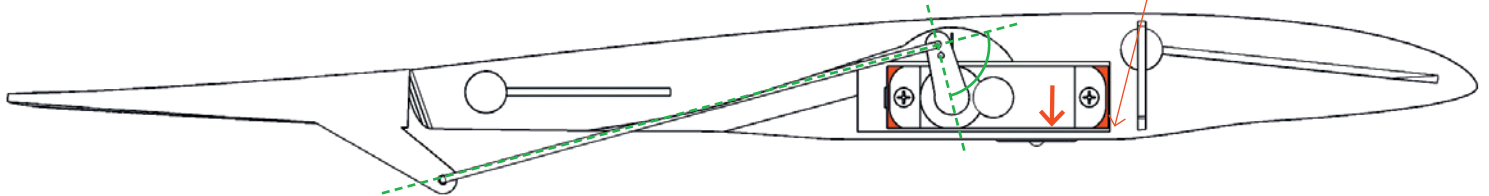
Wing fastening

Insert the TPU mount into the fuselage and the wings too. Then drill the two 1.5 mm holes in the carbon tubes. Be careful not to split them! Screw in the sheet metal screws very carefully the first time so as not to damage the carbon tube.

TIP You can glue a piece of the 3 mm carbon rod into the 5 mm carbon tube before drilling, this variant is much more durable.

Carbon tube Ø5*250mm

P4_Wing mount_halo.stl
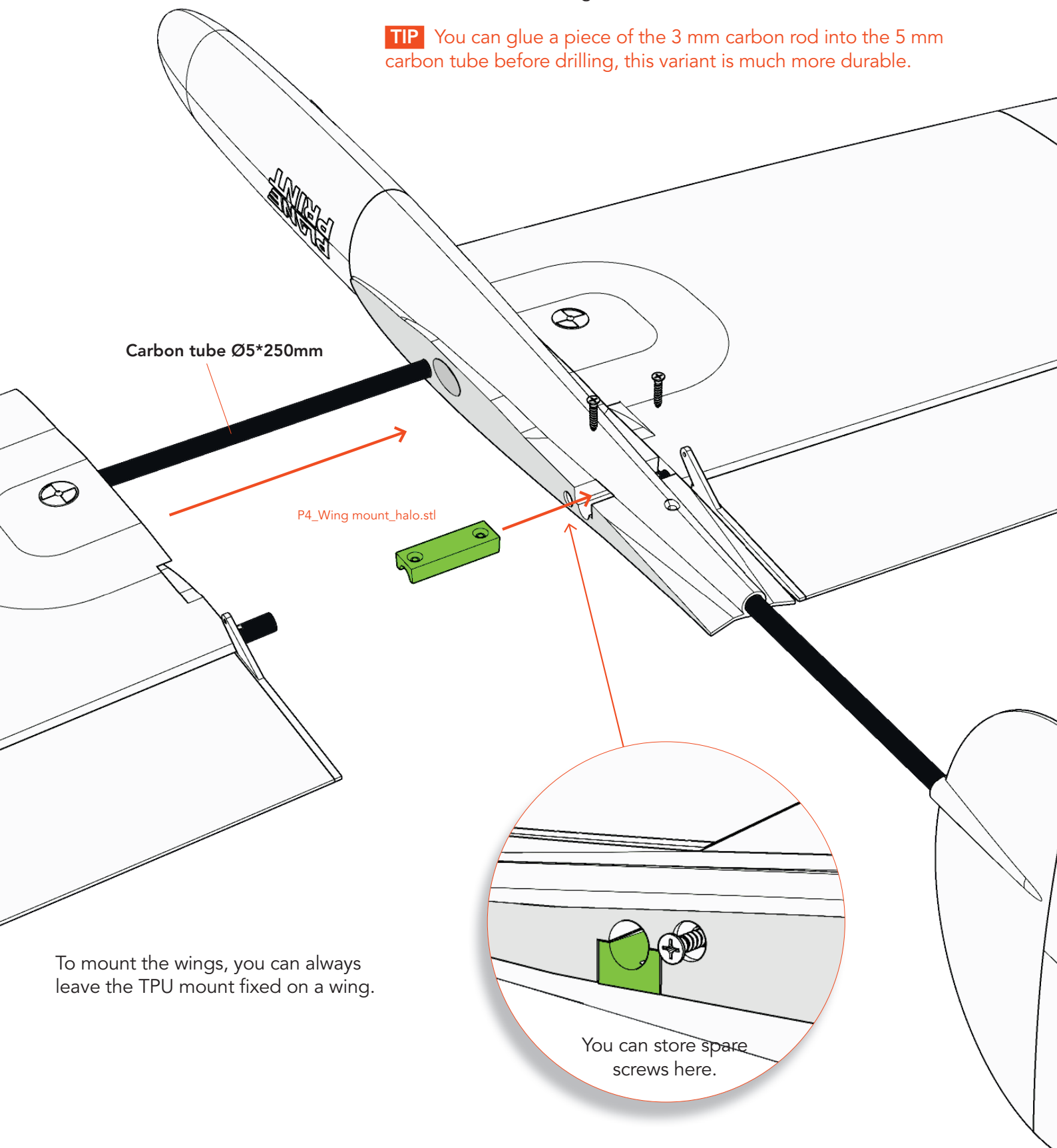
To mount the wings, you can always leave the TPU mount fixed on a wing.

You can store spare screws here.

RC components

Lead | Battery | Receiver
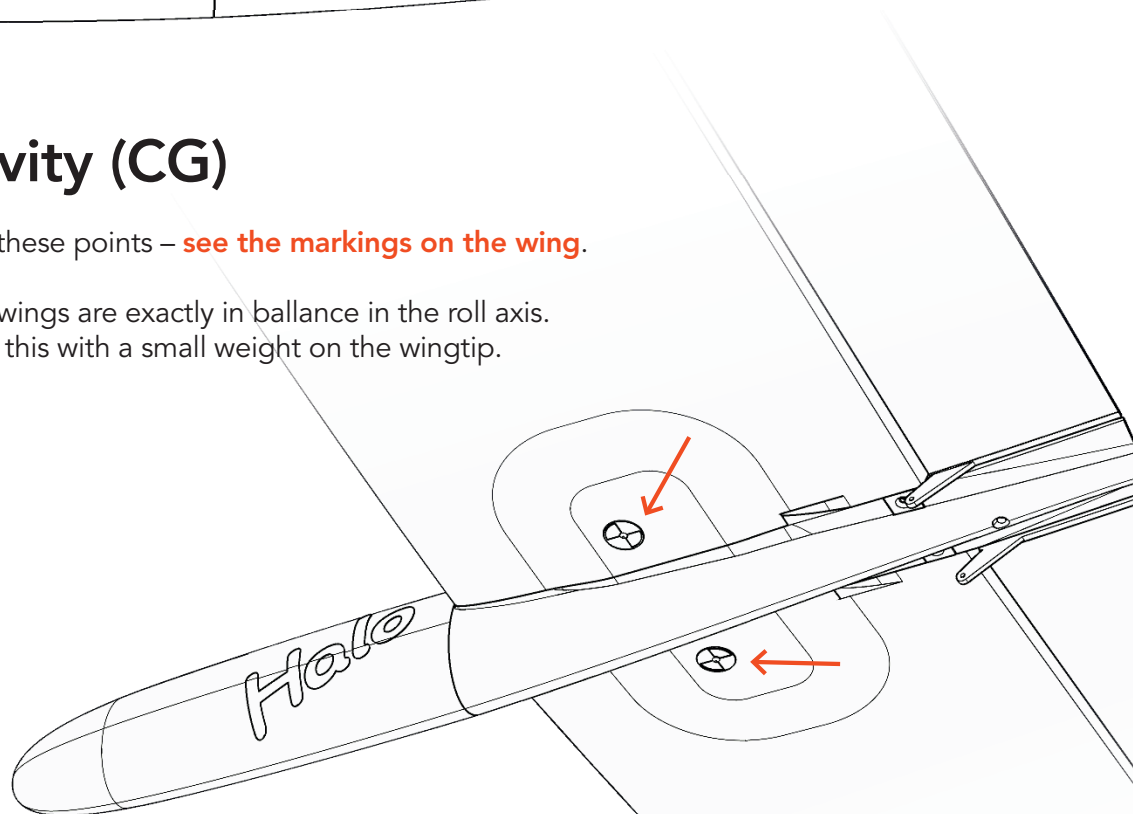
Center of Gravity (CG)

The aircraft must balance on these points – **see the markings on the wing**.

Do not forget to check if the wings are exactly in ballance in the roll axis.
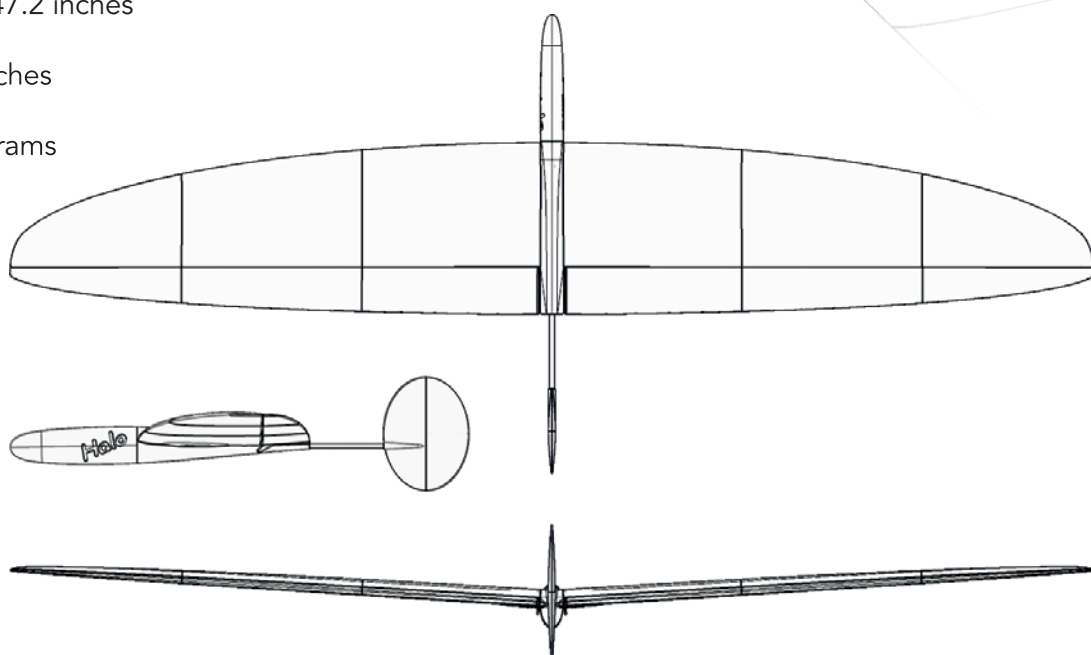If one wing is heavier, correct this with a small weight on the wingtip.

Technical specifications

WINGSPAN 1200 mm/47.2 inches
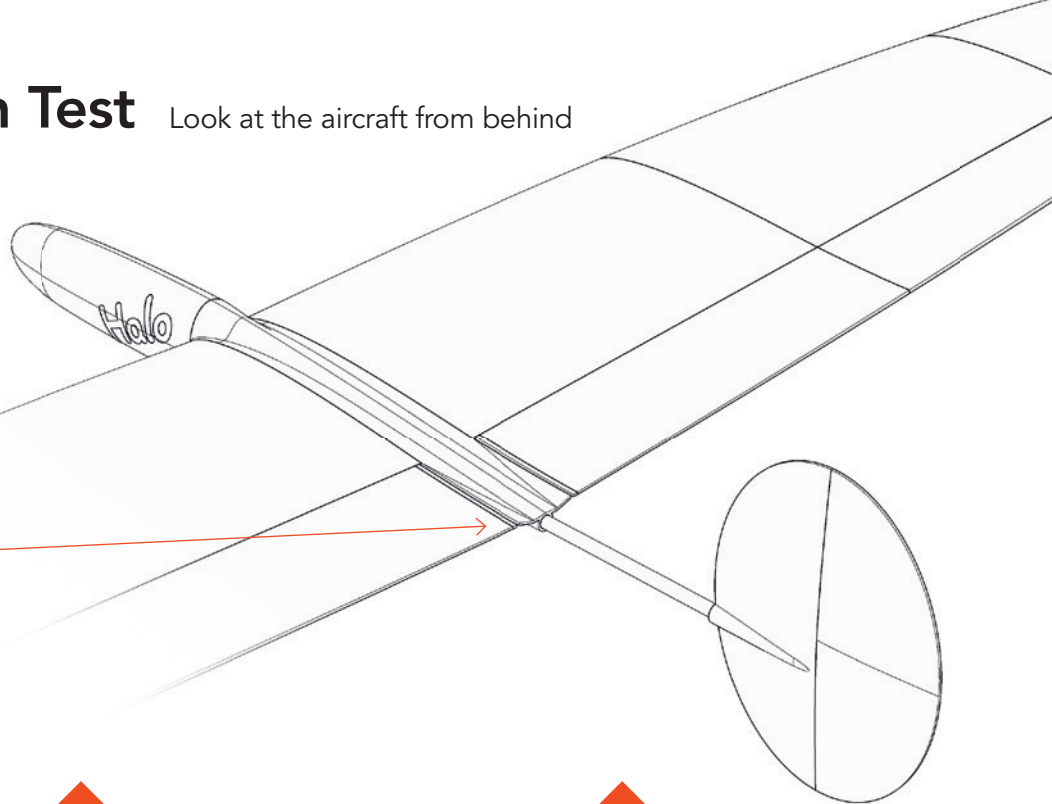
LENGTH 508 mm/20 inches

FLIGHT WEIGHT 330 grams
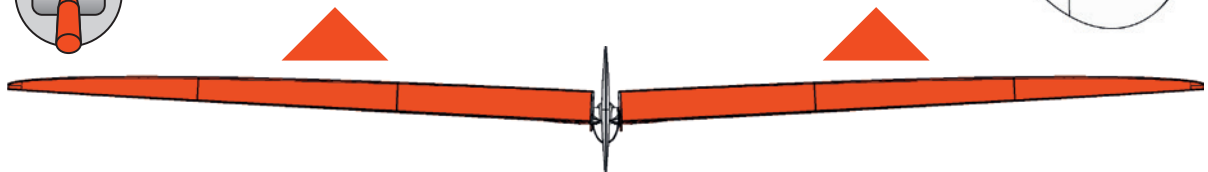
WING LOAD 20 g/dm^2

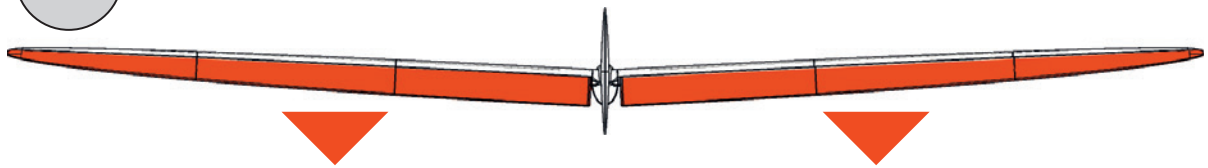# Control Direction Test
Look at the aircraft from behind

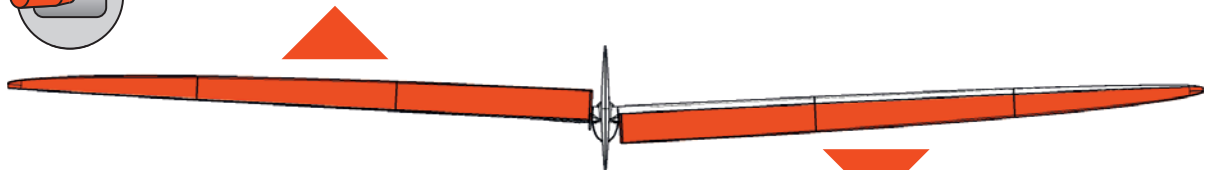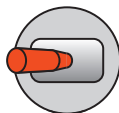As a basic setting (zero position), the ailerons are exactly aligned with the fuselage position.
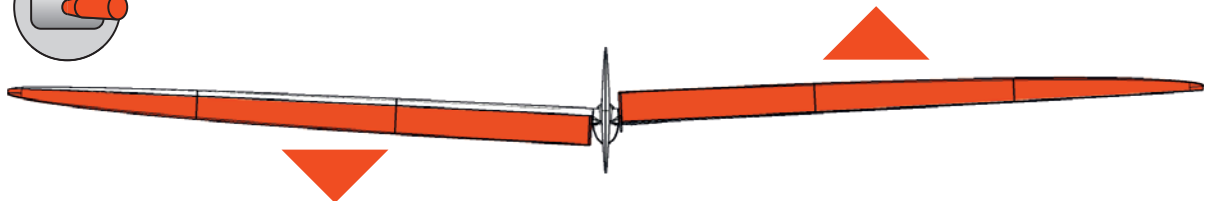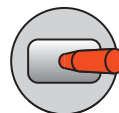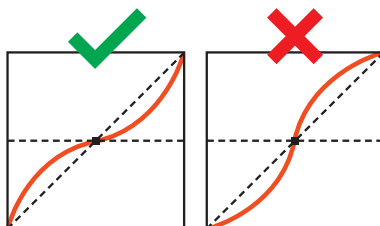
ELEVATOR

10 to 12 mm

10 to 12 mm

AILERON

10 to 12 mm

10 to 12 mm

EXPO

ELEVATOR 70 %

AILERON 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