

ASK14



NOTE: Slicing only works with CURA!



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

PRINTING THE PARTS – PRINTING PROFILES

You may wonder why this 3D model is suitable exclusively for CURA right?

The most important thing about small RC model airplanes is always the ratio of size to weight. 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 make Weights relevant items in a **true 1-wall printing process** for the outer skin but also for the filling offer. So we save weight while maintaining the necessary stability.

Here we show you how to get started from a standard CURA profile Make settings. For this model we only need 4, easy to create profiles.

It is **absolutely necessary** to observe the information provided by **PLANEPRINT.com** in order: to slice the component correctly. However, it may make sense to perfect your 3D printing by additionally performing several hiring activities depending on your printer and the 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!

PROFILE P1_FULLBODY

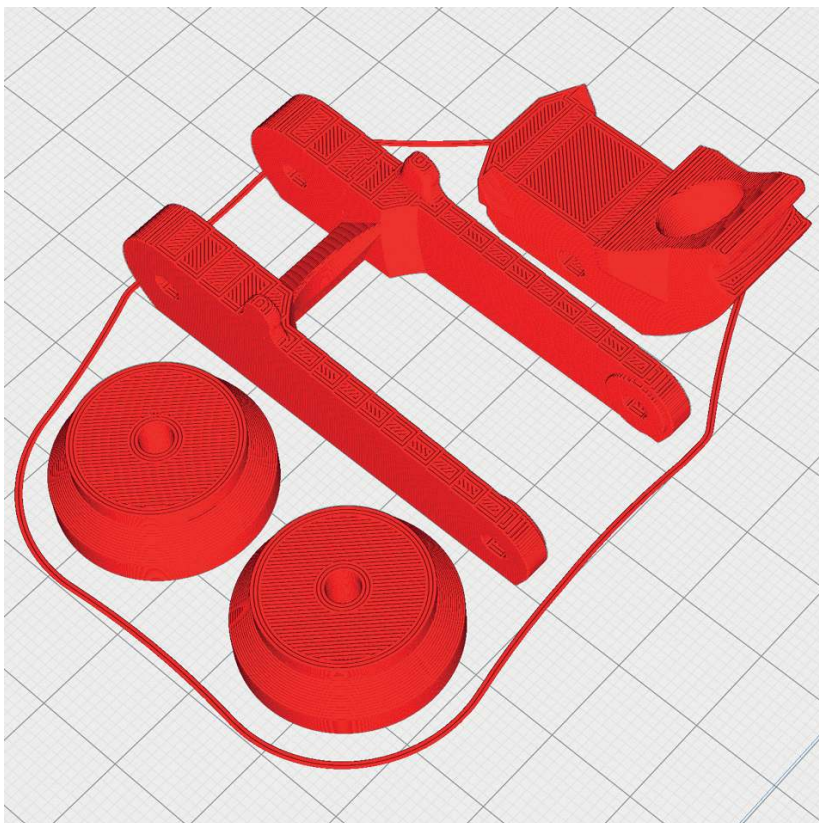
The following parts must be sliced with the PROFILE P1_FULLBODY.
Please note the additional settings for the individual parts!

ask_Gear_profile1.stl

MATERIAL PLA, Weight: ~ 17 g

ADDITIONAL SETTINGS

- Wall Line Count 10



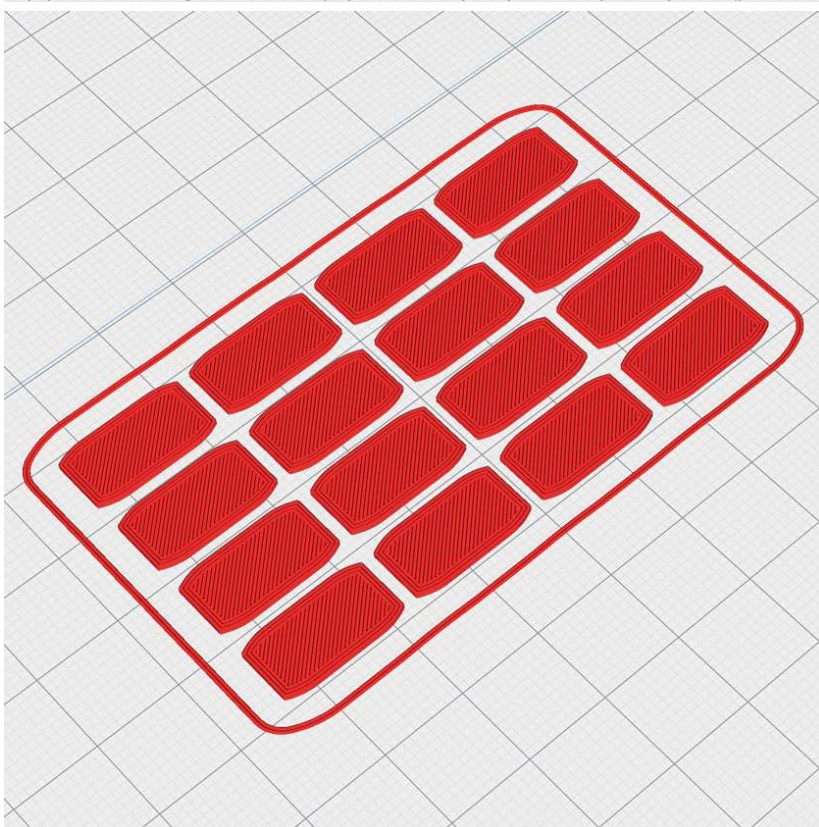
ask_Interconnects_profile1.stl

MATERIAL PLA, ~ 2 g

ADDITIONAL SETTINGS

None required

We recommend transparent PLA, so you can not see them against the light.



PROFILE P1_FULLBODY

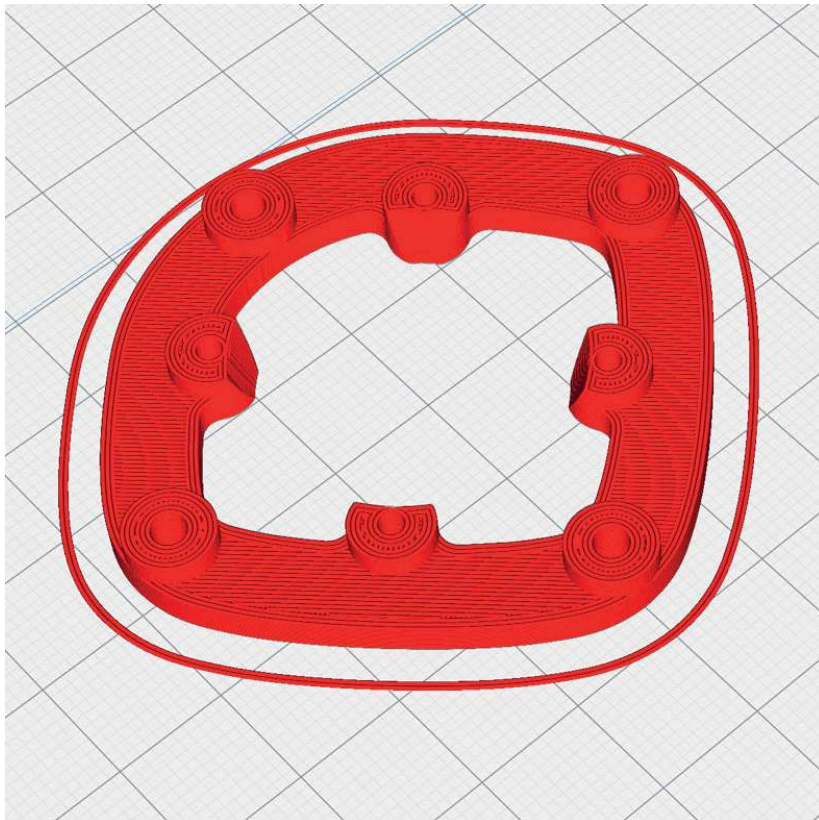
The following parts must be sliced with the PROFILE P1_FULLBODY.
Please note the additional settings for the individual parts!

ask_Motormount_33mm_profile1.stl

MATERIAL PLA, ~ 5 g

ADDITIONAL SETTINGS

None required

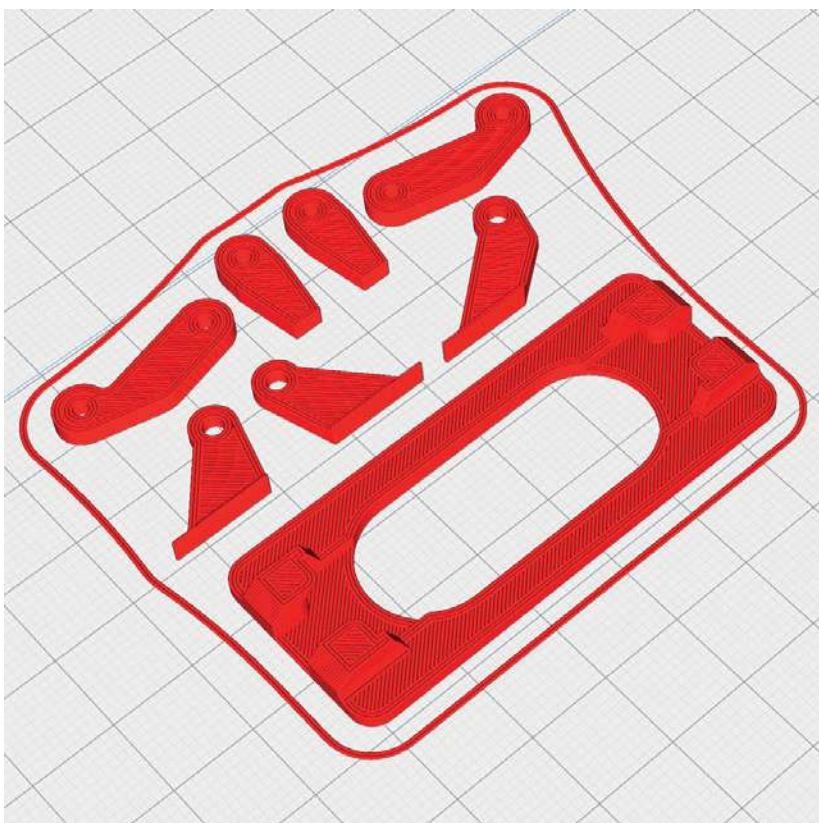


ask_Parts 1_profile1.stl

MATERIAL PLA, ~ 5 g

ADDITIONAL SETTINGS

None required



PROFILE P1_FULLBODY

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

ask_Parts 2_profile1.stl

MATERIAL PLA, ~ 5 g

ADDITIONAL SETTINGS

None required

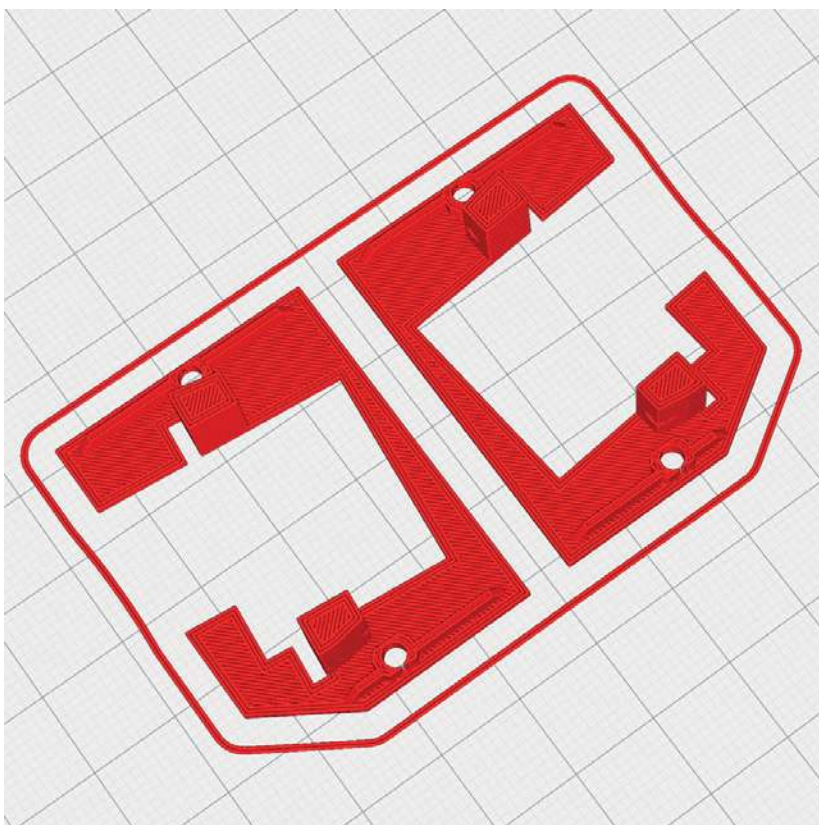


ask_Servocover-xxx_profile1.stl

MATERIAL PLA, ~ 3 g

ADDITIONAL SETTINGS

None required



PROFILE P1_FULLBODY

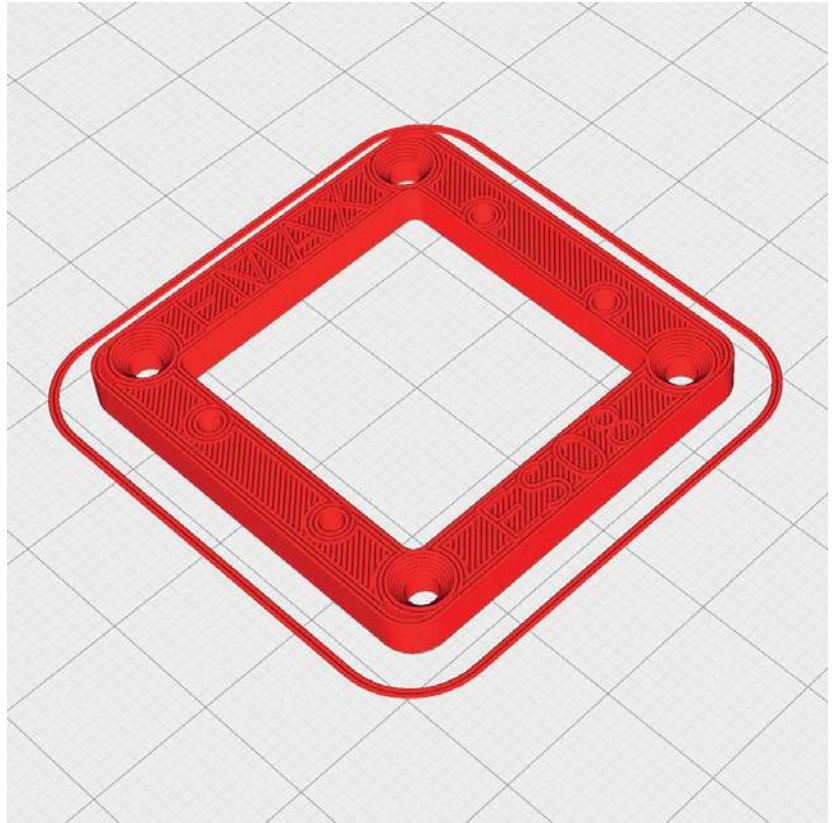
The following parts must be sliced with the PROFILE P1_FULLBODY.
Please note the additional settings for the individual parts!

ask_Servoframe-ES08orHS-55_
profile1.stl

MATERIAL PLA, ~ 3 g

ADDITIONAL SETTINGS

None required

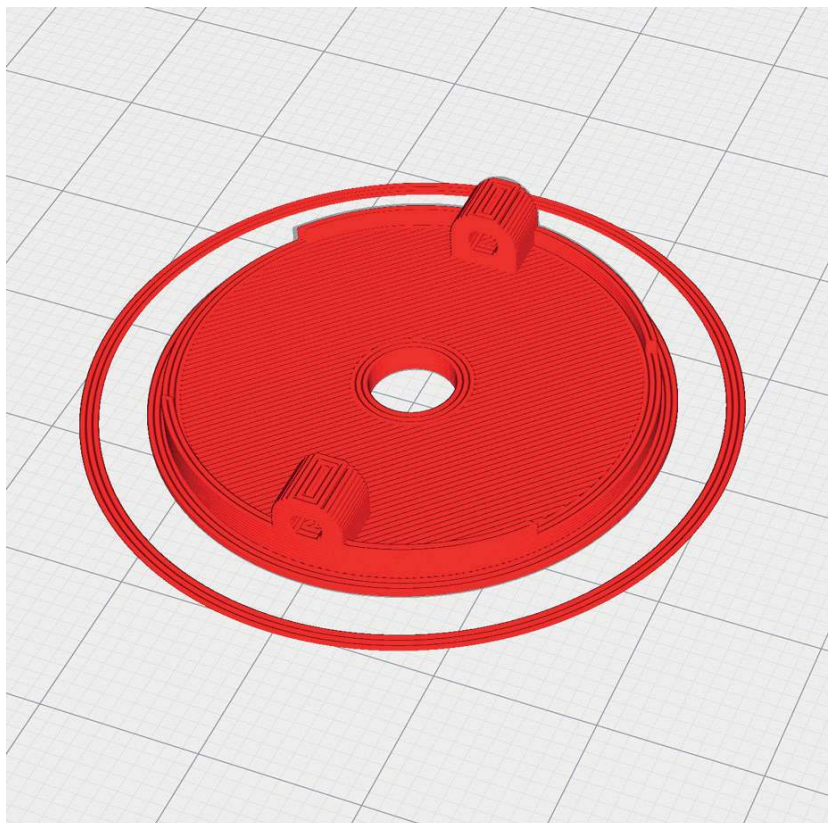


ask_Spinner-plate_profile1.stl

MATERIAL PLA, ~ 2 g

ADDITIONAL SETTINGS

None required



PROFILE P2_HOLLOWBODY

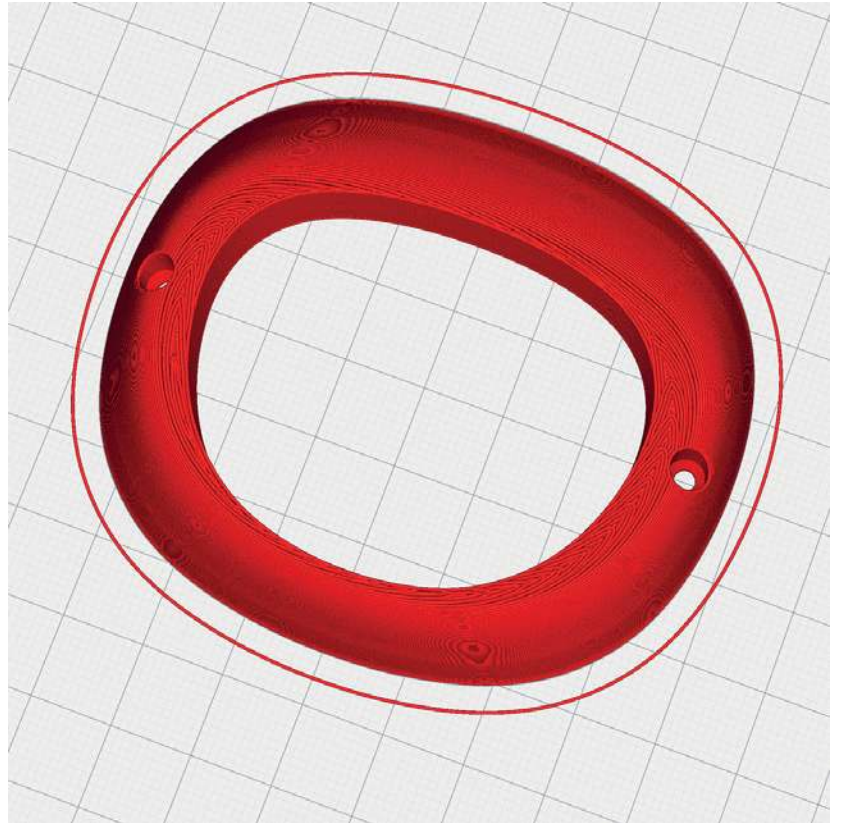
The following parts must be sliced with the PROFILE P2_HOLLOWBODY.
Please note the additional settings for the individual parts!

ask_Cowling 2_Profile2.stl

MATERIAL PLA, ~ 9 g

ADDITIONAL SETTINGS

- Bottom Layers: 1
- Top Layers: 3
- Adaptive Layers: checked



PROFILE P3_SURFACE

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).

Please note the additional settings for the individual parts!

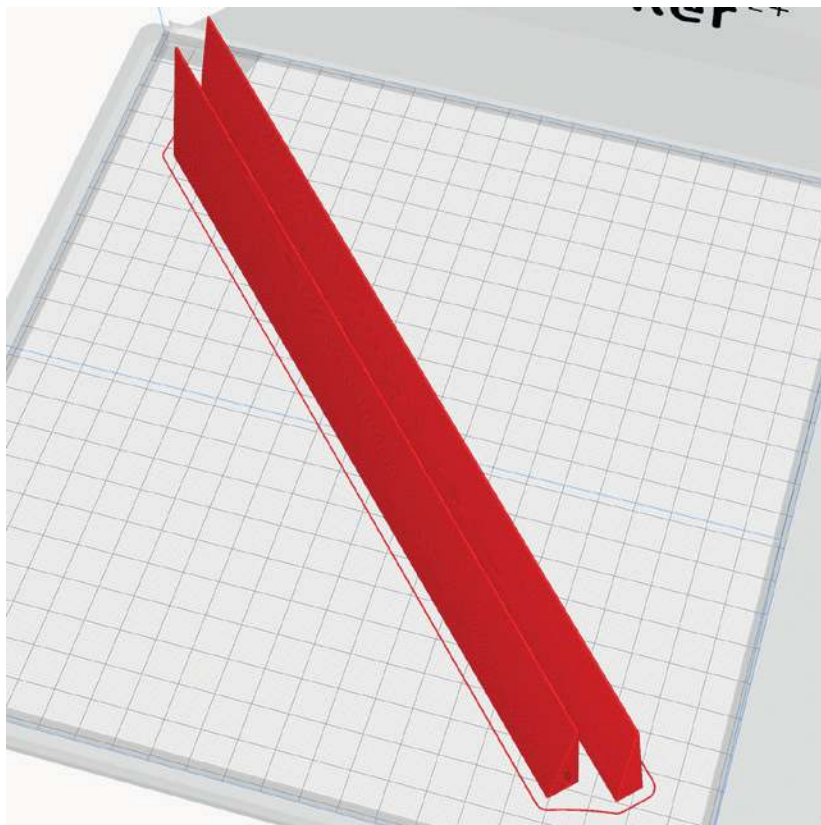
PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

ask_Aileron-xxx_profile3.stl

MATERIAL PLA, ~ 23 g

ADDITIONAL SETTINGS

None required



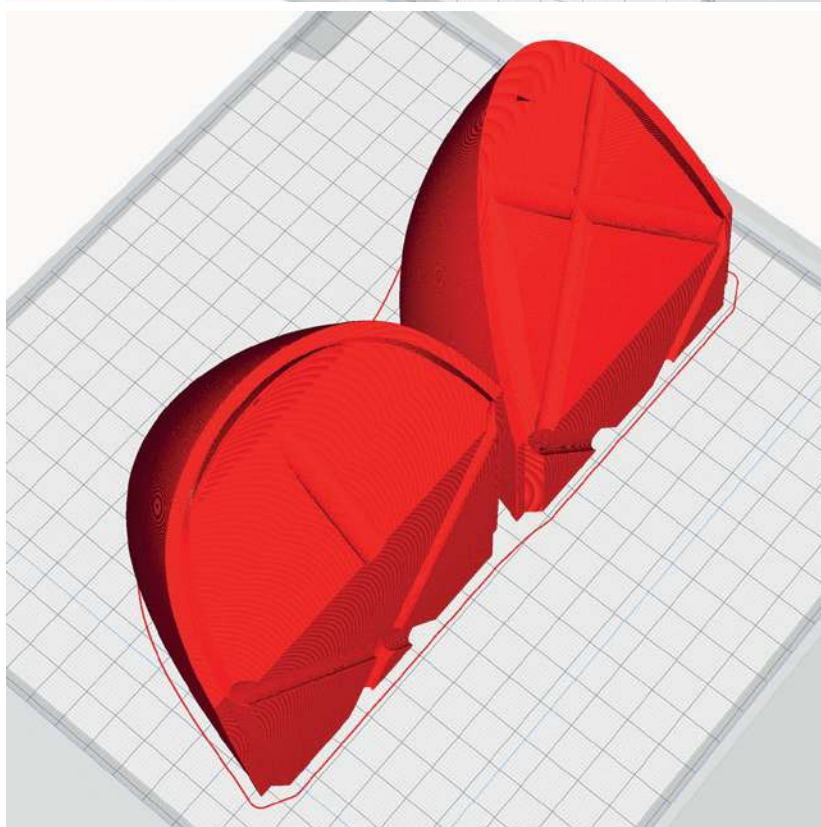
ask_Canopy_profile3.stl

MATERIAL PLA, ~ 30 g

ADDITIONAL SETTINGS

None required

If necessary, reduce the nozzle temperature slightly for the last layers.



PROFILE P3_SURFACE

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).

Please note the additional settings for the individual parts!

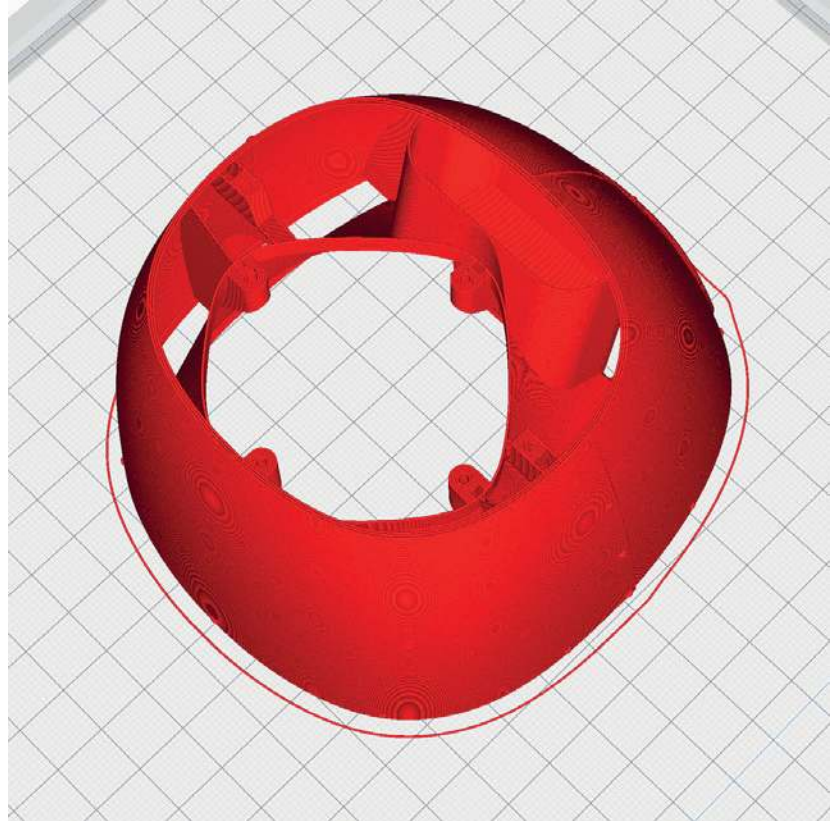
PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

ask_Cowling 1_Profile3.stl

MATERIAL PLA, ~ 25 g

ADDITIONAL SETTINGS

None required



ask_Elevator-xxx_profile3.stl

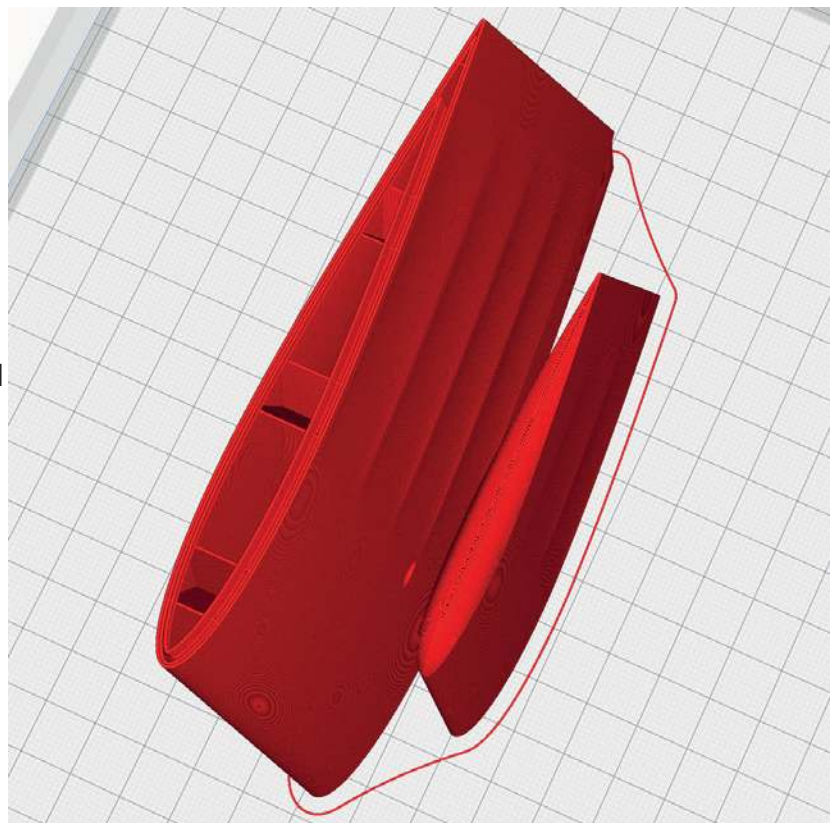
MATERIAL

PLA or **better LW-PLA**, ~ 38 g (PLA)

ADDITIONAL SETTINGS

None required

If you print with LW-PLA (Colorfabb), you need to increase the temperature and decrease the flow. We print at 250° and 60% flow).



PROFILE P3_SURFACE

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).

Please note the additional settings for the individual parts!

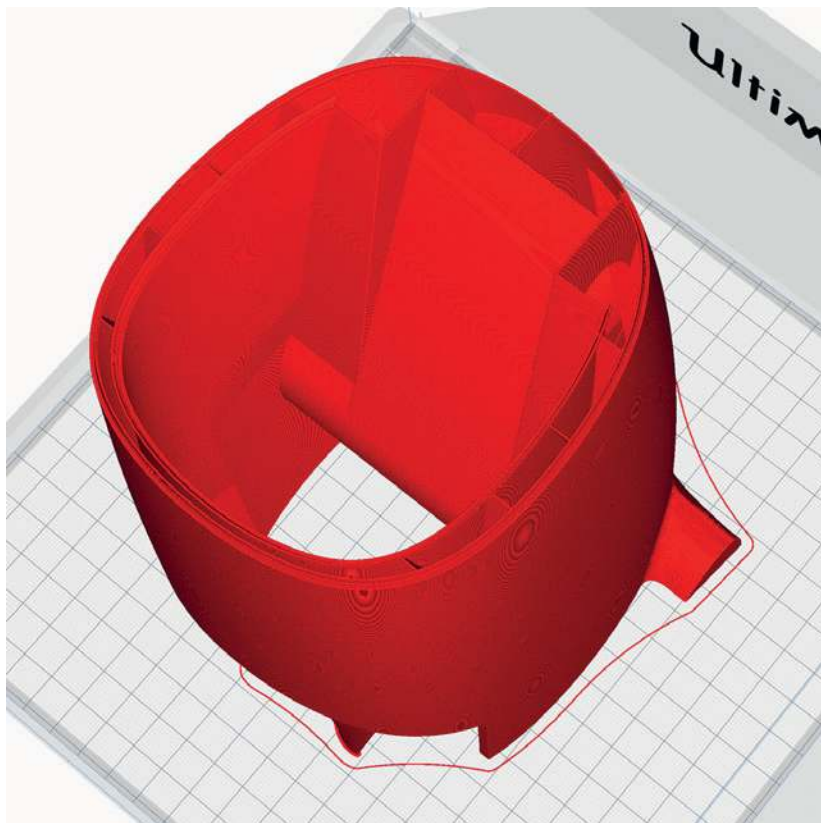
PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

ask_Fuselage 1_profile3.stl

MATERIAL PLA, ~ 92 g

ADDITIONAL SETTINGS

None required

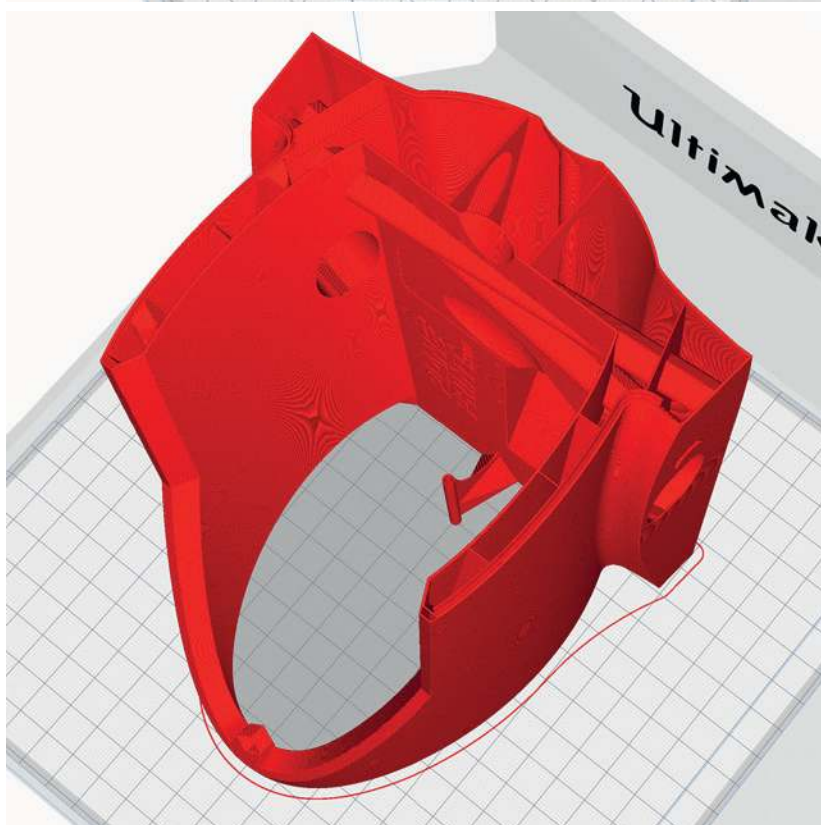


ask_Fuselage 2_profile3.stl

MATERIAL PLA, ~ 81 g

ADDITIONAL SETTINGS

None required



PROFILE P3_SURFACE

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).

Please note the additional settings for the individual parts!

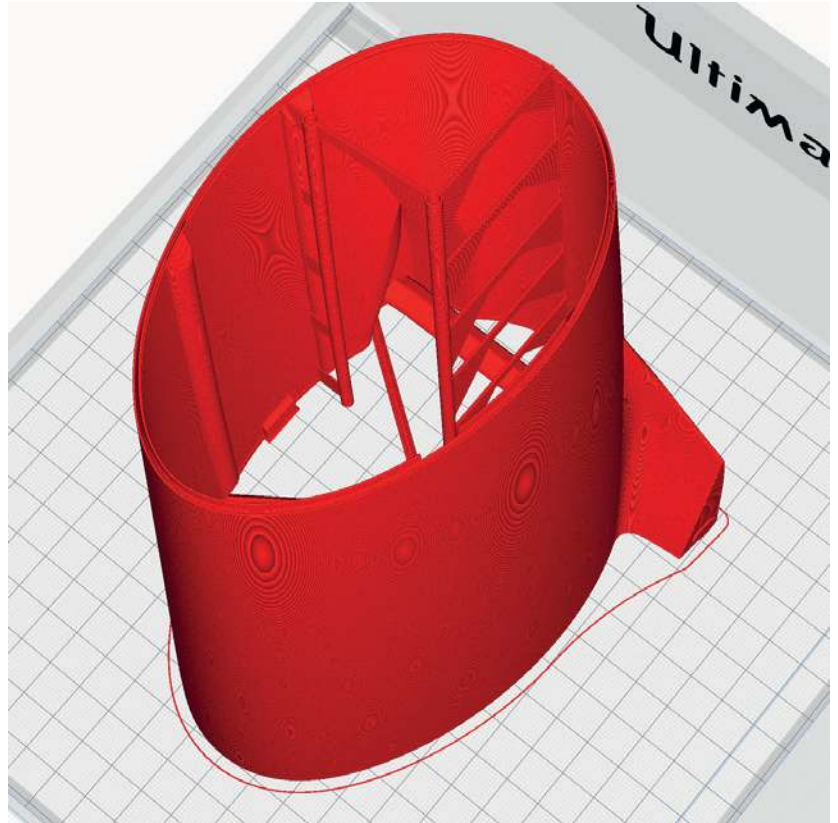
PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

ask_Fuselage 3_profile3.stl

MATERIAL PLA, ~ 49 g

ADDITIONAL SETTINGS

None required

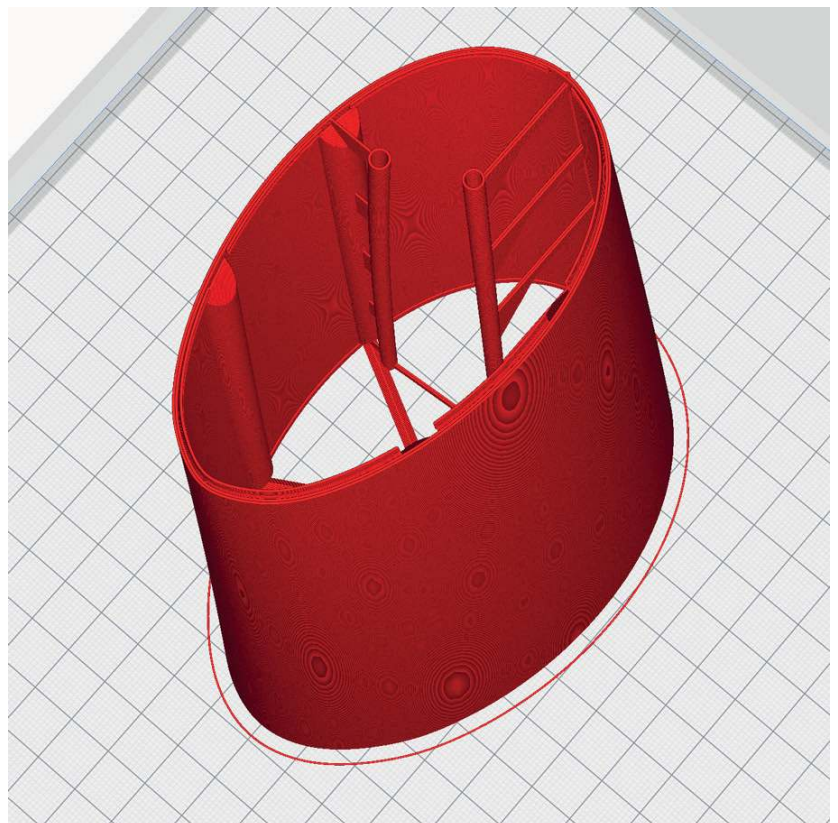


ask_Fuselage 4_profile3.stl

MATERIAL PLA, ~ 29 g

ADDITIONAL SETTINGS

None required



PROFILE P3_SURFACE

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).

Please note the additional settings for the individual parts!

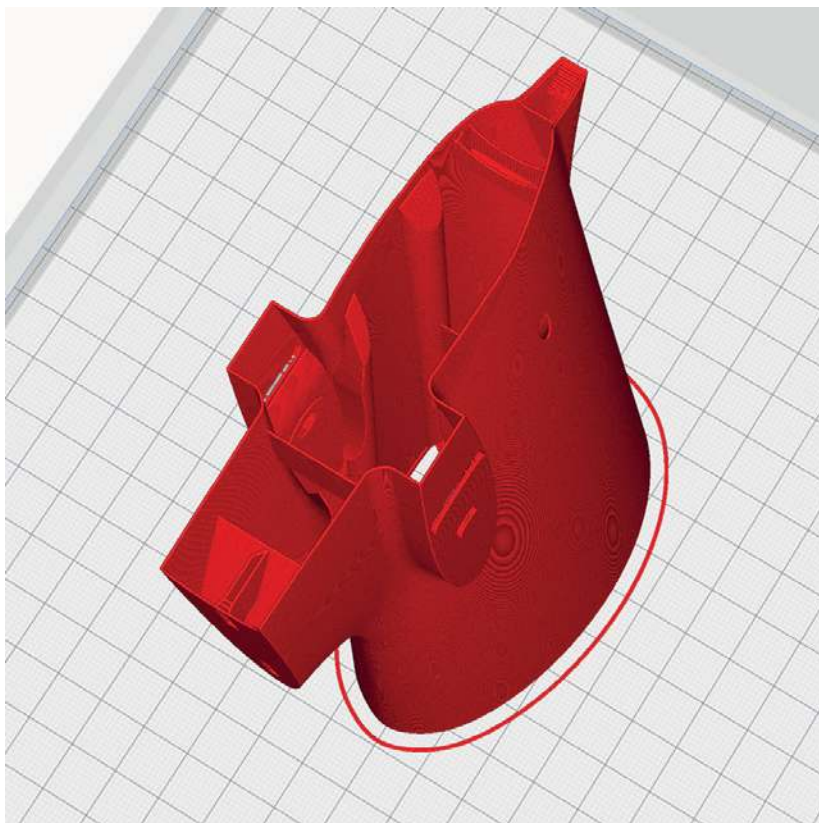
PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

ask_Fuselage 5_profile3.stl

MATERIAL PLA, ~ 29 g

ADDITIONAL SETTINGS

None required



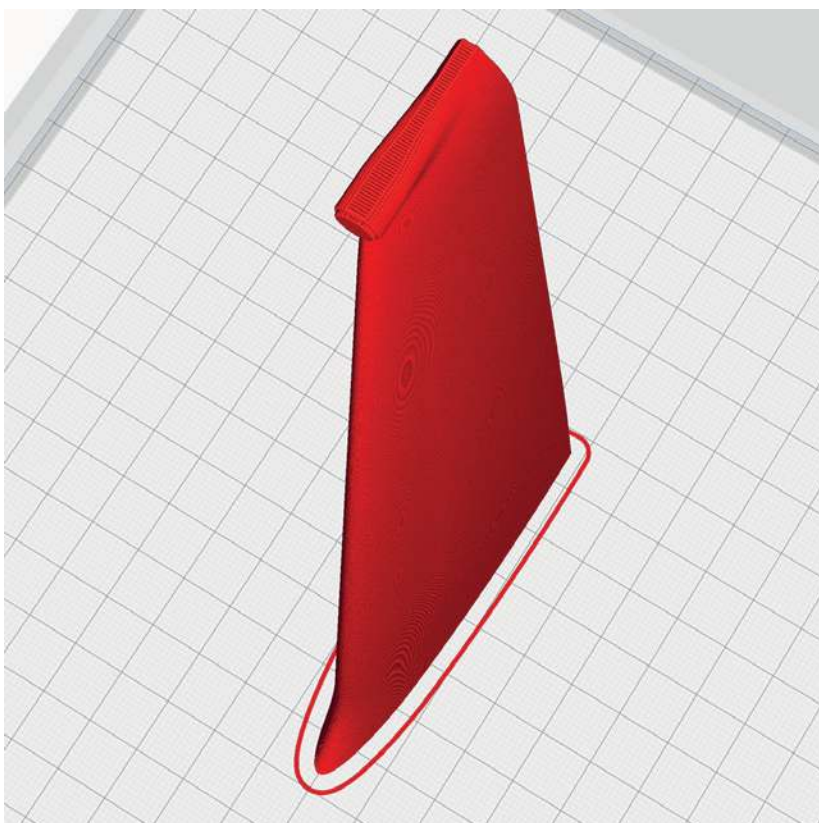
ask_Rudder 1_profile3.stl

MATERIAL PLA, ~ 14 g

ADDITIONAL SETTINGS

None required

If necessary, reduce the nozzle temperature slightly for the last layers.



PROFILE P3_SURFACE

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.

ask_Rudder 2_profile3.stl

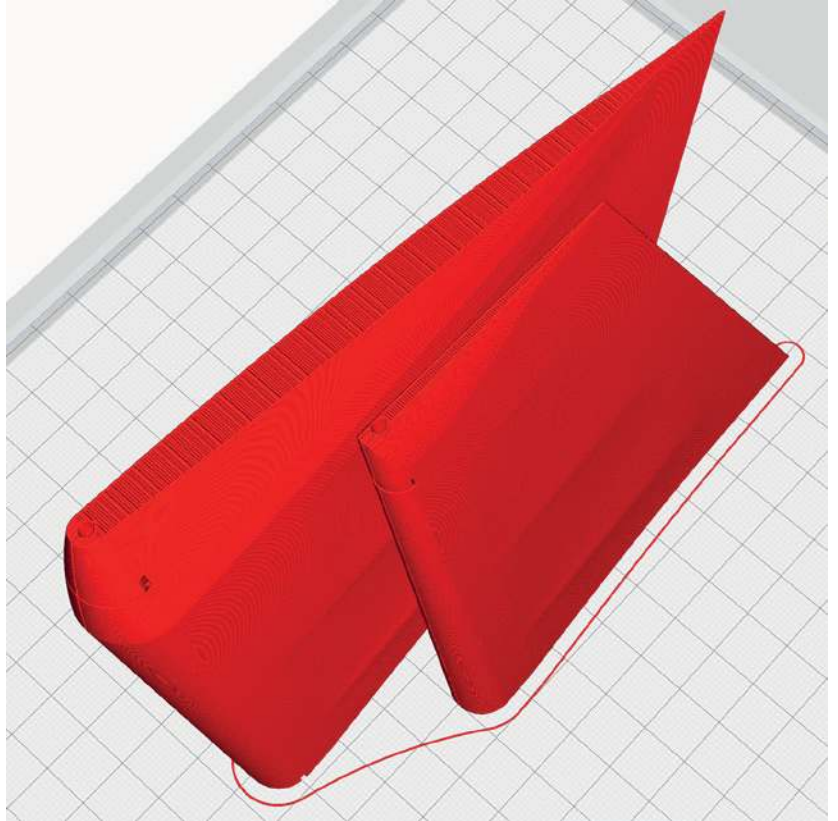
MATERIAL

PLA or **better LW-PLA**, ~ 36 g (PLA)

ADDITIONAL SETTINGS

None required

If you print with LW-PLA (Colorfabb), you need to increase the temperature and decrease the flow. We print at 250° and 60% flow).



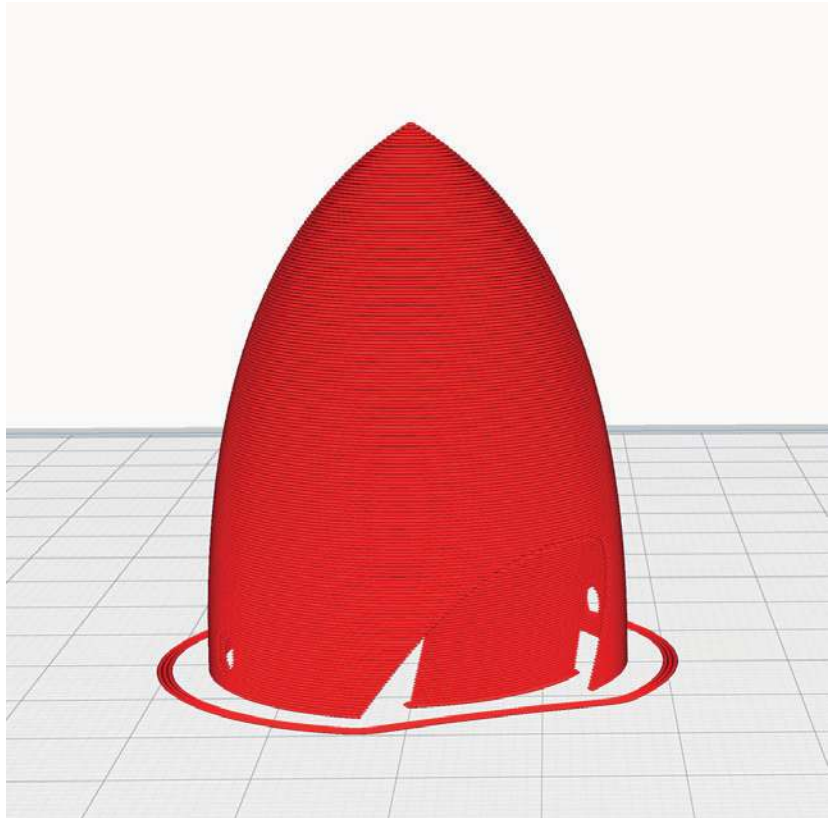
ask_Spinner_profile3.stl

MATERIAL PLA, ~ 4 g

ADDITIONAL SETTINGS

None required

If necessary, reduce the nozzle temperature slightly for the last layers.



PROFILE P3_SURFACE

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).

Please note the additional settings for the individual parts!

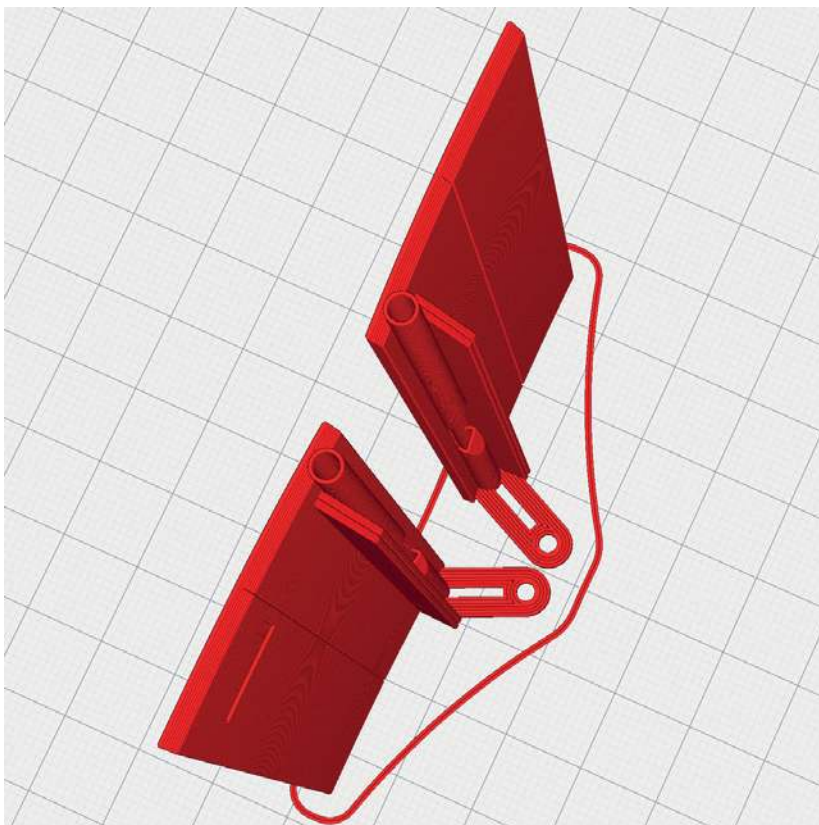
PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

ask_Spoiler-left/right_profile3.stl

MATERIAL PLA, ~ 9 g

ADDITIONAL SETTINGS

None required

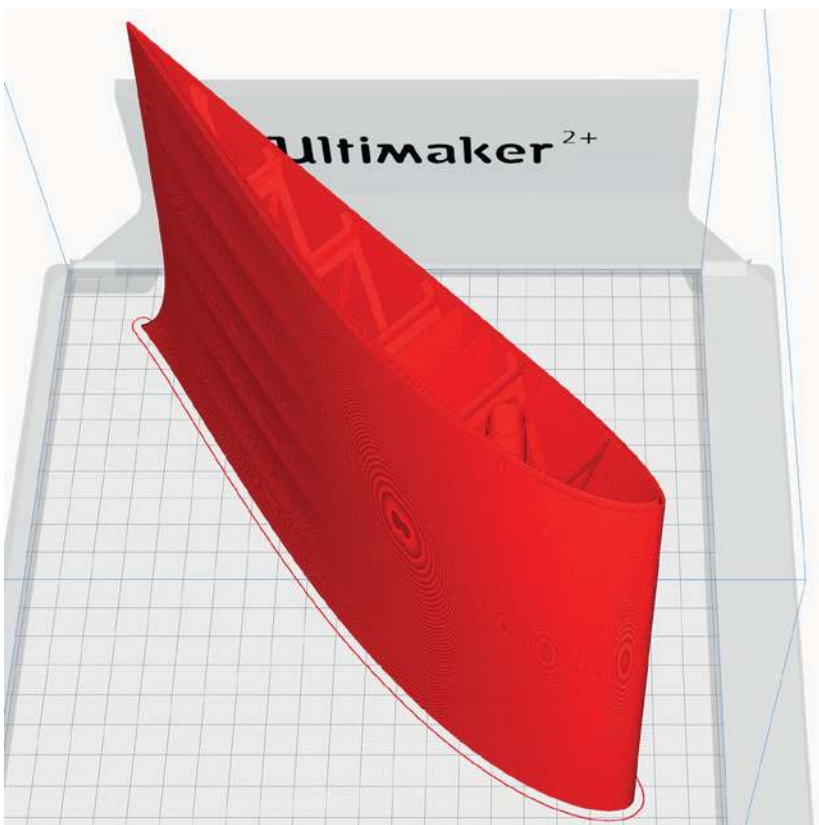


ask_Wing 1-left/right_profile3.stl

MATERIAL PLA, ~ 71 g

ADDITIONAL SETTINGS

None required



PROFILE P3_SURFACE

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).

Please note the additional settings for the individual parts!

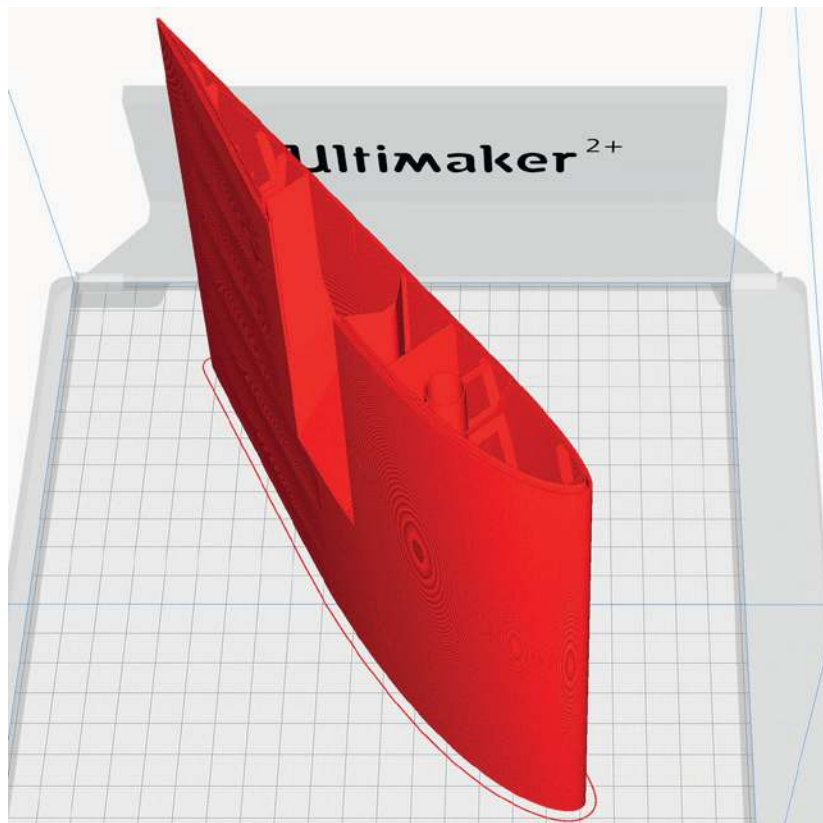
PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

ask_Wing 2-left/right_profile3.stl

MATERIAL PLA, ~ 59 g

ADDITIONAL SETTINGS

None required

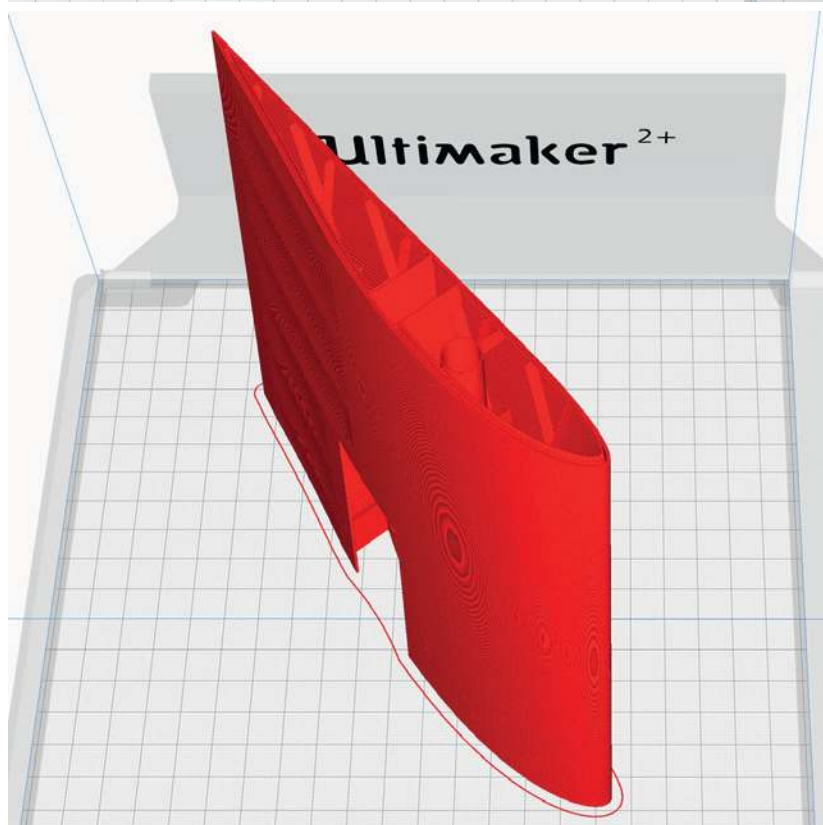


ask_Wing 3-left/right_profile3.stl

MATERIAL PLA, ~ 52 g

ADDITIONAL SETTINGS

None required



PROFILE P3_SURFACE

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).

Please note the additional settings for the individual parts!

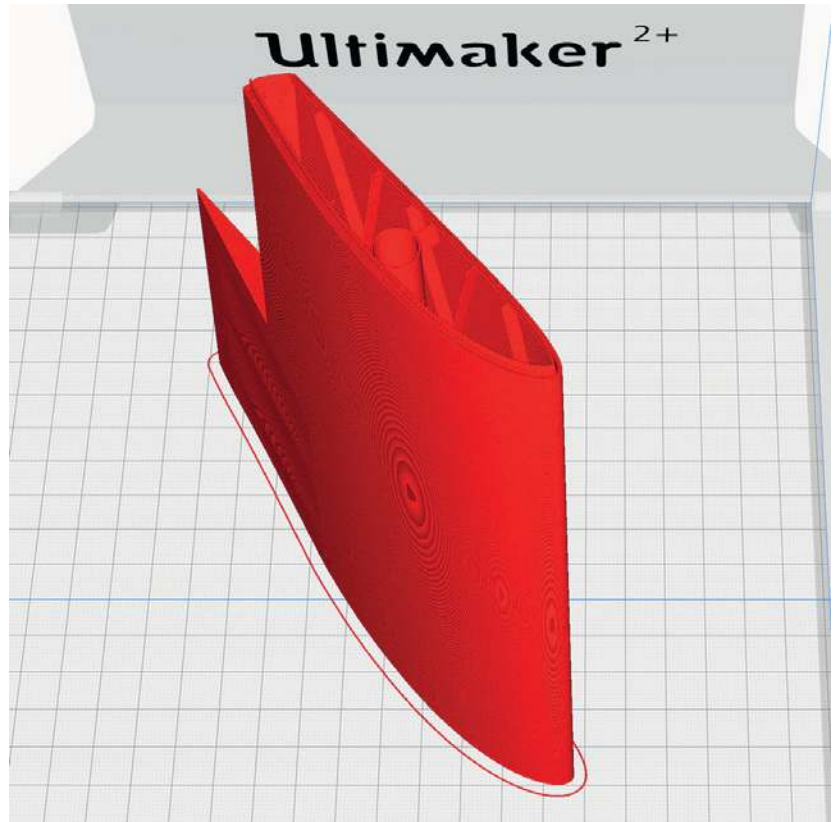
PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

ask_Wing 4-left/right_profile3.stl

MATERIAL PLA, ~ 38 g

ADDITIONAL SETTINGS

None required

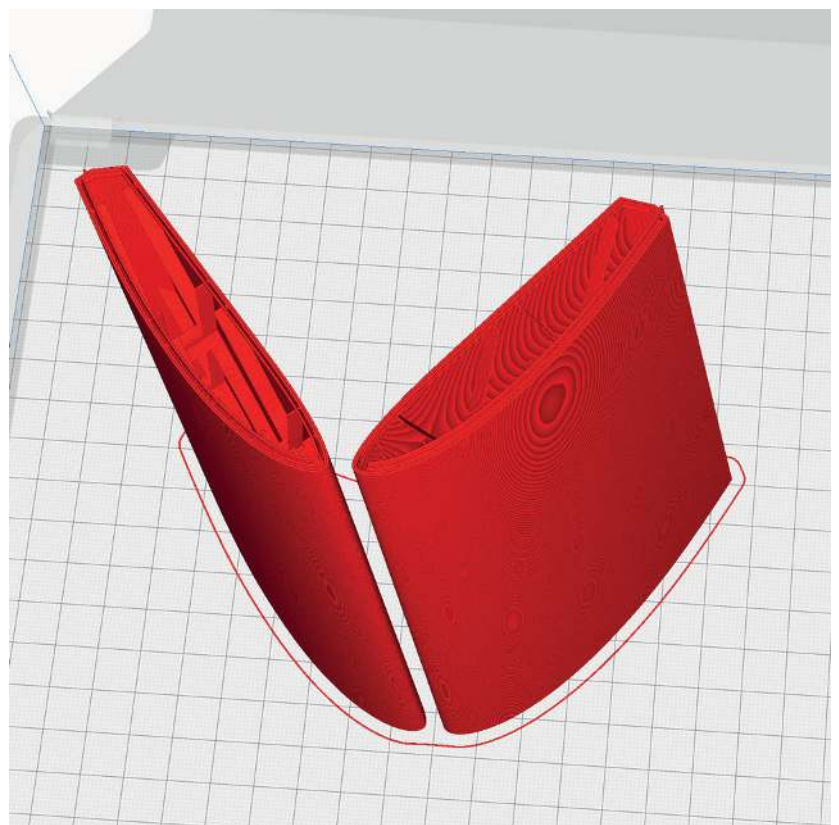


ask_Wings 5_profile3.stl

MATERIAL PLA, ~ 51 g

ADDITIONAL SETTINGS

None required



PROFILE P3_SURFACE

The following parts must be sliced with the PROFILE P3_SURFACE (1-wall-print).

Please note the additional settings for the individual parts!

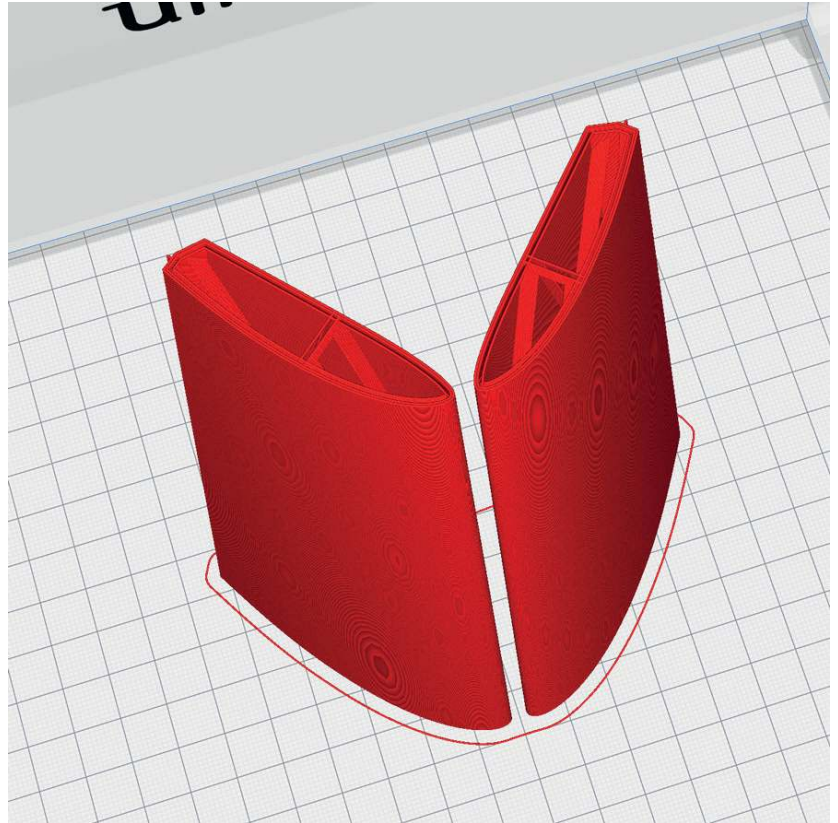
PLEASE NOTE In profile P3_SURFACE, there should not be more than one STL on the buildplate at the same time, otherwise slicing errors can occur! Depending on your printer, a brim may not be required.

ask_Wings 6_profile3.stl

MATERIAL PLA, ~ 36 g

ADDITIONAL SETTINGS

None required

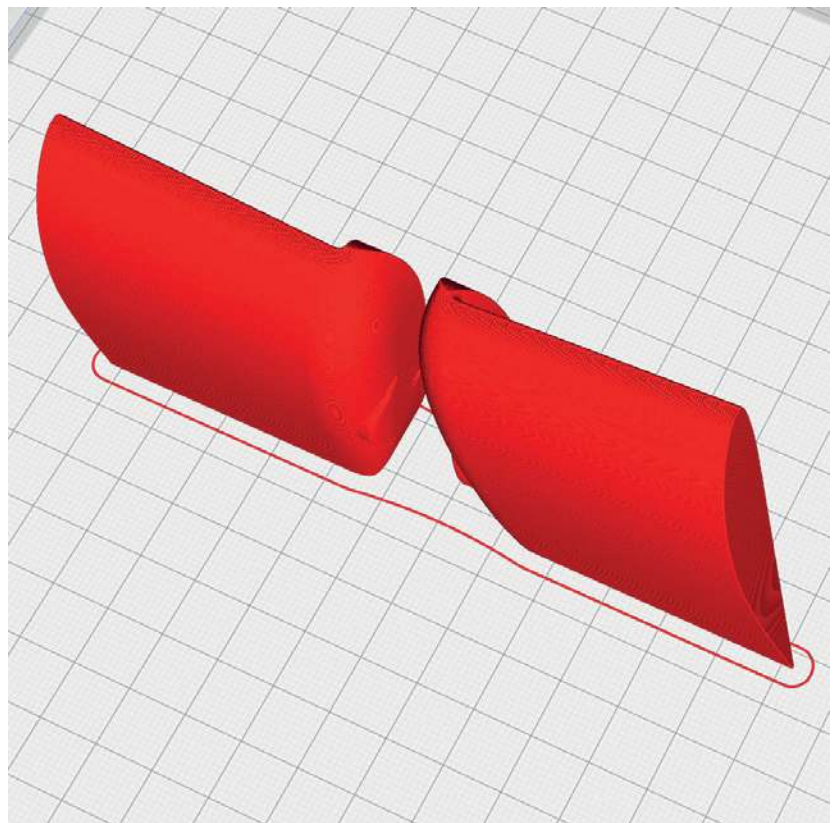


ask_Wingtips_profile3.stl

MATERIAL PLA, ~ 13 g

ADDITIONAL SETTINGS

None required



PROFILE P4_FLEX

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

ask_Parts-flex_profile4.stl

MATERIAL TPU ~ A95, Weight: ~ 12 g

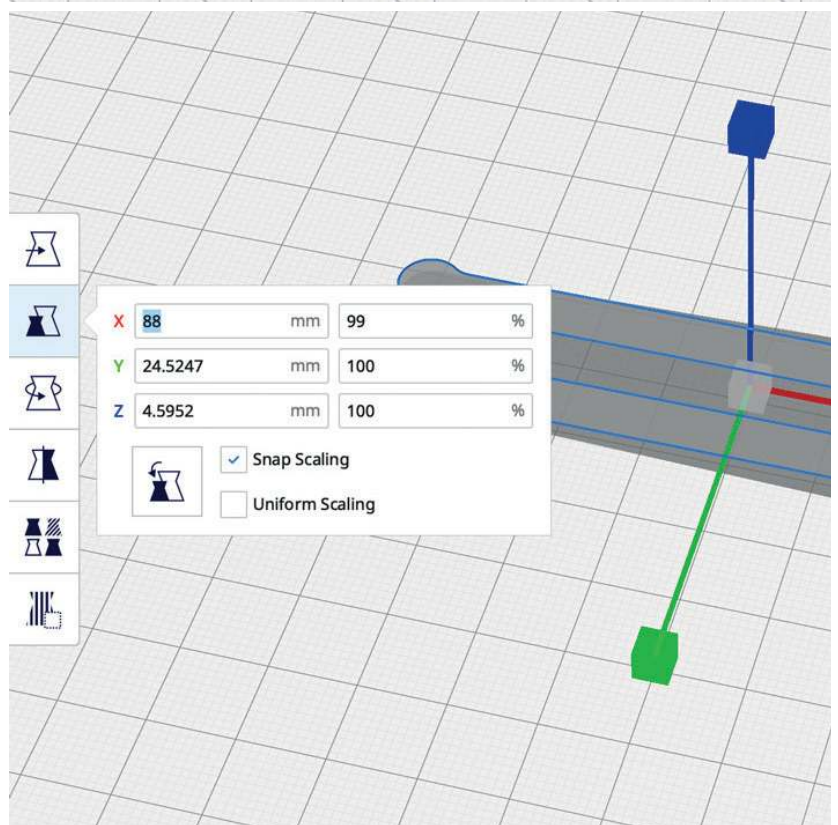
ADDITIONAL SETTINGS

- Wall Line Count: 10
- Infill Density: 100 %



INFO Tension belt length

In the folder Individual parts you will find the tension belts also as a single file. If you want to change them slightly in length, you can simply change the dimension of the X-axis in Cura (Uniform scaling must NOT be selected).



PROFILE P4_FLEX

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

ask_Wheel_profile4.stl

MATERIAL

TPU ~ A95 or better **Colorfabb VarioShore**,
Weight: ~ 15 g

ADDITIONAL SETTINGS

- Wall Line Count: 3
- Bottom Layers: 3



REQUIRED ACCESSOIRES

Filament

normal PLA about 1000 grams

LW-PLA about 200 grams (optional to save weight)

TPU about 200 grams

Materials

- some tapping screws $\text{Ø}2 \times 8$ mm
([simply search for: M2 flat head tapping screw assortment](#)) →
- CA super glue (liquid and liquid medium)
- CA activator
- Servo extension cable
- Carbon tube $\text{Ø}8 \times 1000\text{mm}$, 2 pieces
- Carbon rod $\text{Ø}4 \times 1000\text{mm}$, 1 piece
- Carbon rod $\text{Ø}1,2 \times 1000\text{mm}$, 2 pieces
- Carbon rod $\text{Ø}3\text{mm}$, small pieces
- Neodym-Super-Magnet $5 \times 5 \times 5\text{mm}$, 2 pieces
- Rod connection, 5 pieces
- Steel wire $\text{Ø}3 \times 75\text{mm}$



Tools

- Cutter knife
- small Philips screwdriver
- Drill $\text{Ø}2,5\text{mm}$, $\text{Ø}1,5\text{mm}$

RC Components

ENGINE AXI 2814/12 V2 (or a comparable)



Pay attention to the position of the motor shaft

PROP 9x4

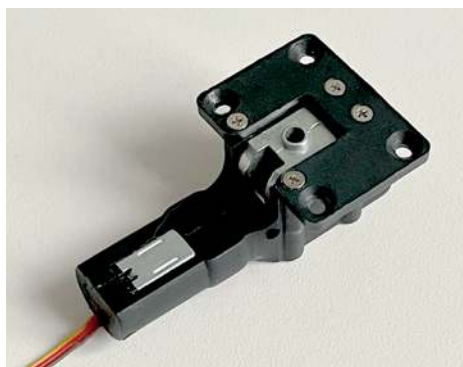
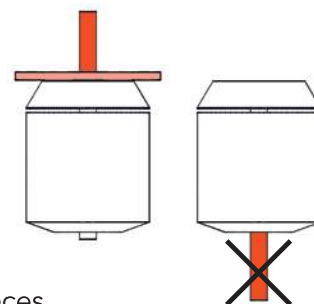
BEC-CONTROLLER 40-50 A (must fit the engine!)

RECEIVER 7 or better 8 Channel

BATTERY 3S Lipo, about 2.400-3000 MaH

SERVOS Hitec HS-40 (or a comparable), 4 pieces and EMAX ES08(A or D), 2 pieces

SERVOLESS RETRACTION GEAR size small (32*25mm) – you only need one of them



ASSEMBLING MANUAL

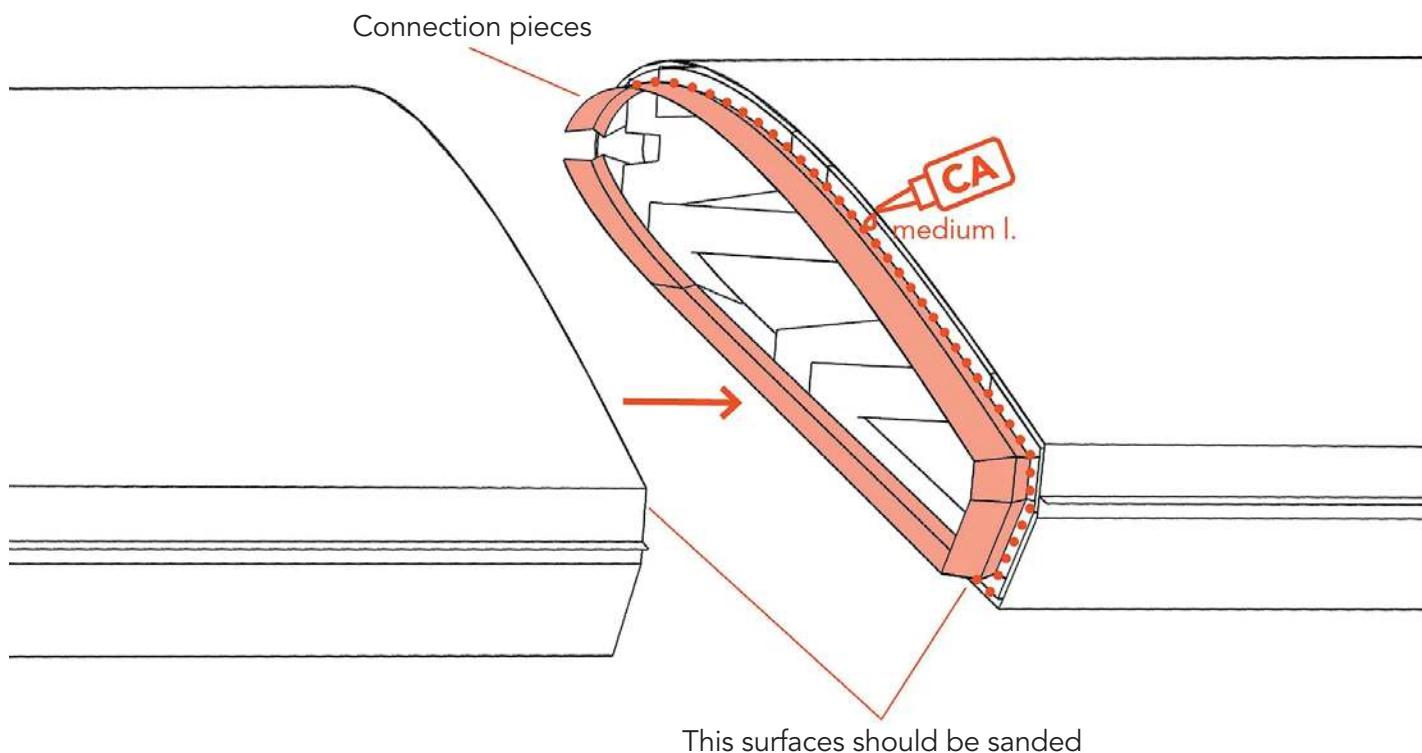
Basic information

Gluing the parts

To glue the fuselage and wing parts well, **use medium-liquid CA** adhesive.

First check whether the parts go well together. Then apply a lot of CA glue to the part with the connections and all surfaces that will touch later (except the bowden tubes). Put the parts together and align the parts perfectly. If glue comes out, wipe with a cloth. Then spray activator spray on the glue points.

IMPORTANT For a strong connection, the adhesive surfaces should be sanded. Please only use fresh CA glue and activator spray for curing! The adhesive connections must hold perfectly!



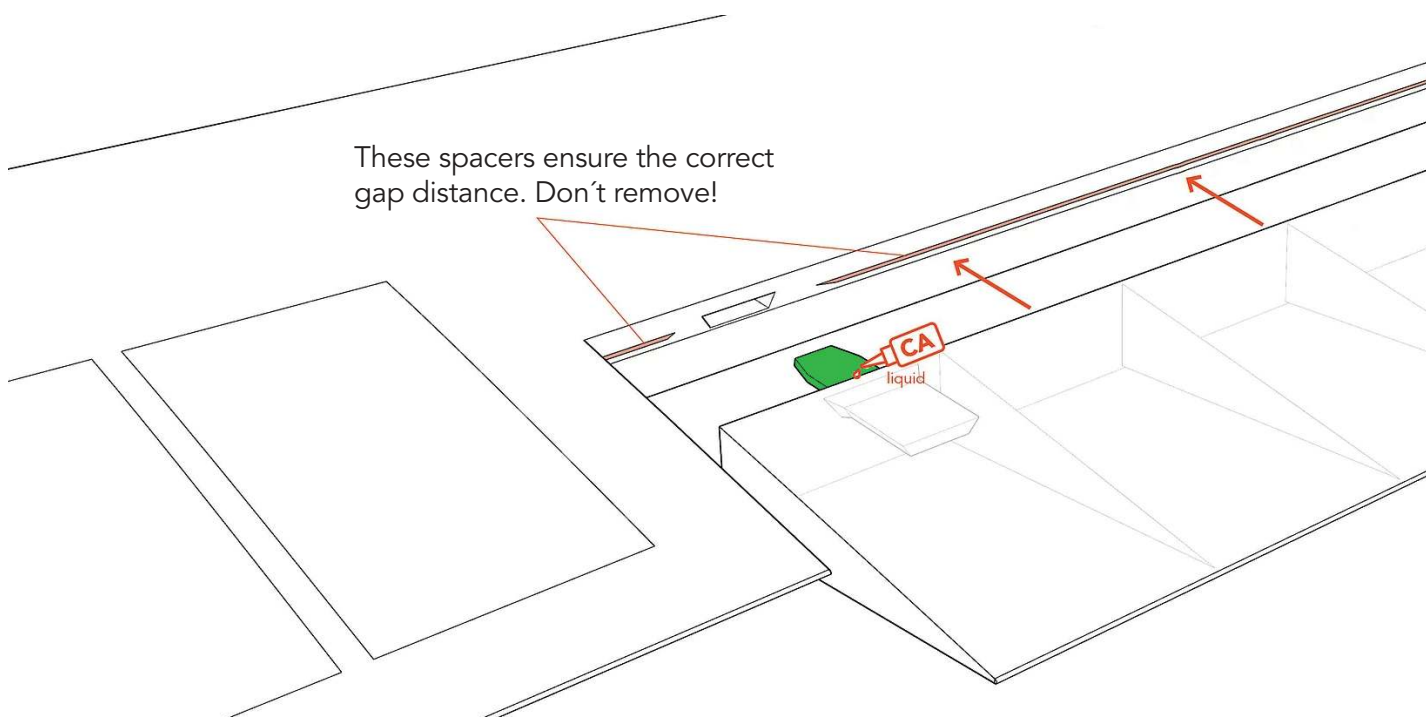
Basic information

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.

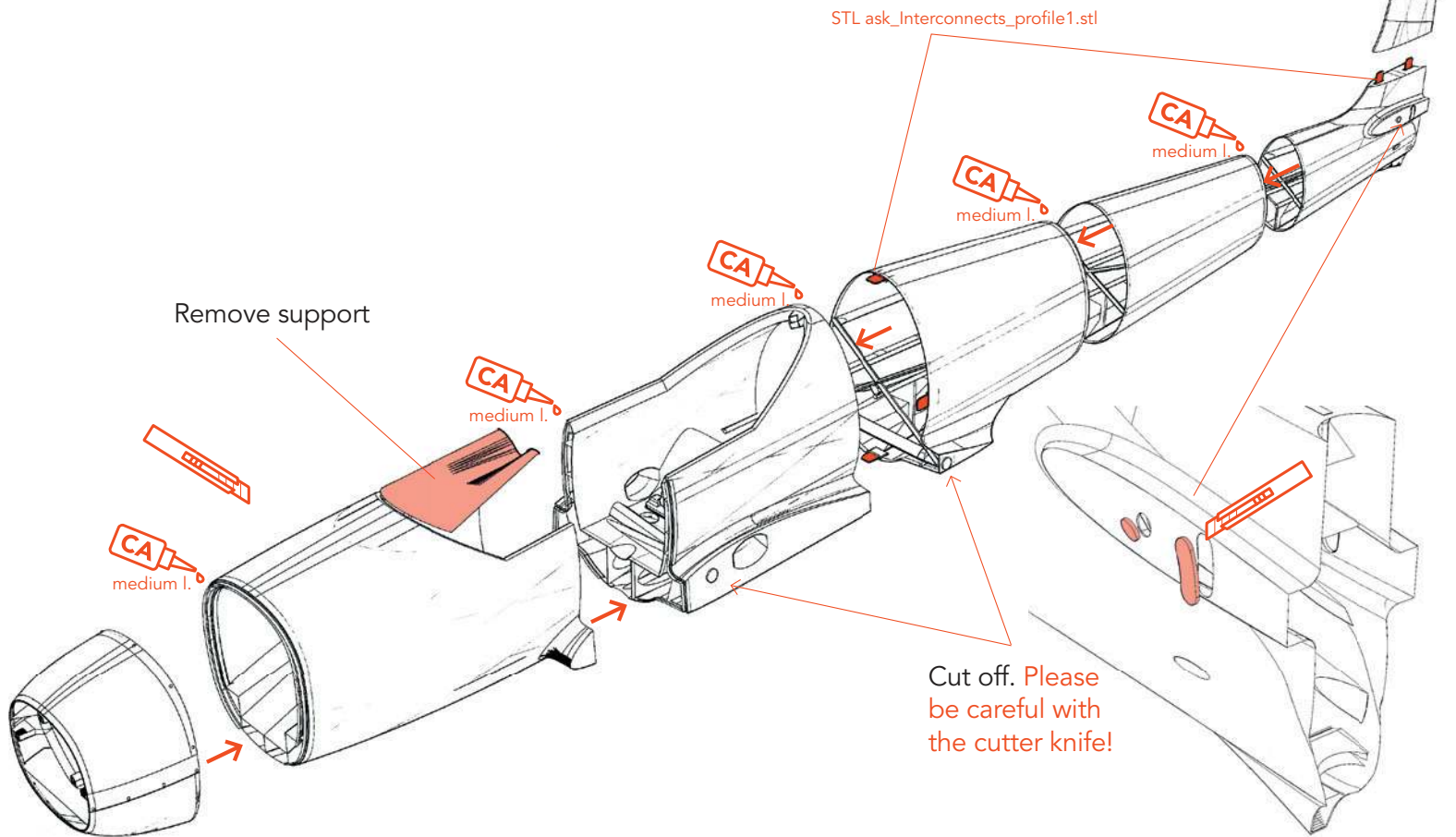
Then put the flap in the wing until the flap touches the spacers and put a drop of CA glue on the hinge. Wait again for the glue to run in, and then spray the activator on it.

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

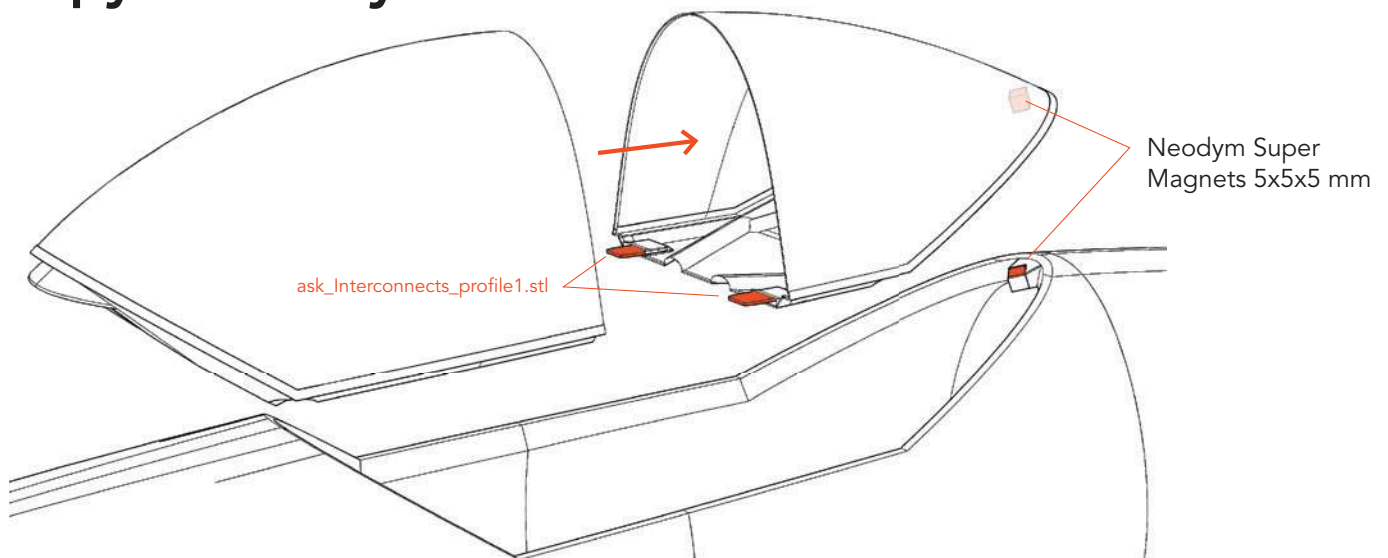


Fuselage assembly

Instructions see at basic information



Canopy assembly

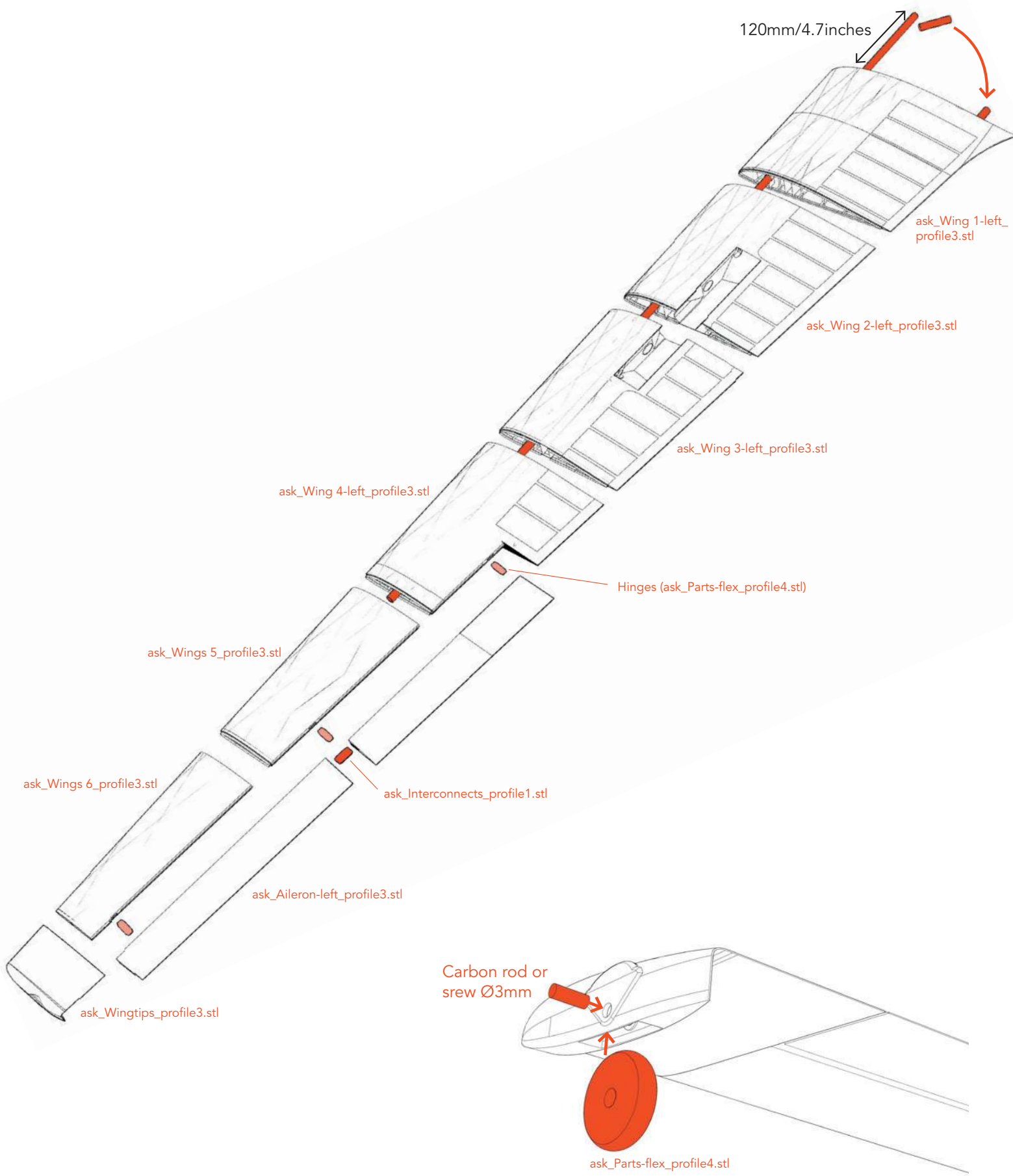


Magnetic clasp canopy:

Put two pieces of adhesive tape together with the adhesive side facing outwards, put two neodymium magnets on them. add some CA glue to the magnetic holders in the fuselage and canopy. then stick the canopy to the fuselage and let the glue harden. The adhesive tape ensures that the wing and fuselage can be separated again.

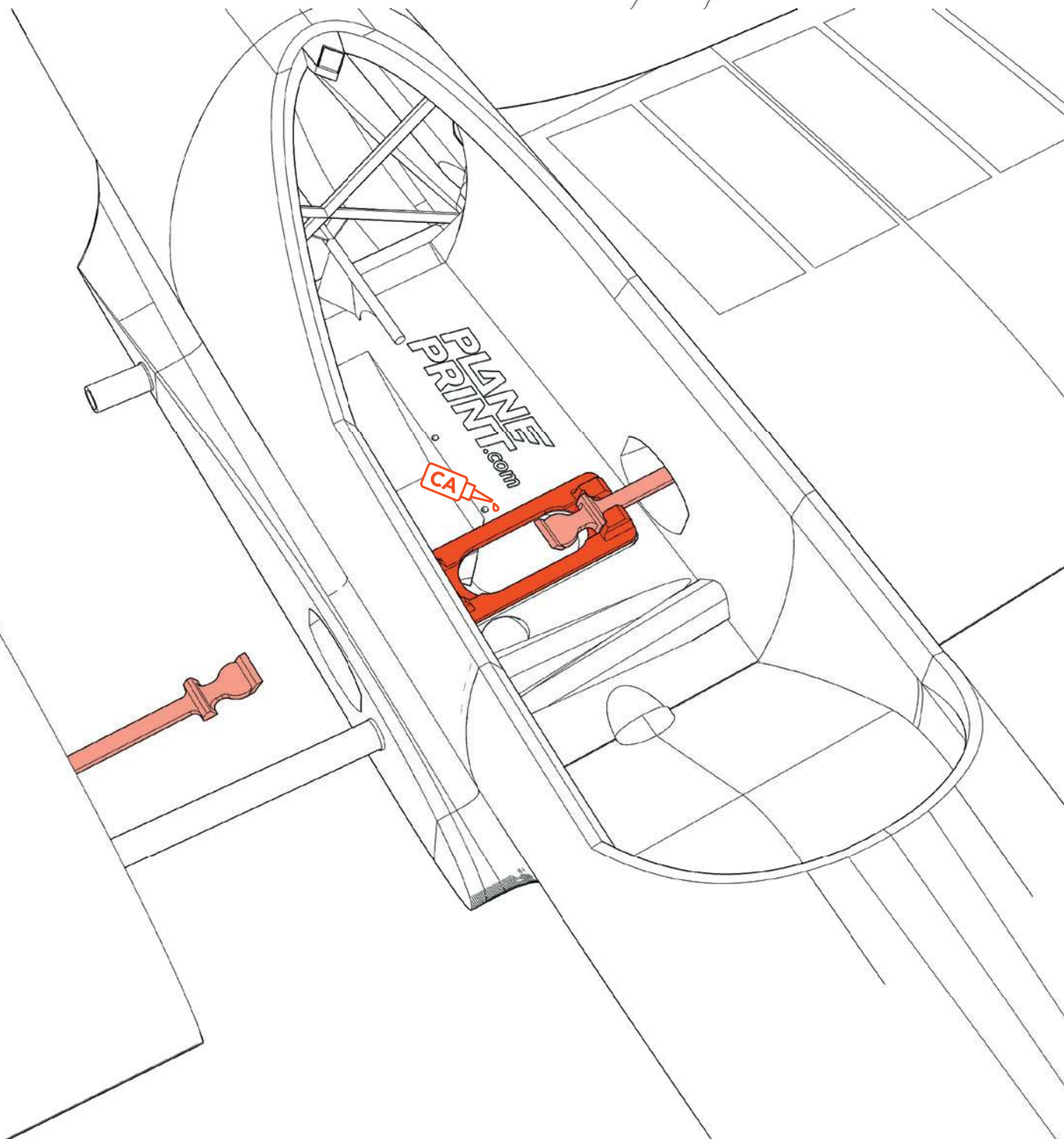
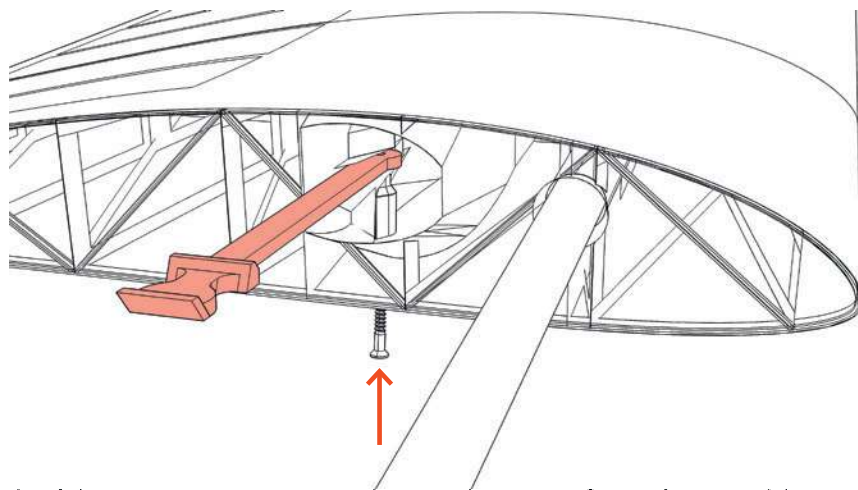
IMPORTANT The magnets must touch so that they achieve the maximum force!

Wings assembly



Wing fastening

Screw the TPU tensioners into the wings, attach the wings to the fuselage and clip the tensioners into the frame.

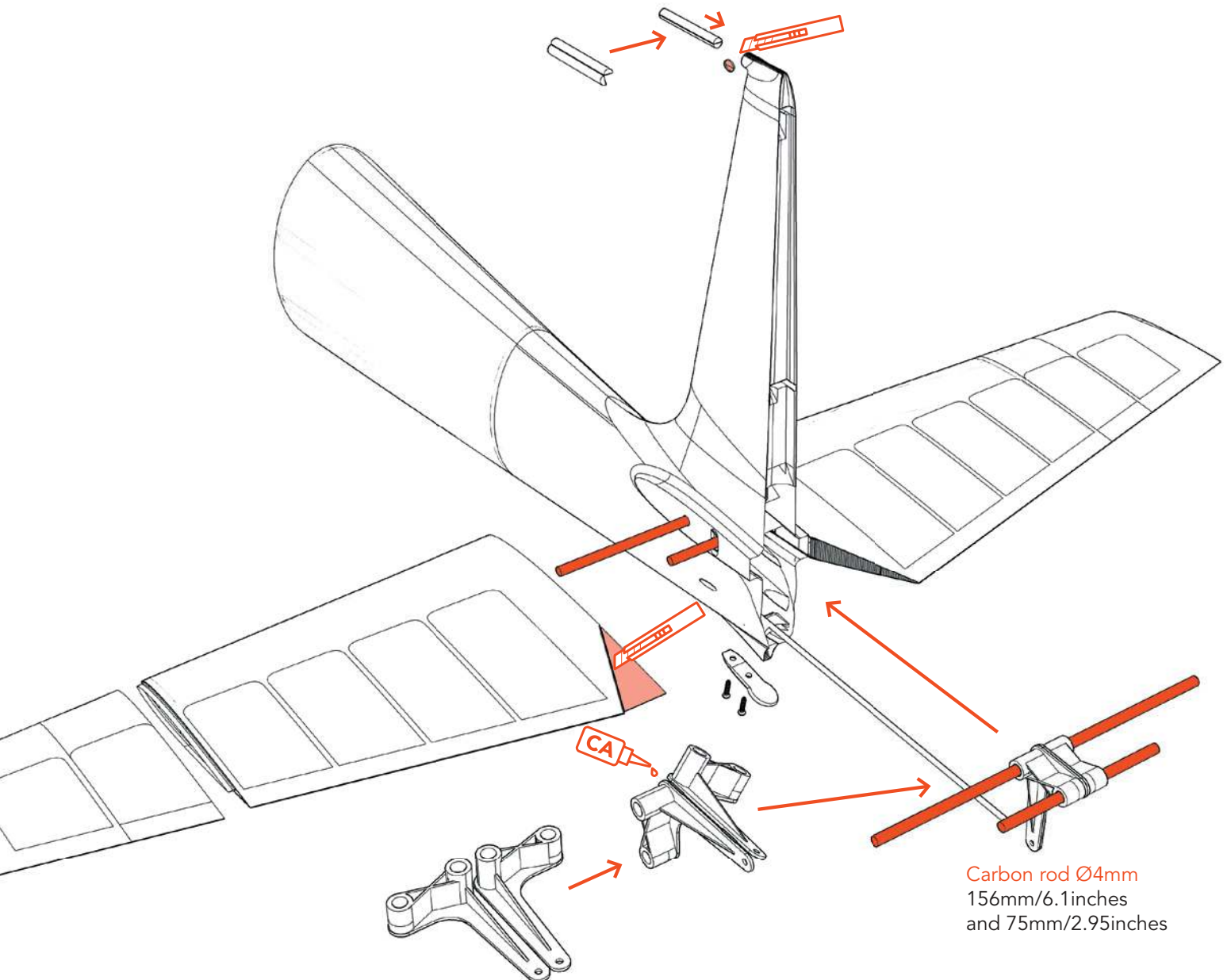


Tailplane assembly

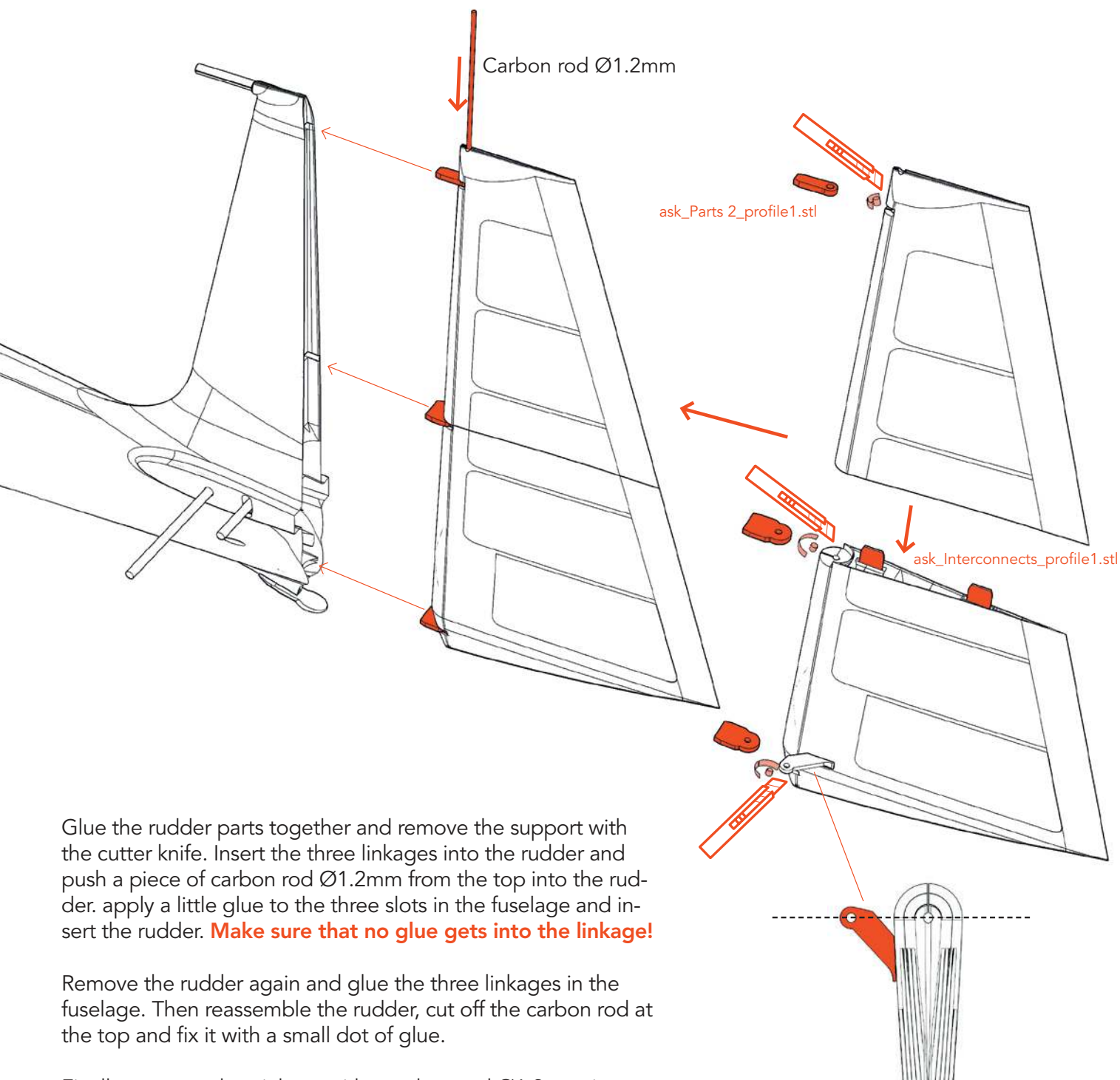
Mount the linkage for the elevator. Slide the 1.2mm carbon rod into the lower bowden in the fuselage and insert the $\text{\O}4\text{mm}$ carbon rods into the linkage.

Glue the elevator, remove the support with the cutter knife and glue the long carbon rod in one elevator and drill a hole in the carbon rod from the bottom of the other elevator. Fix it with a screw.

IMPORTANT Make sure that the elevator can be moved very easily!



Rudder assembly



Glue the rudder parts together and remove the support with the cutter knife. Insert the three linkages into the rudder and push a piece of carbon rod $\text{\O}1.2\text{mm}$ from the top into the rudder. apply a little glue to the three slots in the fuselage and insert the rudder. **Make sure that no glue gets into the linkage!**

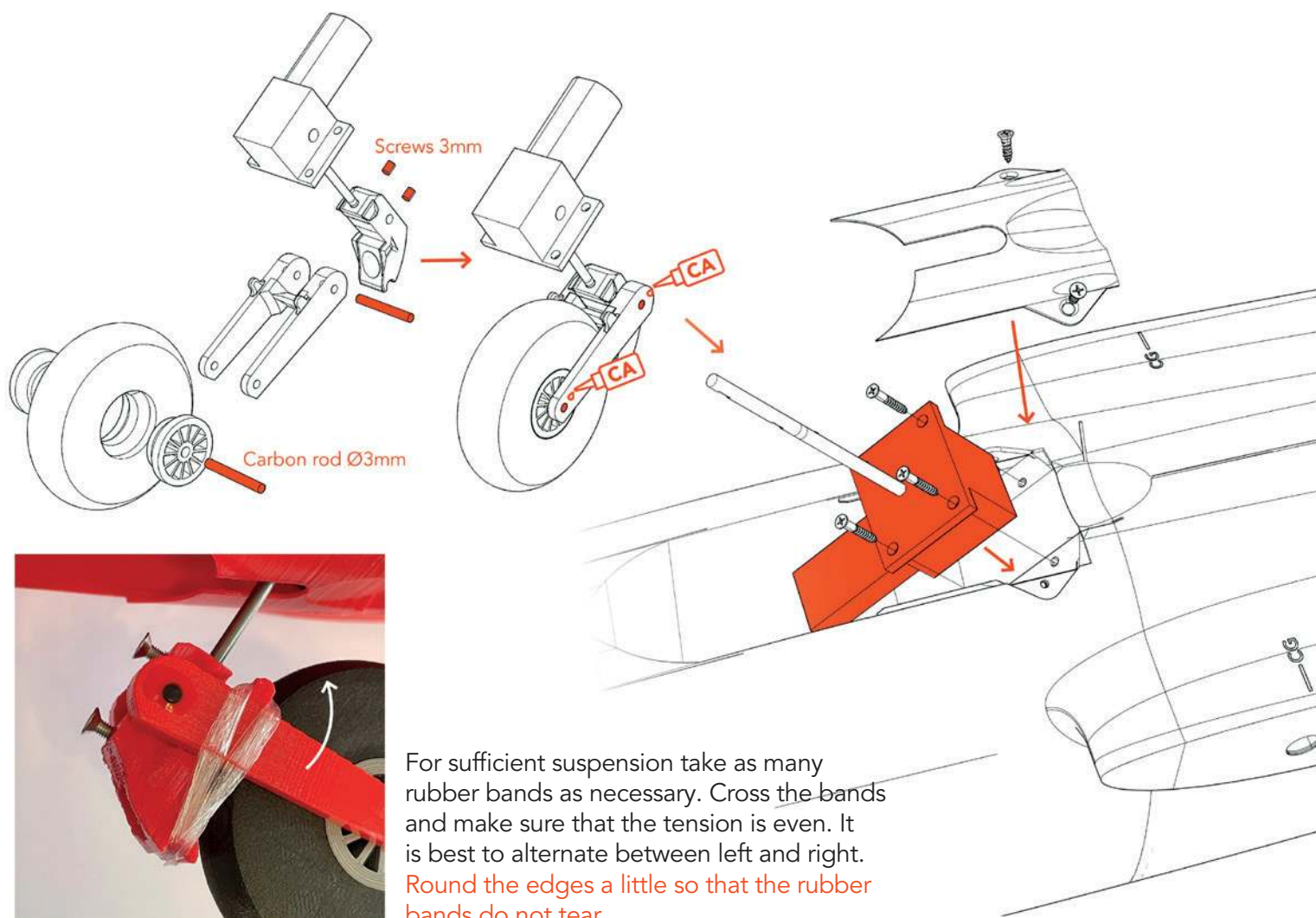
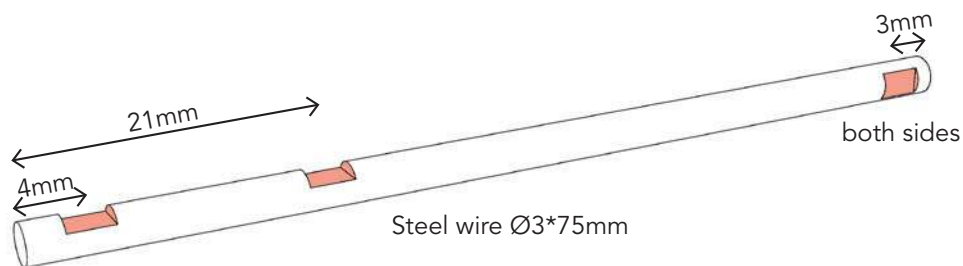
Remove the rudder again and glue the three linkages in the fuselage. Then reassemble the rudder, cut off the carbon rod at the top and fix it with a small dot of glue.

Finally, connect the pinhorn with a carbon rod $\text{\O}1.2\text{mm}$, insert it into the Bowden and glue the pinhorn to the rudder as shown in the picture.

Retractable gear assembly

File a $\text{\O}3\text{mm}$ steel wire as described in the picture.

IMPORTANT Make sure that the notches are exactly at right angles to each other!

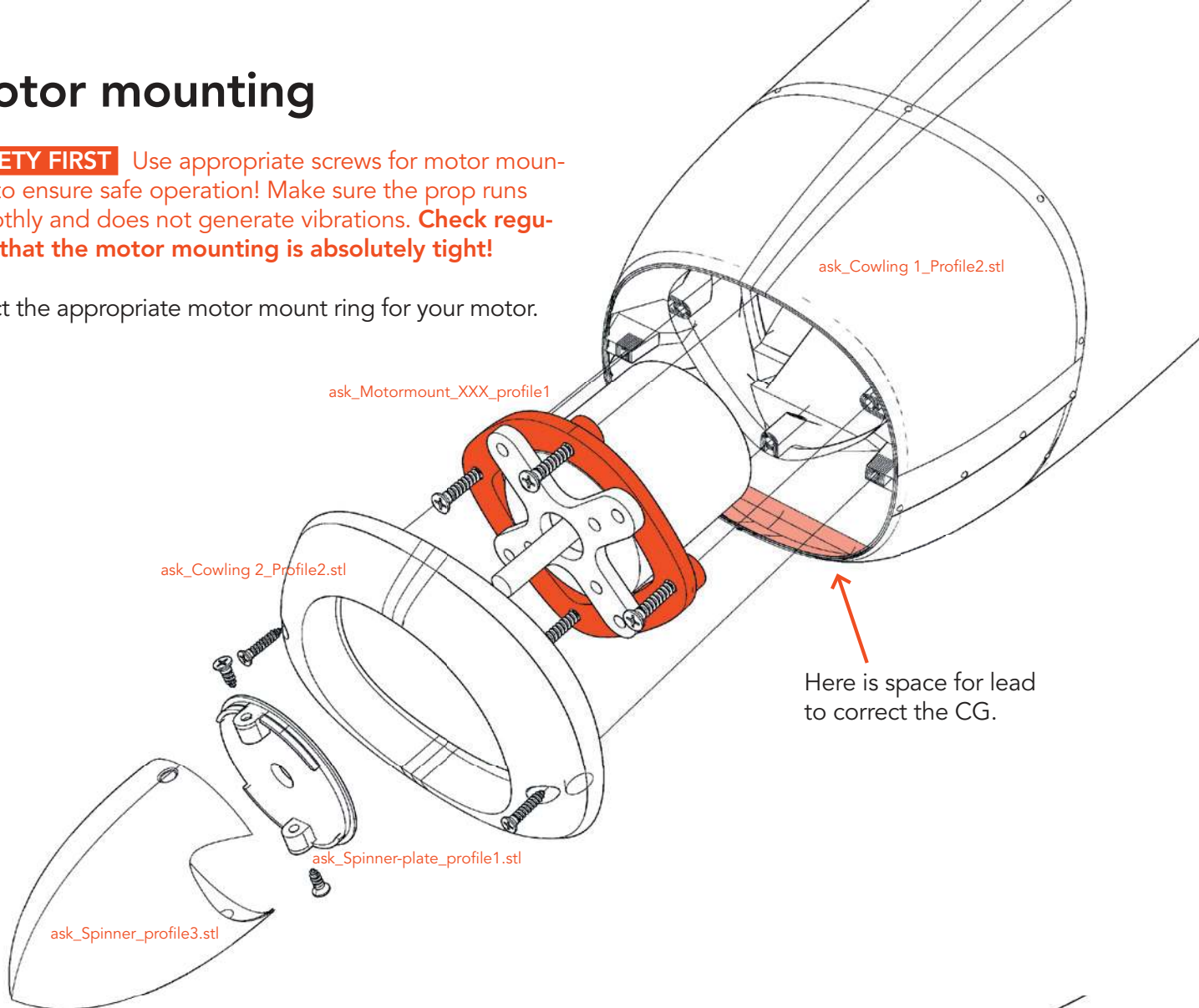


For sufficient suspension take as many rubber bands as necessary. Cross the bands and make sure that the tension is even. It is best to alternate between left and right. Round the edges a little so that the rubber bands do not tear.

Motor mounting

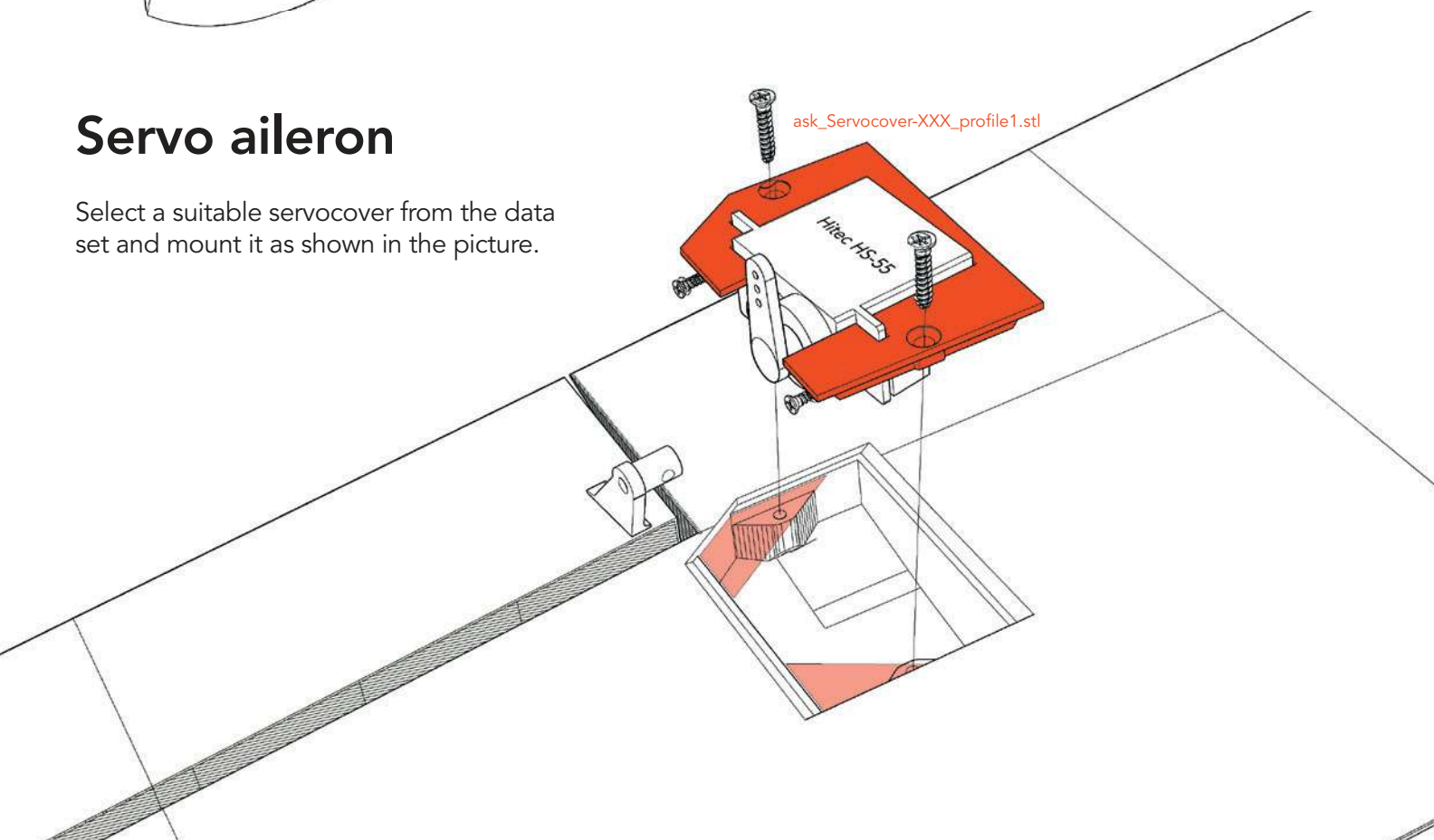
SAFETY FIRST Use appropriate screws for motor mounting to ensure safe operation! Make sure the prop runs smoothly and does not generate vibrations. **Check regularly that the motor mounting is absolutely tight!**

Select the appropriate motor mount ring for your motor.

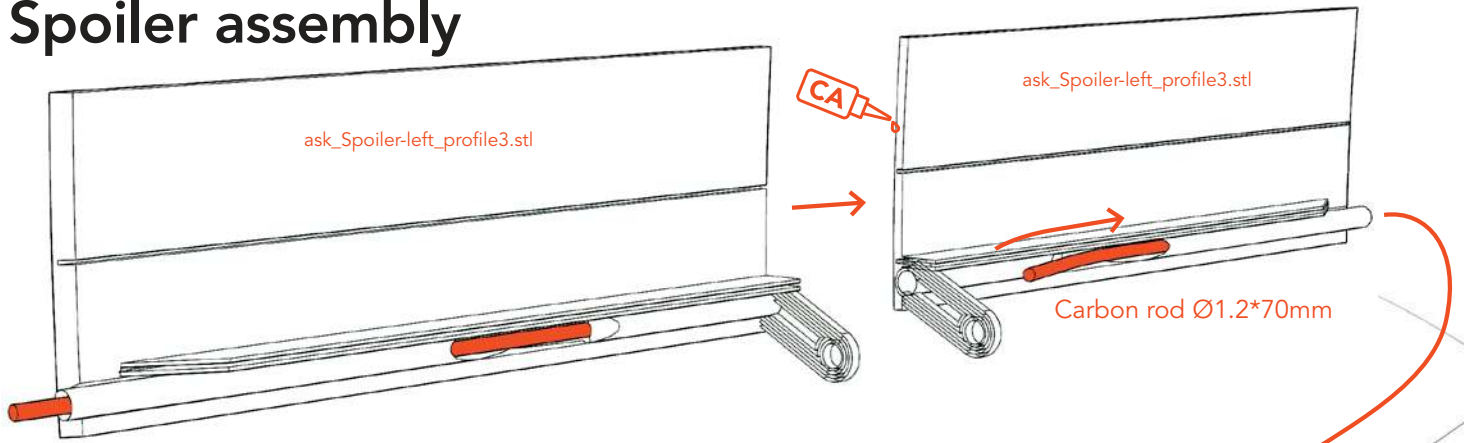


Servo aileron

Select a suitable servocover from the data set and mount it as shown in the picture.



Spoiler assembly

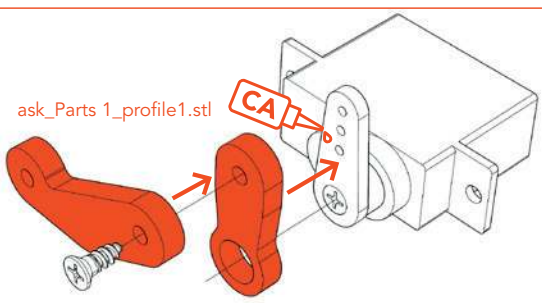


Carbon rod Ø1.2*70mm

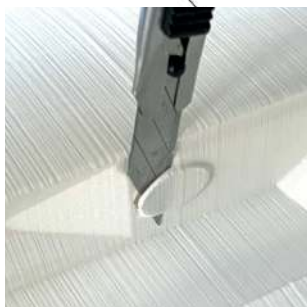
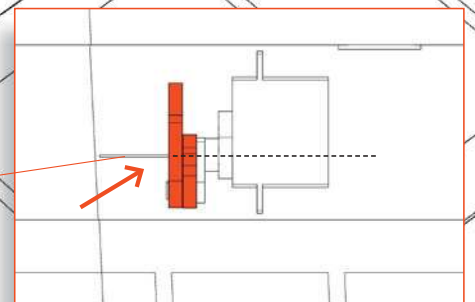
Glue the spoiler parts, screw the servo arms together as shown in the picture below (make sure they stay slightly movable, if not drill out a little). Cut two carbon rods to 70mm length and mount the spoiler in the wing.

Screw the lever to the spoiler and tape the servo in place with double sided tape. **Pay attention to the position (picture)!**

Remove the support to expose the cable channel.

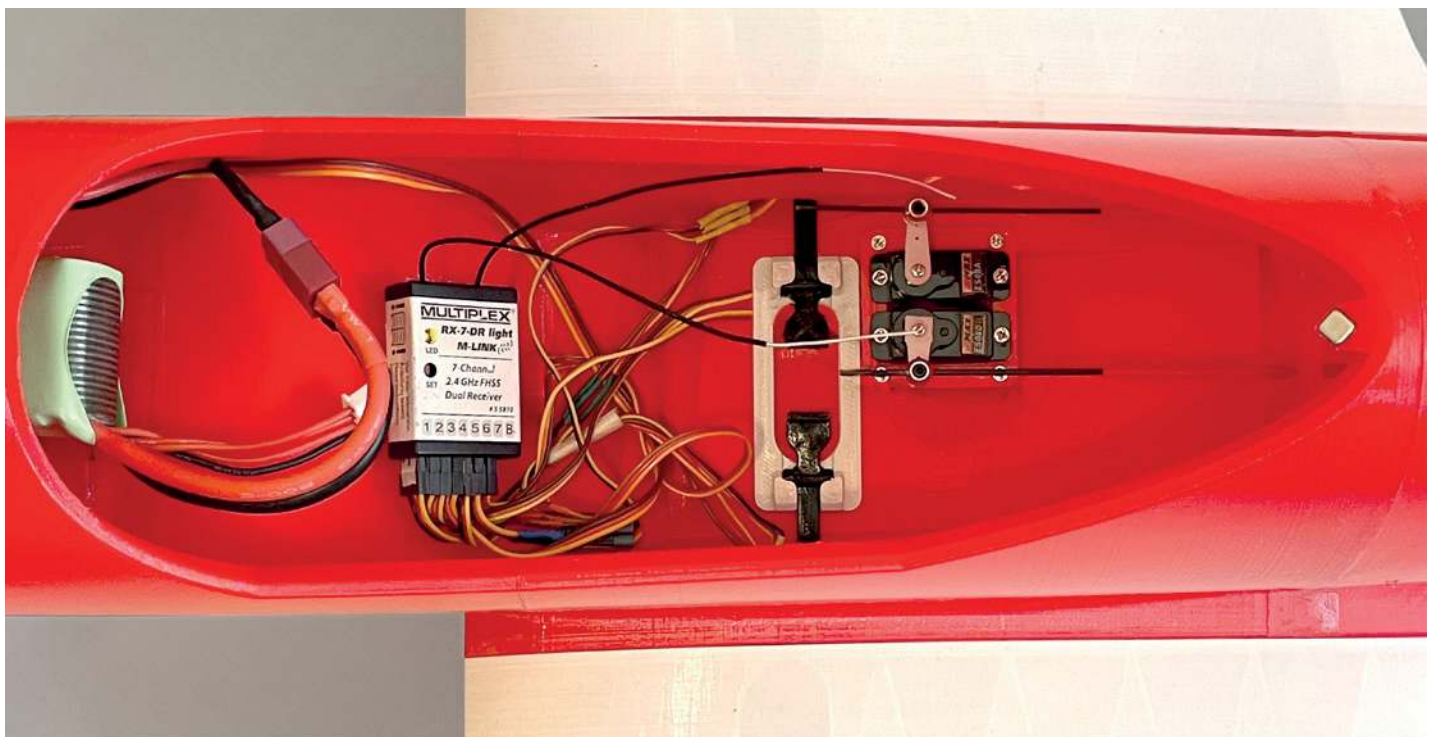
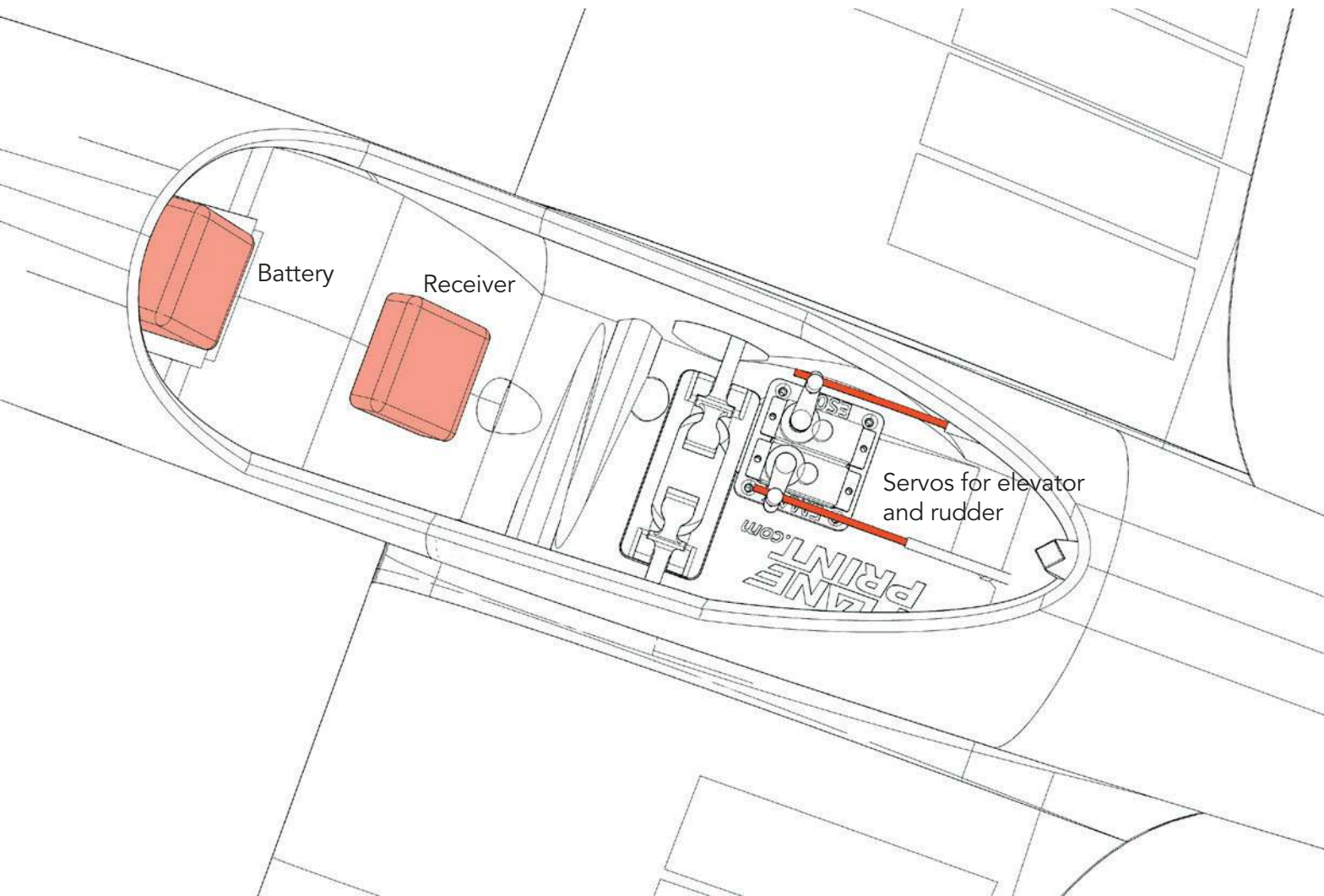


ask_Wing 3-left_profile3.stl



RC components

Attach the Controller, receiver and battery with self-adhesive Velcro.



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: 12 mm, down: 7 mm

ELEVATOR (measured inside back) up: 15 mm, down: 15 mm – **Attention, the elevator has a great effect!**

RUDDER both sides: 40 mm

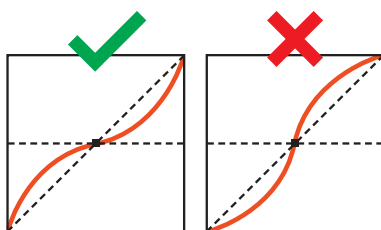
(These are only approximate figures, as the Notos is aimed at experienced pilots.)

Expo setting

AILERON 0 %

ELEVATOR 40 %

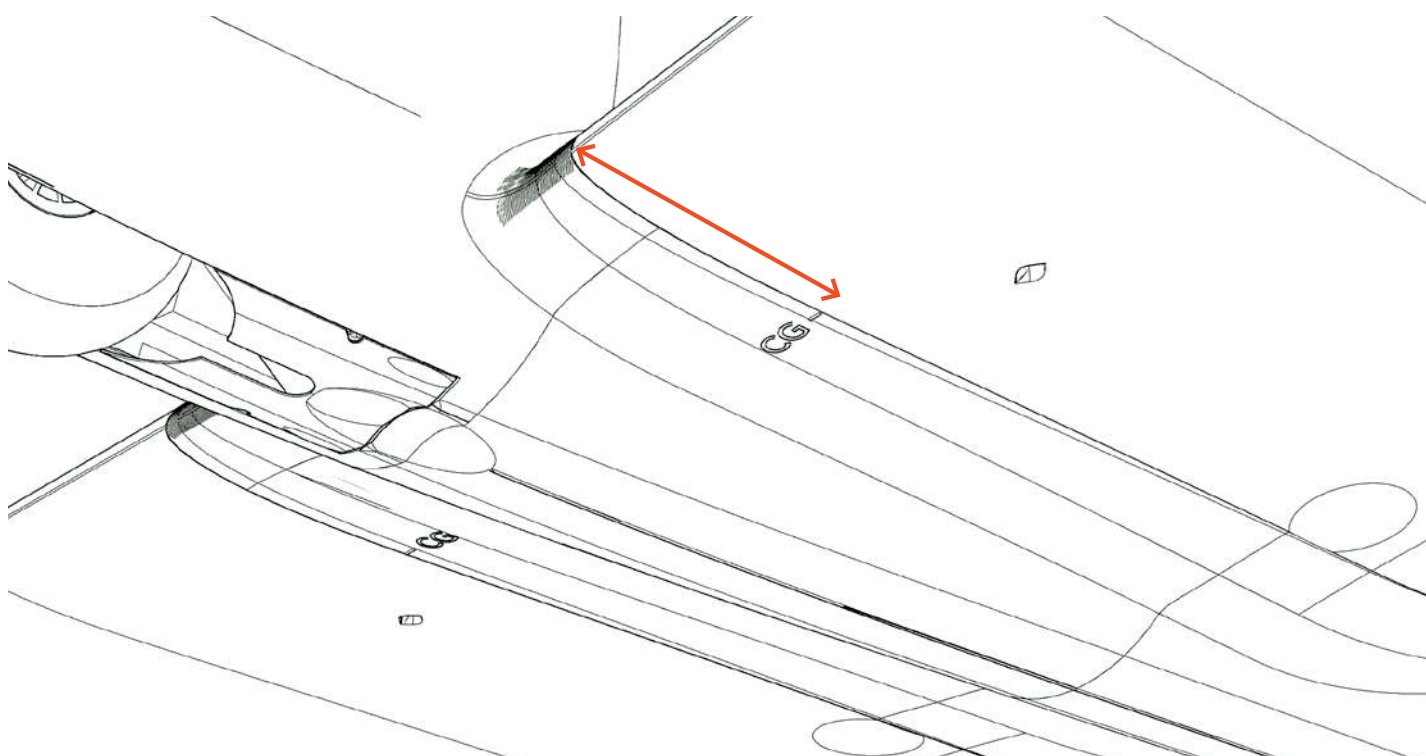
RUDDER 30 %



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

Center of Gravity (CG)

The aircraft must balance precisely 57,4 mm/2.26 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.



Flight timer

Flight time will vary depending on the battery size. Expect 5 minutes under normal circumstances; however, it may be possible to fly for much longer. It is a good idea to be conservative with the flight timer until you gain experience with your airplane.

Motor brake

Since a propeller turning in gliding flight generates more air resistance, the **motor brake should be activated** (see operating instructions of the controller).

TECHNICAL SPECIFICATIONS

WINGSPAN 2500 mm/99 inches

LENGHT 1152 mm/45.3 inches

FLIGHT WEIGHT 1700 grams (elevator and rudder from LW-PLA)

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!

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