



# renkforce

Ⓒ Assembly instructions

## RF2000 v2 Housing

Item no. 1720495

CE

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# 1. Introduction

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Dear Customer,

thank you for purchasing this product.

This product complies with the statutory national and European requirements.

To maintain this status and to ensure safe operation, you as the user must observe these operating instructions!



These operating instructions are part of this product. They contain important notes on commissioning and handling. Also consider this if you pass on the product to any third party. Therefore, retain these operating instructions for reference!

If there are any technical questions, contact:

International: [www.conrad.com/contact](http://www.conrad.com/contact)

United Kingdom: [www.conrad-electronic.co.uk/contact](http://www.conrad-electronic.co.uk/contact)

## 2. Explanation of symbols

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The symbol with a lightning bolt in a triangle is used where there is a health hazard, e.g. from electric shock. The device contains no parts that require servicing by the user. Therefore, never open the device.



The symbol with the exclamation mark points out particular dangers associated with handling, function and operation.



This symbol warns of hot surfaces the contact with which may cause injury.



**Attention! Danger from moving parts - keep away fingers and other body parts.**

This symbol warns of injury that may occur when reaching into the device in operation. Body parts may be crushed, pulled in or otherwise injured.



This symbol warns of hand injury from the belt drive.



The symbol with the arrow indicates special advice and notes.



The product is intended for use in dry indoor rooms only; it must not become damp or wet.



Observe the operating instructions!

## 3. Intended use

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The housing described in these instructions is intended for mounting on the RF2000 v2 kit/finished unit.

It is intended for indoor operation only. Do not use it outdoors. Contact with moisture, e.g. in bathrooms, must be avoided under all circumstances.

For reasons of safety and approval, the product must not be converted and/or changed by you. Using the product for any other purposes than those described above may damage the product. Improper use also may cause dangers such as short circuit, fire, electric shock, etc. Read the operating instructions precisely and keep them. Only pass the product on to any third parties together with the operating instructions.

This product complies with the statutory national and European requirements. All company names and product names are trademarks of their respective owners. All rights reserved.

## 4. Safety notes

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**Read the operating instructions attentively and particularly observe the safety notes. If the safety notes and the information in these operating instructions regarding proper handling are not observed, we assume no liability for any resulting injury/property damage. In such cases, the warranty/guarantee will also lapse.**



- For safety reasons, any unauthorized conversions and/or modifications to the product deviating from these operating instructions are not permitted. Components may be damaged and thus impair the function or safety of the device.
- This product is not a toy, not to be used by children and not suitable for children. Children cannot judge the dangers involved when handling electrical devices.
- All parts of the product are manufactured with high precision. Never apply any mechanical force here. This could render the housing unusable.
- Do not leave any packaging material unattended. It may become a dangerous toy for children.
- The product must not be exposed to any extreme temperatures, strong vibrations, high moisture, such as rain or steam or strong mechanical strain.
- Never place any sources of open fire, such as lit candles, on or right next to the device.



## 5. Scope of delivery

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### Front cover

- 1 x Front flap (curved) (A1)
- 2 x Side panel (A2)
- 1 x Lower panel (curved) (A3)
- 1 x Top panel (A4)

### Rear cover

- 1 x Rear panel (B1)
- 2 x Side panel (B2)
- 1 x Lower panel with a recess for the Y-motor (B3)
- 1 x Top panel (B4)
- 1 x Holding part (B5)

### Top cover

- 1 x Side part left (C1)
- 1 x Side part right (C2)
- 1 x Front top cover flap (curved) (C3)
- 1 x Rear top cover flap (curved) (C4)

### Assembly material, others

- 20 x Cylinder-head screw M3 x 12; 20 x nut M3
- 4 x Cylinder-head screw M4 x 25
- 2 x Plastic holder; 2 x cross-head screw M4x10; 2 x nut M4
- 4 x Rubber buffer; 4 x slotted screw M4x8
- Operating instructions (as a digital download)

### Current operating instructions

Download the current operating instructions via the link [www.conrad.com/downloads](http://www.conrad.com/downloads) or scan the displayed QR code. Follow the instructions on the website.



### Attention! Important note on shipping of the printer!



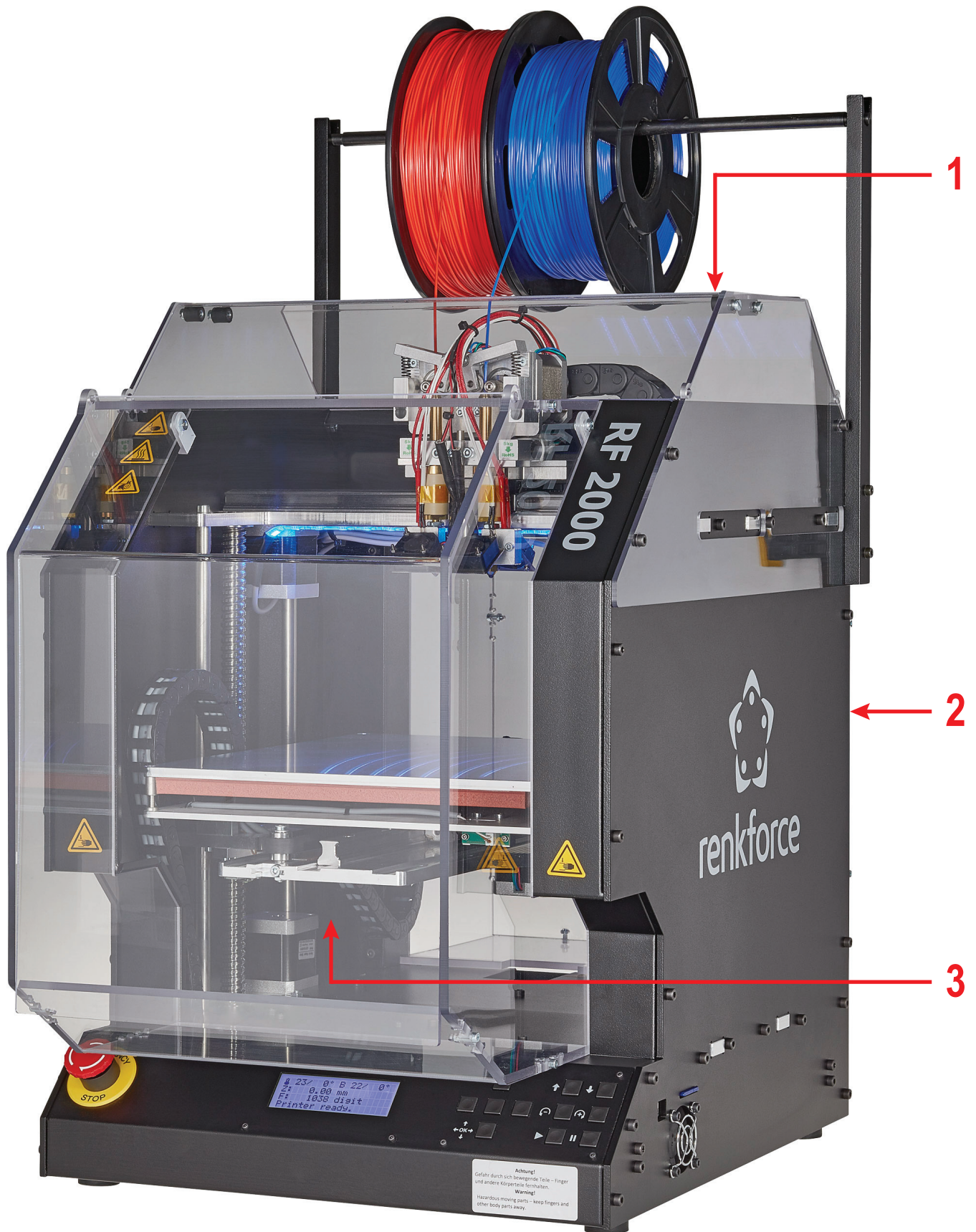
**Attention! If you need to send the printer, always remove the complete housing first!**

**Shipping with the housing is not permitted and can lead to transport damage!**

**In this case we assume no liability for transport damages. Furthermore, this may void the warranty/guarantee!**

**Please observe the separate packaging instruction as well.**

## 6. The housing at a glance



- (1) Top cover (permanently mounted; with 2 cover flaps)
- (2) Cover for the rear (quick release)
- (3) Cover for the front (fixed with 2 screws; with a cover flap)

# 7. General notes and information on installation

## a) General information



Take enough time for the assembly. Hurrying often leads to mistakes that may damage parts or ruin the time benefit by elaborate rework.

The workplace should be sufficiently large and clean so that the different components and assemblies can be put down and installed easily.

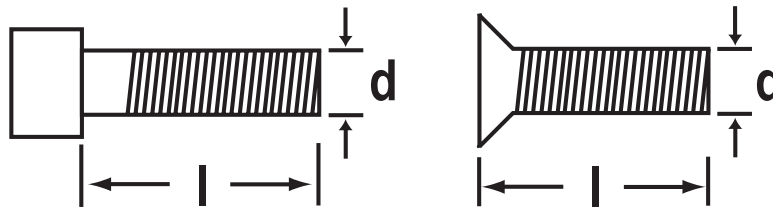
Always observe the images during assembly. Here, the assembly locations and correct alignment of the parts are shown.

All parts of the housing are manufactured with extreme precision. Never apply any force during assembly. All parts can be assembled without any great application of force. If this is not the case, rethink the assembly step and reread the corresponding description in these instructions.

When tightening the screws, ensure that you do not tighten them too tightly.

→ If the scope of delivery contains more screws and nuts than necessary, they serve as a replacement if, for example, a screw or similar is lost during assembly.

For cylinder head screws, the length ( $l$ ) is measured without the screw head; for countersunk-head screws, the length measurement takes place with the screw head. The diameter ( $d$ ) is always measured by the thread.



## b) Required tools

- Screwdriver (ross-head and slotted) large
- Hex key 2.5 mm / 3 mm
- Hexagon socket wrench 7 mm
- Hexagon spanner 7 mm

→ A hexagon socket wrench or a hexagon spanner may be used in some cases.

- Small flat pliers and small long-nose pliers

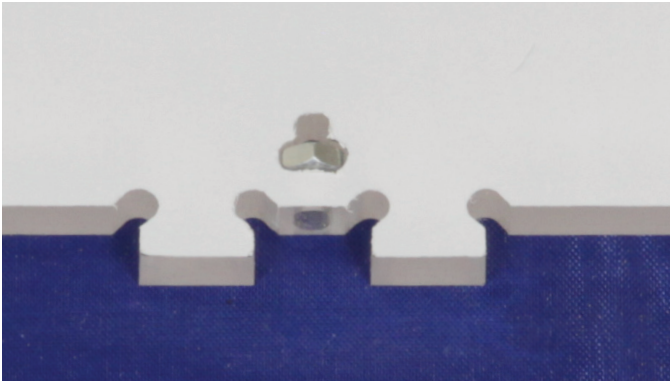
## 8. Assembling the housing

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→ The housing is completely transparent. When delivered, all parts are provided with a protective film on both sides. In order to better display the photos in the manual, we have only removed the protective film on one side.

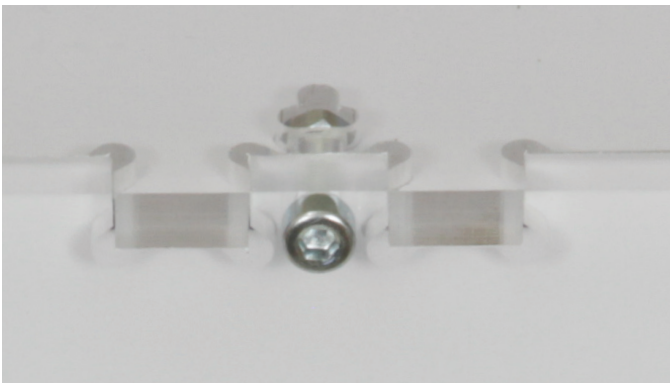
In principle, we recommend that you do not completely remove the protective film until after installation. For the assembly itself, it is sufficient to remove the protective film where the parts are assembled.

### a) Instructions for screwing the individual parts together



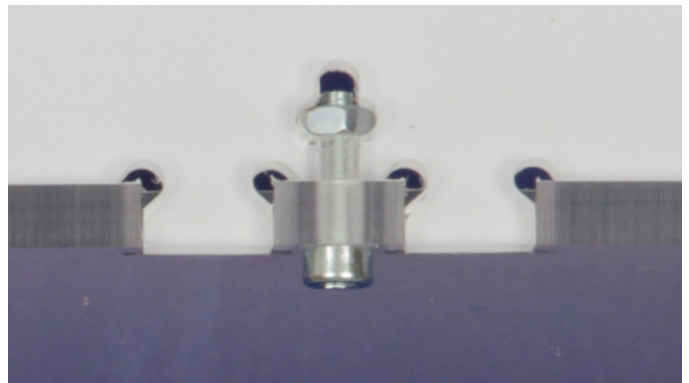
When assembling, always insert all nuts into the recesses of the holes first.

A straight surface of the nut must always lie in the recess and a point of the nut must always be directed outwards.



Next, assemble the two parts.

The lugs of one part must be inserted into the corresponding recesses of the second part.



Finally, screw all M3 cylinder head screws through the holes of the second part into the previously fitted nuts.

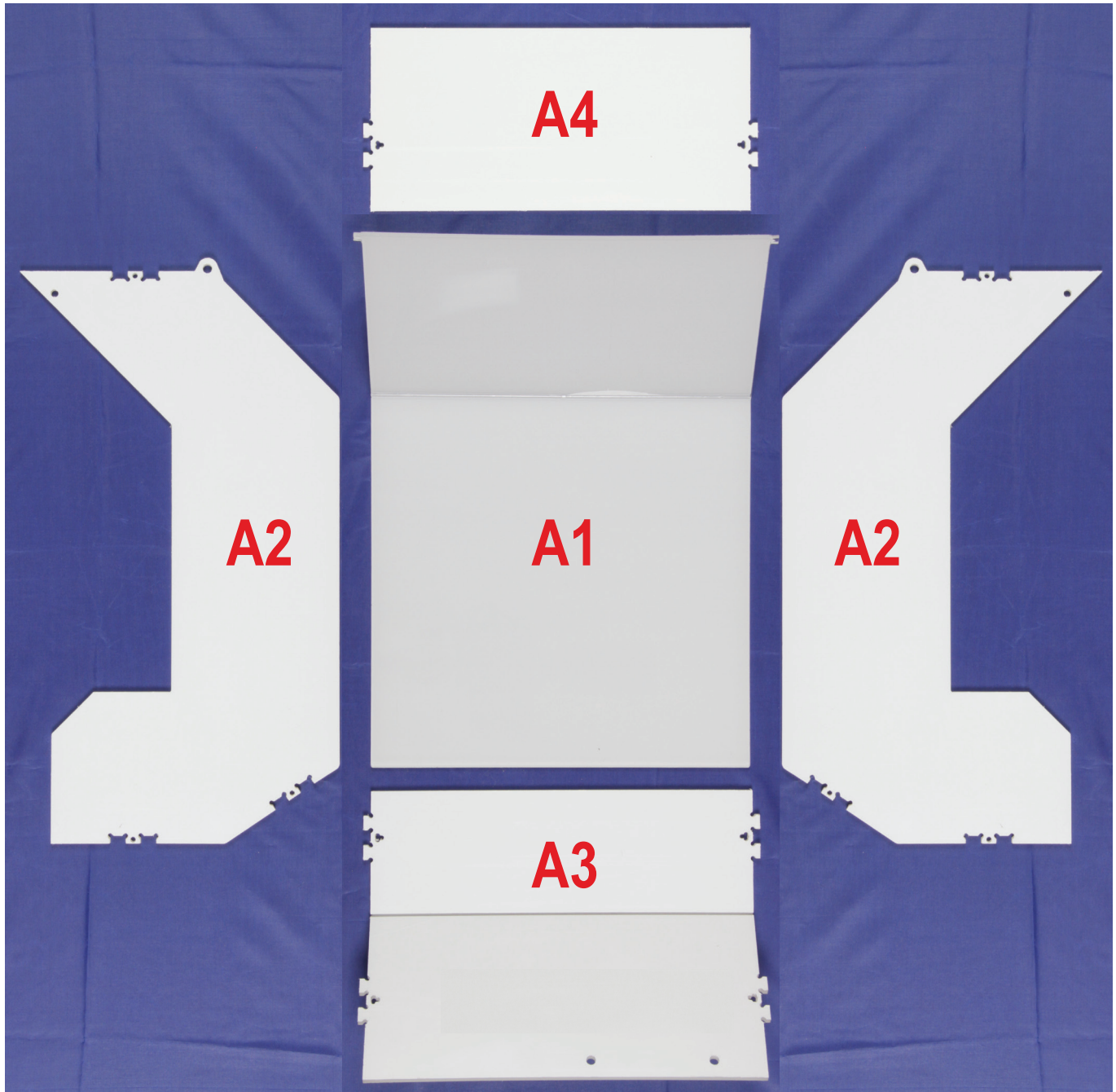
→ Tighten all cylinder head screws slightly first so that nothing slips. Tighten all screws only at the end when the complete part has been assembled.

However, do not tighten the screws too much, as otherwise the plastic may break or jump.



## b) Assembling the front cover

Overview and arrangement of the parts for the front cover



A1 - Front flap of the front cover (curved)

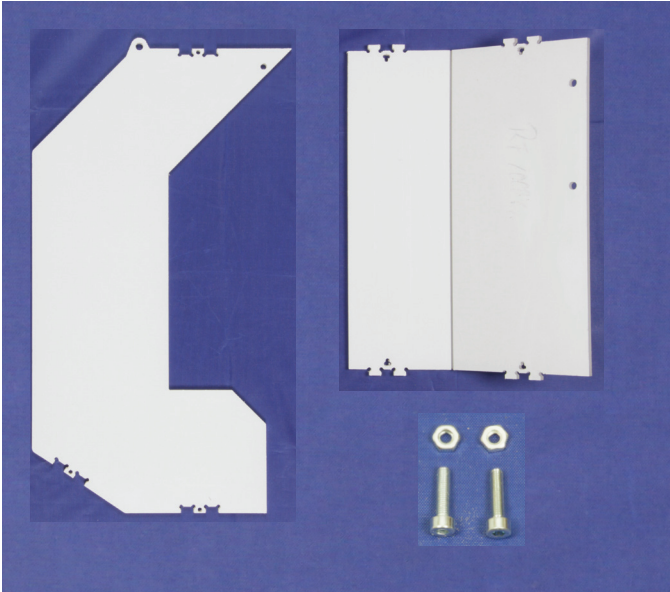
A2 - 2 side panels of the front cover

A3 - Lower panel of the front cover (curved)

A4 - Front panel of the top cover

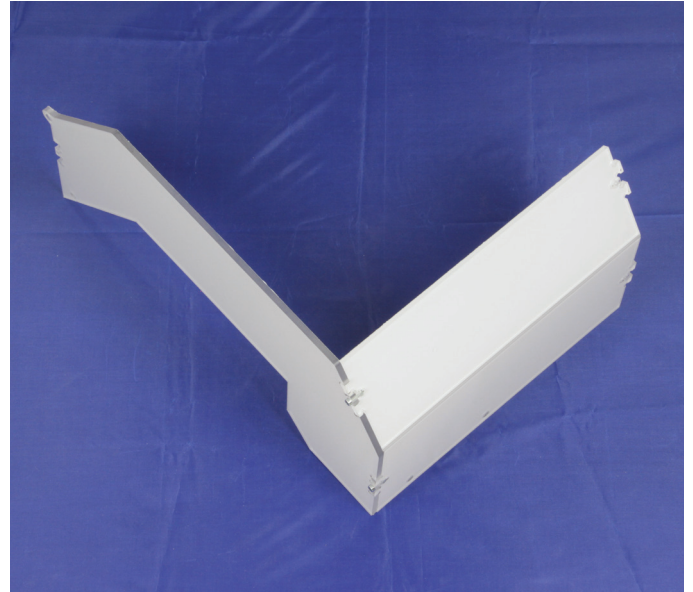
→ The two side panels are completely identical.

## Assembling the front cover



- 1 x Side panel **A2**
- 1 x Lower panel **A3** (curved)
- 2 x Cylinder head screw M3 x 12
- 2 x Nut M3

→ Please note! The bolts and nuts are shown slightly larger.

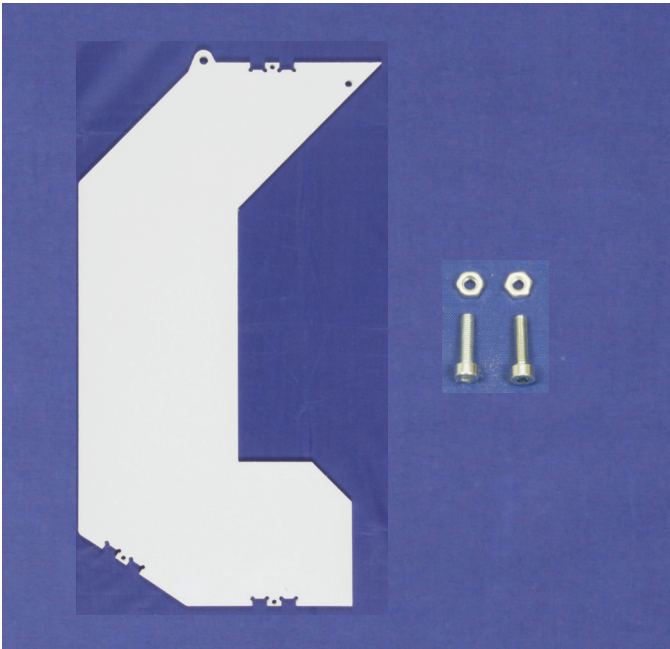


The first side panel must be mounted on one of the sides of the lower panel.

Insert the two nuts into the slots in the recesses.

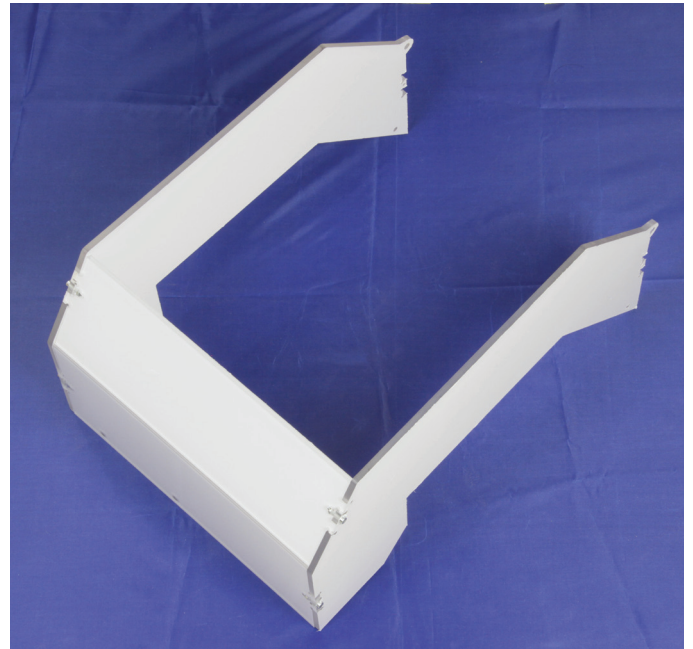
Remove the protective foil on both sides in the area of the 2 holes in the side panel and in the area of the two lugs of the lower panel.

Fasten the side panel to the lower panel with the two M3 cylinder head screws as shown in the picture.



- 1 x Lower panel **A3** with the first mounted side panel **A2** (not shown)
- 1 x Side panel **A2**
- 2 x Cylinder head screw M3 x 12
- 2 x Nut M3

→ Please note! The bolts and nuts are shown slightly larger.



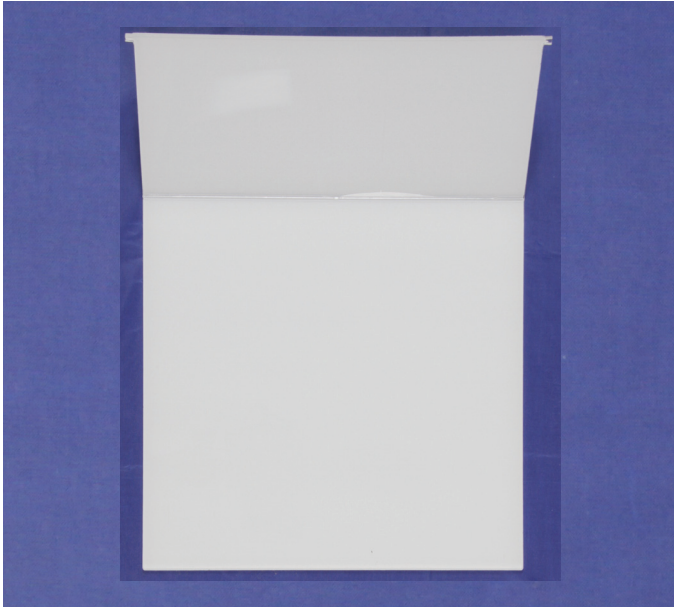
The second side panel must be mounted opposite the first side panel.

Insert the two nuts into the slots in the recesses.

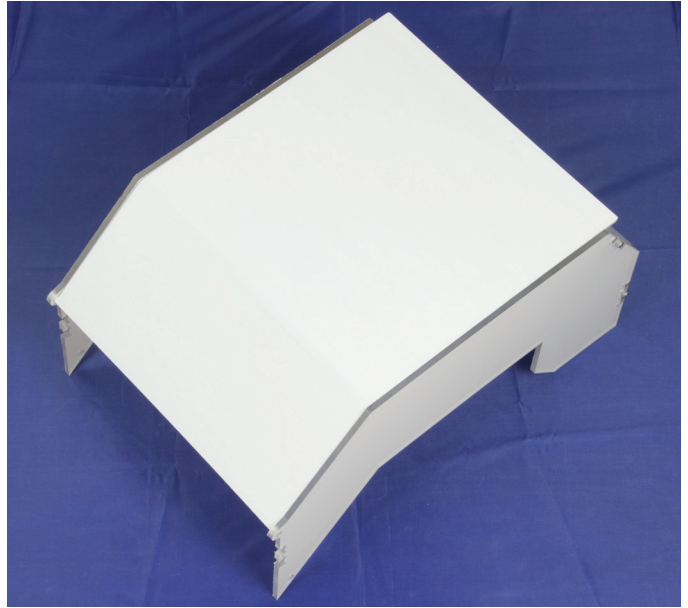
Remove the protective foil on both sides in the area of the 2 holes in the side panel and in the area of the two lugs of the lower panel.

Fasten the side panel to the lower panel with the two M3 cylinder head screws as shown in the picture.

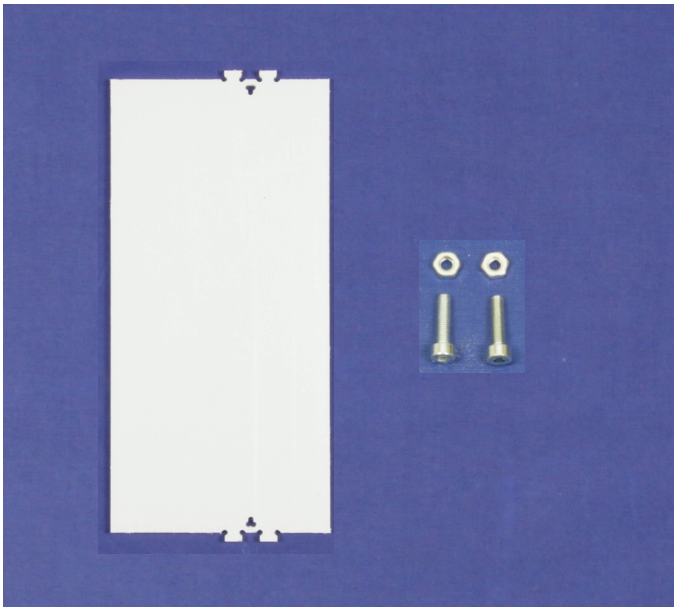




- 1 x Lower panel **A3** with the two mounted side panels **A2** (not shown)
- 1 x Front flap **A1**



Remove the protective film on the inside of both side panels in the area of the respective hole and on both sides in the area of the two lugs of the front flap.  
 Press the two side parts carefully, slightly apart and hang the front flap into the two holes.  
 Then press the two side parts together again.  
 The front flap must rest cleanly on the previous construction.



- 1 x Previously mounted construction with **A1**, 2 x **A2** and **A3** (not shown)
- 1 x Top panel **A4**
- 2 x Cylinder head screw M3 x 12
- 2 x Nut M3



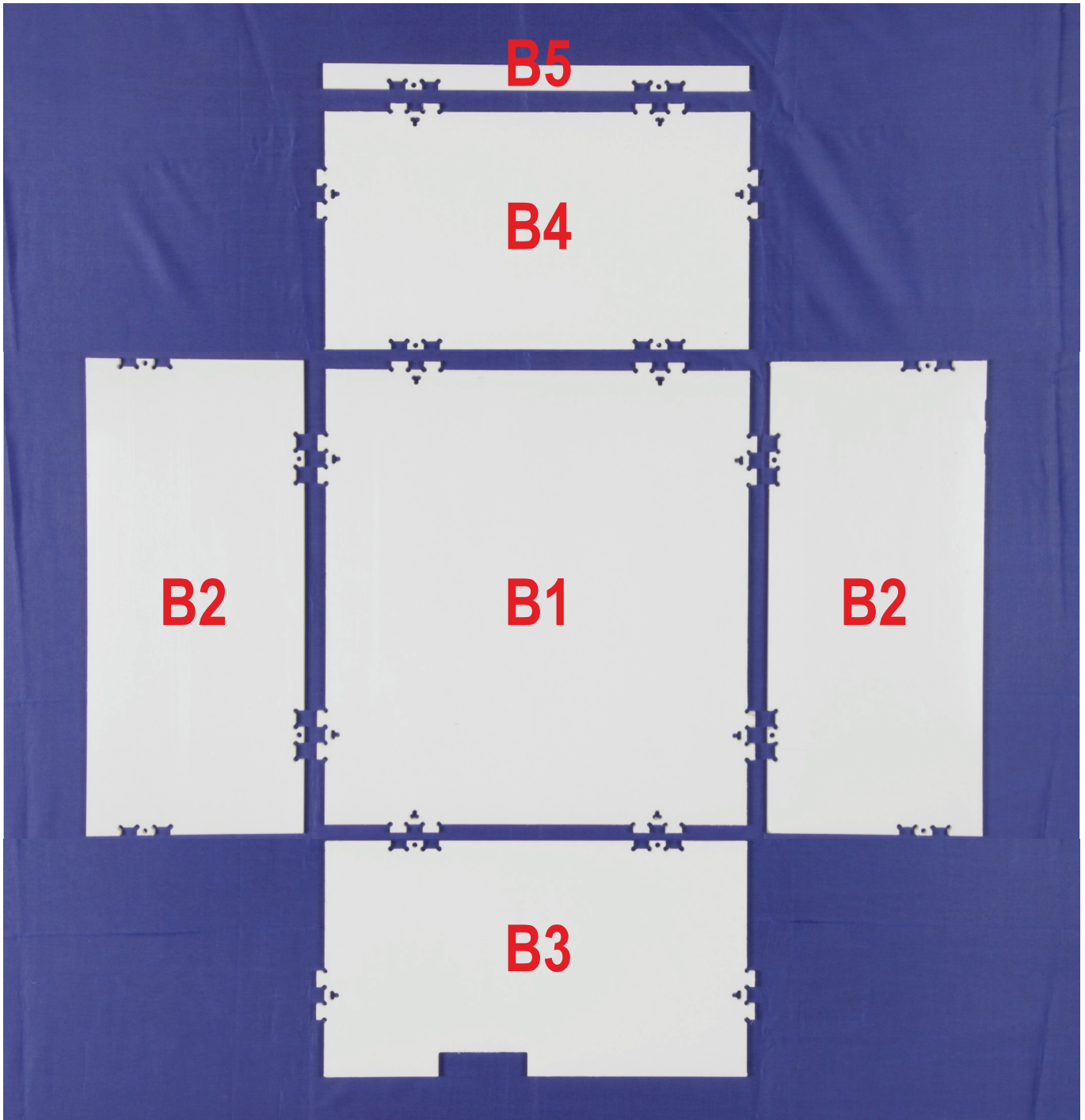
Insert the two nuts into the slots in the recesses.  
 Remove the protective foil on both sides in the area of the 2 holes in the side panels and in the area of the two lugs of the top panel.  
 Fasten the top panel to the two side panels using the two M3 cylinder head screws as shown in the picture.

→ Please note! The bolts and nuts are shown slightly larger.

→ This completes the installation of the front cover. Finally, finally tighten all previously inserted screws.

### c) Rear cover assembly

Overview and arrangement of the parts for the rear side



**B1** - Rear panel of the rear cover

**B2** - 2 side panels of the rear cover

**B3** - Lower panel of the rear cover with a recess for the Y-motor

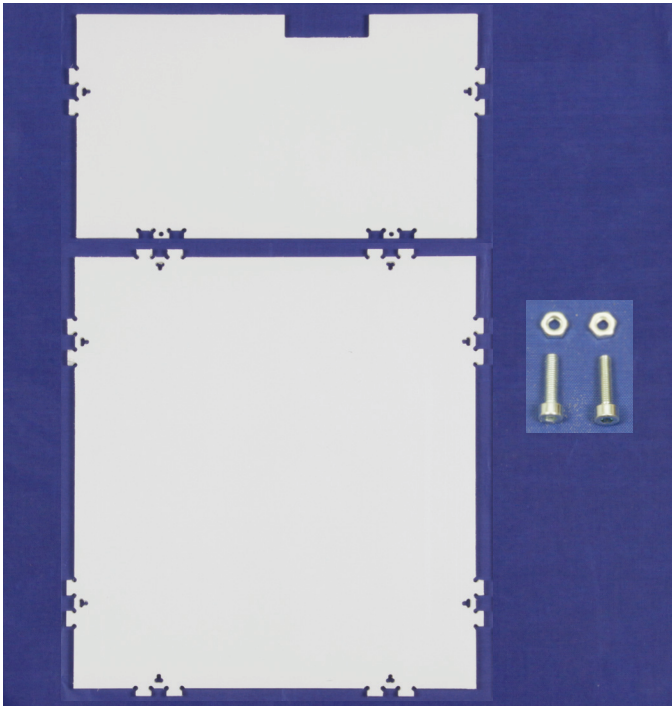
**B4** - Top panel of the rear cover

**B5** - Holding part for rear cover

→ The two side panels are completely identical.

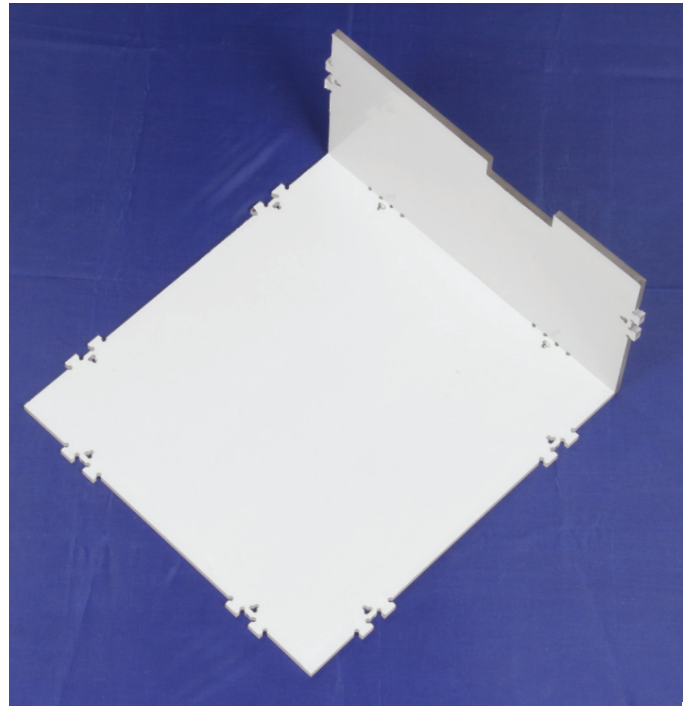


## Assembling the cover

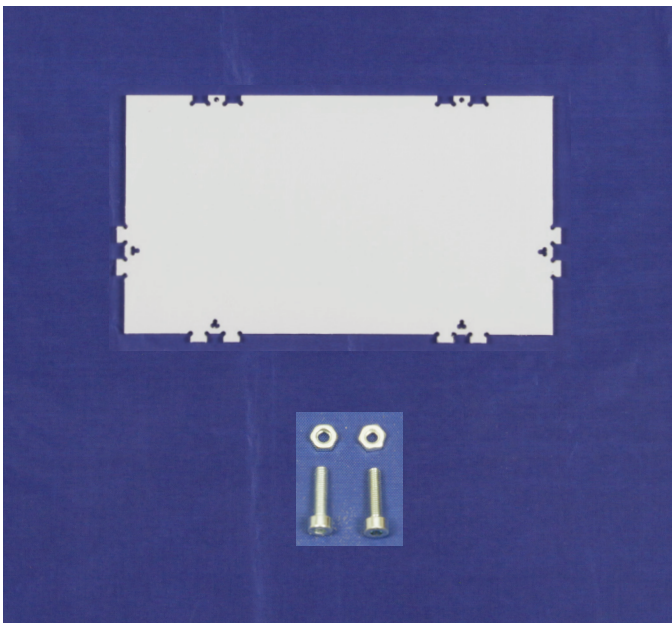


- 1 x Rear panel **B1**
- 1 x Lower panel **B3** (with a recess for the Y-motor)
- 2 x Cylinder head screw M3 x 12
- 2 x Nut M3

→ Please note! The bolts and nuts are shown slightly larger.

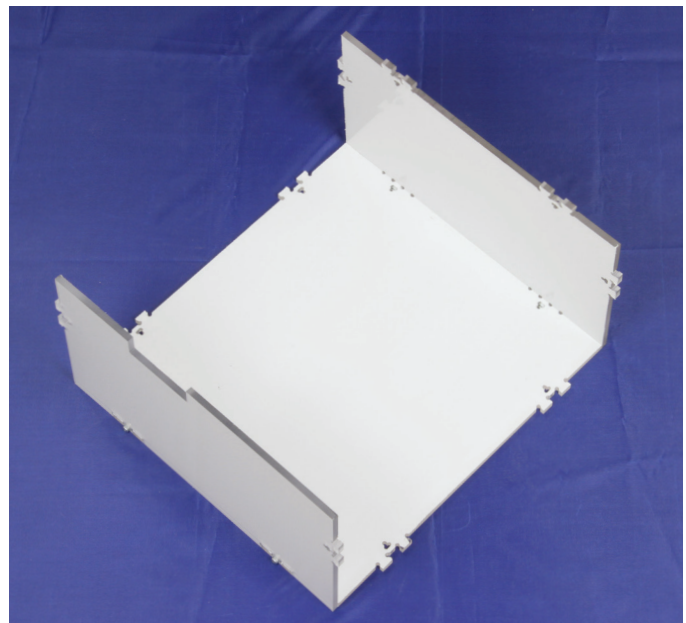


The lower panel must be mounted on one of the two short sides. The outer edges must be flush with each other. Insert the two nuts into the slots in the recesses. Remove the protective foil on both sides in the area of the 2 holes of the lower panel and in the area of the two lugs of the rear panel. Fasten the lower panel to the rear panel with the two M3 cylinder head screws as shown in the picture.

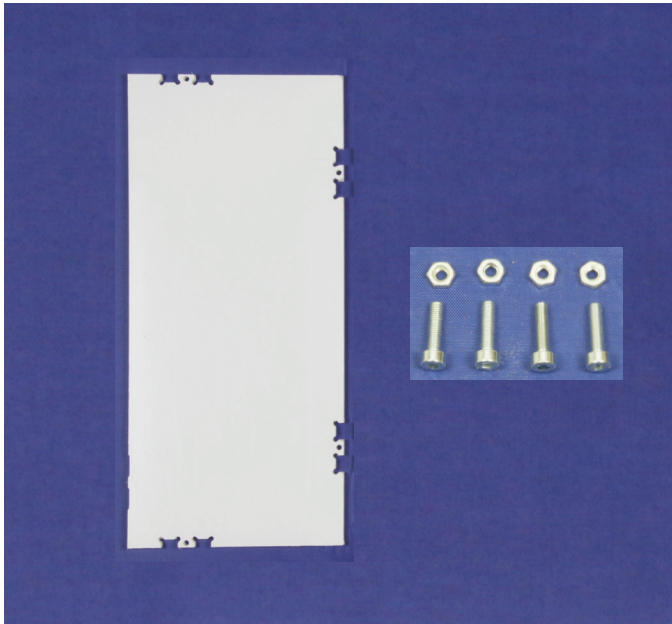


- 1 x Rear panel **B1** with the mounted lower panel **B3** (not shown)
- 1 x Top panel **B4**
- 2 x Cylinder head screw M3 x 12
- 2 x Nut M3

→ Please note! The bolts and nuts are shown slightly larger.

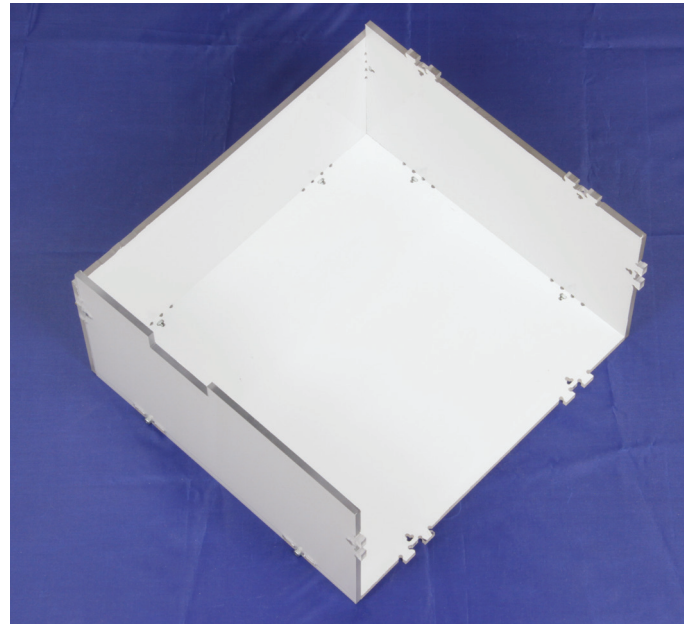


The top panel must be mounted opposite the lower panel. Replace the two nuts in the slots in the recesses. Remove the protective foil on both sides in the area of the 2 holes in the top panel and in the area of the two lugs in the rear panel. Fasten the lower panel to the rear panel with the two M3 cylinder head screws as shown in the picture.

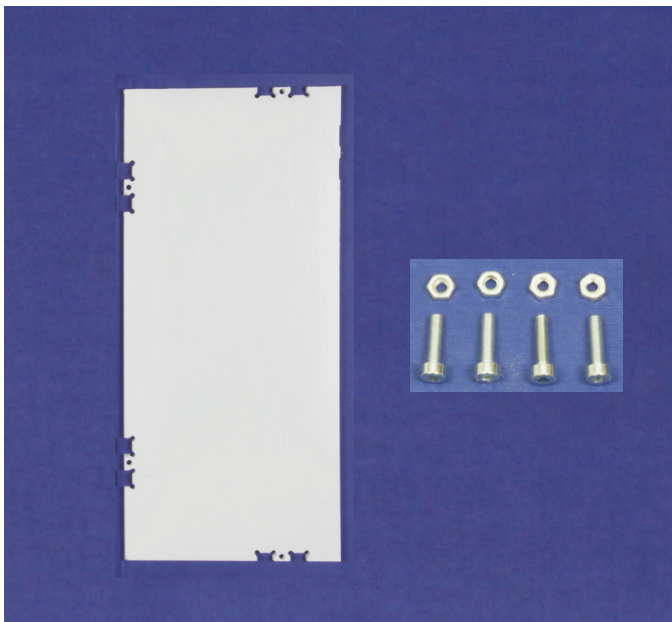


- 1 x Rear panel **B1** with the two mounted panels **B3** and **B4**  
(not shown)
- 1 x Side panel **B2**
- 4 x Cylinder head screw M3 x 12
- 2 x Nut M3

→ Please note! The bolts and nuts are shown slightly larger.



The first side panel must be mounted on one of the two sides of the previous construction.  
Insert the 4 nuts into the slots of the correct recesses.  
Remove the protective foil on both sides in the area of the lugs of the top and lower panel as well as the rear panel.  
Fasten the side panel to all three panels using the 4 M3 cylinder head screws as shown in the picture.



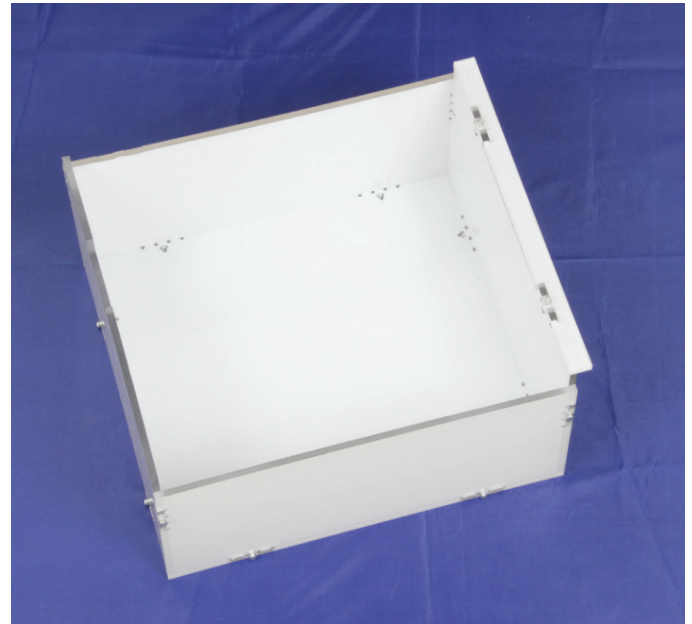
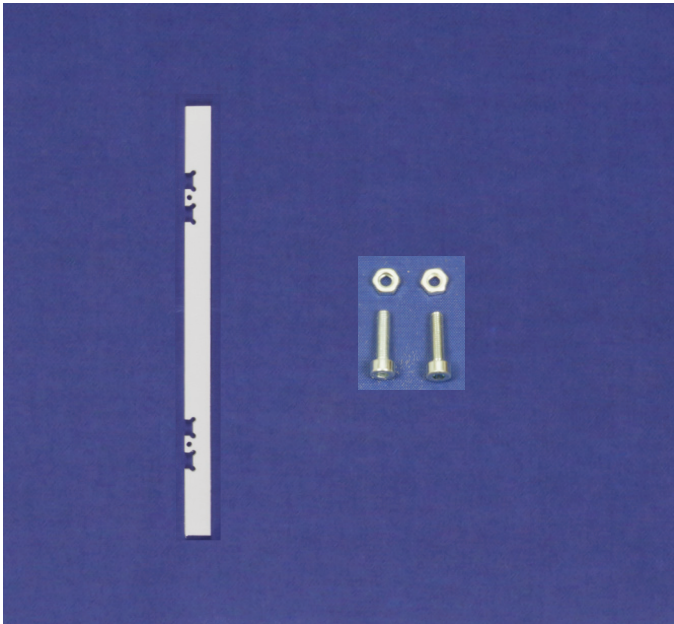
- 1 x Rear panel **B1** with the mounted panels 1 x **B2**, **B4** and **B3**  
(not shown)
- 1 x Side panel **B2**
- 4 x Cylinder head screw M3 x 12
- 2 x Nut M3

→ Please note! The bolts and nuts are shown slightly larger.



The second side panel must be mounted opposite the first side panel.  
Replace the 4 nuts in the slots of the recesses.  
Remove the protective foil on both sides in the area of the lugs of the top and lower panel as well as the rear panel.  
Fasten the side panel to all three panels using the 4 M3 cylinder head screws as shown in the picture.





1 x Rear panel **B1** with the mounted panels 2 x **B2**, **B3** and **B4**  
(not shown)

1 x Holding part for rear cover **B5**

2 x Cylinder head screw M3 x 12

2 x Nut M3

→ Please note! The bolts and nuts are shown slightly larger.

The holding part for the rear cover must be mounted on the remaining two lugs of the top panel. It must be aligned so that the projection points away from the complete cover.

Insert the 2 nuts into the slots in the recesses.

Remove the protective foil on both sides in the area of the lugs of the top panel and in the area of the 2 holes of the holding part.

Fasten the holding part to all of the top panel using the two M3 cylinder head screws as shown in the picture.

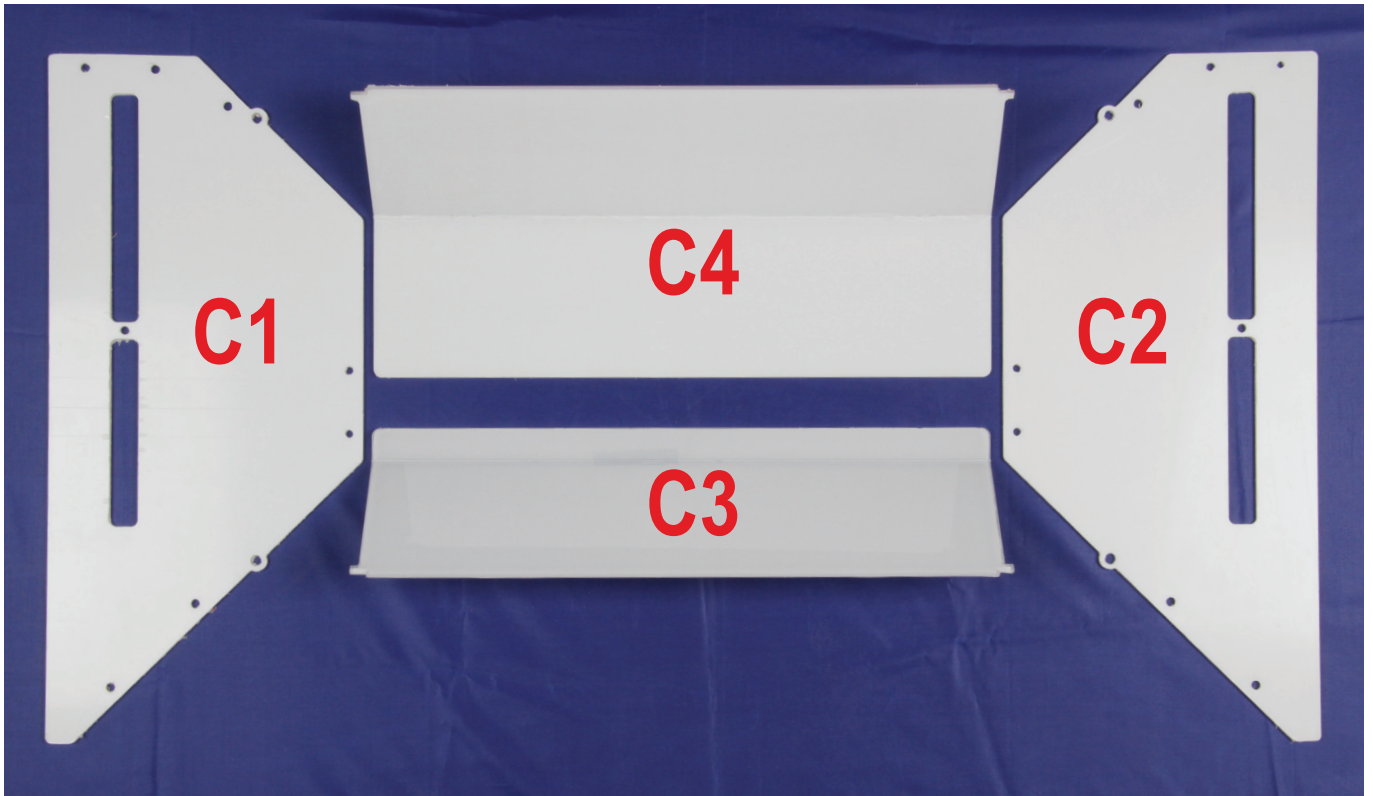
→ This completes the installation of the rear cover. Finally, finally tighten all previously inserted screws.

## 9. Mounting the housing on the printer

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### a) Mounting the top cover on the printer

Overview and arrangement of parts for the top cover



C1 - Left side panel

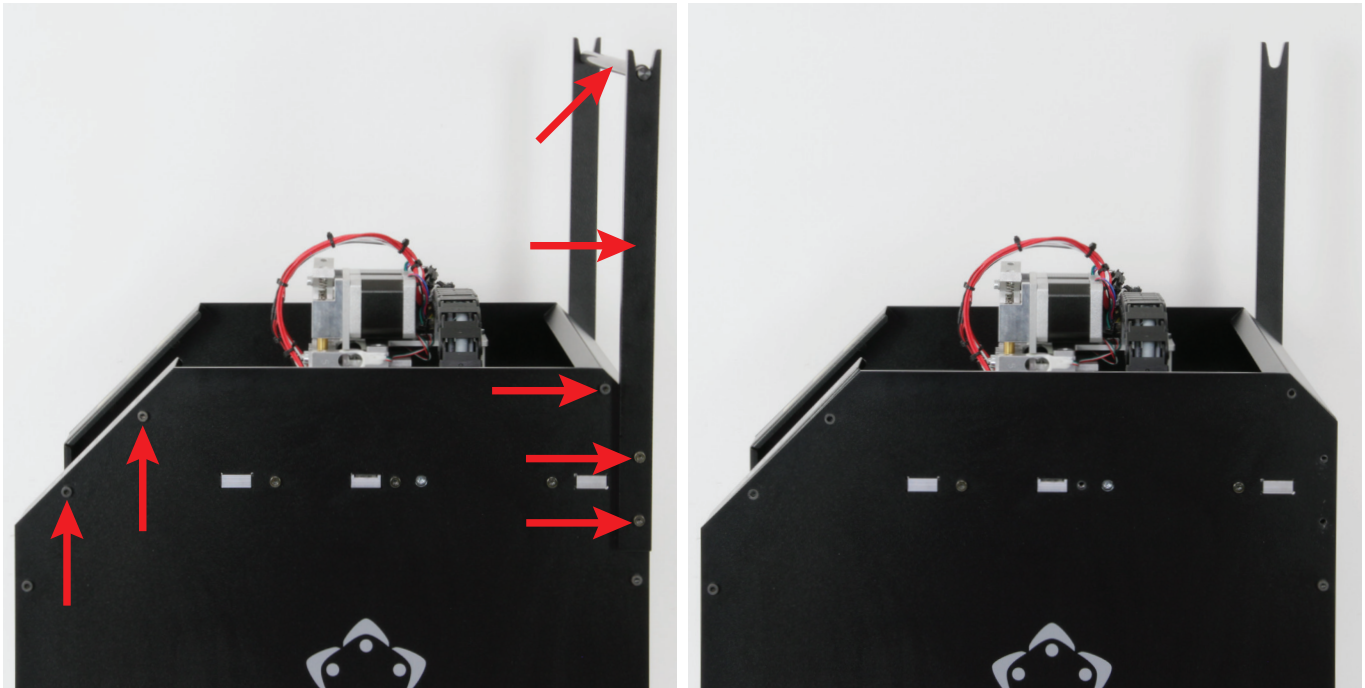
C2 - Right side panel

C3 - Front top cover flap (curved)

C4 - Rear top cover flap (curved)

→ The two side parts differ only in the countersunk mounting holes!

## Preparing the printer



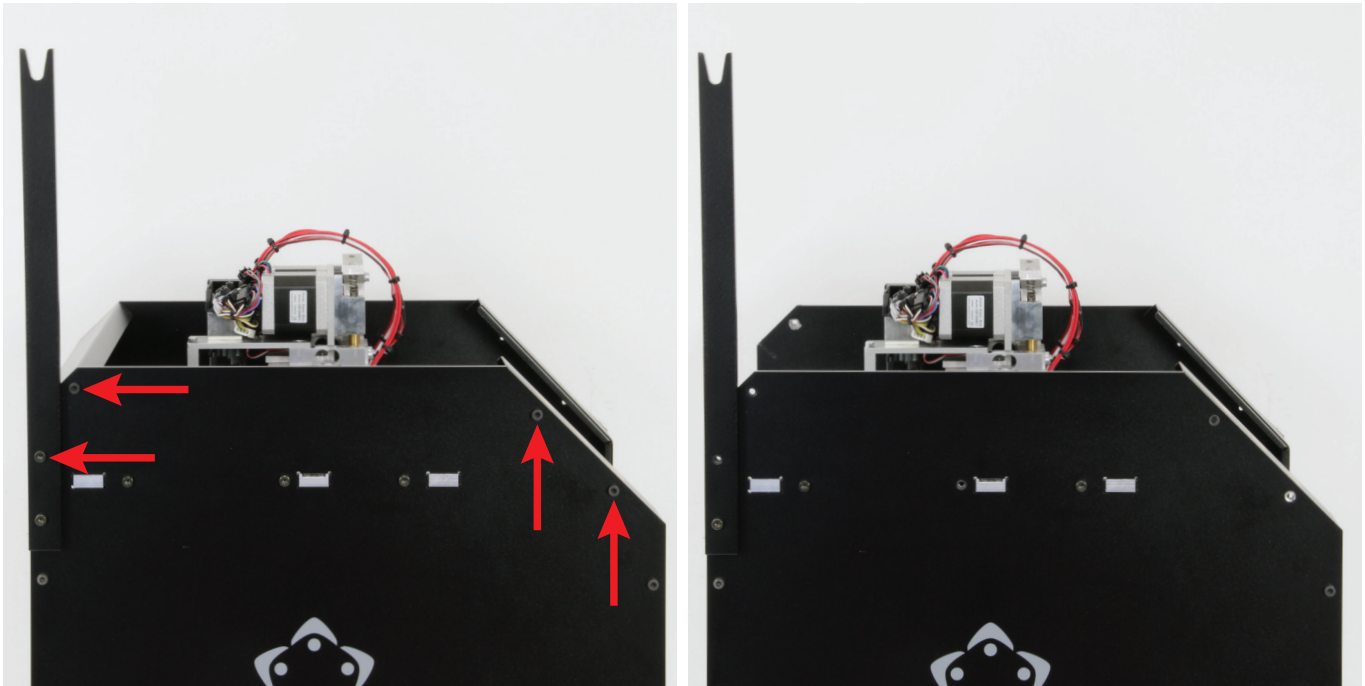
Always start disassembly on the right side of the printer (from the front view)!

First remove the shaft from the filament holder.

Then remove the two cylinder head screws on the right front panel and the top cylinder head screw on the top rear panel of the printer.

Finally, remove the two cylinder head screws of the right filament holder part and finally remove the right filament holder part.

→ To remove the filament holder, refer to the operating instructions for the printer!

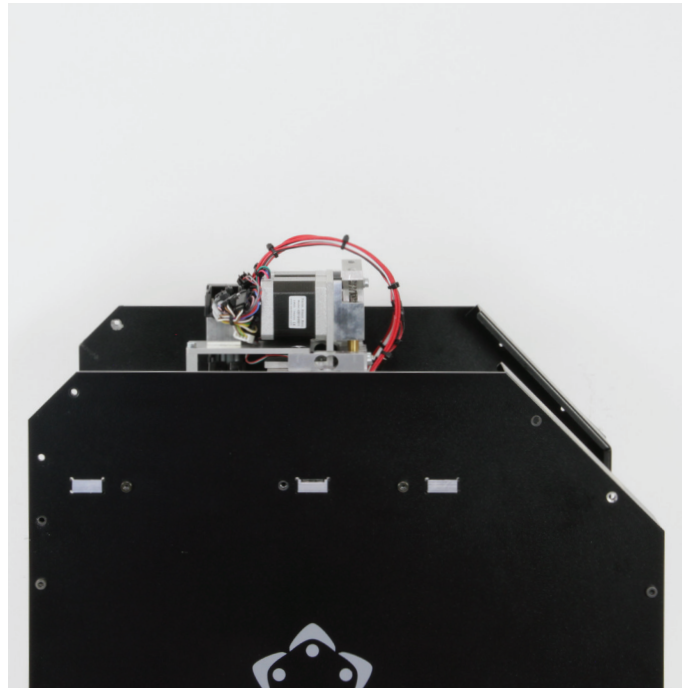
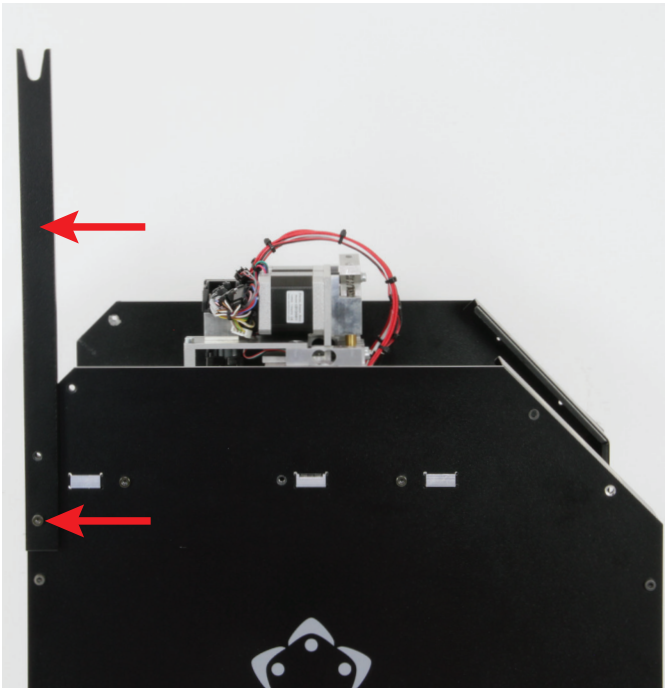


Now continue with the disassembly on the left side of the printer (from the front view)!

First remove the two cylinder head screws on the left front panel and the top cylinder head screw on the top rear panel of the printer.

Then remove the top cylinder head screw of the left filament holder part and remove the top rear panel.

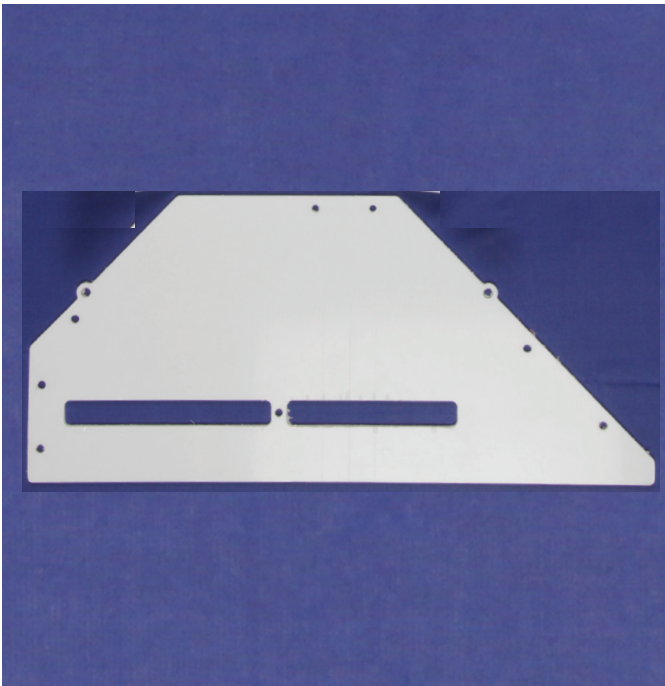




Now remove the lower cylinder head screw of the left filament holder part and finally remove the left filament holder part.

→ Make sure that the nut of the lower cylinder head screw does not fall into the cable duct!

#### Mounting the left side panel (C1) on the printer



1 x Side part left (C1)  
 3 x M4 x 10 (old, not shown)  
 2 x Nut M4 (old, not shown)



Take the left side panel and fix it to the left front panel of the printer with 2 original cylinder head screws and nuts. Turn the third cylinder head screw into the middle hole (see individual arrow in the picture).

→ The countersunk holes of the side part must be on the outside (at the screw head)! If this is not the case, you have swapped the two side parts.



- 1 x Cylinder head screw M4 x 25 (black) (new)
- 1 x Nut M4 (old, not shown)
- 1 x Filament holder part (old, not in the picture)
- 1 x Rear cover of the printer (old, not shown)



Fasten the left filament holder part using a new M4 x 25 cylinder head screw (black) and a M4 nut (old). Insert the printer's rear cover at the same time.

Insert the screw into the lower hole.

→ Again, make sure that the nut does not fall into the cable shaft! Please also read the operating instructions for the printer again!



- 1 x Cylinder head screw M4 x 25 (black)
- 1 x M4 x 10 (old, not shown)
- 2 x Nut M4 (old, not shown)



Replace the top rear panel of the printer and secure it with 2 M4 cylinder head screws and nuts. For the filament holder part use a new cylinder head screw M4 x 25 (black).

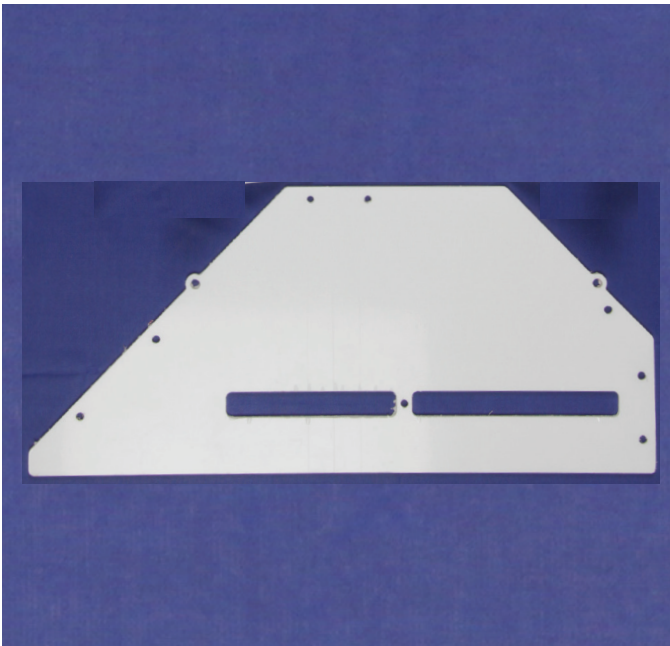


2 x Slotted screw M4 x 8 (new)  
2 x Rubber spacers (new)

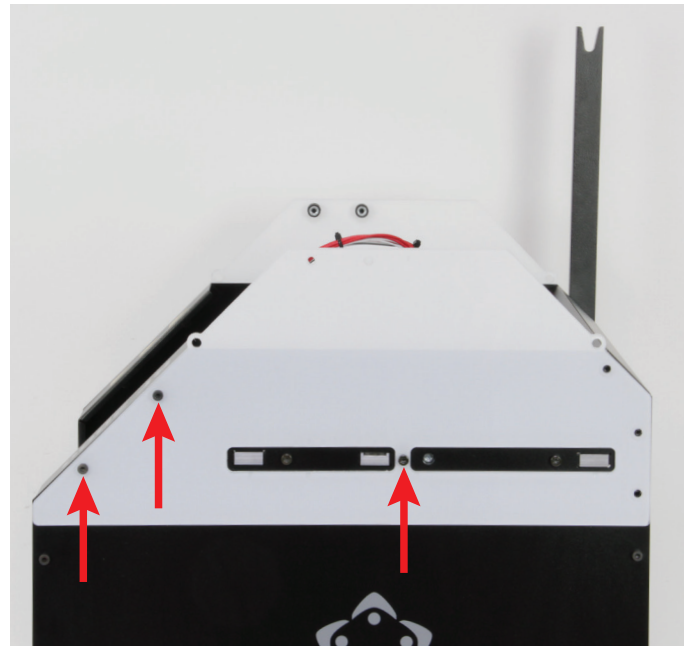


Fasten the two rubber spacers to the left side panel in the holes provided for this purpose.  
The screw heads must be on the outside and the spacers on the inside of the printer.

### Mounting the right side panel (C2) on the printer



1 x Side part right (C2)  
3 x M4 x 10 (old, not shown)  
2 x Nut M4 (old, not shown)



Take the right side panel and fix it with 2 original cylinder head screws and nuts, hand-tight to the right front panel of the printer. Turn the third cylinder head screw into the middle hole (see individual arrow in the picture).

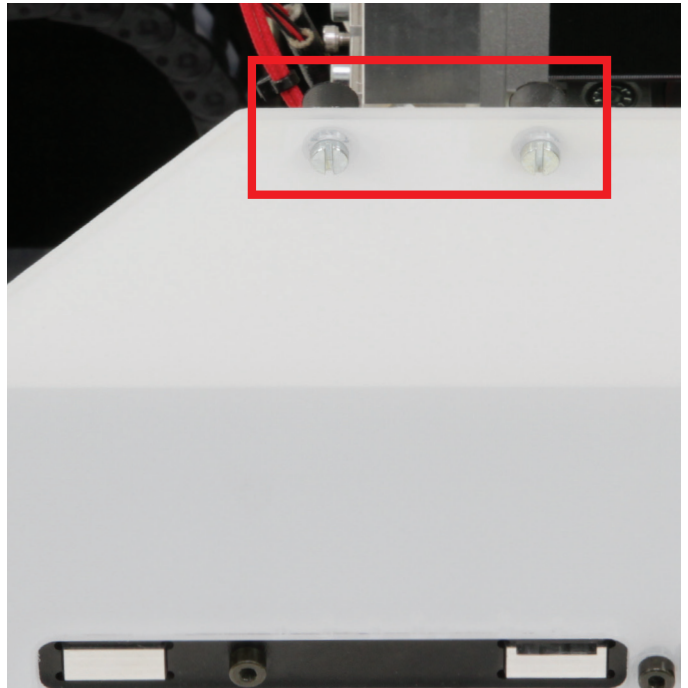
→ In this step, only tighten the screws loosely so that you can still bend the side panel.

The countersunk holes of the side part must be on the outside again (at the screw head)!



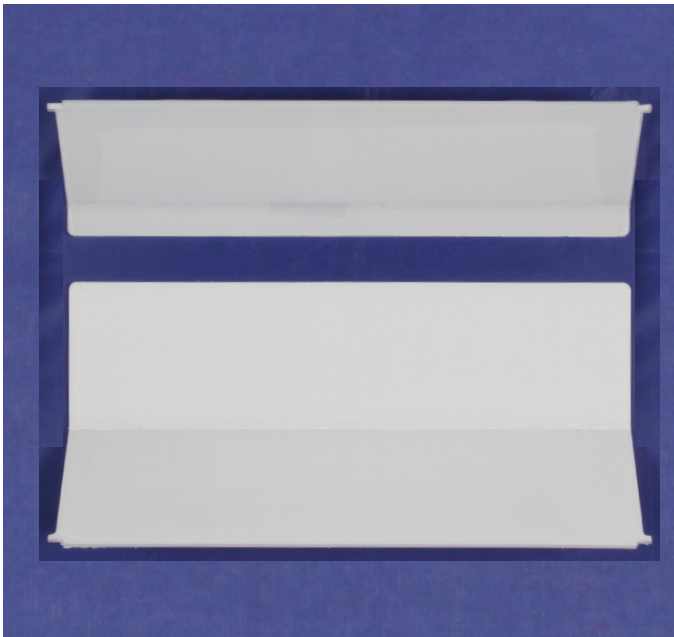


2 x Slotted screw M4 x 8 (new)  
2 x Rubber spacers (new)

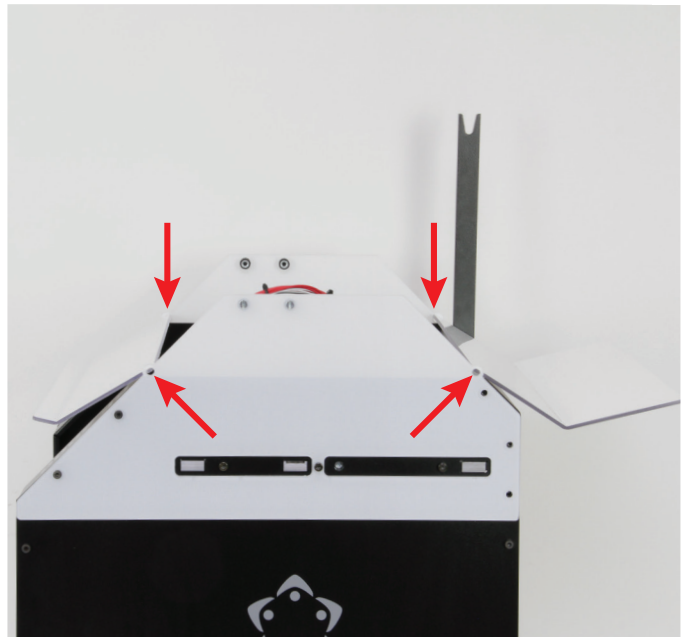


Fasten the two rubber spacers to the left side panel in the holes provided for this purpose.  
The screw heads must be on the outside and the spacers on the inside of the printer.

**Inserting the front and rear cover flap (C3) and (C4)**



1 x Front top cover flap (C3) (curved)  
1 x Rear top cover flap (C4) (curved)



Now insert the two cover flaps into the holes provided in the two side parts.  
The smaller cover flap must be on the front of the printer.  
To attach the flaps, carefully bend the right side part away from the printer.

## Tightening the right side panel



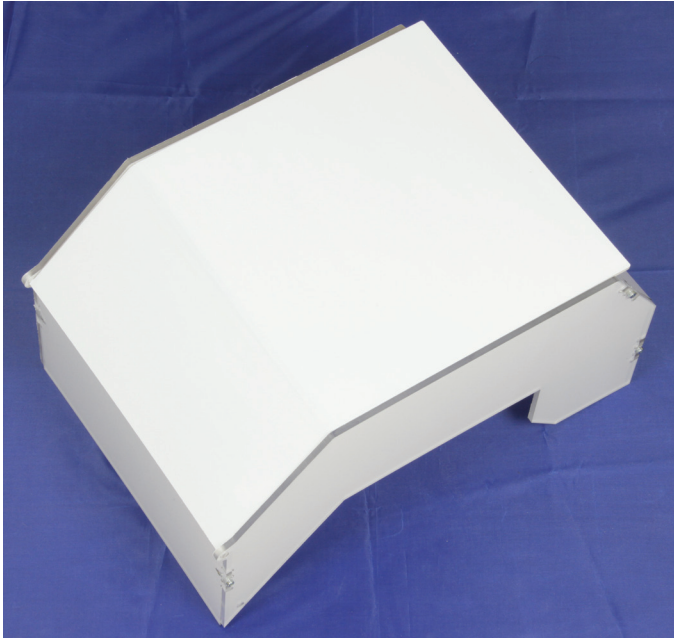
- 2 x Cylinder head screw M4 x 25 (black)
- 1 x M4 x 10 (old, not shown)
- 3 x Nut M4 (old, not shown)
- 1 x Filament holder part (old, not in the picture)



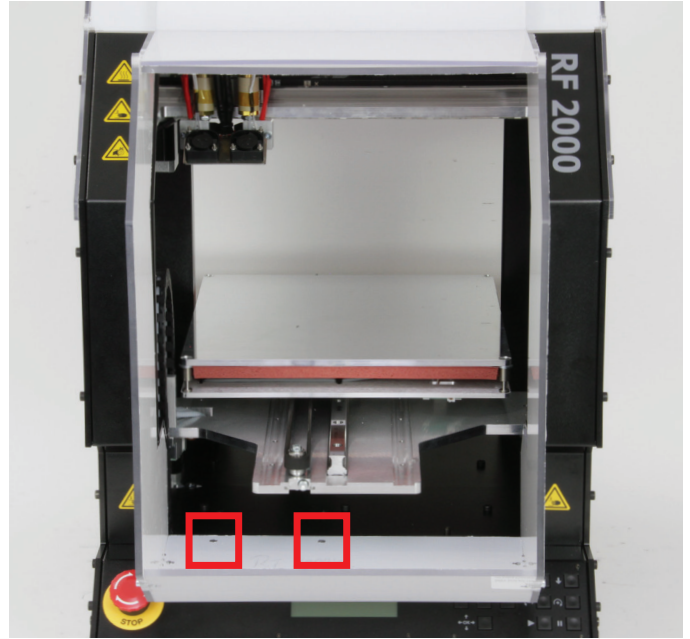
Fasten now the right filament holder part, with 2 new cylinder head screws M4 x 25 (black) and 2 nuts M4 (old).  
Use the old cylinder head screw to attach the side panel to the rear panel of the printer.

- Carefully tighten all screws on the two side panels.  
You can tighten the 4 screws in the filament holder parts.

## b) Mounting the front cover on the printer



1 x Front cover

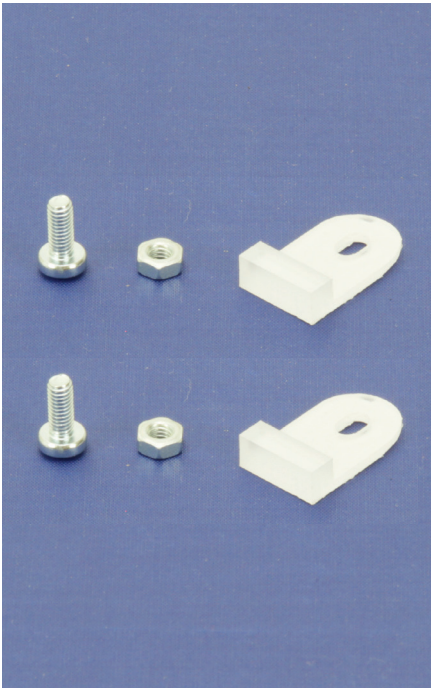


First, hang the front cover down.  
The two holes must snap into place on the printer's 2 screw heads.

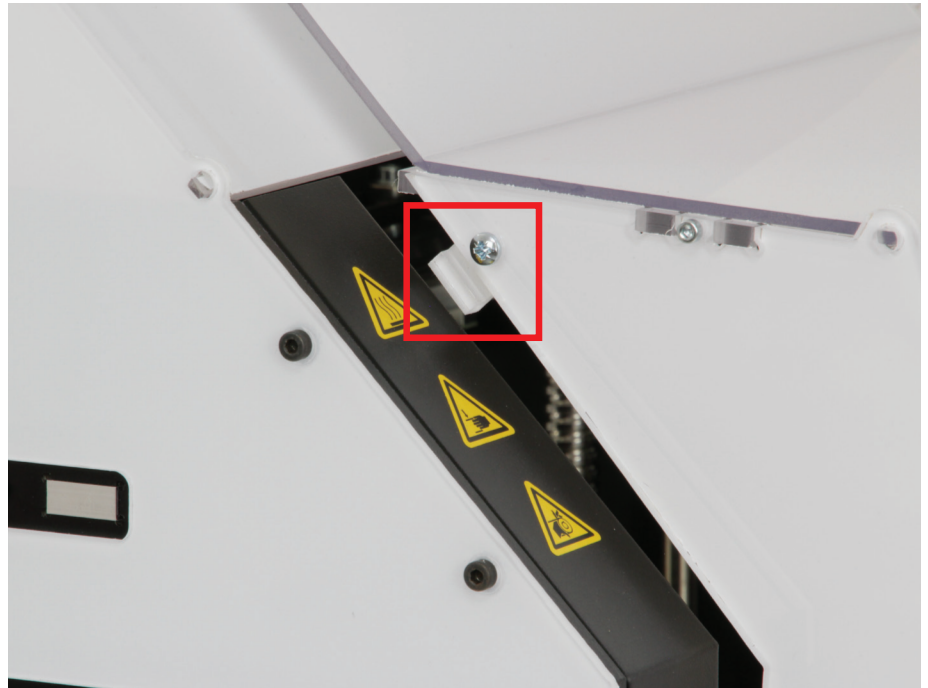


→ If you fold the front flap of the front cover backwards and the holes are correctly engaged, the front cover should already hold on to the printer automatically.

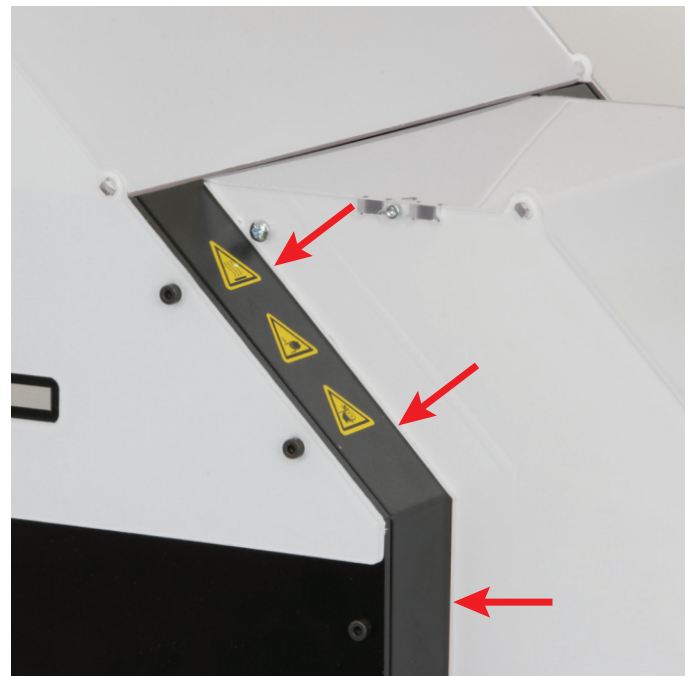
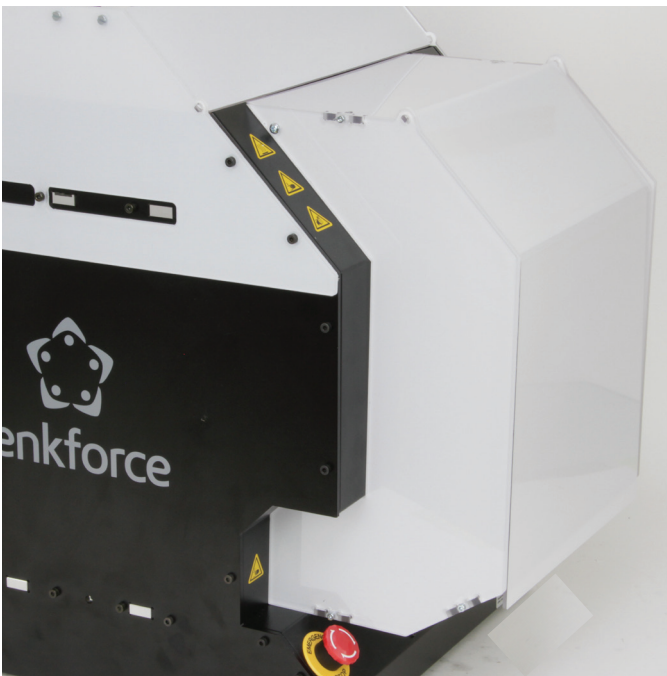




- 2 x Cross-head screw M4 x 10 (new)
- 2 x Nut M4 (new)
- 2 x Retaining bracket (new)

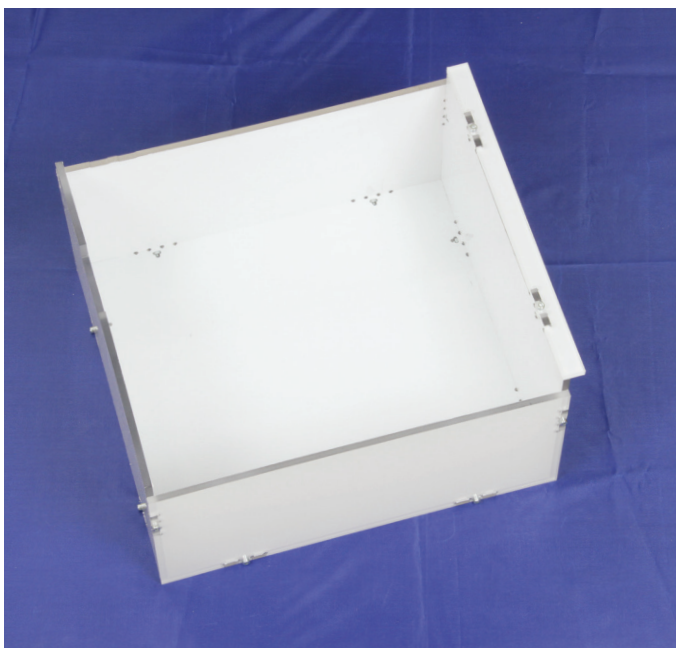


Mount one of the two retaining brackets on each side of the front cover in the hole provided for this purpose.  
 The retaining brackets must be mounted on the inside and the lower edge must always face outwards. The nuts must not yet be tightened. For the time being, it is sufficient to unscrew them loosely by hand.  
 The order is: **Cross-head screw - Front cover - Retaining bracket - Nut**



Now hang the two retaining brackets on the front panels of the printer.  
 Press the front cover of the printer so that it is completely against the printer. At the same time, slide the first retaining bracket towards the front cover so that it is completely against the front panel of the printer.  
 In this position, tighten the nut of the first retaining bracket.  
 Proceed accordingly on the other side.  
 If everything is correct, there should be no gap between the front panel of the printer and the front cover.

### c) Mounting the rear cover on the printer



1 x Rear cover



First hang the rear cover at the top with the holding part **B5** on the top rear panel of the printer.



Then fold the rear cover onto the printer.  
There should be no gap between the rear cover and the two rear panels of the printer.



Finally, reinsert the shaft from the filament holder.

This completes the assembly and installation of the housing.

## 10. Disposal

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Electronic devices are recyclable and should not be disposed of in household waste!

Dispose of the product according to the relevant statutory regulations at the end of its service life.

## 11. Technical data

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Printer dimensions (W x D x H):	approx. 400 x 645 x 665 mm
Thickness of housing parts	3 - 5 mm

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