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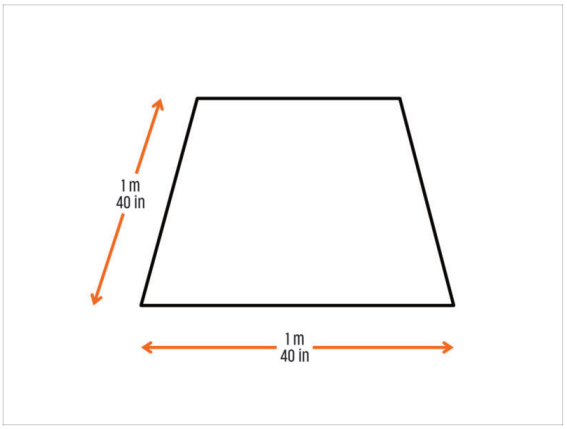
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1. Introduction



STEP 1 Preparing the Enclosure kit



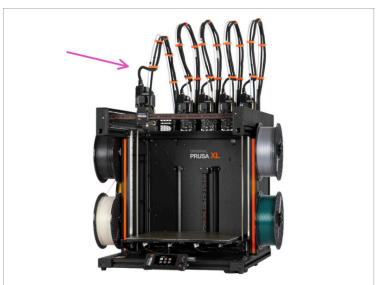


- Welcome to the manual on how to assembly the Prusa Enclosure for XL+.
- Please prepare the Prusa Enclosure for XL+ received from Prusa Research.
- For the assembly, prepare a clean workbench with a space of at least 1 m x 1 m (40 in x 40 in).

⚠ **If children are involved in assembly, always supervise them to avoid injury.**

STEP 2 Printer compatibility



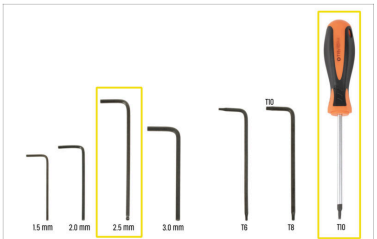




ⓘ The Prusa Enclosure for XL+ assembly manual is specifically intended for these devices:

- Prusa XL+ Single-Tool
- Prusa XL+ Dual-Head
- Prusa XL+ Five-Head

STEP 3 Tools necessary for this guide

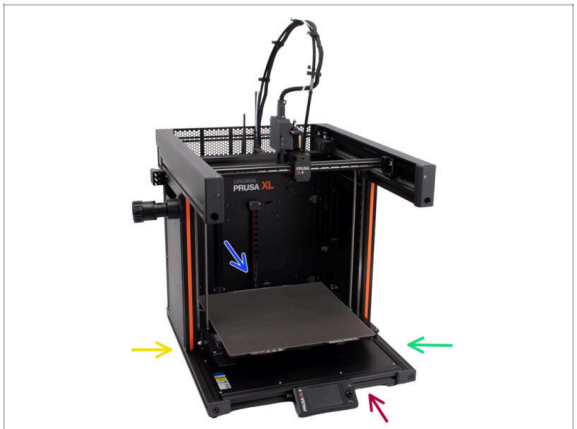






- **For this guide, please prepare:**
- 2.5 mm Allen key or Torx T10 screwdriver
- Needle-nose pliers
- Cutting pliers
- A cardboard box for use as heatbed protection during the assembly. *Hint: use the Nextruder box.*

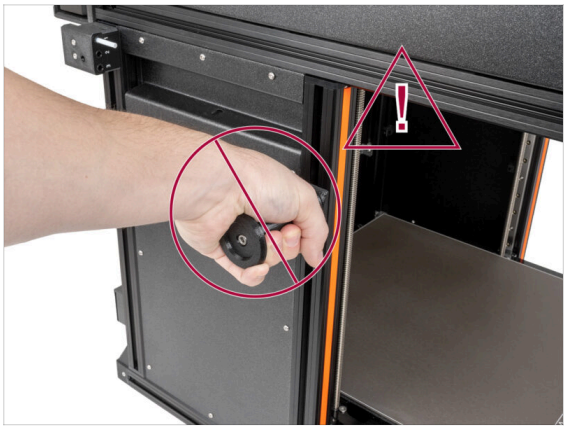
STEP 4 Front, left, right and rear side

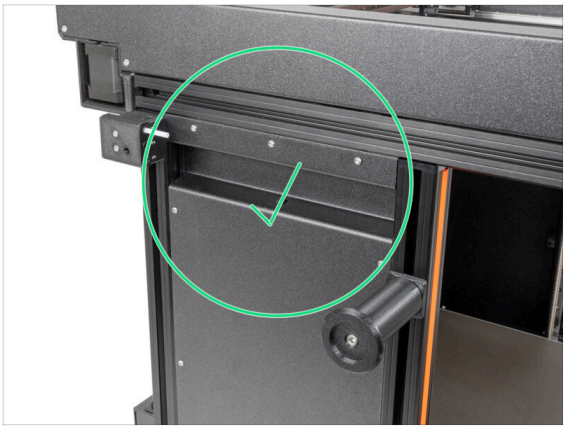


⚠ **IMPORTANT:** The XL printer is large and it is almost impossible to have the entire body in every single picture. Throughout the manual, there will used terms to **describe the side you will be working on:**

- **Front side** - the location featuring the **xLCD screen**.
- **Left side** - identifiable by the **safety sticker** positioned along its edge.
- **Right side** - in contrast to the left side, **lacks a safety sticker**.
- **Rear side** - the remaining section housing the **PSU** (Power Supply Unit).

STEP 5 Manipulating with the printer





⚠ **Never manipulate the printer by using the spoolholders or the upper metal flanges. You can damage the LED lights hidden inside.**

- When assembling, handle the base using the extrusions.

STEP 6 Manipulating with the enclosure





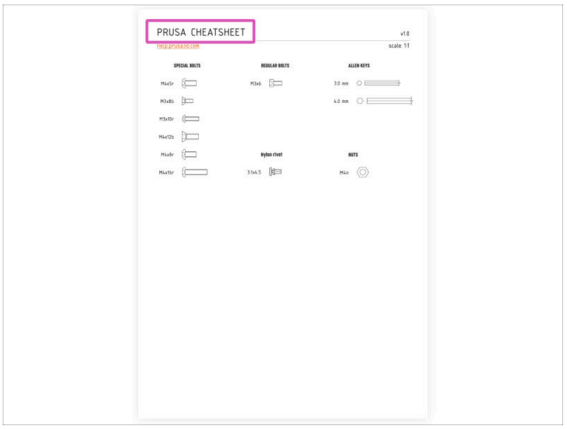
- During the assembly, peel off all protective films from the plastic panels.

⚠ After removing the protective film, the side panel is more susceptible to scratches. Please proceed with caution.

⚠ Metal frames can be sharp, so be careful and handle them with care.

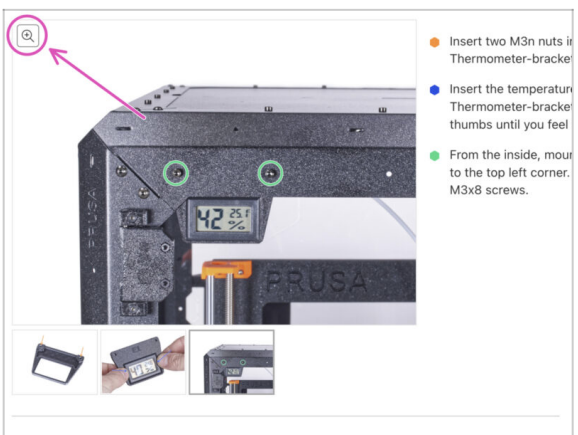
STEP 7 Use labels for reference





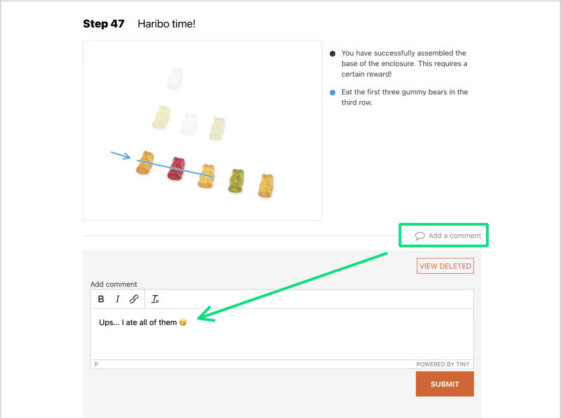
- Fasteners on the labels has a scale of 1:1 and can be used to identify parts :-)
- The numbers in parentheses below the fastener picture indicate the number of extra pieces added to the SPARE package.
- For the most common screws and nuts you can also use the enclosed letter, which contains Prusa Cheatsheet on the other side.
- You can download it from our site help.prusa3d.com/cheatsheet. Print it at 100 %, don't rescale it, otherwise, it won't work.

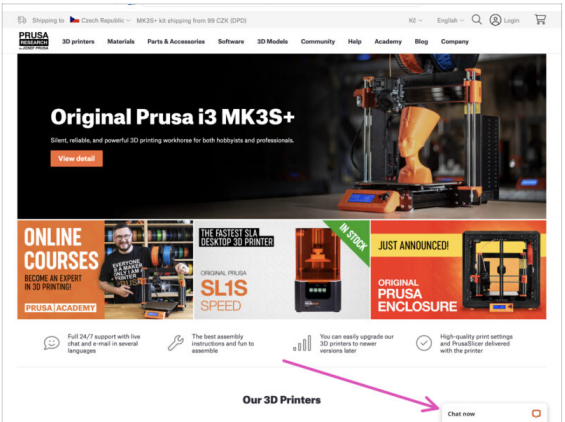
STEP 8 View high resolution images



- When you browse the guide on help.prusa3d.com, you can view the original images in high resolution for clarity.
- Just hover your cursor over the image and click the Magnifier button ("View original") in the top left corner.

STEP 9 We are here for you!





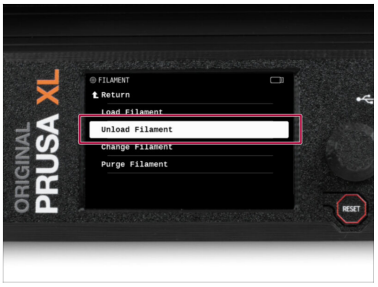
- Lost in the instructions? Missing screw or cracked printed part? **Let us know!**
- You can contact us using following channels:
  - Using comments under each step.
  - Using our 24/7 live chat at prusa3d.com
  - Writing an email to info@prusa3d.com

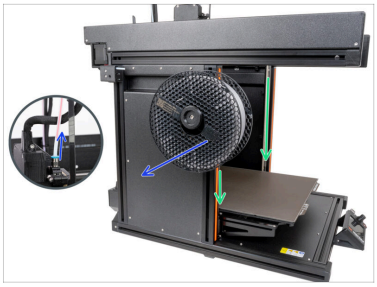
STEP 10 Prepare your desk

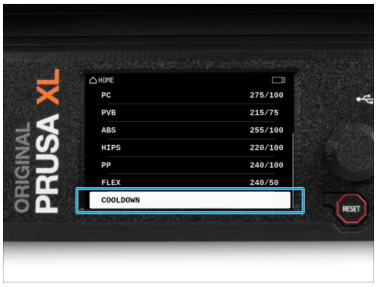


- Tidy up your desk! Tidying up decreases the probability of losing small parts.
- **Clear your workspace.** Make sure you have enough room. A nice clear flat workbench will get you the results you are aiming for.
- **Let there be light!** Make sure you are in a well-lit environment. Another lamp or even an extra flashlight will probably come in handy.
- Prepare something to contain the plastic bags and the removed packing materials so you can recycle them afterwards. Make sure there are no important parts being discarded.

STEP 11 Preparing the printer







- Plug the printer into the wall outlet and turn it ON.
- If you have loaded the filament, unload it from the hotend.

  ⓘ **Multi-tool** -> Unload all filaments. On the screen, navigate to *Filament -> Unload Filament and select the tool-head*.
- Remove the filament from the PTFE tube. It is necessary to completely remove it from the printer.

⚠ **WARNING: The hotend and heatbed are very HOT. Do not touch these parts!!!**

- Move the Z-axis down. On the screen, navigate to *Control -> Move axis -> Move Z.* **Leave the Z-axis at least 10cm above the bottom panel.**
- Cool down the printer. On the screen, navigate to *Preheat -> Cooldown.*

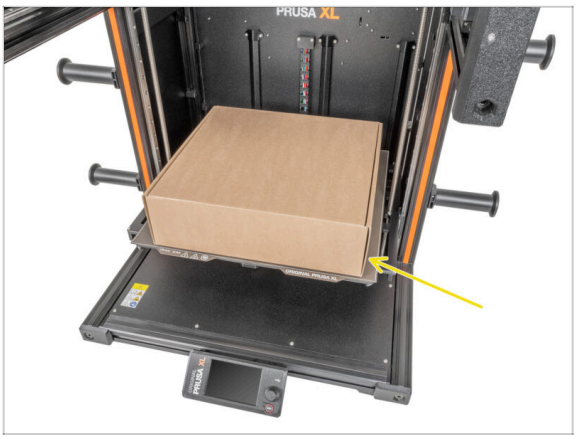
⚠ **Wait until the hot parts are cooled down** to ambient temperature. It takes approximately 10 minutes.

STEP 12 Printer unpluging



- Turn the power switch OFF (symbol "O").
- From the rear side of the printer, unplug the PSU cable.

STEP 13 Protecting the heatbed



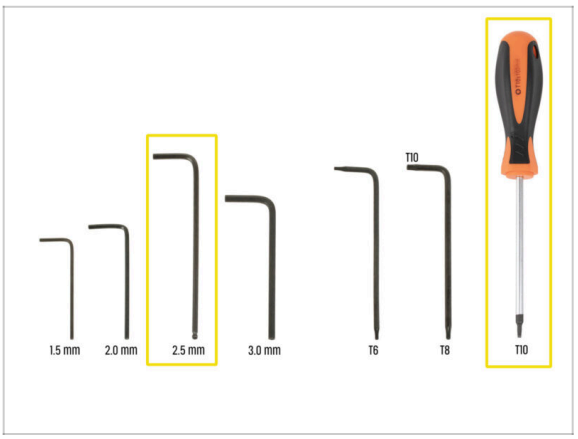
Before you proceed, it is recommended to protect the heatbed.

- **Make sure the heatbed is cooled down** to ambient temperature. Place the empty cardboard box approximately to the front center part of the heatbed.

2. Enclosure assembly



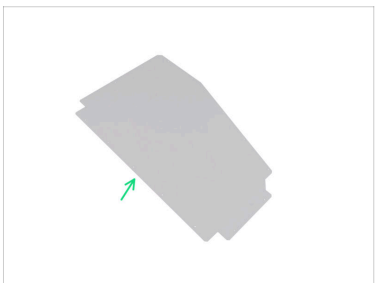
STEP 1 Tools necessary for this chapter

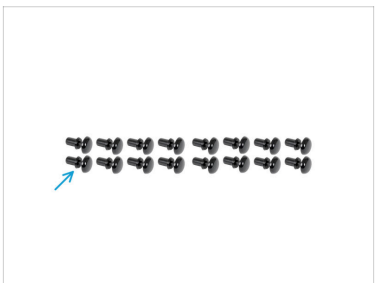


- **For this chapter, please prepare:**
- 2.5mm Allen key/Torx T10 screwdriver

STEP 2 Left frame: parts preparation

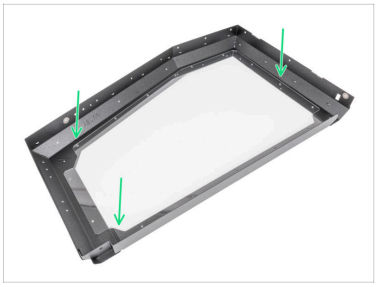






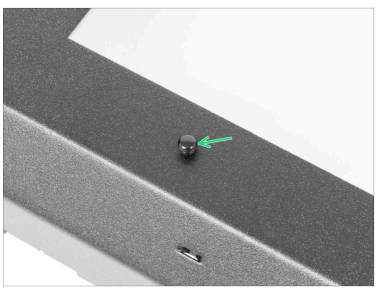
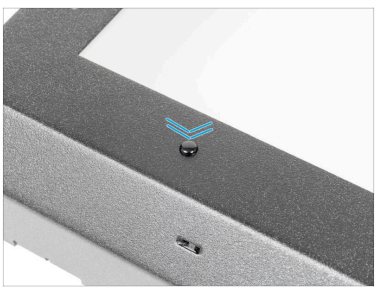
- **For the next steps, please prepare:**
- Frame left (1x)
- Side panel (1x)
- Nylon rivet (16x)

STEP 3 Left panel installing

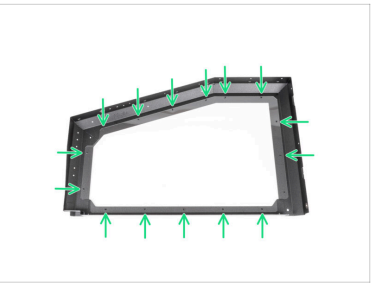
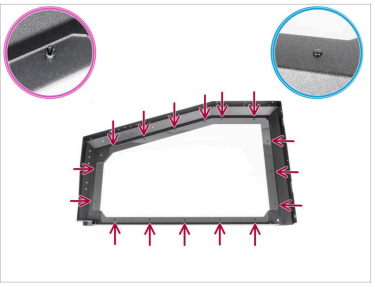

- Peel off the protective film from both sides of the side panel.
- ⚠ After removing the protective film, the side panel is more susceptible to scratches. Please proceed with caution.
- Insert the side panel into the left-frame.
- Align up the side panel holes with left frame holes.

STEP 4 How to install nylon rivets

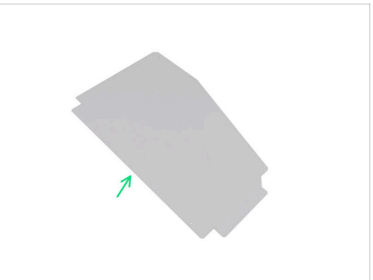
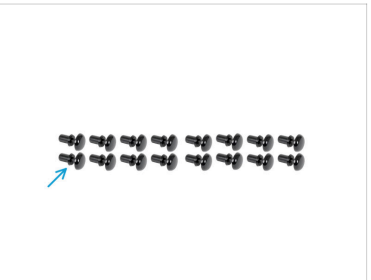
- ⓘ In this step, we will demonstrate how to secure the panels using the nylon rivets. Please familiarize yourself with this procedure, as it will be repeated several times throughout the manual.
- ⚠ **Do not insert any rivets yet**; wait for further instructions in the next step. This step is just a demonstration.
- Align the hole in the side frame and the hole in the side panel.
- Insert the rivet through both the side frame and the panel.
- Push on the nylon rivet to secure the back panel in the frame.

STEP 5 Left panel securing

- Insert the nylon rivet from the outside through the left frame and side panel.
- Secure the side panel with remaining 15 nylon rivets.
- ⚠ **Double check that all the nylon rivets are fully inserted and secured in the holes.**
  - From the inside.
  - From the outside.

STEP 6 Right frame: parts preparation

- **For the next steps, please prepare:**
- Frame right (1x)
- Side panel (1x)
- Nylon rivet (16x)

STEP 7 Right panel installing



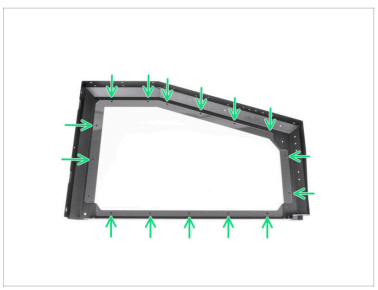


- Peel off the protective film from both sides of the side panel.

⚠ After removing the protective film, the side panel is more susceptible to scratches. Please proceed with caution.

- Insert the side panel into the right frame.
- Align the side panel holes with right frame holes.

STEP 8 Right panel securing

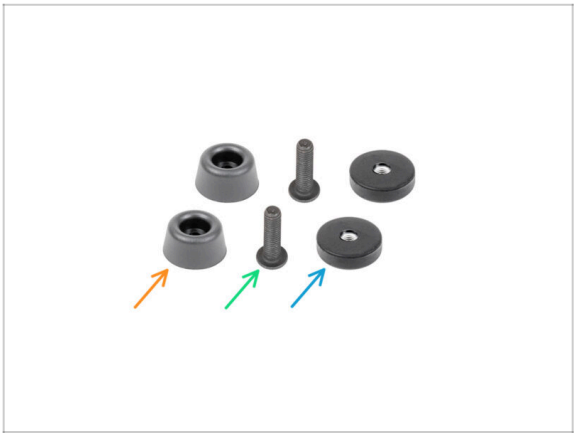




- Insert the nylon rivet from the outside through the right frame and side panel.
- Secure the side panel with remaining 15 nylon rivets.

⚠ **Double check that all the nylon rivets are fully inserted and secured in the holes.**

- View from the inside.
- View from the outside.

STEP 9 Magnetic bumpers: parts preparation



- **For the next steps, please prepare:**
- Protective bumper 20x10x4.3 (2x)
- M4x16r screw (2x)
- Magnetic bumper 22x6 (2x)

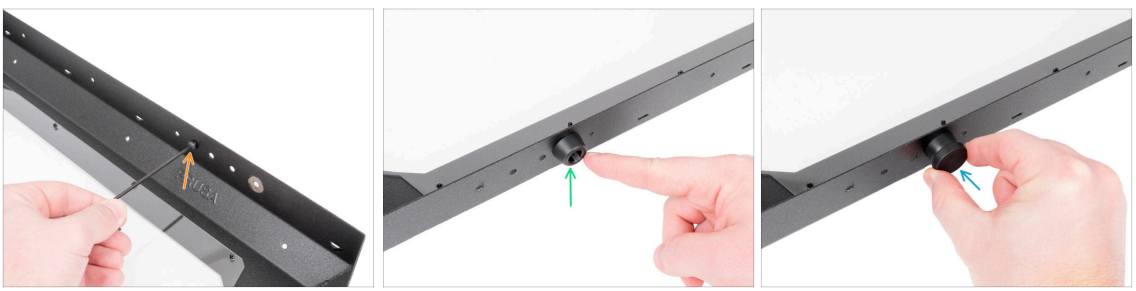
⚠ Be careful handling the magnets. Once they get attached, it is very difficult to separate them.

STEP 10 Left bumper installing



- From the inside of the side frame, insert the M4x16r screw into the threaded hole and tighten fully.
- Slide the protective bumper onto the screw from the outside of the side frame.
- Insert the magnetic bumper onto the screw and tighten it.

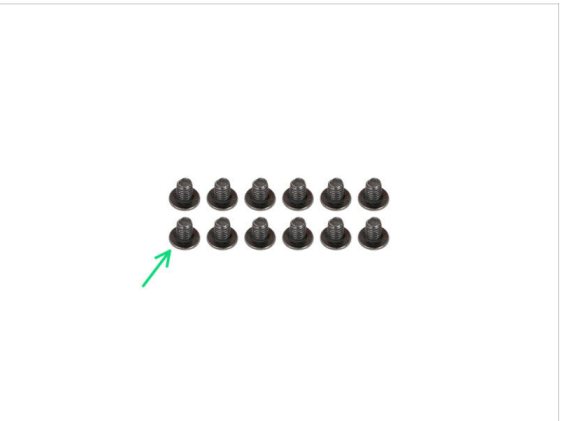
STEP 11 Right bumper installing



- From the inside of the side frame, insert the M4x16r screw into the threaded hole and tighten fully.
- Slide the protective bumper onto the screw from the outside of the side frame.
- Insert the magnetic bumper onto the screw and tighten it.

STEP 12 Back frame: parts preparation

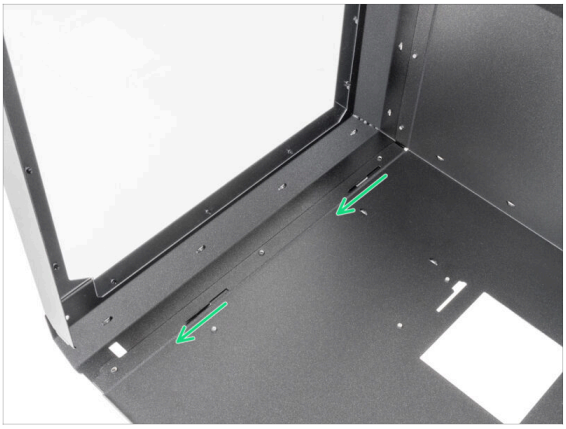




- **For the next steps, please prepare:**
- Back panel (1x)
- M4x5r screw (12x)

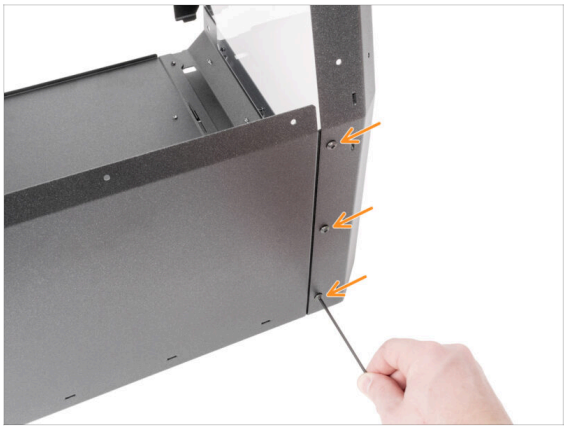
STEP 13 Left frame installing





- Put the left frame next to the back panel.
- Fit the perforation of the left frame into the cut-out on the back panel, and slide both pieces together as illustrated in the image to secure them.

STEP 14 Left frame securing

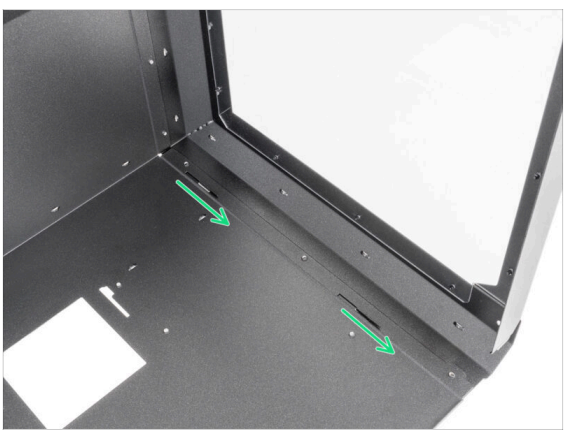




- Secure the panels with three M4x5r screws from the other side using a 2.5mm Allen key.
- Carefully turn the assembly and secure the panels with three M4x5r screws from the back side of the panels using a 2.5mm Allen key.

STEP 15 Right frame installing

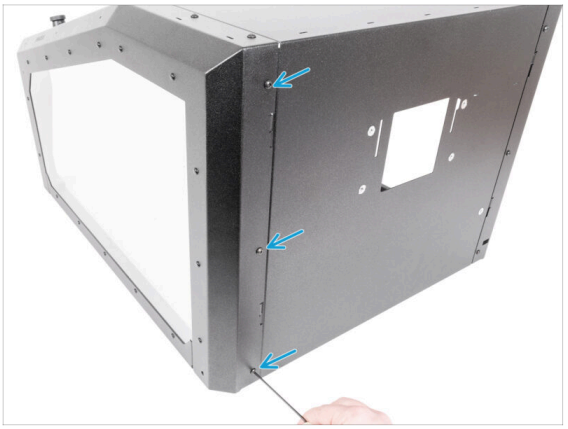




- Gently turn the back panel back onto the larger side.
- Put the right frame next to the back panel.
- Fit the perforation of the right frame into the cut-out on the back panel, and slide both pieces together as illustrated in the image to secure them.

STEP 16 Right frame securing





- Secure the panels with three M4x5r screws from the other side using a 2.5mm Allen key.
- Carefully turn the assembly and secure the panels with three M4x5r screws from the back side of the panels using a 2.5mm Allen key.

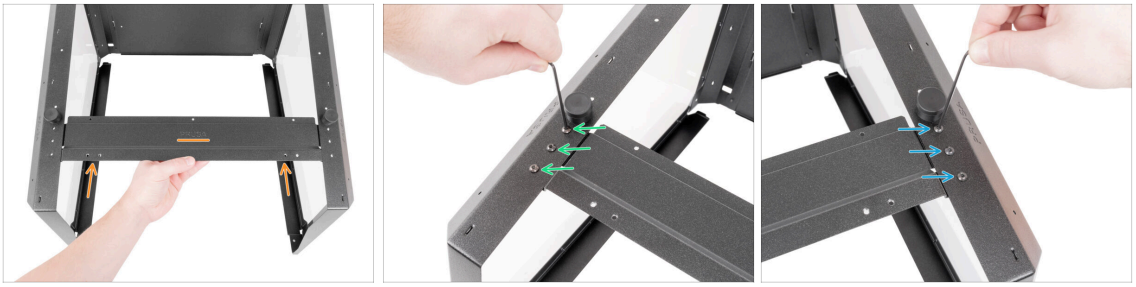
STEP 17 Frame support: parts preparation





- **For the next steps, please prepare:**
- Frame support (1x)
- M4x5r screw (6x)

STEP 18 Frame support securing



- Insert the frame support **from the bottom side** of the side frames. **Note the logo orientation!**
- Secure the left side with three M4x5r screws using a 2.5mm Allen key.
- Secure the right side with three M4x5r screws using a 2.5mm Allen key.

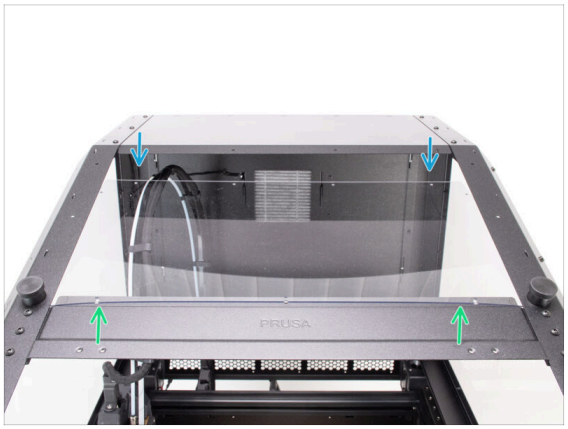
STEP 19 Top panel: parts preparation



- **For the next steps, please prepare:**
- Top panel EN+ (1x)
- Nylon rivet (13x)

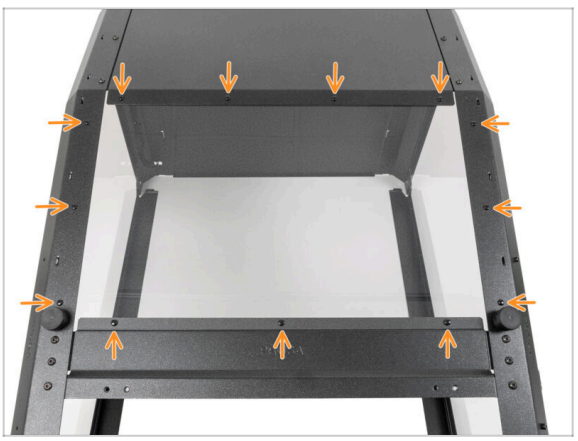
STEP 20 Top panel installing





- **Peel off the protective film from both sides of the top panel EN+.**
- ⚠ After removing the protective film, the side panel is more susceptible to scratches. Please proceed with caution.
- Insert the top panel EN+ into the frame assembly.
- Place the top panel EN+, so the bottom edge is on top of the frame support.
- Place the top panel EN+, so the top edge is under the top frame of the back panel.

STEP 21 Top panel securing



- **While holding the top panel EN+,** insert the nylon rivets from the outside through the holes to secure the top panel in its position.

STEP 22 Filter and fan holder: parts preparation





- **For the next steps, please prepare:**
- Filter and fan holder (1x)
- Blower (1x)
- M4x12b screw (2x)
- Zip-tie (1x)

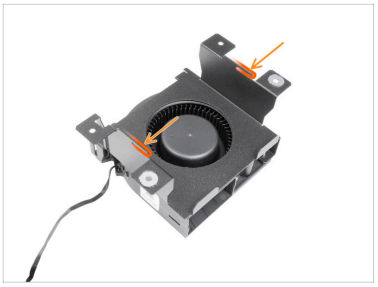
STEP 23 Filter and fan holder assembly





- Place the fan holder with metal cutouts towards you.
- Place the blower onto the filter-and-fan-holder.
- Secure the blower with two M4x12b using a 2.5mm Allen key.

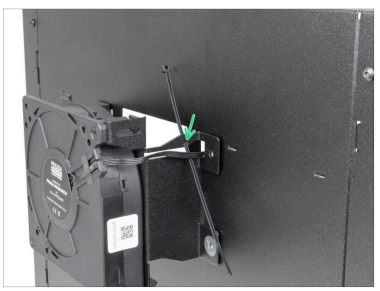
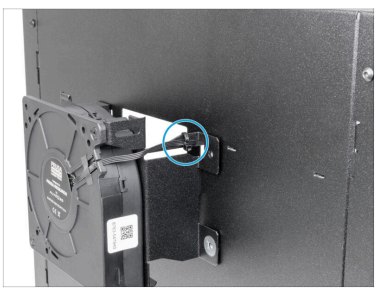
STEP 24 Filter and fan holder installing





- The fan and filter holder has two metal perforations, which fit into the back-panel cut-outs.
- Fit the perforation on the fan and filter holder into the cut-out on the back panel, and slide it down as shown in the image to secure them.

STEP 25 Blower cable securing

- Insert the whole blower cable through the hole in the back panel.
- Take the zip-tie and insert it through the metal cut-out in the filter and fan holder.
- Secure the blower cable with the zip-tie. **Do not overtighten the zip-tie!** Cut the end of the zip-tie.

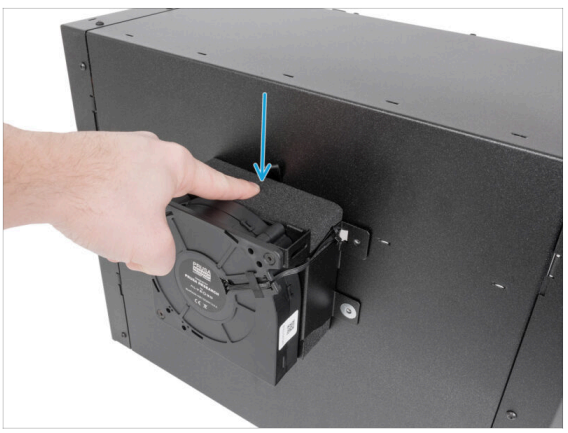
STEP 26 HEPA filter: parts preparation



- **For the next steps, please prepare:**
- HEPA filter (1x)

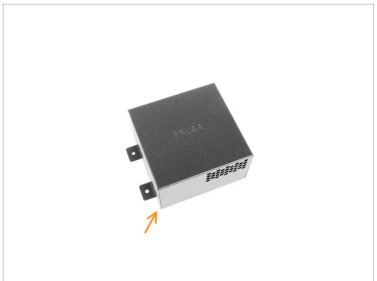
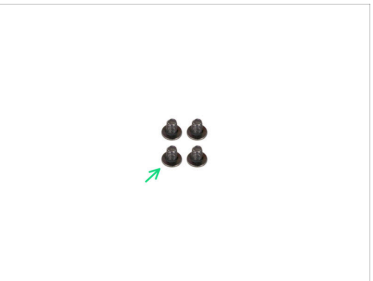
STEP 27 HEPA filter installing





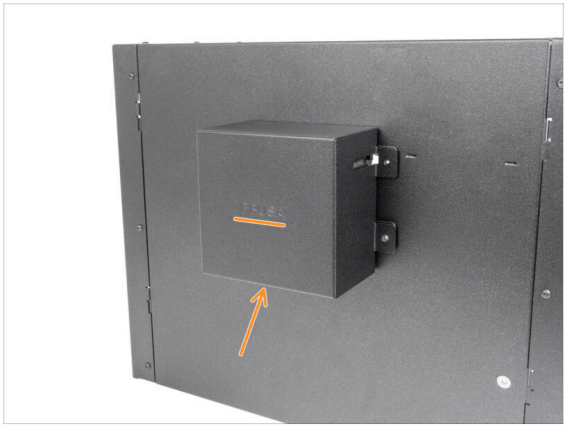
- Insert the HEPA filter between the fan holder and the back panel, ensuring that the darker side of the filter (the side without the company text) is facing towards you.
- Push the HEPA filter all the way in.

STEP 28 Filtration cover: parts preparations

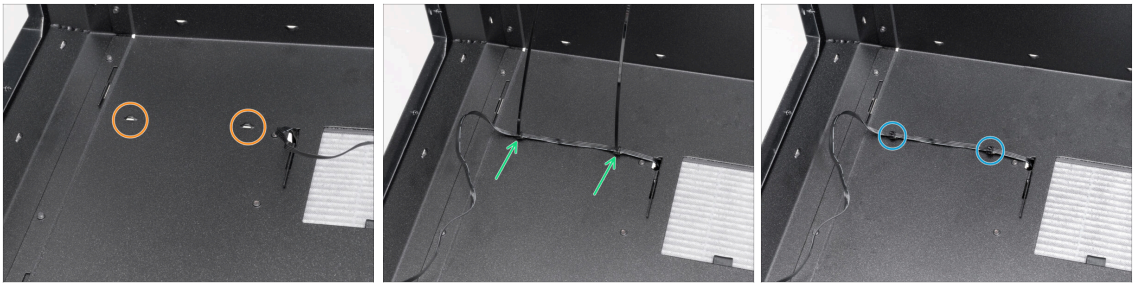

- **For the next steps, please prepare:**
- Filtration cover (1x)
- M4x5r screw (4x)
- Zip-tie (5x)

STEP 29 Filtration cover installing




- Attach the filtration cover to the fan holder assembly. **Note the logo orientation!**
- Secure the cover with four M4x5r screws using a 2.5mm Allen key.

STEP 30 Fan cable securing

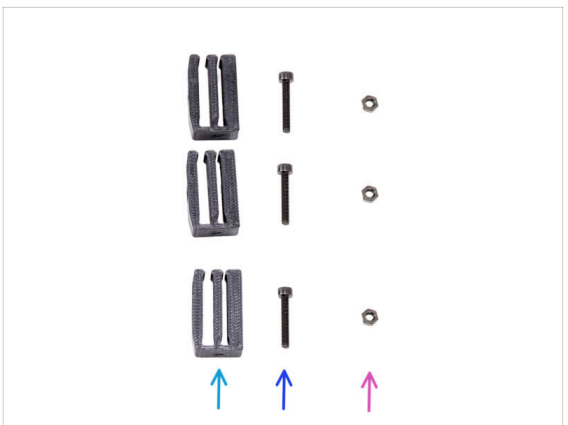


- Turn the enclosure on its rear side.
- From the inside:
- Locate metal perforations.
- Insert two zip-ties through the perforations and secure the cable. **Do not overtighten the zip-ties!**
- Cut the ends of the zip-ties.

ⓘ The end of the fan cable will be secured later with LED strip add-on cable.

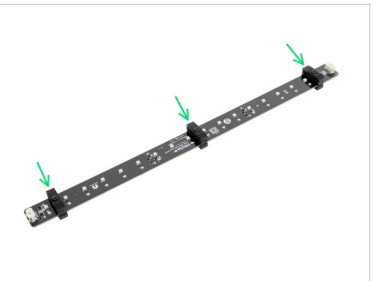
STEP 31 LED strip: parts preparation





- **For the next steps, please prepare:**
- LED diffuser (1x)
- LED Stick Board (1x)
- LED Stick Bracket (3x)
- M3x18 screw (3x)
- M3n nut (3x)

STEP 32 LED strip assembly


- Insert the M3n nut into the nut hole in the led-stick-bracket.
- Prepare all three led-stick-brackets.
- Attach the brackets onto the LED stick board. Mind the orientation of the LED stick board and the LED-stick-bracket. **Look at the picture.**

  ⚠ **Avoid sliding the bracket over chips and diodes!** It can be fatally damaged.
- Remove the protective foil from the both sides of LED diffuser.
- Slide the LED diffuser into the upper place in the LED-stick-brackets.

STEP 33 LED strip installing




- Attach the assembled LED panel on the inner side of the right frame as shown.
- Secure the LED panel from the outside of the right frame with three M3x18 screws using a 2.5mm Allen key.

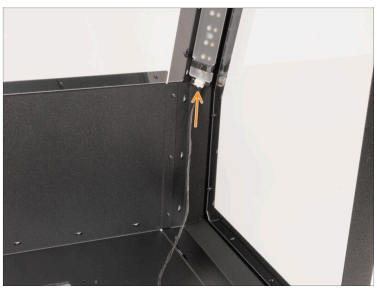
STEP 34 LED strip cable: parts preparation

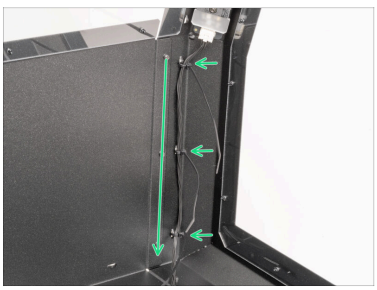


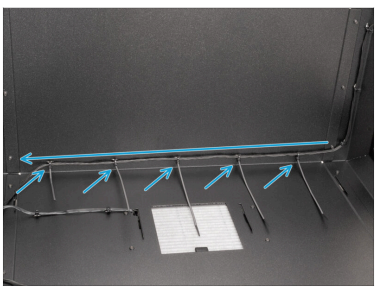


- **For the next steps, please prepare:**
- LED strip cable 1100 mm (the longest one) (1x)
- Zip-tie (12x)

STEP 35 LED strip cable securing

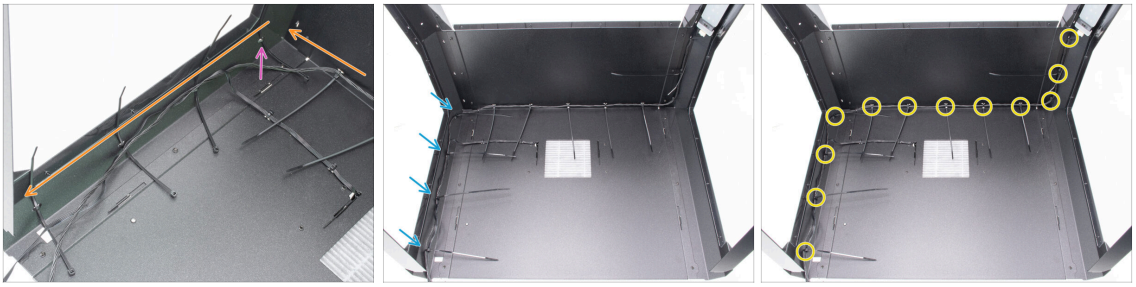






- Take the LED strip cable and connect one end to the LED stick board.
- Lead the LED strip cable down the enclosure to the back panel. Then, insert three zip-ties through the perforations and secure the cable. **Do not overtighten the zip-ties.**
- Lead the LED strip cable left across the back panel. Then, insert five zip-ties through the perforations and secure the cable. **Do not overtighten the zip-ties.**

STEP 36 Enclosure cables securing



- Insert the last zip tie through the perforation in the upper-left corner.
- Lead the LED strip cable through the open zip ties along the left panel.
- Secure both of the cables with the four zip ties by tightening them up. **Do not overtighten them!**
- Cut off the excess plastic from all 12 zip ties.

STEP 37 Cable ends preparing

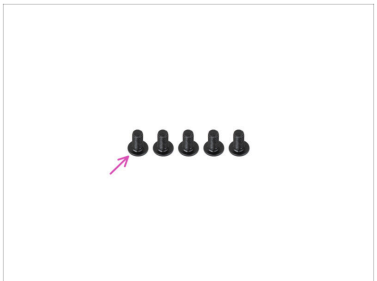


- Insert the ends of the cables through the cut-out in the metal.

STEP 38 Door frame top: parts preparation







- **For the next step, please prepare:**
- Front panel EN+ (1x)
- Door frame support (1x)
- Door frame top (1x)
- M4x8r screw (5x)

STEP 39 Door frame top orientation

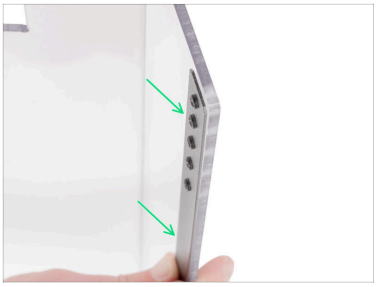


- **Peel off the protective film from both sides of the front panel.**

⚠ After removing the protective film, the side panel is more susceptible to scratches. Please proceed with caution.

- Place the front panel EN+ with a short side towards you as illustrated in the image.

STEP 40 Door frame top assembly



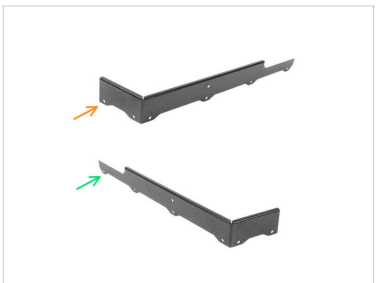
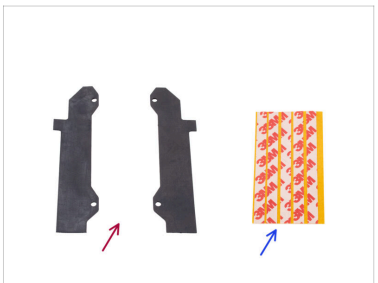
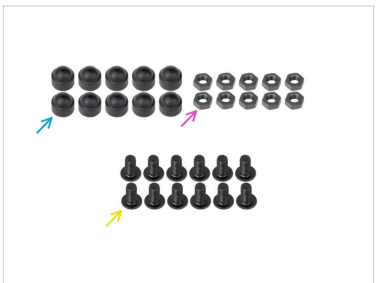


- Attach the door frame support from the inside as described in the picture.
- Attach the door frame top from the outside.

⚠ **Do not overtighten the screws as this may cause the panel to crack!**

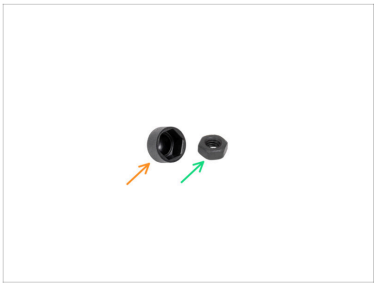
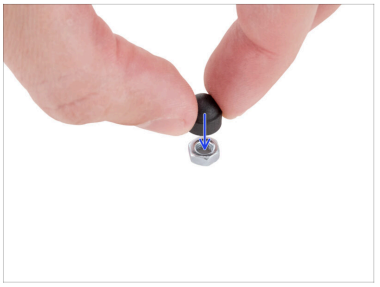
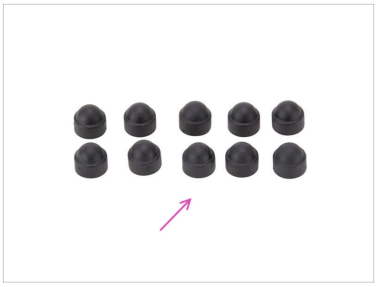
- Secure the support and the top with an M4x8r screw using a 2.5mm Allen key/Torx T10 screwdriver.
- Secure the support and the top with remaining M4x8r screws using a 2.5mm Allen key/Torx T10 screwdriver.

STEP 41 Door frame left & right: parts preparation

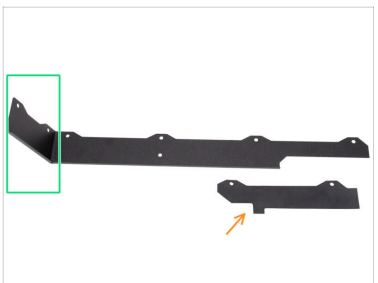
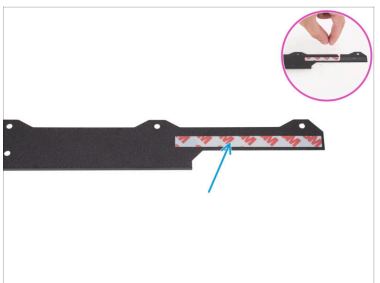
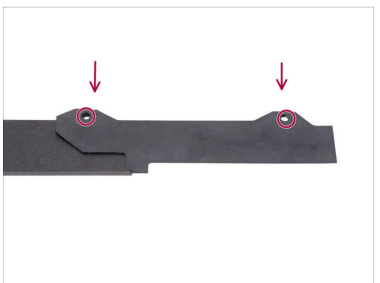
- **For the next steps, please prepare:**
- Door frame right (1x)
- Door frame left (1x)
- Sealing door frame side (2x)
- 3M GPT-020F 8mm x 105mm (2x)
- M4 nut cover (10x)
- M4n nut (10x)
- M4x8r screw (12x)

STEP 42 Nut cover assembly

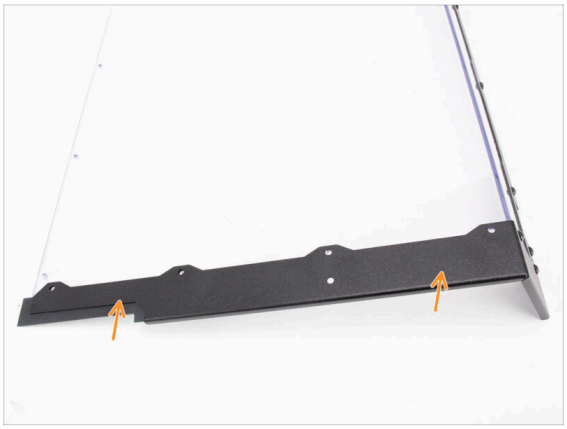
- Prepare one M4n nut cover.
- Prepare one M4n nut.
- Place an M4n nut on a straight surface and then press a M4n nut cover on it.
- Repeat this process for all remaining M4n nuts and M4n nut covers.

STEP 43 Door-frame-right seal installing

- Turn the door frame right so the shorter curved piece is facing you.
- Take one sealing door frame side and prepare its positioning to look like in the picture.
- Peel off one 3M GPT-020F 8mm x 105mm tape and stick it on the thinnest part of the door frame right.
- Peel off the second side of the 3M GPT-020F 8mm x 105mm tape.
- Stick the sealing door frame side on the door frame right where you prepared the tape. **Make sure the screw holes of the two parts align.**

STEP 44 Door frame right installing





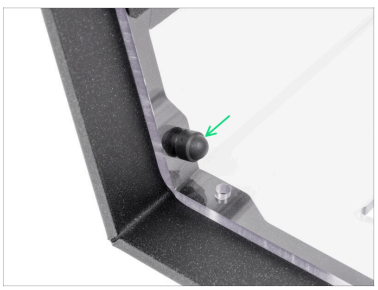
- Place the door frame right onto the front panel.

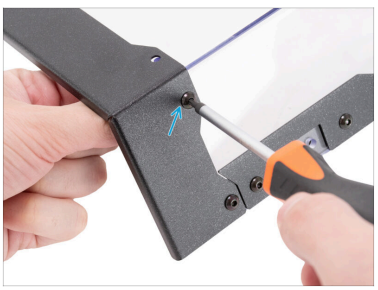
⚠ **Do not overtighten the screws as this may cause the panel to crack!**

- Secure the panel with an M4x8r screw in the first hole using a 2.5mm Allen key/Torx T10 screwdriver.

STEP 45 Door frame right securing: short side





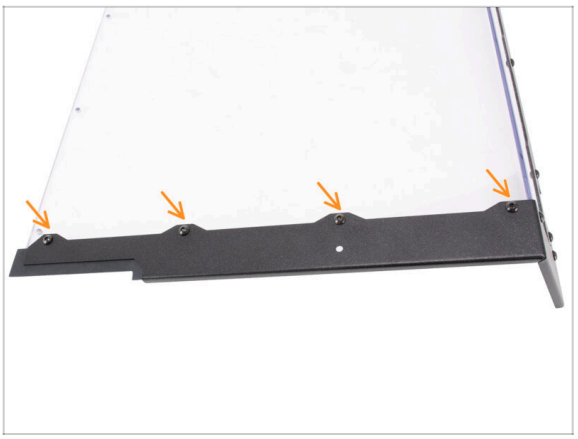


- Insert an M4x8r screw into the hole.

⚠ **Do not overtighten the screws as this may cause the panel to crack!**

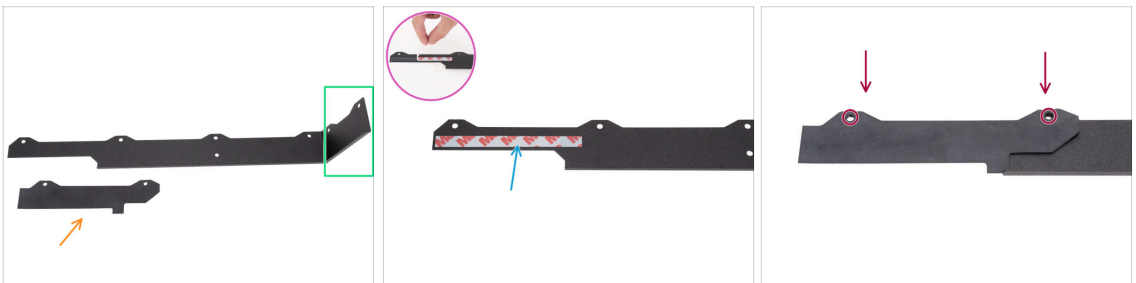
- From the inside of the front panel, put an M4n nut onto the screw.
- Secure the screw using a Torx T10 screwdriver/2.5mm Allen key while holding the M4n nut on the other side.

STEP 46 Door frame right securing: long side



- With same method, insert four M4x8r screws into the holes and secure them with the M4n nuts using a 2.5mm Allen key/Torx T10 screwdriver.

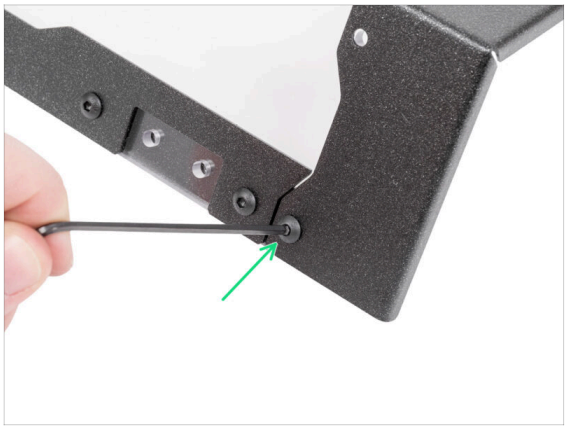
STEP 47 Door-frame-left seal installing



- Turn the door frame left so the shorter curved piece is facing you.
- Take the other sealing door frame side and prepare its positioning so it looks like in the picture.
- Peel off one 3M GPT-020F 8mm x 105mm tape and stick it on the thinnest part of the door frame left.
- Peel off the second side of the 3M GPT-020F 8mm x 105mm tape.
- Stick the sealing door frame side on the door frame left where you prepared the tape. **Make sure the screw holes of the two parts align.**

STEP 48 Door frame left installing





- Attach the door frame left onto the front panel.
- ⚠ **Do not overtighten the screws as this may cause the panel to crack!**
- Secure the panel with an M4x8r screw using a 2.5mm Allen key/Torx T10 screwdriver.

STEP 49 Door frame left securing: short side







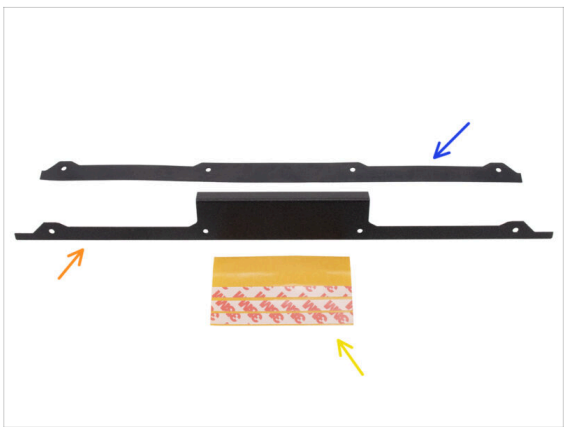
- Insert a M4x8r screw into the hole.
- ⚠ **Do not overtighten the screws as this may cause the panel to crack!**
- From the inside of the front panel, insert a M4n nut onto the screw.
- Secure the screw using a 2.5mm Allen key/Torx T10 screwdriver.

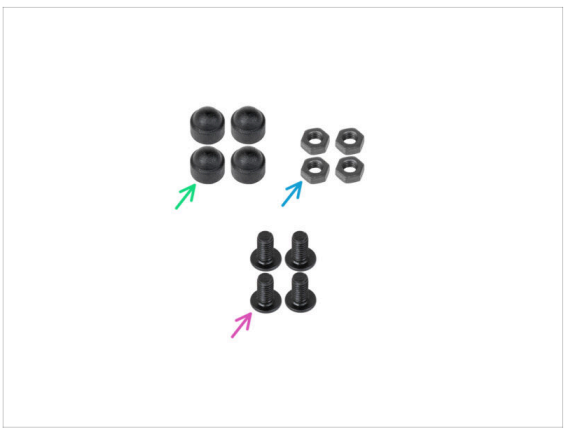
STEP 50 Door frame left securing: long side



- Insert four M4x8r screws into the holes and secure them with the M4n nuts using a 2.5mm Allen key/Torx T10 screwdriver.

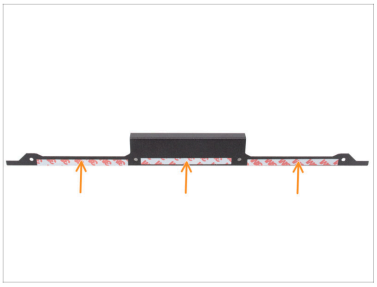
STEP 51 Door frame bottom: parts preparation

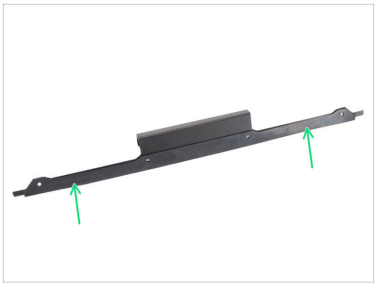




- **For the next steps, please prepare:**
- Sealing door frame bottom (1x)
- Door frame bottom EN+ (1x)
- 3M GPT-020F 8mm x 105mm tape (3x)
- M4n nut cover (4x)
- M4n nut (4x)
- M4x8r screw (4x)

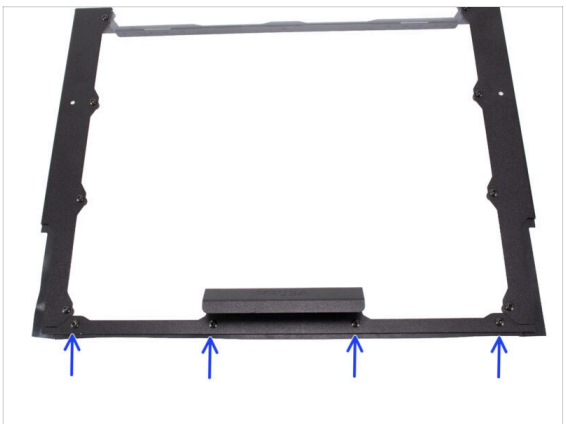
STEP 52 Door-frame-bottom seal installing





- Turn the door frame bottom so the handle is facing away from you.
- Stick 3 pieces of 3M GPT-020F 8mm x 105mm tape on the long part of the door frame bottom in between the screw holes.
- Peel off the second sides of the 3M GPT-020F 8mm x 105mm tapes.
- Stick the sealing door frame bottom on the door frame bottom where you prepared the tape. **Make sure the screw holes of the two parts align.**

STEP 53 Door frame bottom installing

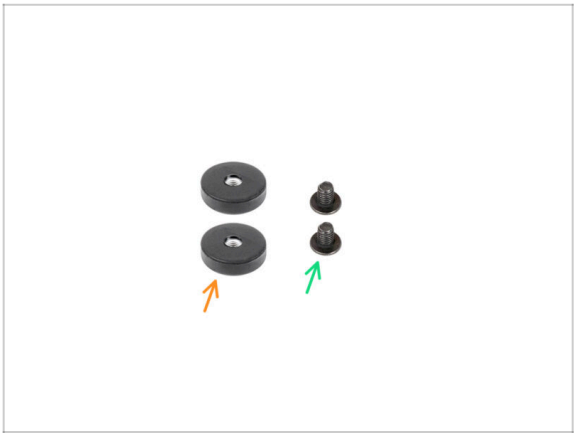



- Attach the door frame bottom onto the front panel.

⚠ **Do not overtighten the screws as this may cause the panel to crack!**

- Insert four M4x8r screws into the frame and secure them with M4n nuts using a 2.5mm Allen key/Torx T10 screwdriver, while holding them from the other side.

STEP 54 Front panel magnets: parts preparation



- **For the next step, please prepare:**
- Magnetic bumper 22x6 (2x)
- M4x5r screw (2x)
- ⚠ Be careful handling the magnets. Once they get attached, it is very difficult to separate them.

STEP 55 Right magnetic bumper installing





- From the top side of the front panel, insert the M4x5r screws into the hole.
- From the bottom side of the front panel, insert the magnetic bumper onto the screw and tighten it.

ⓘ Use a 2.5mm Allen key/Torx T10 screwdriver for tightening the M4 screw.

STEP 56 Left magnetic bumper installing

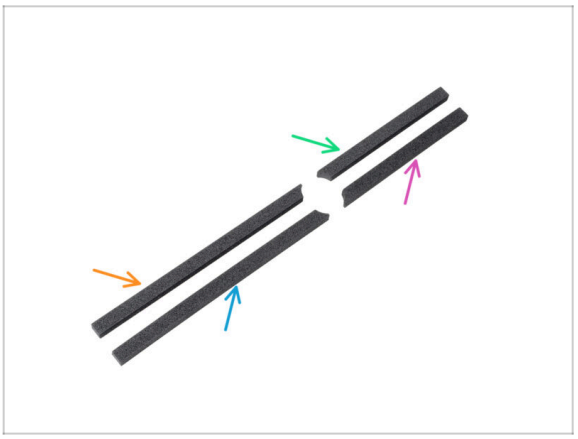




- Insert the M4x5r screws into the hole.
- From the bottom side of the front panel, insert the magnetic bumper onto the screw and tighten it.

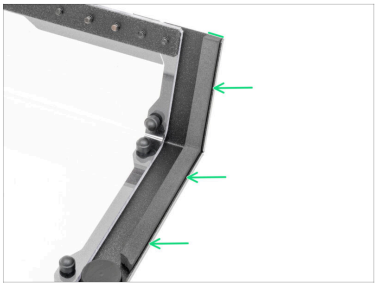
  ⓘ Use a 2.5mm Allen key/Torx T10 screwdriver for tightening the M4 screw.

STEP 57 Foam seal: parts preparations



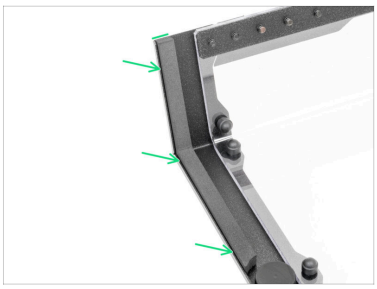
- **For the next steps, please prepare:**
- Front door - left seal 1 (1x)
- Front door - left seal 2 (1x)
- Front door - right seal 2 (1x)
- Front door - right seal 1 (1x)

STEP 58 Left foam seal installing


- Remove the protective film from the front door left seal 1.
- Align the flat end with the door frame's left edge and apply the front door left seal 1 to the panel. **Look at the picture.**
- Remove the protective film from the front door left seal 2.
- Align the flat end with the cut out of the door frame side seal and apply the front door left seal 2 to the panel. **Look at the picture.**

STEP 59 Right foam seal installing

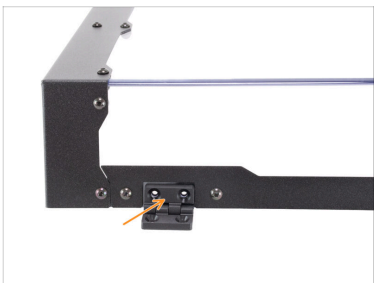

- Remove the protective film from the front door right seal 1.
- Align the flat end with the door frame's left edge and apply the front door right seal 1 to the panel. **Look at the picture.**
- Remove the protective film from the front door right seal 2.
- Align the flat end with the cut out of the door frame side seal and apply the front door right seal 2 to the panel. **Look at the picture.**

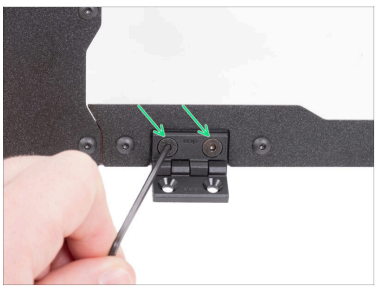
STEP 60 Hinges: parts preparation



- **For the next steps, please prepare:**
- Hinge (2x)
- M4x12b screw (8x)

STEP 61 Hinges installing







ⓘ The hinges are installed on the outside of the front panel.

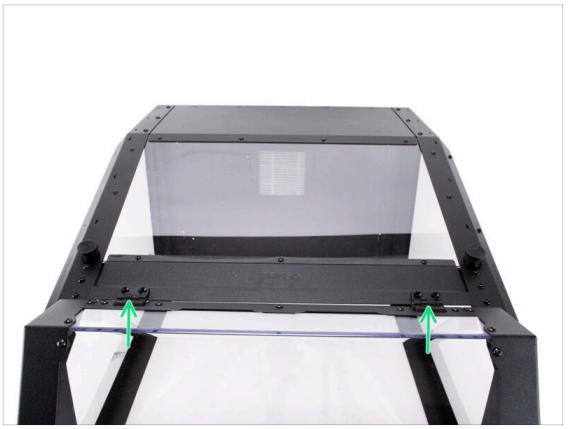
- Place the first hinge on the front panel.

⚠ Note the orientation of the screw holes.

- Secure the hinge with two M4x12b screws using a 2.5mm Allen key/Torx screwdriver.
- Attach the second hinge on the frontpanel and secure it with two M4x12b screws using a 2.5mm Allen key/Torx screwdriver.

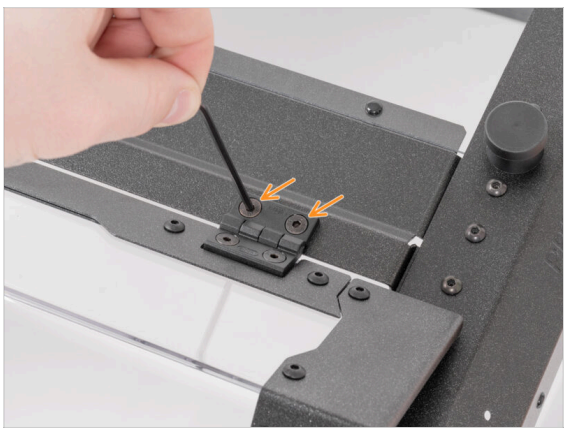
STEP 62 Opening cover attaching

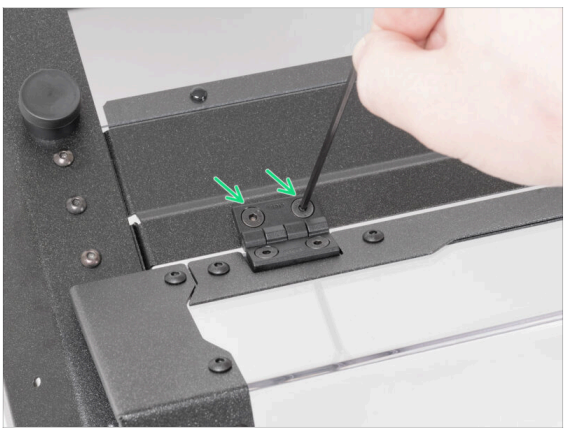




- Place the assembled front panel on the enclosure assembly.
- Align the hinge screw holes with the support frame holes.

STEP 63 Opening lid securing





- On the right side of the lid, insert and secure two M4x12b screws using a 2.5mm Allen key.
- On the left side of the lid, insert and secure two M4x12b screws using a 2.5mm Allen key.

STEP 64 Good job!

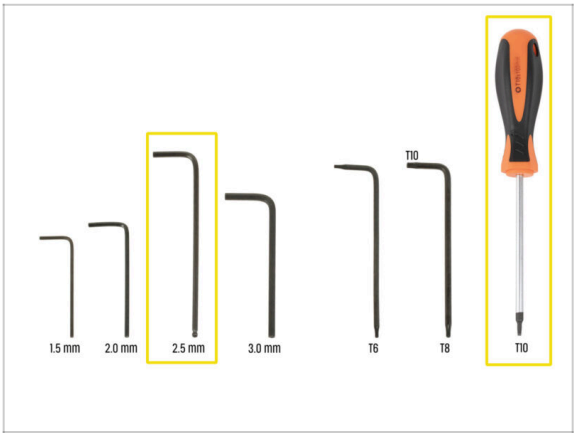


- Well done! The enclosure is assembled. Please proceed to the next chapter.

3. Printer upgrade



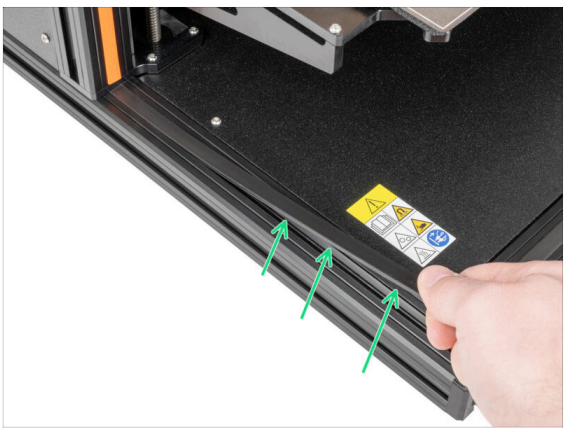
STEP 1 Tools necessary for this chapter



- **For this chapter, please prepare:**
- 2.5mm Allen key/Torx T10 screwdriver

STEP 2 XL base covers removing





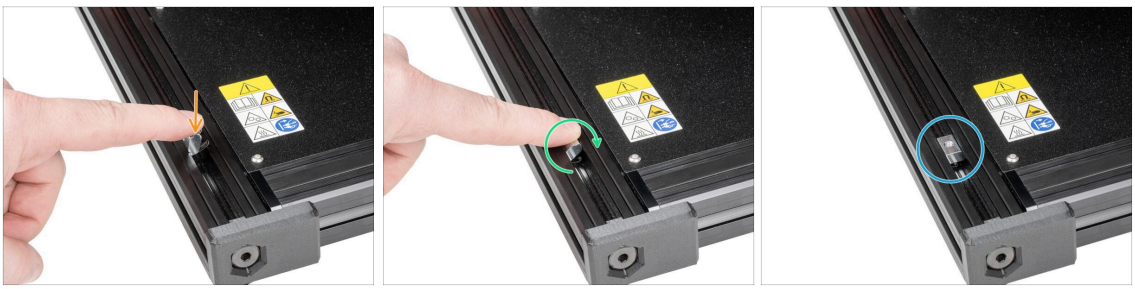
- From the front face of the printer:
- Pull out the right extrusion cover.
- Pull out the left extrusion cover.

STEP 3 XL Base nuts: parts preparation



- **For the next steps, please prepare:**
- M3nEs nut (8x)

STEP 4 How to insert the nuts



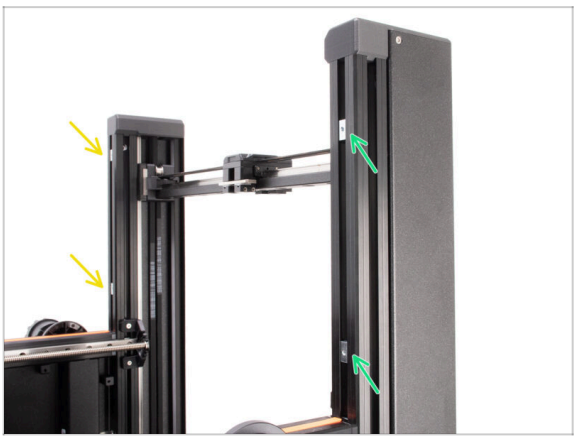
- Fit an M3nE nut and push it into the profile in the direction of the pins.
- Turn the M3nE nut into the profile to secure it.
- Good job, the nut is secured.

STEP 5 XL base nuts inserting



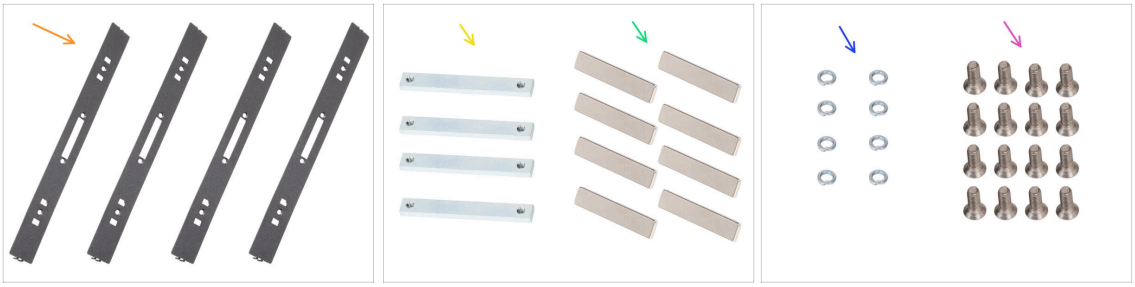
- Insert two M3nEs inserts into the left profile.
- Insert two M3nEs inserts into the right profile.
- Insert the nuts approximately as shown in the photo. It doesn't have to precise yet as we will adjust them in a later step.

STEP 6 CoreXY inserts



- From the bottom side of the CoreXY:
- Insert two M3nEs inserts into the left extrusion.
- Insert two M3nEs inserts into the right extrusion.
- Insert the nuts approximately as shown in the photo. It does not have to be precise at this moment as it will be adjusted in a later step.

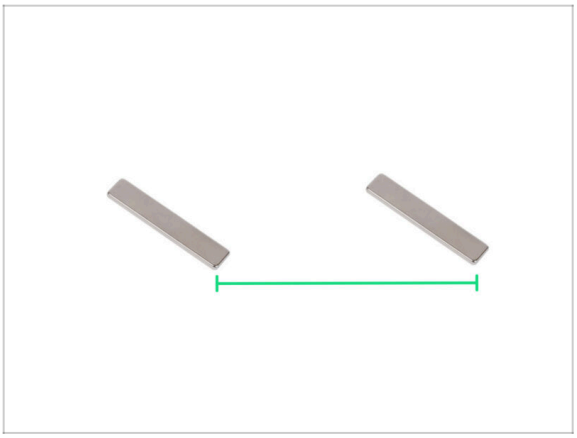
STEP 7 Upper magnet cover: parts preparation



- **For the next steps, please prepare:**
- Upper magnet cover (4x)
- Upper magnet holder (4x)
- Magnets (8x)
- Lockwasher (8x)
- M3x8bT screw (16x)

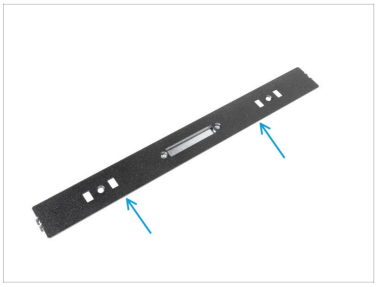
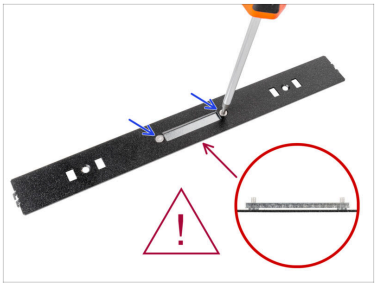
ⓘ Note: "Upper magnet cover" and "upper magnet holder" are installed on both the top and the base of the printer. They kept these names because the previous version of the enclosure only used them at the top.

STEP 8 Few tips before we start



- **Keep the magnets apart at a sufficient distance.** They can break each other and are difficult to separate.

STEP 9 Upper magnet cover assembly

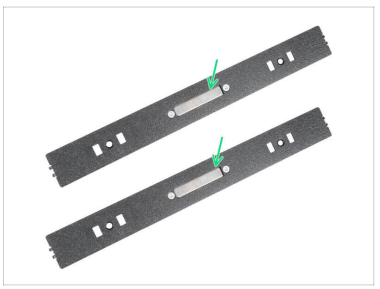
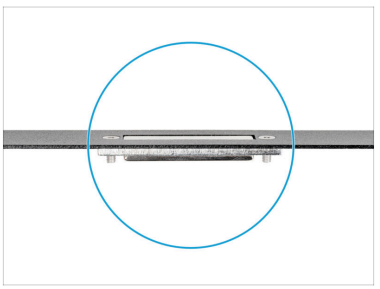




- Take two Lockwashers and place them on the upper magnet holder.
- Place the upper magnet cover on the washers with the upper magnet holder.
- Secure the assembly with two M3x8bT screws using a T10 Torx screwdriver.

⚠ The Lockwasher have to be flattened by the tightening.

- Follow the same procedure to assemble all four upper magnet covers.

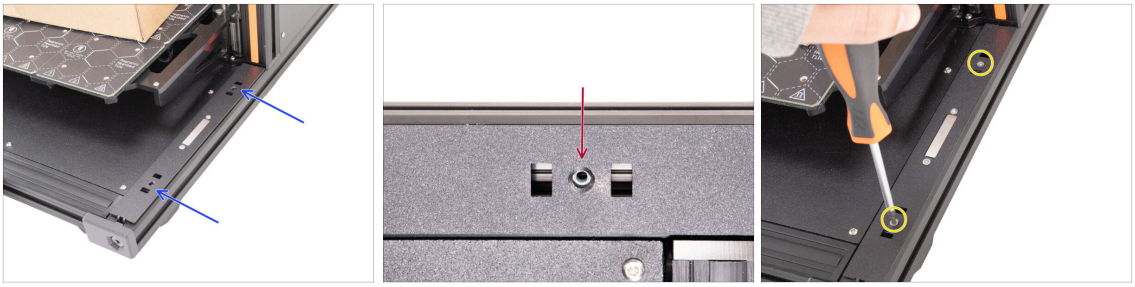
STEP 10 Upper magnets attaching

⚠ **Be careful, the magnets are strong!**

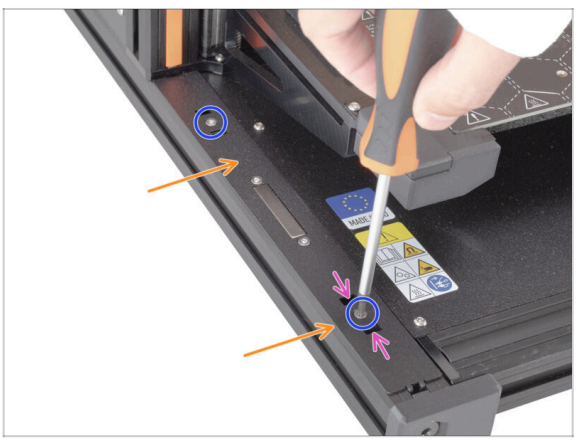
- **Carefully and slowly** attach the magnets on the bottom side of the upper magnet holder on both upper magnet covers. **The polarity of the magnet is not important.**
- **Carefully and slowly** insert the magnets into the cut-out in the upper magnet covers. **The polarity of the magnet is not important.**
- **There are two magnets on each upper magnet holder.** Check that the assembly looks as shown.
- Follow the same procedure to assemble all four upper magnet cover assemblies.

STEP 11 Upper magnet cover securing: base right side



- Insert the first upper magnet cover assembly into the right base extrusion.
- Align the M3nEs nuts with the M3 hole in the upper magnet cover using the square holes and an Allen key.
- Insert two M3x8bT screws and secure them with a T10 Torx screwdriver.

STEP 12 Upper magnet cover securing: base left side



- Repeat the process on the other side:
- Insert the second upper magnet cover assembly into the left base extrusion.
- Align the M3nEs nuts with the M3 hole in the upper magnet cover using the square holes and an Allen key.
- Insert two M3x8bT screws and secure them with a T10 Torx screwdriver.

STEP 13 Upper magnet cover securing: CoreXY right side



- Locate the extrusion on the bottom of the CoreXY metal frame on the right side.

ⓘ Now repeat the process of installing the upper magnet cover assembly:

- Insert the third upper magnet cover assembly into the right CoreXY extrusion.
- Align the M3nEs nuts with the M3 hole in the upper magnet cover using the square holes and an Allen key.
- Insert two M3x8bT screws and secure them with a T10 Torx screwdriver.

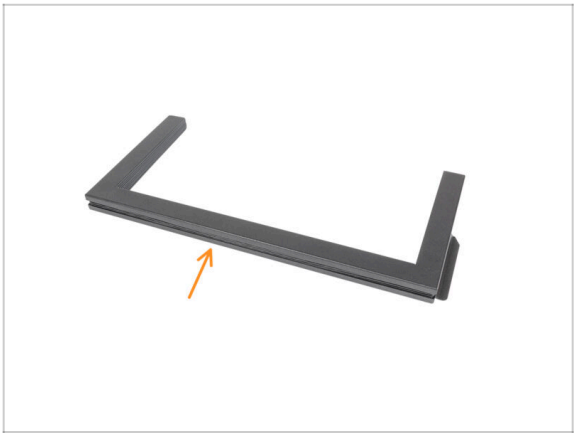
STEP 14 Upper magnet cover securing: CoreXY left side



ⓘ Finally, repeat the process on the left side of the CoreXY metal frame:

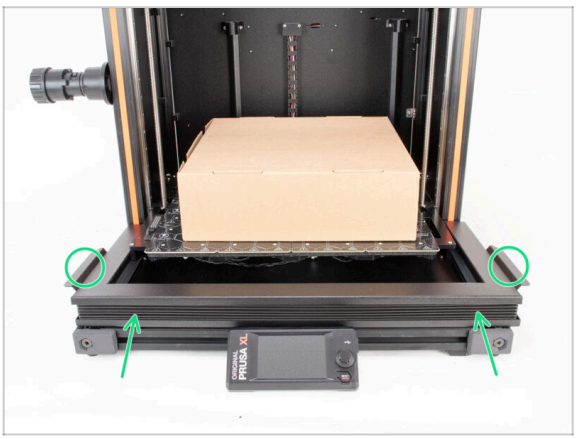
- Insert the fourth upper magnet cover assembly into the left CoreXY extrusion.
- Align the M3nEs nuts with the M3 hole in the upper magnet cover using the square holes and an Allen key.
- Insert two M3x8bT screws and secure them with a T10 Torx screwdriver.

STEP 15 Bellows: parts preparation:



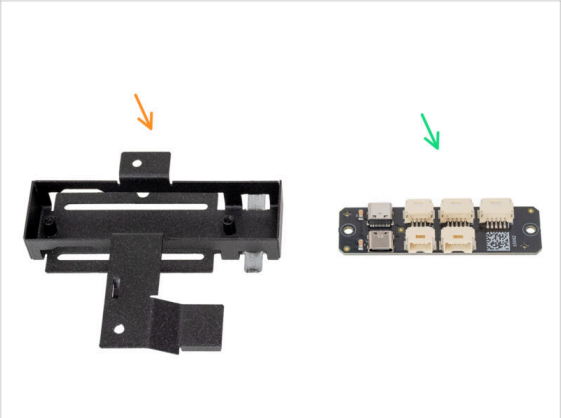
- **For the next step, please prepare:**
- Bellows (1x)

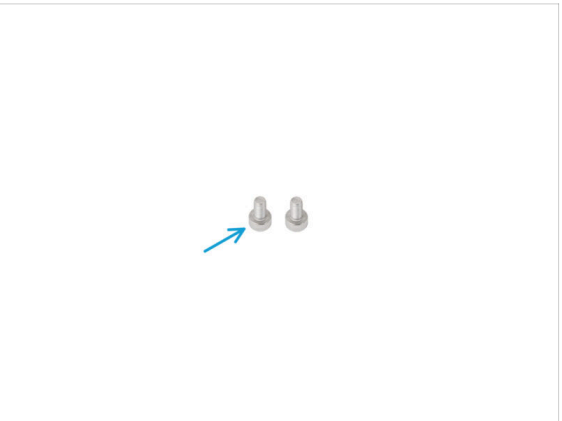
STEP 16 Bellows installation



- Attach the bellows on the lower belows holder with handles facing up. The magnets should hold it in place.

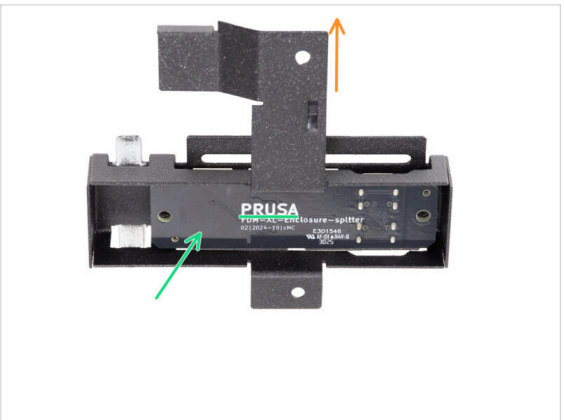
STEP 17 Connection box: parts preparation





- **For the next steps, please prepare:**
- XL Enclosure board cover EN+ (1x)
- XL Enclosure splitter (1x)
- M3x6 screw (2x)

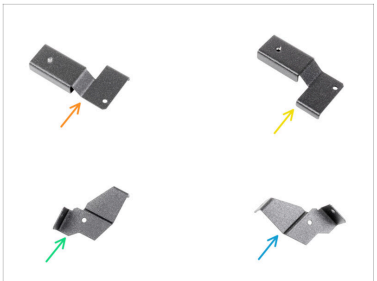
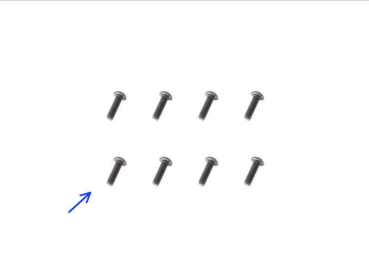
STEP 18 Connection box assembly





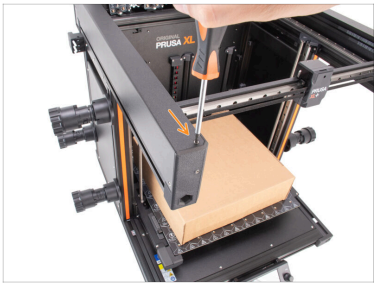
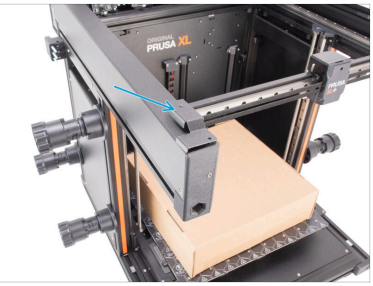
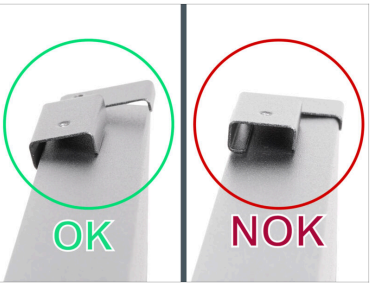
- Ensure that the longer metal section is facing away from you.
- Insert the XL Enclosure splitter as shown in the picture (PRUSA logo facing you).
- Secure the XL Enclosure splitter with two M3x6 screws.

STEP 19 Fixing brackets: parts preparation

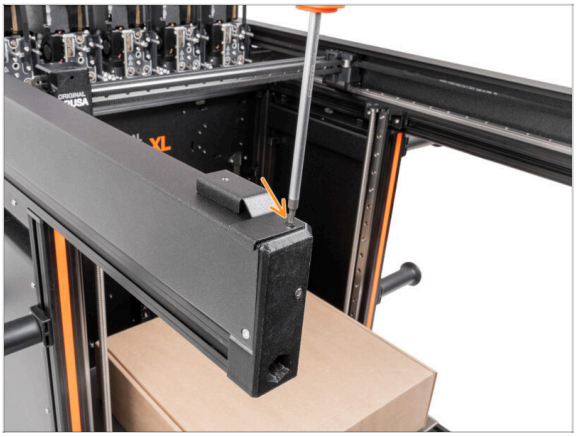

- **For the next steps, please prepare:**
- Fixing bracket front right (1x)
- Fixing bracket front left (1x)
- Fixing bracket back left (1x)
- Fixing bracket back right (1x)
- M3x10rT screw (8x)
- Vent support (1x)

STEP 20 Fixing bracket front left attaching

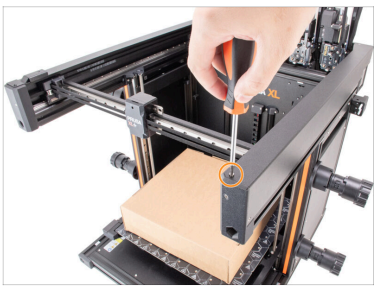
- On the top of the left side of CoreXY metal frame:
- Remove the M3x8bT screw with a T10 Torx screwdriver.
- Place the fixing bracket front left on the metal cover.
- **Ensure the front left fixing bracket is correctly positioned:**
  - The fixing bracket front left **slips under LED cover lip**.
  - **This is wrong**, please align the fixing bracket front left correctly.

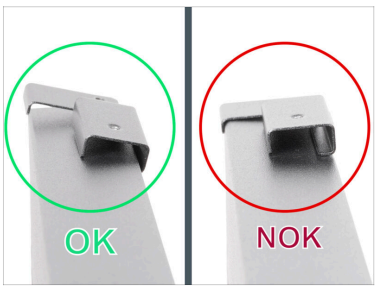
STEP 21 Fixing bracket front left securing



- Insert the M3x10rT screw and secure it with a T10 Torx screwsdriver.

STEP 22 Fixing bracket front right securing

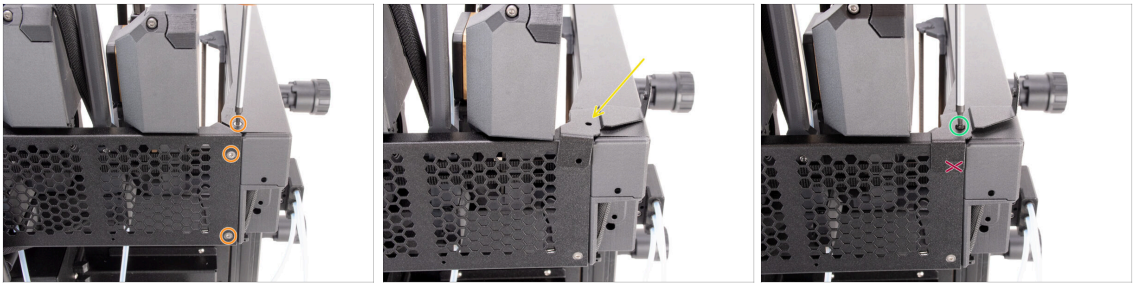






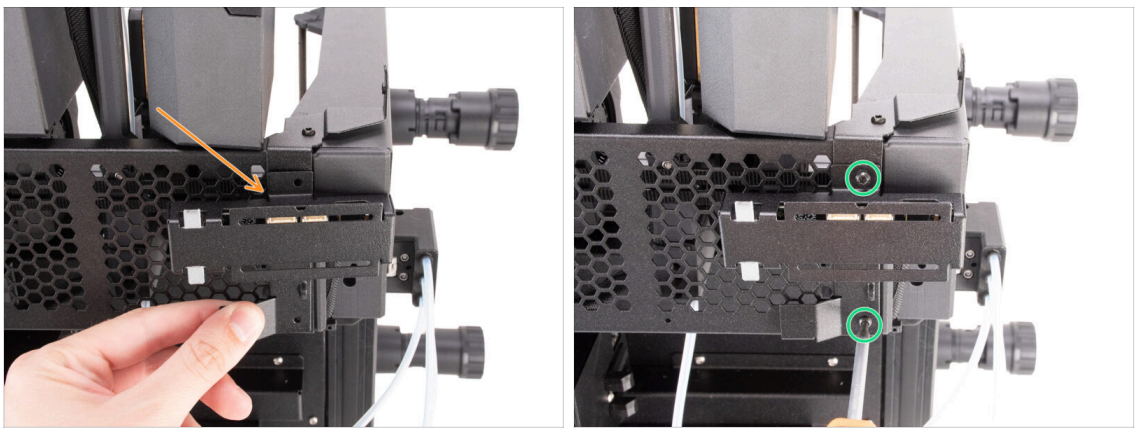
- Repeat the process on the right side:
- Using a T10 Torx screwdriver, remove the M3x8bT screw.
- Attach the fixing bracket front right onto the metal cover. Bracket slips under LED cover lip.
- Ensure the front left fixing bracket is correctly positioned:
  - The fixing bracket front left slips under LED cover lip.
  - This is wrong, please align the fixing bracket front left correctly.
- Insert the M3x10rT screw and secure it with a T10 Torx screwdriver.

STEP 23 Fixing bracket rear left securing



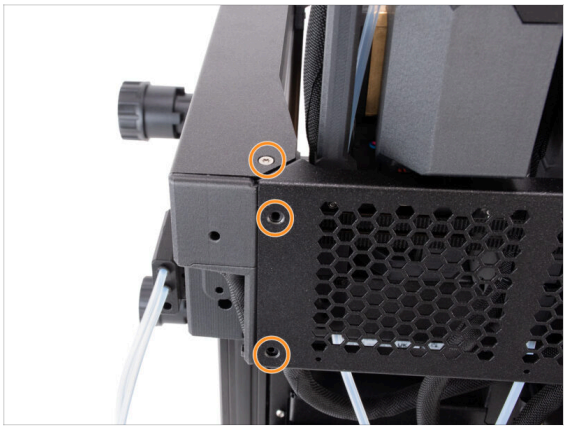
- Turn the printer so the rear side is facing you and locate the long metal profile (tch-mounting-insert).
- From the (now) right corner, remove three M3x8bT screws.
- Attach the fixing bracket rear left.
- Secure the fixing bracket rear left with an M3x10rT screw in the top hole.
- Do not secure the fixing bracket rear left in the bottom screw hole yet.

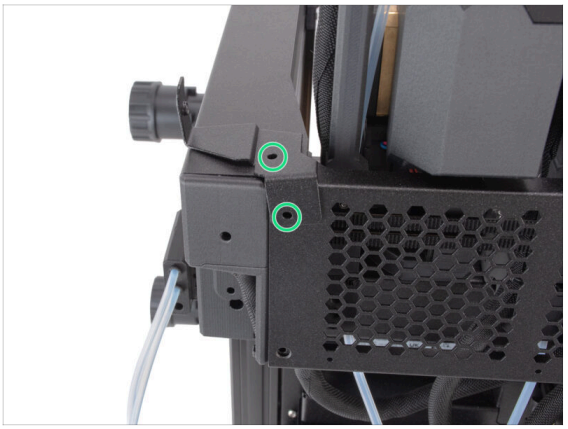
STEP 24 Connection box securing



- Attach the XL enclosure board assembly.
- Secure the XL enclosure board assembly with two M3x10rT screws.

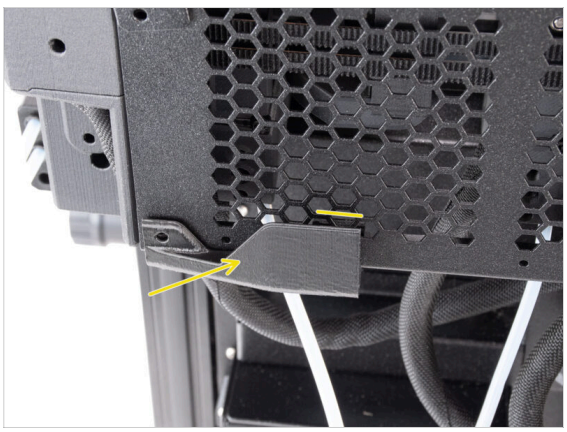
STEP 25 Fixing bracket rear right securing

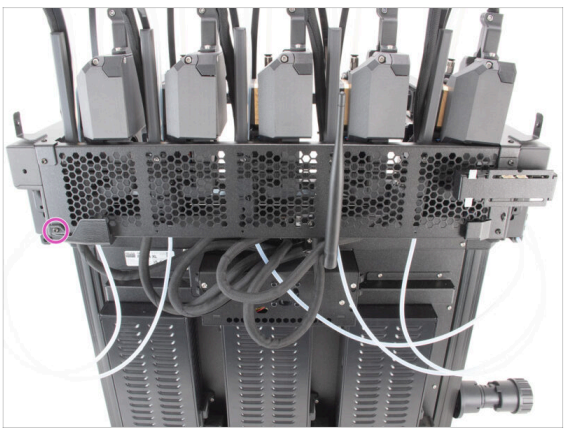




- Remove three M3x8bT screws.
- Attach the fixing bracket rear right and secure it with two M3x10rT screws.

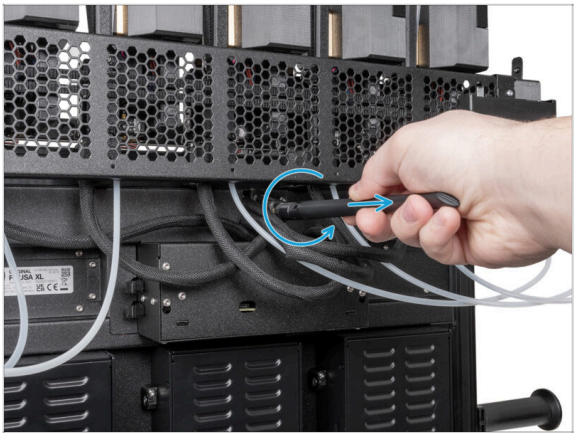
STEP 26 Vent supprot securing





- Attach vent support to the bottom of the long metal profile (tch-mounting-insert). The vent support has a hook that needs to be attached to the back profile.
- Secure the vent support with a M3x10rT screw.

STEP 27 Removing the rear Wi-Fi antenna

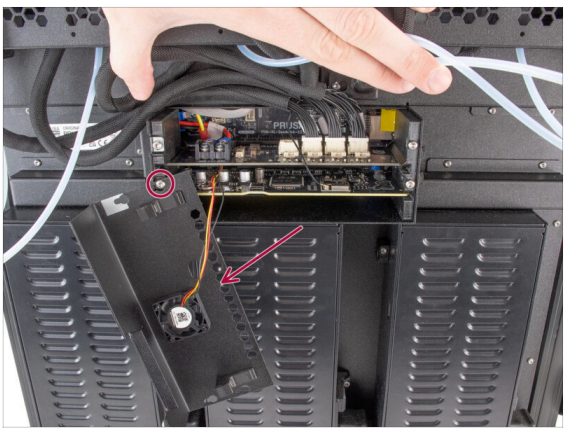


ⓘ This step only applies to printers that have the Wi-Fi **antenna on the back** of the printer. Otherwise, skip to the next step.

- Unscrew the antenna from the antenna connector.

STEP 28 XL buddy box

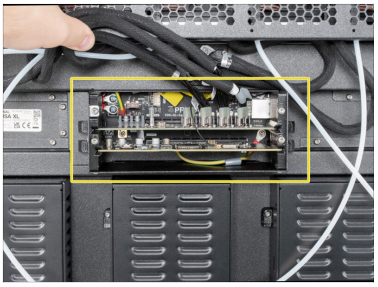




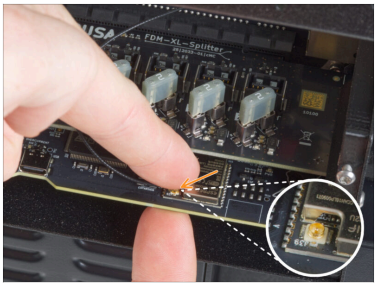
- Release (a few turns are enough) four M3 screws on the XL buddy box.
- Slide up and remove the XL buddy cover.

⚠ In order not to damage the fan cable, we recommend attaching the XL buddy cover on one of the screws as shown in the photo.

STEP 29 5T: Nextruder cables unplugging





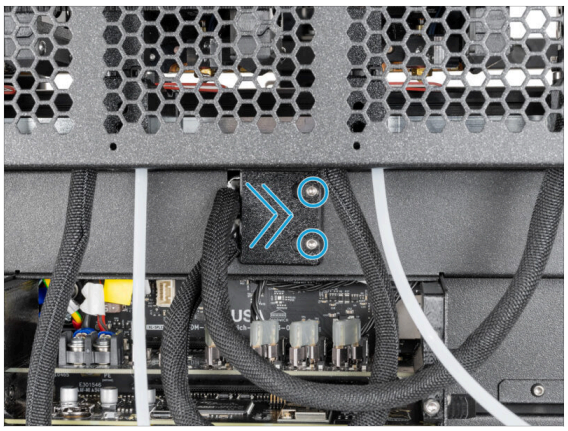


ⓘ The next line is only for five-head printers. Otherwise, skip to the next step.

- By pressing the security latch, unplug the DWARF3, DWARF4 and DWARF5 from the board.
- Gently unplug the antenna connector from the board.

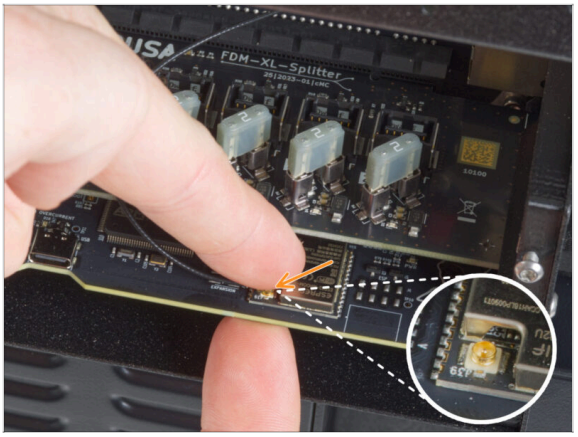
STEP 30 Side antenna: cover removing





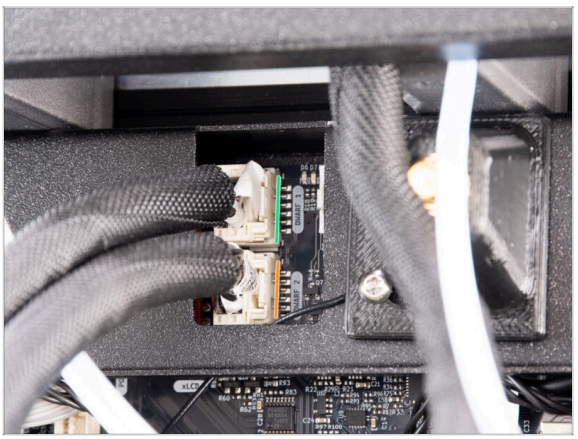
- This step applies only if your printer has a side antenna. **If not, proceed to the next step.**
- Loosen two screws on the cover slightly. No need to remove them completely. Push the cover to the right and remove it from the printer.

STEP 31 Rear antenna: connector removing



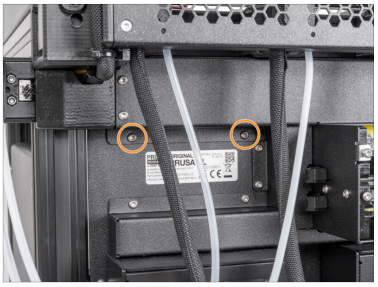
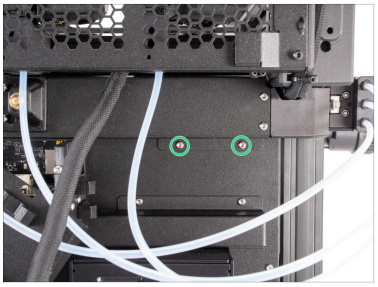
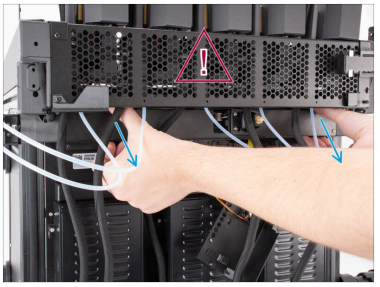
- Gently unplug the antenna connector from the board and let the cable hang freely.

STEP 32 Nextruder unplugging



- In this step, select the appropriate option based on your XL printer variant:
  - **Single-tool**: There is only one cable. By pressing the security latch, remove the DWARF1 cable and proceed to the next step.
  - **Dual-Head & Five-Head**: There are two cables. By pressing the security latch, remove the DWARF1 and DWARF2 connectors from the board.

STEP 33 Back cover removing

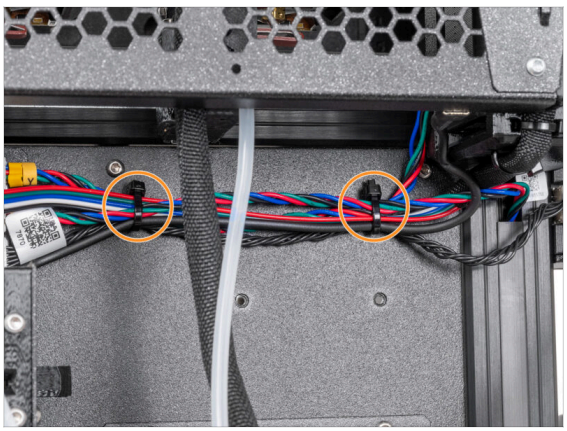
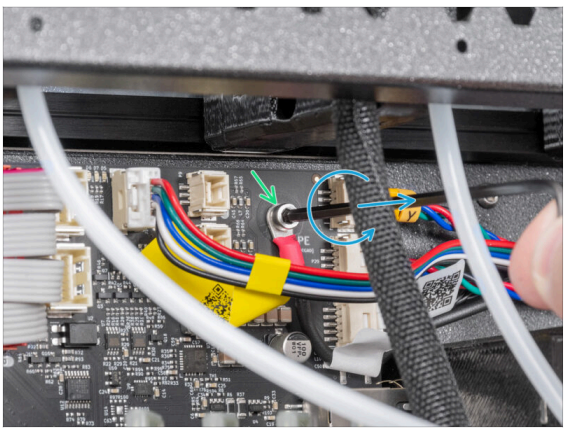




- From the left side of the rear cable management upper, remove two M3x4rT screws. **Do not throw them away!**
- From the right side of the rear cable management upper, remove two M3x4rT screws. **Do not throw them away!**

⚠ Watch out for cables!

- Carefully remove the rear cable management cover from the printer by pulling it toward you.

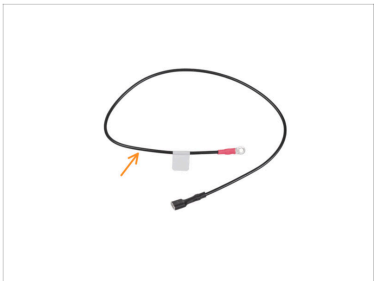
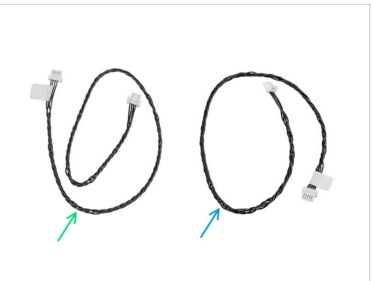
STEP 34 Back cables releasing

⚠ **Watch out for the cables!**

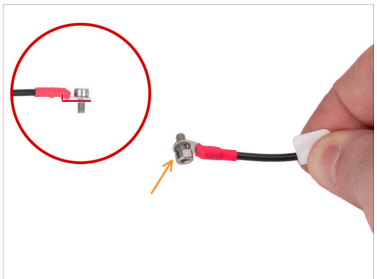
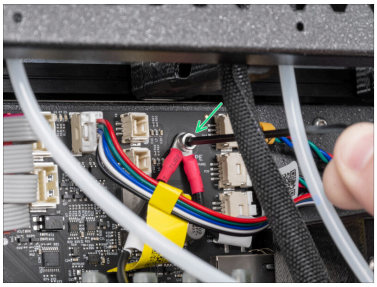
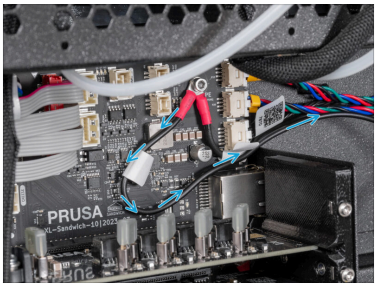
- On the right side, cut off the two zip-ties.
- Locate the right PE screw on the board.
- Remove the M3x5 screw and leave the cable there. **Do not throw away the screw!**

STEP 35 Fan & PE cable: parts preparation


- **For the next steps, please prepare:**
- PE cable (the longest one) - 350 mm (1x)
- Fan cable (4 wires)- 450 mm (1x)
- LED cable (5 wires) - 400 mm (1x)
- M3x5 screw (1x) *you removed in the previous steps*
- Zip-tie (4x)

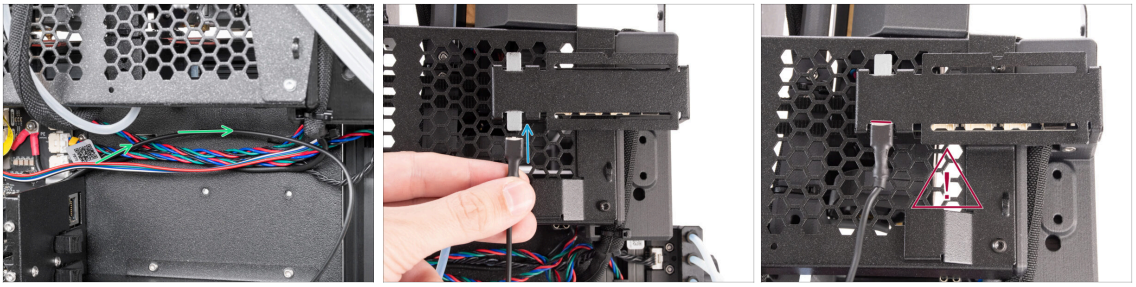
STEP 36 PE cable securing

⚠ Note the correct orientation of the PE cable connector.

- Insert the M3x5 screw through the red end of the PE cable.
- Attach the PE cable with the M3x5 screw through the free PE cable (which we released in the previous step). Secure both cables using a 2.5mm Allen key.
- Adjust the cable routing as shown in the picture.

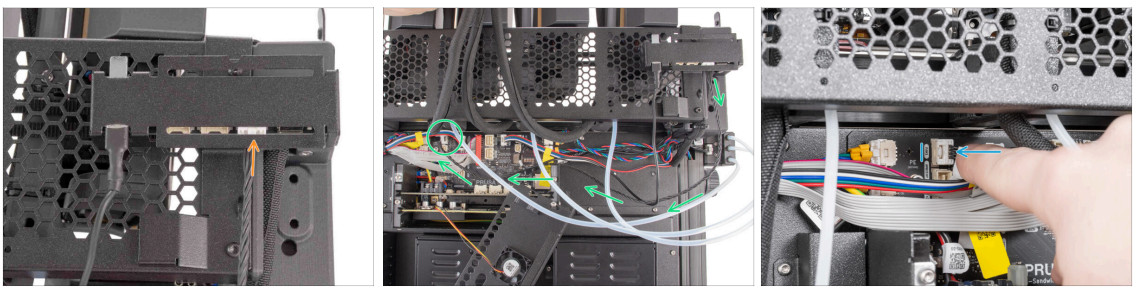
STEP 37 PE cable connecting



- Adjust the cable routing as shown in the picture.
- Attach the connector onto the sheet metal flange. A firm press with slight side-to-side manipulation may be required to fully seat the component.

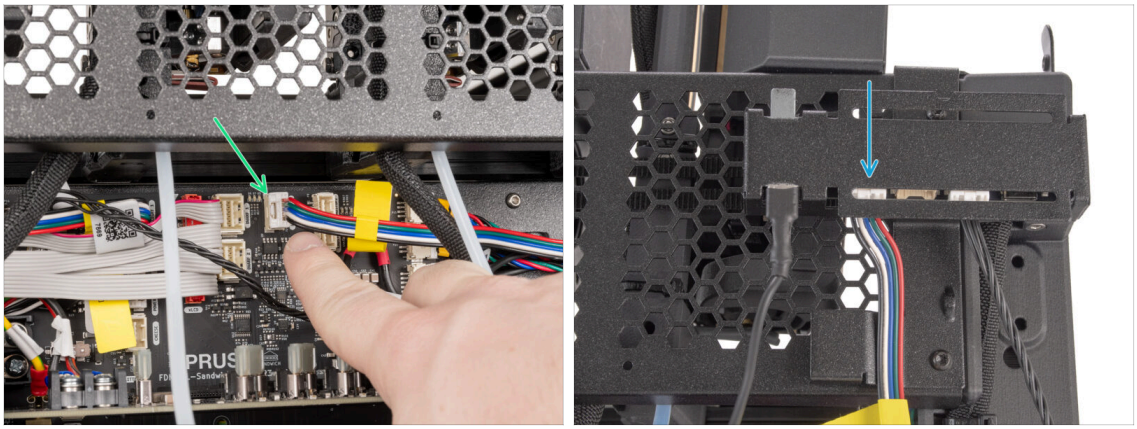
⚠ Make sure the PE cable is fully secured to the XL Enclosure board cover.

STEP 38 Fan cable connecting



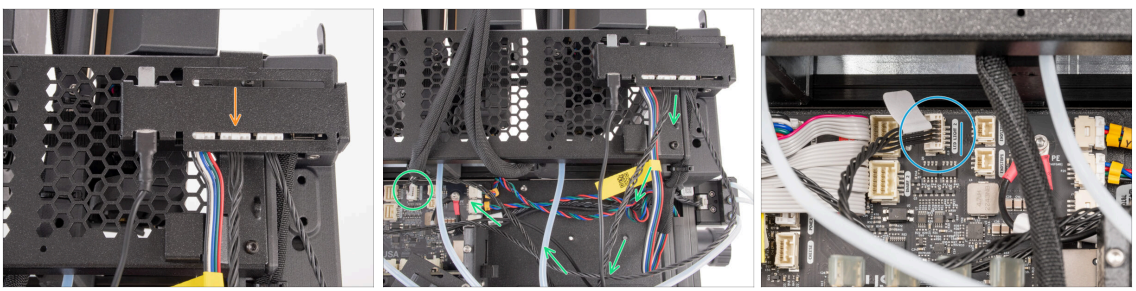
- Connect the fan cable to the right connector on the FDM XL Enclosure splitter.
- Lead the cable down and to the left to the FAN1 connector behind the thick black nextruder cables.
- Connect the second end to the **FAN1** connector on the XL sandwich board.

STEP 39 Installing LED cable



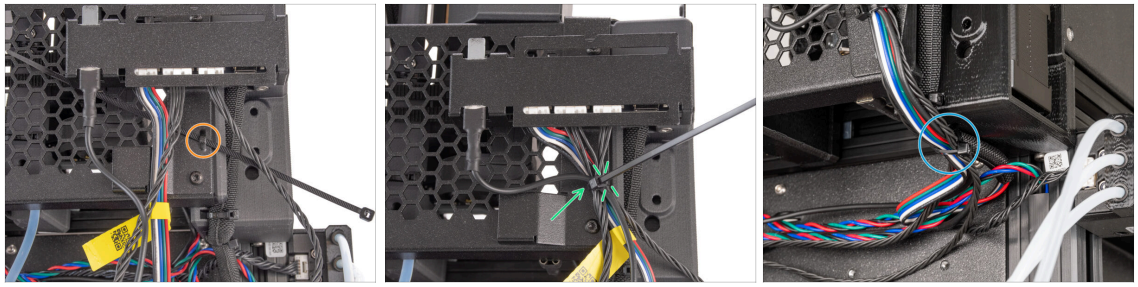
- By pressing safety latch, disconnect the LED cable from the XL sandwich.
- Connect the LED cable to the left connector on the FDM XL Enclosure splitter.

STEP 40 Installing LED cable



- Connect the black LED cable to the middle connector on the FDM XL Enclosure splitter.
- Lead the cable behind the Nextruders cables to the left.
- Connect the second end to the **LED Light 2** connector on the XL sandwich board.

STEP 41 Enclosure cables securing

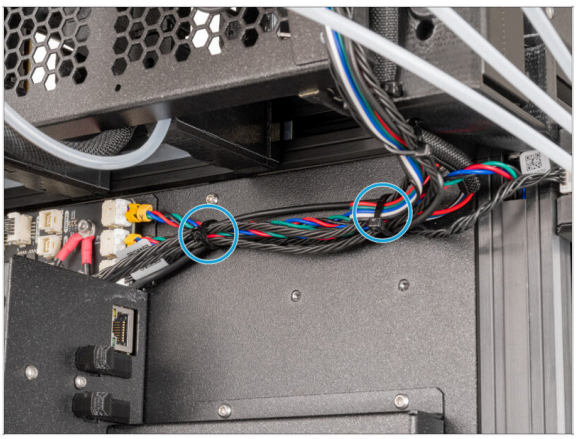


- Locate the metal perforation on the XL enclosure board assembly and insert a zip tie through it.

⚠ **Watch out for the cables!**

- Secure the cables carefully to the XL enclosure board cover. **Do not overtighten the zip tie.** Cut the end of the zip-tie.
- Attach the cables to the black sleeve with a zip-tie and secure carefully. **Do not overtighten the zip tie.** Cut off the end of the cable tie.

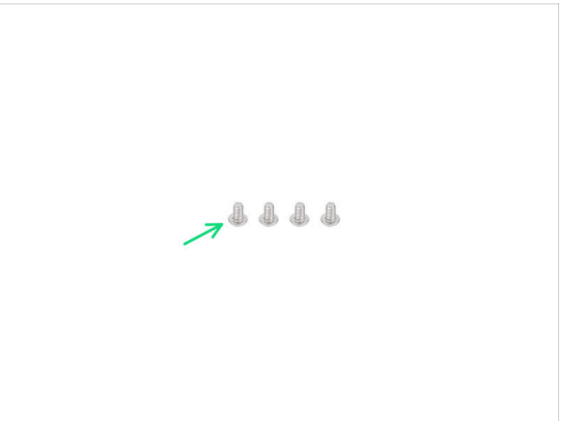
STEP 42 Securing the cables



- Insert the zip-tie through the metal cut-out and secure all cables. **Do not overtighten the zip-tie.** Cut the ends of the zip-ties.

STEP 43 Back cover: parts preparation

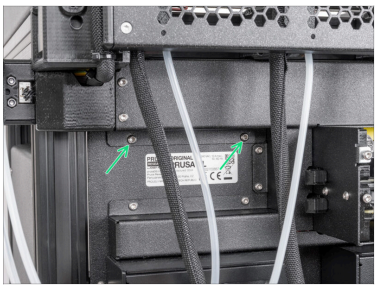


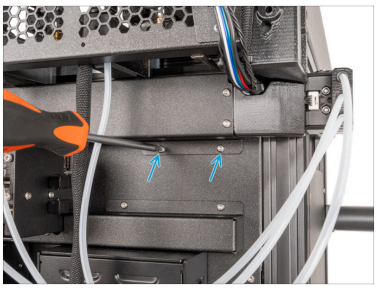


- **For the next steps, please prepare:**
- Rear cable management upper (1x) *you removed in the previous steps*
- M3x4rT screws (4x) *you removed in the previous steps*

STEP 44 Back cover attaching







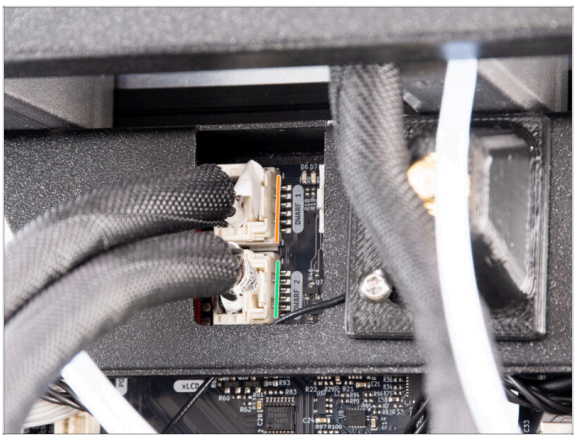
⚠ **Don't pinch any cables!**

- Attach the rear cable management upper to the printer.

⚠ **Double-check the cables, there are a lot of them.**

- Secure the left side with two M3x4rT screws.
- Secure the right side with two M3x4rT screws.

STEP 45 Dock cable replugging

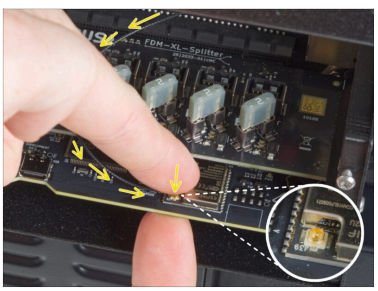


- Connect the first dock (from the right side) cable to the upper slot labeled DWARF 1.

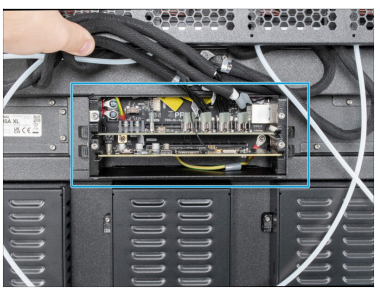
ⓘ The next line is only for printers with more than 2 Nextruders. Otherwise go to the next step.

- Connect the second dock (from the right side) cable to the lower slot labeled DWARF 2.

STEP 46 Antenna & Nextruder connecting







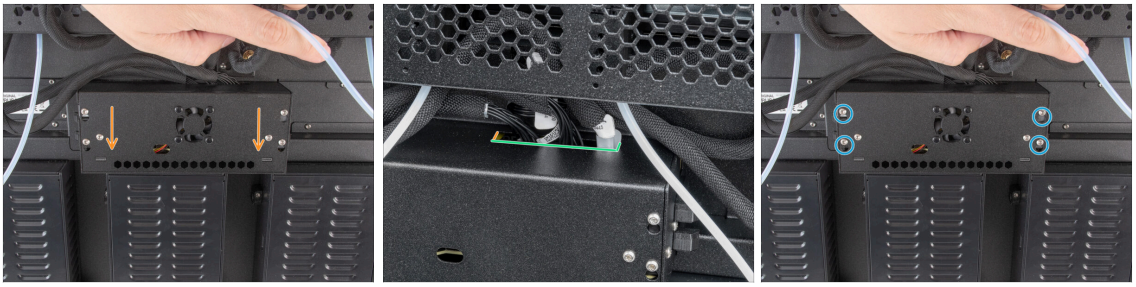
ⓘ If you have the antenna on the side of the printer -> **skip to the black line**.

- Connect the antenna cable to the antenna connector on the board.

ⓘ The next line is only for printers with more than 2 Nextruders. **Otherwise go to the next step.**

- Connect the third, fourth and fifth (from the right) Nextruder to the splitter:
  - Third Nextruder.
  - Fourth Nextruder.
  - Fifth Nextruder.
- XL splitter with connected Nextruders has to look like this.

STEP 47 XL buddy box covering



⚠ **Be carefull, do not pinch any cables!**

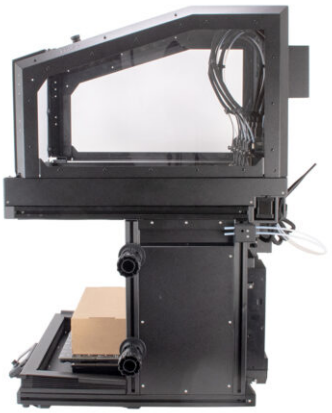
- Put the XL buddy box cover back on the printer.
- Check Nextruders cables, they have to be inside the cutout in the cover.
- With a Torx T10 screwdriver tighten the four screws.

STEP 48 Good job

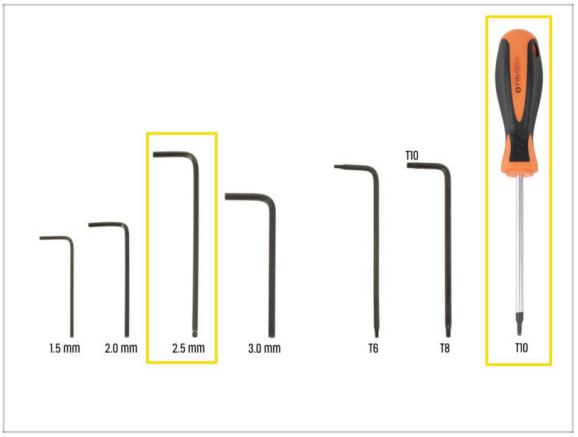


- Well done, the printer has been upgraded. Now go to the last step: Enclosure securing!

4. Enclosure secure



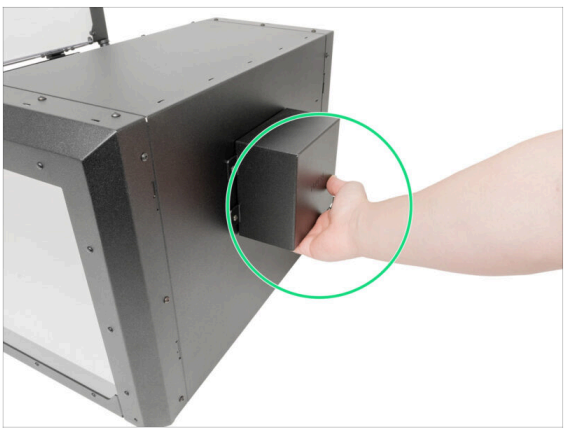
STEP 1 Tools necessary for this chapter



- **For this chapter, please prepare:**
- 2.5mm Allen key/Torx T10 screwdriver

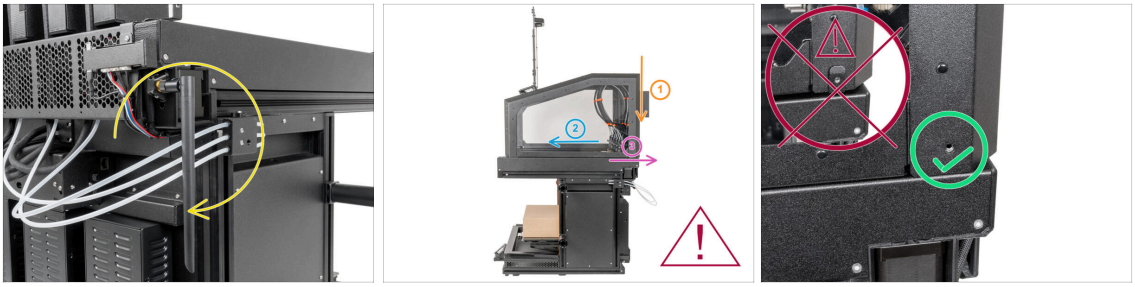
STEP 2 Enclosure preparing





- On the assembled Enclosure, open the lid.
- Grasp the Enclosure on the front where is the support plate.
- Grasp the Enclosure on the back of where is the filtration cover.

STEP 3 Enclosure attaching

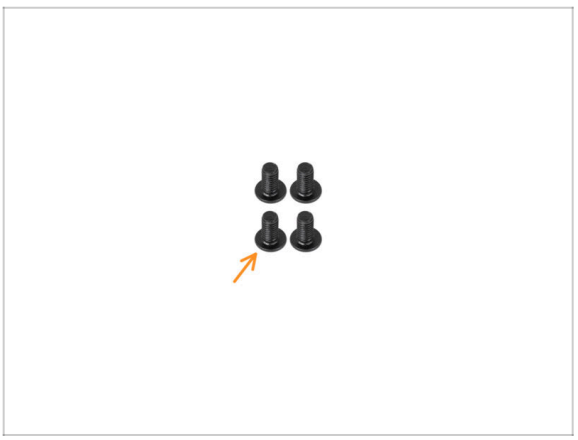


⚠ For this step, call somebody to help you attach the enclosure to the printer.

⚠ **Don't pinch any Enclosure cable.** Watch out for cables!

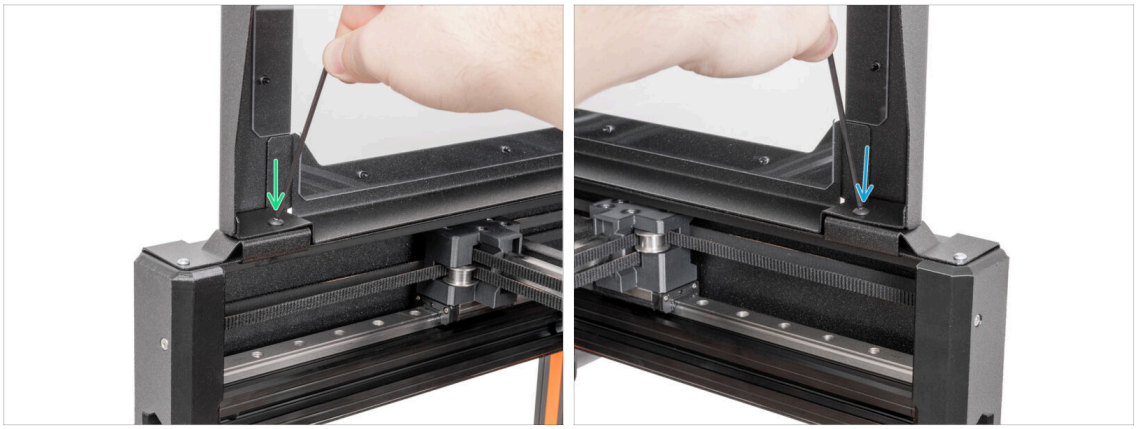
- Turn the antenna downwards if you have a side-mounted antenna.
- Carefully attach the enclosure to the printer in three steps:
  - 1. Place the enclosure on the printer.
  - 2. Push the enclosure to the front of the printer.
  - 3. Push the enclosure to the back of the printer.
- Align the holes for the screws. Both fixing brackets rear should be inside the enclosure.

STEP 4 Enclosure securing: parts preparation



- **For the next steps, please prepare:**
- M4x8r screw (4x)

STEP 5 Front side securing



- From the front side of the enclosure:
- Secure the left bottom corner with an M4x8r screw to the fixing-bracket-front-left using a 2.5mm Allen key.
- Secure the right bottom corner with an M4x8r screw to the fixing-bracket-front-right using a 2.5mm Allen key.

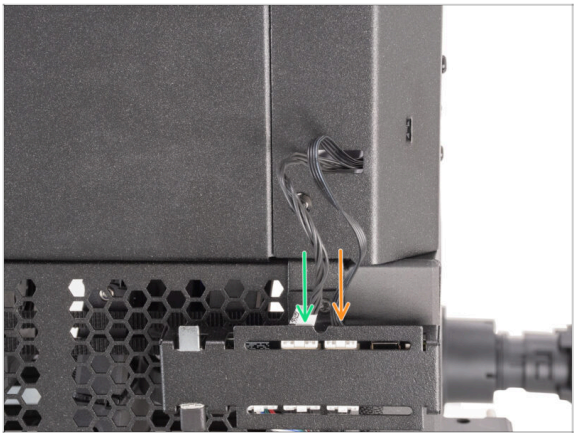
⚠ **Close the lid.** This prevents the lid from closing by gravity during handling.

STEP 6 Rear side securing



- From the rear side of the printer:
- Secure the left bottom corner with an M4x8r screw to the fixing-bracket-back-right using a 2.5mm Allen key/Torx T10 screwdriver.
- Secure the left bottom corner with an M4x8r screw to the fixing-bracket-back-left using a 2.5mm Allen key/Torx T10 screwdriver.

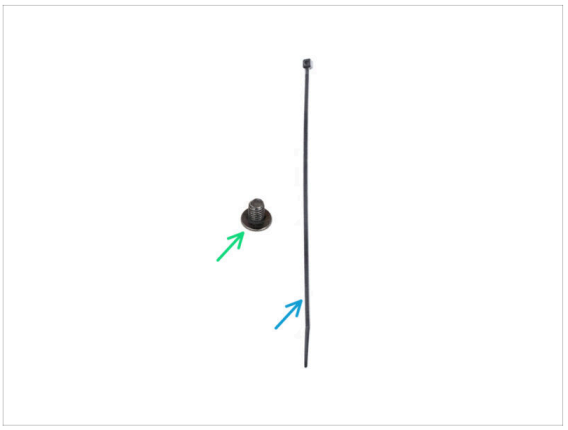
STEP 7 Enclosure cables connecting



- Take the fan cable (4 wires) and connect the end of the cable to the right connector on the FDM XL Enclosure splitter.
- Take the LED cable (5 wires) and connect the end of the cable to the left connector on the FDM XL Enclosure splitter.

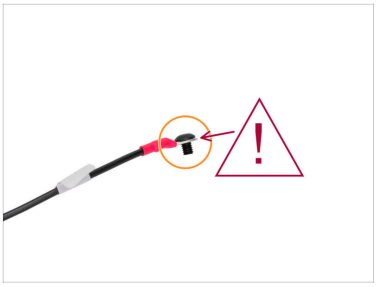
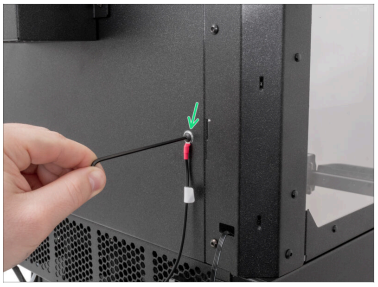
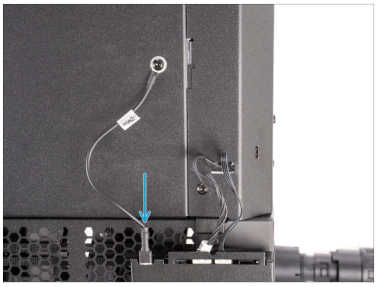
STEP 8 Enclosure PE cable: parts preparation





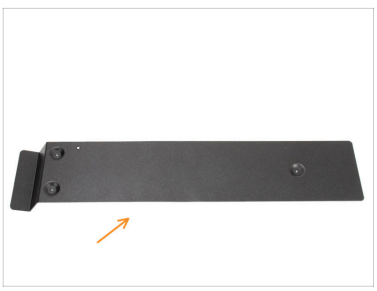
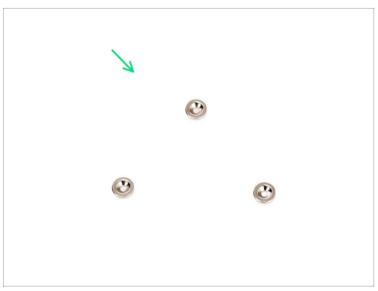
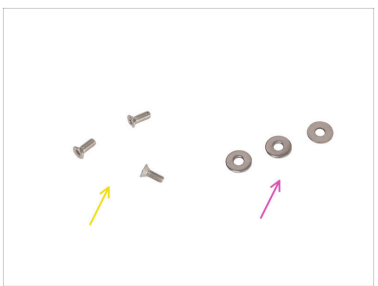
- **For the next steps, please prepare:**
- PE cable (1x)
  - Your PE cable might also be purely black.
- M4x5r screw (1x)
- Zip-tie (1x)

STEP 9 PE cable securing

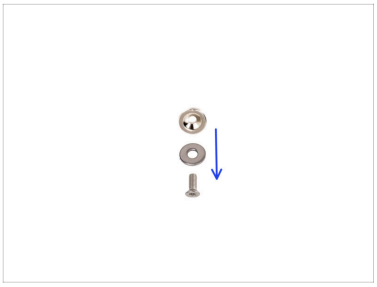
- Insert an M4x5r screw through the terminal as shown in the image.
- ⚠ **Note the orientation of the PE cable terminal!**
- Secure the PE cable by tightening the M4x5r screw using a 2.5mm Allen key.
- Attach the PE faston to the XL Enclosure board cover.

STEP 10 Bent vent cover assembly: parts preparation

- Bent vent cover (1x)
- Neodymium disc magnet (3x)
- M3x6bT screw (3x)
- 3,2 Washer (3x)

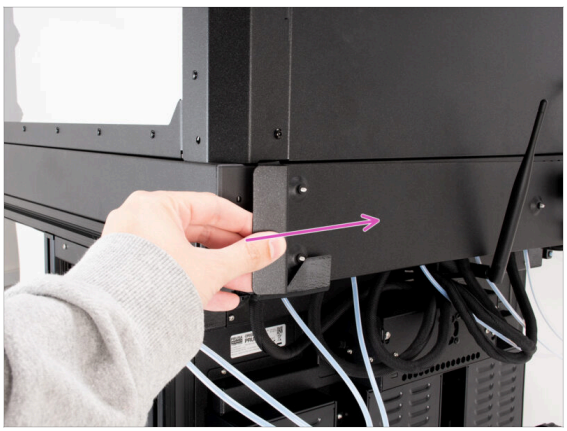
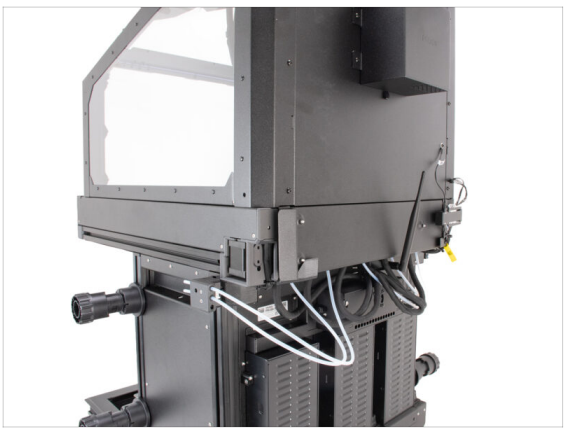
STEP 11 Bent vent cover assembly





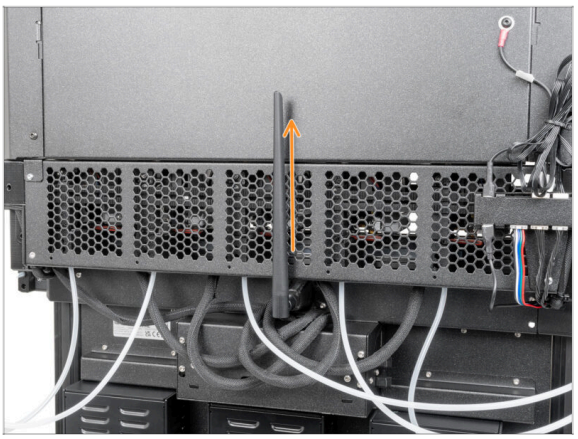
- Place a 3,2 washer on the M3x6bT screw and then place a neodymium disc magnet on it. Repeat this process three times.
- Using a Torx T10 screwdriver attach it to the bent vent cover.
- Repeat for all magnets.

STEP 12 Bent vent cover installing

- Insert the bent vent cover assembly throught the vent support to cover the holes in the back metal frame.

STEP 13 Installing the Wi-Fi antenna



ⓘ This step is only for the printer, which has a Wi-Fi antenna on the back of the printer.

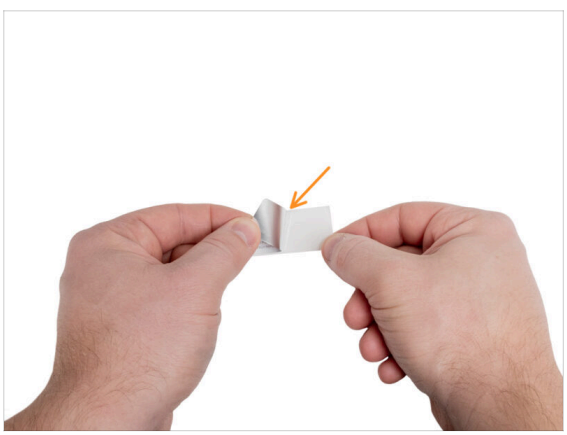
- Secure the Wi-Fi antenna back to the connector in the middle of the printer and adjust it to point straight upwards for optimal signal strength.

STEP 14 Serial number sticker: parts preparation



- **For the next step, please prepare:**
- Serial number sticker (1x)

STEP 15 Serial number sticker





- Peel off a piece of the protective layer from the serial number sticker.
- Stick the sticker on the lower left rear corner of the XL Enclosure.

STEP 16 First run





- From the rear side of the printer, plug in the PSU cable.
- Turn the power switch ON (symbol "I").
- ⓘ Upgrade to the latest firmware.
- On the screen, go to *Control -> Enclosure* and turn it on.

STEP 17 Good job!



- Well done, your Prusa Enclosure for XL+ is now ready to print something great!

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