Inhaltsverzeichnis

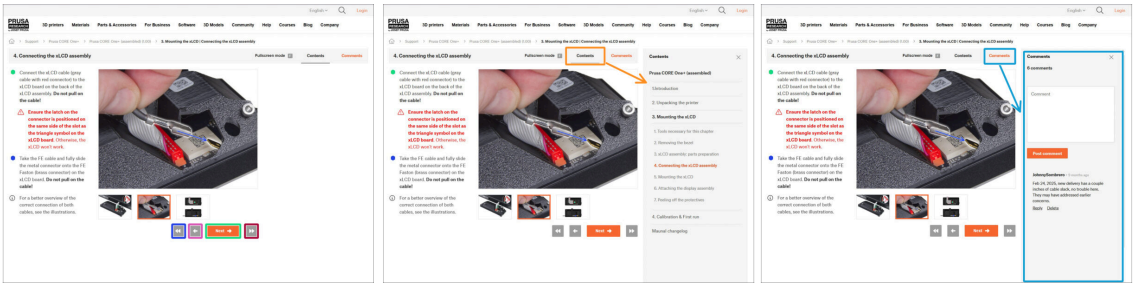
1A. Einleitung

SCHRITT 1 Anleitung Infos

- Willkommen bei der Original **Prusa MK4S zu CORE One+ Umrüstung** Anleitung.
- Please prepare the upgrade kit received from Prusa Research.
- Im ersten Teil der Anleitung werden wir die wichtigsten Komponenten Ihres MK4S Druckers überprüfen, gefolgt von der Demontage des Druckers.

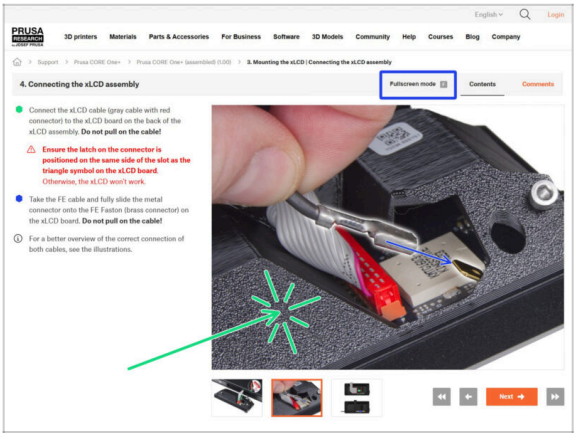
  Danach werden wir ein paar Teile überarbeiten, und schließlich kann der CORE One+ Bauprozess beginnen.

SCHRITT 2 Navigieren durch das Handbuch



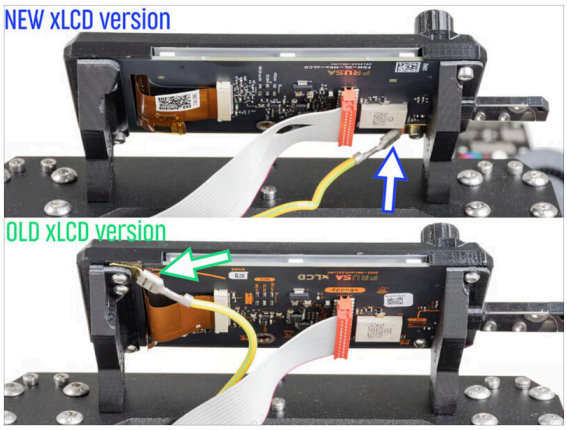
- Use the graphical navigation buttons in the bottom right corner or the arrow keys on your keyboard:
  - **Next button / Right arrow key** - Moves to the next image, or to the next step if it's the last image in the step.
  - **Left arrow button / Left arrow key** - Moves to the previous image, or to the previous step if it's the first image in the step.
  - **Play backward button / Up arrow key** - Moves to the previous step.
  - **Schaltfläche "Vorwärts spulen" (Weiter) / Pfeil nach unten Taste** - Geht zum nächsten Schritt.
- Klicken Sie auf **Inhalt**, um die vollständige Liste der Schritte in dieser Anleitung anzuzeigen. So können Sie unabhängig von der Reihenfolge zu jedem Schritt springen.
- Klicken Sie auf **Kommentare**, um die Diskussion für einen bestimmten Schritt zu öffnen und Ihr Feedback zu hinterlassen.

SCHRITT 3 Hochauflösende Bilder ansehen



- When you browse the guide on help.prusa3d.com, you can view the original images in high resolution for clarity.
- Just click on the image to open it in high resolution for a detailed view.
- Click on **Fullscreen mode** or press the F key to maximize your screen space and focus entirely on the instructions.

SCHRITT 4 Kompatibilität



⚠ Die einzige Möglichkeit der Konvertierung zum CORE One+ ist die vom **MK4S**.

Wenn Sie ein älteres Druckermodell haben, müssen Sie es zunächst auf MK4S aktualisieren und dann mit der Konvertierung zu CORE One+ fortfahren.

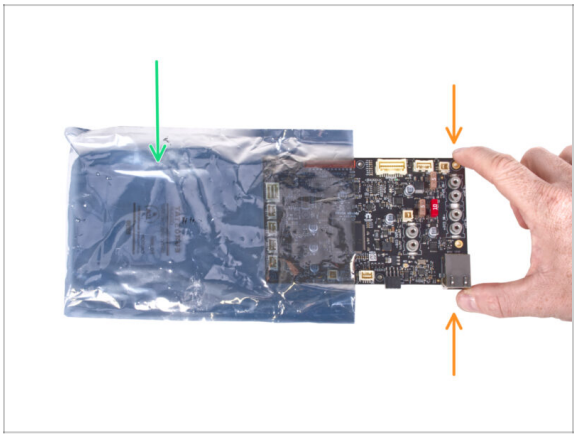
ⓘ There are two versions of the conversion package, depending on the xLCD version used in your MK4S printer.

⚠ The silver PSU is not compatible with the conversion kit.

If you have this PSU version, you will need to purchase a compatible one.

- Weitere Informationen finden Sie in den Kompatibilitätshinweisen auf der Seite CORE One+ Umrüstung.

SCHRITT 5 Wichtig: Schutz der Elektronik



⚠ **WARNING:** Make sure to **protect the electronics against electrostatic discharge (ESD).** When possible, always unpack the electronics right before you need them.

- Here are some tips to prevent damage to the electronics:
  - **Keep the electronics inside an ESD-safe bag** right until you are asked to install them.
  - **Always touch the sides of the board only** while handling it. Avoid touching the components on the surface.
  - **Before you touch the electronics** use any grounded conductive (metal) structure nearby to neutralize the possible static charge from your hands.
  - **Seien Sie besonders vorsichtig in Räumen mit Teppichen**, die oft eine Quelle elektrostatischer Energie sind.
  - Kleidung aus Wolle und bestimmte synthetische Stoffe können leicht statische Elektrizität aufnehmen. Es ist sicherer, **Baumwollkleidung** zu tragen.

SCHRITT 6 Abbildungen der Bauteile

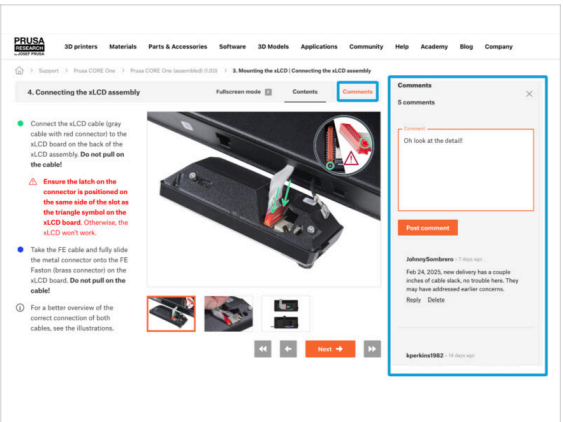
- All the boxes and bags including parts for the build are labeled.
- The labels include the list of contents and part count.
- You can download a **Cheatsheet** with 1:1 fastener drawings from our site prusa.io/cheatsheet-mk4. Print it at 100 %, don't rescale it, otherwise, it won't work.

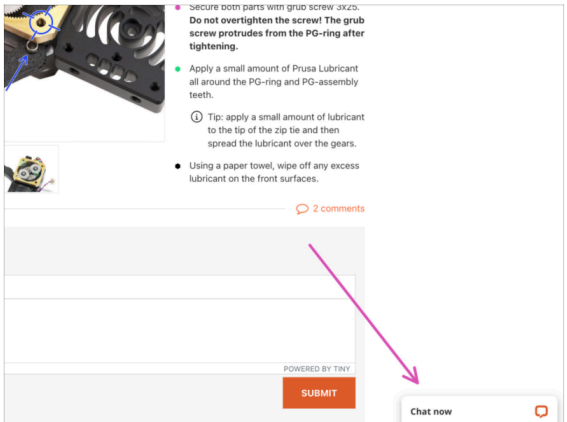
ⓘ For PRUSA veterans: Fasteners are divided into individual bags according to its type. Not into packages for individual chapters, as it was with previous printers.

SCHRITT 7 Ersatzteilbeutel

- There is a bag with spare parts like thermal pads, springs, etc.
- Spare fasteners are included in each bag of fasteners. The numbers in parentheses below the fastener picture indicate the number of extra pieces added to the SPARE package.

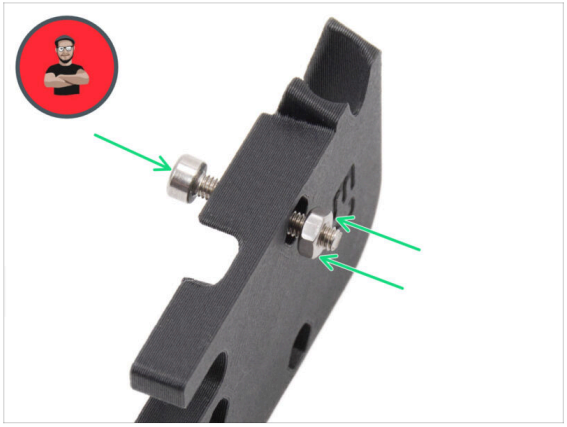
SCHRITT 8 Wir sind für Sie da!





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

SCHRITT 9 Pro Tipp: Einsetzen der Muttern



- 3D printed parts are very precise, however, there still might be a tolerance in the printed part and the same goes for the size of the nut.
- Therefore it might happen, that the nut won't fit easily in or might be falling out. Let's see, how to fix it:
  - **Nut won't fit in**: use a screw with a thread along its entire length (typically: M3x10, M3x18) and screw it from the opposite side of the opening. While tightening the screw, the nut will be pulled in. Remove the screw afterwards.
  - **Nut keeps falling out**: Use a piece of tape to fix the nut temporarily in place, as soon as you insert the screw in, you can remove the tape. *Using glue isn't recommended as it can partly reach into the thread and you won't be able to tighten the screw properly.*
- Every time we recommend using the "screw pulling technique", you will be reminded with Joe's avatar ;)

ⓘ Die Teile in der Abbildung sind Beispiele.

SCHRITT 10 Lagerschmierung Applikator

- We will reuse two LM8UU bearings from your MK4S. It is a good practice to re-lubricate them before re-using.
  - For this purpose, we suggest printing the Bearing Lubrication Pacifier from Printables, Before disassembling the printer
    - ⓘ It is a quick print, just under 20 minutes.
  - The lube tube is included in the package.

SCHRITT 11 Ihren Arbeitsplatz vorbereiten

- 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.

⚠ **It's highly recommended to place a soft pad on your workbench**. Some sheet metal parts have sharp edges that could scratch the surface.

- OK, wir sind bereit. Fangen wir an! Gehen Sie zum nächsten Kapitel.

1B. MK4S Inspektion

SCHRITT 1 Einleitung

- Some parts of your printer can be reused for upgrading, so it's essential to check their condition before starting.

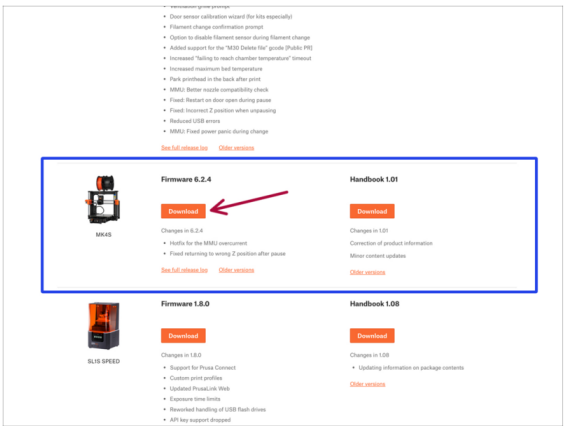
  This chapter will guide you through a visual inspection of these parts. If you find any in poor condition, you'll have enough time to order replacements while still using the printer.

⚠ Do not disassemble or disconnect anything until prompted.

- Any parts that are found to be in poor condition during the inspection can be replaced with new parts. Everything is available in our eshop.

  ⓘ Please note that you have to be logged in to access all parts.

SCHRITT 2 Firmware Update



- On the printer, visit the menu **Info > Version Info** to check the firmware version.

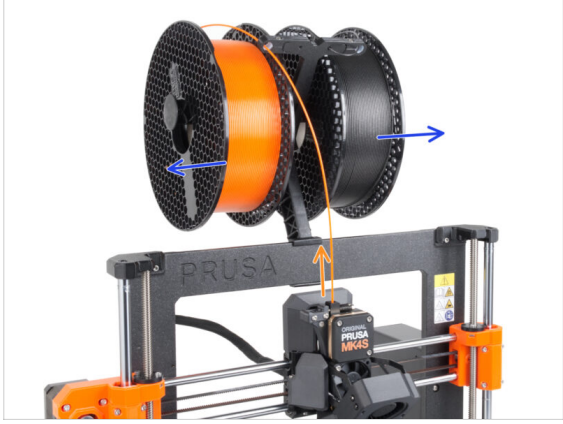
⚠ Ensure your MK4S printer has **firmware 6.2.4 or newer** before continuing. Otherwise, your newly converted CORE One will not work, and will resist updating.

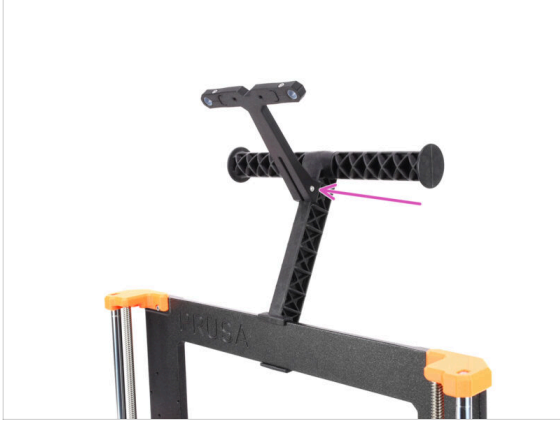
- The latest firmware can be downloaded at: Help.Prusa3D.com/Downloads
- For more info, visit the Firmware Update Article.

SCHRITT 3 Drucker Vorbereitung 2

- **Before you start, do the following:**
- Bewegen Sie die X-Achsen-Baugruppe ungefähr auf die 2/3-Höhe, so dass:
  - ⓘ Pro Tip: Long press the knob and use the "Z Axis Move" option.
  - The rear of the extruder is accessible.
  - The PSU screws are accessible.
  - All the screws on the electronics box are accessible.

SCHRITT 4 Drucker Vorbereitung 2



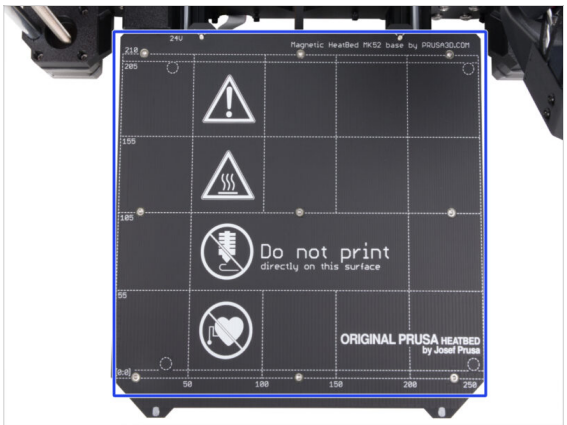


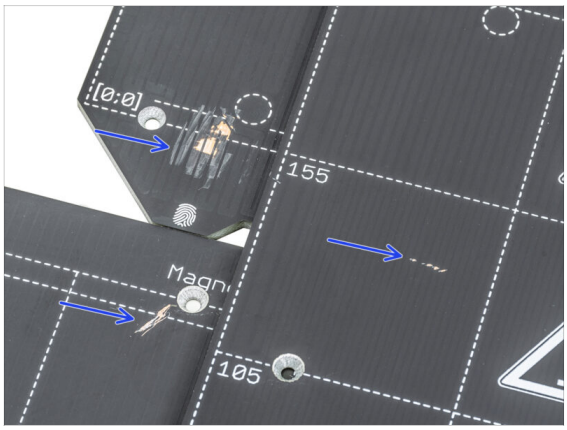
- Unload a filament, if it is loaded.
  - ⓘ Menu Filament > Unload filament
- Remove the filament spools.
- Remove the spool holder.

SCHRITT 5 Drucker Vorbereitung 3

- Turn off your printer and disconnect it from the power.
- Remove the print sheet and save it for later use.

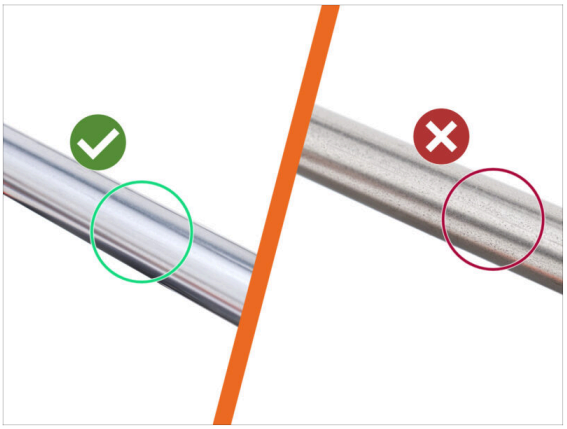
SCHRITT 6 Heizbett Inspektion





- Carefully inspect the surface of the heatbed. If you find any major scratches (up to the copper layer) consider replacing it with a new piece.

SCHRITT 7 Y-Stangen Inspektion



- Wipe the entire length of the Y-axis smooth rods with a paper towel to remove any dirt.

ⓘ **Carefully inspect the surface of the smooth rods up close, as we are going to reuse them.**

- The surface must be clean and smooth.
- If you find very deep scratches, corrosion, or a rough surface, it is highly recommended to replace the rods.

  You can purchase a new Smooth Rod Y-axis (8×330 mm) in our eshop
- Similarly, if the smooth rods are scratched or the bearings do not move smoothly (stuttering occurs), we recommend ordering new LM8UU bearings as well.

  You can purchase new LM8UU bearings in our eshop.

SCHRITT 8 Haribo Zeit!

⚠ **Keep the Haribo bag closed for now!**

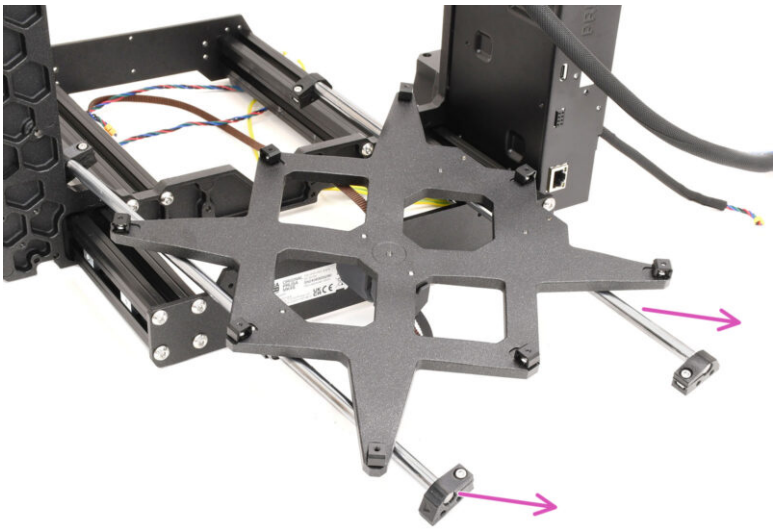
- This dose of energy is primarily for the printer assembly. **Wait until you are prompted to open it.**

SCHRITT 9 Los geht's

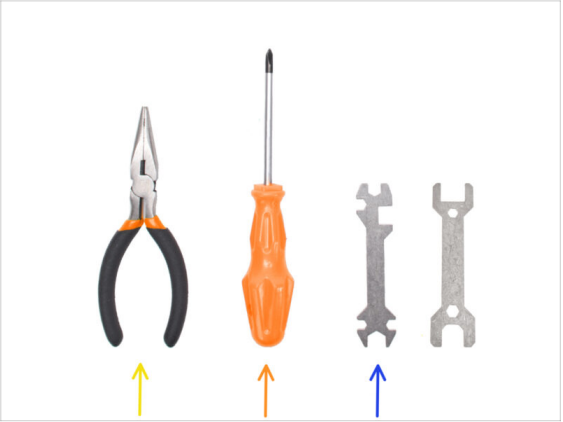
- Got everything checked? Great! Let's begin disassembling the printer.

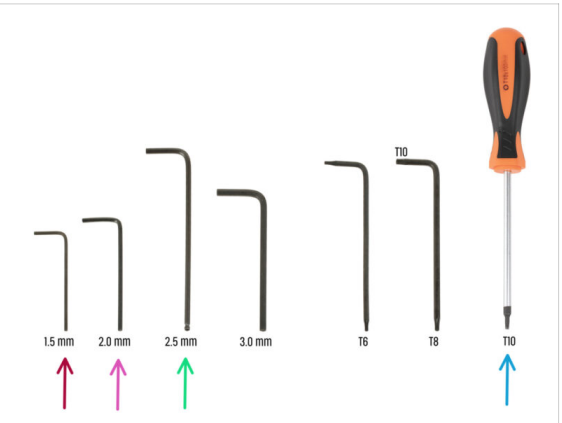
  Proceed to the next chapter.

1C. Demontage des Druckers



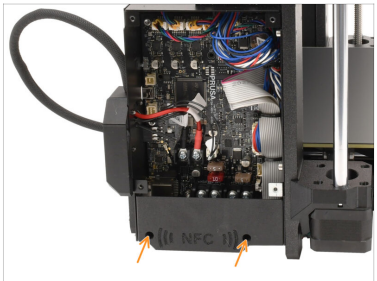
SCHRITT 1 Erforderliche Werkzeuge

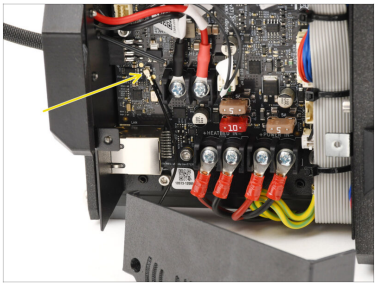




- **Bereiten Sie bitte für dieses Kapitel vor:**
- Spitzzange
- Phillips Schraubendreher
- Universal-Schlüssel
- 1,5mm Innensechskantschlüssel
- 2mm Innensechskant-Schlüssel
- 2,5mm Innensechskantschlüssel
- T10 Schraubendreher

SCHRITT 2 Elektronik Demontage

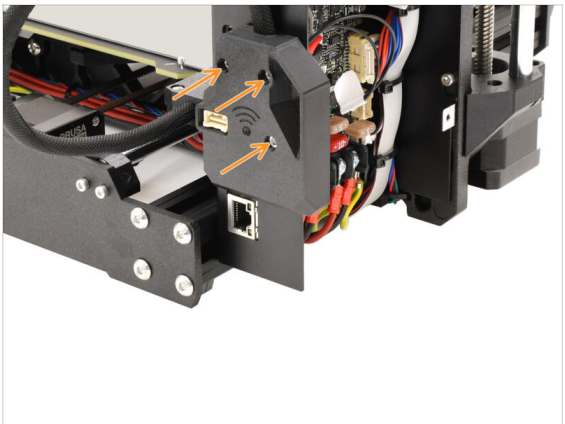


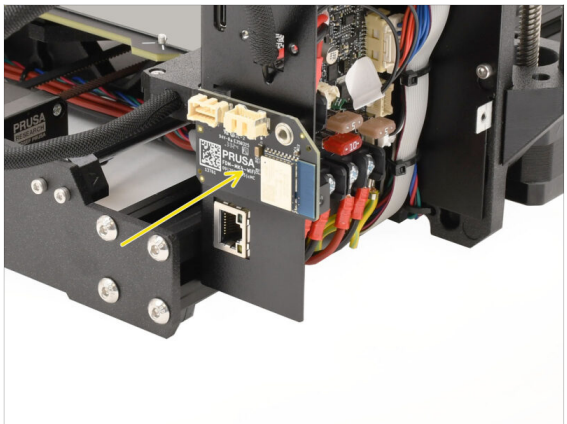


- Gehen wir nun zur **linken** Seite des Druckers.
- Remove the four screws holding the xBuddy box cover and remove the cover.
- Using the 2.5mm Allen key, remove the two screws holding the NFC cover.
- Disconnect the NFC antenna from the xBuddy board by gently lifting the tiny connector.

  Then, remove the antenna along with the cover.

SCHRITT 3 Wi-Fi Demontage

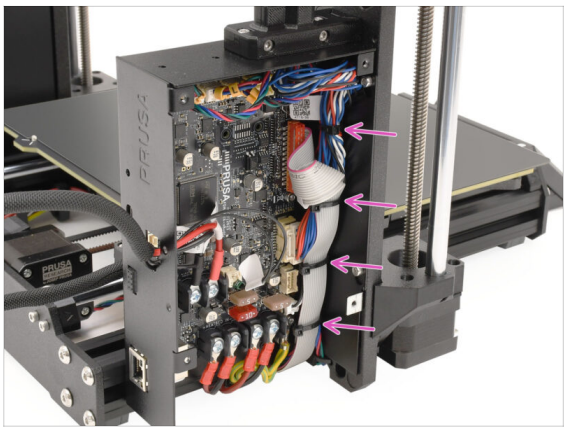


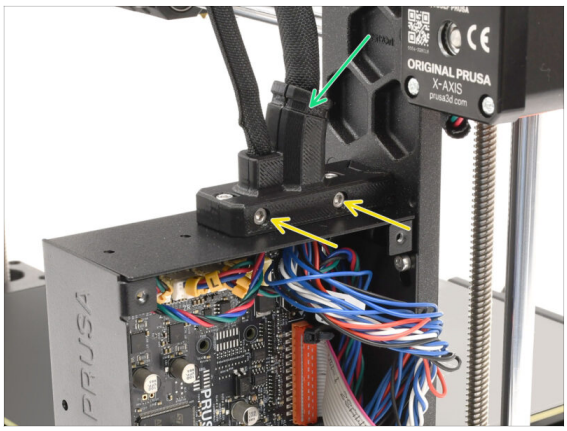


- Entfernen Sie auf der Rückseite der Elektronikbox die drei Schrauben, die die Wi-Fi-Abdeckung halten, und nehmen Sie die Abdeckung ab.
- Remove the Wi-Fi module and **save it for later use.**

  ⚠ Ensure you store the module and all electronic components in an ESD-safe environment to prevent damage!

SCHRITT 4 Kabelbündel Demontage

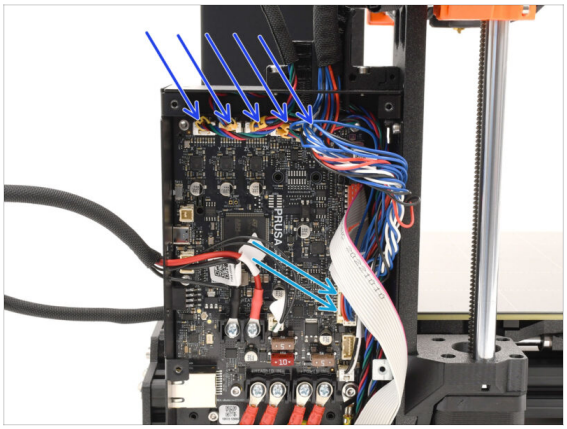
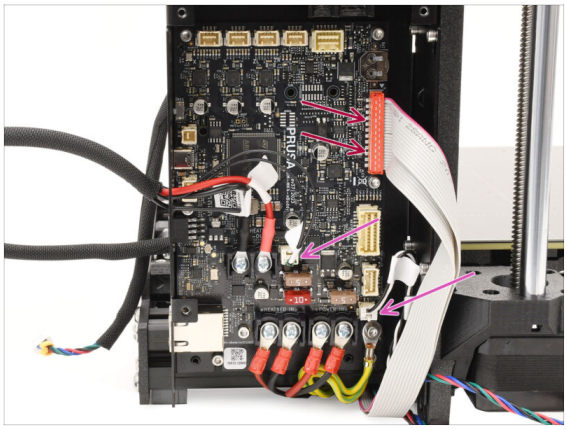




- Remove all the zip-ties securing the cable bundle inside the xBuddy box.

  ⚠ When cutting the zip-ties, proceed carefully to prevent any damage to the cables or the electronics!
- Remove the two screws on the main cable holder.
- Cut the zip-tie holding the cover together, then remove the outer part of the holder.

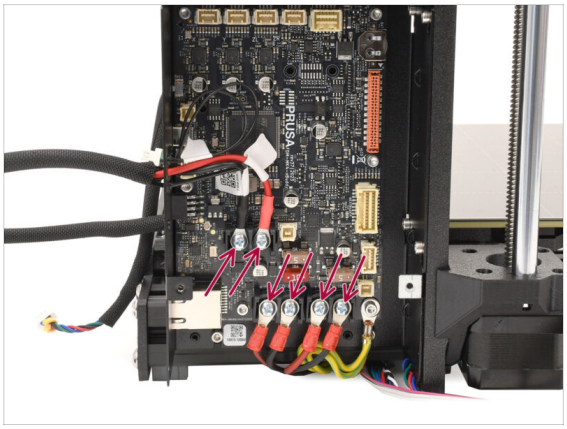
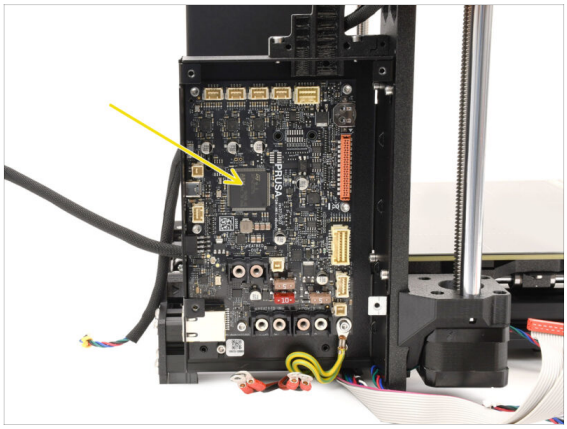
SCHRITT 5 Lösen der Kabel 1

- Disconnect all the connectors on the top of the xBuddy board.

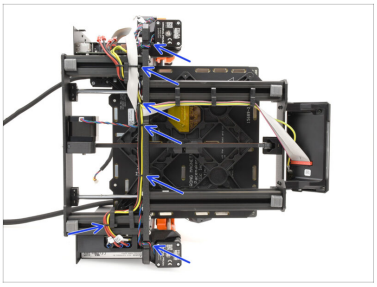
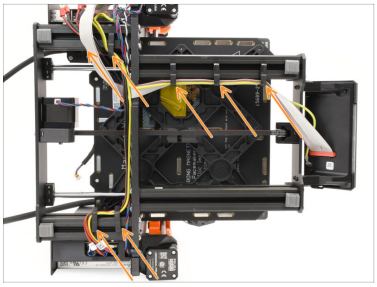
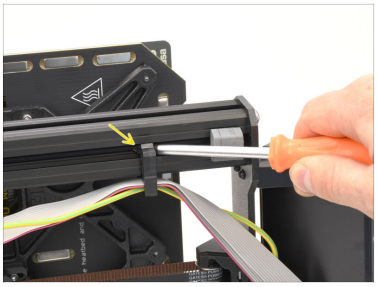
  ⚠ There is a safety latch on each of these connectors, which must be pressed in order to disconnect it.
- Disconnect the extruder main cable connector.
- Disconnect the heatbed thermistor and power panic cables.
- Disconnect the xLCD connector by lifting it carefully up.

SCHRITT 6 Lösen der Kabel 2

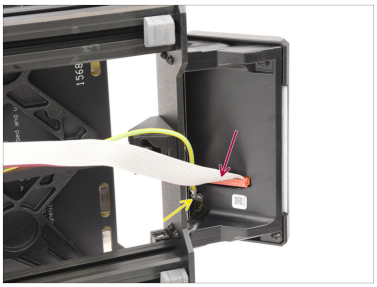
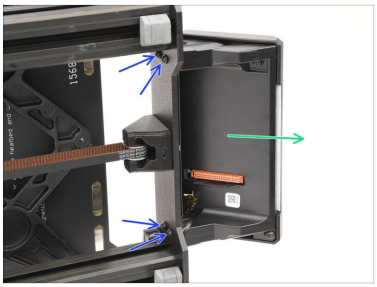
- Using the Phillips screwdriver, remove all the terminal screws holding the heatbed and power cable connectors.
- Leave the xBuddy board in the electronics box for now, as this way, it is well protected from damage.

SCHRITT 7 Kabelbündel lösen

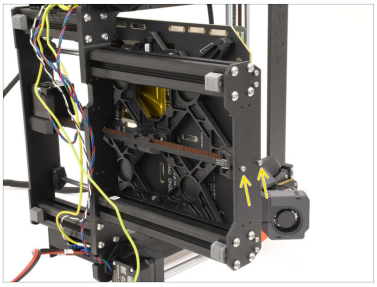
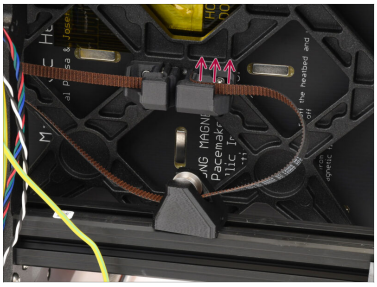
- Lay the printer onto the PSU side to access the bottom part.
- Carefully remove all the zip-ties holding the cable bundle
- Remove all the cable holders from the frame and detach them from the cables.
  - Pro tip: You can pry them off the metal profiles using the screwdriver.

SCHRITT 8 xLCD entfernen


- Disconnect the main cable from the xLCD by gently lifting the connector up.
- Disconnect the grounding cable.
- Using the T10 screwdriver, remove the four screws holding the xLCD assembly.
- Remove the xLCD assembly and **save it for later use!**

SCHRITT 9 Y Idler entfernen


- Entfernen Sie mit dem 2,5 mm Innensechskantschlüssel die beiden Schrauben, mit denen der Idler der Y-Achse an der Frontplatte befestigt ist.
- Pull the end of the Y-axis belt out of the holder at the bottom of the heatbed to disengage it.
- Remove the belt from the idler by pulling it out.

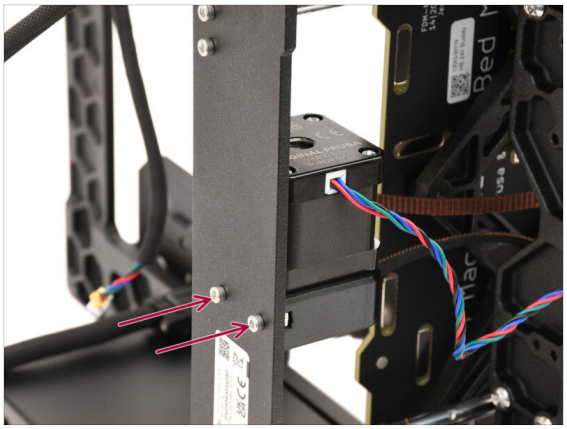
SCHRITT 10 Idler-Riemenscheibe entfernen

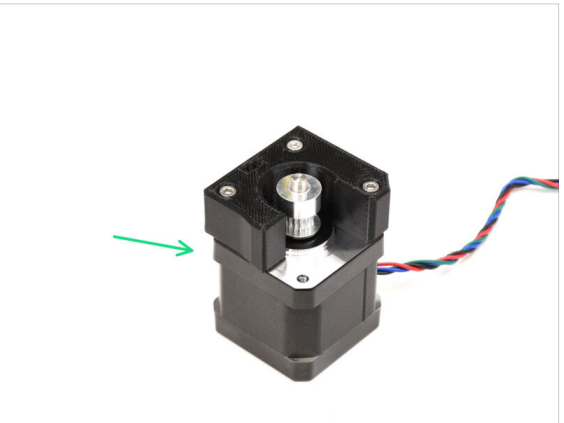

- Orient the Y-Idler as shown in the picture.

  Remove the pulley by first moving it inward, then pulling it out to the side.

  Refer to the groove pattern in the picture for the correct trajectory.
- Remove the center shaft from the pulley.
- **Save the pulley for later use.**

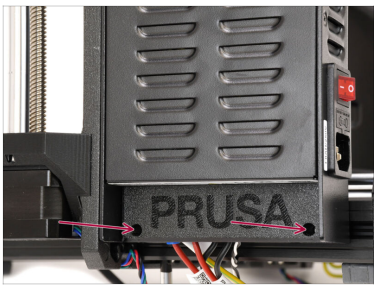
SCHRITT 11 Y Motor entfernen

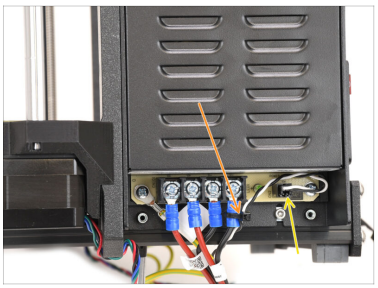




- Remove the two screws on the back of the printer, holding the Y-axis motor in place.
- Remove the Y-axis motor assembly and **save it for later use.**

SCHRITT 12 Power Panic Cable Removal

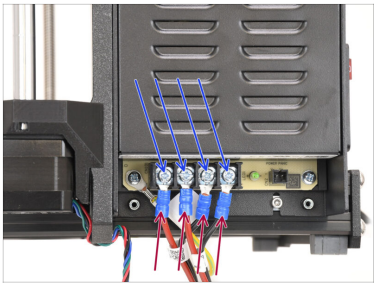
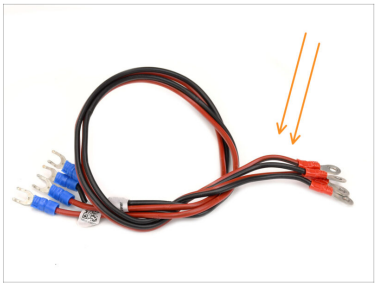




- Let's move onto the right side of the printer carcass, where the PSU lives.
- Remove the two screws securing the cover, then take off the cover.
- Carefully cut off the zip-tie holding the power panic cable.
- **Save the power panic cable for later use.**

ⓘ The power panic cable may look different, depending on your xBuddy board version.

SCHRITT 13 Stromkabel entfernen

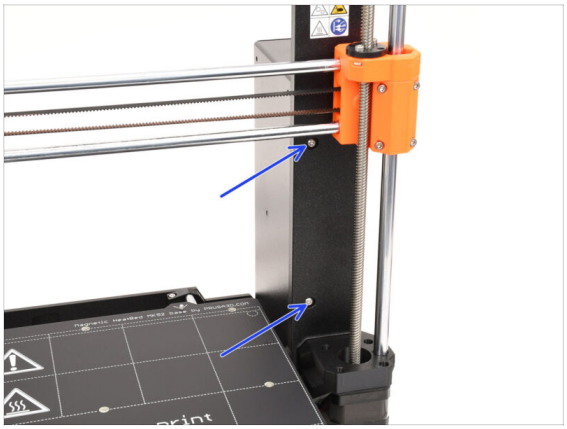



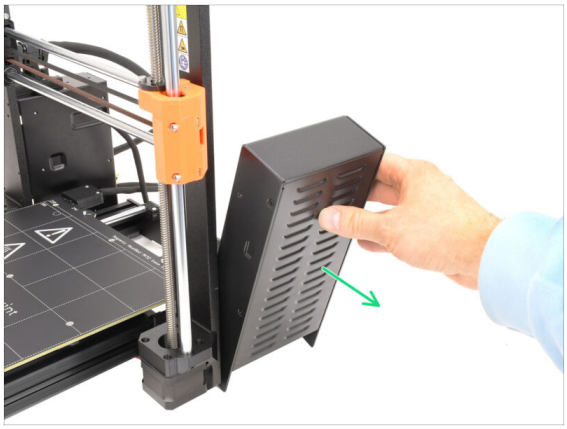

- Using the Phillips screwdriver, loosen the four power terminal screws. Do not remove them entirely.
- Remove the four power cable connectors by pulling them downward.
- Remove the power cables and **save them for later use.**
- Using the 2.5mm Allen key, remove the two screws holding the PSU to the printer's frame.

SCHRITT 14 Netzteil entfernen 1


- Remove the screw holding the grounding cable to the PSU.
  - Disconnect the grounding cable—it will no longer be needed.
- **Re-install the screw you previously removed.**

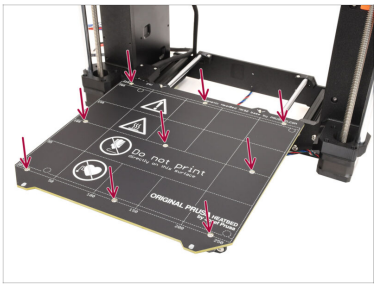
SCHRITT 15 Netzteil entfernen 2

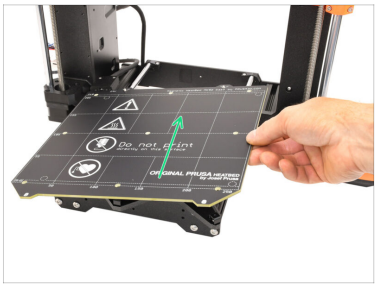


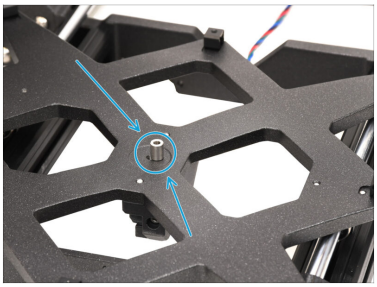


- On the front of the frame, remove the two screws holding the PSU.
  - ⚠ The PSU might fall off to the side!
- Remove the PSU and **save it for later use.**

SCHRITT 16 Heizbett entfernen





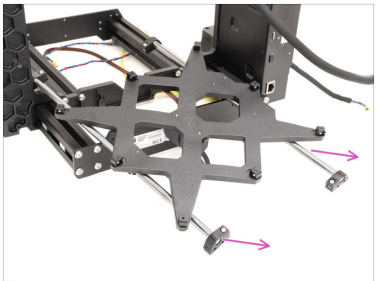


- Let's move onto the heatbed.
- Using the T10 Torx screwdriver, remove all 9 screws holding the heatbed.
- Remove the heatbed by lifting it up. **Save it for later use.**
  - **There is a spacer in the middle of the heatbed. Make sure to save it for later use too!**

Be careful and store the heatbed on a soft surface to prevent scratching it.

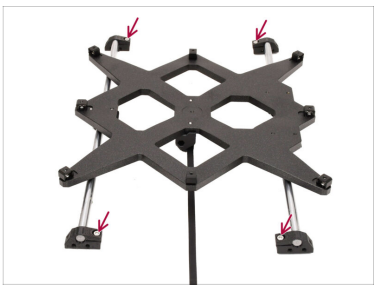
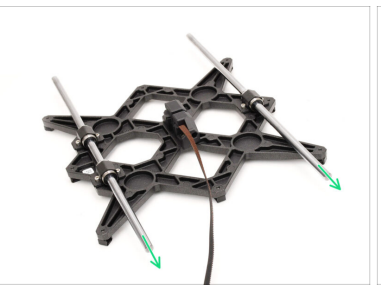
SCHRITT 17 Y-Achse entfernen





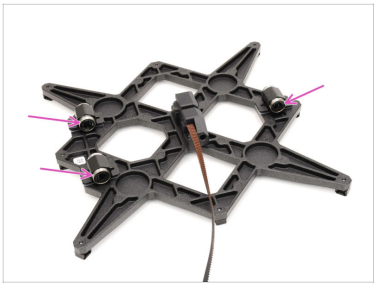
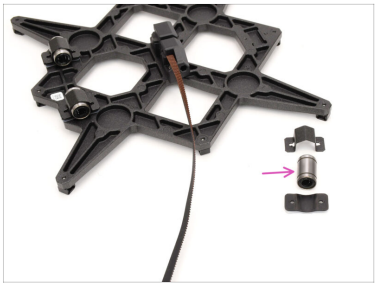
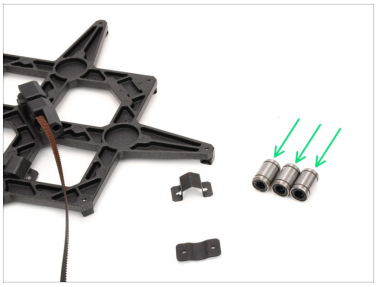
- Using the 2.5mm Allen key, remove the four screws holding the Y-axis rods to the front of the frame.
- Remove the four screws holding the Y-axis rods to the back of the frame.
- Remove the whole Y-axis assembly from the printer's frame.

SCHRITT 18 Y-Achse demontieren


- Remove the four screws fixing the rods to the Y-rod holders. Then, remove the plastic rod holders.
- Turn the assembly around.
- Pull out both the Y-axis rods. Clean them up and **save them for later use.**
- Remove all the screws holding the bearings to the carriage.

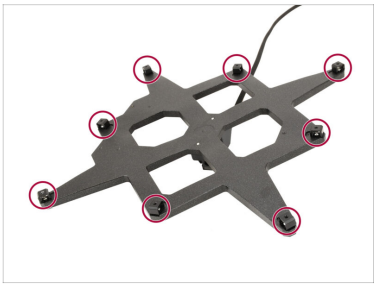
SCHRITT 19 Lager entfernen

- Remove all three bearings from the bearing holders.
- Clean the bearings from any excess grease or dirt, and **save them for later use.**

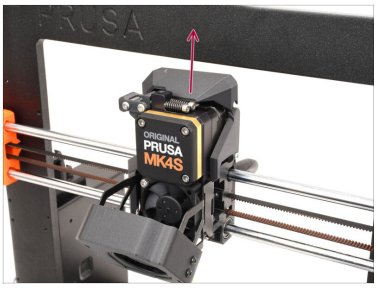
  ⓘ Zwei dieser Lager werden für den Bau des CORE One+ verwendet.

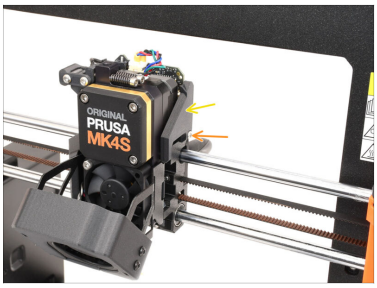
SCHRITT 20 Expansion Joint entfernen

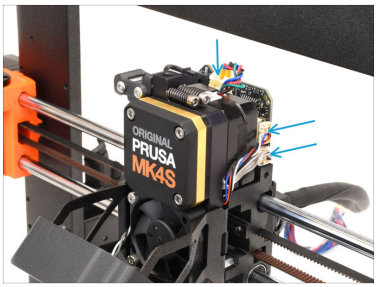


- Using the 2mm Allen key, remove all 8 expansion joints from the Y-Carriage.
- **Save the expansion joints for later use.**

SCHRITT 21 Extruderabdeckung entfernen

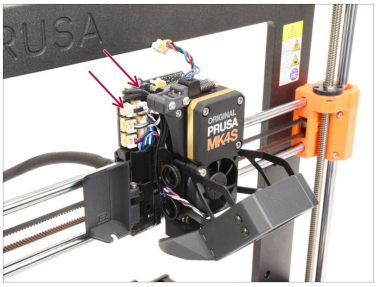


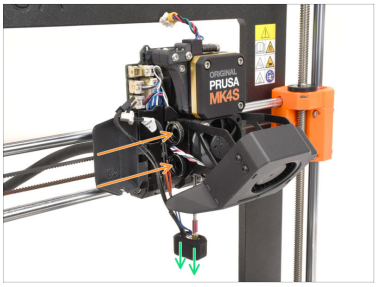


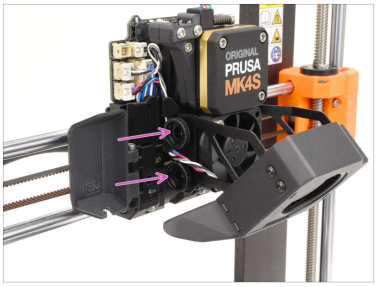


- Let's move onto the extruder.
- Remove the top cover on the extruder by lifting it up.
- Remove the screw holding the cover on the right side.
- Remove the side cover.
- Disconnect the motor, filament sensor and loadcell cables.

SCHRITT 22 Hotendbaugruppe entfernen

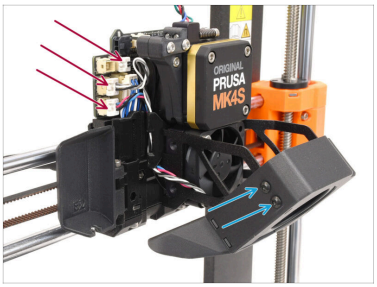


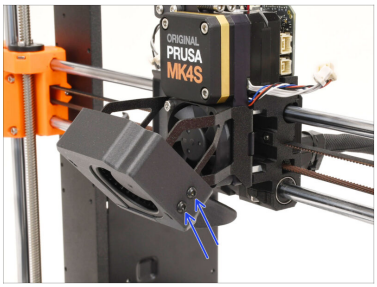


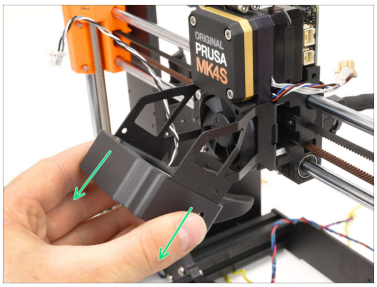


- On the opposite side, disconnect the nozzle thermistor and nozzle heater cables.
- Release the two thumb screws, until the hotend assembly drops.
- Remove the hotend assembly and **save it for later use.**
- Remove the two thumb screws and save them for later use.

SCHRITT 23 Drucklüfter entfernen

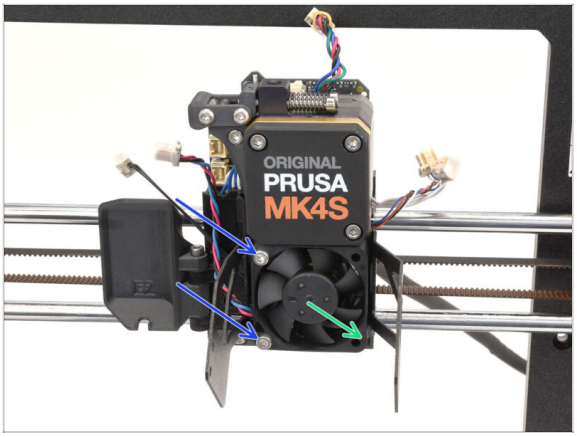






- Ziehen Sie die Kabel auf der linken Seite des Nextruders ab.
- Using the T10 screwdriver, remove the two screws holding the print fan on the left side.
- Remove the two screws on the right.
- Remove the print fan assembly by sliding it out. Proceed carefully to prevent damaging the cable going throug the metal holder. **Save the fan assembly for later use!**

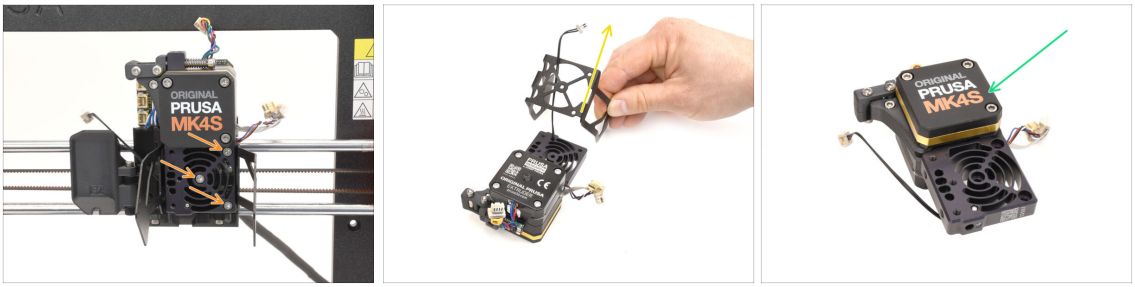
SCHRITT 24 Kühlkörperlüfter entfernen



- Entfernen Sie die beiden Schrauben, mit denen der Lüfter des Hotends am Kühlkörper befestigt ist.
- Remove the fan and **save it for later use.**

  Proceed carefully to prevent damaging the cable.

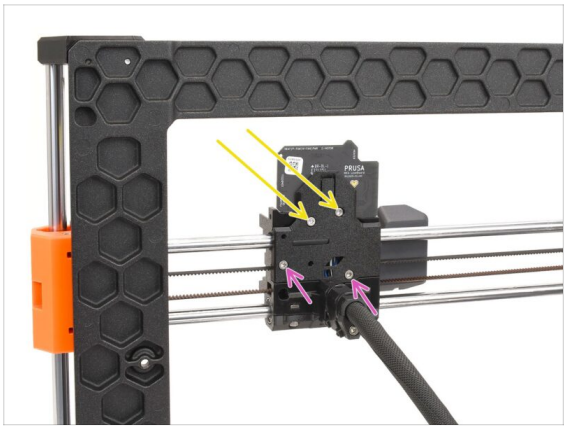
SCHRITT 25 Nextruder entfernen

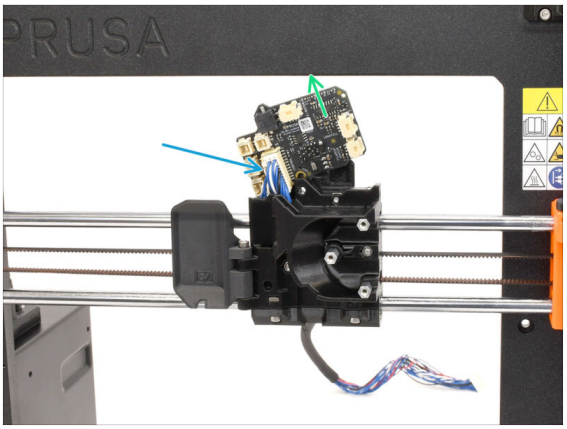


- Remove the three screws holding the Nextruder to the X-carriage.

  Watch out! The Nextruder might fall out!
- Remove the Nextruder from the printer.
- Remove the Print fan support and a plastic spacer (if present). Proceed carefully to prevent damaging the heatsink thermistor cable.
- **Save the Nextruder for later use.**

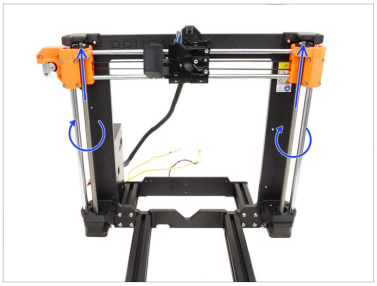
SCHRITT 26 LoveBoard entfernen

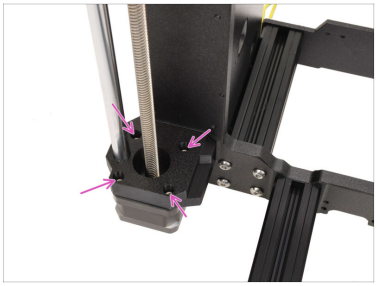


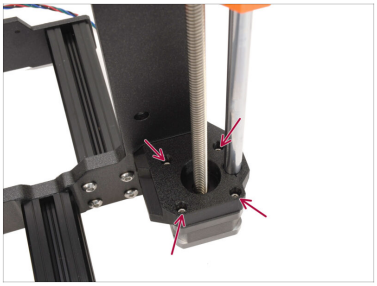


- Move onto the back of the X-carriage.
- Remove the two marked screws on top of the backing plate.
- Loosen the two remaining screws, but do not remove them entirely yet.
- Lift the Loveboard slightly to disconnect it from the main cable.
  Proceed carefully to prevent any damage to the Loveboard.
- **Remove the Loveboard and save it for later use.**

SCHRITT 27 Z Motoren entfernen

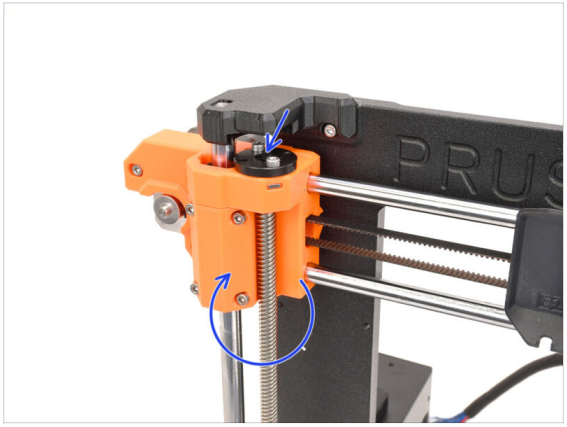


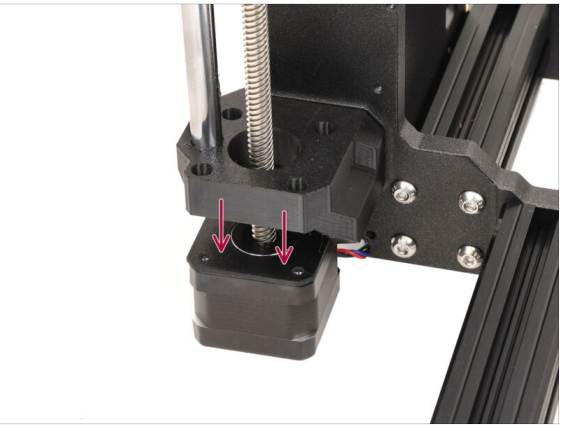




- Drehen Sie beide Gewindestangen von Hand, um die X-Achsen-Baugruppe ganz nach oben zu bewegen.
- Using a ball-end 2.5mm Allen key, remove all 4 screws securing the left Z motor.
- Remove the 4 screws holding the right Z motor as well.

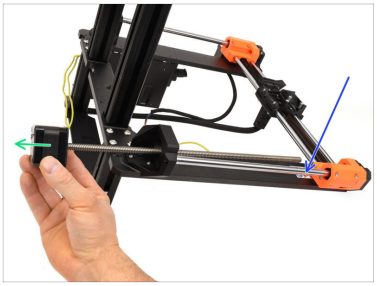
SCHRITT 28 Z Motors Removal 2

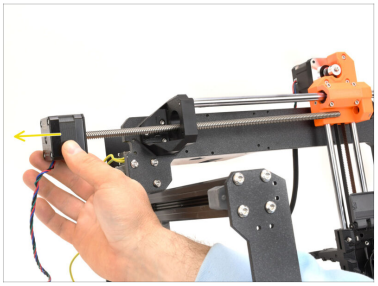


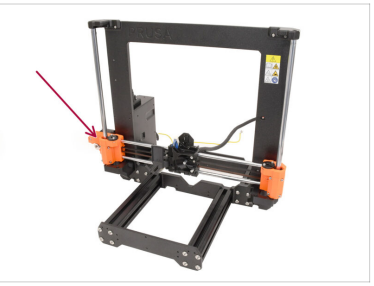


- Rotate the threaded rods on both sides to disengage both the motors from the trapezoid nuts on the X-End parts.
- Disengage the motors on both sides from the holders. The X-axis will drop slightly.

SCHRITT 29 Z Motors Removal 3

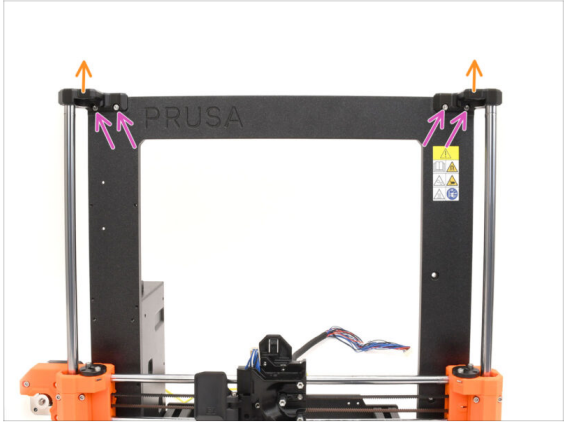


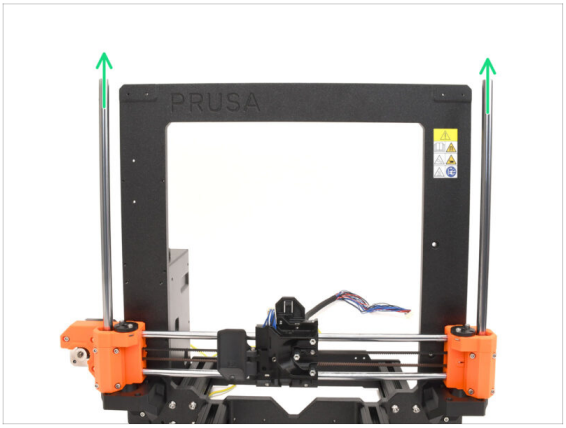




- Lay the frame onto its back part.
- Remove the right Z motor by sliding it out. **Save it for later use.**
- Remove the left Z motor.
  Save it for later use.
- Move the frame back to the original position. **Expect that the X-axis now moves freely and may fall rapidly.**

SCHRITT 30 Z Stangen entfernen

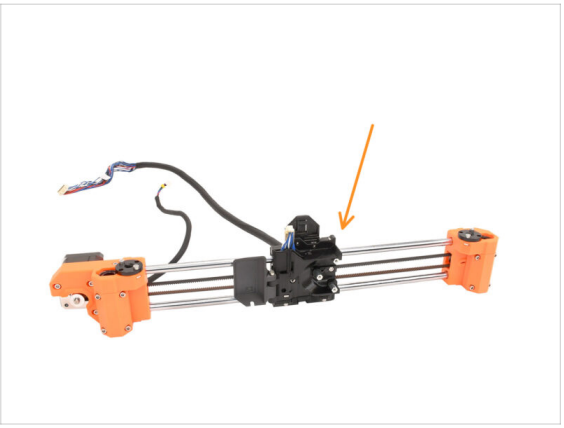


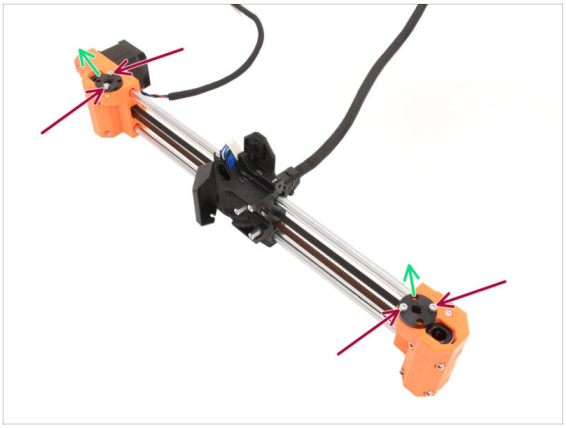


- Remove the four screws holding the Z-top parts on both sides.
- Remove both Z-tops by pulling them up and disengaging from the rods.
- Pull up both Z rods and remove them from the printer.
  Save both rods for later use.

  ⓘ A slight wiggling motion may help to disengage them from the plastic part.

SCHRITT 31 Trapezmutter entfernen

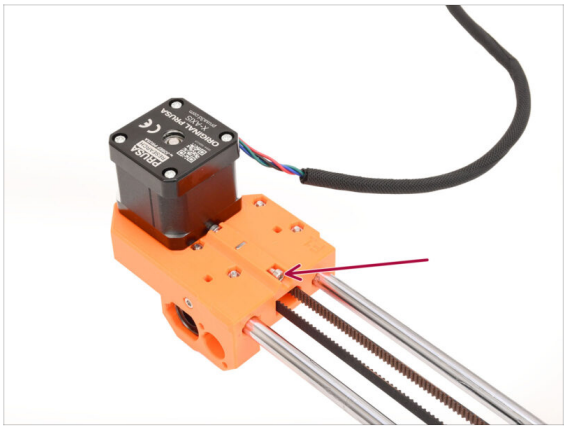


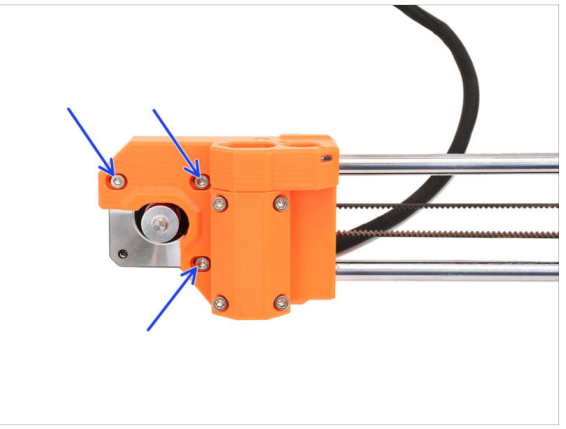


- Remove the X-axis assembly from the printer's frame.
- Remove the four screws holding the trapezoid nuts on top of both sides of the assembly.
- Remove both the trapezoid nuts and **save them for later use.**

  ⓘ If the nuts are hard to remove, try rotating them, while pulling them up.
  If that doesn't help, carefully use the threaded rod on one of the Z-motors, to pry them out.

SCHRITT 32 X Motor lösen

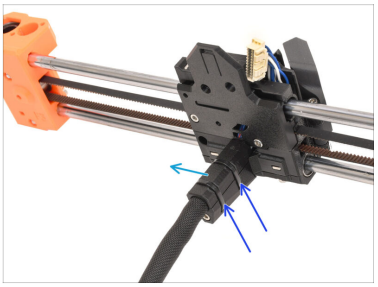


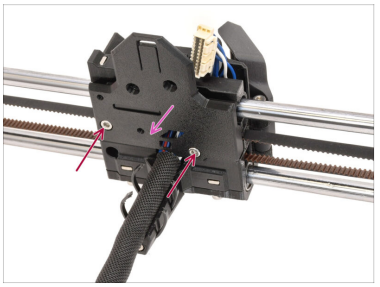


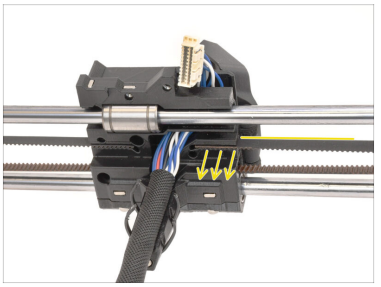
- On the back of the assembly, remove the belt tensioning screw
- Loosen the three screws holding the motor on the front.

ⓘ We need to release the belt tension, in order to release the belt in the upcoming step.

SCHRITT 33 X Riemen lösen

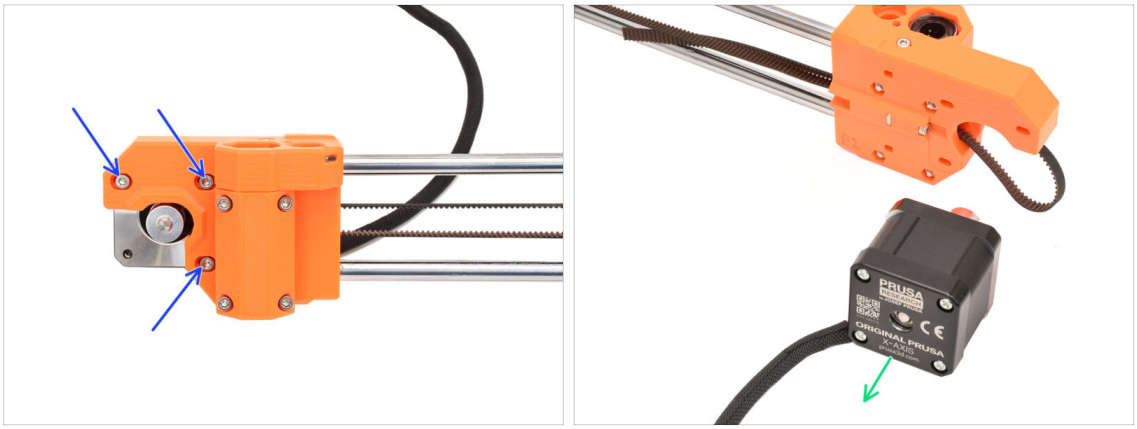






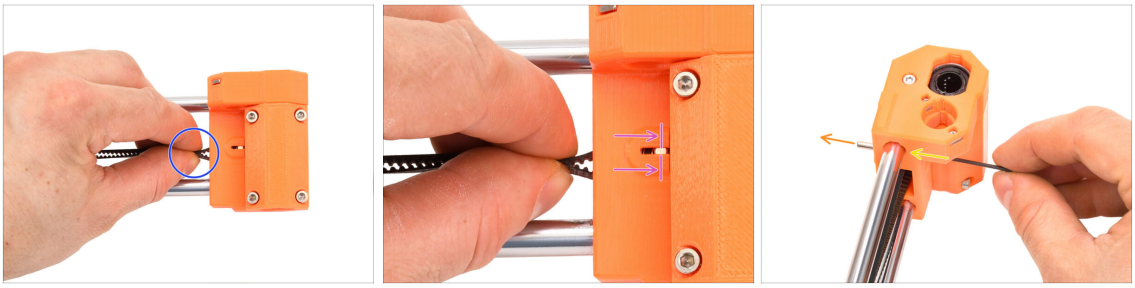
- On the back of the assembly, cut both the zip-ties holding the cable cover.
- Remove the cable cover.
- Remove both screws on the back of the X-carriage.
- Remove the cover on the back of the X-carriage.
- Pull out the end of the belt on the motor side, to disengage it.

SCHRITT 34 X Motor entfernen



- Remove the three screws holding the X-motor at the front of the assembly.
- Remove the X-Axis motor and **save it for later use.**

SCHRITT 35 X Idler Shaft Removal



- Let's move onto the right X-end part.
- Use the belt as a handle for the Idler pulley inside the plastic part.
- Move the Idler **all the way inward.**

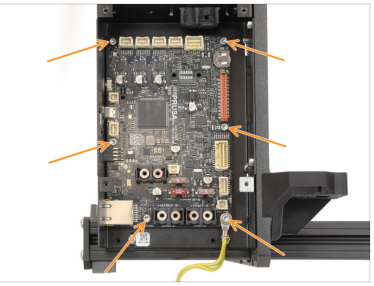
  On the front, there is a small window where you can observe the idler shaft movement.

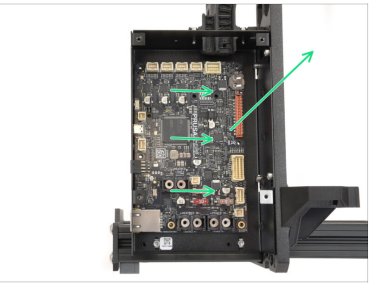
  - While keeping the idler pushed all the way in, use the thinnest 1.5mm Allen key to push the shaft out of the part.
  - The Idler shaft should exit the plastic part at the back. Remove it.

SCHRITT 36 X Idler entfernen

- Pull out the Idler pulley.
- **Save the pulley for later use.**

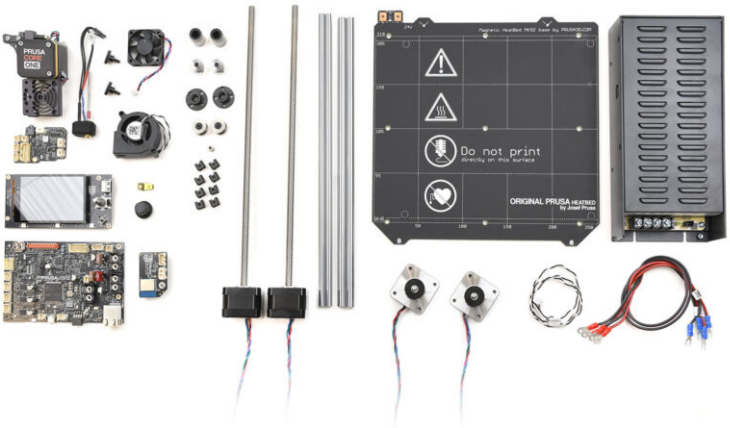
SCHRITT 37 xBuddy entfernen



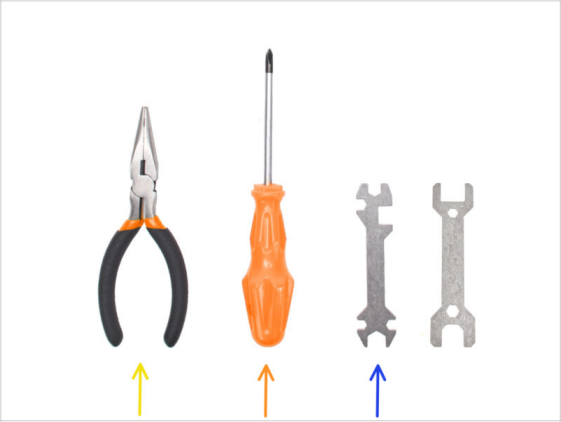


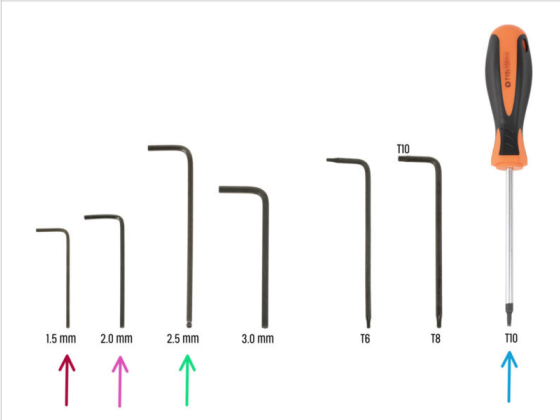
- Let's move back to the printer's frame.
- Remove the six screws holding the xBuddy board in place.
- Release the xBuddy by sliding it towards the frame, then lifting it. **Save it for later use.**

1D. Komponenten Vorbereitung



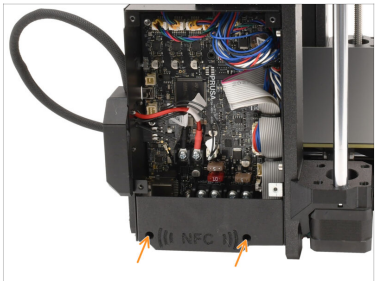
SCHRITT 1 Erforderliche Werkzeuge

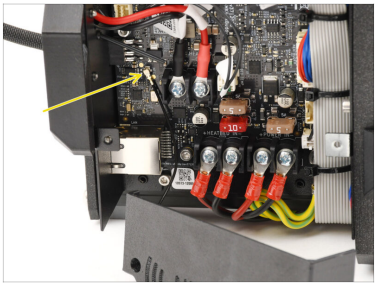




- **For this chapter, please prepare:**
- Spitzzange
- Phillips Schraubendreher
- Universal-Schlüssel
- 1,5mm Innensechskantschlüssel
- 2mm Innensechskant-Schlüssel
- 2,5mm Innensechskantschlüssel
- T10 Schraubendreher

SCHRITT 2 Elektronik Demontage

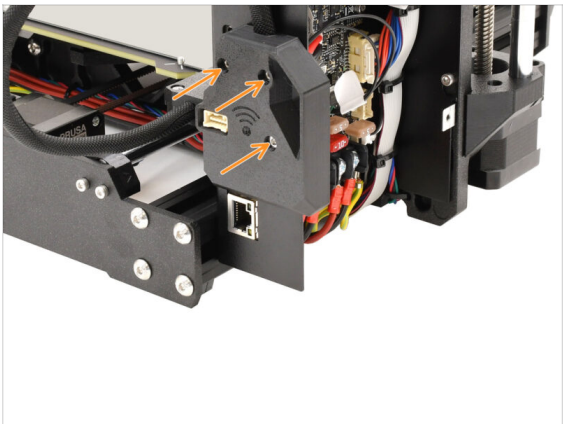


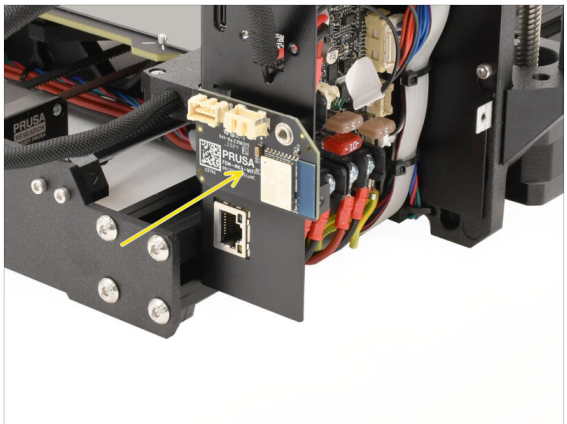


- Let's move onto the **left** side of the printer.
- Remove the four screws holding the xBuddy box cover and remove the cover.
- Using the 2.5mm Allen key, remove the two screws holding the NFC cover.
- Disconnect the NFC antenna from the xBuddy board by gently lifting the tiny connector.

  Then, remove the antenna along with the cover.

SCHRITT 3 Wi-Fi Demontage

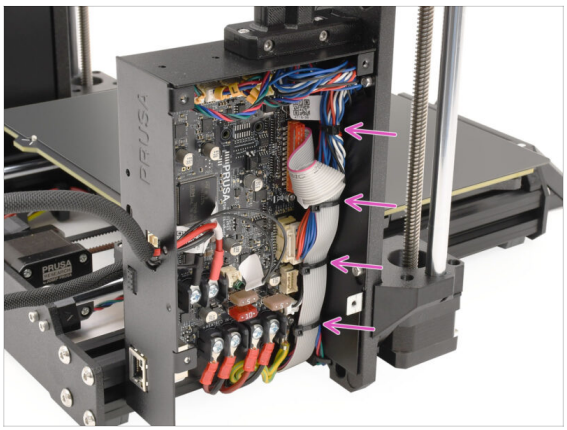


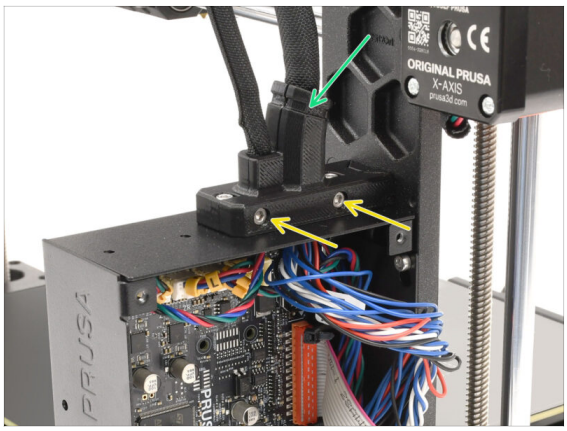


- On the back of the electronics box, remove the three screws holding the Wi-Fi cover and remove the cover.
- Remove the Wi-Fi module and **save it for later use.**

  ⚠ Ensure you store the module and all electronic components in an ESD-safe environment to prevent damage!

SCHRITT 4 Kabelbündel Demontage

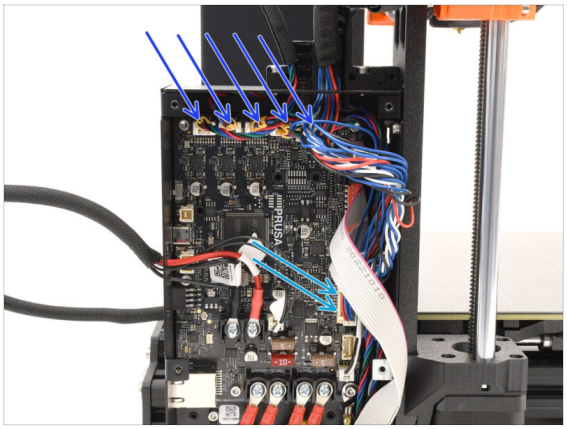


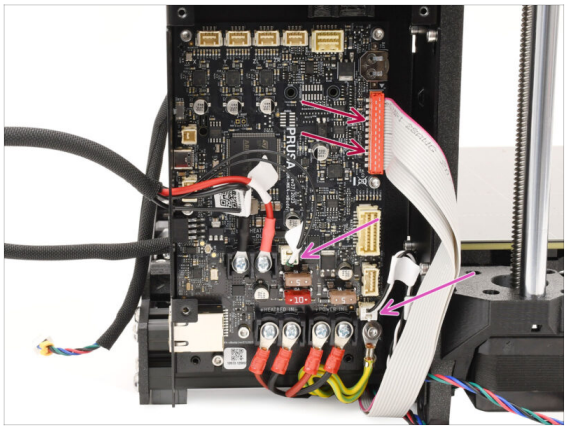


- Remove all the zip-ties securing the cable bundle inside the xBuddy box.

  ⚠ When cutting the zip-ties, proceed carefully to prevent any damage to the cables or the electronics!
- Remove the two screws on the main cable holder.
- Cut the zip-tie holding the cover together, then remove the outer part of the holder.

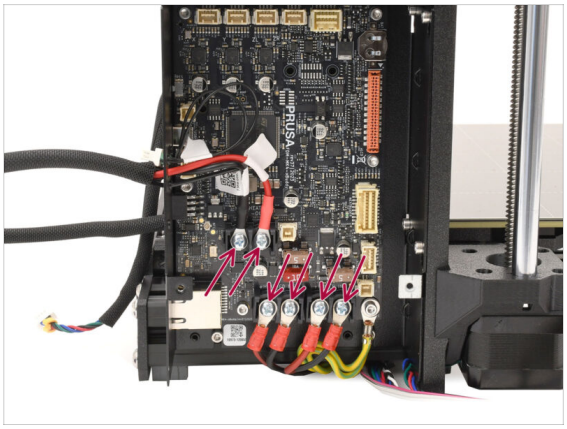
SCHRITT 5 Lösen der Kabel 1

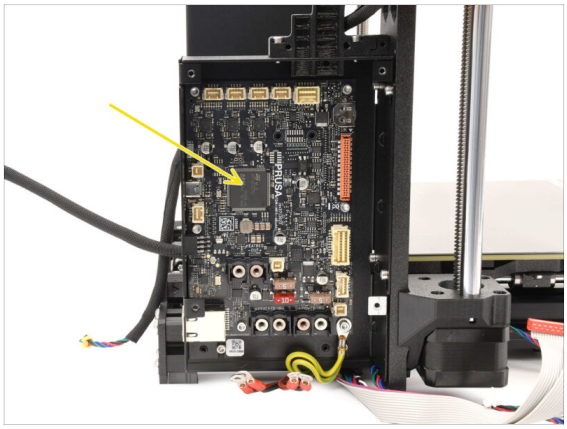




- Disconnect all the connectors on the top of the xBuddy board.
  - ⚠ There is a safety latch on each of these connectors, which must be pressed in order to disconnect it.
- Disconnect the extruder main cable connector.
- Disconnect the heatbed thermistor and power panic cables.
- Ziehen Sie den xLCD-Stecker ab, indem Sie ihn vorsichtig anheben.

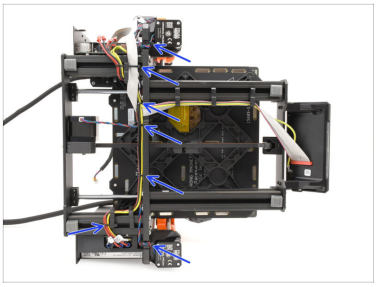
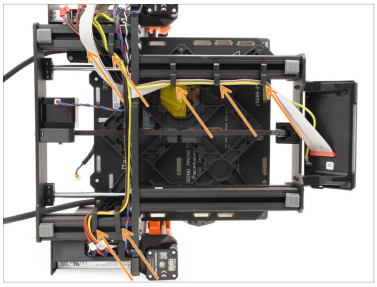
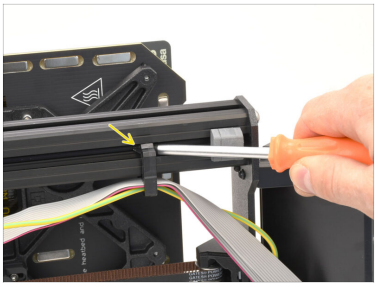
SCHRITT 6 Lösen der Kabel 2





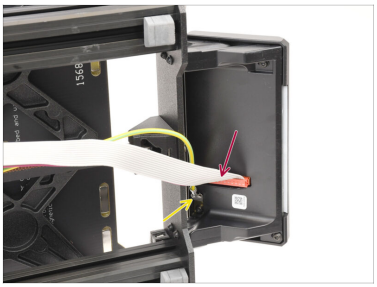
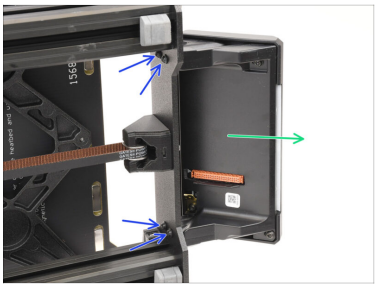
- Using the Phillips screwdriver, remove all the terminal screws holding the heatbed and power cable connectors.
- Leave the xBuddy board in the electronics box for now, as this way, it is well protected from damage.

SCHRITT 7 Kabelbündel lösen

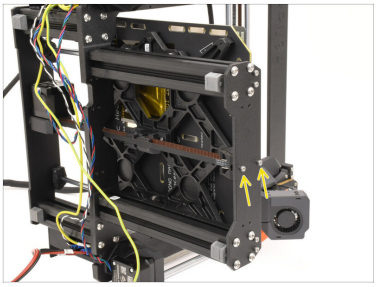
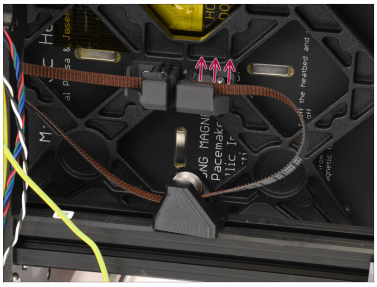
- Lay the printer onto the PSU side to access the bottom part.
- Carefully remove all the zip-ties holding the cable bundle
- Remove all the cable holders from the frame and detach them from the cables.
  - Pro tip: You can pry them off the metal profiles using the screwdriver.

SCHRITT 8 xLCD entfernen


- Disconnect the main cable from the xLCD by gently lifting the connector up.
- Disconnect the grounding cable.
- Using the T10 screwdriver, remove the four screws holding the xLCD assembly.
- Remove the xLCD assembly and **save it for later use!**

SCHRITT 9 Y Idler entfernen


- Using the 2.5mm Allen key, remove the two screws holding the Y-Axis Idler on the front plate.
- Pull the end of the Y-axis belt out of the holder at the bottom of the heatbed to disengage it.
- Remove the belt from the idler by pulling it out.

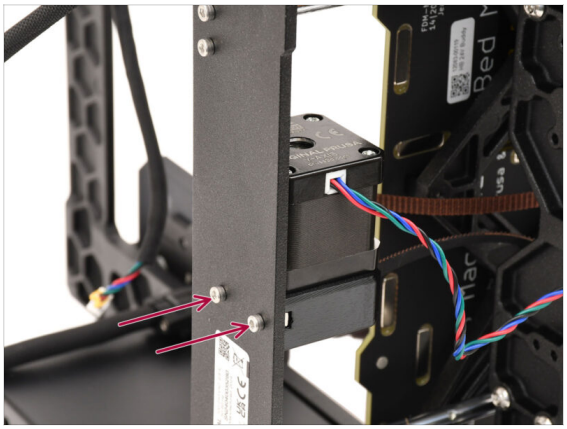
SCHRITT 10 Idler-Riemenscheibe entfernen

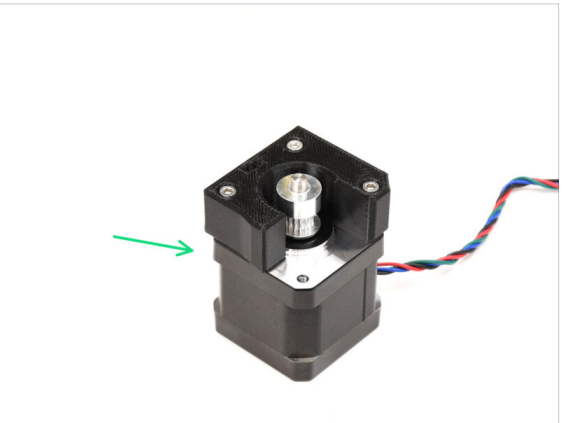

- Orient the Y-Idler as shown in the picture.

  Remove the pulley by first moving it inward, then pulling it out to the side.

  Refer to the groove pattern in the picture for the correct trajectory.
- Remove the center shaft from the pulley.
- **Save the pulley for later use.**

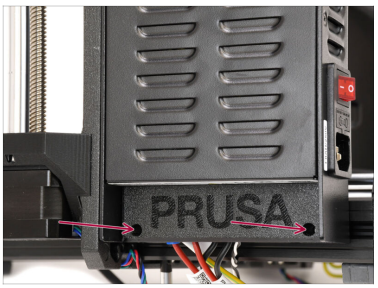
SCHRITT 11 Y Motor entfernen

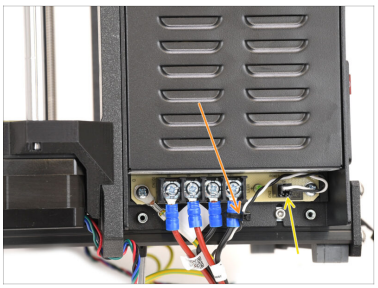




- Remove the two screws on the back of the printer, holding the Y-axis motor in place.
- Remove the Y-axis motor assembly and **save it for later use.**

SCHRITT 12 Power Panic Kabel entfernen

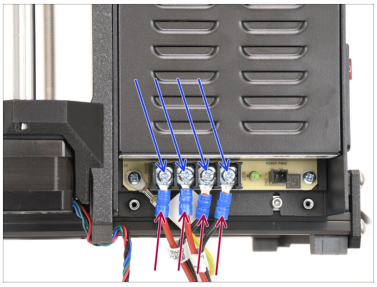
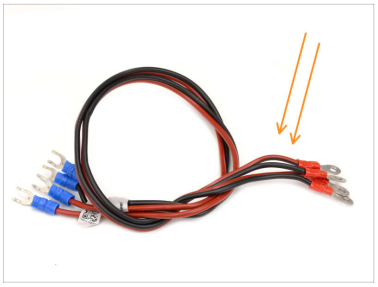




- Let's move onto the right side of the printer carcass, where the PSU lives.
- Remove the two screws securing the cover, then take off the cover.
- Carefully cut off the zip-tie holding the power panic cable.
- **Save the power panic cable for later use.**

  ⓘ Das Power Panic-Kabel kann je nach Version Ihrer xBuddy-Platine anders aussehen.

SCHRITT 13 Stromkabel entfernen

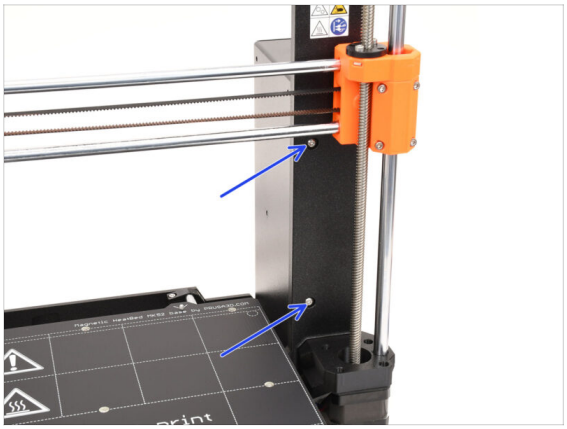



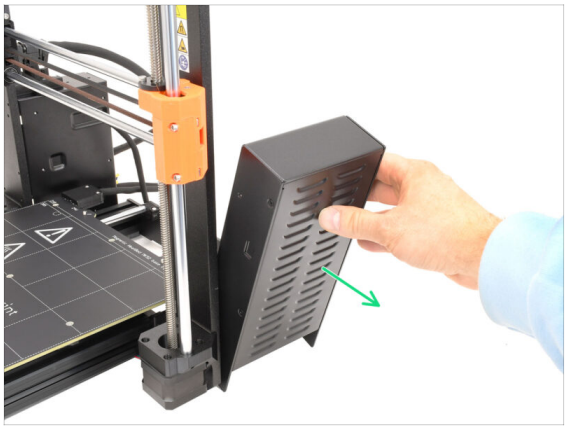

- Using the Phillips screwdriver, loosen the four power terminal screws. Do not remove them entirely.
- Remove the four power cable connectors by pulling them downward.
- Remove the power cables and **save them for later use.**
- Using the 2.5mm Allen key, remove the two screws holding the PSU to the printer's frame.

SCHRITT 14 Netzteil entfernen 1


- Remove the screw holding the grounding cable to the PSU.
  - Disconnect the grounding cable—it will no longer be needed.
- **Re-install the screw you previously removed.**

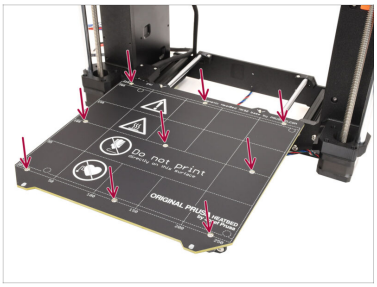
SCHRITT 15 Netzteil entfernen 2

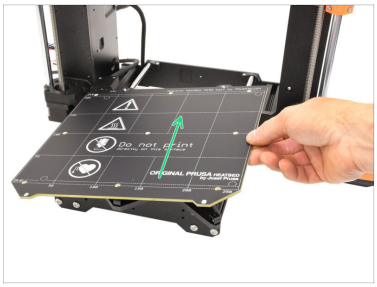


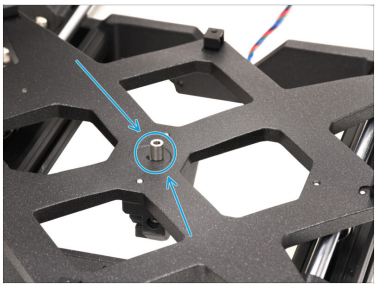


- On the front of the frame, remove the two screws holding the PSU.
  - ⚠ The PSU might fall off to the side!
- Remove the PSU and **save it for later use.**

SCHRITT 16 Heizbett entfernen





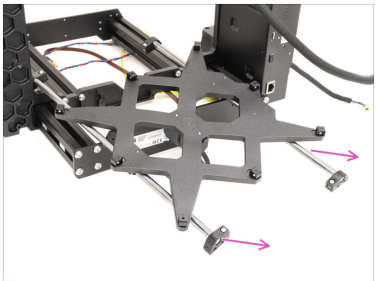


- Let's move onto the heatbed.
- Using the T10 Torx screwdriver, remove all 9 screws holding the heatbed.
- Remove the heatbed by lifting it up. **Save it for later use.**
  - **There is a spacer in the middle of the heatbed. Make sure to save it for later use too!**

Seien Sie vorsichtig und stellen Sie das Heizbett auf eine weiche Unterlage, um Kratzer zu vermeiden.

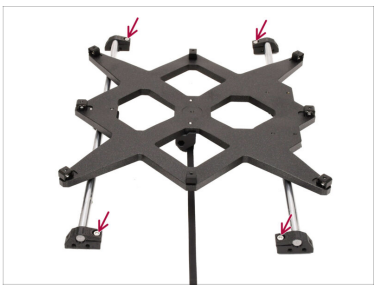
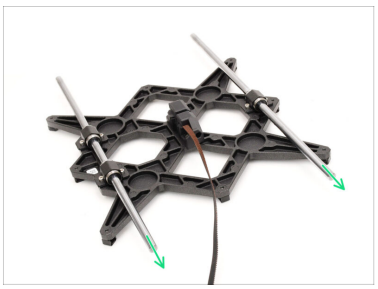
SCHRITT 17 Y-Achse entfernen





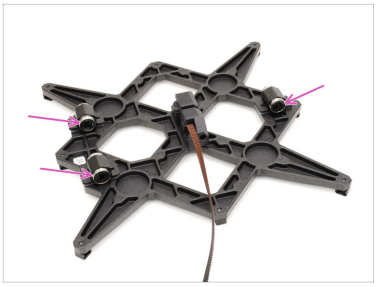
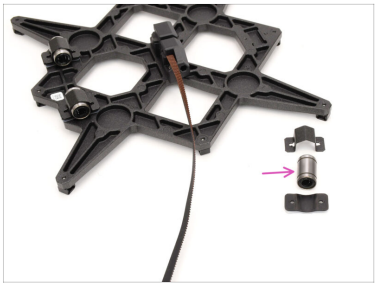
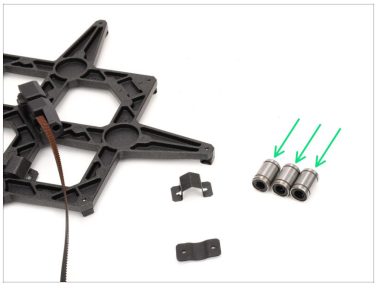
- Using the 2.5mm Allen key, remove the four screws holding the Y-axis rods to the front of the frame.
- Remove the four screws holding the Y-axis rods to the back of the frame.
- Remove the whole Y-axis assembly from the printer's frame.

SCHRITT 18 Y-Achse demontieren


- Remove the four screws fixing the rods to the Y-rod holders. Then, remove the plastic rod holders.
- Turn the assembly around.
- Pull out both the Y-axis rods. Clean them up and **save them for later use.**
- Remove all the screws holding the bearings to the carriage.

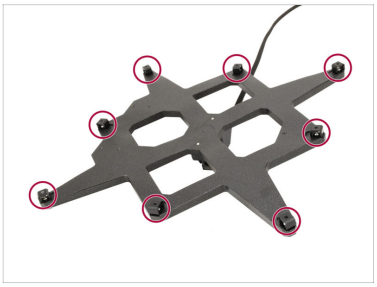
SCHRITT 19 Lager entfernen

- Remove all three bearings from the bearing holders.
- Clean the bearings from any excess grease or dirt, and **save them for later use.**

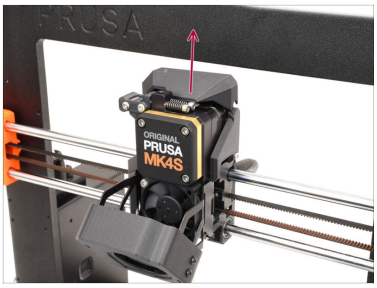
  ⓘ Two of this type of bearings will be used to build the CORE One.

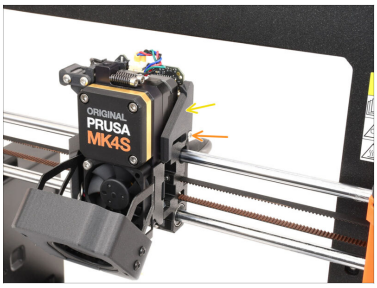
SCHRITT 20 Expansion Joint entfernen

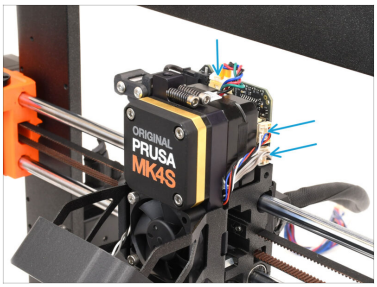


- Using the 2mm Allen key, remove all 8 expansion joints from the Y-Carriage.
- **Save the expansion joints for later use.**

SCHRITT 21 Extruderabdeckung entfernen

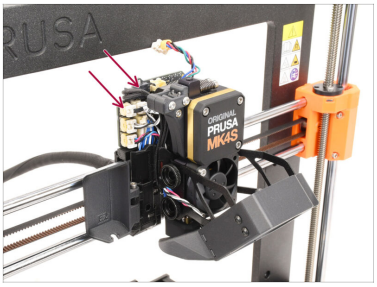


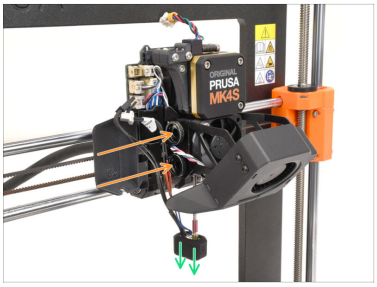


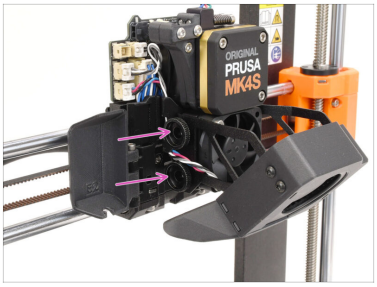


- Let's move onto the extruder.
- Remove the top cover on the extruder by lifting it up.
- Remove the screw holding the cover on the right side.
- Remove the side cover.
- Trennen Sie die Kabel von Motor, Filament-Sensor und Wägezelle.

SCHRITT 22 Hotendbaugruppe entfernen

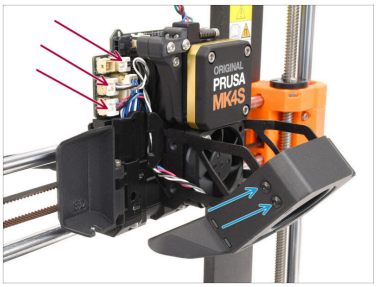


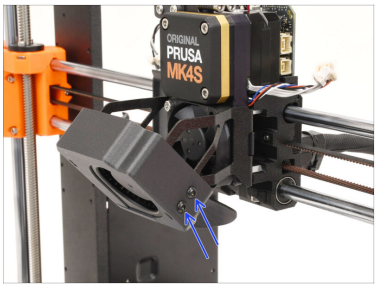


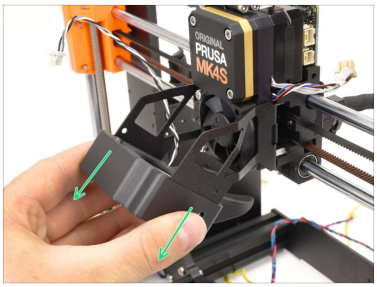


- On the opposite side, disconnect the nozzle thermistor and nozzle heater cables.
- Release the two thumb screws, until the hotend assembly drops.
- Remove the hotend assembly and **save it for later use.**
- Remove the two thumb screws and save them for later use.

SCHRITT 23 Drucklüfter entfernen

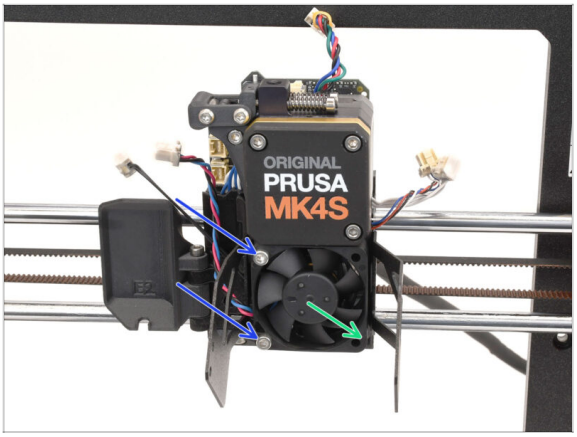






- Ziehen Sie die Kabel auf der linken Seite des Nextruders ab.
- Using the T10 screwdriver, remove the two screws holding the print fan on the left side.
- Remove the two screws on the right.
- Remove the print fan assembly by sliding it out. Proceed carefully to prevent damaging the cable going throug the metal holder. **Save the fan assembly for later use!**

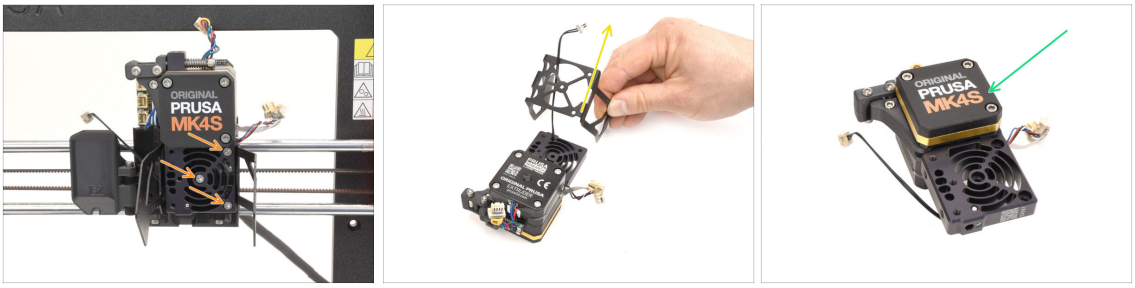
SCHRITT 24 Kühlkörperlüfter entfernen



- Entfernen Sie die beiden Schrauben, mit denen der Lüfter des Hotends am Kühlkörper befestigt ist.
- Remove the fan and **save it for later use.**

  Proceed carefully to prevent damaging the cable.

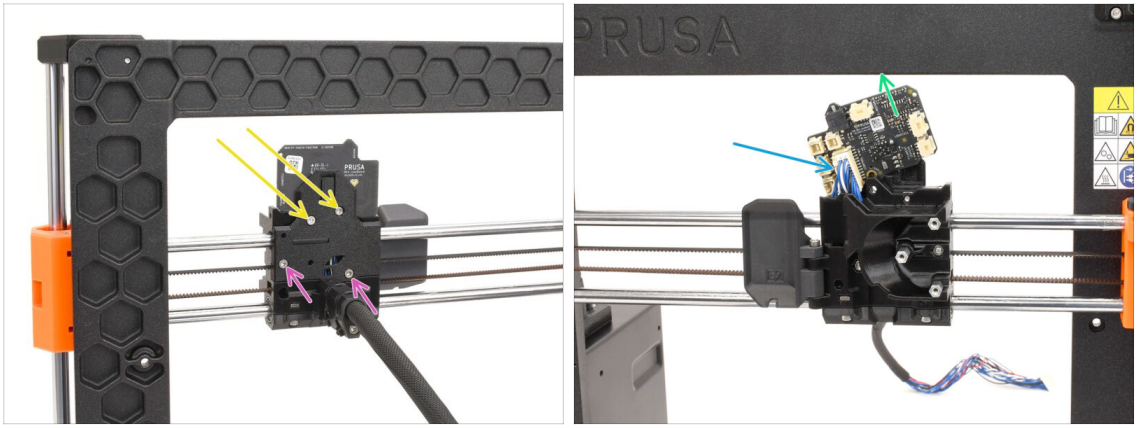
SCHRITT 25 Nextruder entfernen



- Remove the three screws holding the Nextruder to the X-carriage.

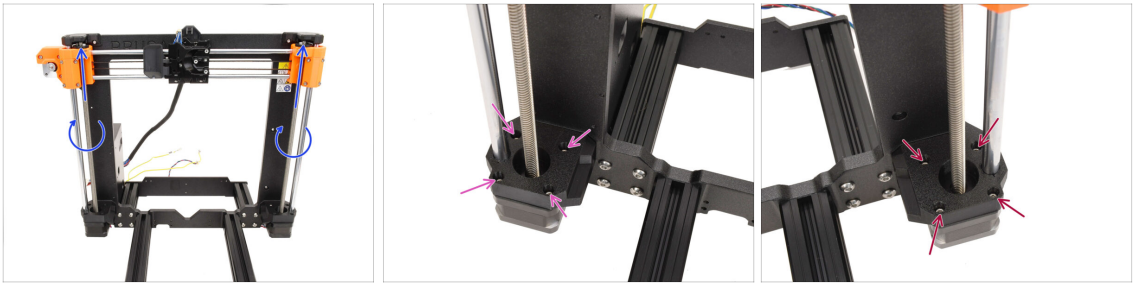
  Watch out! The Nextruder might fall out!
- Remove the Nextruder from the printer.
- Remove the Print fan support and a plastic spacer (if present). Proceed carefully to prevent damaging the heatsink thermistor cable.
- **Bewahren Sie den Nextruder zur späteren Verwendung auf.**

SCHRITT 26 LoveBoard entfernen



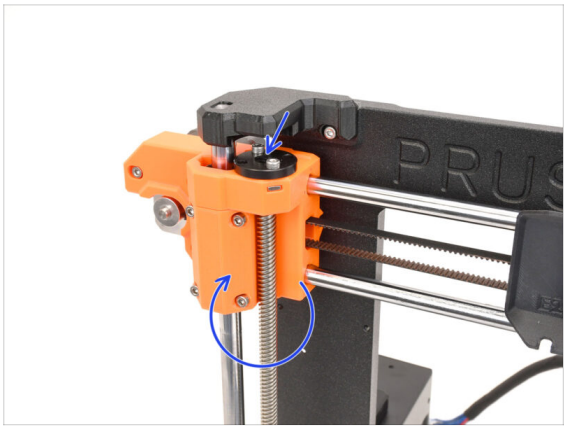
- Move onto the back of the X-carriage.
- Remove the two marked screws on top of the backing plate.
- Loosen the two remaining screws, but do not remove them entirely yet.
- Lift the Loveboard slightly to disconnect it from the main cable.
  Proceed carefully to prevent any damage to the Loveboard.
- **Entfernen Sie das Loveboard und bewahren Sie es zur späteren Verwendung auf.**

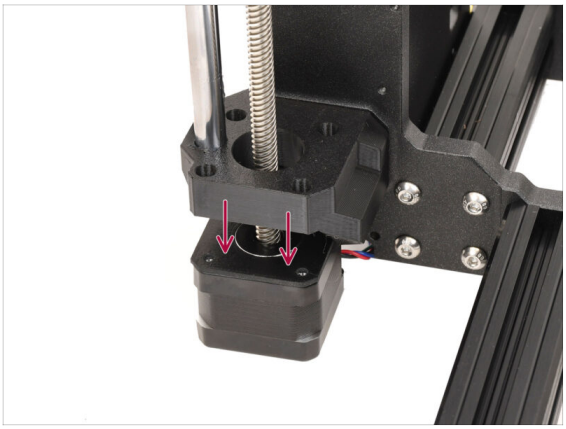
SCHRITT 27 Z Motoren entfernen



- Drehen Sie beide Gewindestangen von Hand, um die X-Achsen-Baugruppe ganz nach oben zu bewegen.
- Using a ball-end 2.5mm Allen key, remove all 4 screws securing the left Z motor.
- Remove the 4 screws holding the right Z motor as well.

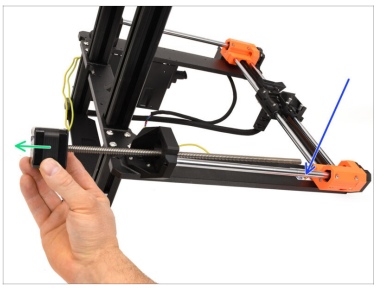
SCHRITT 28 Z Motoren entfernen 2

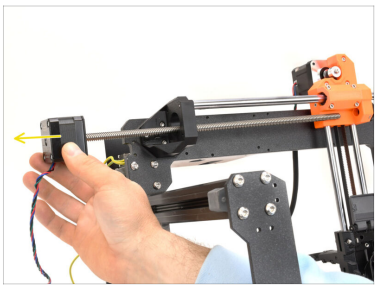


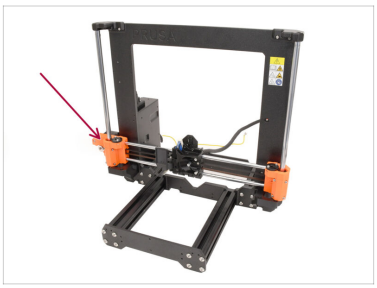


- Rotate the threaded rods on both sides to disengage both the motors from the trapezoid nuts on the X-End parts.
- Disengage the motors on both sides from the holders. The X-axis will drop slightly.

SCHRITT 29 Z Motoren entfernen 3

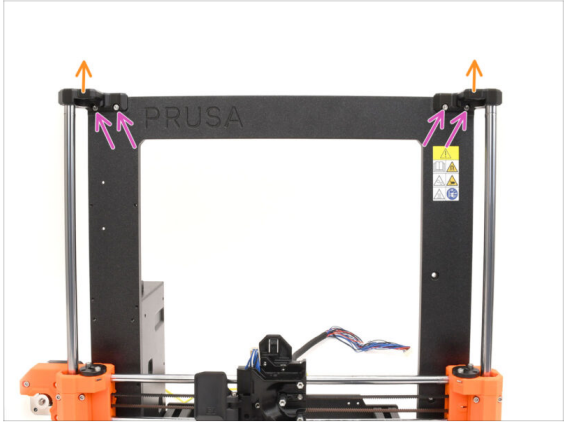


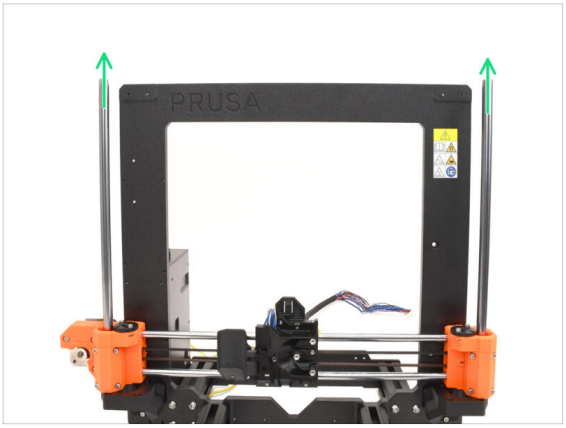




- Lay the frame onto its back part.
- Remove the right Z motor by sliding it out. **Save it for later use.**
- Remove the left Z motor.
  Save it for later use.
- Bewegen Sie den Rahmen zurück in die ursprüngliche Position. **Rechnen Sie damit, dass sich die X-Achse jetzt frei bewegt und möglicherweise schnell fällt.**

SCHRITT 30 Z Stangen entfernen

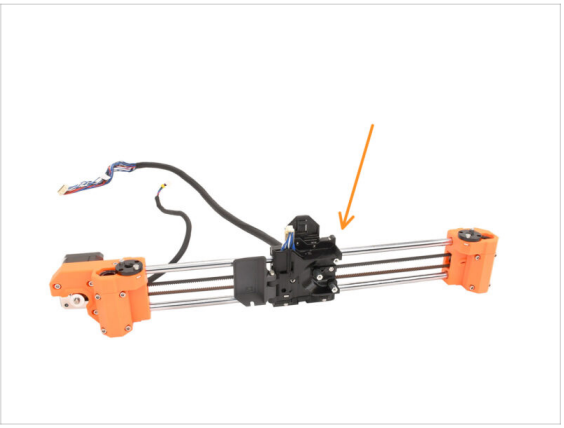


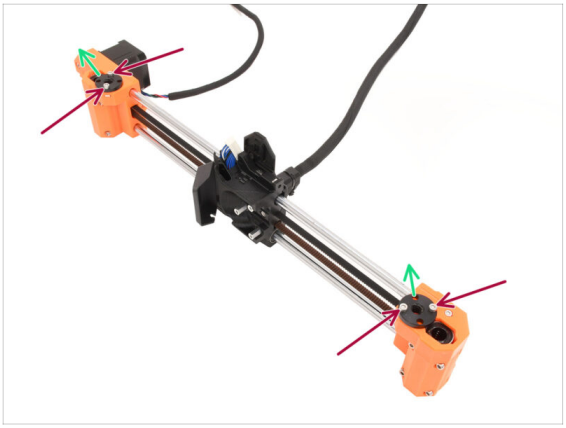


- Remove the four screws holding the Z-top parts on both sides.
- Remove both Z-tops by pulling them up and disengaging from the rods.
- Pull up both Z rods and remove them from the printer.
  Save both rods for later use.

  ⓘ Eine leichte Wackelbewegung kann helfen, sie von dem Kunststoffteil zu lösen.

SCHRITT 31 Trapezmutter entfernen

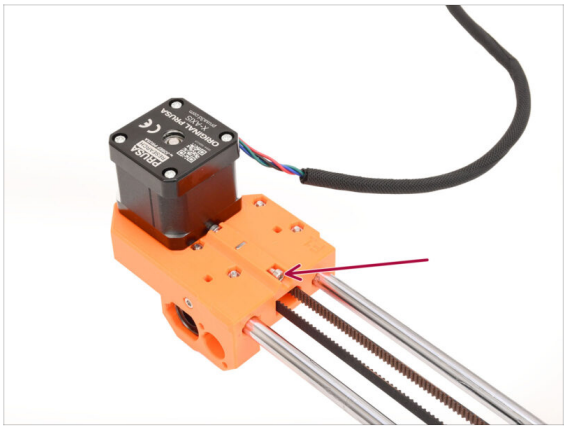


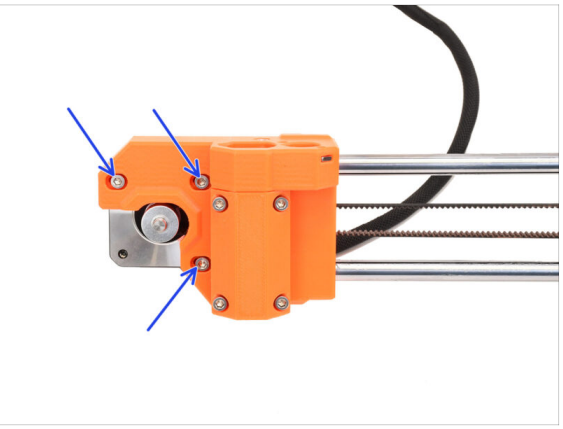


- Remove the X-axis assembly from the printer's frame.
- Remove the four screws holding the trapezoid nuts on top of both sides of the assembly.
- Remove both the trapezoid nuts and **save them for later use.**

  ⓘ Wenn die Muttern schwer zu entfernen sind, versuchen Sie, sie zu drehen, während Sie sie nach oben ziehen.
  Wenn das nicht hilft, verwenden Sie vorsichtig die Gewindestange an einem der Z-Motoren, um sie herauszuhebeln.

SCHRITT 32 X Motor lösen

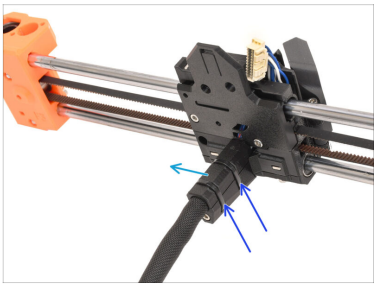


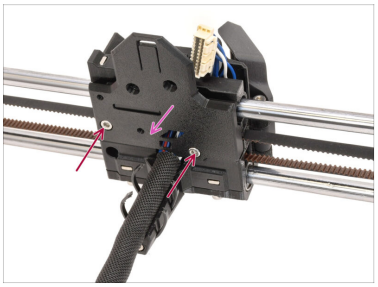


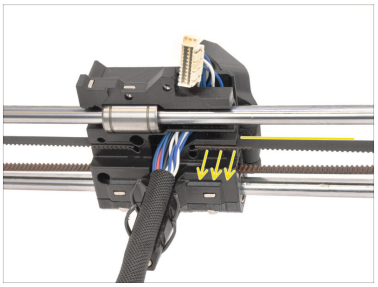
- On the back of the assembly, remove the belt tensioning screw
- Loosen the three screws holding the motor on the front.

ⓘ We need to release the belt tension, in order to release the belt in the upcoming step.

SCHRITT 33 X Riemen lösen

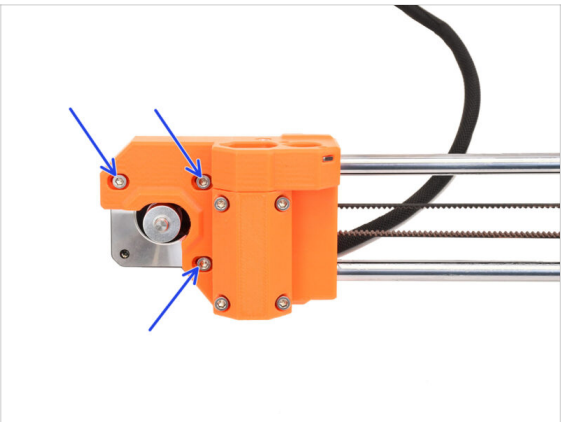


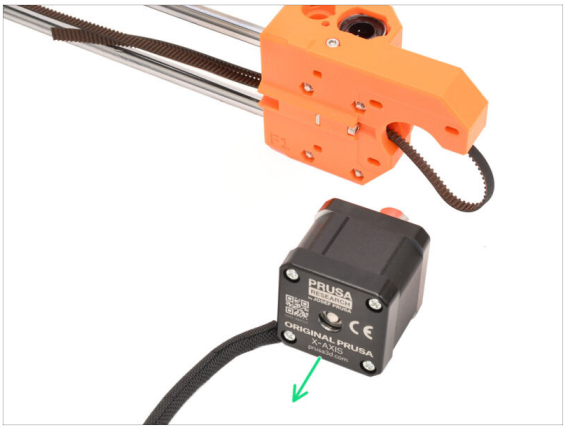




- On the back of the assembly, cut both the zip-ties holding the cable cover.
- Remove the cable cover.
- Remove both screws on the back of the X-carriage.
- Entfernen Sie die Abdeckung auf der Rückseite des X-carriage.
- Ziehen Sie das Ende des Riemens auf der Motorseite heraus, um ihn zu entkoppeln.

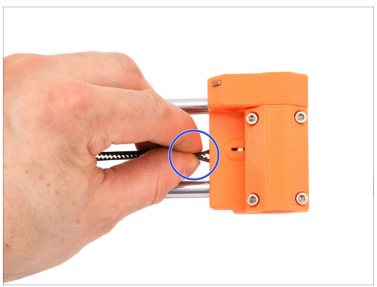
SCHRITT 34 X Motor entfernen

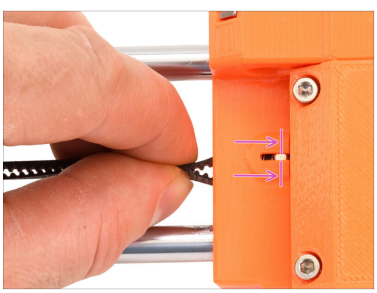


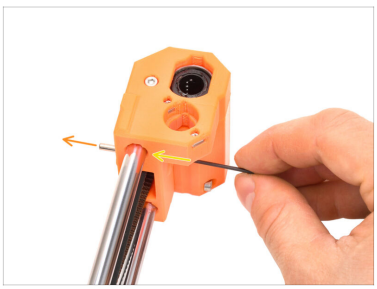


- Remove the three screws holding the X-motor at the front of the assembly.
- Remove the X-Axis motor and **save it for later use.**

SCHRITT 35 X Idler-Welle entfernen







- Let's move onto the right X-end part.
- Use the belt as a handle for the Idler pulley inside the plastic part.
- Move the Idler **all the way inward.**

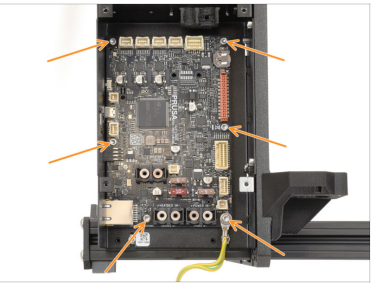
  On the front, there is a small window where you can observe the idler shaft movement.

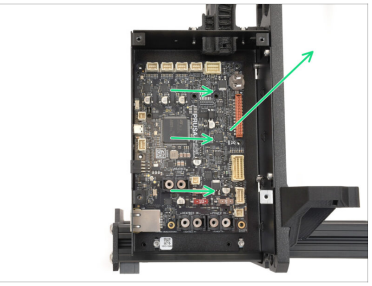
  - Während Sie den Idler ganz hineinschieben, verwenden Sie den dünnsten 1,5-mm-Innensechskantschlüssel, um die Welle aus dem Teil herauszudrücken.
  - Die Idler-Welle sollte aus dem Kunststoffteil an der Rückseite austreten. Entfernen Sie sie.

SCHRITT 36 X Idler entfernen

- Pull out the Idler pulley.
- **Save the pulley for later use.**

SCHRITT 37 xBuddy entfernen

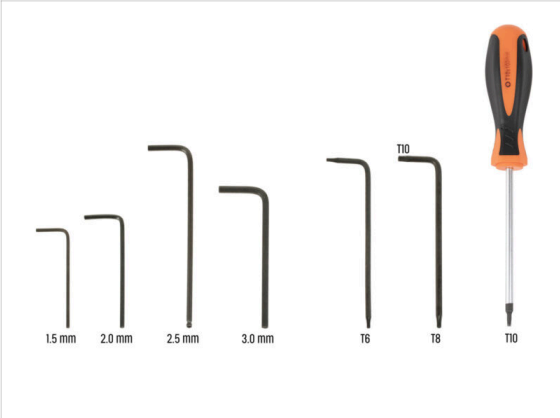




- Let's move back to the printer's frame.
- Remove the six screws holding the xBuddy board in place.
- Release the xBuddy by sliding it towards the frame, then lifting it. **Save it for later use.**

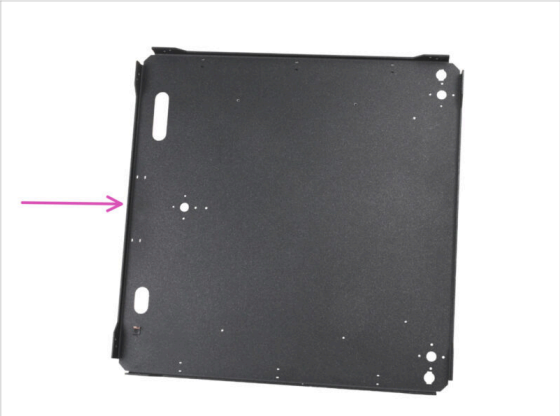
2. Zusammenbau der Basis

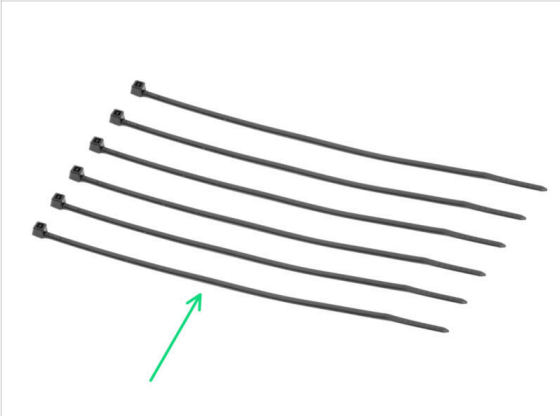
SCHRITT 1 Tools necessary for this chapter



- **For this chapter, please prepare:**
- Schraubenschlüssel 13-16
- 2,5mm Innensechskantschlüssel
- T10 Schraubendreher / Schlüssel

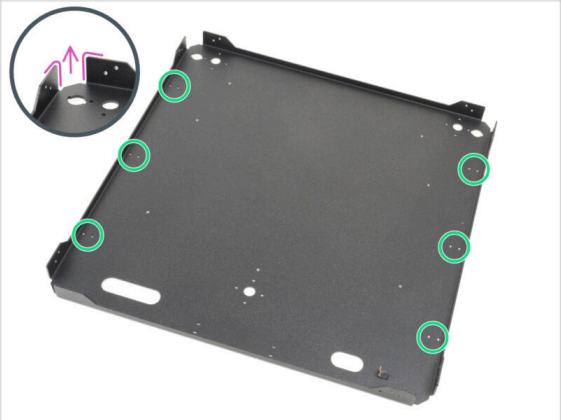
SCHRITT 2 Base assembly: parts preparation

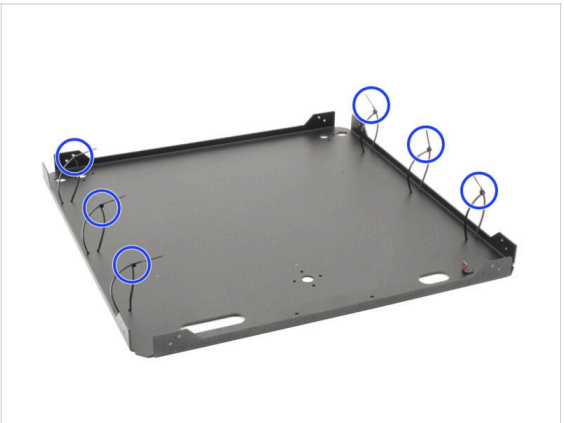




- **For the following steps, please prepare:**
- Bottom panel (1x) *found in the Metal parts 1/3 package*
- Kabelbinder (6x) *finden Sie im Electronics & Fasteners Paket*

SCHRITT 3 Inserting the zip ties



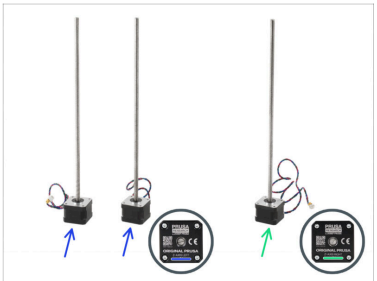


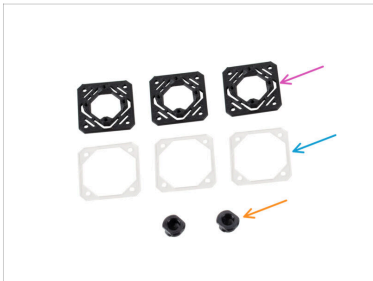
- Turn the bottom panel so that the bends of the plate are facing upwards.
- Note the twin holes for the zip ties around the perimeter of the panel.
- Führen Sie sechs Kabelbinder durch die Löcher, platzieren Sie sie an beiden Seiten und ziehen Sie sie teilweise fest, wobei Sie nur die ersten Zähne einrasten lassen.

  ⚠ **Ziehen Sie sie noch nicht vollständig fest**, denn wir werden später Kabel durch sie hindurchführen.

  ⓘ Note: The orientation of the zip tie heads (inside or outside the metal sheet) doesn't matter.

SCHRITT 4 Base assembly: parts preparation

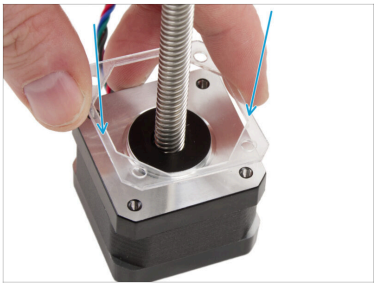
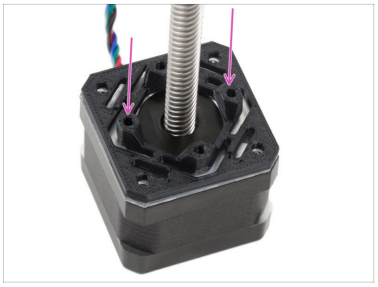
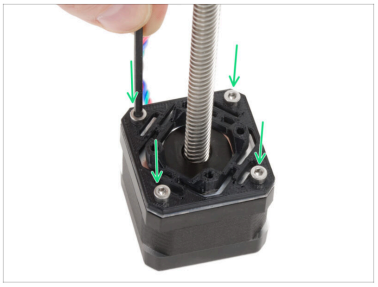




- **For the following steps, please prepare:**
- Z-axis left motor (2x)

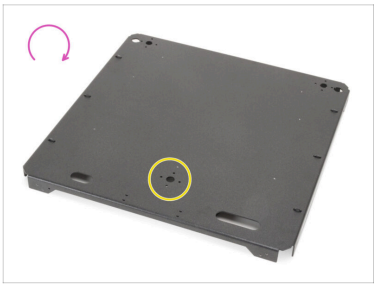
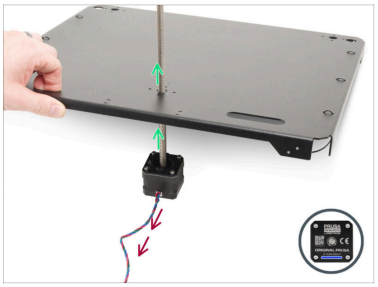
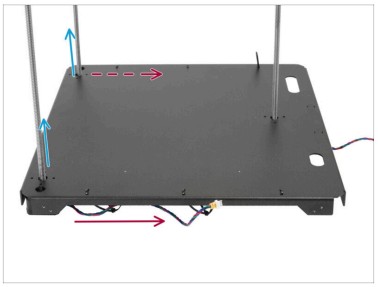
  Einer dieser Motoren befindet sich in der Verpackung der *Electronics & chamber parts*.
- Rechter Z-Achsen Motor (1x)
- Z-motor-mount (3x) *found in the Printed parts package*
- Motor washer (3x) *found in the Electronics & Chamber parts package*
- Z-rod-mount (2x) *found in the Printed parts package*
- M3x8 screw (24x) *found in the Electronics & Fasteners package.*

SCHRITT 5 Installing the motor mounts

- Attach one transparent motor washer pad on each Z motor.
- Place one Z-motor-mount on each motor washer. **The protrusions on the part must be facing upwards**.
- Richten Sie die Löcher an allen Teilen aus.
- Fügen Sie alle Teile mit vier M3x8 Schrauben zusammen.
- Follow the same procedure for all motors.

SCHRITT 6 Installing the rear motor

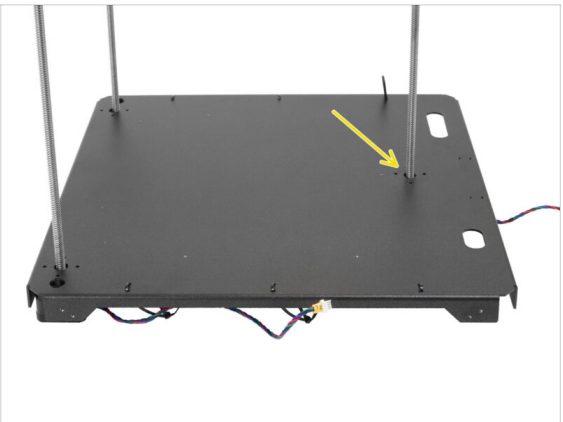




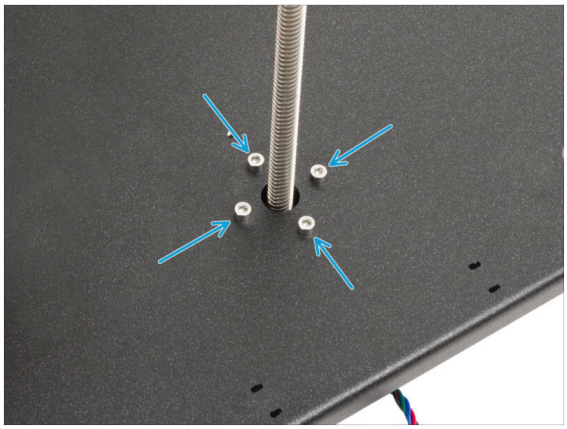
- Turn the bottom panel upside down.
- Locate the circle hole in the middle of the panel back side.
- Nehmen Sie den **Z-Motor rechts** - den Motor mit dem längsten Kabel. Auf dem Kabel ist ZR angegeben.
- Schieben Sie die Gewindestange des Motors durch die Platte und richten Sie die Löcher in der Platte mit den Löchern in der Motoreinheit aus.

  ⚠ The **motor cable must point outwards** (towards you).
- Push both Z-axis motor left through the bottom panel.
  - **The motor cables must point to the rear motor side.**

ⓘ In the following instructions, we will refer to the **front** and **rear** sides of the assembly. The **front side has TWO motors**, while the **rear side has ONE motor**. We will remind you along the way, but it's good to keep this in mind :).

SCHRITT 7 Securing the rear motor



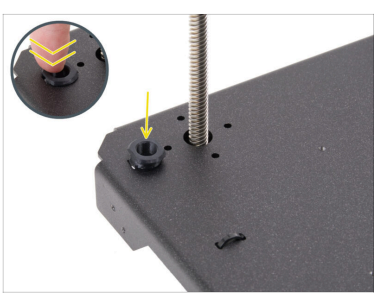


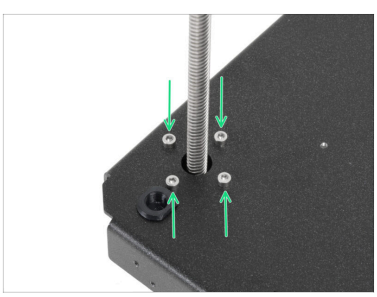
- Begin securing the motors, starting from the rear motor.
- Insert and fully tighten four M3x8 screws into the **rear motor.**

⚠ Stellen Sie sicher, dass die Schrauben gerade bleiben und nicht verkanten, wenn Sie sie anziehen.

⚠ Ziehen Sie die Schrauben nicht zu fest an, da sie direkt in das Kunststoffteil eingeschraubt werden. Zum endgültigen Festziehen verwenden Sie den kürzeren Teil des Schlüssels als Griff, um das richtige Drehmoment aufzubringen.

SCHRITT 8 Installing the front motor right

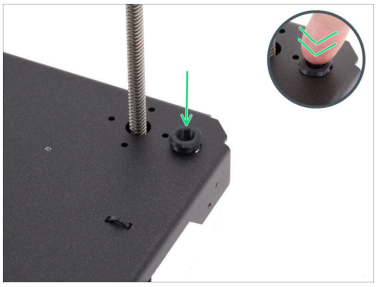
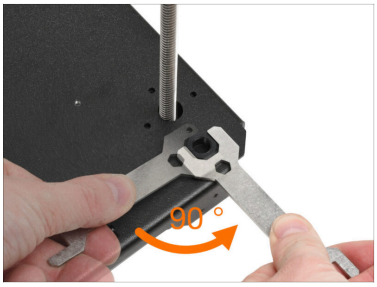


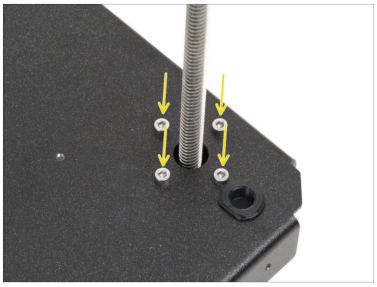


- First, insert the rod-mount into the opening next to the front right Z motor.
- Use the 13-16 wrench to rotate the rod mount 90 degrees, locking it into place.
- Befestigen Sie den Motor mit vier Schrauben M3x8. Ziehen Sie sie vollständig fest.

⚠ Stellen Sie sicher, dass die Schrauben gerade bleiben und nicht verkanten, wenn Sie sie anziehen.

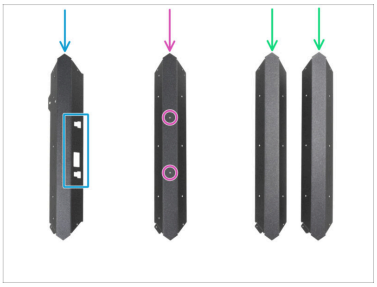
SCHRITT 9 Installing the front motor left



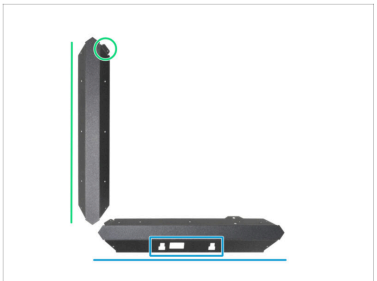
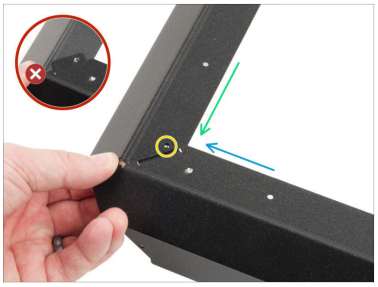
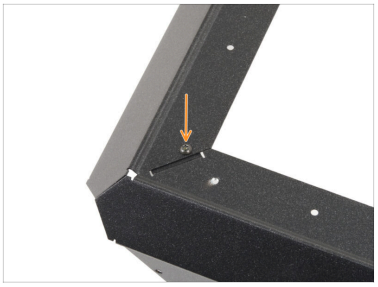
- Let's move to the front left motor (from the front view).
- ⚠ Ensure, the motor cable still points to the rear side.
- Stecken Sie die Rod-mount in die Öffnung neben dem vorderen rechten Z-Motor.
- Use the 13-16 wrench to rotate the rod mount 90 degrees, locking it into place.
- Secure the motor using four M3x8 screws. Tighten them completely.
  - ⚠ Make sure the screws stay straight and do not tilt as you tighten them.
- Place the whole assembly aside for a while.

SCHRITT 10 Bottom frame: parts preparation



- **For the following steps, please prepare:**
- ⚠ **Be very careful when handling sharp sheet metal parts to avoid injury or damage.**
- ⚠ Profile aus Blech mögen auf den ersten Blick identisch aussehen, aber es gibt einige Unterschiede. ÜBERPRÜFEN Sie, ob Sie die richtigen auswählen.
- Front profile (1x) **notice the cutouts** - *found in the Metal parts 1/3 package*
- Rear profile (1x) **with two holes on the flat side** - *found in the Metal parts 1/3 package*
- Universal profile (2x) **no holes on the flat side** - *found in the Metal parts 1/3 package*
- Spacer pin (2x) *found in the Electronics & Fasteners package*
- Schraube M3x4rT (4x)

SCHRITT 11 Assembling the bottom profile: front + left

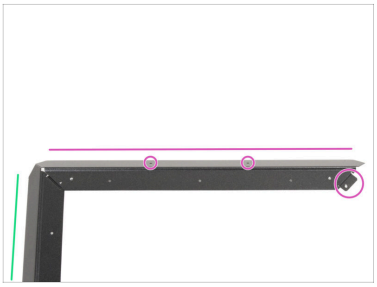
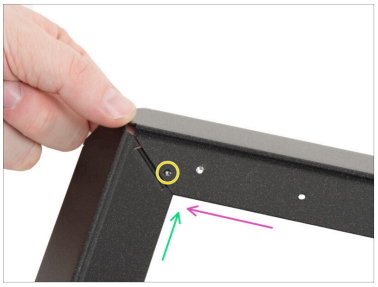




⚠ Be very careful when handling sharp sheet metal parts to avoid injury or damage.

- Place the front profile according to the picture. The cutouts must be facing you.
- Legen Sie eines der Universalprofile auf die linke Seite. Richten Sie das Teil wie auf dem Bild aus. **Benutzen Sie den Flansch als Führung.**
- Attach the two profiles together.

  ⚠ The flange of the front plate (blue arrow) must be inserted **under** the left universal profile (green arrow), not on top of it.
- Align the holes in both parts.
- Join both parts together with the M3x4rT screw.

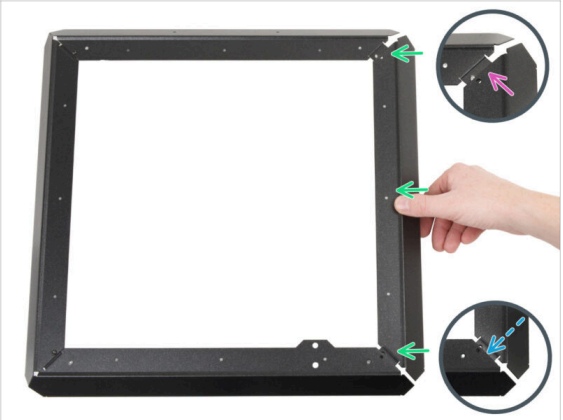
SCHRITT 12 Assembling the bottom profile: left + rear


- According to the picture, place the rear profile (with two holes on the flat side) to the universal left profile. Orient the part according to the picture. **Use the flange as a guide.**
- Join the rear profile with the universal left profile together.

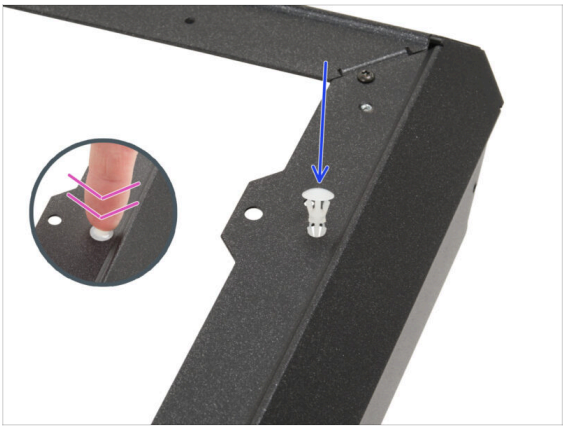
  ⚠ Stellen Sie sicher, dass sich der Flansch unter dem hinteren Profil befindet, nicht auf der Oberseite.
- Align the holes in both parts.
- Join both parts together with the M3x4rT screw.

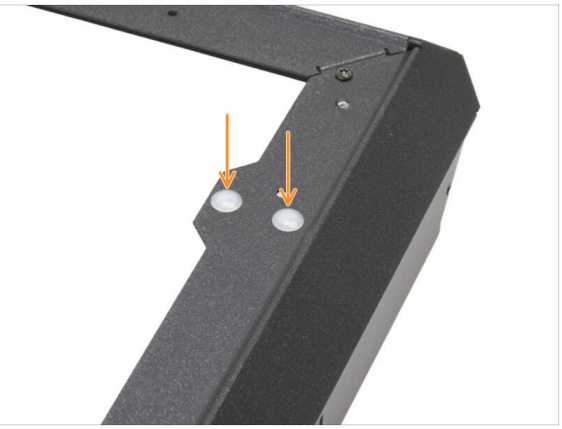
SCHRITT 13 Assembling the bottom profile: right



- Attach the universal right profile between the rear and front profile. **Ensure that:**
  - The **rear** end is **above** the rear profile flange.
  - Der **vordere** Flansch wird **unter** dem vorderen Profil eingesetzt.
- Secure the left profile with M3x4rT on both ends.

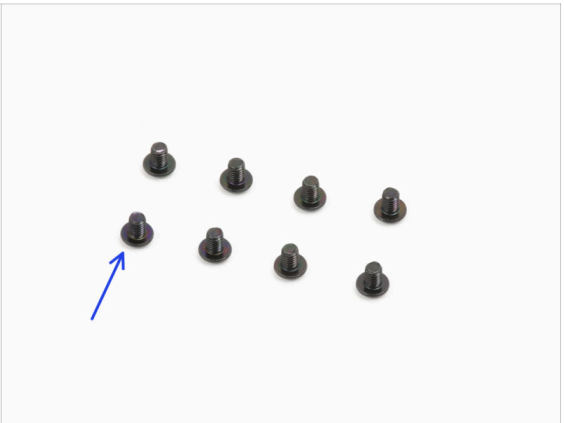
SCHRITT 14 Inserting the spacer pins





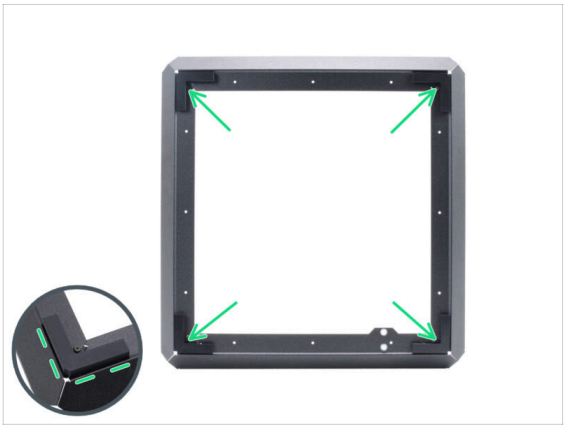
- Insert the spacer pin into the hole in the front profile protrusion.
- Push firmly on the spacer pin so that it fits perfectly into the hole.
- Verfahren Sie mit dem zweiten Abstandsstift genauso.

SCHRITT 15 Anti-vibration feet: parts preparation



- **For the following steps, please prepare:**
- Anti-vibration foot (4x) *found in the Electronics & Chamber parts package*
- Schraube M3x4rT (8x)

SCHRITT 16 Installing the anti-vibration feet



- Place the bottom frame according to the picture. The front profile must be facing you.

Before applying the anti-vibration feet, **wipe the metal profiles with isopropyl alcohol** and let them dry. This ensures proper adhesion.

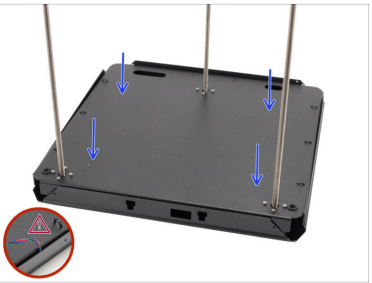
- Ziehen Sie die Klebefolie von allen Antivibrationsfüßen ab.

  ⚠ Ziehen Sie vorsichtig **nur die Schutzfolie** von jedem Antivibrationsfuß ab. Wenn sich die klebende Schicht zusammen mit der Folie abzulösen beginnt, halten Sie an und ziehen Sie sie an einer anderen Ecke ab.

- Stick one anti-vibration foot in each corner of the frame. Align it with the outer edge of the flat side of the profile.

SCHRITT 17 Installing the bottom frame



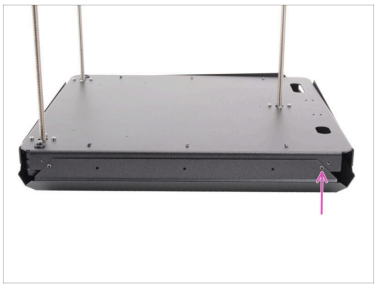


- Turn the bottom frame upside down. **The front profile must be facing you**.
- Attach the rear side of the bottom panel assembly to the rear side of the bottom frame.
  - Vergewissern Sie sich, dass die Vorderseite der Bodenplatte (mit zwei Motoren) mit dem vorderen Profil des Bodenrahmens (mit Ausschnitten) übereinstimmt.
- Place all the motor cables inside the center area of the bottom frame to prevent pinching.
- Slowly and carefully lower the bottom panel assembly into the bottom profile.
  - Ensure the assembly fits completely **inside the bottom profile**.
  - Make sure no part of the bottom panel assembly extends outside the bottom frame

⚠ **Double-check that no cables are pinched.**

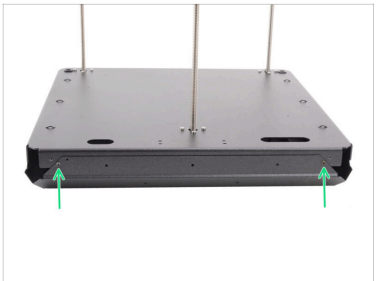
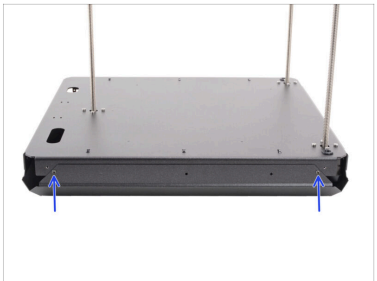
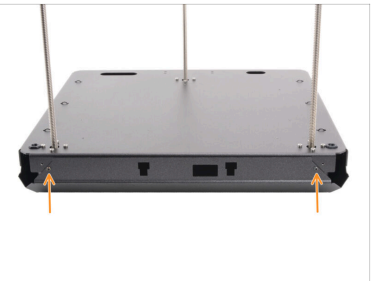
SCHRITT 18 Mounting the bottom frame: right side





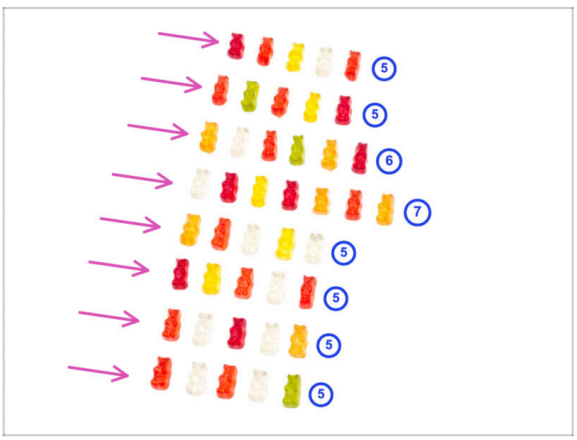
- Focus on the front right corner and right side.
- Slightly lift one of the corners of the bottom panel assembly.
- Richten Sie das Gewindeloch in der Bodenplatte auf das Loch im Profil aus.
- Join both parts together with the M3x4rT screw.
- Move to the rear corner of the right side.
- Align the holes in the base and the profile and secure it with the M3x4rT screw.

SCHRITT 19 Mounting the bottom frame: rear + left + front

- Move to the rear side of the assembly (side with one Z motor).
- Align holes in the base assembly and the profile and secure it with two M3x4rT screws.
- Konzentrieren Sie sich auf die linke Seite der Baugruppe.
- Align holes in the base assembly and the profile and secure it with two M3x4rT screws.
- Turn the assembly with the front profile facing you (profile with cutouts).
- Align holes in the base assembly with the profile and secure them using two M3x4rT screws.

SCHRITT 20 Haribo Zeit!



- It's time to reward yourself!
- Stapeln Sie Ihre Gummibärchen in acht Reihen.
- Ordnen Sie die Anzahl der Gummibärchen in jeder Reihe wie auf dem Bild gezeigt an.

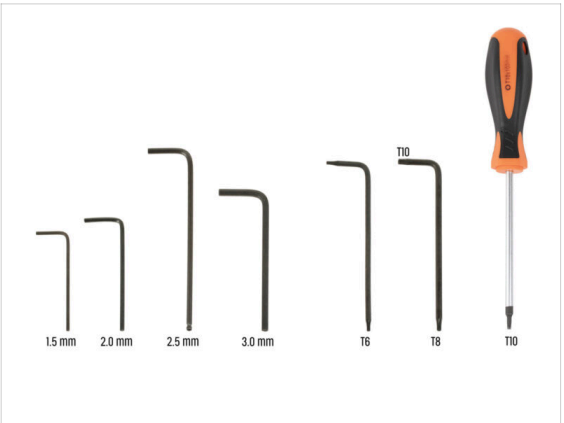
  ⓘ If you don't get the exact number in the last row, we recommend finding the nearest candy store and buying the missing ones.
- Eat the first row.

SCHRITT 21 Abgeschlossen

- **Congratulations!** You just assembled the **base assembly**.
- Legen Sie die Baugruppe erst einmal beiseite und lassen Sie uns zum nächsten Kapitel übergehen.

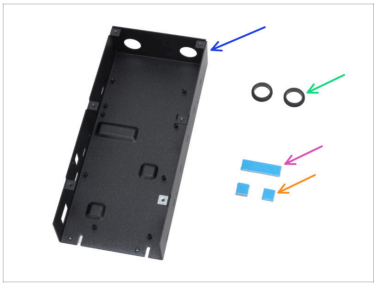
3. Rückseite Montage

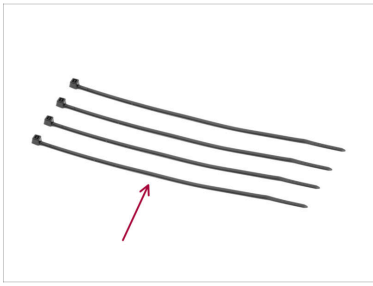
SCHRITT 1 Tools necessary for this chapter

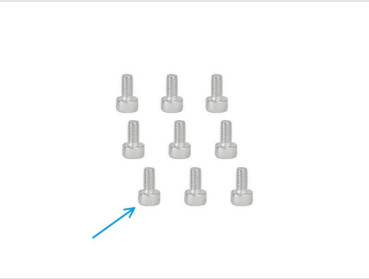


- **For this chapter, please prepare:**
- Phillips Schraubendreher PH2
- Spitzzange
- 2,5 mm Innensechskantschlüssel
- T10 torx key / T10 torx screwdriver

SCHRITT 2 xBuddy: parts preparation I.



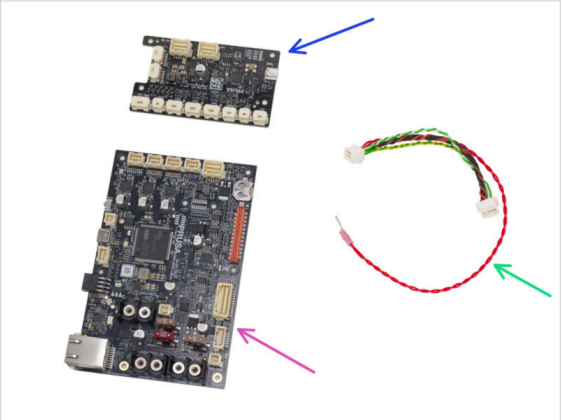




- **For the following steps, please prepare:**
- CORE One xBuddy box (1x) *found in the Metal parts 3/3 package*
- Kabeldurchführung 19/16 mm (2x) *finden Sie in der Packung Electronics & Fasteners*
- Thermal pad 40x12x2.2 mm (1x) *found in the Electronics & Fasteners package*
- Thermal pad 12x12x2.2 mm (2x) *found in the Electronics & Fasteners package*
- Kabelbinder (4x)
- Schraube M3x6 (9x)

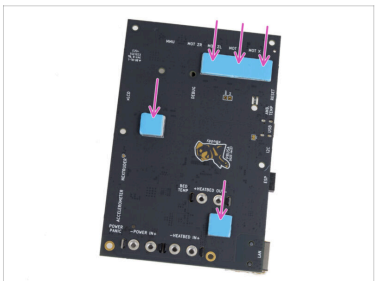
ⓘ The list continues in the next step...

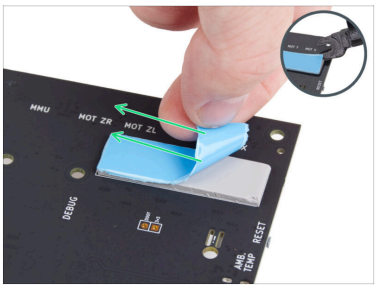
SCHRITT 3 xBuddy: parts preparation II.



- xBuddy extension board (1x) *found in the Electronics & chamber package*
- xBuddy Board (1x)
- xBuddy Verlängerungskabel (1x) *finden Sie in der Verpackung von Electronics & Fasteners*
- Assembly-multi-tool (1x) *found in the Printed parts package*

SCHRITT 4 Applying the thermal pads





- Peel off the white protective layer from all thermal pads.

  ⚠ **Always touch the sides of the electronics board while manipulating it.** Avoid touching the chips, capacitors and other parts of the electronics.

- Bringen Sie die Pads auf der Rückseite der xBuddy-Platine an. Es gibt Markierungen, die die richtige Größe und Position angeben.

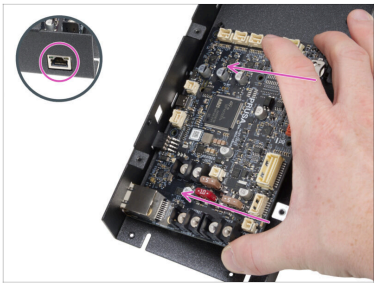
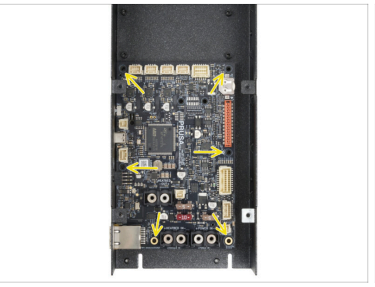
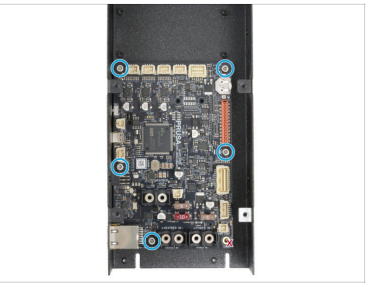
  ⓘ Ensure the pad attachment surface is clean and degreased.

⚠ For the protection of the board's electronic components, we strongly recommend placing the xBuddy board on the soft pad. You can use the original xBuddy bubble wrap package.

- Peel off the blue protective layer from all thermal pads.

  ⓘ Pro tip: If the edge of the layer is difficult to lift, you can use the thin side of the Assembly-multi-tool to help separate the protective layer.

SCHRITT 5 Installieren des xBuddy

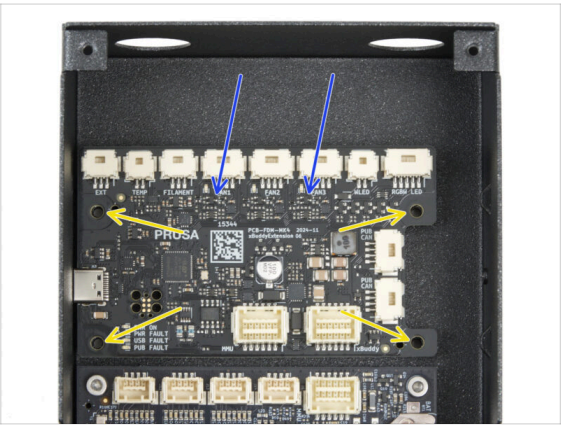
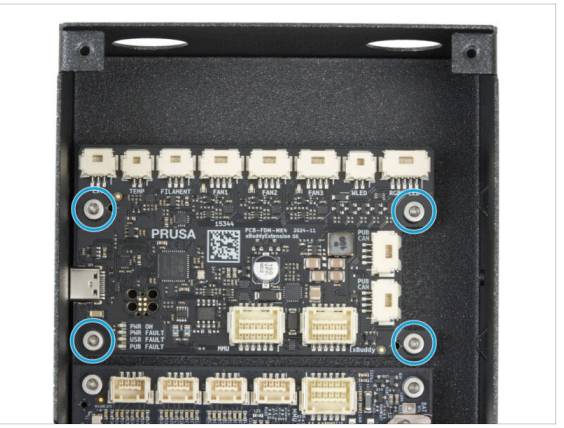




⚠ **Always touch the sides of the electronics board while manipulating it.** Avoid touching the chips, capacitors and other parts of the electronics.

- Insert the xBuddy board to the xBuddy box.
  - Stellen Sie sicher, dass der Ethernet-Stecker richtig in das Loch in der xBuddy-Box eingesteckt ist.
- **Before fully securing**, align the board's holes with the xBuddy box's threaded standoffs.
- Fix the position of the xBuddy board by inserting five M3x6 screws. Do not fully tighten the screws. A few turns are enough for now.

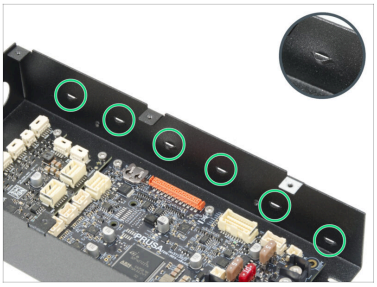
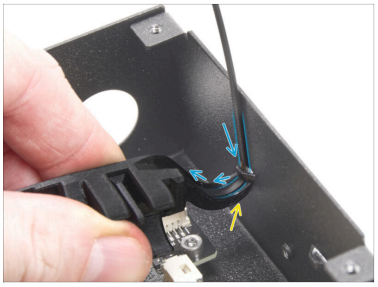
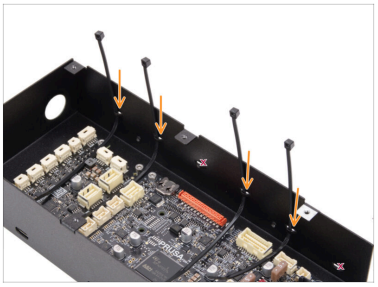
  ⚠ **Put aside your instinct and leave the hole on the bottom right empty.**
- **Fully tighten all five screws. But very carefully**, otherwise you can damage the electronics board.

SCHRITT 6 Installing the xBuddy extension

- Insert the xBuddy extenstion board to the xBuddy box above the xBuddy board. Notice the part orientation.
- Before fully attaching it completely, center the holes in the board with the holes (columns) in the xBuddy box.
- Fixieren Sie die Position der xBuddy-Platine durch Einsetzen von vier M3x6-Schrauben. Ziehen Sie sie vollständig fest.

SCHRITT 7 Installieren der Kabelbinder

- Take a closer look at to the xBuddy box. There are six perforations on the metal case.

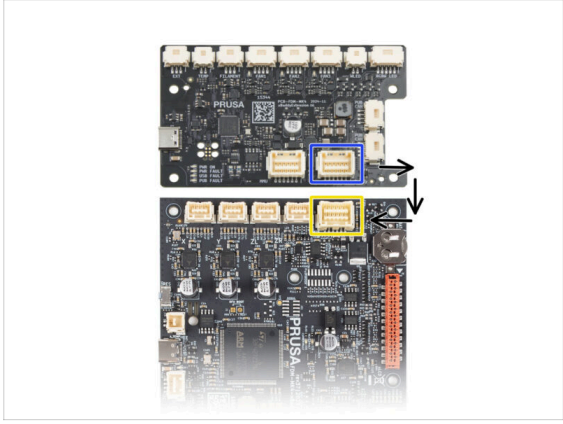
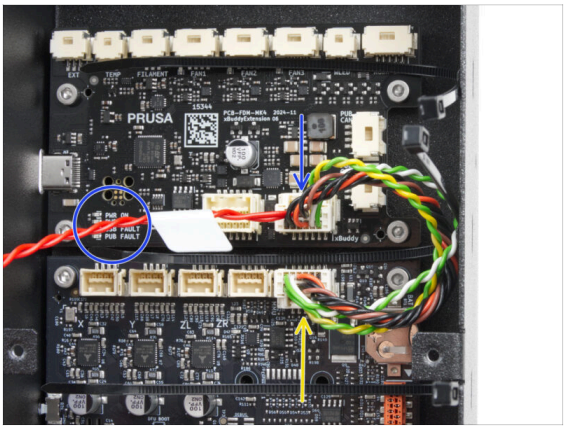
⚠ **Proceed very carefully. Be careful not to damage the connectors or capacitors on the xBuddy board.**

- Setzen Sie den Haken am Assembly-multi-tool unterhalb der ersten Perforation auf der linken Seite an.
- Push the zip tie through the perforation and into the Assembly-multi-tool. It will guide the zip tie into the electronics box.

  ⚠ **Note the correct orientation of the zip tie**. The teeth on the zip tie must be on the visible side.

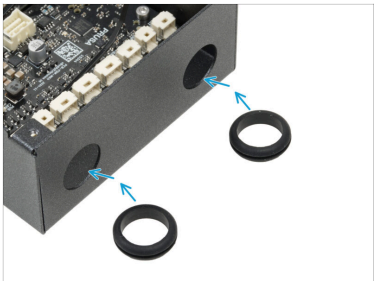
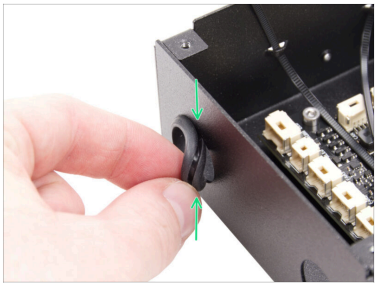
- Repeat the process at the indicated perforations.
  - Skip the third and sixth perforations.

SCHRITT 8 Connecting the xBuddy extension board

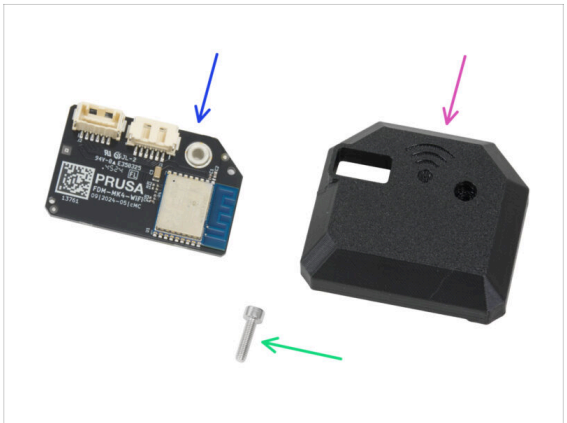
- Plug the xBuddy extension connector with the free red cable to the xBuddy extension board.
  - Leave the red cable free for now.
- Stecken Sie das andere Ende des xBuddy-Verlängerungskabels in die xBuddy-Platine.

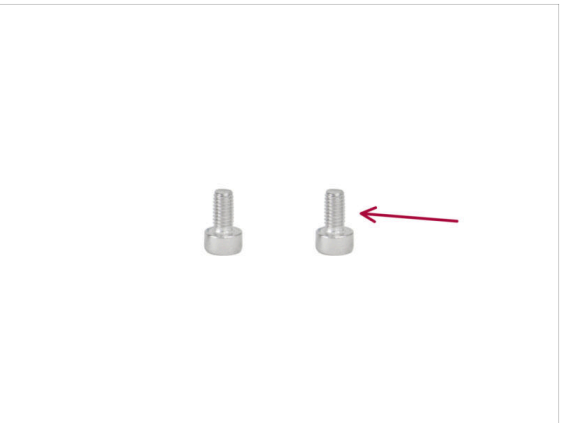
SCHRITT 9 Inserting grommets: xBuddy box


- Insert both grommets into both circle holes in the xBuddy box.
- Gently compress the grommet and fit it into the metal sheet, ensuring the groove locks into place

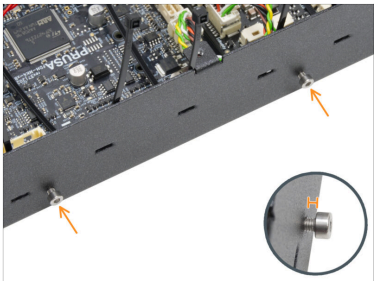
SCHRITT 10 WiFi: Vorbereitung der Teile





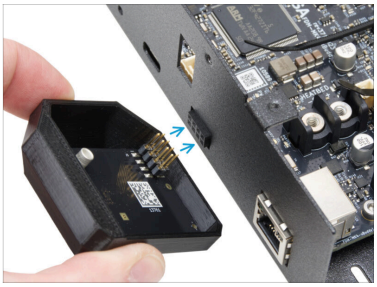
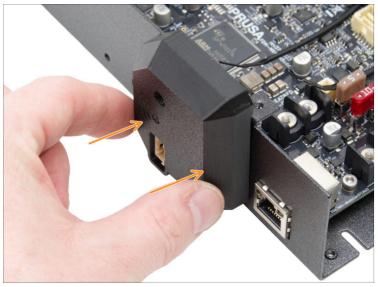
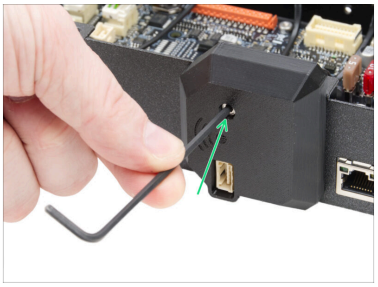
- **For the following steps, please prepare:**
- ESP-WiFi (1x) *reused from the MK4S*
- CORE-One-Wifi-cover (1x) *im Paket „Printed parts“ enthalten*
- Schraube M3x12 (1x)
- Schraube M3x6 (2x)

SCHRITT 11 Zusammenbau des Wi-Fi



- Insert two M3x6 screw to the xBuddy box assembly from the right side. **Do not tighten them completely**. Leave at least a 4 mm (0.16 in) gap.
- Insert the ESP-WiFi module into the WiFi-cover, positioning it just below the bridge on the left side.
- Vergewissern Sie sich auf der anderen Seite, dass der Stecker richtig in das Loch in der Abdeckung passt.

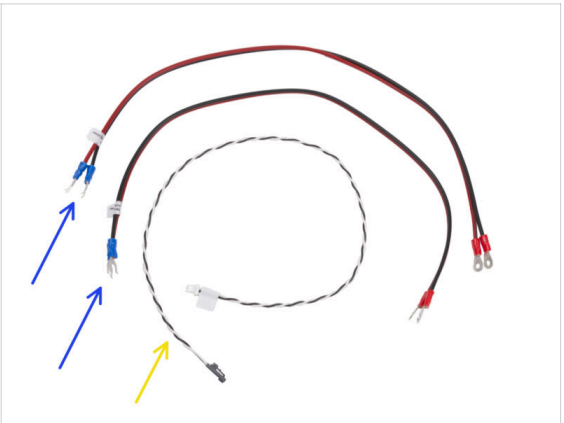
SCHRITT 12 Installing the Wi-Fi assembly

⚠ **Be very careful** when handling and connecting the ESP module to **avoid bending and damaging the pins.**

- Take the WiFi cover assembly and connect the ESP module pins to the connector in the xBuddy.
- Schließen Sie die WiFi-Abdeckung vorsichtig und achten Sie darauf, dass die Stifte des ESP-Moduls richtig in den Anschluss am xBuddy eingesteckt sind.
- Secure the cover with the M3x12 screw.
- Put the assembly aside for a while.

SCHRITT 13 PSU assembly: parts preparation



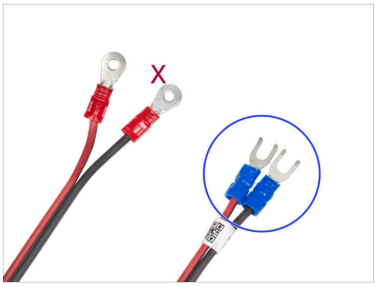
- **For the following steps, please prepare:**
- Delta PSU 240 W 24 V (1x) *power supply*
- Schraube M4x6r (2x)
- xBuddy power cables (2x)
- Power panic cable (1x)

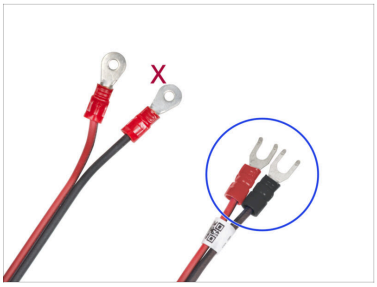
  ⓘ The power panic cable may look different, depending on your MK4S printer / xBuddy board version.

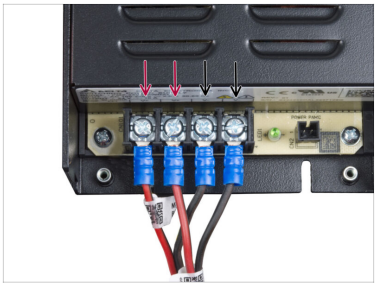
SCHRITT 14 Vorbereitung des Netzteils

- Insert two M4x6r screws into the left side of the PSU. **Do not tighten them completely.** Leave at least a 4 mm (0.16 in) gap between the screw head and the PSU.
- Slightly loosen all four power terminal screws on the PSU. **Do not remove them**. 3-4 turns are enough.

SCHRITT 15 Stromkabel Info







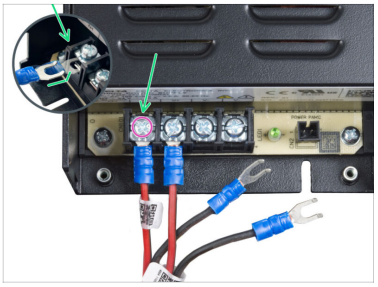
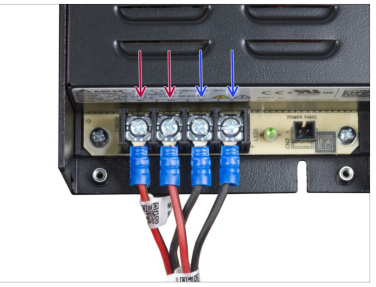
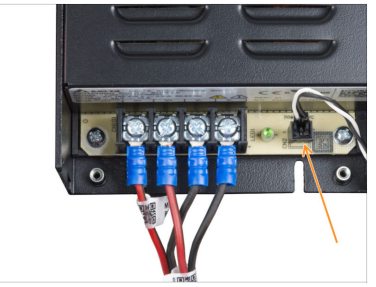
ⓘ In the following steps, we will be connecting the power cables one by one. The terminal screws are installed on the PSU already. Loosen them but **don't remove them completely** so they don't get mixed up with the other type of screws used on the xBuddy board side of the cable. Each of the two power cables has two leads.
One has a prevailing **red color = positive / +**
One has a prevailing **black color = negative / -**

- Note that the power cables have different connectors on each end. For now, prepare the U-shaped connectors (crimping tube color may vary).
- **Beachten Sie die Polarität der Klemmen des Netzteils:**
  - Positiv (V+)
  - Positiv (V+)
  - Negativ (V-)
  - Negativ (V-)

ⓘ The red cable (positive) may have a black stripe on it. Similarly, the black cable (negative) can have a red stripe on it.

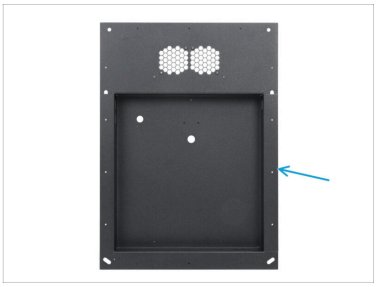
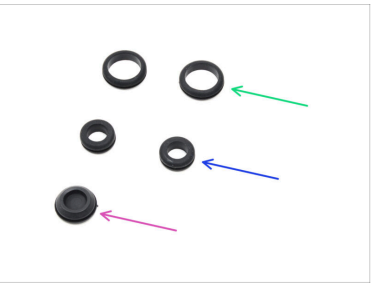
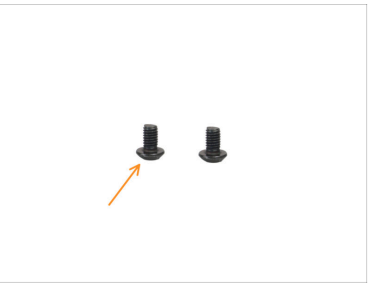
⚠ **Do not connect any cables yet, wait until you have been prompted.**

SCHRITT 16 Anschließen des Netzteils

- Take the RED wire and slide the fork connector all the way into the first (positive) terminal from the left on the bottom of the PSU. Make sure the steel washer is above the "fork" connector.
- Tighten the terminal screw firmly.
- Gehen Sie genauso vor, um das zweite rote Kabel mit dem zweiten Anschluss von links zu verbinden.
- Connect two black wires to the third and fourth terminal slots using the same procedure.
- Plug the black connector of the power panic cable to the right most connector.
- Put the assembly aside for a while.

SCHRITT 17 Back panel: parts preparation

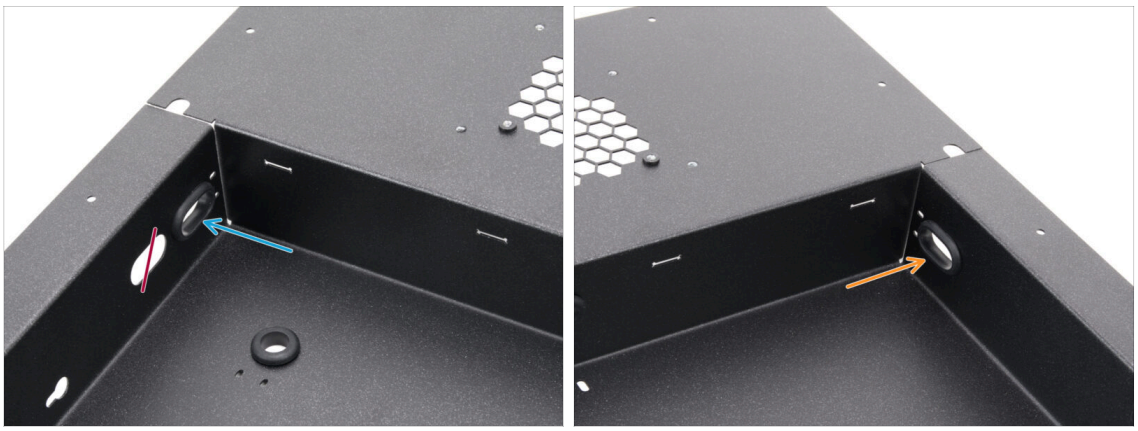




- **For the following steps, please prepare:**
- Back panel (1x) *found in the Metal parts 1/3 package*
- Kabeldurchführung 19/16 mm (2x) *die größeren - finden Sie in der Packung Electronics & Fasteners*
- Grommet 13.5/10 mm (2x) *small one - found in the Electronics & Fasteners package*
- Sealing plug 15.5 mm (1x) *found in the Electronics & Fasteners package*
- Schraube M3x4rT (2x)

SCHRITT 18 Installing grommets: back panel top

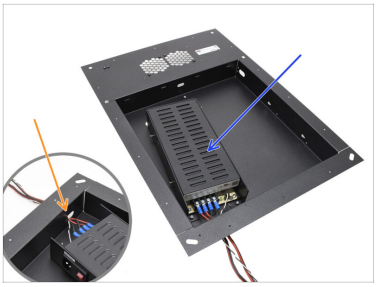
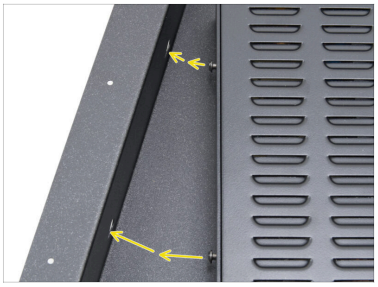
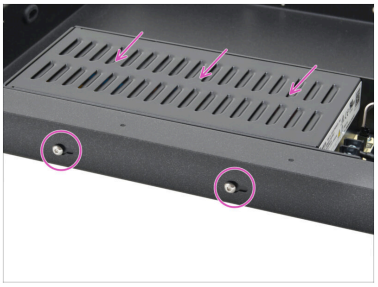
- Position the back panel as shown in the first image. Use the two oval holes as a reference.
- Insert the sealing plug into the center hole.
  - **Der Verschlussstopfen ist nicht symmetrisch**. Setzen Sie die Seite mit dem kleineren Durchmesser nach unten ein.
- Insert one small grommet to the left circle hole.
- Insert one small grommet into the oval hole.

SCHRITT 19 Installieren der Ösen: Seiten



- Focus on the left top side of the back panel and locate two oval holes.
- Insert one large grommet into the oval hole closest to the corner.
- Gehen Sie zur rechten oberen Seite der Rückwand und setzen Sie eine große Kabeldurchführung in das ovale Loch ein.

SCHRITT 20 Ausrichten des Netzteils

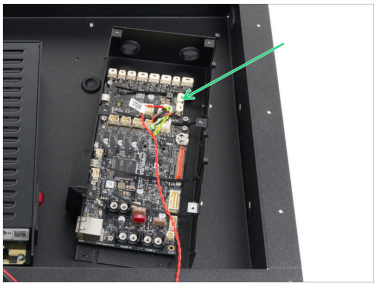
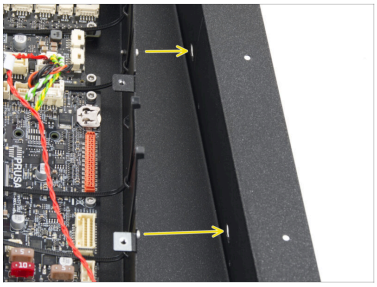
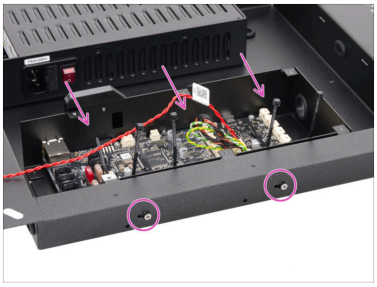




- Carefully insert the PSU into the rear panel pocket.
- Push the cable bundle through the opening on the bottom of the panel.
- Richten Sie die Schrauben des Netzteils an den Löchern auf der linken Seite der Rückwand aus.
- Slide the PSU so that the screws go through the holes.

SCHRITT 21 Montieren des Netzteils

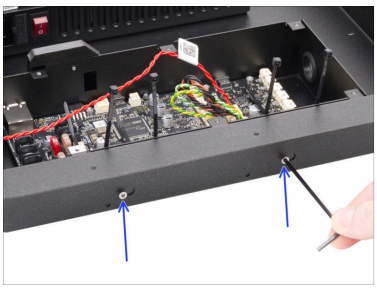
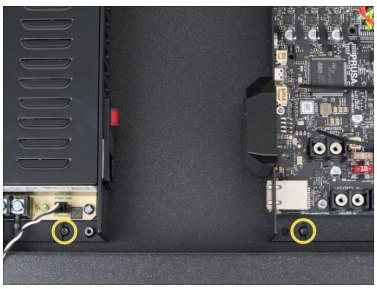

- Gently slide the PSU so that the position of the screws moves to the end position of the keyhole-shaped holes.
- Maintain the PSU position and fully tighten both screws.

SCHRITT 22 Aligning the xBuddy box assembly

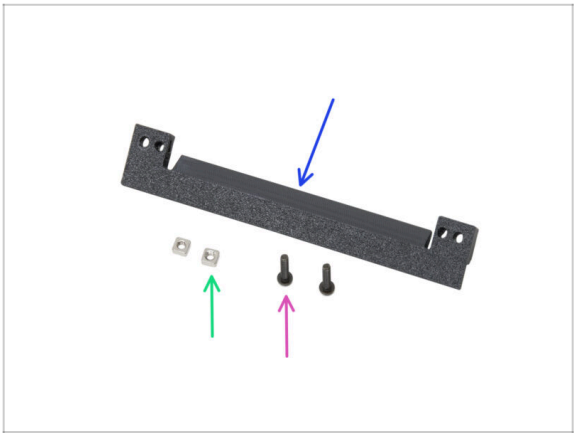
- Carefully insert the xBuddy box assembly into the rear panel pocket.
- Align the screws on the xBuddy box to the holes on the right side of the back panel.
- Schieben Sie die xBuddy Box so, dass die Schrauben durch die Löcher gehen.

SCHRITT 23 Mounting the xBuddy box

- Gently slide the xBuddy box assembly so that the position of the screws moves to the end position of the keyhole-shaped holes.
- Maintain the xBuddy box position and fully tighten both screws.
- Befestigen Sie die Netzteil- und xBuddy-Box-Baugruppe an der Rückwand, indem Sie die zwei M3x4rT-Schrauben festziehen.

SCHRITT 24 PSU-cable-cover: Vorbereitung der Teile

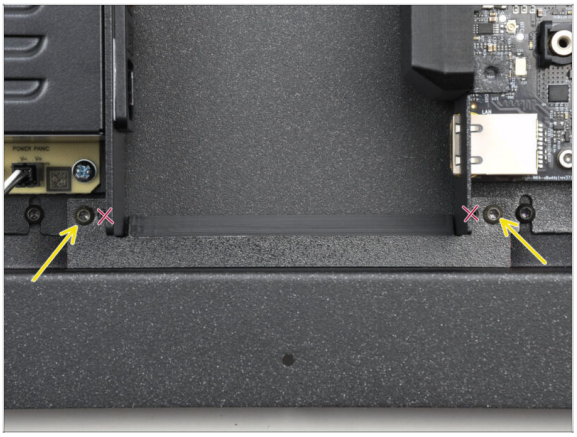


- **For the following steps, please prepare:**
- PSU-cable-cover (1x) *found in the Printed parts package*
- M3nS Mutter (2x)
- Schraube M3x10rT (2x)

SCHRITT 25 Vorbereiten der PSU-cable-cover

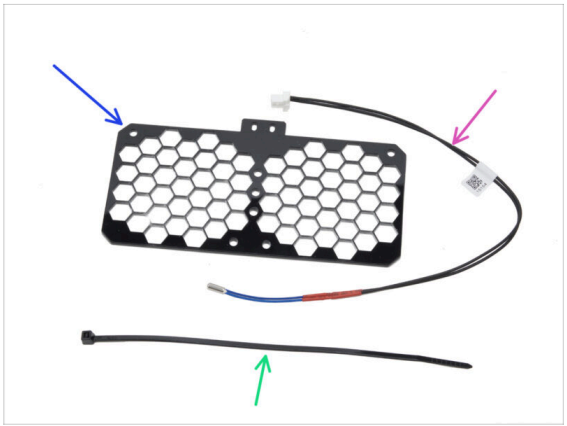
- Insert one M3nS nut into the hole on each end of the PSU-cable-cover.
- Ensure the holes are aligned.

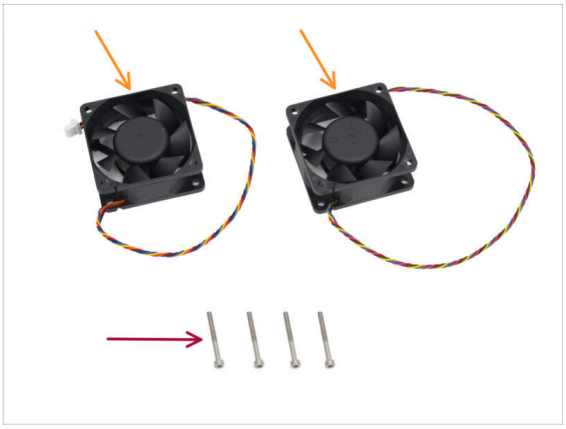
SCHRITT 26 PSU-cable-cover Installation



- Attach the PSU-cable-cover inbetween the PSU and the xBuddy box.
- Secure the cover with two M3x10rT screws in the outermost holes of the part.

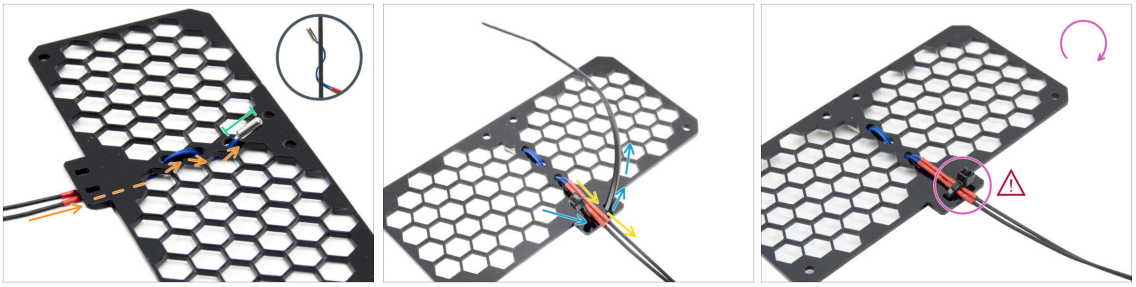
SCHRITT 27 Chamber fans: parts preparation





- **For the following steps, please prepare:**
- Fan grid (1x) *found in the Electronics & Chamber parts package*
- Chamber thermistor 260 mm (1x) *found in the Electronics & Chamber parts package*
- Kabelbinder (1x)
- Cooling fan (2x) *found in the Electronics & Chamber parts package*
- Schraube M3x30 (4x)

SCHRITT 28 Assembling the fan grid

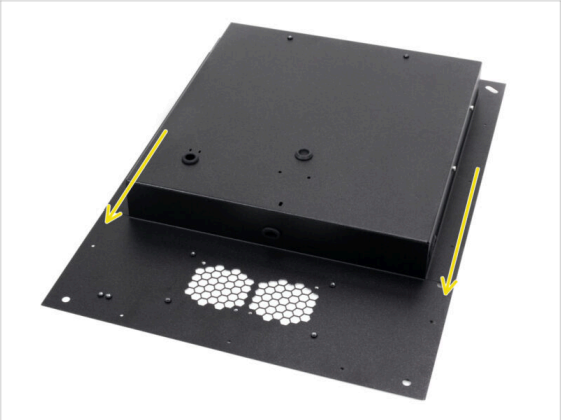


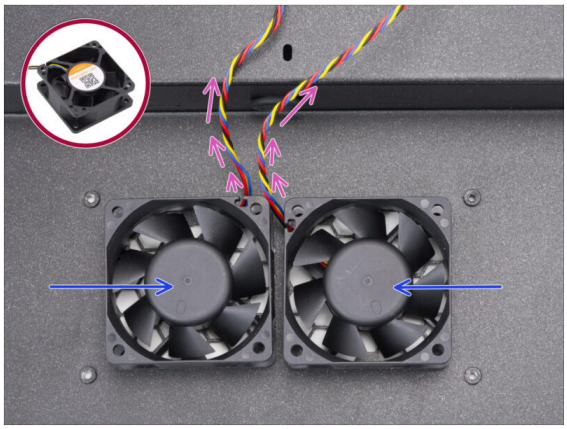
- Guide the thermistor cable under the grid. Thread it in the direction shown in the picture.
  - ⓘ The grid has both sides the same.
- Leave the whole thermistor part sticking out.
- Turn the grid over and push the zip tie through the pair of holes on the grid's protrusion.
- Route the thermistor cable in between the zip tie parts.
- Carefully secure the thermistor cable by tightening the zip tie. **Do not overtighten it**, it may damage the cable.

⚠ **Make sure that the header of the zip tie is facing the same way as in the picture.** It must be on the same side as where the cable starts.

- Put the assembly aside for a while.

SCHRITT 29 Anbringen der Lüfter



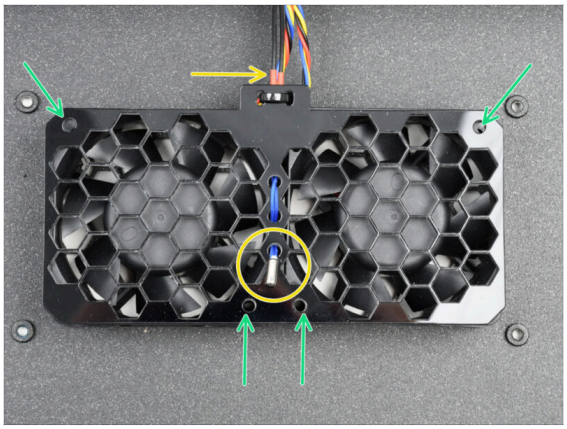


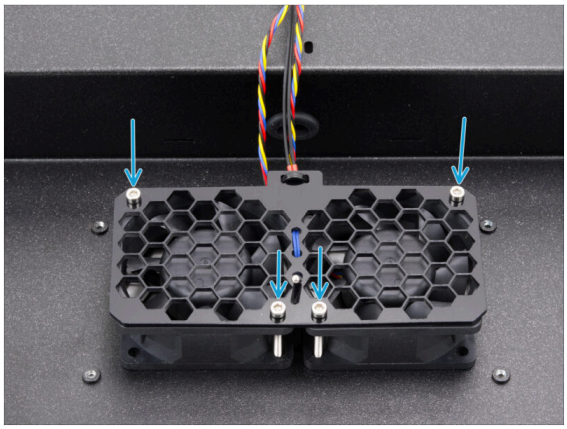
- Place and orient the back panel according to the picture. The grid cutouts must be facing you.
- Attach both fans to the grid in the back panel.

  ⚠ The side of the fan without the sticker must be facing up.

  - Orient the fans so that the cables run from the corners in the centre.
  - Let the cables hang freely for now, ensuring they are not pinched during handling.

SCHRITT 30 Covering the cooling fans





- Place the fan grid assembly on the cooling fans.

  ⚠ **Make sure that the thermistor is pointing up** and its cable runs under the grid.
- Align holes in the fans, fan grid and the back panel.
- Secure the fan assembly to the back panel with four M3x30 screws.

  ⚠ Do not overtighten the screws to avoid damaging the grid.

SCHRITT 31 Rear profiles: parts preparation

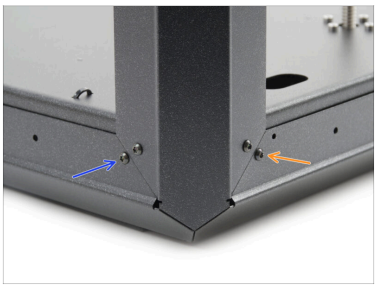


- **For the following steps, please prepare:**
- Rear profile (2x) *found in the Metal parts 1/3 package*

  ⓘ Take two of the longer ones.
  Note that the other two longer ones differ by having cutouts.
- Nylon-Niete (11x)
- Schraube M3x4rT (4x)
- 2.9x6.5sT self-tapping screw (1x)

SCHRITT 32 Installing the rear profiles



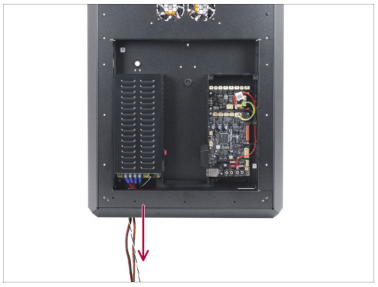
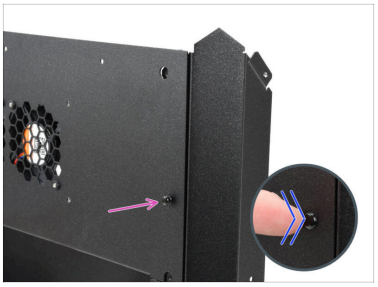


- Take the bottom assembly and turn it so the rear side (with one motor in the center) faces you.

📌 Focus on the right rear corner—the side with the longest oval opening in the bottom panel.

- Attach the rear profile to the right corner, using the **end without flanges**.
- Align the hole on the rear side and secure it with the M3x4rT screw.
- Secure the corner on the other side with a second M3x4rT screw - each corner will be secured with two M3x4rT screws.
- Proceed the same with the second rear profile on the rear left corner.

SCHRITT 33 Mounting the back panel

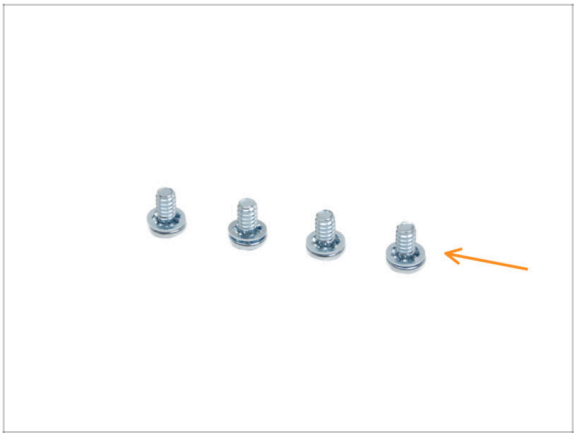
- Slightly lift the back assembly and gently place it on the base assembly and rear profiles.
- Pull the power cables through the opening in the bottom assembly.
- Insert one nylon rivet through the rear panel and rear profile on the top right side.
- Push the rivet head with your finger until it is fully seated.

SCHRITT 34 Securing the Back panel


- Install all eleven nylon rivets around the back panel assembly to secure it.
- Install the 2.9x6.5 self-tapping screw into the bottom left opening on the back panel.

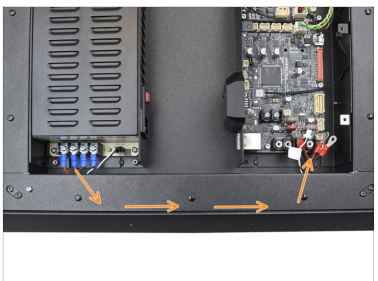
Don't overtighten to avoid stripping the self-tapping thread.

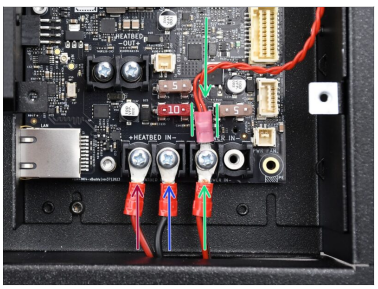
SCHRITT 35 Power Terminal Screws Preparation



- **For the following steps, prepare:**
- 6-32 Power Terminal Screw (4x)

SCHRITT 36 Connecting the power cables

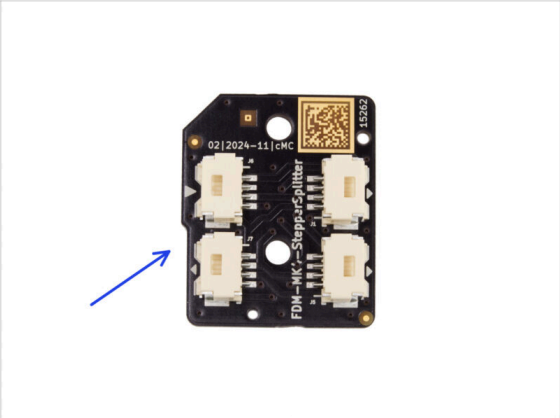


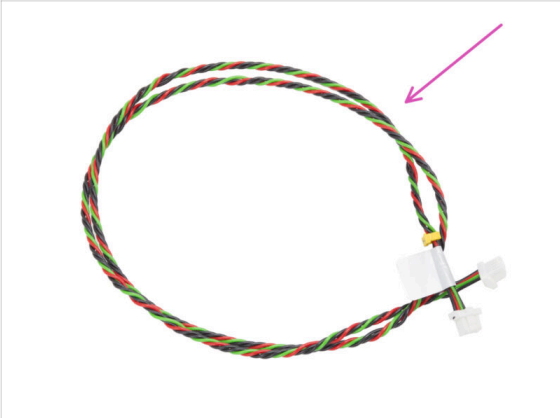


- Guide the power cable bundle through the rear panel, towards the xBuddy board.
- Take one red cable from the PSU and connect it to the leftmost terminal on the xBuddy board using the 6-32 terminal screw. Tighten it firmly but do not overtighten.
- Attach the black PSU cable to the second terminal. Tighten it firmly, but avoid overtightening.
- Take the second red cable from the PSU and stack it with the red cable from the extension board.
  Secure **both cables together** in the third terminal using the terminal screw.

  Carefully guide the xBuddy extension cable between the fuses, ensuring it does not press against any of them.
- Attach the last black PSU cable to the xBuddy, **making sure it does not obstruct the threaded hole underneath.**
- Connect the power panic cable to the bottom right connector on the xBuddy board.

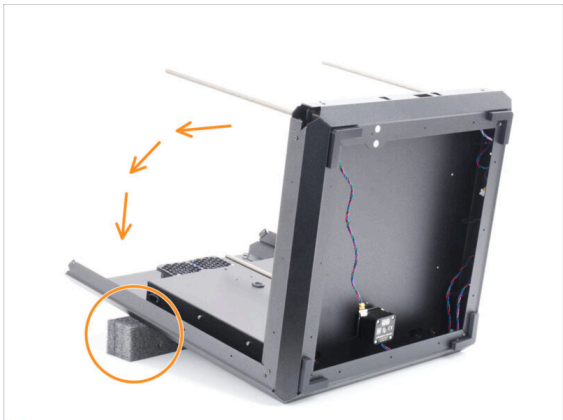
SCHRITT 37 Stepper splitter: parts preparation

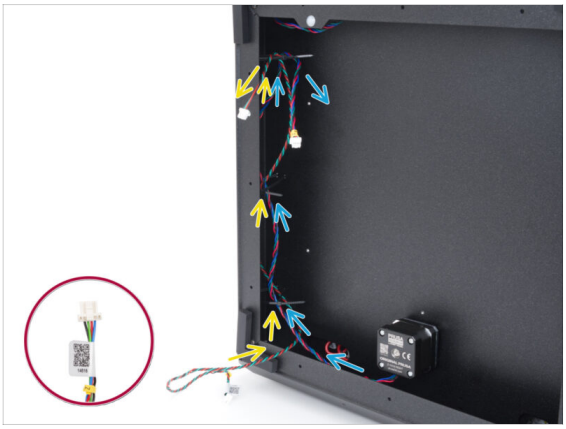




- **For the following steps, please prepare:**
- Stepper splitter (1x) *found in the Electronics & Chamber parts package*
- Stepper splitter cable (1x) *found in the Electronics & Fasteners package*

SCHRITT 38 Guiding the Stepper splitter cable

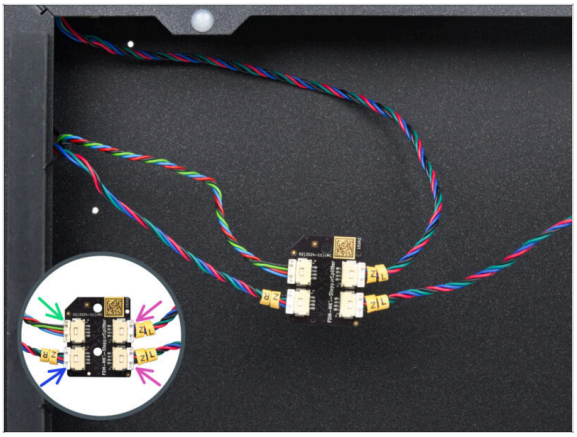




- Very carefully turn the assembly on its back (back panel).
  - **It is recommended to support the rear of the assembly** with a soft, raised pad to prevent it from resting on the protruding Wi-Fi module.
  - ⓘ Tip: Use the foam padding from the sheet metal parts package or an empty cardboard box.
- Guide the Stepper splitter cable through the three zip ties on the left side.
  - For now, leave the side with the label hanging freely outside.
- Guide the Z-axis motor R cable through the three zip ties on the left side.

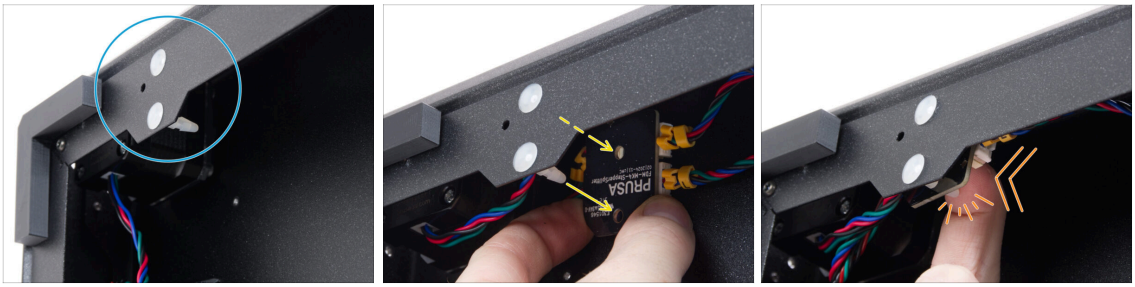
⚠ **Do not tighten the zip ties at this moment.**

SCHRITT 39 Connecting the Stepper splitter



- **Connect the Z motor cables to the stepper splitter:**
  - Stepper-Splitterkabel
  - Z-Achse Motor R
  - Z-Achse Motor L
  - Z-Achse Motor L

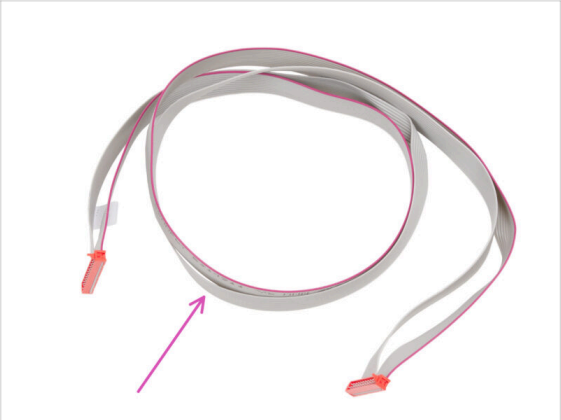
SCHRITT 40 Mounting the Stepper Splitter

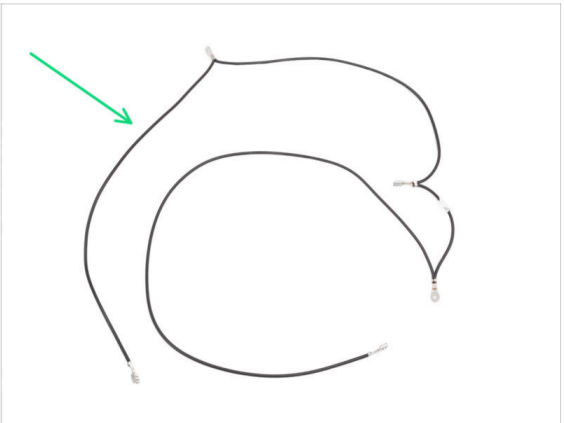


- Locate two spacer pins in the bottom frame.
- From the inside of the frame, prepare the Stepper splitter and attach its holes opposite the pins.
  - Check the correct orientation of the part by the logo on the board. **The logo is upside down**.
- Push the aligned Stepper Splitter onto the pins until you feel a click - this secures the Stepper Splitter. Push in the center of the board.

  ⓘ It is necessary to apply a significant pressure to seat the part in. Yet, be very careful not to damage the components.

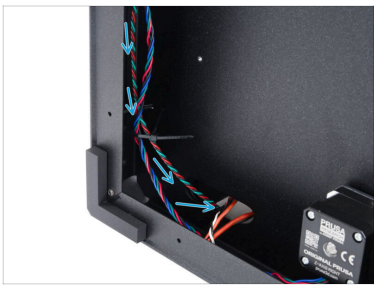
SCHRITT 41 LCD cable: parts preparation

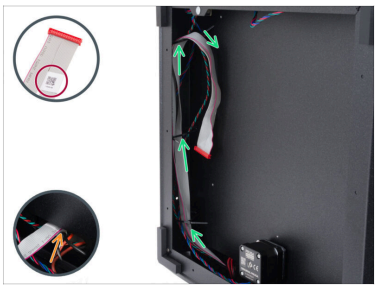




- **For the following steps, please prepare:**
- xLCD cable (1x) *found in the Electronics & Fasteners package*
- Main FE cable (1x) *found in the Electronics & Fasteners package*

SCHRITT 42 Guiding the LCD cable

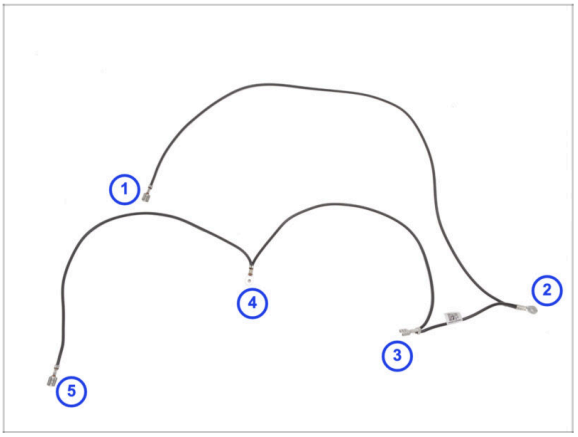




- Guide the Stepper splitter cable through the oval hole to the electronics.
- Take the end of the xLCD cable with the QR code label.
- Push a few centimeters of the xLCD cable (the end with the QR code label) through the oval hole in the bottom panel.

  ⓘ The cable must be slightly folded to pass through the hole.
- Guide the xLCD cable through the zip ties on the left side of the frame.
- Guide the xLCD cable through the rectangular opening in the front profile. Keep protruding approximately 6 cm (2.36 in).
  - Leave the cable hang freely for now.

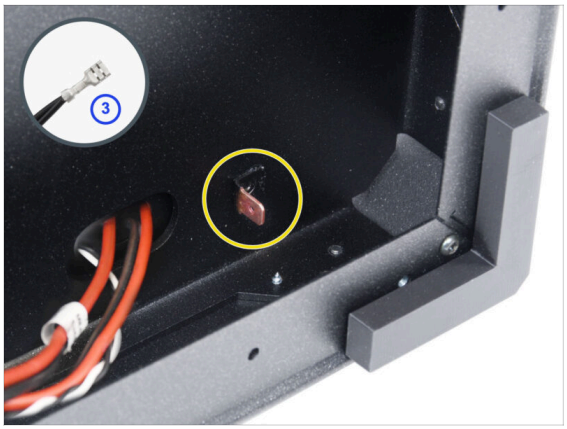
SCHRITT 43 Main FE cable INFO

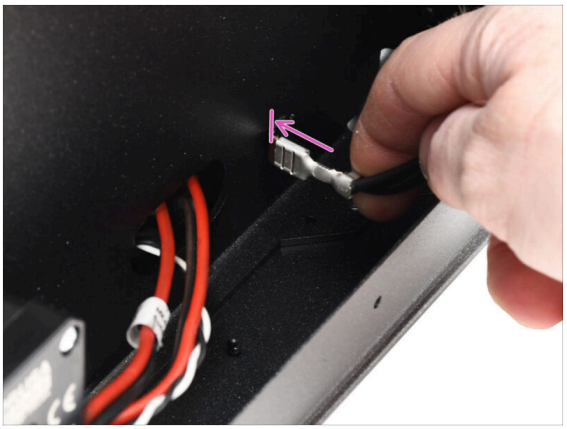


- Lay out the Main FE cable as shown in the picture, ensuring each connector is positioned accordingly.
- The connectors are numbered in the picture for reference only. This numbering will be used in the following steps to help with proper connections.

ⓘ Note: We will always indicate which connector to use in the following steps. However, it's a good idea to remember this overview for easier assembly.

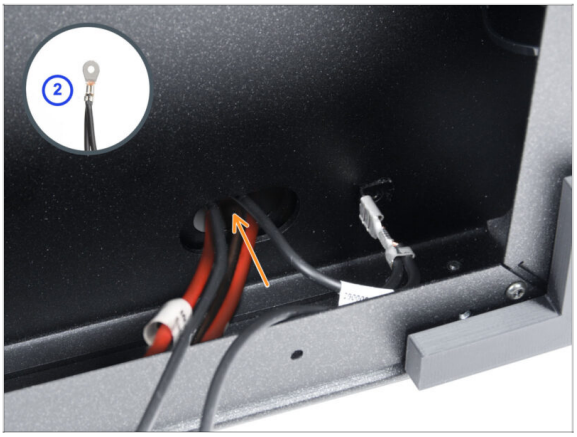
SCHRITT 44 Connecting the FE cable (no 3.)





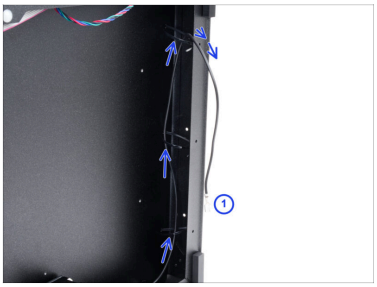
- Prepare the connector number 3.
  - ⓘ That's the female faston connector in the middle of the cable.
- Locate the male Faston connector in the bottom right corner.
- Slide the FE cable connector completely onto the Faston connector.

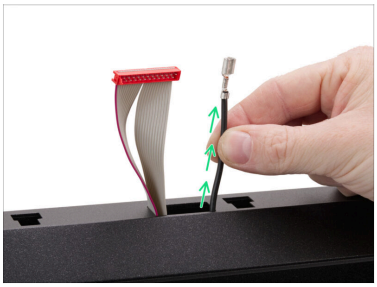
SCHRITT 45 Guiding the FE cable (no. 2)

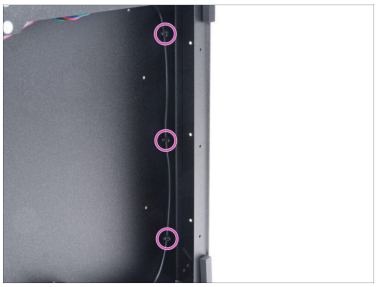


- Take the FE cable connector number 2.
  - ⓘ The round connector nearby.
- Insert the connector loosely into the hole in the bottom panel.

SCHRITT 46 Guiding the FE cable (no. 1)

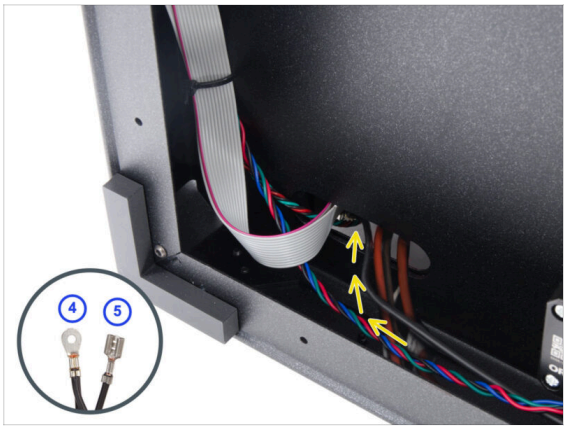


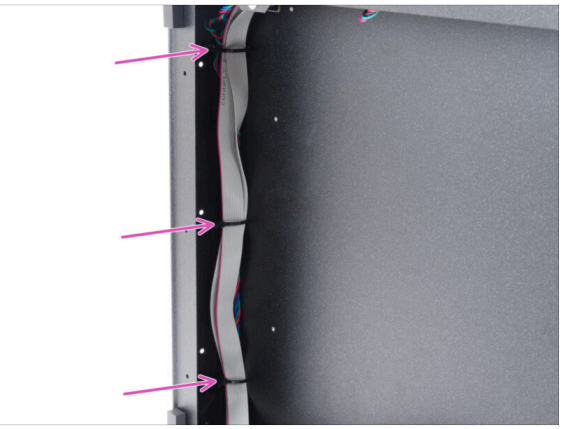




- Take the connector number 1 and guide it through the zip ties on the right side of the frame.
  - ⓘ Das ist der lange Teil mit nur einem Faston-Anschluss am Ende.
- Push the connector through the rectangular opening in the front profile. Keep protruding approximately 6 cm (2.36 in).
  - Leave the cable hang freely for now.
- Tighten all three zip ties. Cut off the excess.

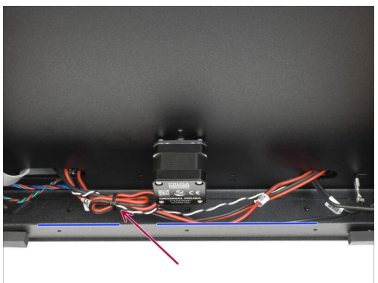
SCHRITT 47 Guiding the FE cable (no. 4 and 5)





- Take the FE cable connectors number 4 and 5.
- Stecken Sie beide Stecker durch das linke Loch im Boden. Lassen Sie sie vorerst frei.
- Tighten all three zip ties on the left side of the frame. Cut off the excess.
  - There's no need to fully tighten the zip ties. However, the cables must still be easy to move for any necessary length adjustment during connection.

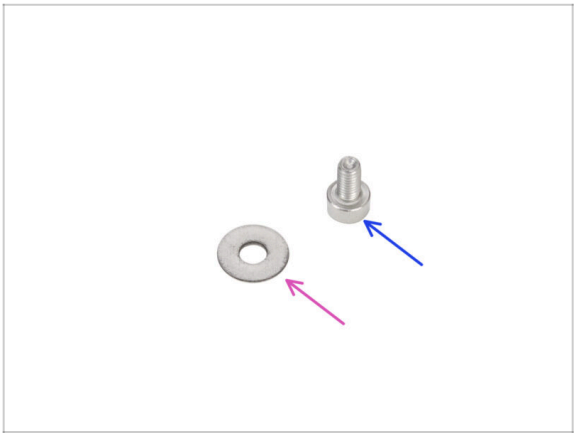
SCHRITT 48 Kabelbündel Aufräumen



- On the bottom, loop the power cable bundle around the Z-motor cable to shorten it.
- Befestigen Sie die Schlaufe mit einem Kabelbinder am Kabel des Z-Motors.
  - Make sure the cables are kept at a reasonable distance from the metal profile, while also preventing them from being overly tight.

  ⚠ This prevents cables from hanging below the metal profiles, where they could get caught and damaged. High current flows through these cables, so damaging them might cause a serious harm to the printer and its surroundings!
- Carefully lift the printer upright.

SCHRITT 49 FE cable - xBuddy: parts preparation



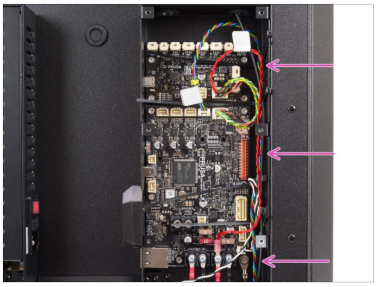
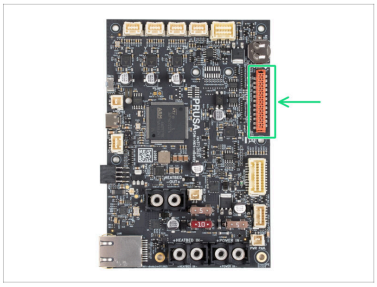
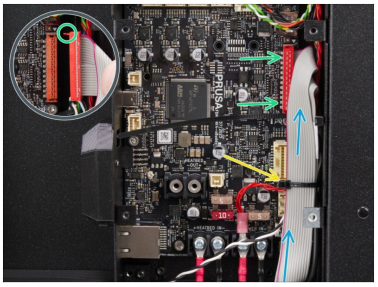
- **For the following steps, please prepare:**
- M3w Unterlegscheibe (1x)
- Schraube M3x6 (1x)

SCHRITT 50 Connecting the FE cable: xBuddy

- Put the printer back on its feet. And focus on the rear side.
- Nehmen Sie den Anschluss Nummer 4 und verbinden Sie ihn mit dem xBuddy mit der M3x6 Schraube und der M3w Unterlegscheibe.

  ⚠ The M3 washer must be between the screw head and the connector.
- Guide the FE cable (number 5) alongside the xBuddy box and pass it through the right-side holes out of the box.
- Guide the Stepper splitter cable alongside the xBuddy box and connect it to the second slot from the right in the top row on the xBuddy board (labeled ZR).

SCHRITT 51 Plugging the xLCD cable

- Arrange the cables as shown - route all cables along the right side of the xBuddy box.

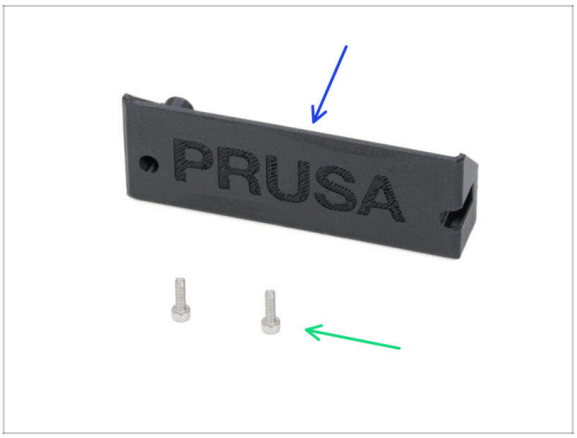
  ⚠ Stellen Sie sicher, dass alle Kabel durch die Kabelbinder in der xBuddy-Box geführt werden, nicht darunter.

- Place the xLCD cable over the other cables and route it upwards.
- Connect the xLCD to the slot on the right side of the xBuddy. **Note the safety latch on the xLCD cable connector**. The **latch must fit into the upper side** of the connector.
- Secure the cable arrangement by tightening the bottom zip tie.

  ⚠ **Do not overtighten the zip tie, as it may damage the wires.**

- Carefully cut off the excess length of the zip tie. **Avoid cutting cables!**

SCHRITT 52 PSU-cover: Vorbereitung der Teile



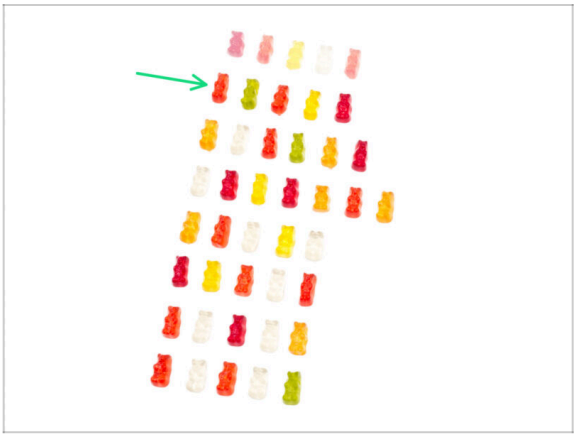
- **For the following steps, please prepare:**
- CORE-One-PSU-cover (1x) *im Paket „Printed parts“ enthalten*
- Schraube M3x10 (2x)

SCHRITT 53 Connecting the FE cable: PSU



- Remove the screw from the PSU board. **Do not discard it!**
- Vergewissern Sie sich, dass der FE-Anschluss (Nummer 2) in das Netzteilgehäuse geführt wird.
- Insert the removed screw through the FE cable connector and screw it back to the PSU board.
  - Note the correct orientation of the connector.
- Rotate the connector counter-clockwise, positioning it so it doesn't block the threaded hole underneath.
- Attach the PSU-cover over the PSU connectors and secure with two M3x10 screws.

SCHRITT 54 Haribo Zeit!



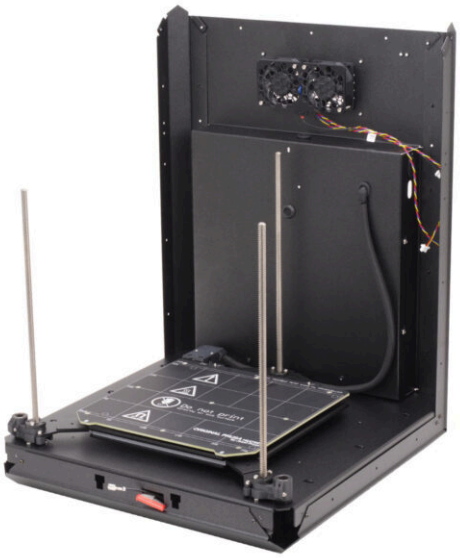
- Time to recharge for the next chapter!
- Essen Sie die zweite Reihe.

⚠ **No cheating**—eat only the number shown!

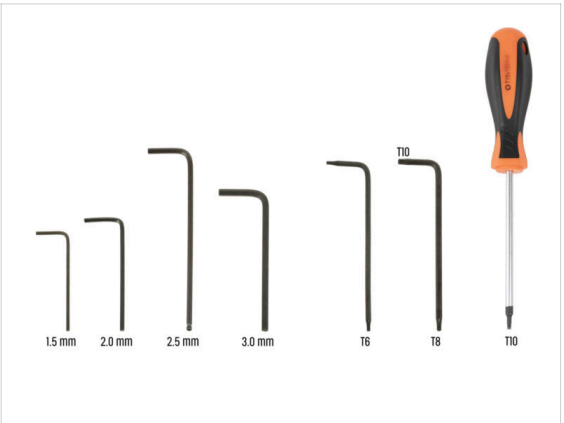
SCHRITT 55 Abgeschlossen

- Congratulations! The back assembly is installed.
- Fahren Sie nun mit dem nächsten Kapitel fort.

4. Zusammenbau des Heizbetts

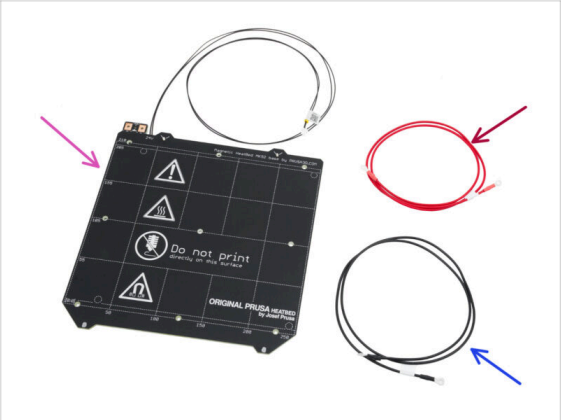


SCHRITT 1 Tools necessary for this chapter



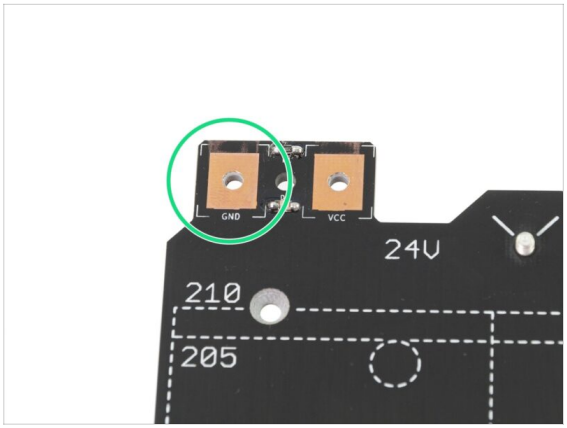
- **For this chapter, please prepare:**
- Spitzzange
- Universal-Schlüssel
- Schraubenschlüssel 13-16
- Phillips Schraubendreher PH2
- 2,5mm Innensechskantschlüssel
- 2,0 mm Innensechskantschlüssel
- T10 torx key / T10 torx screwdriver

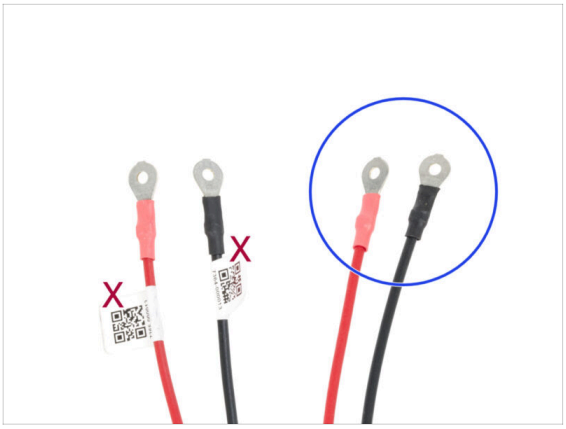
SCHRITT 2 Heizbett: Teilevorbereitung



- **For the following step please prepare:**
- Heatbed MK52 24V (1x)
- Heatbed cable red (1x) *found in the Electronics & Fasteners package*
- Heatbed cable black (1x) *found in the Electronics & Fasteners package*
- Schraube M3x10rT (2x)
- M3nN Mutter (2x)
- M3w Unterlegscheibe (2x)

SCHRITT 3 Heatbed Cable Assembly 1

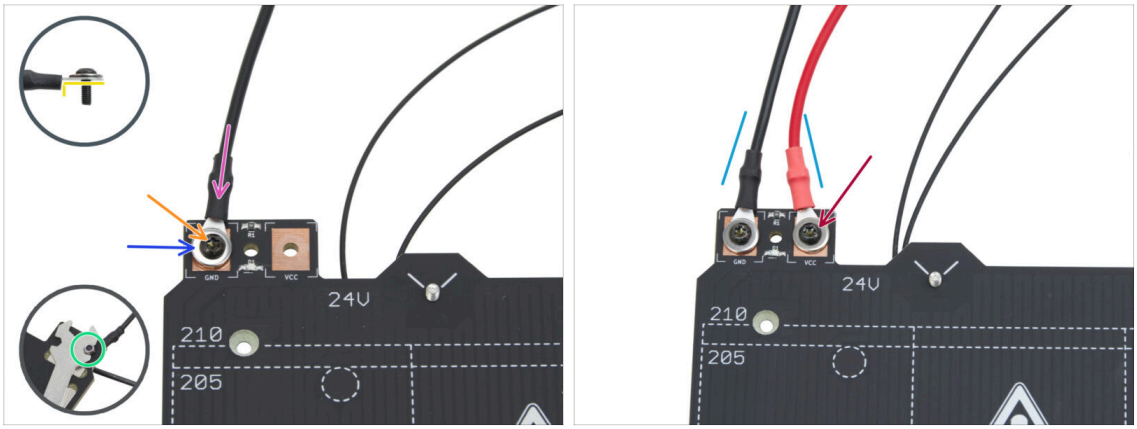




- Follow the polarity markings on the heatbed:

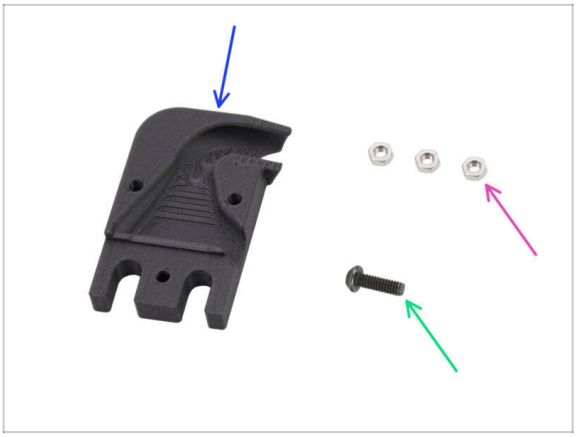
  The pad labeled **GND** should be coupled with the **BLACK WIRE**.
- aTake both power cables. Note the labels on each. Use the unlabeled ends for the heatbed connection.

SCHRITT 4 Heatbed Cable Assembly 2



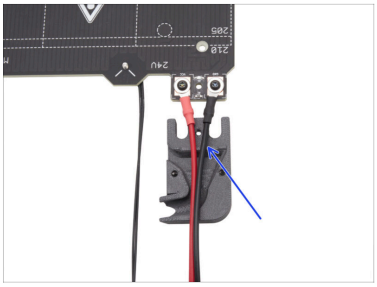
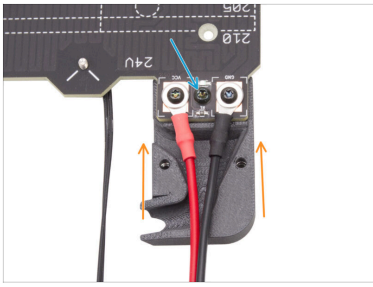
- Place the black cable onto the "GND" pad.
  - Orient the lug connector with the thicker part facing downward.
- Place the M3w washer on top of the connector.
- Insert the M3x10rT screw through all the components.
- Attach the M3nN nut onto the M3x10rT screw from below and tighten it slightly.
- Using the same technique, attach the red cable to the "VCC" pad.
- Guide the heatbed cables slightly inward in a “V” shape, **then fully tighten the nuts from below.**

SCHRITT 5 Bed-cable-cover-bottom: Vorbereitung der Teile



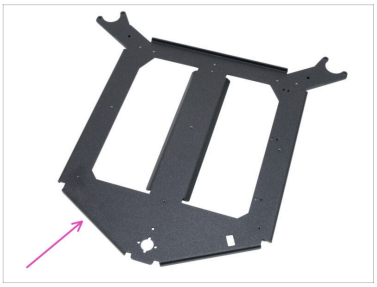
- **For the following steps, please prepare:**
- Bed-cable-cover-bottom (1x)
- M3n Mutter (3x)
- Schraube M3x10rT (1x)

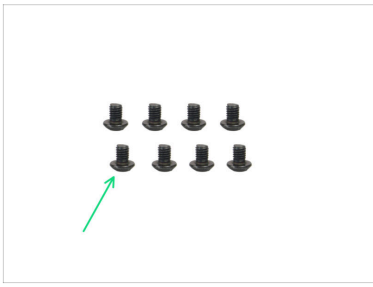
SCHRITT 6 Attaching the cable cover

- Insert three M3n nuts into the Bed-cable-cover-bottom part.
  - Pro tip: Use the screw-pulling technique.
  - Make sure the nuts are fully inserted and held in place.
- Insert the Bed-cable-cover-bottom under the heatbed cables. Note the orientation of the part.
- Slide the Bed-cable-cover-bottom under the cable joint of the heatbed.
- Line up the hole in the heatbed with the cable cover and secure it with the M3x10rT screw.

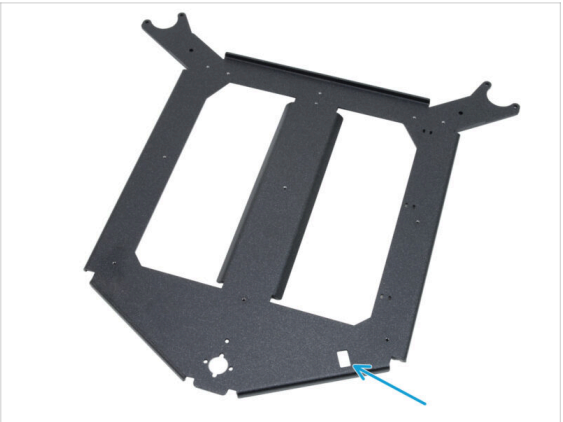
SCHRITT 7 Heatbed carriage: parts preparation

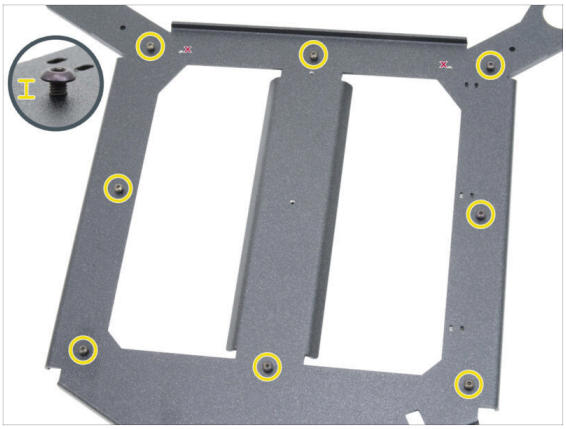




- **For the following steps, please prepare:**
- Heatbed carriage (1x) *found in the Metal parts 1/3 package*
- Ausgleichsverbindung (8x)
- Schraube M3x4r (8x)
  - The Fasteners package includes both M3x4r and M3x4rT screws. Make sure you have the correct type prepared.

SCHRITT 8 Preparing the heatbed carriage

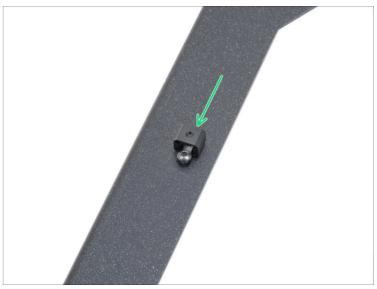


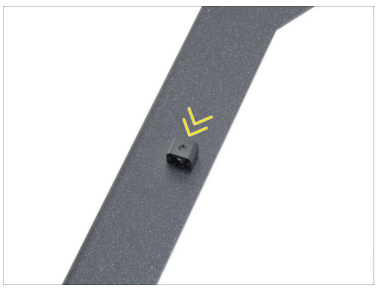


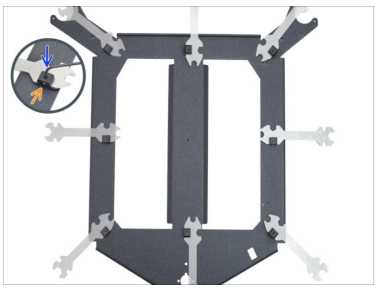
- Place the heatbed carriage in front of you in the same orientation as in the picture.
  - Stellen Sie sicher, dass der **rechteckige Ausschnitt auf der rechten Seite zu Ihnen zeigt**.
- Insert eight M3x4r screws around the heatbed carriage.

⚠ **Do not tighten completely**, leave a gap of approximately 3 mm (0.12 in).

SCHRITT 9 Installing the expansion joints



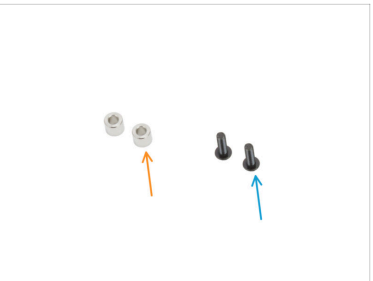
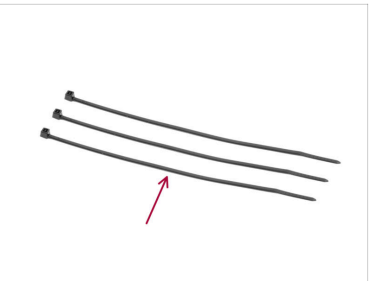




- Attach one expansion joint to any M3x4 screw in the same orientation as shown.
  - Note the U-shaped "groove" for the screw inside the expansion joint - point it towards the screw.
- Slide the expansion joint onto the screw.
- Grasp the expansion joint in the rectangular cutout of the universal wrench.
- Position the key with the expansion joint in its correct orientation as shown in the illustration.
- **Maintain the expansion joint in the correct position** and firmly tighten the M3x4r screw through the expansion joint with a 2.0 mm Allen key.

⚠ Repeat this procedure for all other expansion joints. **Follow their correct position!**

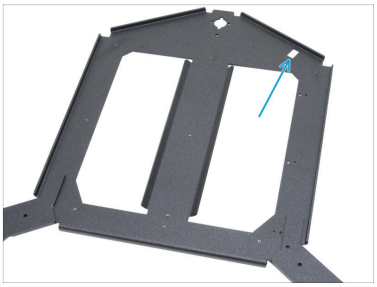
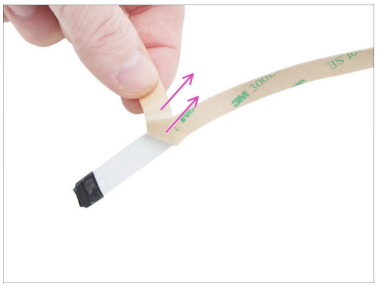
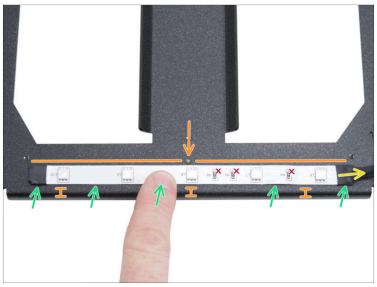
SCHRITT 10 RGB LED strip: parts preparation

- **For the following steps, please prepare:**
- RGB LED strip 166 mm (1x) *found in the Electronics & Fasteners package*

  ⚠ Avoid direct contact with the LED and resistors on the LED strip.
- LED status cover (1x) *found in the Electronics & Chamber parts package*
- LED strip diffuser (1x) *found in the CoreXY parts + Hinges set package*
- Spacer 3.2/6x5 mm (2x) *found in the Electronics & Fasteners package*
- Schraube M3x10rT (2x)
- Kabelbinder (3x)

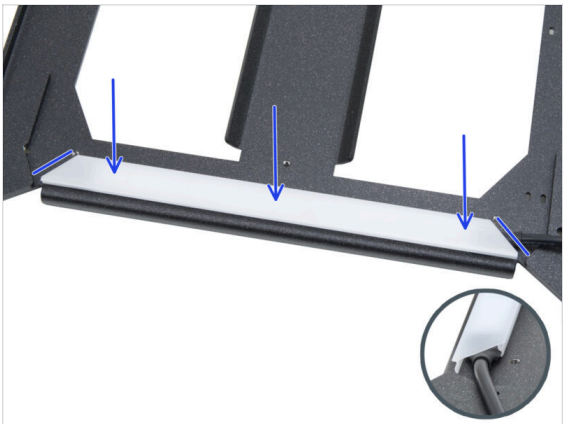
SCHRITT 11 Installing the LED strip

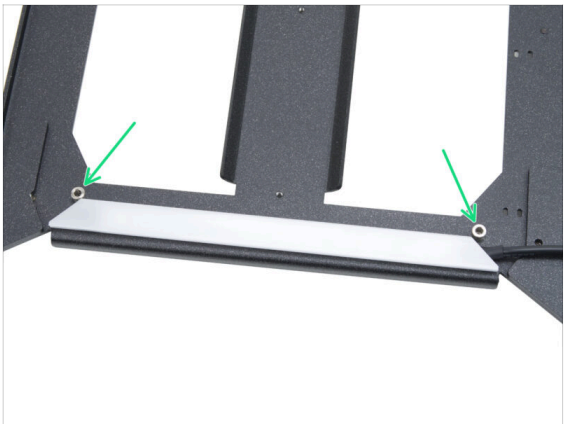




- Place the heatbed carriage in front of you in the same orientation as in the picture.
  - Make sure the **rectangular cutout is far from you** and **on the right side**.
- Carefully peel off the protective (paper) layer from the RGB LED strip.

  ⚠ After removing the protective layer, the RGB LED strip is adhesive.
- Stick the RGB LED strip evenly to the front of the heatbed carriage, approximately 3 mm (0.12 in) from the folded edge.
  Align the middle LED with the screw on the carriage.
  - The RGB LED strip **cable must point to the right**.
- After sticking, press lightly on the blank areas of the strip to ensure adhesion. **Do not touch LEDs and resistors!**

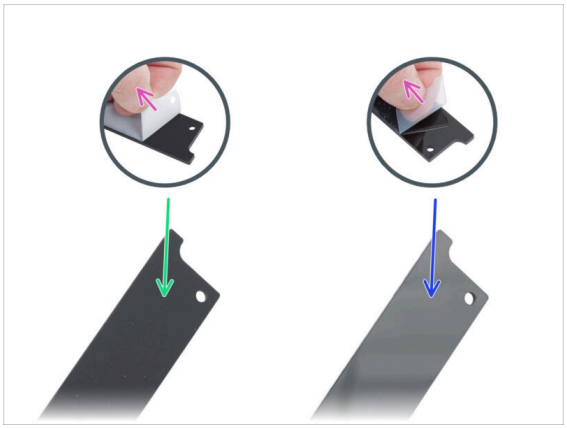
SCHRITT 12 Attaching the LED strip diffuser

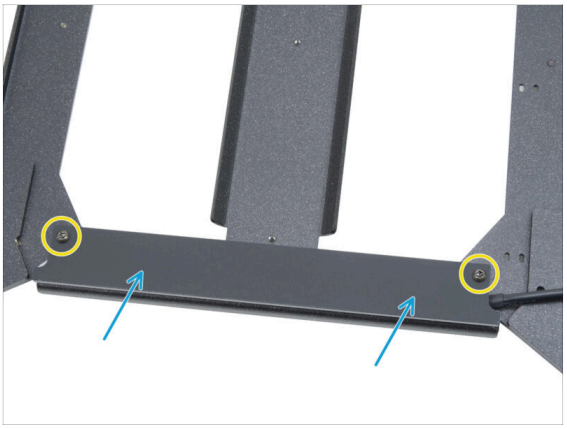




- Place the LED strip diffuser over the RGB LED strip. Note the orientation of the part - according to the beveled edges.
- Place two spacers 3.2/6x5 mm on the holes in the edges of the LED assembly.

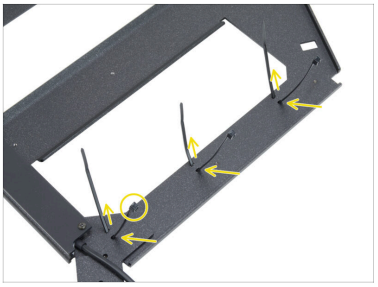
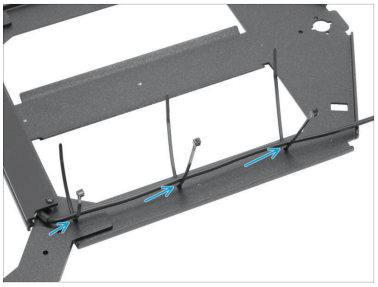
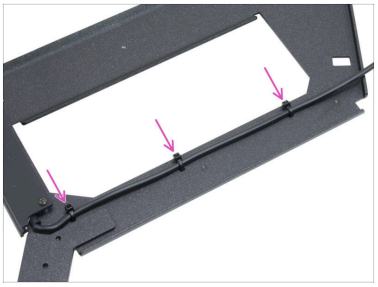
SCHRITT 13 Covering the RGB LED strip





- From both sides of the LED status cover, peel off the protective layers.
- Note that one side of the cover is matte.
- The other side of the cover is glossy.
- Attach the LED strip cover to the assembly, **matte side up**.
- Secure all parts together by inserting and tightening two M3x10rT screws. **Do not overtighten the screws**, as it may crack the cover.

SCHRITT 14 Guiding the RGB LED strip cable

- Thread the three zip ties along the RIGHT SIDE of the heatbed carriage. Make sure the zip tie heads are facing outward.
- Guide the RGB LED strip cable through all zip ties.
- Then tighten all three zip ties. Cut off excess zip ties.

SCHRITT 15 Schmieren der Lager Vorbereitung

- **For the following steps, prepare:**
- LM8UU Bearing (2x) *removed from the MK4S printer*
- Prusa lubricant applicator 8mm (1x)
- Prusa Schmiermittel (1x)
- Several paper towels to wipe oil and grease from the bearing surface.

⚠ Use the lubricant wisely, less is better! Using too much of the lubricant may cause issues.

SCHRITT 16 Lagerschmierung

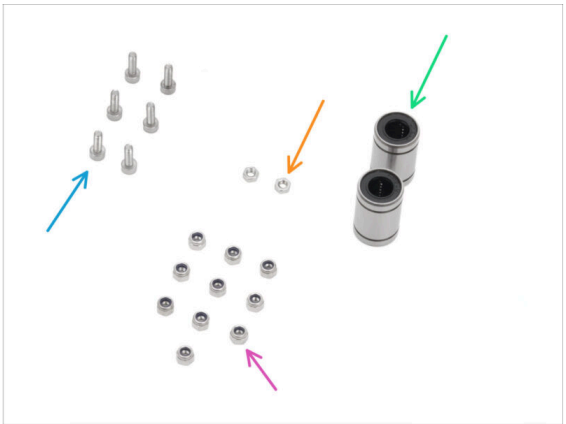


ⓘ Use any piece of fabric as a pad to protect your working surface from grease.

⚠ **Make sure the bearing is clean inside.**

- Wipe the preservative oil off the bearing surface with a paper towel.
- It is necessary to lubricate all 4 rows of balls inside the bearing.
- Screw the tube into the applicator.
- Carefully slide the entire bearing onto the applicator.

SCHRITT 17 Bed mounts: parts preparation

- **For the following steps, please prepare:**
- CORE-One-bed-mount-left (1x) *found in the Printed parts package*
- CORE-One-bed-mount-right (1x) *found in the Printed parts package*
- CORE-One-bed-spacer-rear (1x) *found in the Printed parts package*
- LM8UU bearing (2x) *freshly lubricated*
- Schraube M3x10 (6x)
- M3n Mutter (2x)
- M3nN Mutter (10x)

SCHRITT 18 Assembling the bed mounts

- Place the CORE-One-bed-mount-left onto the bearing, ensuring the correct orientation.
- Press the part onto the bearing, applying more force to ensure it moves all the way down. You will feel a click, indicating that the plastic part and bearing are correctly seated.

  ⚠ The bearing must be fully enclosed within the part and must not protrude.
- **Follow the same procedure with CORE-One-bed-mount-right.**

SCHRITT 19 Securing the bed mounts

- Insert one M3n nut into the CORE-One-bed-mount-left.
- Position the CORE-One-bed-mount-left according to the picture:
  - Position the bearing so that two ball rows face the bottom of the part, not just one.
- Keep the bearing in the position and secure it by inserting and tightening one M3x10 screw.

  ⚠ Ensure that the top surface of the bearing is flush with the top surface of the plastic part.
- **Follow the same procedure with CORE-One-bed-mount-right.**

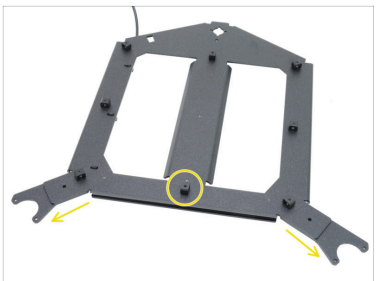
SCHRITT 20 Bed mounts: inserting the nuts

- Insert four M3nN nuts into both bed mounts.
  - Make sure they are inserted completely inside.

SCHRITT 21 Zusammenbau der CORE-One-bed-spacer-rear

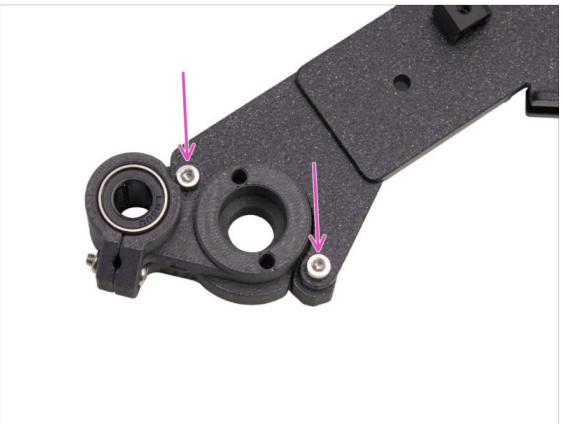
- Insert two M3nN nuts into the CORE-One-bed-spacer-rear.
  - Insert the nuts down as much as possible.

SCHRITT 22 Installieren des Bed-mount-right



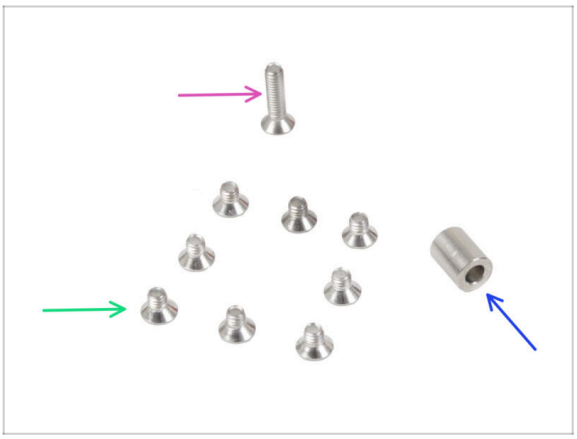
- Turn the heatbed carriage piece with the "forks" facing you and with the **expansion joints facing up**.
- Take the CORE-One-bed-mount-**right** part and slide it **under** the **right** fork - with the bearing on the right.
- Fix it with two M3x10 screws.

SCHRITT 23 Installieren des Bed-mount-left



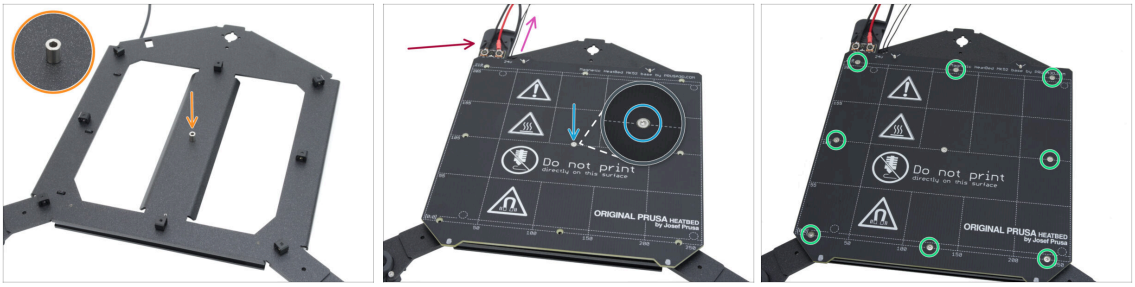
- Take the One-bed-mount-**left** part and slide it **under** the **left** fork - with the bearing on the left.
- Fix it with two M3x10 screws.

SCHRITT 24 Mounting the heatbed: parts preparation



- **For the following steps, please prepare:**
- Schraube M3x12bT (1x)
  - ⓘ The screw may also be labeled M3x12cT.
- Spacer 6x3.1x8 mm (1x) *from the disassembled printer*
- Schraube M3x4bT (8x)
  - ⓘ The screw may also be labeled M3x4cT.

SCHRITT 25 Befestigen des Heizbetts



- Place the spacer onto the heatbed carriage on the side with the expansion joints and align it with the hole in the center.
- Put the heatbed on the heatbed carriage and secure it by the M3x12bT. **Do not fully tighten the screw yet**.
  - Make sure the heatbed thermistor cable (the thinnest pair) is routed alongside the heatbed power cables. Do not route it around or across any expansion joints.

  ⚠ **Ensure the correct orientation of the part.** Use the heatbed cables as a guide.
- Insert the M3x4bT screws into the remaining holes in the heatbed. **Do not fully tighten the screws yet**.

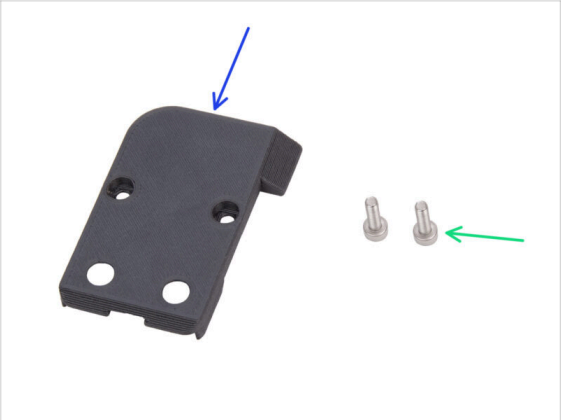
SCHRITT 26 Festziehen des Heizbettes

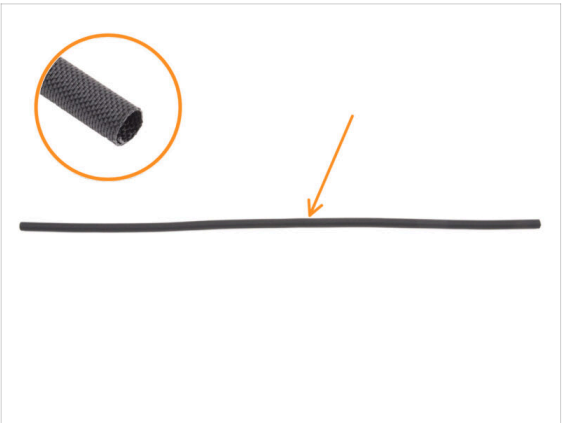
⚠ **IMPORTANT:** The heatbed must be tightened in a specific order. Repeat the sequence multiple times, ensuring the final tightening after at least two rounds.

- After all screws are in place, tighten them in the following sequence:
  - Mittlere Schraube
  - First four screws (edges)
  - Last four screws (corners)

⚠ Tighten the screws gently, but firmly.

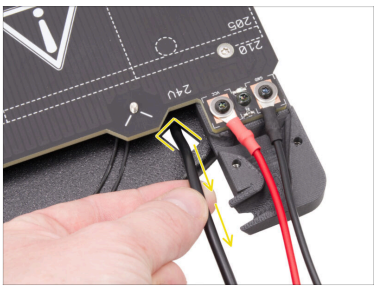
SCHRITT 27 Covering the cables: parts preparation

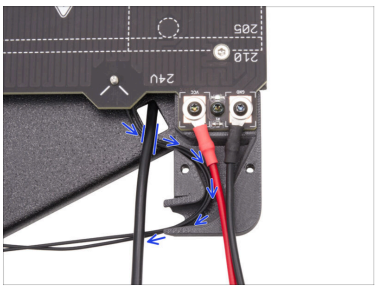


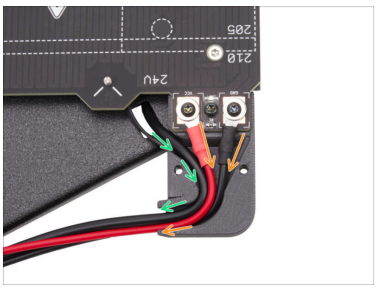


- **For the following steps, please prepare:**
- CORE-One-bed-cable-cover-top (1x) *found in the Printed parts package*
- Schraube M3x10 (2x)
- Textilhülse 520 x 8 mm (1x) *findet sich im Electronics & Chamber parts Paket*

SCHRITT 28 Guiding the heatbed cables

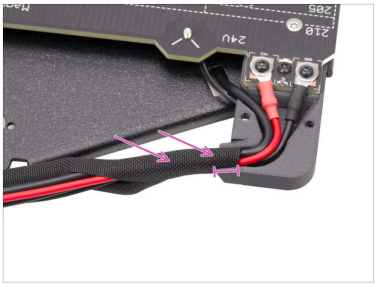
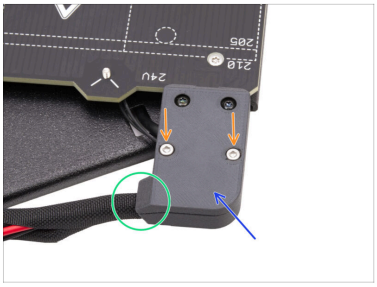
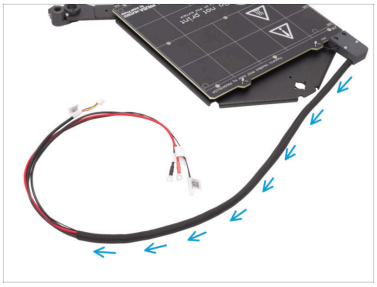






- Pull the RGB LED strip cable from the bottom through the rectangular cutout to the top.
- Guide the heatbed thermistor cable under the RGB LED cable, and insert the heatbed thermistor cable into the cable channel in the cable cover.
- Route the RGB LED strip cable through the cable channel.
- Guide the heatbed power cables through the cable channel.

SCHRITT 29 Covering the heatbed cables

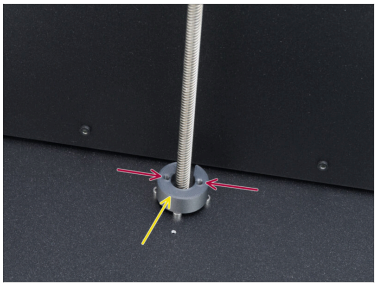
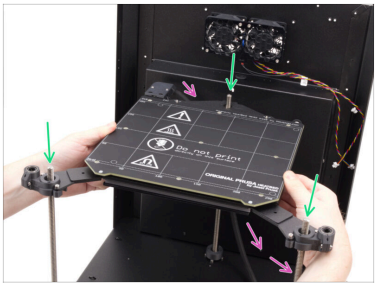
- Thread approximately 5 cm (2 in) of the textile sleeve onto the heatbed cable bundle and slide the textile sleeve 1 cm (0.39 in) into the cable channel.
- Attach the CORE-One-bed-cable-cover-top on the heatbed cables.
- Make sure the textile sleeve is still in place - inside the cable cover. **Do not pull on the textile sleeve**.
- Secure the top cover with two M3x10 screws.
- Wrap the rest of the textile sleeve around the cable bundle.

SCHRITT 30 Mounting the heatbed: parts preparation

- **For the following steps, please prepare:**
- Trapezmutter (3x)

  ⓘ *Two of these trapezoidal nuts are from the disassembled printer. The last one is in the Electronics and Chamber parts package.*
- Schraube M3x18 (6x)

SCHRITT 31 Attaching the heatbed assembly

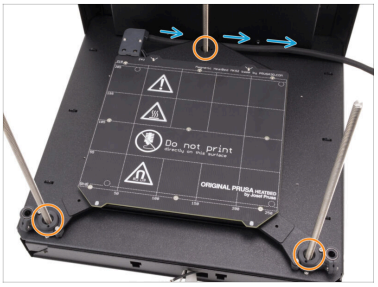




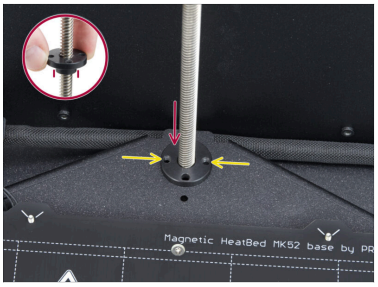
- Take the back and base assembly and orient the front side towards you.
- Place the CORE-One-bed-spacer-rear onto the rear motor screw heads, making sure it stays in place.

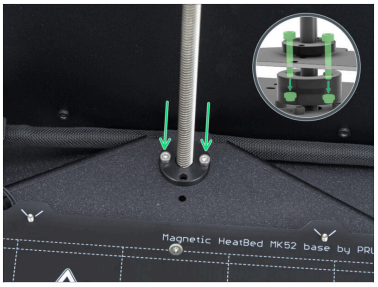
  ⚠ Note the orientation of the part and holes as shown. The holes must be parallel to the motor screw heads.
- Very carefully thread the heatbed assembly onto the threaded rods of the Z motors, then gently lay it down onto the base.

  ⚠ Keep in mind that there is a spacer on the rear motor. Avoid the spacer by the heatbed cable.
- The heatbed cable must run **under the heatbed** and **behind the rear motor**.

SCHRITT 32 Mounting the heatbed assembly: rear motor







- Ensure the heatbed assembly is seated correctly—all threaded rods pass through the correct holes.
- Double-check that the heatbed cable bundle (textile sleeve) runs properly—**it must go under the heatbed assembly** and **behind the threaded rod** of the rear motor.
- Manually thread the trapezoidal nut onto the rear Z motor. Screw the nut all the way down until it seats into the heatbed carriage.

  ⚠ Ensure the correct orientation of the part. **The protruding section must face downwards.**
- Align the holes in the trapezoidal nut, carriage and bed-spacer-rear.

  ⓘ It doesn't matter which holes you use in the trapezoidal nut.

  ⓘ Tip: You can push a 1.5 mm Allen key through the holes in all the parts to align them.
- Secure the trapezoidal nut, heatbed carriage and bed-spacer-rear together with two M3x18 screws.

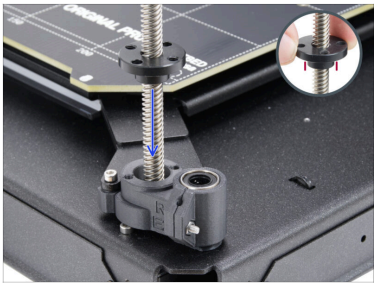
SCHRITT 33 Mounting the heatbed assembly: front motor left



- Manually thread the trapezoidal nut onto the **left** Z motor. Screw the nut all the way down until it seats into the plastic part.

  ⚠ Ensure the correct orientation of the part. **The protruding section must face downwards.**
- Align the holes in the trapezoidal nut with those in the plastic part. Either pair of holes can be used.
- Secure all the part together with two M3x18 screws.

SCHRITT 34 Mounting the heatbed assembly: front motor right

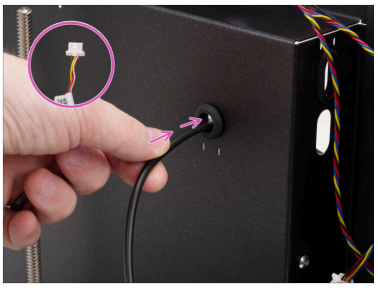
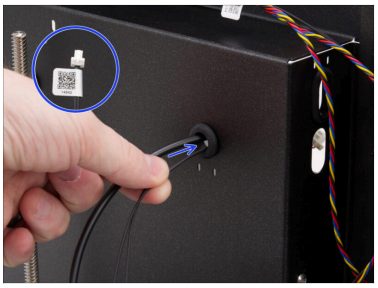
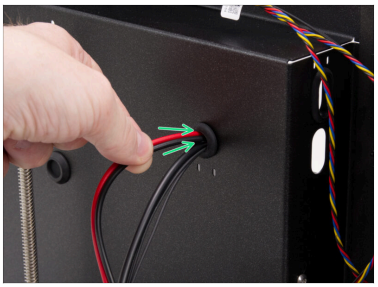


- Manually thread the trapezoidal nut onto the **right** Z motor. Screw the nut all the way down until it seats into the plastic part.

  ⚠ Ensure the correct orientation of the part. **The protruding section must face downwards.**

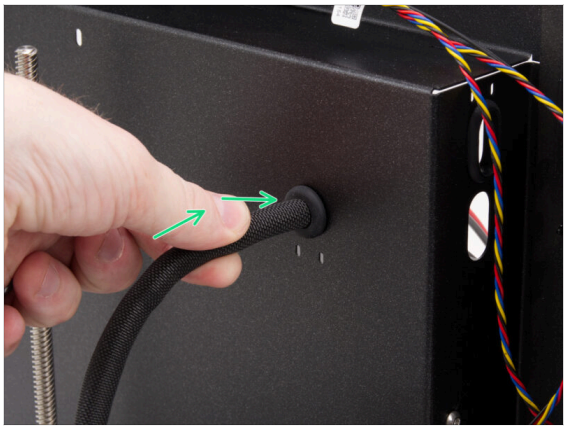
- Align the holes in the trapezoidal nut with those in the plastic part. Either pair of holes can be used.
- Secure all the part together with two M3x18 screws.

SCHRITT 35 Attaching the heatbed cables I.

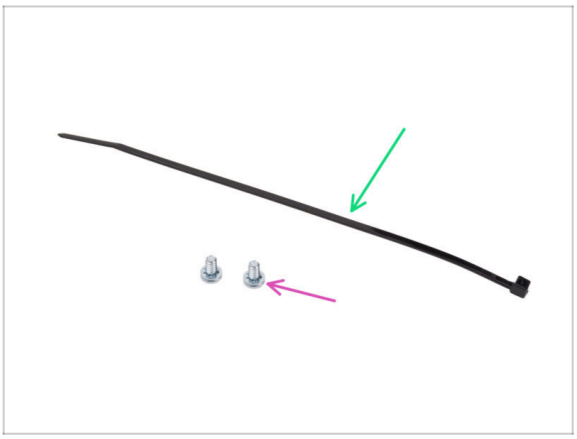
- Locate the grommet hole at the top right of the rear assembly and push the heatbed cables through in the following order:
  - Guide the RGB LED strip cable through the hole first.
  - Route the thermistor cable through.
  - Finally, insert both power cables through the hole.

SCHRITT 36 Attaching the heatbed cables II.



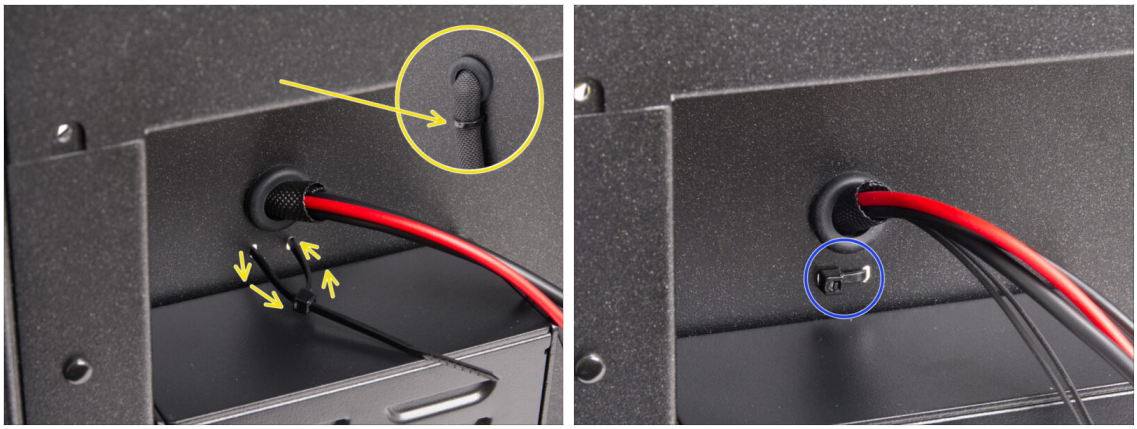
- Push the heatbed cables and the textile sleeve through the grommet hole.
  - No more than 1 cm (0.39 in) of the textile sleeve should protrude from the back side.

SCHRITT 37 Securing the heatbed cables: parts preparation



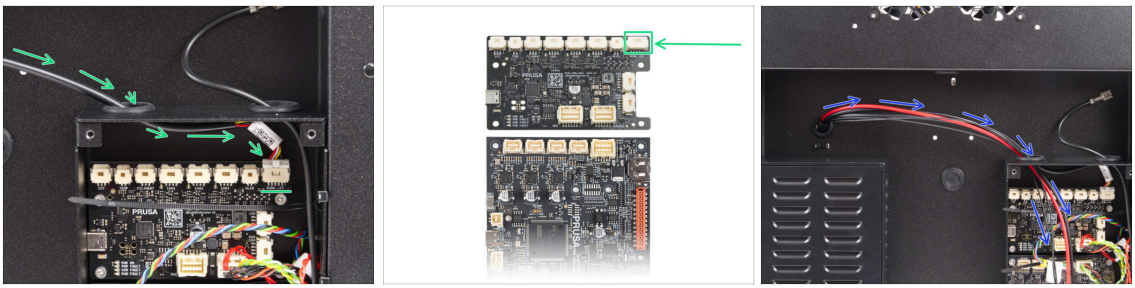
- **For the following steps, please prepare:**
- Kabelbinder (1x)
- 6/32" terminal screw (2x)

SCHRITT 38 Securing the textile sleeve



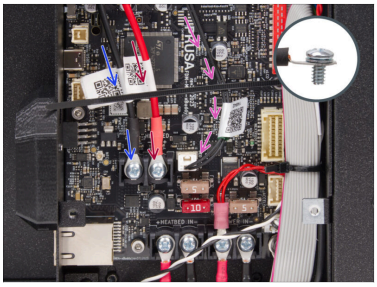
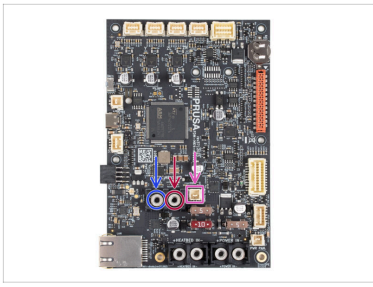
- Guide the zip tie through the two holes under the heatbed cables and make a loop around the heatbed cable bundle (textile sleeve) on the inside.
- Tighten the zip tie firmly and cut off the excess.

SCHRITT 39 Guiding the heatbed assembly cables



- Route the RGB LED strip cable through the left hole in the xBuddy box and connect it to the first slot on the xBuddy board labeled ‘RGBW LED.’
  - Connect it to the first slot from the right on the xBuddy extension board.
- Guide the heatbed power cables along with the thermistor through the left hole. Leave the cables hanging freely for now.

SCHRITT 40 Connecting the heatbed power cables

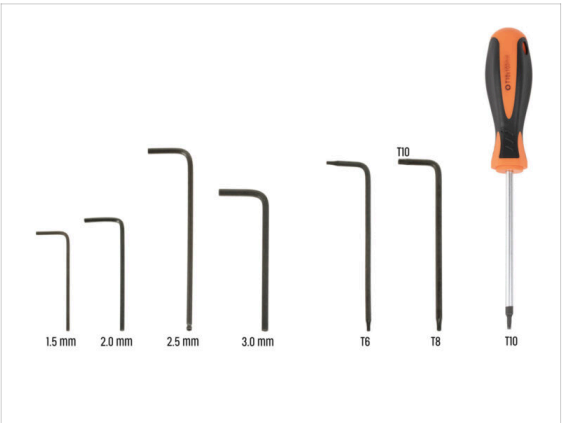
- Ensure that none of the heatbed cables run over the zip ties—they must be guided underneath.
- Using the 6-32 terminal screw, connect the **black** power cable to the **left** terminal on the xBuddy board. Tighten firmly.
- Using the 6-32 terminal screw, connect the **red** power cable to the **right** terminal. Tighten firmly.
- Plug the heatbed thermistor connector to the connector next to the power terminals.

SCHRITT 41 Haribo Zeit!

- Time for another quick energy boost!
- Eat the third row.
  - With one extra treat. You deserve it!

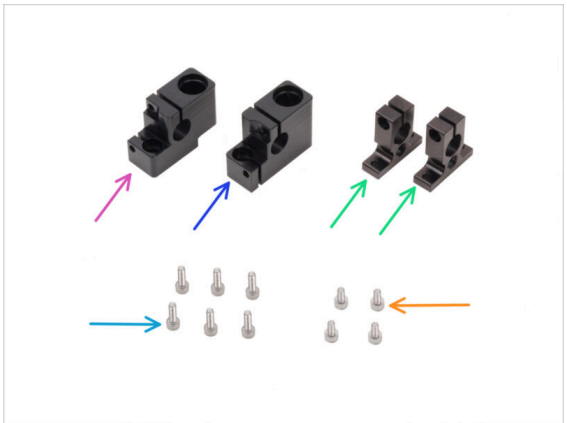
5. CoreXY Montage

SCHRITT 1 Tools necessary for this chapter



- **For this chapter, please prepare:**
- Spitzzange
- 2,0 mm Innensechskantschlüssel
- 2,5mm Innensechskantschlüssel
- T10 torx key / T10 torxy screwdriver

SCHRITT 2 Rod holders: parts preparation

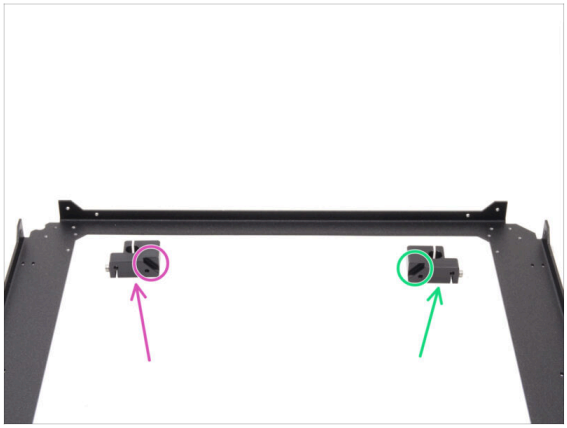


- **For the following steps, please prepare:**
- Rod holder left (1x) *found in the CORE XY parts + hinges + HB set package*
- Rod holder right (1x) *found in the CORE XY parts + hinges + HB set package*
- Rod holder rear (2x) *found in the CORE XY parts + hinges + HB set package*
- Schraube M3x10 (6x)
- Schraube M3x6 (4x)
- CoreXY plate (1x) *found in the Metal parts 1/3 package*

SCHRITT 3 Assembling the rod holders

- Insert two M3x10 screws into the Rod holder left and two into the Rod holder right.
  - **Do not tighten them completely,** a few turns are enough for now.
- Insert one M3x10 screw into each Rod holder rear. Insert from the **side with the screw head hole.**
  - **Do not tighten them completely**, a few turns are enough for now.

SCHRITT 4 Preparing the front rod holders

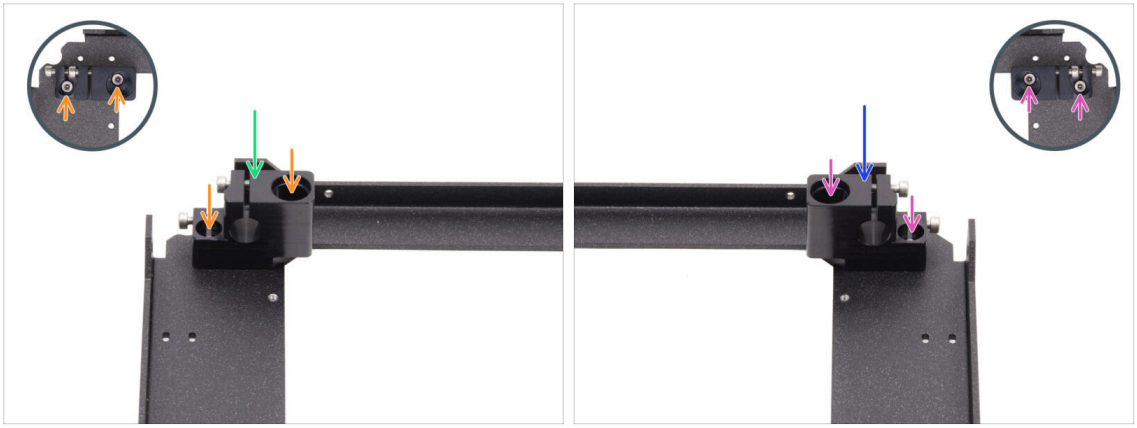


- Place the CoreXY plate as shown - the **bent parts of the plate must point upwards**.
- Divide the Rod holder left and the Rod holder right into the sides of the front:

  ⚠ Ensure you are preparing the correct part for the correct side. Use the chamfers on both parts as a reference for alignment.

  - **Rod-holder-left**
  - **Rod-holder-right**

SCHRITT 5 Installing the front rod holders

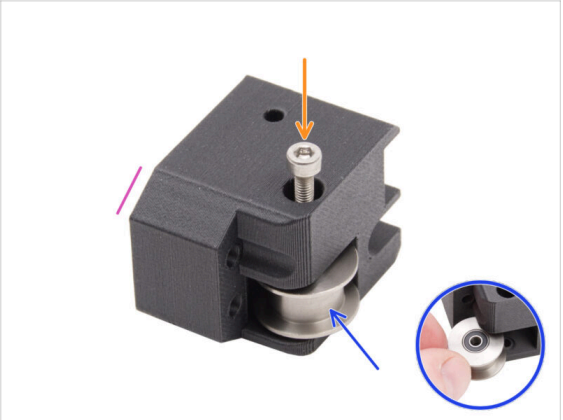


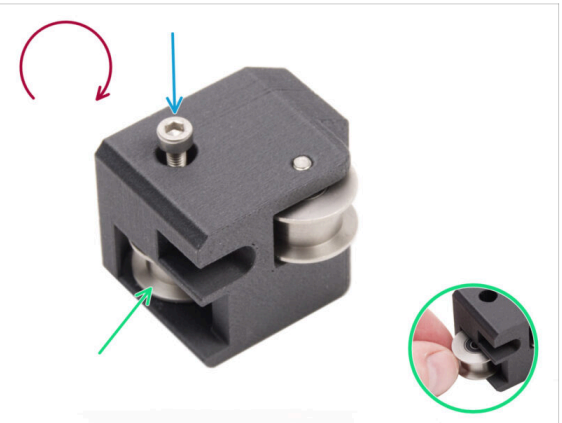
- Place the Rod holder left to the left front corner on the corresponding threaded holes.
- Secure it with two M3x6 screws.
- Place the Rod holder right to the right front corner on the corresponding threaded holes.
- Secure it with two M3x6 screws.

SCHRITT 6 XY carriage: parts preparation

- **For the following steps, please prepare:**
- Linear holder left (1x) *found in the Metal parts 1/3 package*
- Linear holder right (1x) *found in the Metal parts 1/3 package*
- XY-carriage (2x) *found in the Printed parts package*
- LM10LUU linear bearing (2x) *found in the CORE XY parts + hinges + HB set package*
- GT2-20 Idler pulley (4x) *found in the Electronics & Fasteners package*
- M3x8rT black screw (8x)
- Schraube M3x18 (10x)

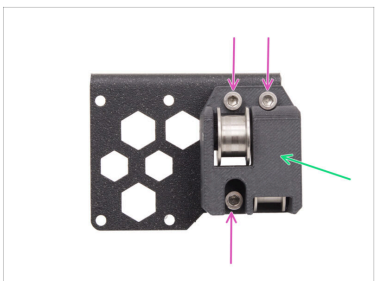
SCHRITT 7 Zusammenbau der XY-carriages





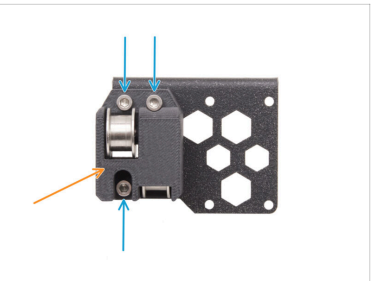
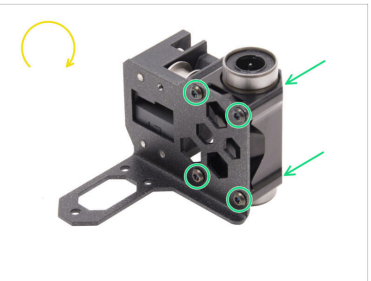
- Take one of the XY-carriage and orient it as shown. Use the beveled side as a guide.
- Insert the GT2-20 Idler pulley into the XY-carriage.
- Push one M3x18 screw through the pulley and tighten it completely down.
- Turn the part upside down.
- Insert another GT2-20 Idler pulley into the XY-carriage.
- Secure it with the M3x18 screw. Tighten it completely down.
- **Repeat the same procedure with the second XY-carriage.**

SCHRITT 8 Assembling the linear holder left



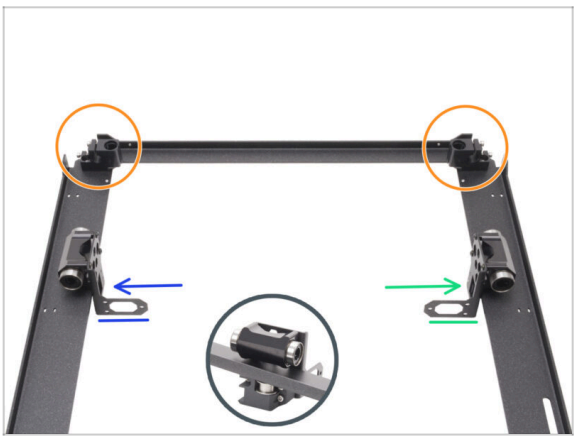
- Prepare the Linear holder **left** and position it as in the picture.
- Attach one of the XY-carriages to the Linear holder.
- Befestigen Sie ihn mit drei M3x18-Schrauben am Linear-holder.
- Turn the Linear holder upside down.
- From the XY-carriage side, attach the LM10LUU linear bearing to the holder and secure it with four M3x8rT screws.

SCHRITT 9 Assembling the linear holder right

- Prepare the Linear holder **right** and position it as in the picture.
- Attach one of the XY-carriages to the Linear holder.
- Befestigen Sie ihn mit drei M3x18-Schrauben am Linear-holder.
- Turn the Linear holder upside down.
- From the XY-carriage side, attach the LM10LUU linear bearing to the holder and secure it with four M3x8rT screws.

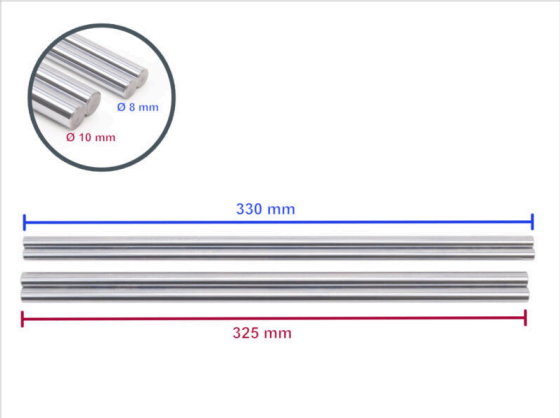
SCHRITT 10 Attaching the linear holder assemblies

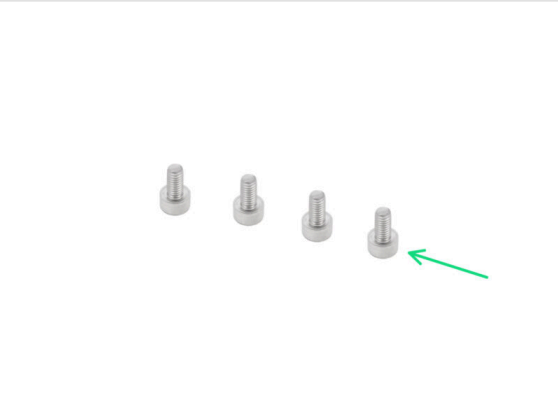


- Position the CoreXY plate as shown in the picture, ensuring the front rod holders are facing up.
- Slightly lift the CoreXY plate and from the plate's inner side loosely attach the Linear holder of the assemblies.
  - **Linear-holder-left**
  - **Linear-holder-right**

ⓘ The linear holders are now only loosely seated.

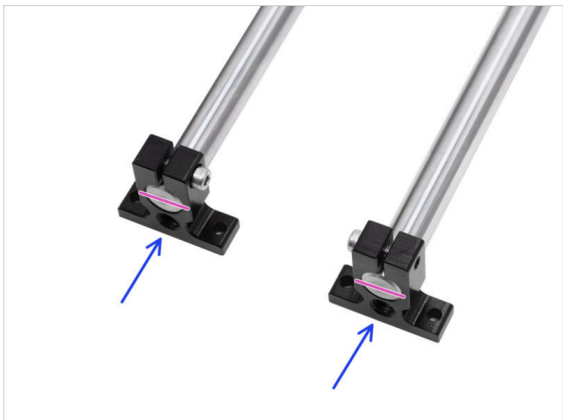
SCHRITT 11 Glatte Stangen INFO





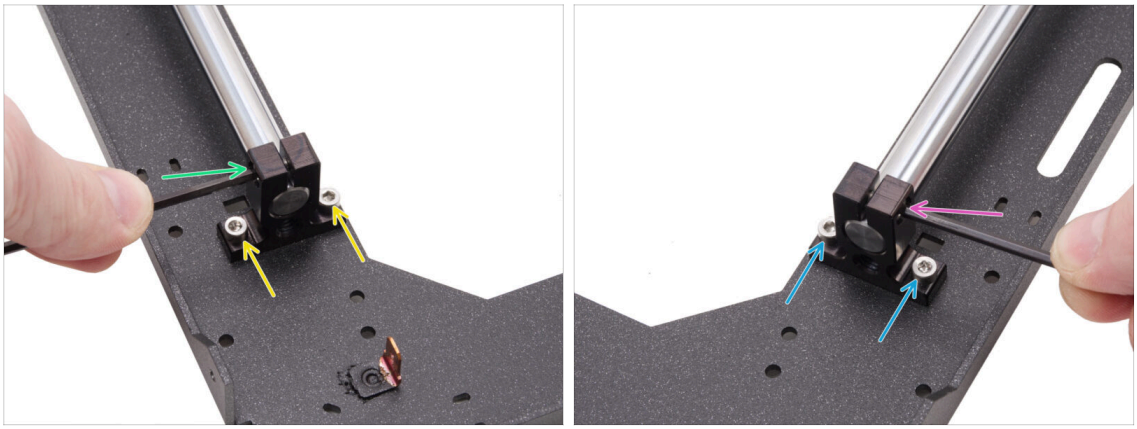
- The printer requires different smooth rod sizes. Ensure you have the correct ones:
  - Smooth rod 330 x 8 mm (2x)
  - Smooth rod 325 x 10 mm (2x)
    originally from the Z-axis,
    are needed for the following steps.
- **Bereiten Sie auch vor:**
  - Schraube M3x6 (4x)

SCHRITT 12 Mounting the smooth rods



- Slide both rear rod holders onto both 10mm smooth rods.
- Line up the ends of the rods with the holders.
- Push both 10mm smooth rods through the LM10LUU bearing to the front rod holders.
  - Make sure the screws on the rear rod holders are pointing out of the frame.
- Line up the front end of the 10mm smooth rods with the front rod holders.

SCHRITT 13 Securing the rear rod holders



- Line up the left rear rod holder with the threaded holes in the plate.
- Fix it with two M3x6 screws.
- Firmly tighten the screw in the rod holder.
- Line up the right rear rod holder with the threaded holes in the plate.
- Fix it with two M3x6 screws.
- Firmly tighten the screw in the rod holder.

SCHRITT 14 Securing the front rod holders

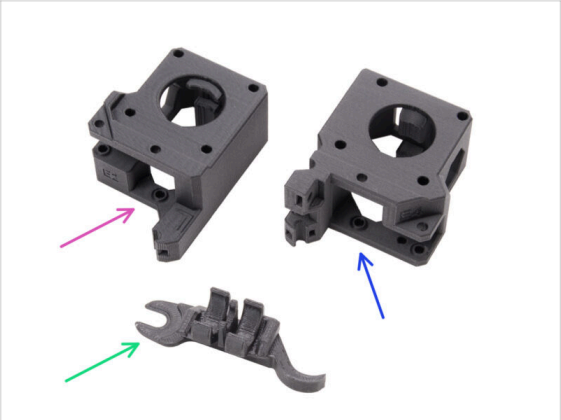
- Focus on the front left holder (now on the right) and secure the rod by tightening the screw in the holder.

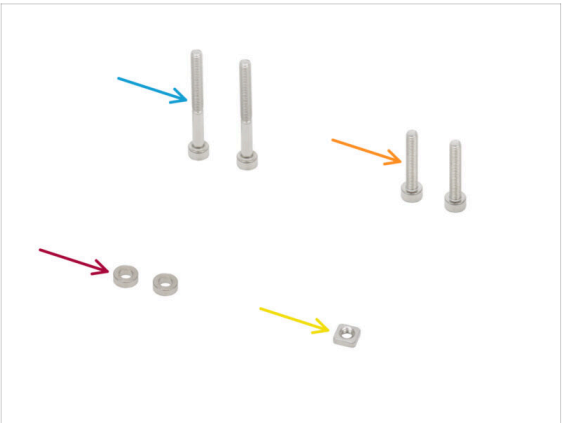
  ⚠ **Do not tighten the bottom screw.**

- Focus on the front right holder (now on the left) and secure the rod by tightening the screw in the holder.

  ⚠ **Do not tighten the bottom screw.**

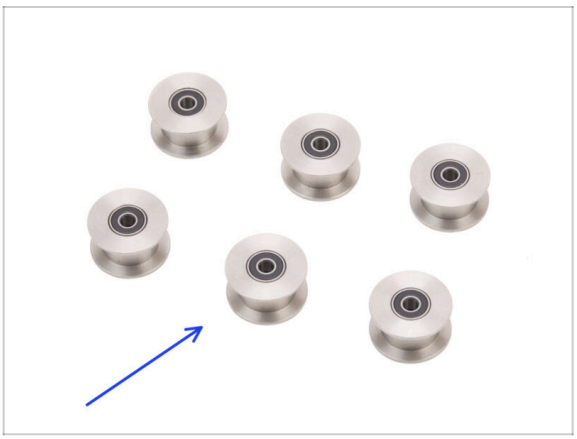
SCHRITT 15 Motor mounts: parts preparation





- **For the following steps, please prepare:**
- XY-motor-mount-left (1x) *found in the Printed parts package*
- XY-motor-mount-right (1x) *found in the Printed parts package*
- Assembly-multi-tool (1x) *you already used*
- Schraube M3x30 (2x)
- Schraube M3x18 (2x)
- Spacer 3.2/6x2 (2x) *found in the Electronics & Fasteners package*
- M3nS Mutter (1x)
- ⓘ The list continues in the next step...

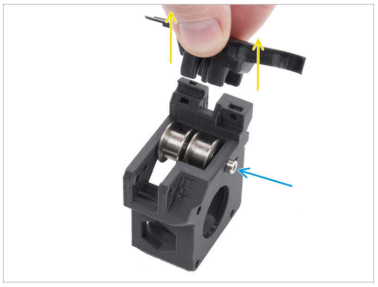
SCHRITT 16 Motor mounts: part preparation



- GT2-20 Idler pulley (6x) *found in the Electronics & Fasteners package*

SCHRITT 17 Assembling the XY-motor-mount-right I.





- Setzen Sie eine Riemenscheibe in die untere Position im Assembly-multi-tool ein.
- Insert the spacer 3.2 on the pulley.
- Setzen Sie die zweite Riemenscheibe in das Assembly-multi-tool ein.
- Insert the whole assembly into the XY-motor-mount-right.
  - Position the part according to the picture. Note the beveled corner.
- Align holes in both parts and secure it with the M3x30 screw.

  Das Kunststoffteil hat kein vorgeschnittenes Gewinde, so dass die Schraube dieses beim Anziehen erzeugt. Ein leichter Widerstand ist zu erwarten.
- Entfernen Sie das Assembly-multi-tool.

SCHRITT 18 Assembling the XY-motor-mount-right II.


- Insert another pulley into the XY-motor-mount-right.
- Secure it with M3x18 screw.

  Das Kunststoffteil hat kein vorgeschnittenes Gewinde, so dass die Schraube dieses beim Anziehen erzeugt. Ein leichter Widerstand ist zu erwarten.
- Insert the M3nS nut into the XY-motor-mount-right.

SCHRITT 19 Assembling the XY-motor-mount-left I.



- Setzen Sie eine Riemenscheibe in die untere Position im Assembly-multi-tool ein.
- Insert the spacer 3.2 on the pulley.
- Setzen Sie die zweite Riemenscheibe in das Assembly-multi-tool ein.
- Insert the whole assembly into the XY-motor-mount-left.
  - Position the part according to the picture. Note the bevel next to the screw hole.
- Align holes in both parts and secure it with the M3x30 screw.

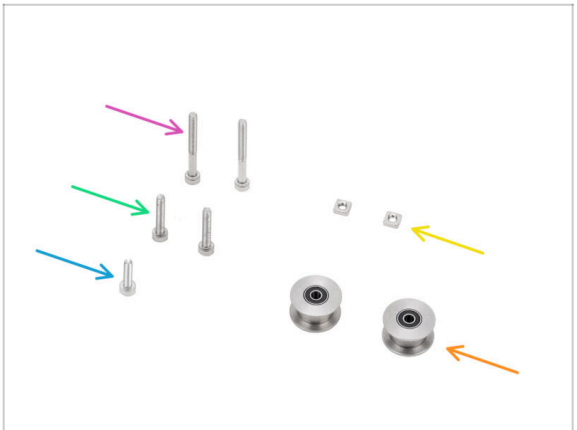
  ⓘ Das Kunststoffteil hat kein vorgeschnittenes Gewinde, so dass die Schraube dieses beim Anziehen erzeugt. Ein leichter Widerstand ist zu erwarten.
- Entfernen Sie das Assembly-multi-tool.

SCHRITT 20 Assembling the XY-motor-mount-left II.


- Insert another pulley into the part.
- Secure it with M3x18 screw. **Do not overtighten the screw.**

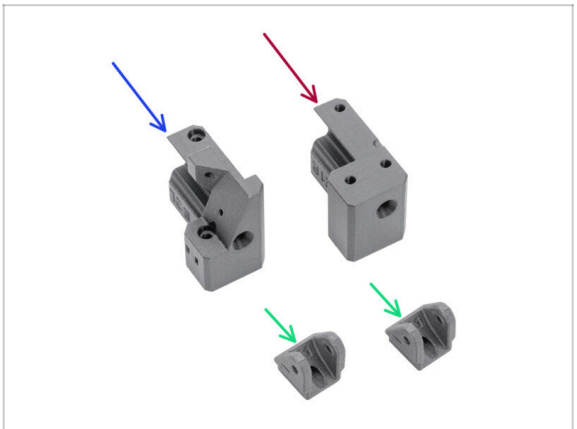
  ⓘ Das Kunststoffteil hat kein vorgeschnittenes Gewinde, so dass die Schraube dieses beim Anziehen erzeugt. Ein leichter Widerstand ist zu erwarten.

SCHRITT 21 Belt tensioners: parts preparation I.



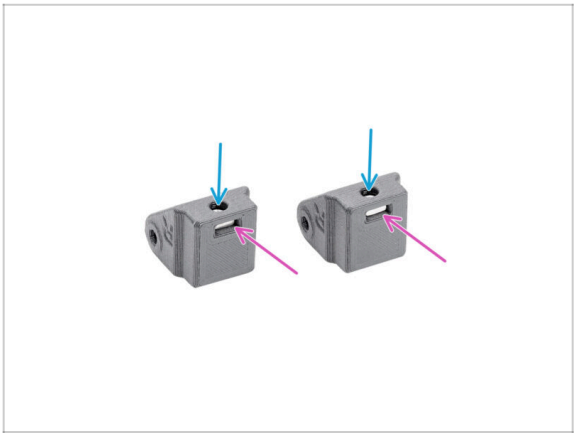
- **For the following steps, please prepare:**
- GT2-20 Idler pulley (2x) *you have removed from the MK4S*
- Schraube M3x30 (2x)
- Schraube M3x18 (2x)
- Schraube M3x12 (1x)
- M3nS Mutter (2x)
- The list continues in the next step...

SCHRITT 22 Belt tensioners: parts preparation II.



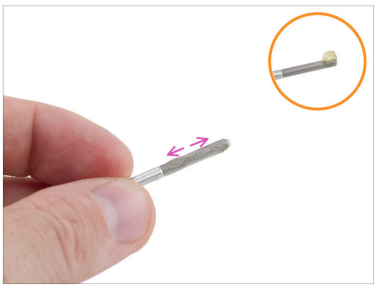
- **For the following steps, please prepare:**
- Belt-tensioner-left (1x) *found in the Printed parts package*
- Belt-tensioner-right (1x) *found in the Printed parts package*
- Belt-tensioner-pulley (2x) *found in the Printed parts package*

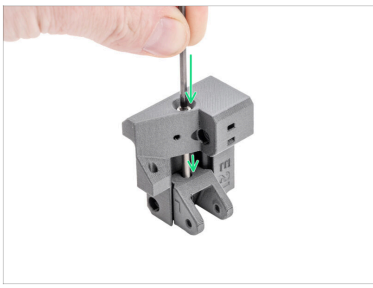
SCHRITT 23 Vorbereiten der Spann-Riemenscheiben



- Insert one M3nS nut into each Belt-tensioner-pulley.
- Stellen Sie sicher, dass die Muttern richtig in die Teile eingesetzt sind. Die Löcher in den Muttern und den Teilen müssen **aufeinander ausgerichtet sein**.
- **Halten Sie beide Teile in dieser Position.**

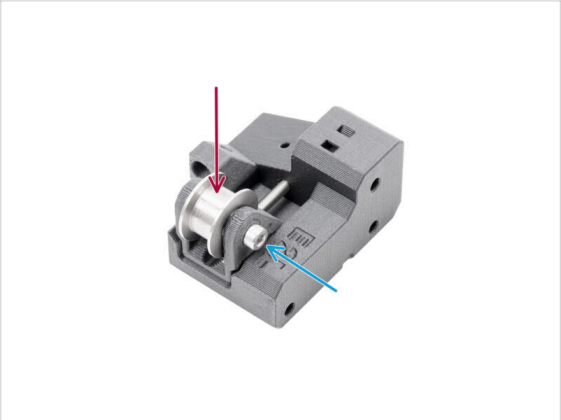
SCHRITT 24 Assembling the belt tensioner left I.





- Tragen Sie eine kleine Menge Prusa-Schmiermittel auf die Spitze der beiden M3x30-Schrauben auf.
- Verteilen Sie das Schmiermittel gleichmäßig auf dem gesamten Gewinde.
  - ⓘ Tipp: Verwenden Sie die Spitze eines Kabelbinders, um das Schmiermittel zu verteilen.
- Slide the Belt-tensioner-**left** onto the Belt-tensioner-pulley.
  - **Ensure the parts are oriented correctly**, as shown.
- Insert the M3x30 screw through the Belt-tensioner-left into the Belt-tensioner-pulley. **Do not tighten completely!** 3-4 turns are sufficient.

SCHRITT 25 Assembling the belt tensioner left II.

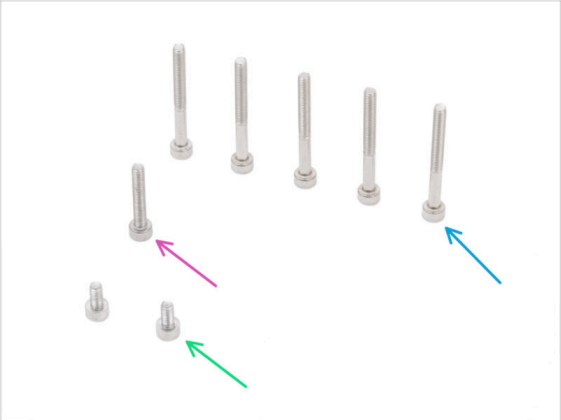


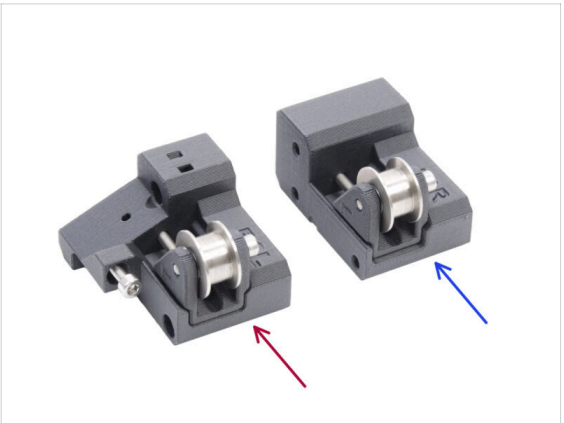
- Insert the GT2-20 Idler pulley into the Belt-tensioner-pulley.
- Secure it with the M3x18 screw.
  - ⓘ Das Kunststoffteil hat kein vorgeschnittenes Gewinde, so dass die Schraube dieses beim Anziehen erzeugt. Ein leichter Widerstand ist zu erwarten.
- Insert the M3x12 screw into the Belt-tensioner-left. Tighten slightly—five turns are enough. It must not protrude through the other side.
  - ⓘ Note: This screw, referred to as the tensioning screw, will later be used to adjust the door sensor.

SCHRITT 26 Assembling the belt tensioner right

- Slide the Belt-tensioner-**right** onto the Belt-tensioner-pulley.
  - **Ensure the parts are oriented correctly**, as shown.
- Insert the M3x30 screw through the Belt-tensioner-right into the Belt-tensioner-pulley. **Do not tighten completely!** 3-4 turns are sufficient.
- Insert the GT2-20 Idler pulley pulley into the Belt-tensioner-pulley-right.
- Secure it with the M3x18 screw.
  - ⓘ Das Kunststoffteil hat kein vorgeschnittenes Gewinde, so dass die Schraube dieses beim Anziehen erzeugt. Ein leichter Widerstand ist zu erwarten.

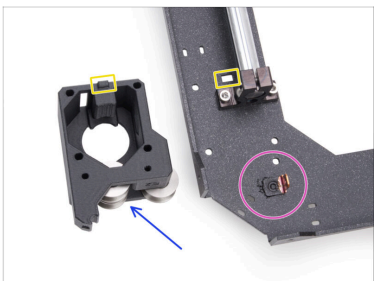
SCHRITT 27 Installing the belt tensioners: parts preparation

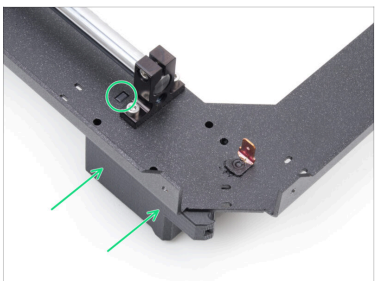


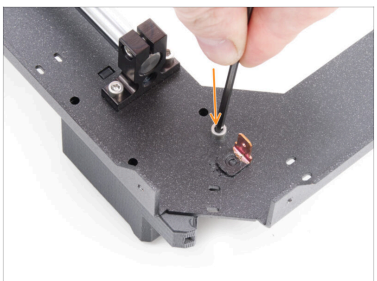


- **For the following steps, please prepare:**
- Schraube M3x30 (5x)
- Schraube M3x18 (1x)
- Schraube M3x6 (2x)
- Belt tensioner left assembly (1x) *you assembled earlier*
- Belt tensioner right assembly (1x) *you assembled earlier*

SCHRITT 28 Installing the motor mount left

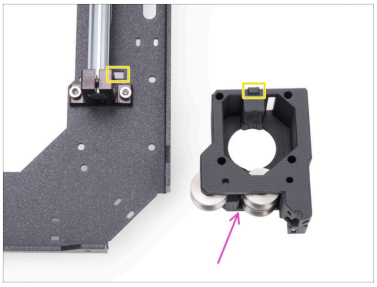
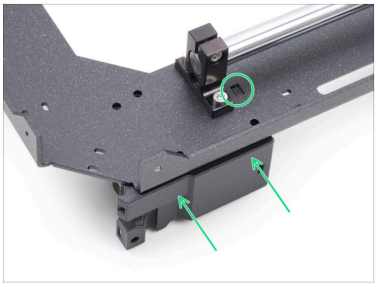
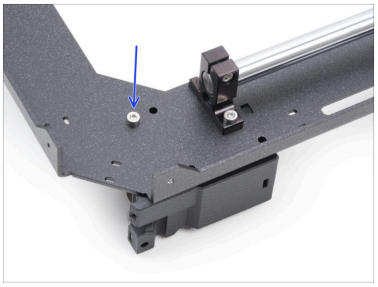






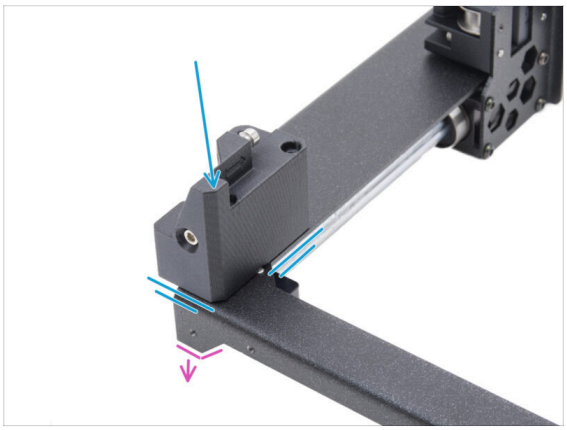
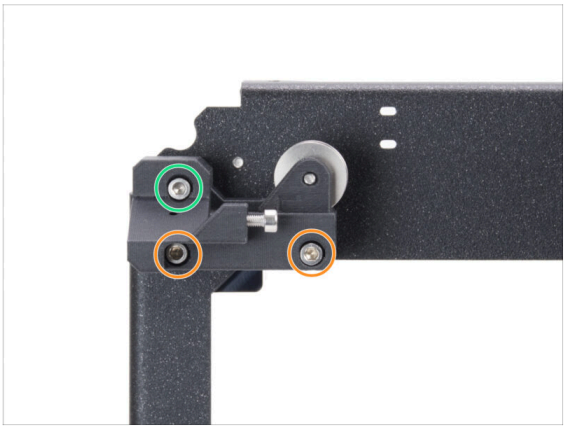
- Locate the corner of the CoreXY plate with the Faston connector on it. It is on the underside of the assembly.
- Position the motor-mount-**left** on the CoreXY plate as shown in the picture.
- Note the rectangular protrusion on the motor-mount-left and the rectangular cutout on the CoreXY plate.
- Schieben Sie den Motor-mount-left unter die CoreXY-plate und achten Sie darauf, dass der rechteckige Vorsprung in die Aussparung passt.
- Align the holes in both parts and secure them with an M3x6 screw in the designated hole

SCHRITT 29 Installing the motor mount right

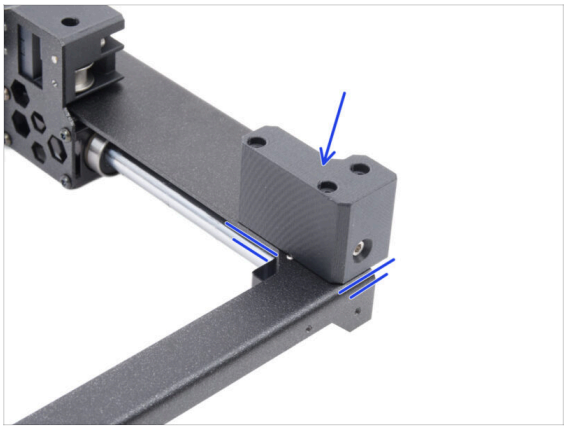
- Position the motor-mount-**right** on the CoreXY plate as shown in the picture.
- Beachten Sie den rechteckigen Vorsprung auf der Motor-mount-right und den rechteckigen Ausschnitt auf der CoreXY-plate.
- Schieben Sie den Motor-mount-right unter die CoreXY-plate und achten Sie darauf, dass der rechteckige Vorsprung in die Aussparung passt.
- Align the holes in both parts and secure them with an M3x6 screw in the designated hole

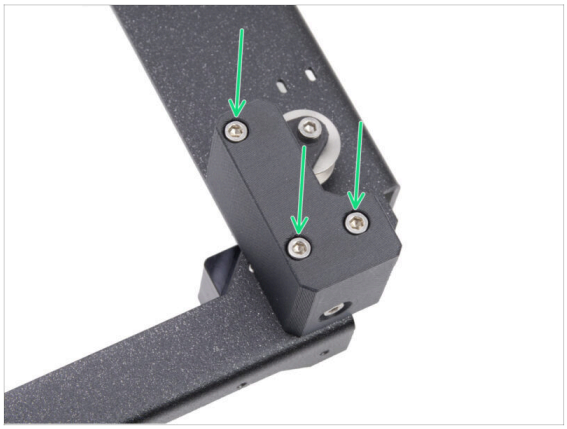
SCHRITT 30 Installieren des Belt-tensioner-left

- Turn the CoreXY assembly upside down so that the bent parts face downward. Focus on the front left corner on the assembly.
- Place the belt-tensioner-**left** assembly in the front left corner of the CoreXY plate. Align it with the front and inner side edges.
  - Line up the holes in both parts.
- Secure the part with two M3x30 screws.
- Insert and tighten one M3x18 screw.

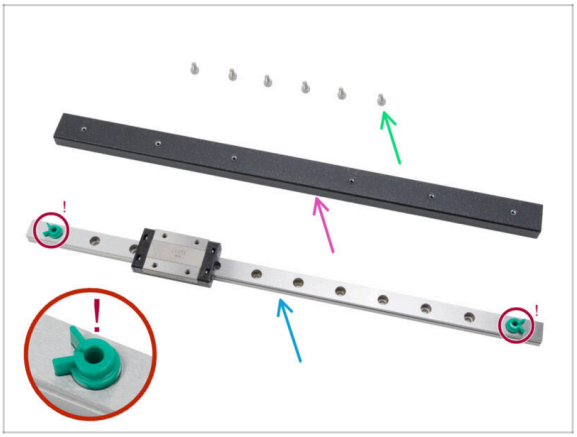
SCHRITT 31 Installieren des Belt-tensioner-right





- Place the belt-tensioner-**right** assembly in the front right corner. Align it with the front and inner side edges.
  - Line up the holes in both parts.
- Secure the part with three M3x30 screws.

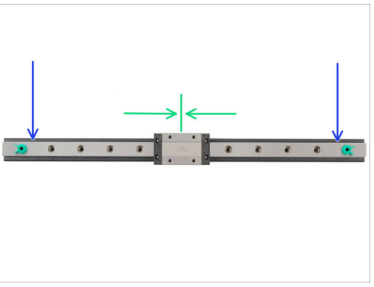
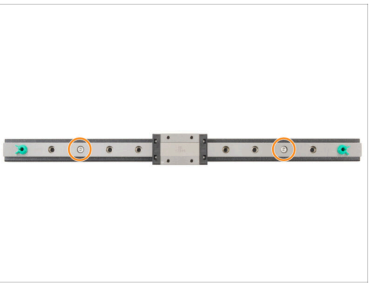
SCHRITT 32 Linear rail: parts preparation



- **Bereiten Sie bitte für die folgenden Schritte vor:**
- Schraube M3x6 (6x)
- Linear rail beam (1x) *found in the Metal parts 3/3 package*
- Linear rail (1x) *found in the Electronics & Chamber parts package*

  ⚠ **Under no circumstances remove the green anti-ejection safety pins.** Wait for the prompt in the instructions.
- Piece of cloth or a paper towels *to wipe the preservative lubricant from the linear guide.*

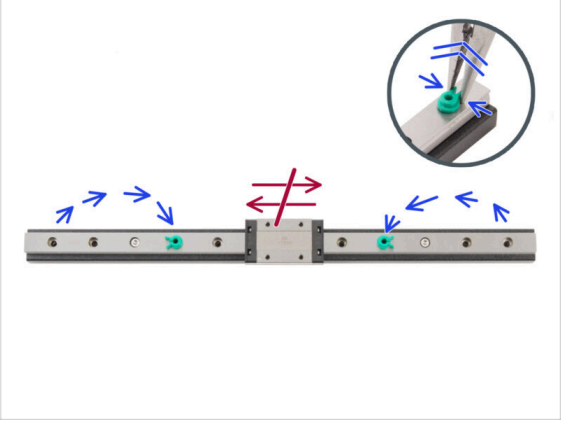
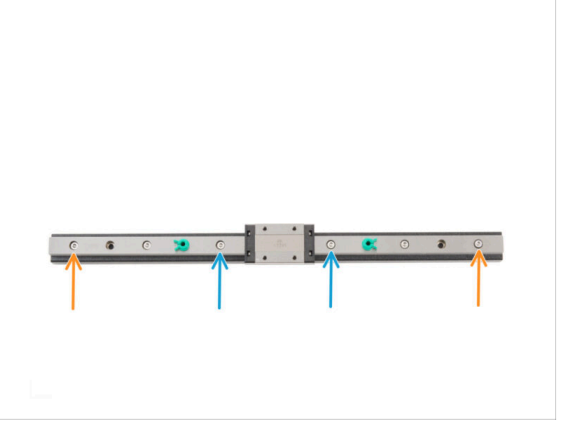
SCHRITT 33 Attaching the linear rail

⚠ **Entfernen Sie unter keinen Umständen die grünen Sicherungsstifte gegen Herausfallen.** Warten Sie auf die Aufforderung in der Anleitung.

- Immediately after removing the linear guide from the package, wipe off the preservative lubricant with a paper towel.
- Attach the linear rail on the linear rail beam and line up the holes in both parts.
- Insert and slightly tighten two M3x6 screws into the third holes from both ends.
- Move the linear carriage approximately to the center of the rail.

SCHRITT 34 Securing the linear rail

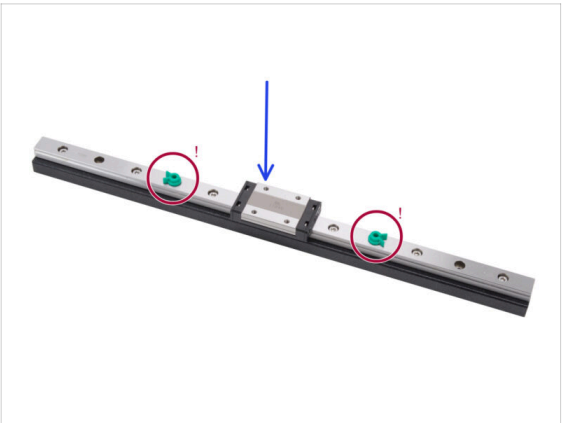



⚠ **Bewegen Sie den Linearschlitten in diesem Schritt auf keinen Fall.**

- Relocate the safety pins from each end to the fourth holes from the ends of the linear rail.
  - Gently squeeze the safety pin with needle-nose pliers and pull it out.
- Insert two M3x6 screws into the fifth holes from the ends of the rail. **Tighten just slightly.**
- Setzen Sie zwei M3x6-Schrauben in die ersten Löcher in der Schiene ein. **Ziehen Sie sie nur leicht an.**

⚠ **Do not remove the safety pins from the rail.**

SCHRITT 35 Installing the linear rail: parts preparation

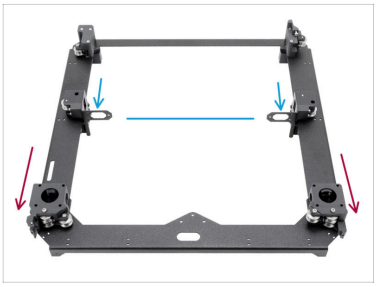


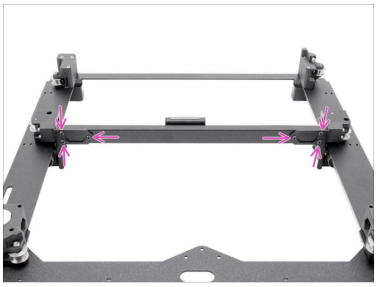
- **Bereiten Sie bitte für die folgenden Schritte vor:**
- Schraube M3x8rT (6x)

  ⓘ There are both M3x8rT and M3x8 screws in the kit. Make sure you have prepared the correct ones.
- Linear rail assembly (1x) *you assembled earlier*

  ⚠ **Entfernen Sie nicht die Sicherungsstifte.**

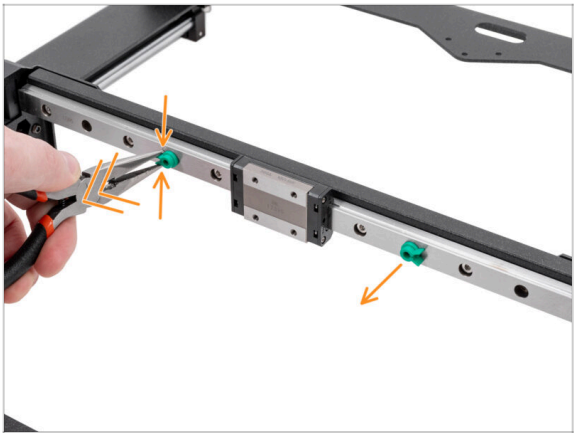
SCHRITT 36 Installing the linear rail assembly





- Positionieren Sie die Baugruppe so, dass die Motorhalterungen zu Ihnen zeigen.
- Move both linear holders approximately to the center of the Y-axis.
- Attach the linear rail assembly to the holders from the front side of the assembly.
- Secure it with three M3x8rT screws from the back side on both the left and right sides.

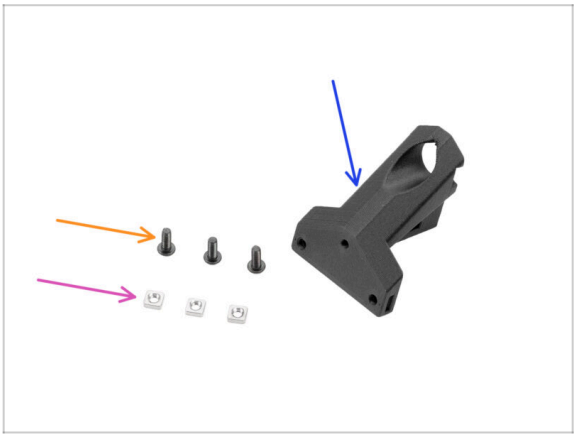
SCHRITT 37 Linear rail: removing the safety pins



- Drücken Sie die beiden Sicherheitsstifte vorsichtig mit einer Spitzzange zusammen und ziehen Sie sie aus der Linearschiene heraus.

ⓘ You can discard the safety pins as they are no longer needed.

SCHRITT 38 Bed-stop: Vorbereitung der Teile



- **Bereiten Sie bitte für die folgenden Schritte vor:**
- Bed-stop-rear (1x) *found in the Printed parts package*
- M3nS Mutter (3x)
- Schraube M3x8rT (3x)

SCHRITT 39 Zusammenbau des Bed-stop

- Setzen Sie zwei M3nS-Muttern von einer Seite in den Bed-stop ein.
- Insert one M3nS nut into the bed-stop from the other side.

SCHRITT 40 Anbringen des Bed-stop



- Positionieren Sie die CoreXY-Baugruppe wie abgebildet, wobei die Motorhalterungen nach oben zeigen müssen.
- Focus on the triangle protrusion on the metal part.
- Insert the bed-stop-rear **under** the protrusion at the back of the CoreXY plate.
  - Align all three holes in both parts.
- Befestigen Sie beide Teile mit drei Schrauben M3x8rT.

  ⓘ The upper screw is screwed into plastic with no pre-cut thread. It cuts the thread as it's tightened. Slight resistance is expected.

SCHRITT 41 X&Y motors: parts preparation


- **Bereiten Sie bitte für die folgenden Schritte vor:**
- Motor für die Y-Achse (1x)
- Motor für die X-Achse (1x)

  ⓘ Note that the motors are marked as X and Y-axes in order to distinguish between them. We will continue to follow this marking.
- Riemenscheibe T16-2GT (2x)
- Assembly-multi-tool (1x) *you already used*

SCHRITT 42 Installing the X-axis pulley

- Bereiten Sie den Motor der **X-Achse** vor.
- Note the flat part on the motor shaft.
- ⚠ Slide the Pulley on, **note the CORRECT orientation.**
  - Rotate the motor shaft with the flat part facing you.
- Using the fork on the Assembly-multi-tool set a gap between the pulley and the motor.
- Push the pulley on the tool and firmly tighten the screw against the flat part on the shaft.
- Rotate the pulley and firmly tighten the second grub screw.
- ⚠ Überprüfen Sie die Ausrichtung der Riemenscheibe. Die **Zahnseite der Riemenscheibe muss sich auf der Motorseite befinden.**

SCHRITT 43 Installing the Y-axis pulley

- Bereiten Sie den Motor der **Y-Achse** vor.
- Note the flat part on the motor shaft. Rotate the motor shaft with the flat part facing you.
- ⚠ Schieben Sie die Riemenscheibe auf und **achten Sie auf die RICHTIGE Ausrichtung**. Die **Riemenscheibe der Y-Achse hat eine andere Ausrichtung als die der X-Achse.** Stellen Sie sicher, dass die Zähne der Riemenscheibe vom Motor weg zeigen. Verwenden Sie den breiteren Haken des Montagewerkzeugs.
- Mit dem Haken des Assembly-multi-tools den dickeren, gebogenen Teil zwischen die Riemenscheibe und den Motor legen.

  Versuchen Sie nicht, den Haken um die Welle zu legen. Legen Sie das Werkzeug einfach an den Motor an und stellen Sie sicher, dass die Hakenspitze zwischen Motor und Riemenscheibe gleitet.
- Push the pulley on the tool and firmly tighten the screw against the flat part on the shaft.
- Rotate the pulley and firmly tighten the second grub screw.
- ⚠ Überprüfen Sie die Ausrichtung der Riemenscheibe. Die **Zähne müssen vom Motor weg zeigen**.

SCHRITT 44 XY belts: parts preparation



- **Bereiten Sie bitte für die folgenden Schritte vor:**
- X-axis motor assembly (1x) *you assembled earlier*
- Y-axis motor assembly (1x) *you assembled earlier*
- XY belt (2x) *found in the CORE XY parts + hinges + HB set package*
- Nextruder holder (1x) *found in the CORE XY parts + hinges + HB set package*
- Schraube M3x35 (8x)

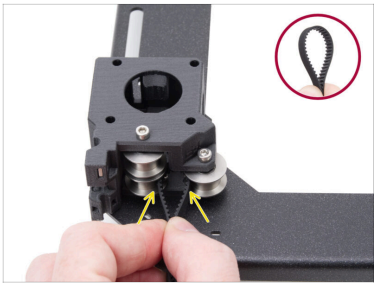
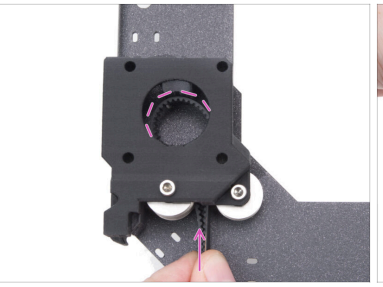
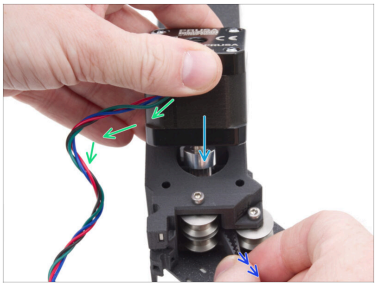
SCHRITT 45 XY Riemen INFO

ⓘ The next steps cover belt installation and guiding on the core XY assembly. Before starting, refer to the illustration for an overview and better understanding of each belt's path.

- X-axis belt - at the **top position**
- Y-axis belt - at the **bottom position**

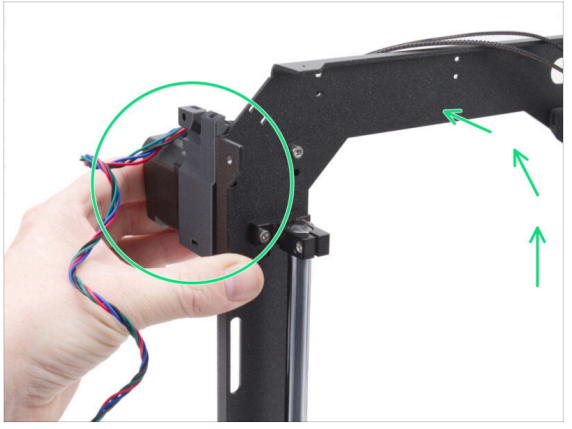
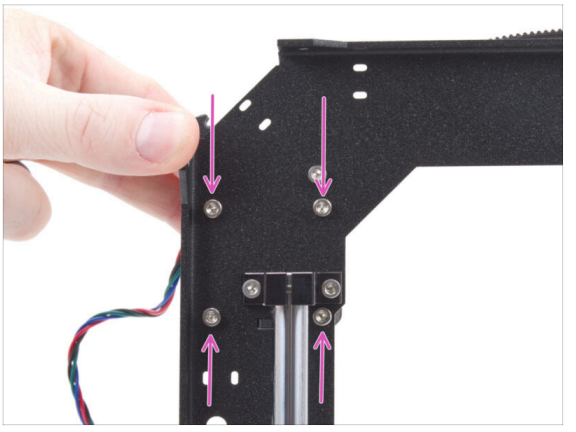
- Let's guide the belts step by step...

SCHRITT 46 Y belt guiding: Y motor pulley

- From the back of the CoreXY, focus on the motor-mount on the **left** side.
- Create a loop anywhere on the belt so the **belt teeth are pointing inside** the loop.
- Push this loop through the space between the lower pulleys inside the motor mount.
- Push through enough to make the loop follow the top round hole of the motor-mount as closely as possible.
- Insert the **Y** motor into the motor holder, the pulley must be in the middle of the belt loop.
- Insert the Y motor pulley into the motor mount, ensuring the pulley is centered within the belt loop.
  Fully attach the motor to the motor-mount with the motor cable facing you.
- Pull lightly on the belt loop to encircle the pulley.

SCHRITT 47 Securing the Y-axis motor

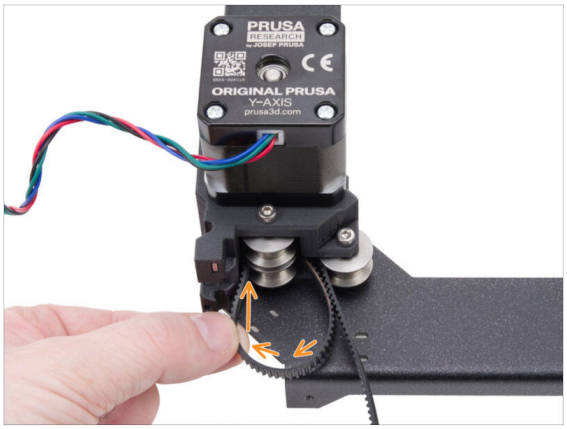



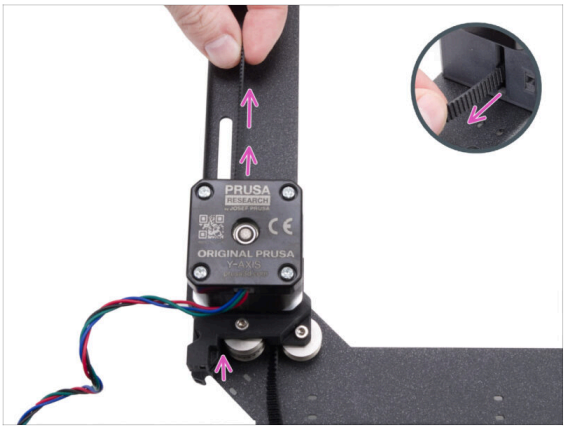
- Firmly grasp the Y-axis motor assembly and position the CoreXY assembly vertically. **Do not drop the motor!**

⚠ Be careful not to pull the entire belt out of the motor.

- Keep holding the motor with one hand. With the other hand, secure the motor using four M3x35 screws on the underside of the frame. **Tighten firmly**.
- Place the CoreXY assembly back into the horizontal position.

SCHRITT 48 Y belt guiding: Y motor mount

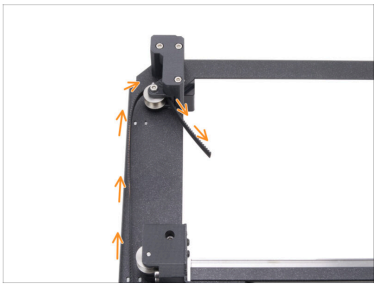


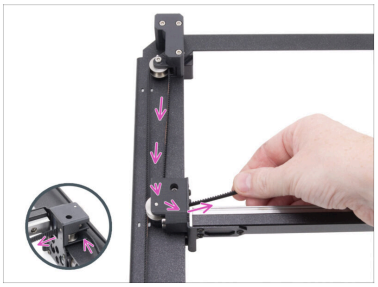


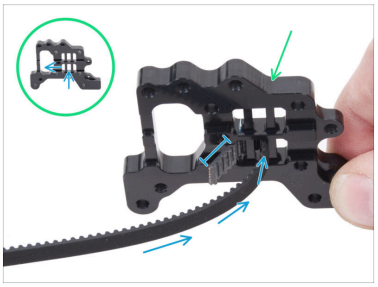
- Guide the left end of the belt around the lower left pulley.
- Push the belt through the part and guide it to the front of the CoreXY plate.

⚠ **Don't pull too long so you don't pull the whole belt out.** Remember that the other end is loose. The whole process would then have to be repeated.

SCHRITT 49 Y belt guiding: belt tensioner



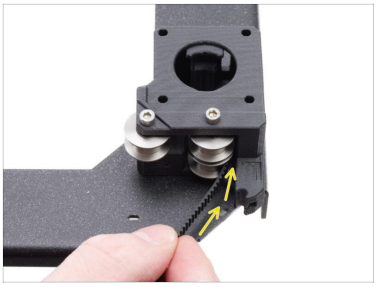
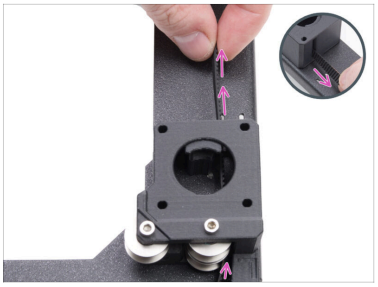
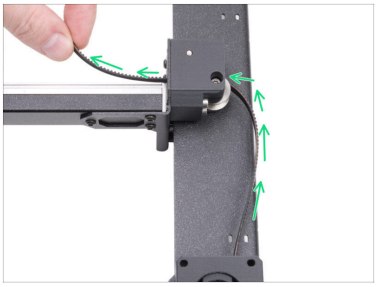




- Führen Sie den Riemen um die Riemenscheibe im Riemenspanner.
- Push the belt around the front pulley in the linear assembly.
- Prepare the Nextruder holder in the same orientation as in the picture. Note the holes for securing the belts.
- Push the end of the belt through the middle hole into the left hole in the bottom row - leave 4-5 teeth sticking out.

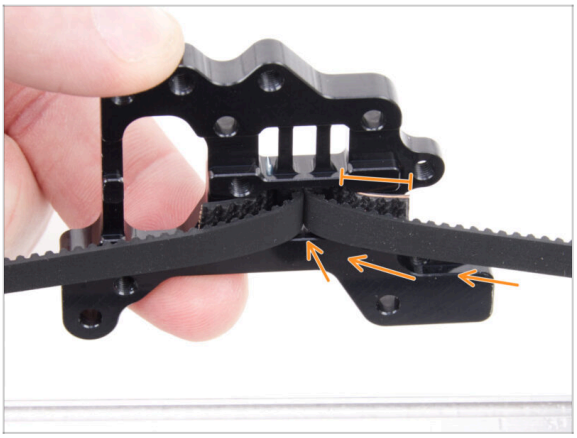
ⓘ The belt is secured on this end. You can leave it free for now.

SCHRITT 50 Y belt guiding: X motor mount

- Back to the other end of the Y belt.
- Take the other end of the belt and guide it around the lower pulley in the X motor mount.
- Push it through the motor mount to the front.
- Route the belt around the lower right pulley in the linear rail holder.

SCHRITT 51 Y belt guiding: securing the belt

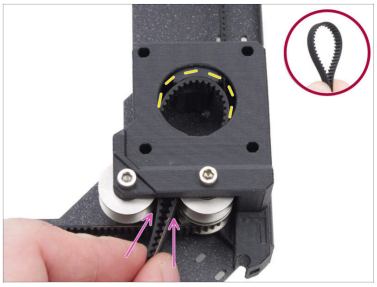
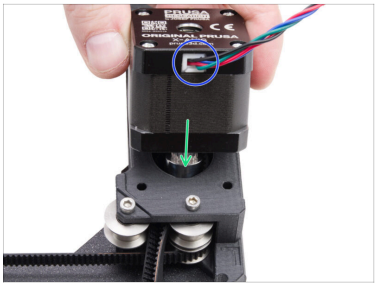
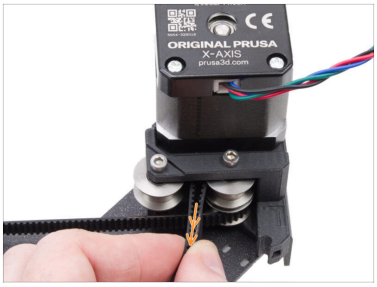


- Push the end of the belt through the middle hole to the right hole in the bottom row of the Nextruder holder - leave 4-5 teeth sticking out.

ⓘ If it's difficult to reach the Nextruder holder with the belt, you can loosen the belt tensioner screw on the front of the assembly.

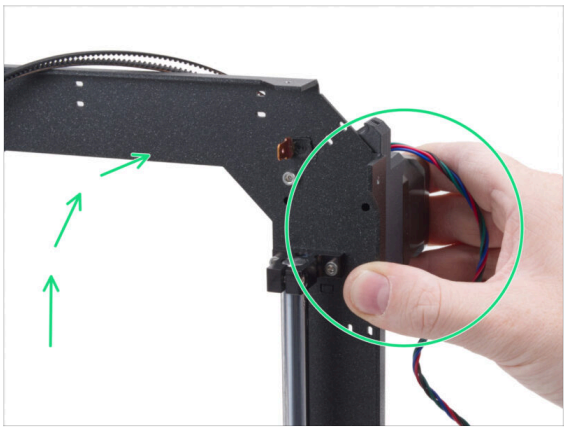
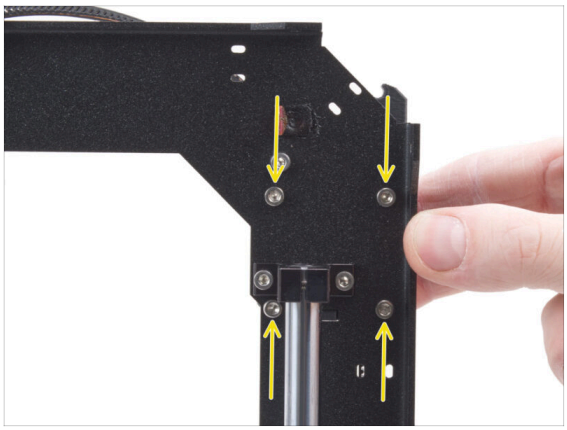
Don't forget to adjust it back after securing the belt.

SCHRITT 52 X belt guiding: X motor pulley

- From the back of the CoreXY, focus on the motor-mount on the **right** side.
- Create a loop anywhere on the second belt so the belt teeth are pointing inside the loop.
- Push this loop through the space between the upper pulleys inside the motor mount.
- Push through enough to make the loop follow the top round hole of the motor-mount as closely as possible.
- Insert the **X** motor pulley into the motor mount, ensuring the pulley is centered within the belt loop.
- Ensure the motor cable is facing you (rear).
- Pull lightly on the belt loop to encircle the pulley.

SCHRITT 53 Securing the X-axis motor

- Greifen Sie die X-Achsen-Motorbaugruppe fest und positionieren Sie die CoreXY-Baugruppe senkrecht. **Lassen Sie den Motor nicht fallen!**

⚠ Be careful not to pull the entire belt out of the motor.

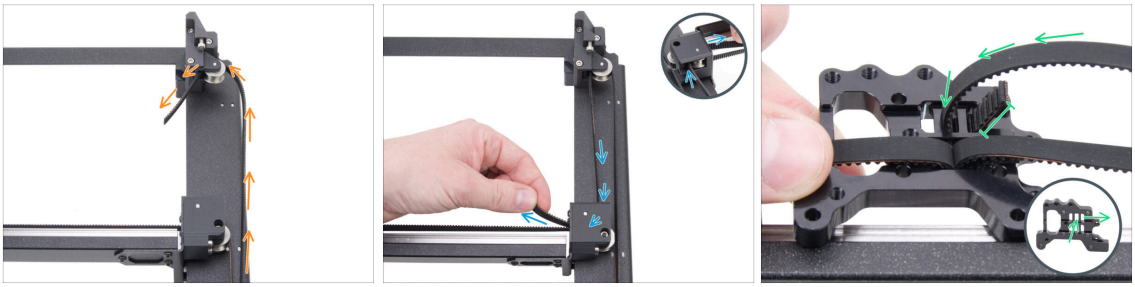
- Keep holding the motor with one hand. With the other hand, secure the motor using four M3x35 screws on the underside of the frame. **Tighten firmly**.
- Place the CoreXY assembly back into the horizontal position.

SCHRITT 54 Y belt guiding: X motor mount

- Guide the right end of the belt around the upper right pulley.
- Push the belt through the part and guide it to the front of the CoreXY plate.

⚠ **Don't pull too long so you don't pull the whole belt out.** Remember that the other end is loose. The whole process would then have to be repeated.

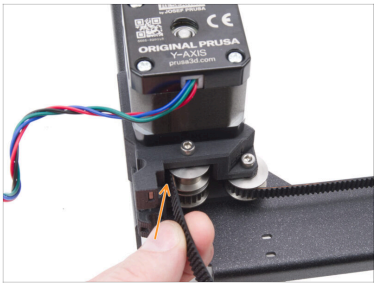
SCHRITT 55 X belt guiding: belt tensioner

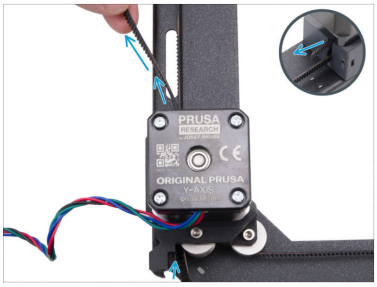


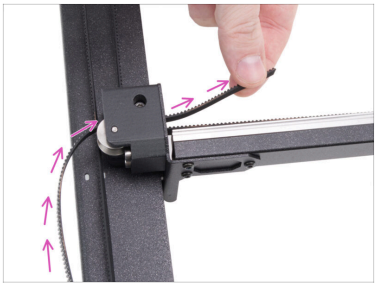
- Führen Sie den Riemen um die Riemenscheibe im Riemenspanner.
- Push the belt around the front upper pulley in the linear assembly.
- Route the end of the belt through the middle hole into the right hole - leave 4-5 teeth sticking out.

ⓘ The belt is secured on this end. You can leave it free for now.

SCHRITT 56 X belt guiding: Y motor mount

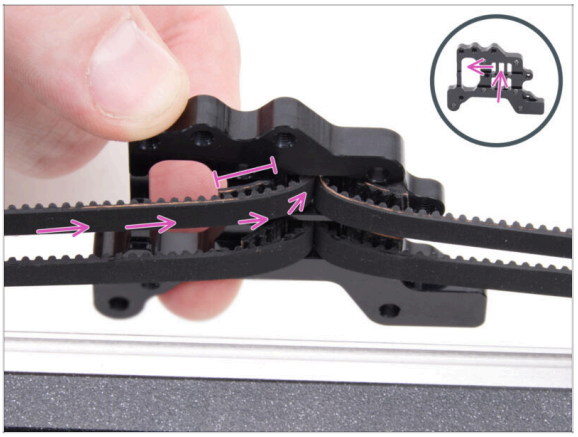






- Take the other end of the belt and guide it around the upper pulley in the Y motor mount.
- Push the belt through the motor mount.
- Route the belt around the upper front pulley in the linear rail holder.

SCHRITT 57 X belt guiding: securing the belt

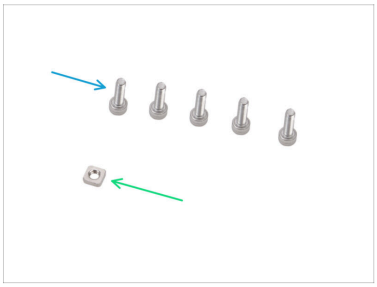


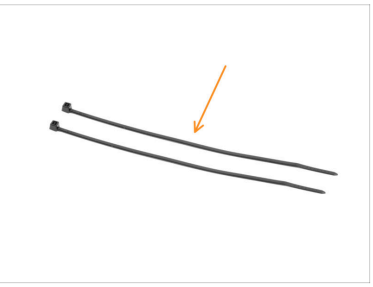
- Push the end of the belt through the middle hole to the left hole in the upper row of the Nextruder holder - leave 4-5 teeth sticking out.

SCHRITT 58 Checking the belt guidance

Before proceeding, recheck the belt routing according to the illustration.

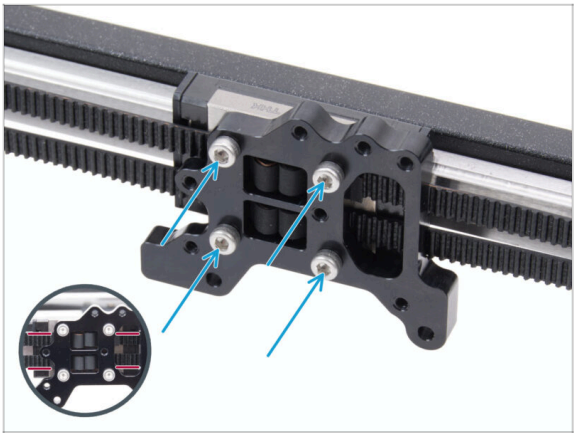
SCHRITT 59 Bowden guide: parts preparation





- **For the following steps, please prepare:**
- Bowden-guide (1x) *found in the Printed parts package*
- Schraube M3x10 (5x)
- M3nS Mutter (1x)
- Kabelbinder (2x)

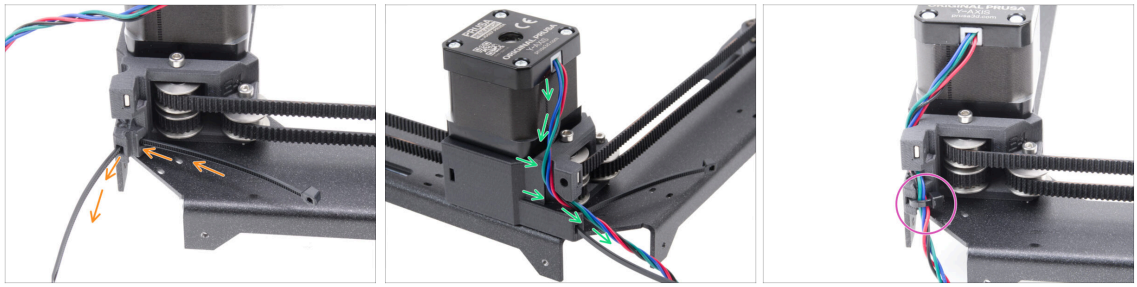
SCHRITT 60 Securing the Nextruder holder



- Attach the Nextruder holder to the linear rail carriage and secure it using four M3x10 screws.

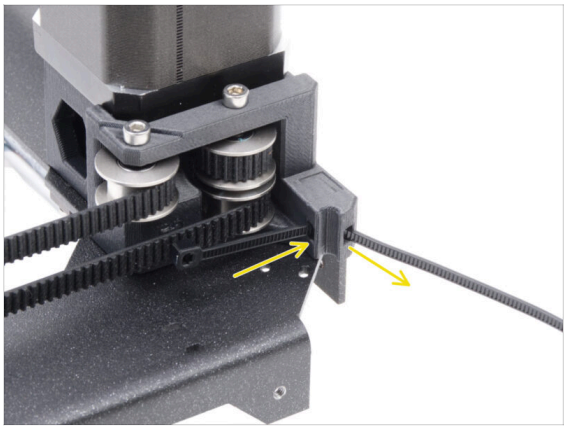
⚠ **CAUTION: Ensure no belt obstructs the screw. Avoid screwing through the belt!**

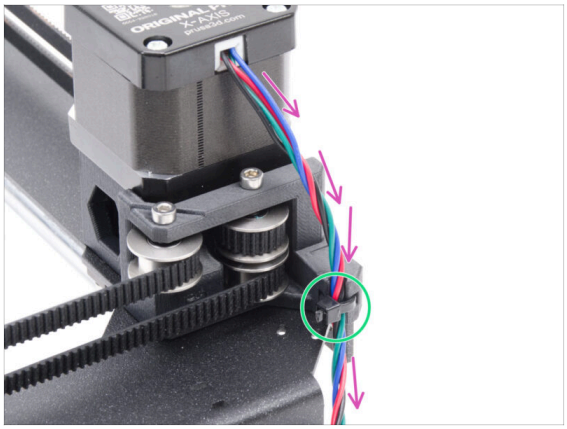
SCHRITT 61 Securing the Y motor cable



- Schieben Sie den Kabelbinder durch den Motor-mount-right (Y-Achsen-Motor).
- Route the Y motor cable through the cable channel in the motor-mount-right and over the zip tie.
- Secure the cable with a zip tie and trim the excess.

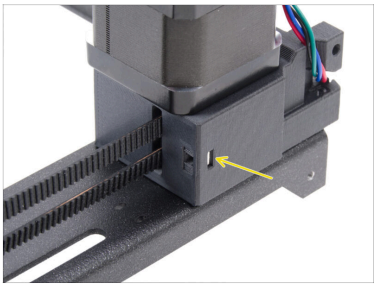
SCHRITT 62 Securing the X motor cable

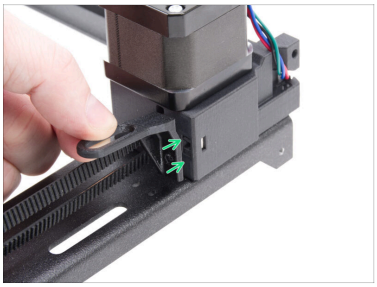


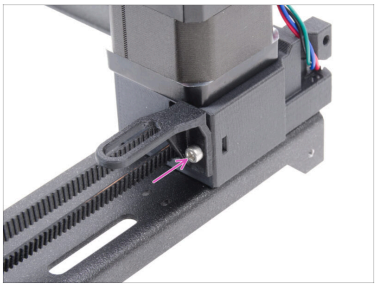


- Schieben Sie den Kabelbinder durch den Motor-mount-left (X-Achsen-Motor).
- Route the X motor cable through the cable guide in the motor-mount-right and over the zip tie.
- Secure the cable with a zip tie and trim the excess.

SCHRITT 63 Installing the bowden guide







- Setzen Sie die M3nS-Mutter in den Motor-mount-right ein (Y-Achsen-Motor).
- Attach the bowden-guide to the motor-mount-right.

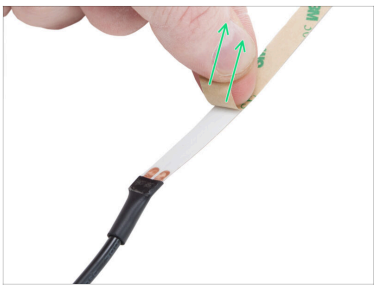
  ⚠ Note the correct orientation of the part.
- Fix the bowden-guide in place using the M3x10 screw.

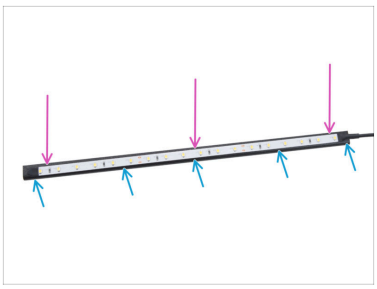
SCHRITT 64 White LED strip: parts preparation

- **For the following steps, please prepare:**
- White LED strip (1x) *found in the Electronics & Fasteners package*
- CoreXY strut (1x) *found in the Metal parts 1/3 package*

  ⓘ The part is inserted in a foam cutout and may not be immediately visible at first glance.
- Schraube M3x4rT (2x)

SCHRITT 65 Sticking the White LED strip



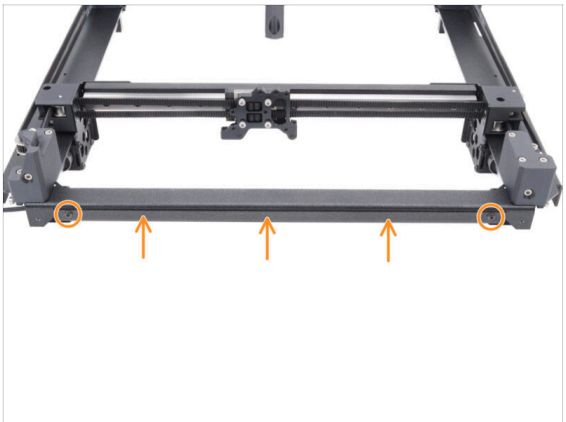


- Carefully peel off the protective (paper) layer from the White LED strip.

  ⚠ After removing the protective layer, the LED strip is adhesive.
- Position the White LED strip near the CoreXY strut to check alignment, but **do not attach it yet**.

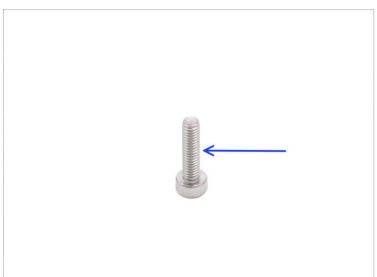
  ⚠ Note the rectangular cutout on the strut, orient the strip cable to the same side.
- Stick the White LED strip evenly to the strut - on the side with the rectangular cutout.
- After sticking, press lightly on the blank areas of the strip to ensure adhesion. **Do not touch LEDs and resistors!**

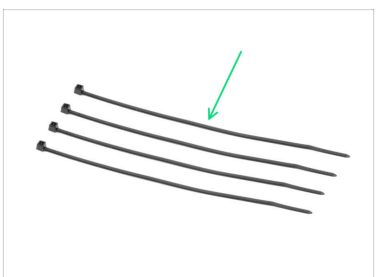
SCHRITT 66 Installing the white LED assembly



- Take the white LED assembly and attach it to the front of the CoreXY assembly. Align the holes of both parts.
  - **The white LED strip cable must point to the left.**
- Attach the LED assembly to the CoreXY plate and secure it with two M3x4rT screws.

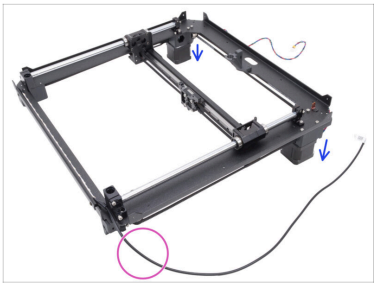
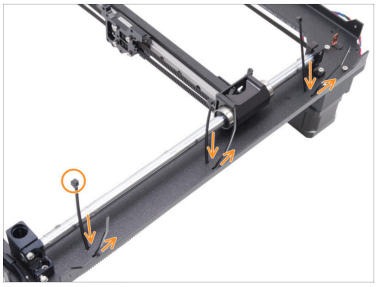
SCHRITT 67 Door sensor & White LED strip: parts preparation





- **For the following steps, please prepare:**
- Door sensor (1x) *found in the CORE XY parts + hinges + HB set package*
- M2.5x10 screw (1x) *silver*
- Kabelbinder (4x)

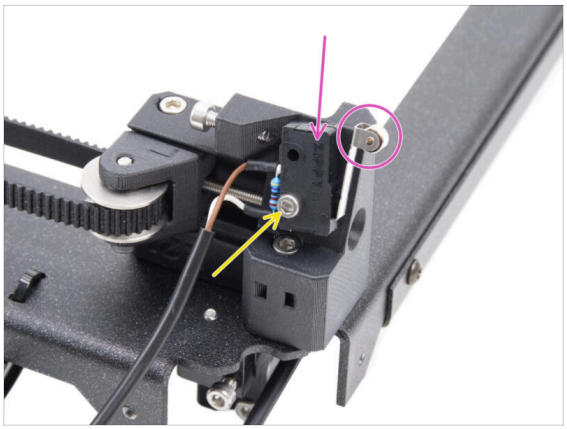
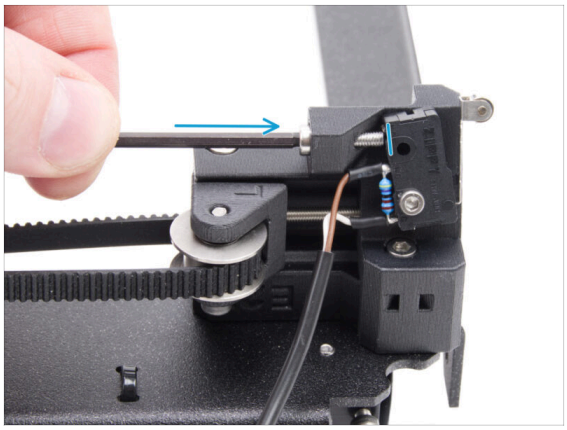
SCHRITT 68 Inserting the zip ties


- Flip the CoreXY assembly upside down and rest it on the motors.
- Position it with the white LED strip cable facing toward you.
- Thread three zip ties through the CoreXY plate, ensuring the zip tie heads point inward.
- Partially tighten the zip ties—just enough to catch the first few teeth.

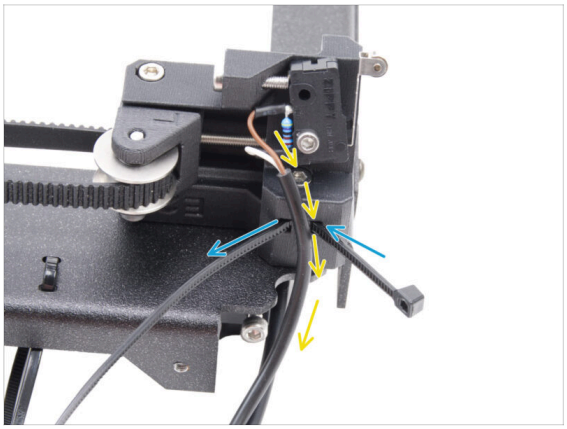
  ⚠ **Do not fully secure them yet**, as we will route cables through them later.
- Flip the assembly back with the motors facing upwards.

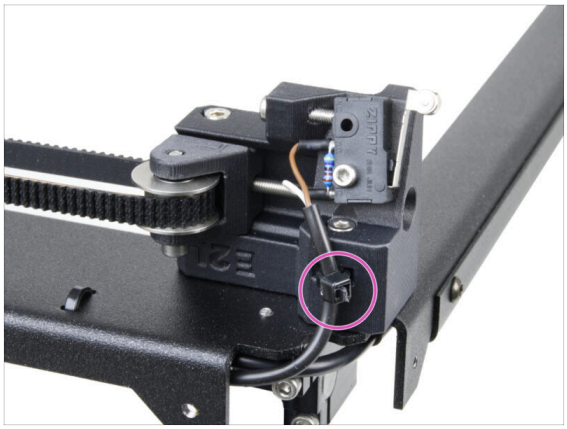
SCHRITT 69 Installing the door sensor

- Place the door sensor on the left belt tensioner. The lever of the door sensor must face forward.
- Secure the door sensor with the M2.5x10 screw.
  - Tighten the bolt fully and then loosen 1/4 turn. The sensor must be allowed to move.
- From the rear of the belt tensioner, tighten the M3x12 screw so that it touches the door sensor.

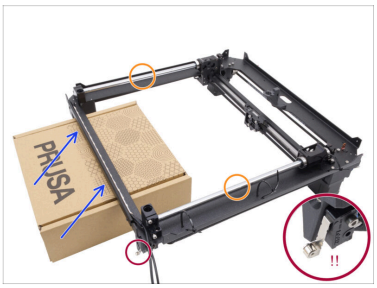
SCHRITT 70 Securing the door sensor cable

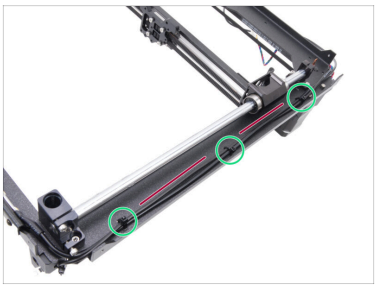




- Push the zip tie through the hole in the left belt tensioner.
- Guide the door sensor cable through the zip tie.
- Tighten the zip tie to secure the door sensor cable. Cut off the excess.

SCHRITT 71 Guiding the cables: LED and door sensor

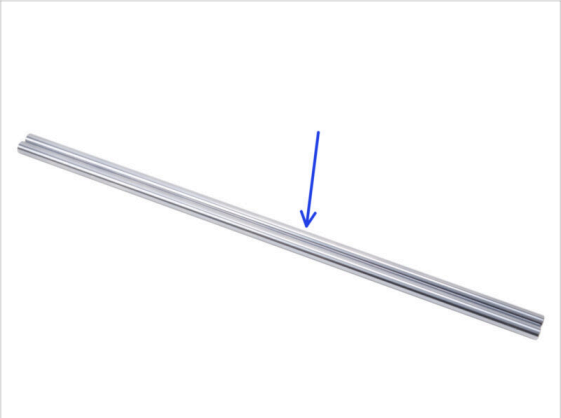




- Prepare a cardboard box. You can use any box from the kit. *The box used in the picture is for illustrative purposes only.*
- Flip the CoreXY assembly upside down, positioning the smooth rods on top.
- Slightly lift and support the front side of the CoreXY assembly with the cardboard box.

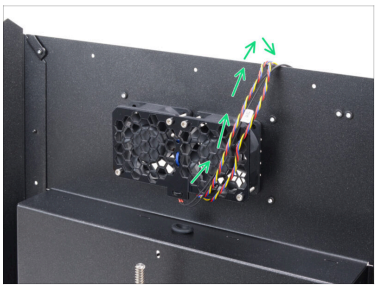
  ⚠ **Be careful not to damage the door sensor.**
- Route the white LED strip cable and the door sensor cable through the zip ties.
- Tighten all the zip ties to secure the cables. Cut off the excess zip ties.
- **Cables must be slightly taut and straight**. Excess slack or bends may cause collisions with the Y-axis and lead to damage.

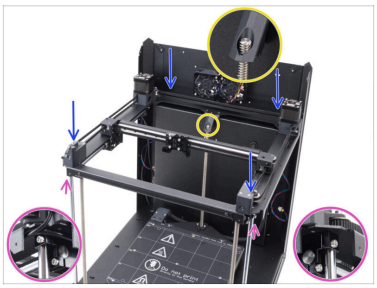
SCHRITT 72 Smooth rods: parts preparation



- **For the following steps, please prepare:**
- Smooth rod 330 x 8 mm (2x) *originally from the Y-axis.*
- Schraube M3x8rT (1x)

SCHRITT 73 Installing the CoreXY assembly





- Carefully insert both smooth rods through the heatbed assembly bearings and into the rod mount part in the base assembly.

  ⚠ **It is a requirement to insert the smooth rod in the axis with the bearing very slowly** to prevent the balls from shooting out of the bearing.

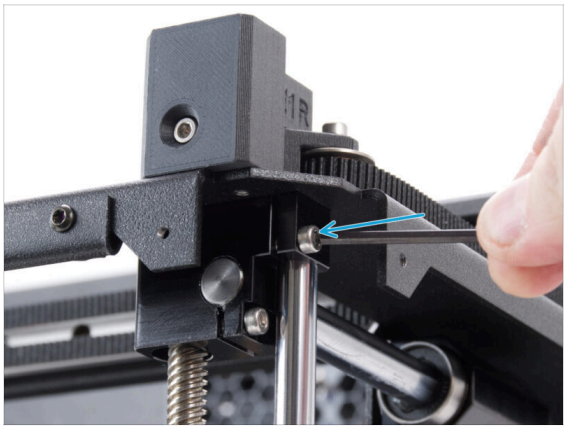
- Temporarily hang the cables from the cooling fans over the rear panel. **There must be a space between the cables and the back panel pocket.**
- Exercise extreme caution when placing the assembly on the smooth rods and back panel assembly.

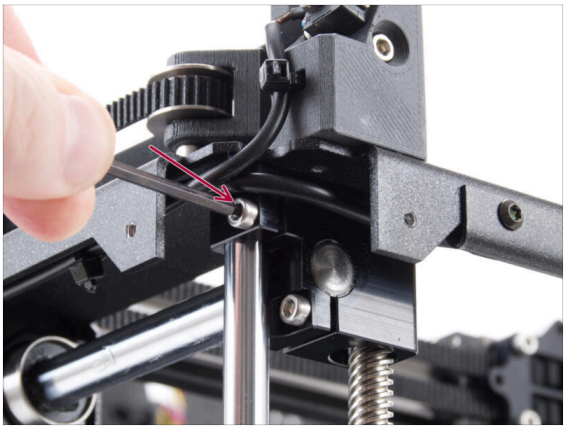
  ⚠ **Ensure that no cables are pinched.**

  - Ensure both smooth rods are properly seated in the rod holders.
  - The threaded rod of the rear Z motor must pass through the bed-stop-rear part.

⚠ **WARNING: When handling the printer, DO NOT lift it by the CoreXY assembly.** Always lift it by the base of the entire assembly.

SCHRITT 74 Securing the smooth rods

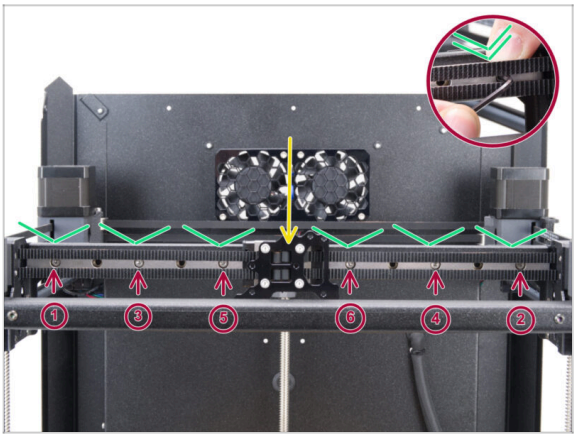




⚠ Check that both smooth rods are seated correctly in the holders.

- Firmly tighten the right M3x10 screw to secure the smooth rod.
- Firmly tighten the left M3x10 screw to secure the smooth rod.

SCHRITT 75 Aligning the linear rail

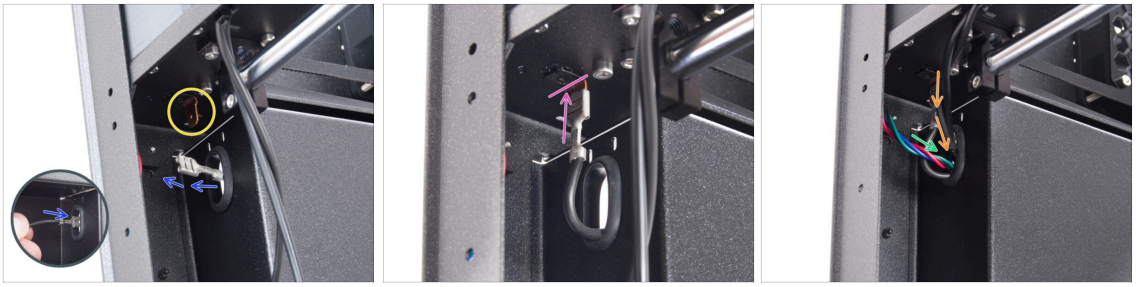


- Move the linear rail carriage to the center.

⚠ Firmly tighten all screws **in the order shown in the picture.**

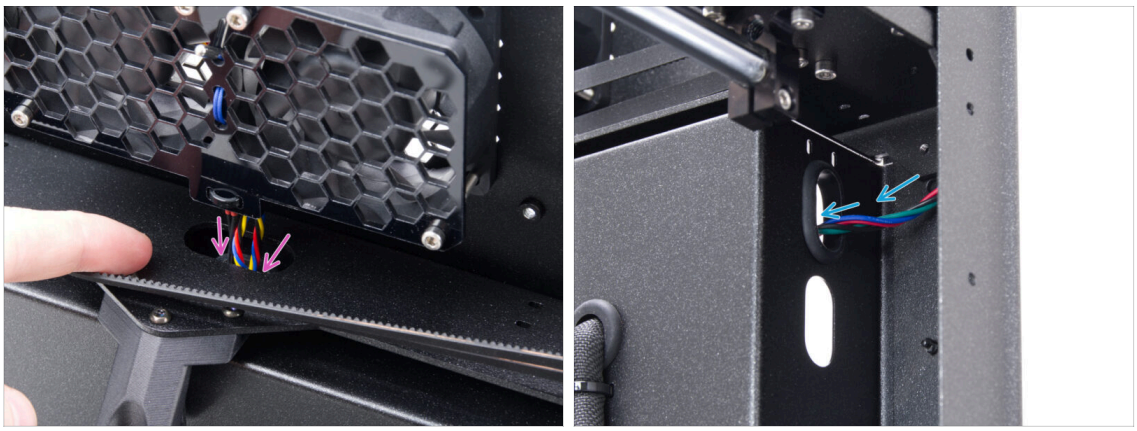
  - Push the linear rail down while tightening.

SCHRITT 76 Guiding the corexy cables



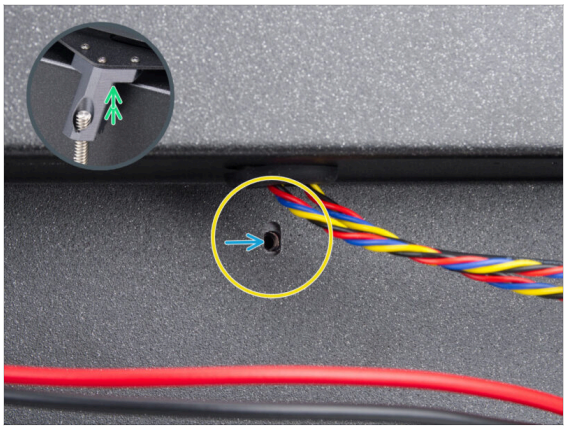
- From the back of the printer, push the FE connector through the oval hole.
- Locate the FE cable connector (number 5) in the rear left corner - under the CoreXY assembly.
- Plug the FE connector onto the Faston on the underside of the CoreXY plate.
- On the same side, push the X motor cable through the oval hole in the back panel.
- Push the White LED strip and Door sensor cables through the oval hole in the back panel.

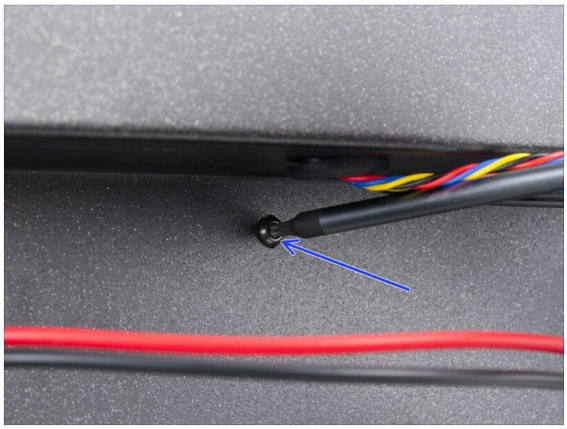
SCHRITT 77 Guiding the cooling fan cables



- Push the cooling fan and thermistor cables through the oval hole in the back panel.
- On the right back corner, locate the Y motor cable and push it through the upper oval hole in the back panel.

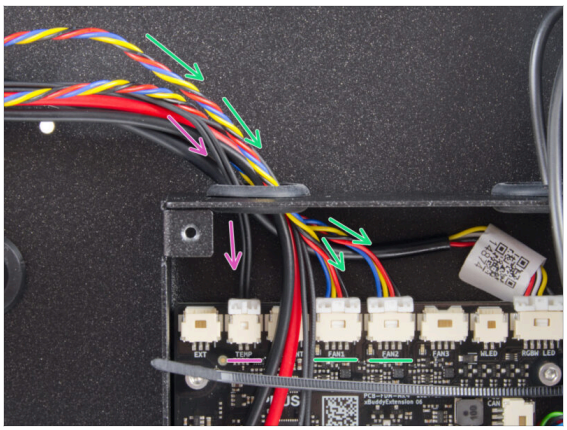
SCHRITT 78 Befestigen des Bed-stop

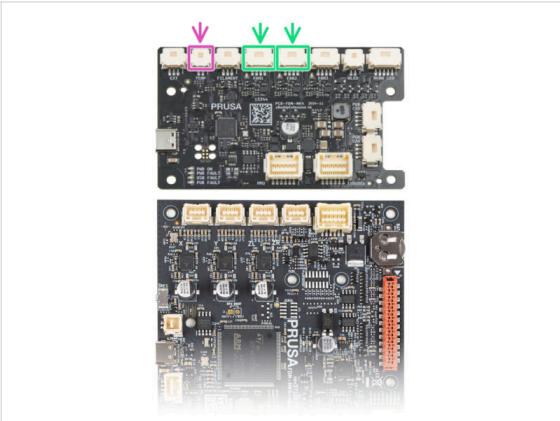




- From the back side, locate the oval screw hole under the cooling fans.
- The oval hole must be flush with the hole in the bed-stop part on the opposite side.
  - To compensate, slightly raise the rear of the CoreXY assembly - just a few millimeters.
- After aligning the holes, secure them with an M3x8rT screw.

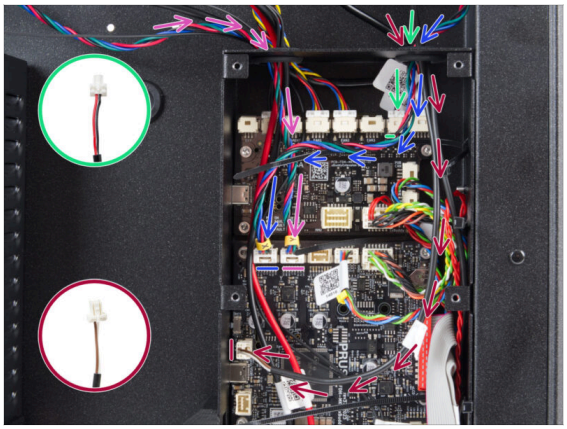
SCHRITT 79 Connecting the cooling fans cables

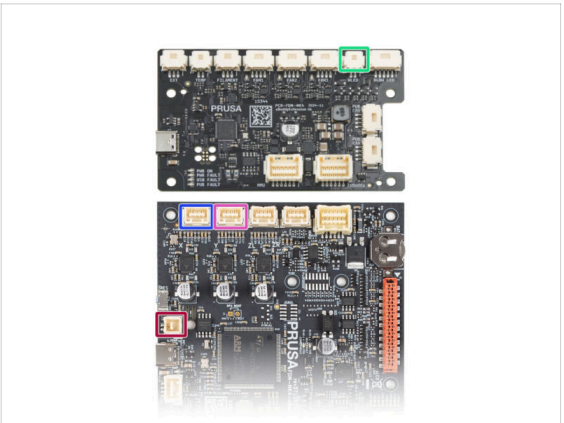




- Route the cooling fan cables through the left hole in the xBuddy box and plug them into the fourth and fifth slots on the xBuddy extension board labeled FAN 1 and FAN 2.
  - ⓘ The connection order does not matter, both cables are the same.
- Guide the chamber thermistor cable together with the cooling fan cables.
  - Connect it to the second slot from the left on the xBuddy extension board labeled TEMP.

SCHRITT 80 Connecting the corexy cables



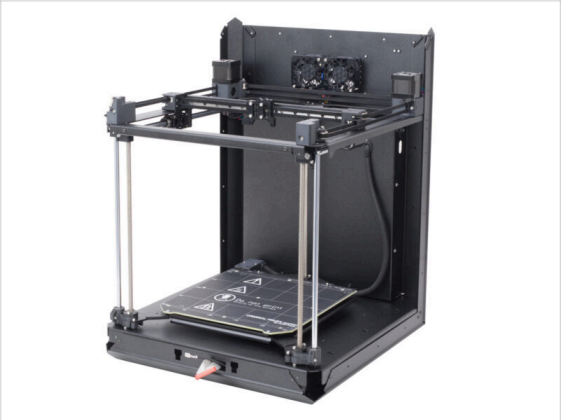


- Guide the X motor cable through the right hole in the xBuddy box. Connect it to the first slot from the left on the xBuddy board.
- Guide the door sensor cable through the right hole in the xBuddy box. Connect it to the lower slot on the left side of the xBuddy board.
- Guide the white LED strip cable through the right hole in the xBuddy box. Connect it to the second slot from the right on the xBuddy extension board.
- Guide the Y motor cable through the left hole in the xBuddy box. Connect it to the second slot from the left on the xBuddy board.

SCHRITT 81 Haribo Zeit!

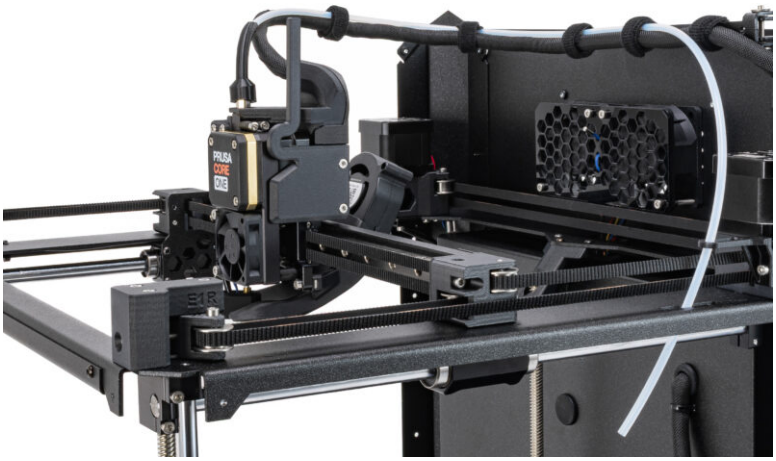
- Think it's snack o'clock again.
- You deserve to eat the whole bag, but keep... Eat just the fourth row.

SCHRITT 82 Abgeschlossen

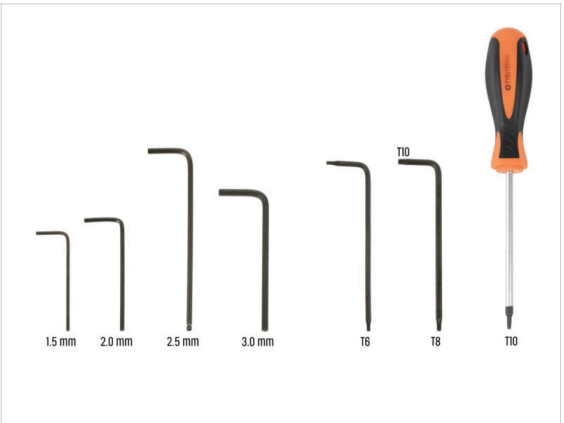


- Congratulations! You have just assembled and installed the CoreXY assembly.
- Let's go to the next chapter.

6. Zusammenbau des Nextruders

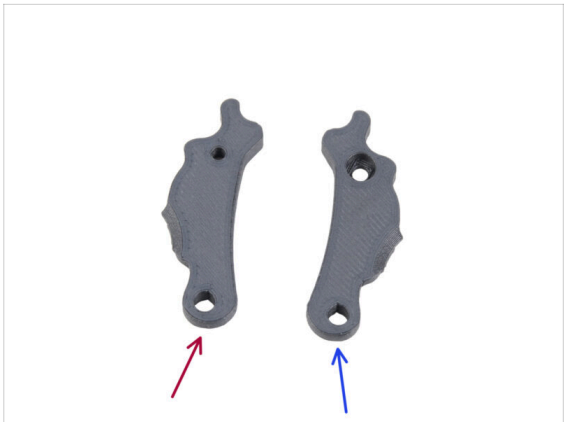


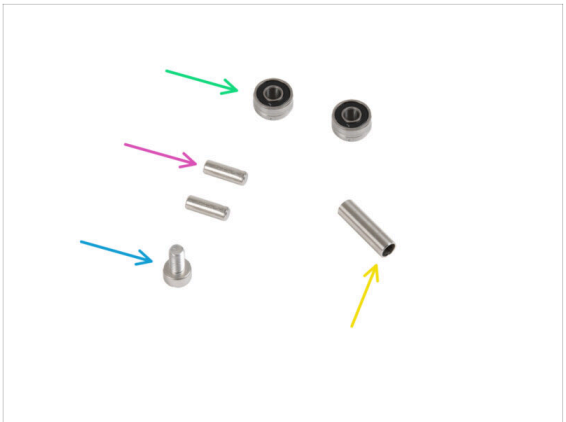
SCHRITT 1 Tool necessary for this chapter



- **For this chapter, please prepare:**
- Universal-Schlüssel
- 1,5mm Innensechskantschlüssel
- 2,5mm Innensechskantschlüssel
- TX6 Innensechsrund Schlüssel
- T10 torx key / T10 torx screwdriver

SCHRITT 2 Nextruder idler assembly: parts preparation





- **For the following steps, please prepare:**
- Idler-lever-a (1x) *found in the Electronics package*
- Idler-lever-b (1x) *finden Sie im Electronics Paket*
- Bearing 693 2RS (2x) *found in the Electronics package*
- Pin 2.9x8.5 (2x) *found in the Electronics package*
- Schraube M3x6 (1x)
- Tubular spacer 13.2x3.8x0.35 (1x) *found in the Electronics package*

SCHRITT 3 Assembling the extruder idler

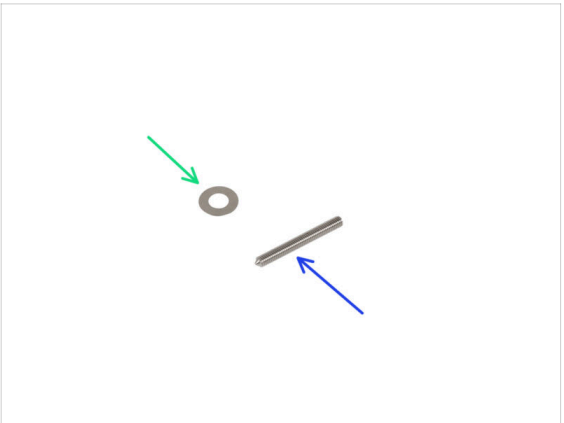
- Place both bearings into the Idler-lever-a.
- Insert the pin 2.9x8.5 into each bearing 693 2RS, as seen in the picture.
- Schließen Sie ihn mit dem Idler-lever-b Teil und sichern Sie ihn mit der M3x6 Schraube. **Ziehen Sie die Schraube nicht zu fest an.** Beide Lager müssen sich ohne nennenswerten Widerstand drehen können.
- From the same side, push the tubular spacer into the assembly. The "bottom" of the tubular spacer must be flush with the bottom part of the Idler assembly.

SCHRITT 4 Assembling the extruder: parts preparation I.

- **For the following steps, please prepare:**
- PG-assembly (1x) *found in the Electronics package*
- Kühlkörper Baugruppe (1x) *finden Sie im Electronics Paket*
- Main-plate (1x) *found in the Electronics package*
- PG-ring (1x) *found in the Electronics package*
- PG-assembly-adapter (1x) *found in the Electronics package*

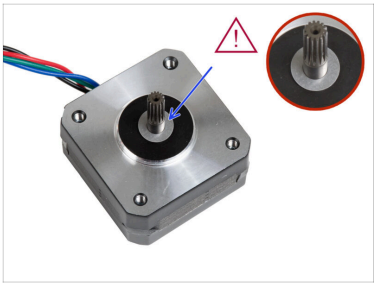
ⓘ The list continues in the next step...

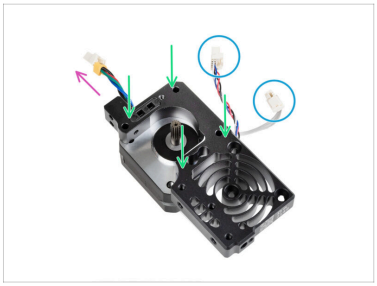
SCHRITT 5 Assembling the extruder: parts preparation II.



- Extruder motor (1x) *found in the Motors package*
- Spacer 5x10x0.1 mm (1x) *found in the Electronics package*
- Madenschraube M3x25 (1x) *finden Sie in der Verpackung von Electronics & Fasteners*

SCHRITT 6 Zusammenbau des Extruders

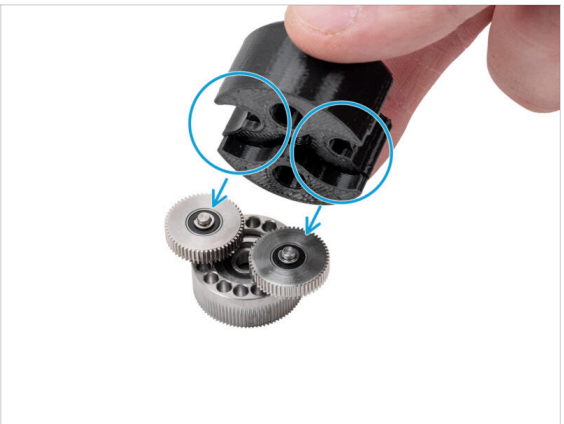




- Place the 5x10x0.1 spacer over the shaft on the extruder motor.
- Place the heatsink on the extruder motor. Note the orientation of both parts.
  - Das Motorkabel muss nach "oben" zeigen.
  - The heatsink cables must be on the right side.
- Place the main-plate on the heatsink. Note the orientation of the part. Use the cutout as a guide.

⚠ Before proceeding to the next step, **make sure that the 5x10x0.1 spacer is placed on the extruder motor**.

SCHRITT 7 Zusammenbau des Getriebes

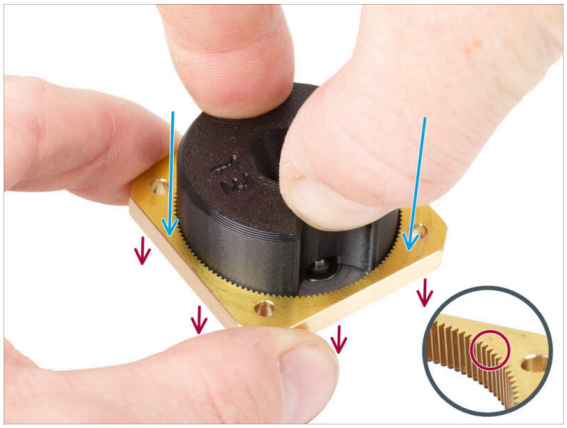


ⓘ **The following instructions need to be done correctly and carefully.** Achieve better understanding and successful assembly by watching the video alongside the guide: prusa.io/PG-assembly

- After watching the video, follow the steps in this guide.

- Bringen Sie den PG-Montageadapter an der PG-Baugruppe an. Beachten Sie die Aussparungen für die Zahnräder im Adapter.

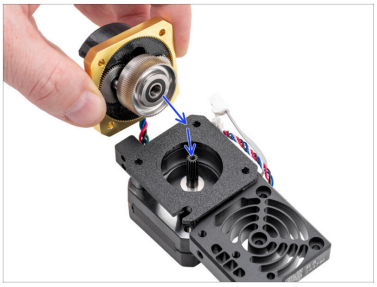
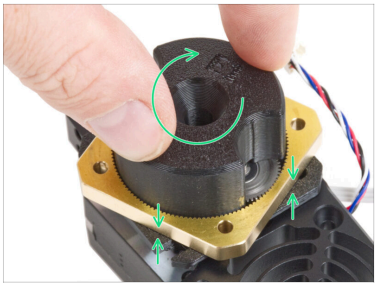
SCHRITT 8 Zusammenbau des PG-Rings



⚠ **Do not assemble the gearbox without the PG-assembly-adapter.** This tool is intended to ensure that the gears are correctly fit together.

- Slide the PG-ring onto the adapter.
  - Beachten Sie, dass die Zähne des PG-Rings auf einer Seite eine Fase aufweisen. Diese Seite muss nach unten (zur PG-Baugruppe) zeigen.
- Grasp the entire assembly in one hand so that it can be rotated with the PG-ring.
- With the other hand, slide the PG-ring onto the PG assembly in a wobbling motion (move the PG-ring left and right repeatedly) - a quarter turn is enough.
- Stop when the surfaces of the gears are approximately flush with the surface of the PG ring.

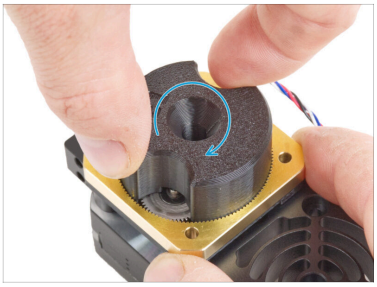
SCHRITT 9 Zusammenbau der PG-Baugruppe

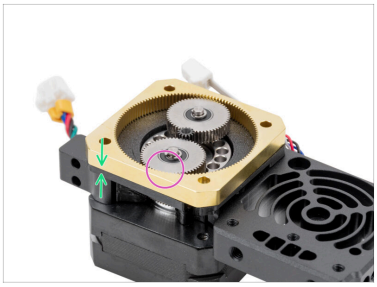




⚠ **Proceed very carefully in this step.**

- Maintain the position of the PG-assembly and attach it on to extruder motor shaft.
- Drehen Sie die gesamte PG-Baugruppe (PG-Montageadapter, PG-Baugruppe und PG-Ring) sehr vorsichtig und frei, bis sie nach unten fällt, so dass kein Spalt zwischen der Baugruppe und der Main-plate entsteht. **Drücken Sie nicht auf die Baugruppe.**
- Entfernen Sie den PG-Montageadapter.

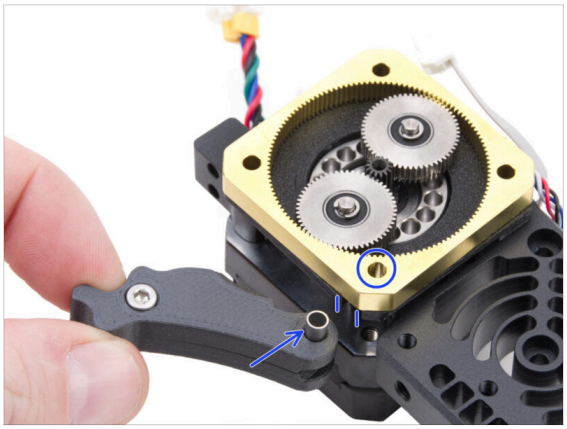
SCHRITT 10 Prüfen der PG-Baugruppe

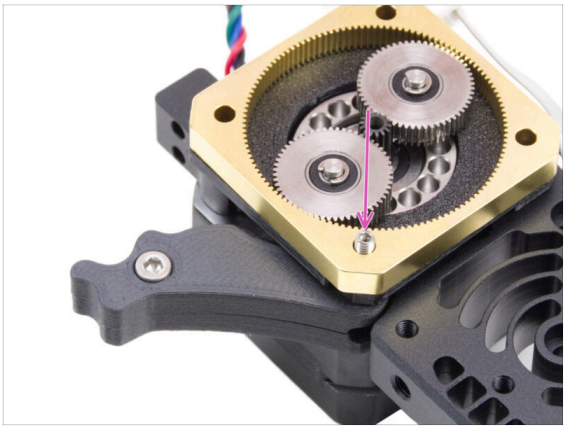




- Attach the PG-assembly-adapter back on the PG-assembly again to verify that all parts are properly seated.
- Rotate with the PG-assembly-adapter. **The PG assembly must be easy to rotate without having to exert much force.**
- Entfernen Sie den PG-Adapter. Sie werden ihn bei der Montage nicht mehr benötigen. Wir empfehlen, ihn für die Wartung aufzubewahren.
- Ensure that the PG-assembly is not sticking out above the PG-ring. It should be positioned lower than the level of the PG-ring's surface or at the same level as the ring.
- Ensure that the gap between the PG-ring and the Main-plate is minimal. If a significant gap is observed, disassemble the planetary gear assembly and reposition it.

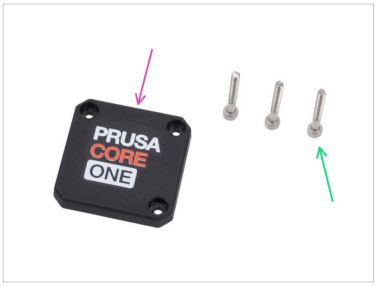
SCHRITT 11 Assembling the Nextruder idler





- Insert the idler assembly between the PG-ring and the extruder motor. There is a cutout for the spacer in the main-plate. Line up the idler spacer with the hole in the PG-ring.
- Secure both parts with the socket set screw 3x25. **Do not overtighten the screw! The screw protrudes from the PG-ring after tightening.**

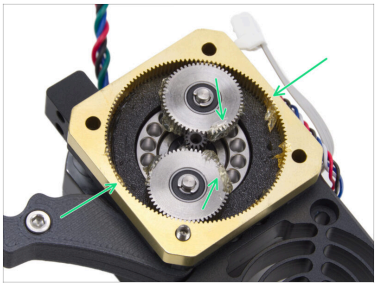
SCHRITT 12 Gear lubrication: parts preparation



- **For the following steps, please prepare:**
- Front Case (1x) *found in the Printed parts package*

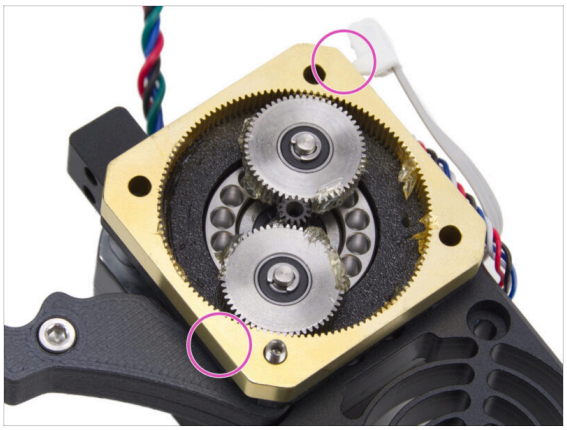
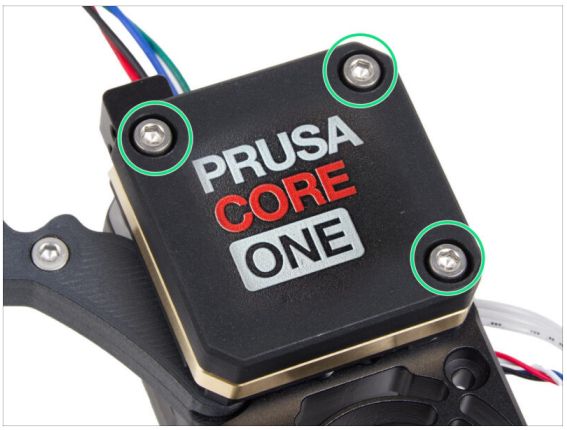
  ⓘ Das Logo auf der Vorderseite des Nextruder-Gehäuses bleibt wie bisher **PRUSA CORE ONE.**
- Schraube M3x25 (3x)
- Lubricant (1x) *found in the Electronics & Fasteners package*
- Several paper towels to wipe grease from your hands.

SCHRITT 13 Schmieren des Getriebes



- Remove the cap from the lube. Use the spike on the opposite side of the cap to pierce a hole in the lube tube opening.
- Squeeze a small amount of lubricant onto the tip of the zip tie, then spread it over the gears.
- Tragen Sie eine kleine Menge Prusa Schmiermittel **rund um** den PG-Ring und die Zähne der PG-Baugruppe auf.
- Close the lubricant; it is no longer needed for the assembly.

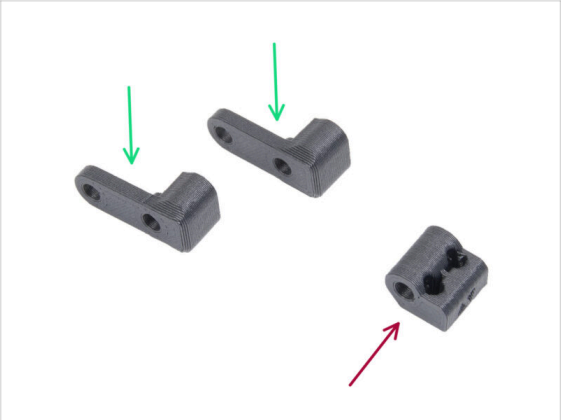
SCHRITT 14 Covering the planetary gear

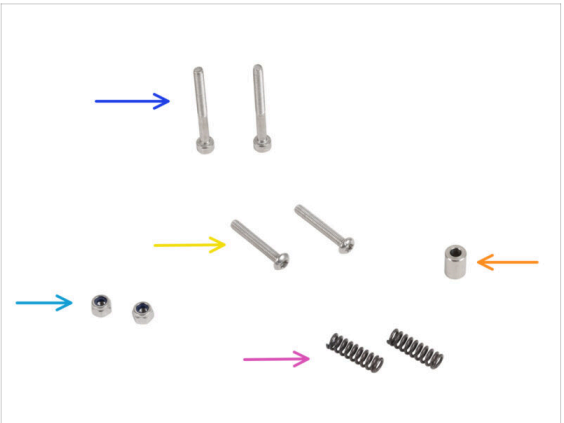



- Using the paper towel, wipe off the lubricant residue from the face surface of the PG-ring.
- Place the front case onto the gearbox and secure it with three M3x25 screws. **Do not tighten them completely** at this moment.

  ⓘ Die Schrauben am Front-case werden während des Selbsttests im letzten Kapitel vollständig angezogen.

SCHRITT 15 Assembling the Idler-swivel: parts preparation



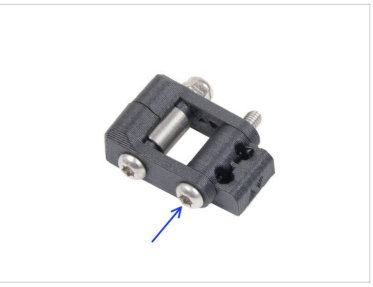


- **For the following steps, please prepare:**
- Idler-swivel (2x) *found in the Electronics package*
- Idler-nut (1x) *finden Sie im Electronics Paket*
- Schraube M3x30 (2x)
- Schraube M3x20rT (2x)
- M3nN Mutter (2x)
- Spring 15x5 (2x) *found in the Electronics package*
- Spacer 6x3.1x8 (1x) *found in the Electronics package*

SCHRITT 16 Montieren des Idler-swivels

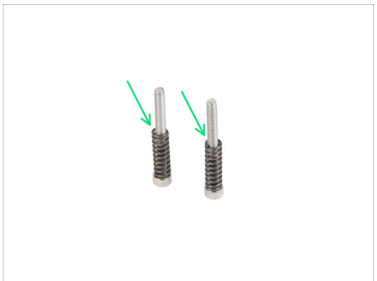
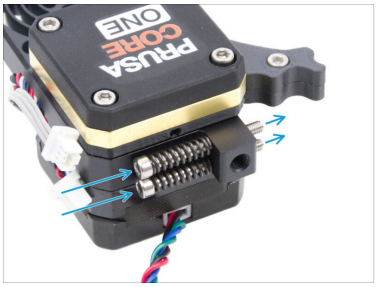
- Push the M3x20rT screw all the way through one of the idler-swivel.
- Slide the spacer onto the screw.
- Setzen Sie das zweite Idler-swivel von der gegenüberliegenden Seite auf die Schraube.
- From the other side, attach the M3nN nut onto the screw. Hold the nut using the universal wrench and tighten the screw. **Tighten just lightly!** The spacer must rotate freely.

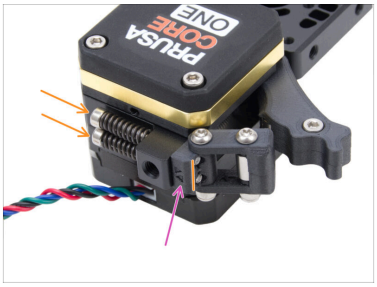
SCHRITT 17 Montieren der Idler-Mutter


- Insert the Idler-nut into the Idler-swivel assembly. Make sure that both parts are oriented correctly according to the picture.
- Secure both parts together by inserting the M3x20rT screw from the same side, like the first screw.
- Sichern Sie die Schraube mit einer M3nN-Mutter. **Ziehen Sie die Mutter nicht zu fest an.** Das Idler-swivel muss sich auf der Idler-Mutter bewegen können.

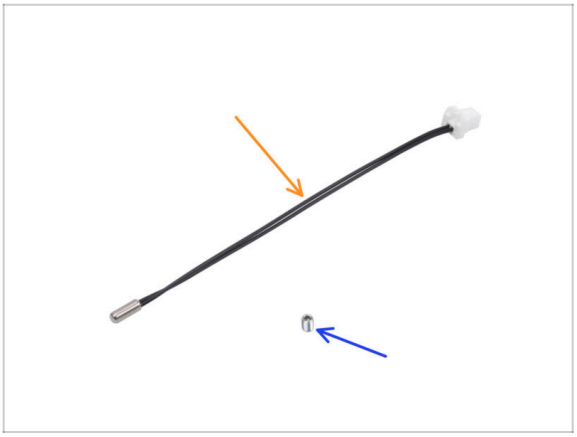
SCHRITT 18 Mounting the Idler-swivel assembly



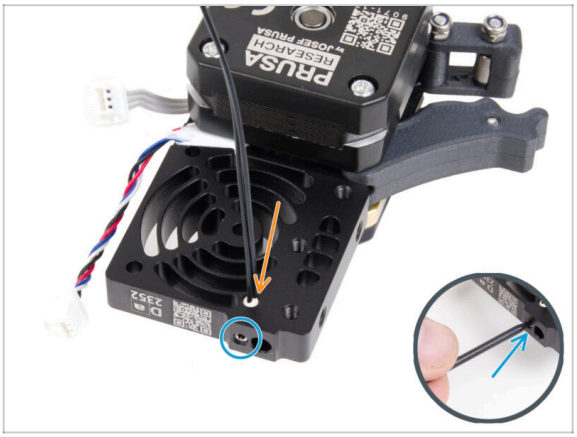
- Attach the spring 15x5 on both M3x30 screws.
- Push the two screws with the springs through the holes in the protrusion on the heatsink. There are no threads inside.
- Befestigen Sie die Idler-swivel-Einheit an den Schrauben. Achten Sie auf die korrekte Ausrichtung der Idler-Mutter. Die Seite mit Versionsmarkierung muss sichtbar sein. Siehe das Bild.
- Tighten both screws. **Stop tightening as soon as the screw tips reach the front face of the idler nut.**

SCHRITT 19 NTC thermistor: parts preparation



- **For the following steps, please prepare:**
- NTC thermistor 90 mm (1x) *found in the Electronics package*
- M3x4T Madenschraube (1x)

SCHRITT 20 Assembling the NTC thermistor



- On the **extruder motor side**, insert the NTC thermistor into the hole in the heatsink.
- Secure it with the M3x4T grub screw. Screw it all the way in. **Tighten gently, but firmly** using two fingers and the short side of the T6 Torx key. Applying more force may cause permanent damage to the thread.

SCHRITT 21 Mounting the Nextruder: parts preparation

- **For the following steps, please prepare:**
- Nextruder spacer (3x) *found in the Electronics & Fasteners package*
- Schraube M3x10 (3x)
- Cardboard box (1x) *used as temporary heatbed protection*

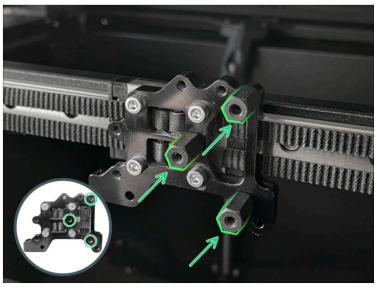
ⓘ Hint: You can use any cardboard box from the kit package.

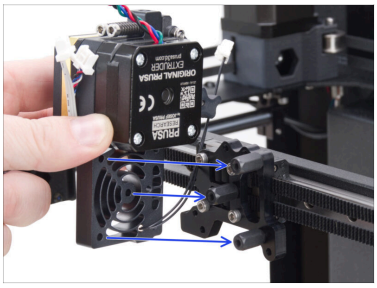
SCHRITT 22 Schutz des Heizbettes

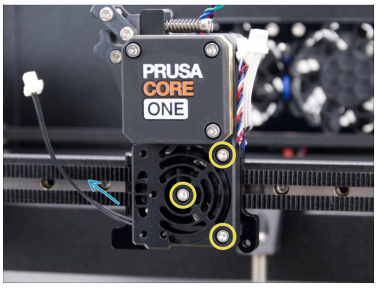
- Place an empty cardboard box on the heatbed, ensuring it covers as much of the surface as possible.

ⓘ This will protect the heatbed from falling parts.

SCHRITT 23 Befestigen des Nextruders



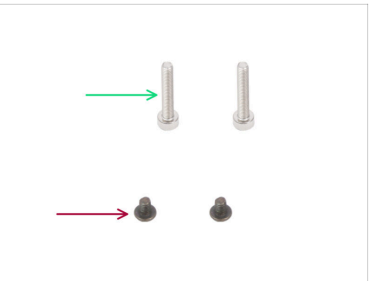




- Screw three Nextruder spacers to the Nextruder holder. Tighten the spacers firmly.
- Place the Nextruder assembly on the spacers.
- Richten Sie die Löcher im Nextruder mit den Abstandshaltern aus und befestigen Sie ihn mit drei M3x10 Schrauben. **Ziehen Sie die Schrauben nicht zu fest an.**
- Ensure the NTC cable is pointing to the left.

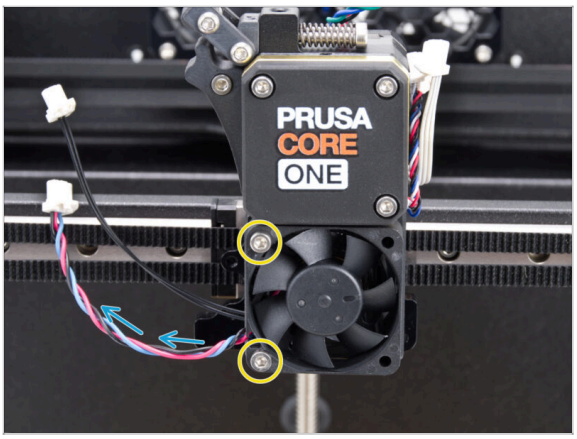
SCHRITT 24 Hotend Lüfter: Vorbereitung der Teile





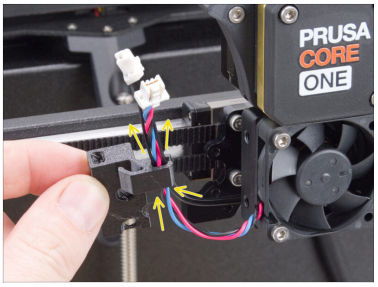
- **For the following steps, please prepare:**
- Hotend fan (1x) *found in the Electronics package*
- Hotend-cable-clip (1x) *found in the Printed parts package*
- Schraube M3x4rT (2x)
- Schraube M3x18 (2x)

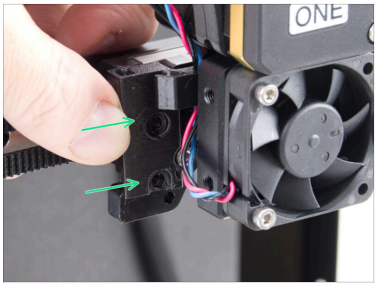
SCHRITT 25 Einbau des Hotend-Lüfters

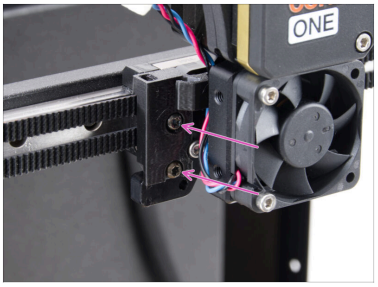


- Attach the hotend fan onto the heatsink with two M3x18 screws on the left side. **Tighten the screw gently, but firmly, otherwise the plastic housing may crack.**
  - ⚠ There is a sticker on the hotend fan, the sticker must be on the rear side of the fan - not visible.
  - The cable must be pointing towards the lower-left corner.

SCHRITT 26 Führen der Kabel des Hotends



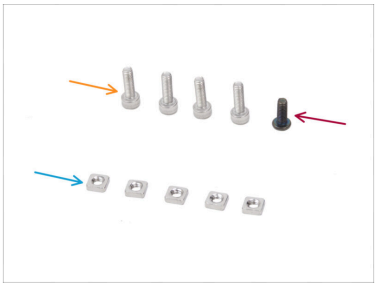




- Take the Hotend-cable-clip in the same position as shown and guide the **heatsink fan cable** together with the **NTC thermistor cable** through the right cable hook.
- Attach the Hotend-cable-clip to the Nextruder holder.
- Secure it using two M3x4rT screws.

SCHRITT 27 LoveBoard: parts preparation I.

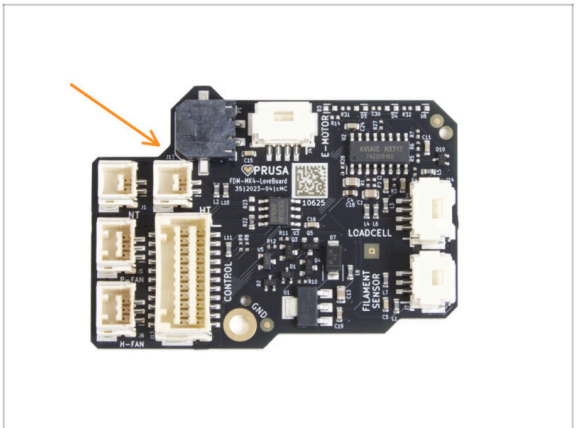




- **For the following steps, please prepare:**
- Printhead-cover (1x) *found in the Printed parts package*
- Loveboard-mount (1x) *found in the Printed parts package*
- Main cable (1x) *found in the Electronics & Fasteners package*
  - ⓘ Note: Cable color may vary depending on the batch. This does not affect the procedure.
- Schraube M3x10 (4x)
- Schraube M3x8rT (1x)
- M3nS Mutter (5x)

ⓘ The list continues in the next step...

SCHRITT 28 LoveBoard: parts preparation II.

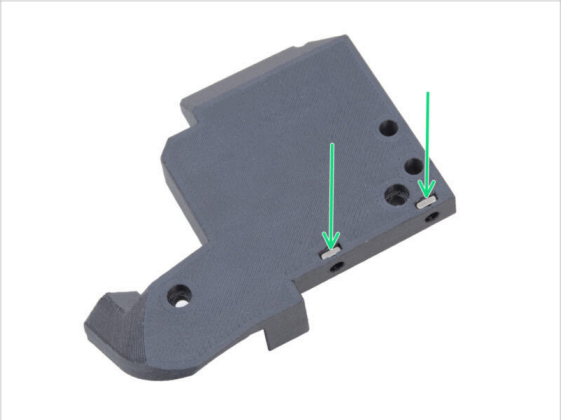


- **For the following steps, please prepare:**
- LoveBoard (1x) *found in the Electronics package*

SCHRITT 29 Montage des Loveboard-Mounts

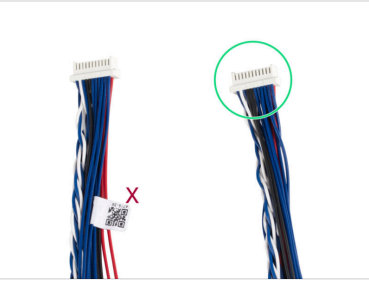
- Locate the U-shaped cable channel on the Loveboard-mount and insert an M3nS nut into the nearby hole.
  - Use a 2.5mm Allen key to push the nut all the way in.
- On the opposite side of the part, insert an M3nS nut and push it into place.

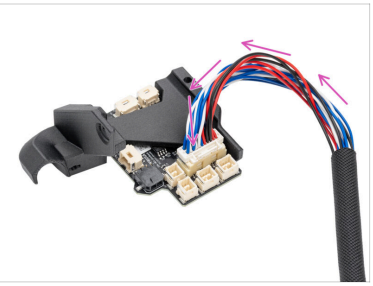
SCHRITT 30 Zusammenbau der Druckkopfabdeckung



- From the back of the printhead-cover, insert two M3nS nuts into the part.
- From the other side of the printhead-cover, insert one M3nS nut into the part.

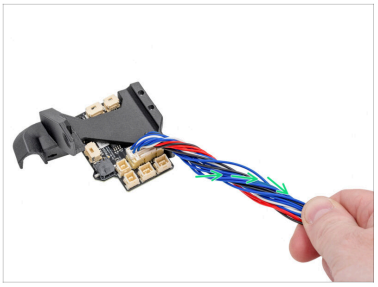
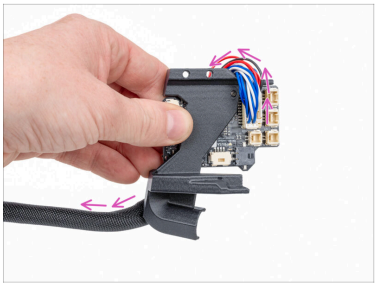
SCHRITT 31 Montieren des LoveBoards





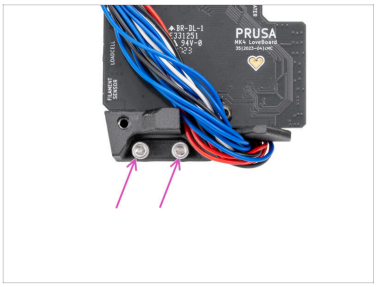
- Place the LoveBoard to the Loveboard-mount. Note the correct orientation - the connectors must be facing downwards.
- Align the holes with both parts and secure the board with the M3x8rT screw. **Do not overtighten it**, it might damage the part.
- Take the end of the extruder main cable without the white label.
- Turn the Loveboard-mount upside down and connect the Main cable to the LoveBoard.

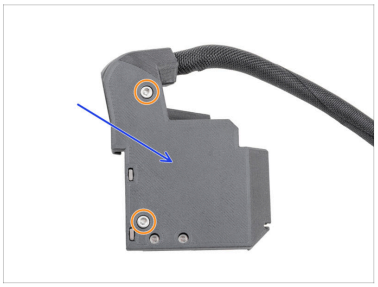
SCHRITT 32 Guiding the main cable


- Twist the main cable half a turn.
- Fold the main cable over the LoveBoard to its opposite side.
- Turn the LoveBoard assembly upside down.
- Guide the main cable over the LoveBoard through the cable channel in the Loveboard-mount.
- Das Ende der Textilhülse muss mit der Kante des Kunststoffteils fluchten.

SCHRITT 33 Abdecken des LoveBoards



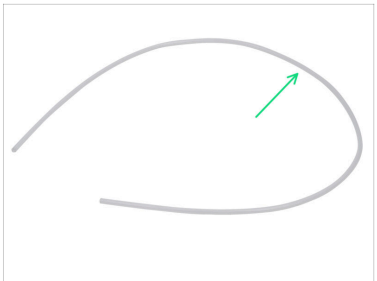



- Insert two M3x10 screws into the Loveboard-holder.

  ⚠ Ensure you insert the screws from the correct side. Use the LoveBoard logo on the board as a reference.
- Cover the LoveBoard with the Printhead-cover.

  ⚠ **Avoid pinching any wires in the main cable.**
- Fix both parts together using two M3x10 screws.
- Check that there is no large gap or pinched textile sleeve between the parts.

SCHRITT 34 Swingarm: parts preparation I.

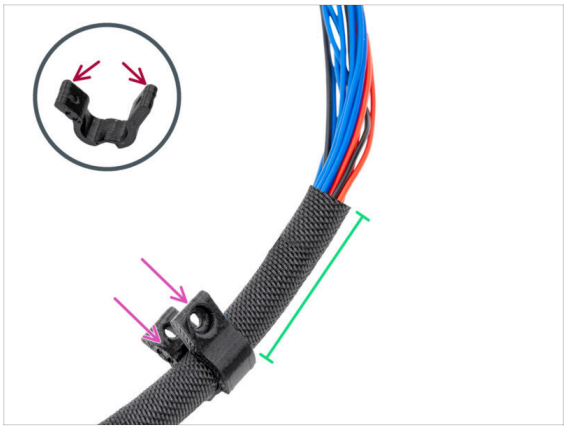

- **For the following steps, please prepare:**
- Schraube M3x8rT (2x)
- Schraube M3x10 (1x)
- Fitting M5-4 (1x) *found in the Electronics & Fasteners package*
- PTFE tube 710 x 4 x 2.5 (1x) *found in the CoreXY parts + Hinges set package*
- Swingarm assembly (1x) *found in the Metal parts 3/3 package*
- Cable tie (5x) *found in the Electronics & Fasteners package*
  - ⓘ Packed in a stack and must be separated.

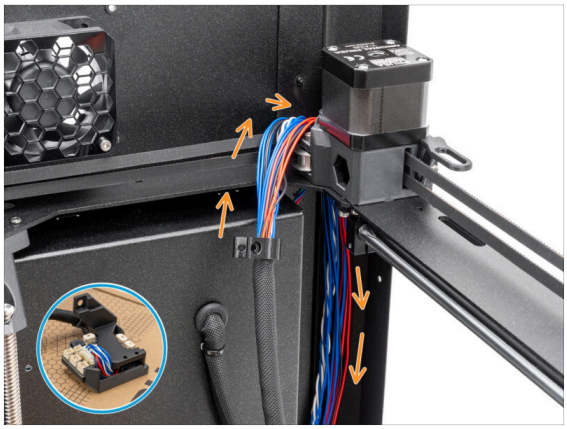
ⓘ The list continues in the next step...

SCHRITT 35 Swingarm: parts preparation II.

- **For the following steps, please prepare:**
- Bowden-bend (1x) *found in the Printed parts package*
- Main-cable-clip (1x) *found in the Printed parts package*

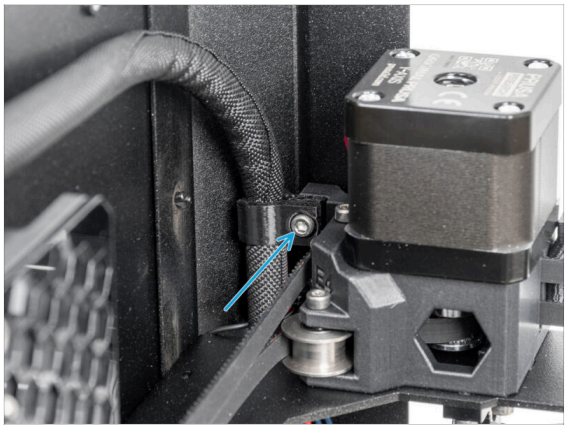
SCHRITT 36 Guiding the main cable





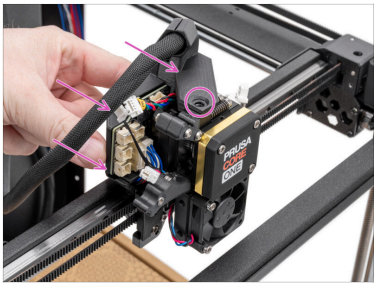
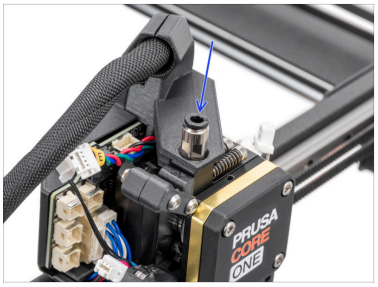
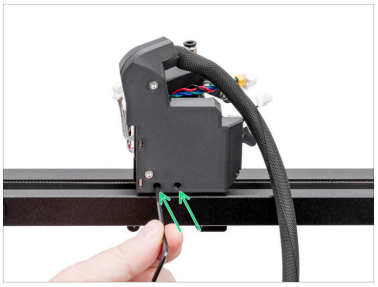
- Carefully open the Main-cable-clip. Be careful not to crack the part.
- Insert the main cable into the Main-cable-clip.
- Platzieren Sie den Main-cable-clip etwa 5 - 15 cm (2 - 6 Zoll) vom Ende der Textilhülle entfernt und schließen Sie den Clip.
- Place the LoveBoard assembly on the cardboard box on the heatbed.
- Push the main cable behind the CoreXY assembly in the right rear corner.

SCHRITT 37 Mounting the main cable



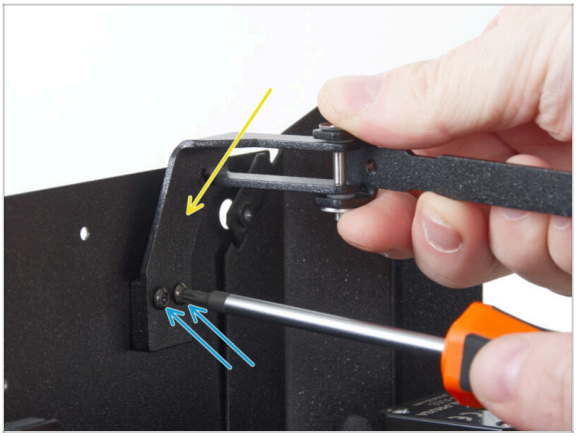
- In the right corner of the printer on the Y motor assembly, locate the hole in the plastic part and align it with the main-cable-clip.
- Fix the main-cable-clip with the cable to the hole using the M3x10 screw.

SCHRITT 38 Attaching the LoveBoard assembly

- From the back of the Nextruder, attach the LoveBoard assembly to the Nextruder.
  - Align the hole in the Loveboard-mount with the threaded hole in the top of the heatsink (Nextruder).
- Insert and tighten the fitting M5-4 to the heatsink. Use the universal wrench.
- From the back of the Nextruder, tighten the two M3x10 screws to secure the LoveBoard assembly.

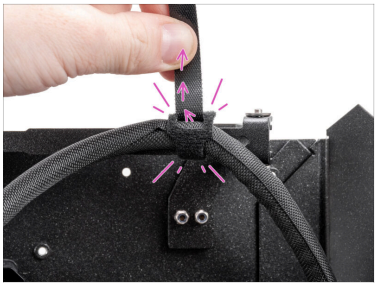
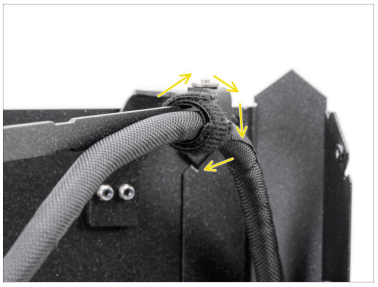
SCHRITT 39 Befestigung des Schwenkarms



- Attach the swingarm assembly to the pair of threaded holes on the back panel near the top right corner.
- Secure it with two M3x8rT screws.

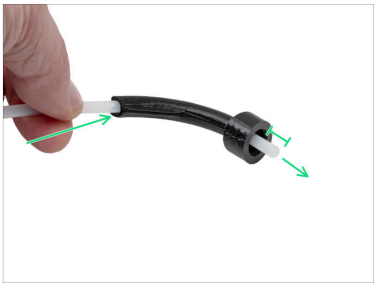
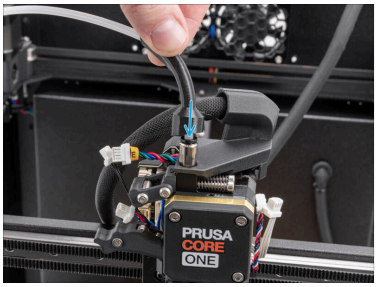
  ⚠ Do not overtighten the screws, as this may strip the threads.

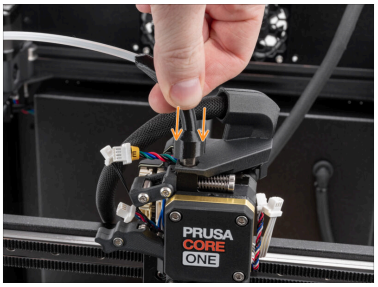
SCHRITT 40 Attaching the main cable

- Notice the cutouts on the swingarm.
- Position the main cable at the first cutout on the swingarm.
- Place one cable tie behind the first cutout on the swingarm, ensuring the correct orientation of the zip strip.
- Thread the cable tie through its eyelet, wrapping it around the swingarm and main cable.
  - Tighten the cable tie as much as possible.
- Wrap the cable tie around.

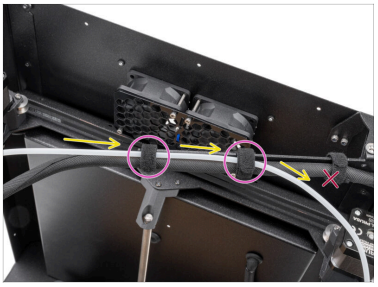
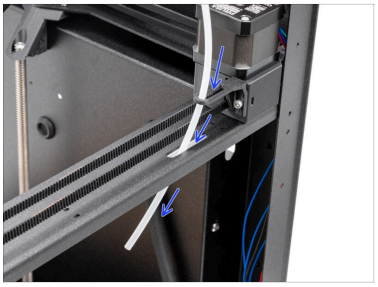
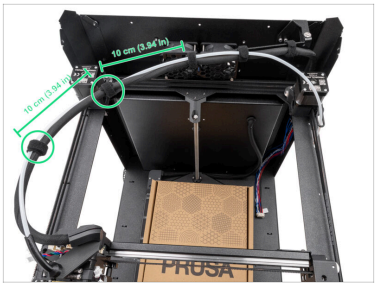
SCHRITT 41 Inserting the PTFE tube



- Push one end of the PTFE tube through the bowden-bend and keep protruding at least 1 cm (0.39 in) of the tube.
- Insert the PTFE tube into the fitting M5-4 on the Nextruder. Push it all the way down.
- Slide bowden-bend down to cover the fitting M5-4.

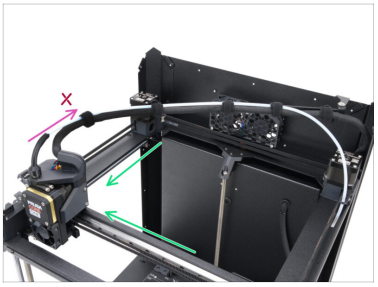
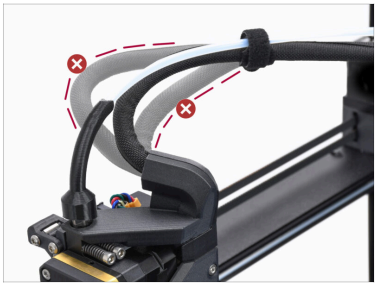
SCHRITT 42 Securing the PTFE tube

- Route the PTFE tube in parallel with the main cable, ensuring the PTFE tube stays above the main cable.
- Secure the PTFE tube and main-cable to the swingarm using two cable ties to the remaining cutouts.

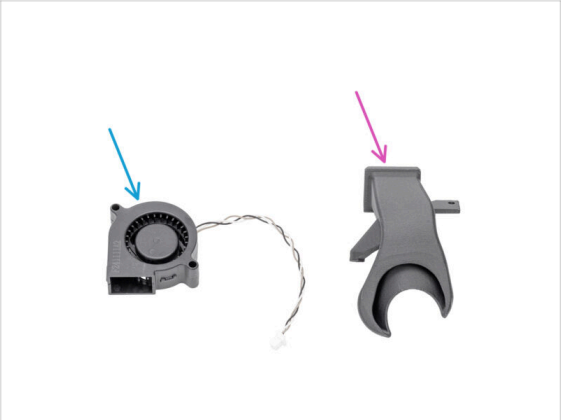
  ⚠ Do not pass the PTFE tube through the first cable tie on the swingarm.
- Push the free end of the PTFE tube through the Bowden guide and CoreXY plate downward. Leave the end hanging freely.
- Merge the PTFE tube and main-cable with the remaining two cable ties, leaving a 10 cm (3.94 in) distance between them.

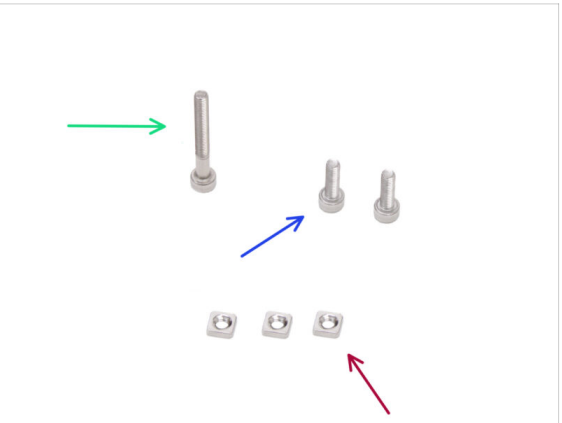
SCHRITT 43 Überprüfung der Bewegung


- Manually move the XY axes to their end positions several times and ensure that:
  - The main cable is not too tight and does not pull the Nextruder backward.
  - Das Hauptkabel bildet keinen besonders großen Bogen.
    - Wenn das Kabel zu straff ist oder einen großen Bogen formt, lösen Sie die Schraube am Main-cable-clip leicht und ziehen Sie das Kabel einige Millimeter nach oben oder nach unten. Ziehen Sie dann die Schraube wieder fest und testen Sie erneut.

SCHRITT 44 Print fan: parts preparation





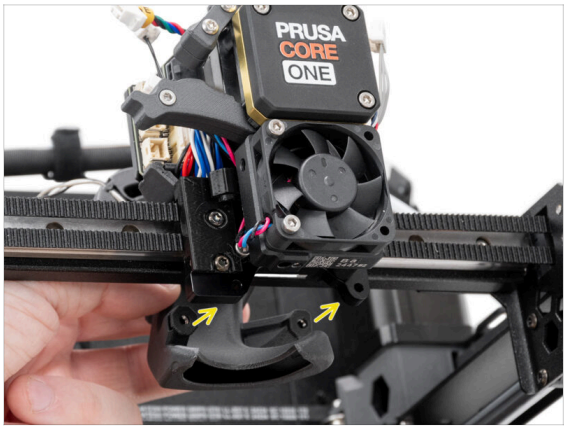
- **For the following steps, please prepare:**
- Print fan (1x) *found in the Electronics package*
- Fan-shroud (1x) *found in the Printed parts package*
- Schraube M3x25 (1x)
- Schraube M3x10 (2x)
- M3nS Mutter (3x)

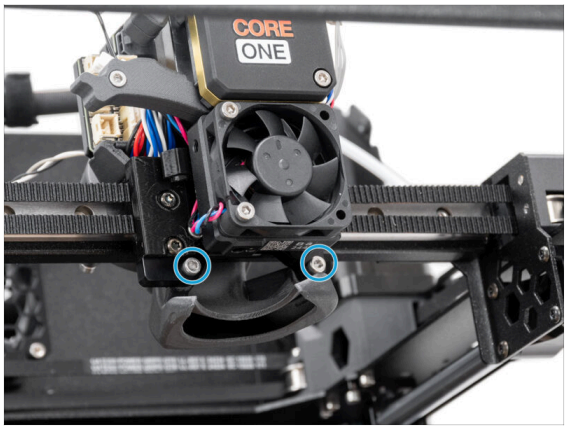
SCHRITT 45 Lüfterhaube montieren

- Insert two M3nS nuts from one side into the fan-shroud.
- Setzen Sie von der anderen Seite eine M3nS-Mutter in die Lüfterhaube ein.
- Insert the print fan into the fan-shroud as shown. See the correct orientation of the parts.
- Secure both parts together with one M3x25 screw.

⚠ Do not overtighten the screws to avoid damaging the fan housing.

SCHRITT 46 Installing the print fan assembly



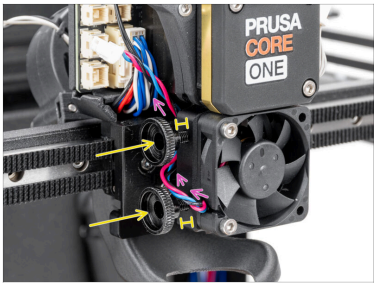


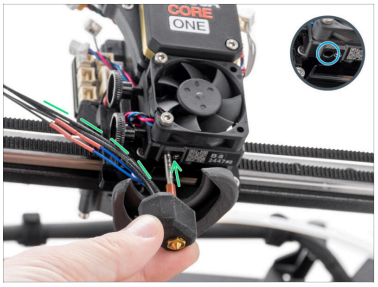
- Attach the print fan assembly to the back of the Nextruder.
  - Richten Sie die Löcher in der Nextruder-Halterung an den Löchern in der Lüfterhaube aus.
- Secure the fan-shroud to the Nextruder holder using two M3x10 screws.

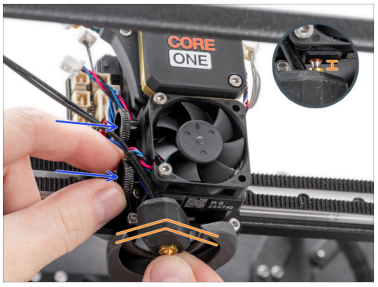
SCHRITT 47 Hotend: Vorbereitung der Teile

- **For the following steps, please prepare:**
- Rändelschraube (2x) *finden Sie im Electronics Paket*
- Prusa Hotend assembly (1x) *found in the Electronics package*

SCHRITT 48 Einsetzen des Hotends



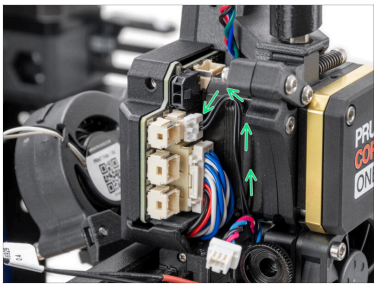
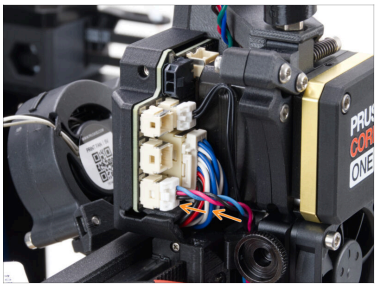
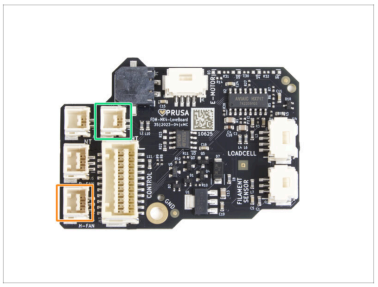




- Route the heatsink fan cable above the first threaded hole in the heatsink.
- Setzen Sie zwei Rändelschrauben in den Kühlkörper ein. **Ziehen Sie sie nicht ganz fest.** Zwei Umdrehungen sind für den Moment ausreichend.
- Look closely at the underside of the heatsink and find the hole for the hotend assembly.
- Insert the hotend assembly tube in the hole and slide the whole thing into the heatsink.
  - Point the cables to the left according to the photo.
- Push the hotend assembly all the way into the heatsink. There should be approximately a 2 mm (0.08 in) gap between the heatsink and the brass part of the nozzle.
- While pushing the hotend assembly in, **firmly tighten both thumb screws**.

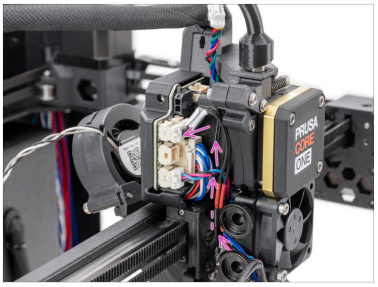
⚠ **Avoid pinching any cable between the screws and the heatsink!**

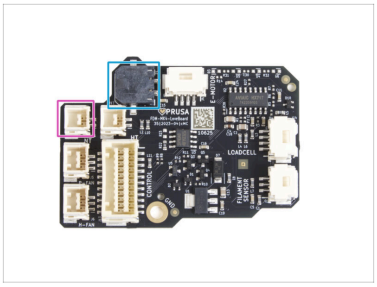
SCHRITT 49 Connecting the heatsink cables

- Plug the NTC thermistor cable into the connector above the main cable on the LoveBoard.
- Stecken Sie das Kabel des Lüfters des Hotends in den unteren Anschluss in der linken Reihe des LoveBoards.

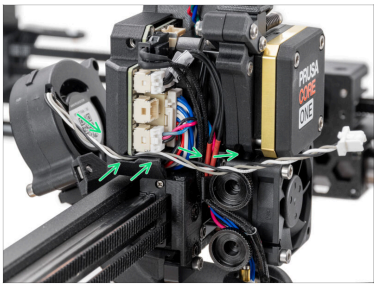
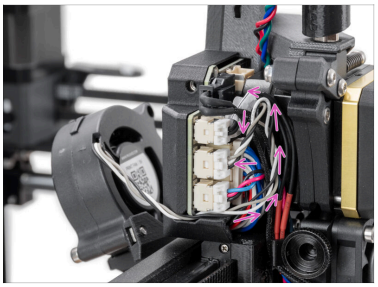
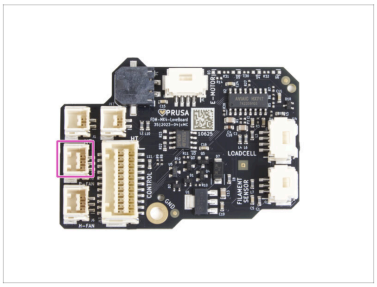
SCHRITT 50 Connecting the hotend cables





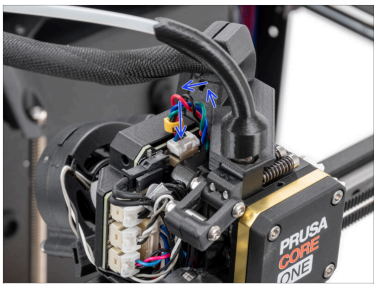
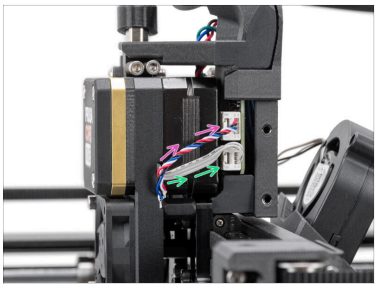
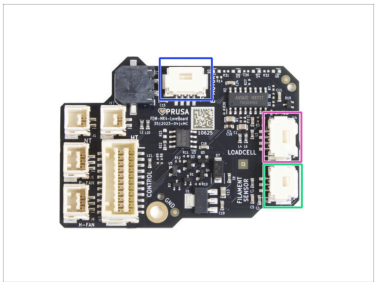
- Guide the hotend thermistor through the cable-clip on the Nextruder and connect it to the LoveBoard.
- Führen Sie die Hotend-Heizung durch die Kabelklemme am Nextruder und verbinden Sie sie mit dem LoveBoard.

SCHRITT 51 Connecting the print fan cable

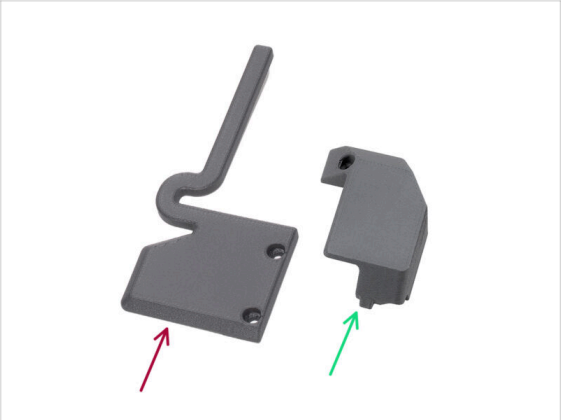
- Guide the print fan cable through the channel in the plastic cover.
- Erstellen Sie mit dem Kabel des Drucklüfters im Kabelbereich eine Schlaufe und stecken Sie es in den mittleren Anschluss des LoveBoards.

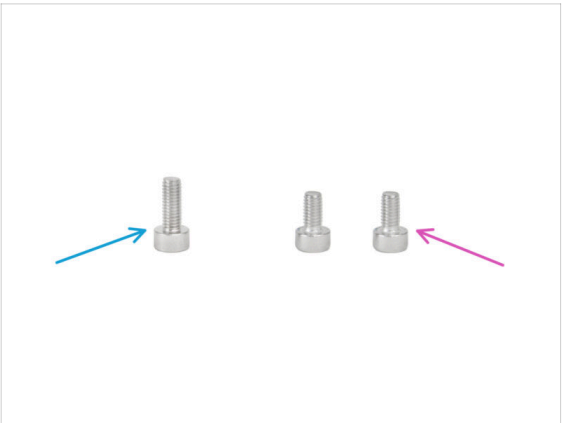
SCHRITT 52 E-Motor-Kabel anschließen

- Plug the Nextruder motor (labeled E) to the top-facing connector.
- Stecken Sie das Kabel der Wägezelle (unteres Kabel) in den oberen Anschluss auf der rechten Seite des Nextruder.
- Plug the filament sensor (upper cable) to the lower connector.

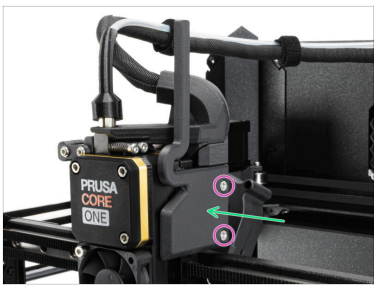
SCHRITT 53 LoveBoard covers: parts preparation

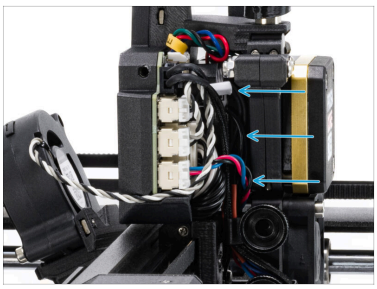


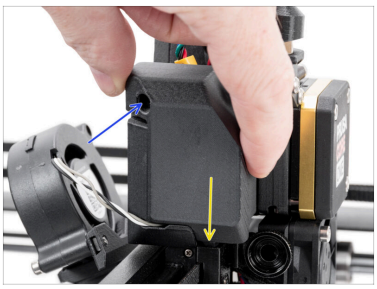


- **For the following steps, please prepare:**
- Printhead-cover-right-lever (1x)
- Print-head-cover-right (1x) *found in the Printed parts package*
- Schraube M3x10 (1x)
- Schraube M3x6 (2x)

SCHRITT 54 Abdecken des LoveBoards



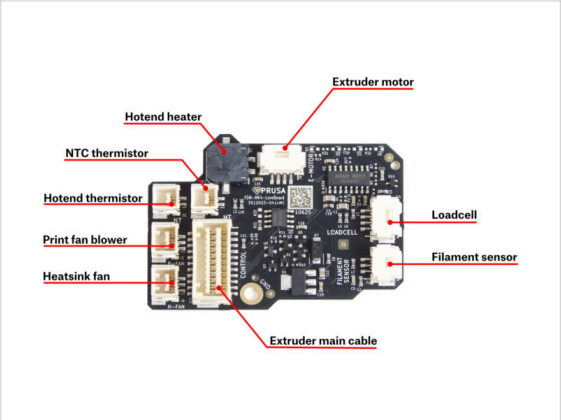


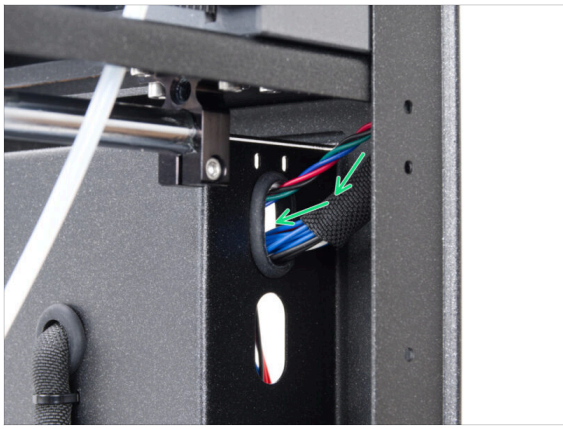


- Setzen Sie den Printhead-cover-right-lever auf die rechte Seite des Nextruders.

  ⚠ Klemmen Sie die Kabel nicht ein!
- Secure the cover with two M3x6 screws.
- Squeeze the wiring harness as far inward to the LoveBoard as possible so that it does not protrude out and interfere with the fitting of the cover.
- Attach the Print-head-cover-left on the left side of the Nextruder.
  - **Note the protrusion on the underside of the cover** - the **protrusion must fit into the counterpart** on the Nextruder.
- Secure the cover with one M3x10 screw.

SCHRITT 55 LoveBoard: Verdrahtung prüfen



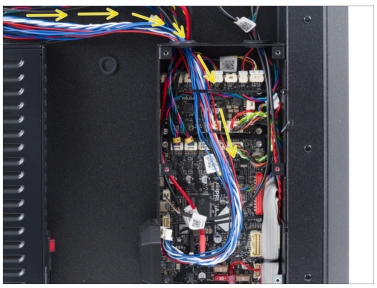


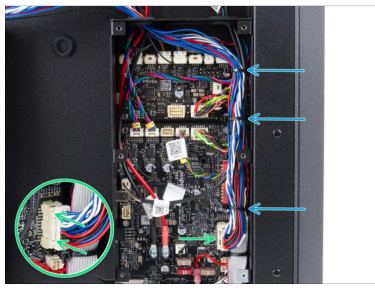
⚠ **Before covering the electronics, check the connection of all cables.**

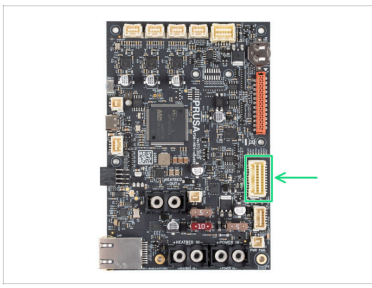
ⓘ Klicken Sie auf das Bild, um es in der hochauflösenden Vorschau zu öffnen.

- Guide the main-cable through the upper hole on the right side of the back panel assembly.
  - Leave the end of the cable hanging freely for now.

SCHRITT 56 Guiding the main cable



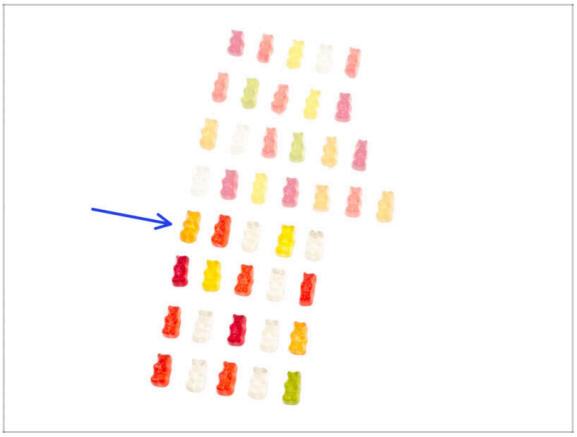




- Rotate the printer so that the backside faces you.
- Führen Sie das Hauptkabel durch das linke Loch in die xBuddy-Box.
- Plug the main-cable to the slot on the right side of the xBuddy board.

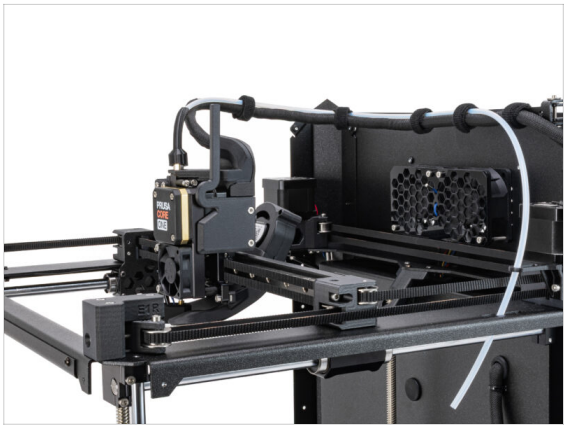
  ⓘ If the cable does not reach the connector or is too tight, go back to step Guiding the main cable and pull the cable slightly downward from the main-cable-clip.
- Befestigen Sie die Kabel mit den vorgefädelten Kabelbindern in der xBuddy-Box. Schneiden Sie den Überschuss vorsichtig ab und achten Sie darauf, **die Kabel nicht zu beschädigen**.

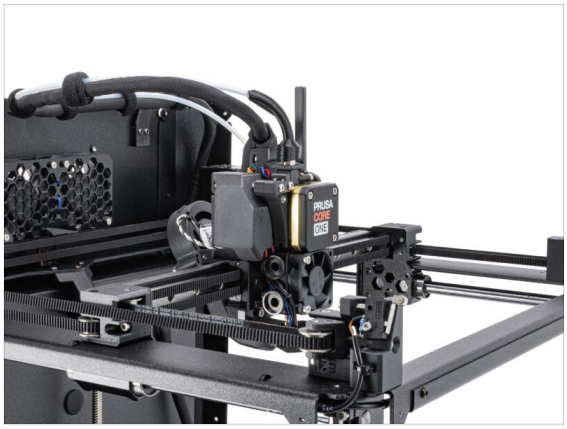
SCHRITT 57 Haribo Zeit!



- Power up and push forward!
- Essen Sie die fünfte Reihe.
- Noch nicht satt?

SCHRITT 58 Abgeschlossen

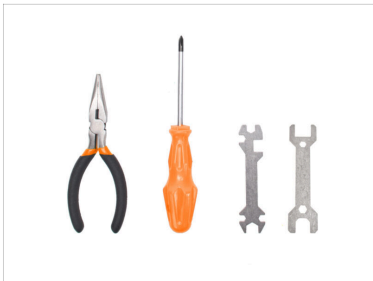




- Congratulations! You just successfully assembled the Nextruder.
- Lassen Sie uns zum nächsten Kapitel gehen.

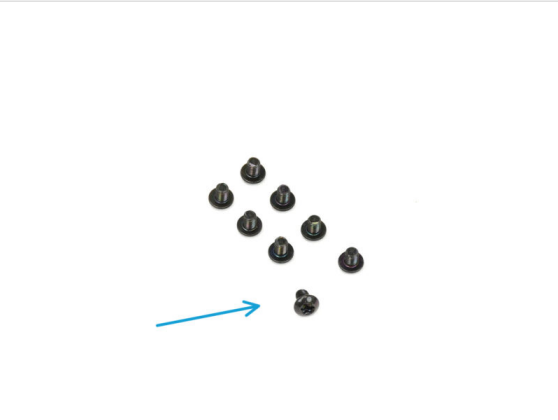
7. Bodywork & Electronics

SCHRITT 1 Tools necessary for this chapter



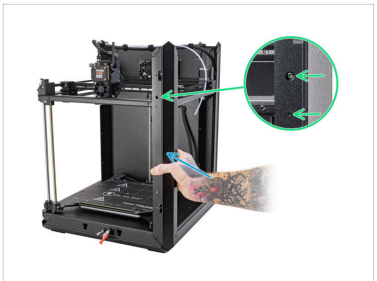
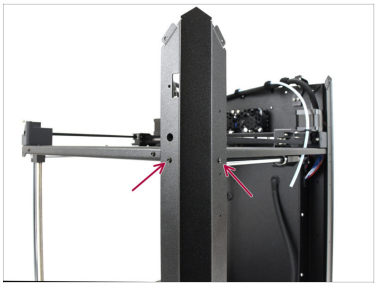
- **For the following steps, please prepare:**
- 2,5mm Innensechskantschlüssel
- 1,5mm Innensechskantschlüssel
- T10 Innensechsrund Schlüssel
- Spitzzange
  - Seitenschneider (optional)

SCHRITT 2 Front profiles: parts preparation



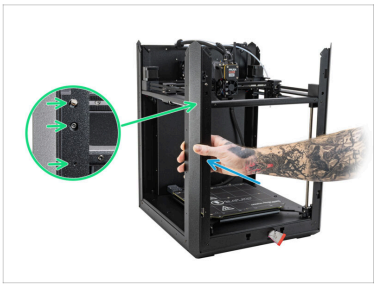
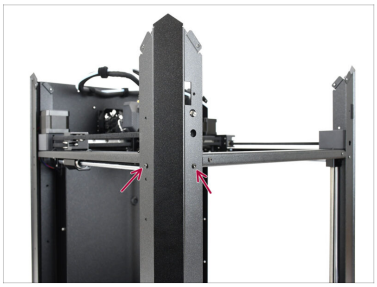
- **For the following steps, please prepare:**
- Front Left Profile (1x) *found in the Metal parts 1/3 package*
  - ⓘ The one with the two circular openings on top.
- Front Right Profile (1x) *found in the Metal parts 1/3 package*
  - ⓘ The one with one circular opening on top.
- Schraube M3x4rT (8x)

SCHRITT 3 Installing the front right profile

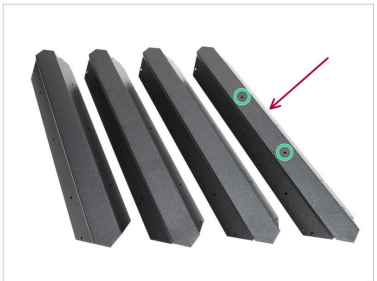
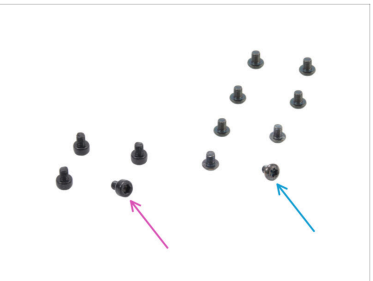
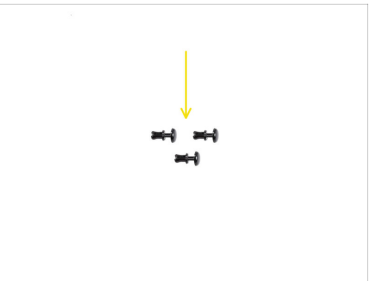

- Attach the Front Right Profile to the printer.
  - ⓘ Ensure you are using the correct profile—it should have **one large round opening** for the belt tensioning screw.
- Align the profile so that the calibration screw opening and the smaller bolt opening line up with the thread.
- Secure the profile to the CoreXY assembly using two M3x4rT screw
- Fix the profile at the bottom using the two M3x4rT screws.

SCHRITT 4 Installing the front left profile


- Attach the Front Left Profile to the printer.
  - ⓘ Ensure you are using the correct profile—it should have **two large round openings** for the door sensor and the belt tensioning screw.
- Align the profile so that the openings match. **Be careful not to bend the door sensor lever!**
- Secure the profile to the CoreXY assembly using two M3x4rT screw
- Fix the profile at the bottom using the two M3x4rT screws.

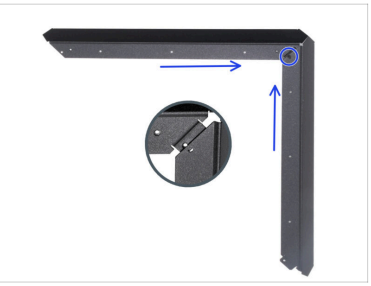
SCHRITT 5 Top profiles: parts preparation

- Top Profile (4x) *found in the Metal parts 1/3 package*
  - Note that one of the profiles has two openings in the middle—this one belongs at the back.
- Schraube M3x4rT (8x)
- M3x4 screw (4x) *with the different head type*
- Nylon-Niete (3x)

SCHRITT 6 Assembling the top profiles I.



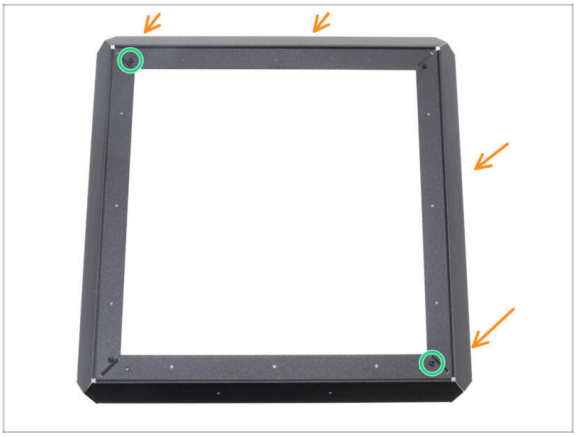


⚠ Be very careful when handling sharp sheet metal parts to avoid injury or damage.

- According to the picture, place the top profile with two holes on the flat side.
  - Richten Sie das Teil gemäß der Abbildung aus. **Verwenden Sie den Flansch als Führung**.
- Place any other of the top profiles on the left side. Orient the part according to the picture. **Use the flange as a guide**.
- Attach the two profiles together.

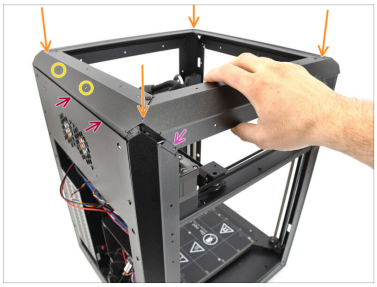
  ⚠ The flange of the front plate (blue arrow) must be inserted **under** the left universal profile (green arrow), not on top of it.
- Align the holes in both parts and join both parts together with the M3x4 screw.
- Using the same procedure, join the other two profiles to form a corner, securing them with an M3x4 screw.

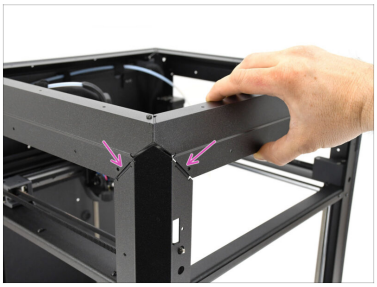
SCHRITT 7 Assembling the top profiles II.



- Attach the corner profile assembly to the first one, aligning the holes on the flanges with the holes in the profiles.
- ⚠ Ensure the flanges are positioned **underneath** the profiles.
- Verbinden Sie die beiden Profilbaugruppen mit zwei M3x4-Schrauben.

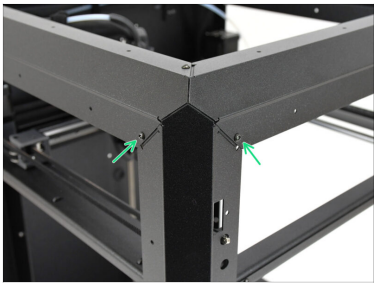
SCHRITT 8 Aligning the top profiles





- Find the profile with **two openings in the middle**—this part should be positioned at the **rear of the printer.**
- Add the top profile assembly onto the printer, making sure the two openings are facing the back.
  - Der hervorstehende Teil des hinteren Profils muss hinter dem hinteren Blech positioniert werden.
  - On the sides and front, the profiles must sit on top of the tabs with threaded openings.

SCHRITT 9 Installing the top profiles



- Once all the top profiles are properly aligned, fix them in place using the remaining 8 M3x4rT screws in the corners.
- Attach the back panel to the top profile with three nylon rivets.

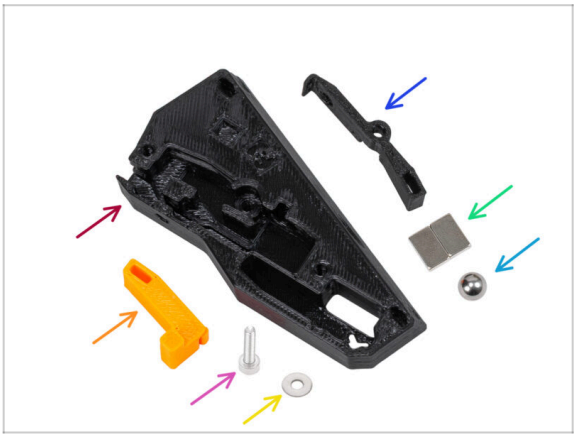
SCHRITT 10 CoreXY fixing screws: parts preparation

- **For the following steps, please prepare:**
- Schraube M3x4rT (4x)

SCHRITT 11 Fixing the CoreXY assembly

- Align the CoreXY assembly so the threaded holes match the screw openings in the rear profiles. You may need to push the assembly upward to align the holes.
  - Fix the CoreXY assembly using the four M3x4rT screws in the marked openings.

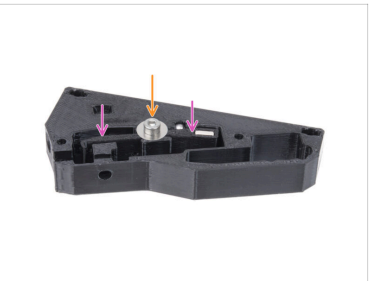
SCHRITT 12 Side sensor base: parts preparation



- **For the following steps, please prepare:**
- Filament-sensor-body (1x)
- Filament-sensor-lever (1x)
- Filament-sensor-switch (1x)
- Schraube M3x10 (1x)
- 10x6x2mm magnet (2x) *found in the Electronics & Fasteners package*
- 7mm Ferromagnetic Ball (1x) *found in the Electronics & Fasteners package*
- M3w Unterlegscheibe (1x)

SCHRITT 13 Assembling the side sensor base





- Insert one of the magnets into the dedicated opening in the Lever.
- Insert the ball into the corresponding opening on the inside of the sensor base.
- Setzen Sie den Hebel mit dem Magneten in die Basis ein.

  ⓘ The part with the magnet should be positioned next to the ball.

  Note that the ball will be attracted to the magnet—ensure it stays securely in place.
- Fix the lever in place using the M3w washer and M3x10 screw. Tighten it just a few turns for now—enough to hold it in place.

  ⚠ **Do not fully tighten the screw.** Otherwise, the lever will not move and the sensor will not work!

SCHRITT 14 Testen des Hebels

- Verify the lever is able to move freely.
- If the lever does not move freely or cannot move at all, loosen the screw by a quarter turn and test the movement again.

  ⚠ The screw **must not be fully tightened**; otherwise, the lever will not be able to move freely.

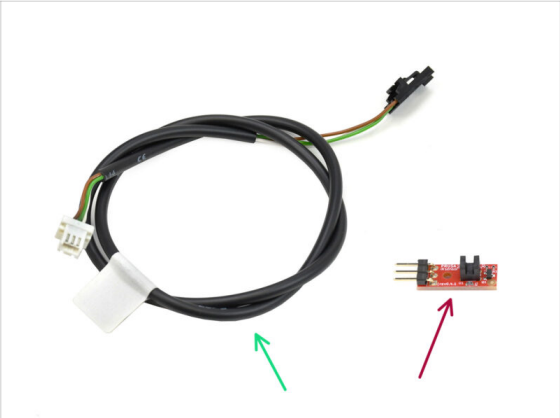
SCHRITT 15 Zusammenbauen des Schalters



- Insert the second 10x6x2 magnet into the filament-sensor-switch.
- Install the filament-sensor-switch into the filament-sensor-body.
  - Move the filament-sensor-switch to the left end position so the magnets face each other.
- Make sure **the magnets repel** - they should push away from one another.
  - **If they attract** - pull toward each other: remove the magnet from the filament-sensor switch and flip its polarity. Then check it again.

ⓘ *Pro tip: Use one of the thin hex keys or Torx keys to remove the magnet from the filament-sensor-switch.*

SCHRITT 16 IR Sensor: parts preparation

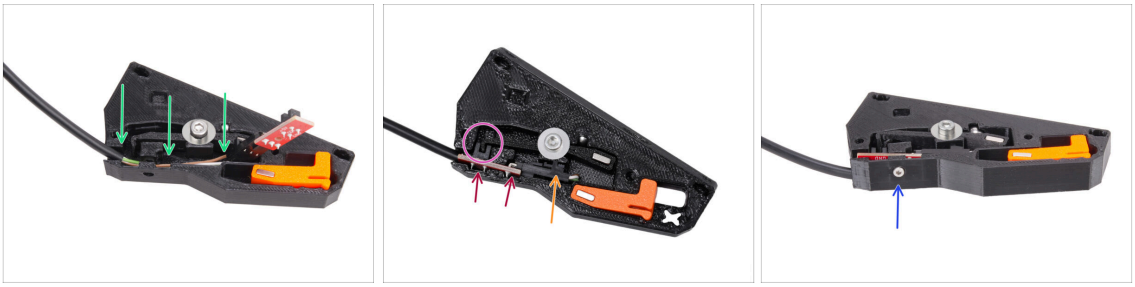



- **For the following steps, please prepare:**
- Side Filament Sensor Cable (1x) *found in the Electronics & Fasteners package*
- IR Filament Sensor (1x) *findet sich im Electronics & Chamber parts Paket*
- Side Filament Sensor Cover (1x) *found in the Printed package*
- Schraube M2x8 (1x)
- Schraube M3x10 (2x)
- M3nS Mutter (2x)

SCHRITT 17 Connecting the IR sensor

- Plug the cable into the IR filament sensor.
  - ⚠ Ensure the connector is oriented correctly before plugging it in!
  - Beim CORE One muss das braune Kabel mit dem +5V-Pin verbunden werden.
  - The white cable connects to the GND pin.

SCHRITT 18 Installing the IR sensor



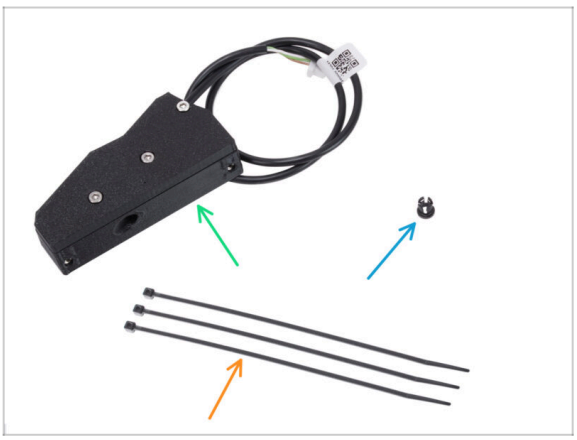
- First, insert the cable into the groove. The black connector should be approximately in the middle of the sensor base.
- Insert the IR sensor itself into the dedicated groove.
- The lever must fit into the optical gate part of the sensor.
- Make sure neither the connector nor the cables touch the lever, as this could prevent the sensor from functioning correctly.
- Using the 1.5mm Allen key, fix the sensor in place with the M2x8 screw.

SCHRITT 19 Installing the side sensor cover

- Insert the two M3nS nuts into the designated openings. Use a 1.5mm Allen key to **push them all the way in**.
  - Look from the side to ensure the threads in the nuts align with the openings.
- Add the cover part onto the assembly.
- Fix the cover in place using two M3x8 screws on the sides.

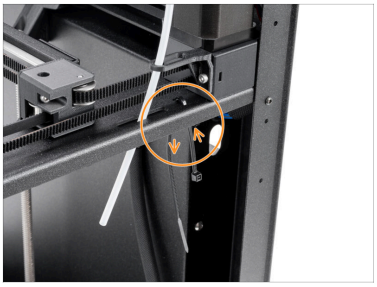
⚠ **Do not tighten the screw in the middle!** Otherwise, the sensor would stop working.

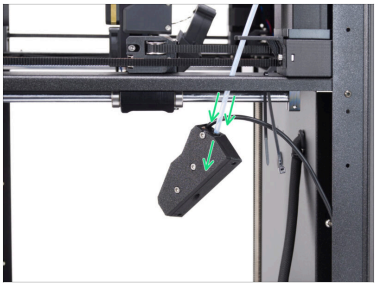
SCHRITT 20 Side filament sensor: parts preparation



- **For the following steps, please prepare:**
- Side Filament Sensor Assembly (1x) *you assembled earlier*
- Collet (1x) *found in the Electronics & Fasteners package*
- Kabelbinder (3x)

SCHRITT 21 Installing the side filament sensor

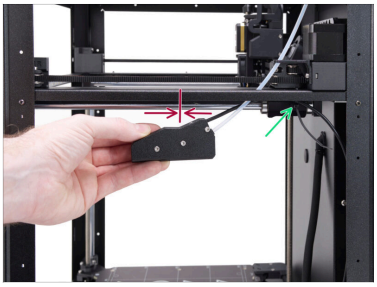
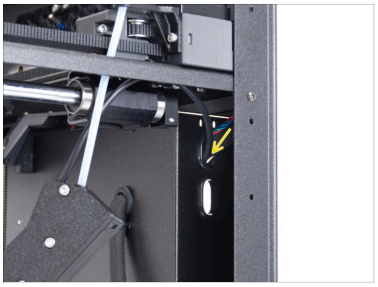




- Install one zip-tie into the marked openings. We will use it to attach a cable underneath the metal profile.
- Insert the collet into the marked opening on the sensor assembly.
- Attach the sensor assembly onto the PTFE tube in the printer.

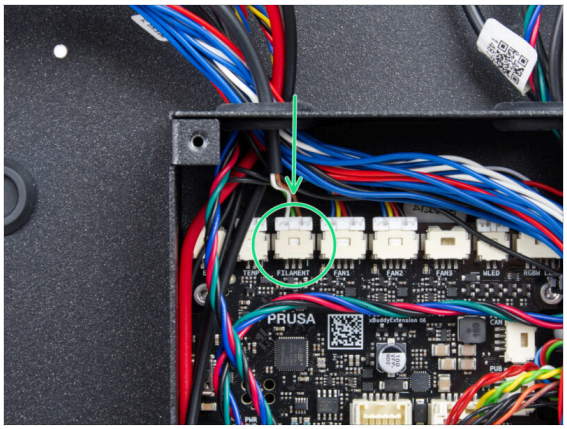
⚠ Make sure to push the tube all the way in!

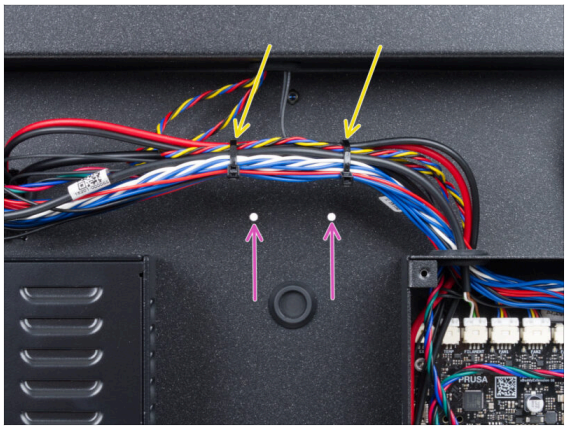
SCHRITT 22 Guide the filament sensor cable


- Move the sensor assembly up, roughly to the middle of the printer's frame, to align the cable properly.
- Befestigen Sie das Kabel mit einem Kabelbinder unter dem Metallprofil, sobald es in Position ist. Ziehen Sie den Kabelbinder leicht an, damit Sie das Kabel bei Bedarf später noch anpassen können. Schneiden Sie den überschüssigen Kabelbinder ab.
- Guide the sensor cable through the dedicated opening to the back of the printer.
- On the back of the printer, guide the cable into the xBuddy box. Leave it hanging loosely for now.

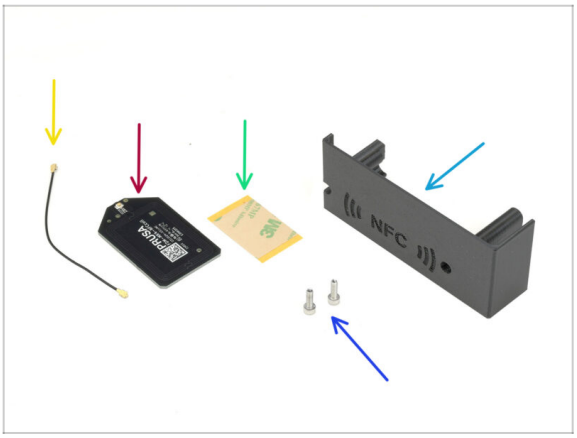
SCHRITT 23 Connecting the side filament sensor





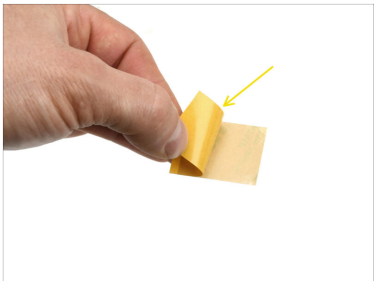
- Connect the Side Filament Sensor cable into the connector labeled FILAMENT on top of the xBuddy extension board.
  - ⓘ Sie können eine Spitzzange zur Hilfe nehmen, aber achten Sie darauf, die Kabel nicht zu beschädigen.
- Use two zip-ties to clamp the cable bundle together in the marked area.
  - Secure the cables in the **highest possible position** to ensure they clear the two openings on the sheet metal below.
  - ⚠ Do not over-tighten the zip ties or strain the cables too much!

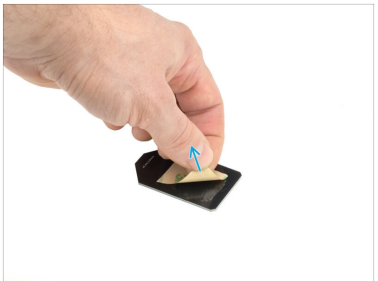
SCHRITT 24 NFC Antenna: parts preparation



- **For the following steps, please prepare:**
- El-box-cover (1x) *im Paket „Printed parts“ enthalten*
- Schraube M3x10 (2x)
- NFCcoil (1x) *found in the Electronics & Chamber parts package*
- Adhesive film 32 x 25 mm (1x) *found in the Electronics & Chamber parts package*
- NFC coil cable (1x) *found in the Electronics & Chamber parts package*

SCHRITT 25 Applying the adhesive film





- Peel off the yellow protective film from the adhesive tape.
- Apply the film to the flat side of the NFC coil, ensuring it adheres properly.
- Peel of the remaining protective layer from the NFC coil.

SCHRITT 26 Installing the NFC Coil

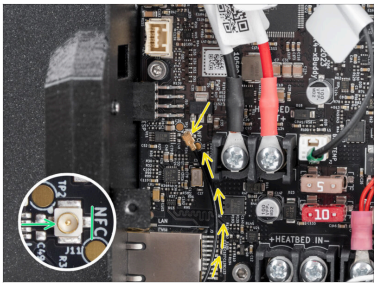

- Stick the NFC coil onto the inner side of the El-box cover, approximately as shown in the picture.

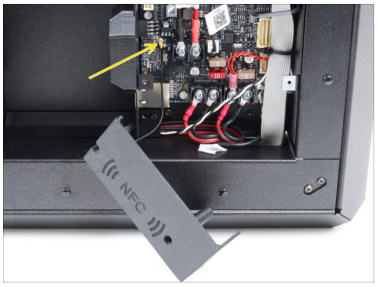
  ⓘ The small round connector should be positioned closer to the edge of the cover.

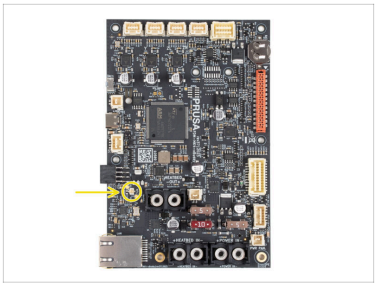
- Connect the cable to the board by aligning the connectors and pressing lightly until you feel a click, ensuring a secure connection.

  ⚠ Be careful when connecting the NFC coil cable. Misalignment or excessive pressure can cause irreversible damage.

SCHRITT 27 Connecting the NFC Coil

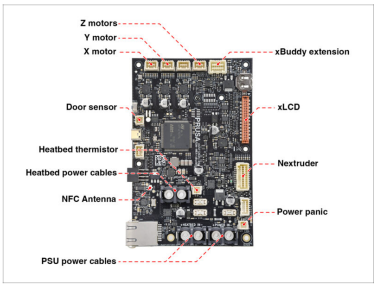


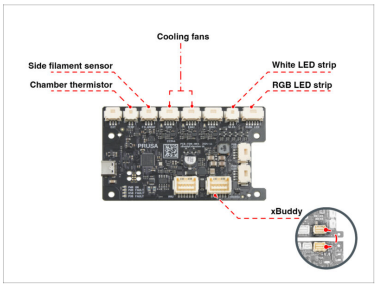




- Locate the small round connector labeled NFC on the bottom left side of the xBuddy board.
- Connect the NFC coil cable to the board by aligning the connectors and pressing lightly until you feel a click.

SCHRITT 28 Verdrahtung prüfen





- Use the pictures as a reference to verify your electronics connections.

⚠ Make sure that all connectors are fully inserted and PSU cables properly tightened. Otherwise, there is a risk of damage to the printer!

SCHRITT 29 Preparing the electronics cover

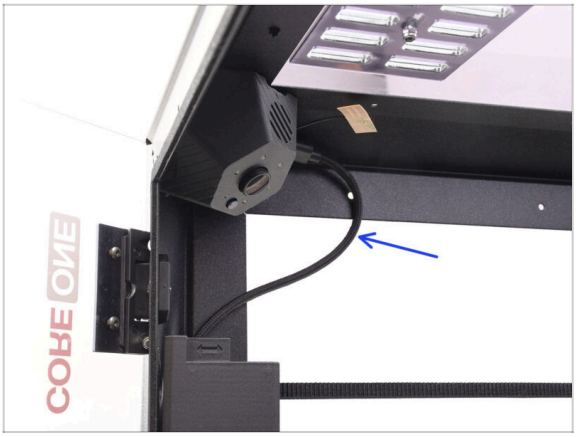
- Push two M3x10 screws through the El-box-cover.

SCHRITT 30 Installing the electronics cover

- Ensure the threaded holes on the bottom of the xBuddy box are not obstructed by cables.
  - If so, rearrange the cables to allow clear access.
- Align the cover with the opening in the xBuddy box and fix it in place by tightening the screws.
- Route the NFC cable through the space between the Ethernet connector and the PSU power cables.

  ⚠ **Avoid running it through the Ethernet connector or the power cables.** The cable may be damaged when covering the xBuddy box.

SCHRITT 31 Buddy3D Kamera Hinweis

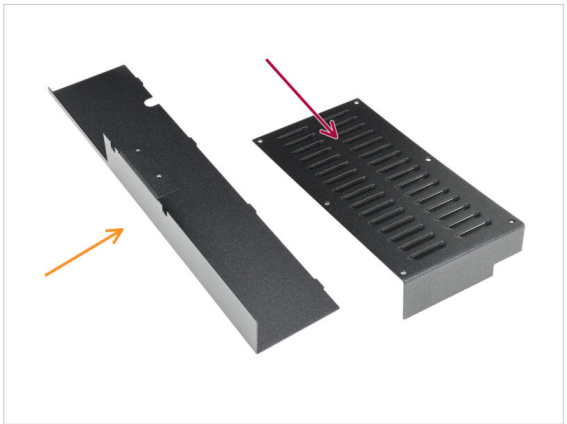


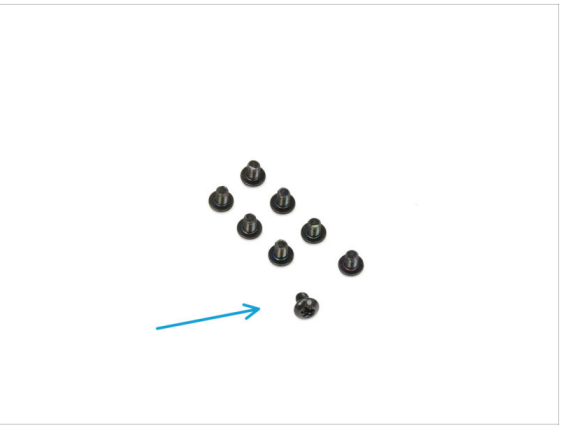
For future Buddy3D Camera users:

- If you plan to use the Buddy3D Camera, you have the USB cable installed already.

For detailed information on how to mount and connect the Buddy3D camera, return to this guide: **Buddy3D Camera for CORE One Installation**

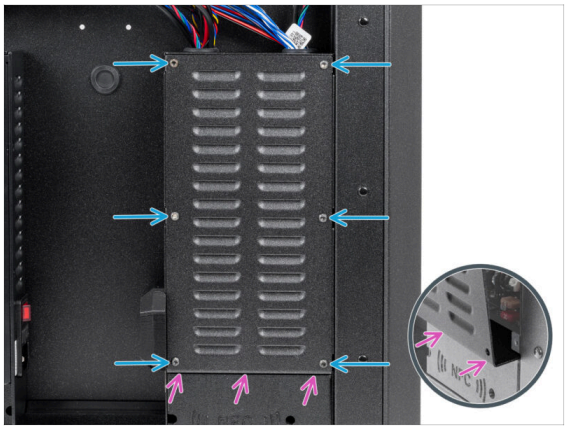
SCHRITT 32 xBuddy cover: parts preparation





- **For the following steps, please prepare:**
  - Sheet metal back cover (1x) *found in the Metal parts 2/3 package*
  - xBuddy cover (1x) *found in the Metal parts 3/3 package*
  - Schraube M3x4rT (8x)

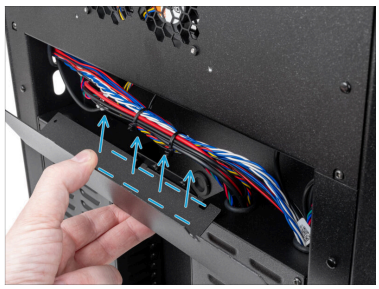
SCHRITT 33 Installing the xBuddy cover

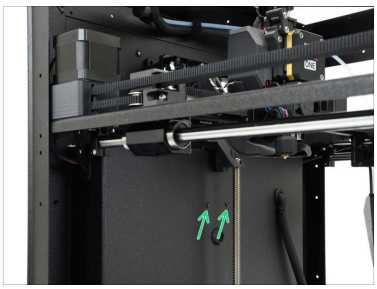


- Arrange the cables inside the xBuddy box as shown in the picture.
- Carefully cover the xBuddy box by first sliding the bent part of the cover into the box.

  ⚠ **Avoid pinching the cables.** Double-check the NFC coil cable position.
- Secure the xBuddy box cover using the six M3x4rT screws.

SCHRITT 34 Installing the rear cover





- Align the rear sheet metal cover so that the cables can run through the "tray".
- Place the rear sheet metal cover into the recess. Push it toward the printer, then move it upward to engage it.
  - There are four tabs that should engage into the printer's chassis.
  - Secure the rear cover in place using two M3x4rT screws from inside the printer.

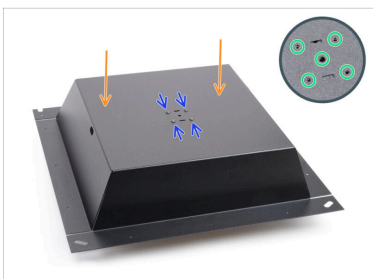
SCHRITT 35 Right side: parts preparation

- **For the following steps, please prepare:**
- Right side sheet metal (1x) *found in the Metal parts 2/3 package*

  ⚠ The correct **right-side** piece can be easily identified by the screw openings in the middle.
- M3x8rT screw (4x) *found in the Electronics & fasteners package*
- Puck-universal (1x)
- Any cardboard box (1x)

  Tip: A Prusament box works well.

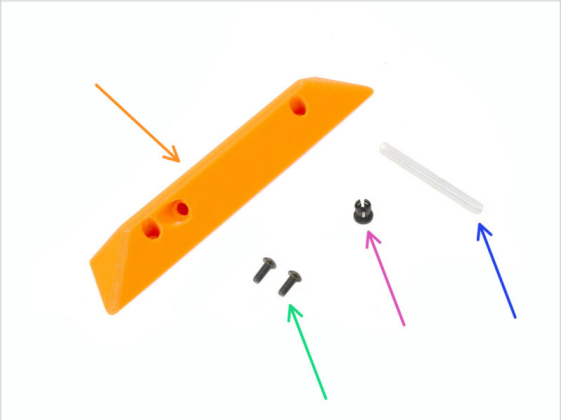
SCHRITT 36 Installing the spoolholder puck



- Legen Sie den Puck-universal so auf den Karton, dass die Schraublöcher nach oben zeigen.
- Setzen Sie die rechte Platte vorsichtig auf den Puck-universal und positionieren Sie sie in der Mitte der Box.
- Richten Sie die Löcher im Puck-universal mit den Löchern in der rechten Platte aus.
- Befestigen Sie den Puck-universal mit vier Schrauben M3x8rT.

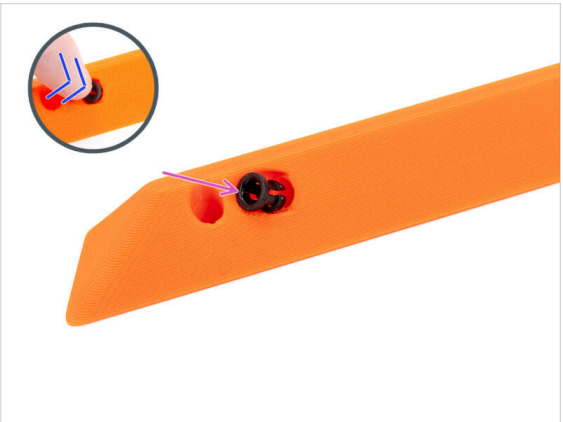
  ⓘ Screws may feel resistant when tightening, as they cut their own thread inside the part.

SCHRITT 37 Right handle: parts preparation



- **For the following steps, prepare:**
- Side Handle (1x) *found in the Printed parts package*
- Schraube M3x8rT (2x)
- Collet (1x) *found in the Electronics & Fasteners package*
- PTFE Tube 4 x 2.5 x 45 mm (1x) *found in the CoreXY parts + Hinges set package (together with hinges parts)*
- Nylon-Niete (11x)

SCHRITT 38 Einbau der Spannzange



- Insert the collet into the handle.
- Push it all the way in.

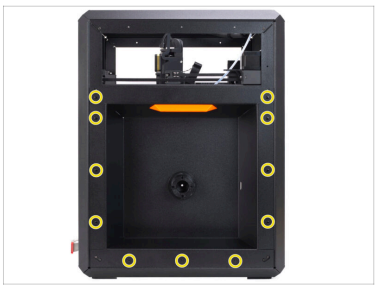
SCHRITT 39 Montieren des Griffs



- Place the right-side metal sheet assembly on the right side of the printer. Ensure the U-shaped cutouts are facing upwards.
- Attach the right handle to the right metal sheet.
- Push one M3x8rT screw through the rear hole in the handle and the metal sheet.
- Attach the side filament sensor assembly on the screw.

  ⚠ **Do not pull the side sensor assembly** too far; bring the right side metal sheet as close as possible.
- Tighten the screw just slightly—the nut must remain free to move.
- Align the side filament sensor with the front screw hole in the metal sheet and the handle.

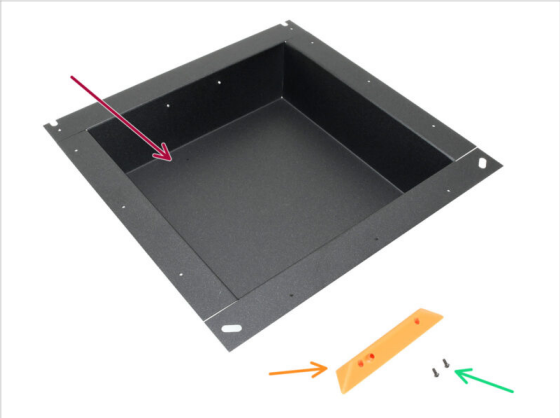
SCHRITT 40 Fixing the right side

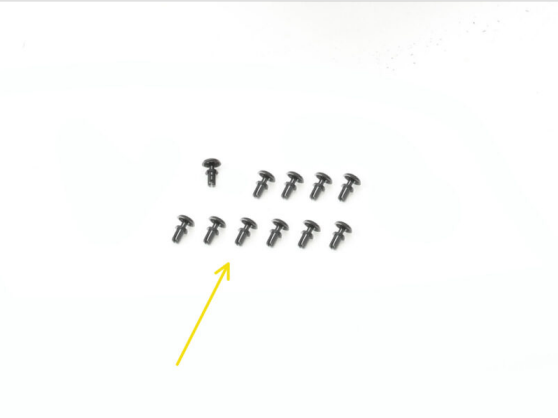




- Using the second M3x8rT screw, secure the right handle and the side filament sensor to the right metal sheet.
- Secure the side sheet metal to the printer using the 11 Nylon rivets.
- Insert the short PTFE tube 4 x 2.5 x 45 into the collet. Push it all the way in.

  ⓘ Part of the PTFE tube will remain protruding from the handle.

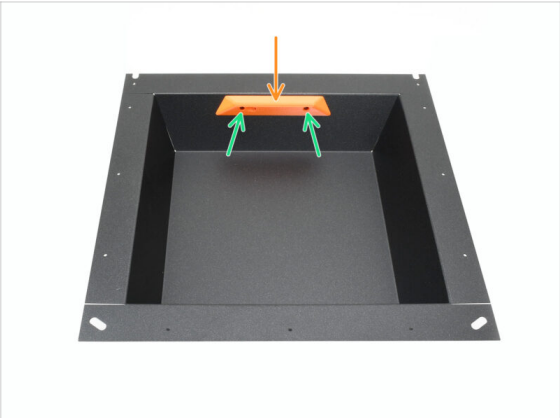
SCHRITT 41 Left side: parts preparation

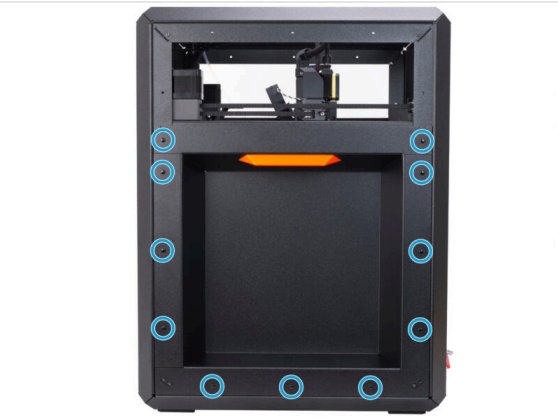




- **For the following steps, prepare:**
- Left side sheet metal (1x) *found in the Metal parts 2/3 package*
- Side Handle (1x) *found in the Printed parts package*
- Schraube M3x5rT (2x)
- Nylon-Niete (11x)

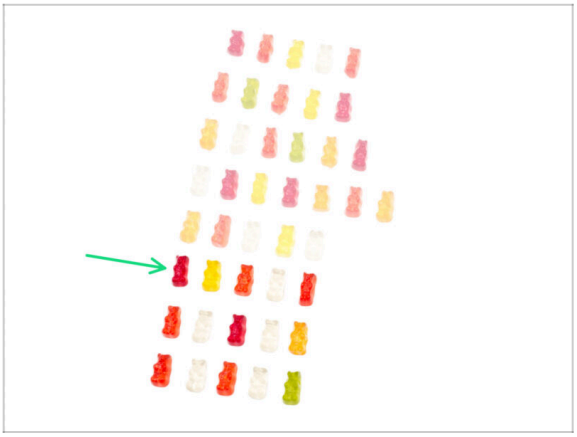
SCHRITT 42 Installing the left side





- Align the handle with the threaded openings in the sheet metal.
- Attach the handle using the two M3x5rT screws.
- Secure the side sheet metal to the printer using 11 nylon rivets.

SCHRITT 43 Haribo Zeit!



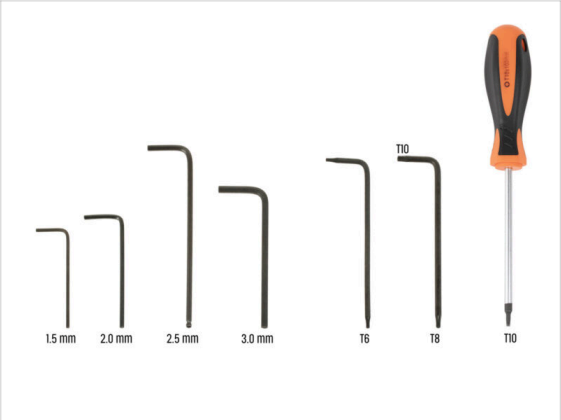
- Well done—fuel up for the next challenge!
- Eat the sixth row.
- So close! But **hands off those last gummies!**

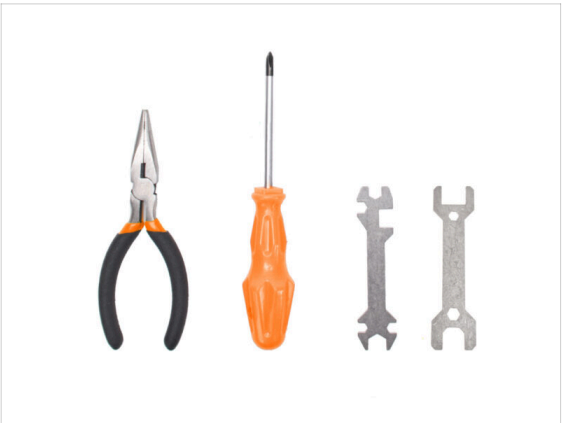
SCHRITT 44 Abgeschlossen

- Congratulations! You've successfully assembled the entire body.
- Let's move to the next chapter.

8. Trim, Door & xLCD

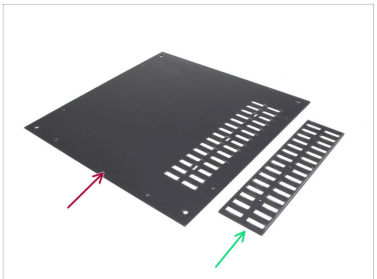
SCHRITT 1 Tools necessary for this chapter





- **For the following steps, prepare:**
- 2,5 mm Innensechskantschlüssel
- T10 Innensechsrund Schlüssel
- Spitzzange

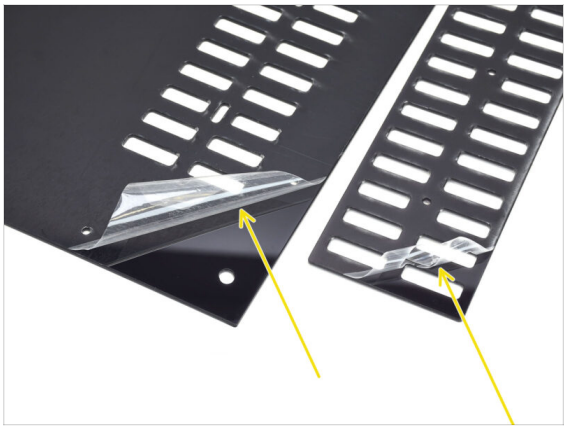
SCHRITT 2 Top cover: parts preparation

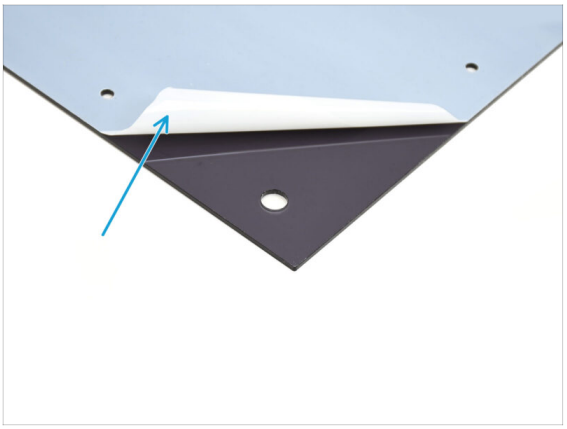


- **For the following steps, prepare:**
- Top cover (1x) *found in the Plexi set package*
- Vent cover (1x) *found in the Plexi set package*
- M3nN Mutter (3x)
- Insulating insert (3x) *found in the Electronics & Fasteners package*

  ⓘ Dieses Teil gibt es entweder in grau oder schwarz. Die Form ist jedoch identisch und hat keinen Einfluss auf das Verfahren.
- Schraube M3x12rT (3x)
- Nylon-Niete (4x)
- Upg-vent-block

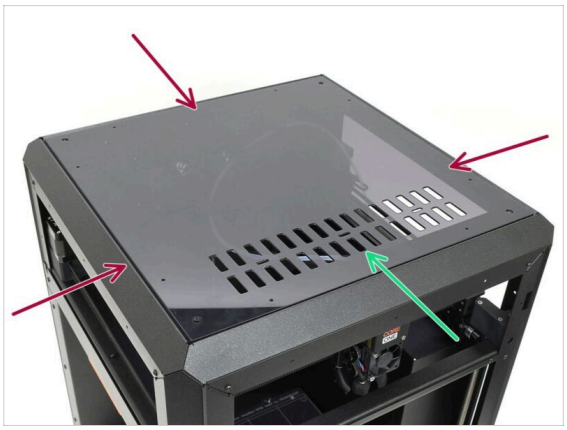
SCHRITT 3 Entfernen der Folie

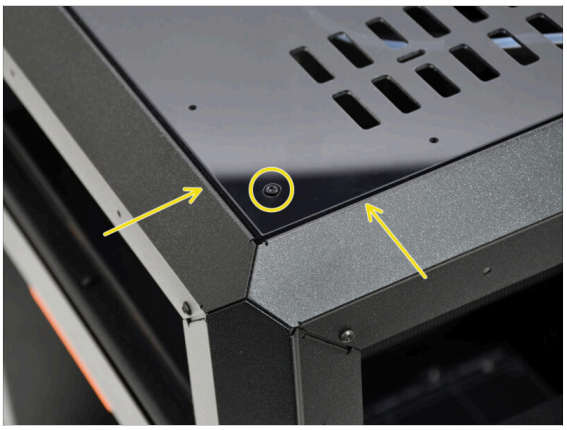




- First, remove the protection foil from both the plastic sheets.
- Flip the parts around and remove the protective foil from the other sides.

SCHRITT 4 Test-fitting the top cover



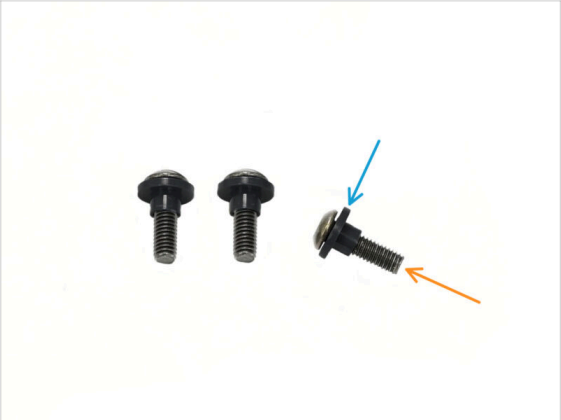


- Lay down the top cover onto the printer.
- The part with the vent openings should be oriented towards the front of the printer.
- If oriented correctly, the cover will align with the recess, and the bolt heads in the corners will fit into the cutouts.

  ⓘ If the bolt openings don't align, flip the cover.

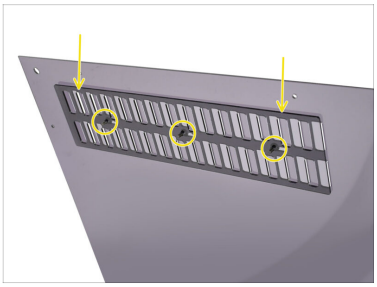
  Spoiler alert: The cover isn't symmetrical!

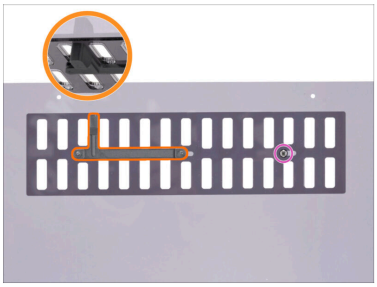
SCHRITT 5 Assembling the top cover I.

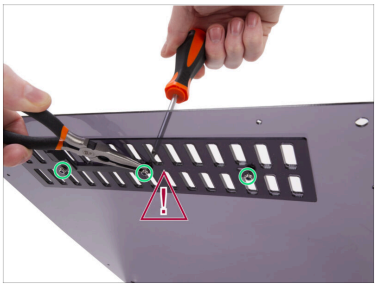


- Run all three M3x12rT screws through the insulating inserts.
  - Make sure the flanged part of the insert is oriented toward the screw head.
- Insert the screws with the inserts through the three slot openings in the vent.

SCHRITT 6 Assembling the top cover II.







- Align the vent cover with the screw ends on the bottom.
- Ziehen Sie die ganz rechte M3nN-Mutter auf der M3x12rT-Schraube handfest an, um die Abdeckung zu fixieren.
- Bringen Sie den Upg-Vent-Block an der Lüftungsabdeckung an. Achten Sie darauf, dass er richtig positioniert ist.
- Befestigen Sie den Upg-vent-block mit M3nN-Muttern an der Lüftungsabdeckung. Verwenden Sie eine Spitzzange, um die Muttern festzuhalten, während Sie die Schrauben anziehen.

  ⚠ The screw must be tight enough just to remove the slack. It must remain loose, or the ventilation cover won't open and close properly.

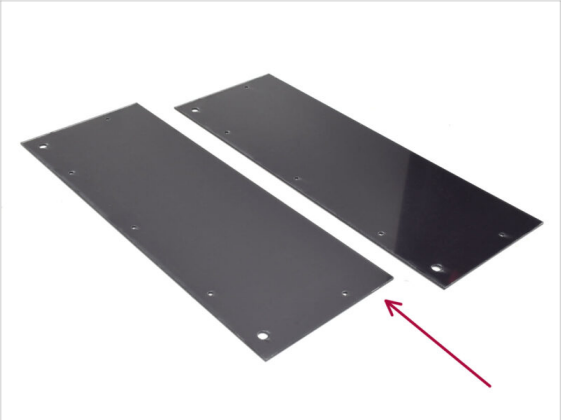
SCHRITT 7 Belüftung testen

- Try moving one of the three screws with your hand.
  - ⓘ The vent openings must open and close smoothly without effort.
- ⚠ If movement is difficult, loosen the screw that is restricting it.

SCHRITT 8 Installing the top cover

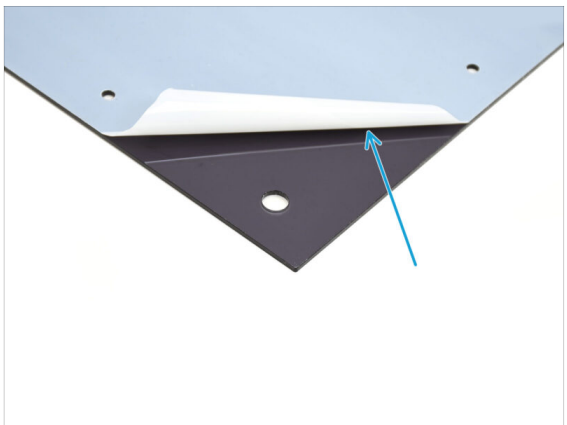
- Richten Sie die Abdeckung an der Aussparung am Drucker aus und achten Sie darauf, dass die Lüftungsöffnung nach vorne zeigt.
- Secure the cover to the frame using four nylon rivets in the marked openings.
  - ⓘ There are eight openings, but four rivets should be sufficient.

SCHRITT 9 Side covers: parts preparation



- **For the following steps, prepare:**
- Side Cover (2x) *found in the Plexi set package*
- Nylon-Niete (10x)

SCHRITT 10 Entfernen der Folie



- Remove the protective foil from both the side covers.
- Remove the protective foil from the other sides of both the side covers.

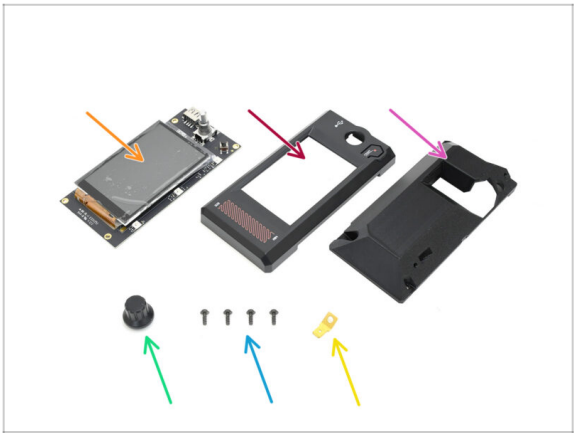
SCHRITT 11 Covering the left side

- Align the cover with the recess on the left side of the printer.
  - The protruding screws on the printer must align with the larger openings in the cover.
- Secure the cover to the frame using five nylon rivets in the marked openings.

SCHRITT 12 Covering the right side

- Align the other cover with the recess on the right side of the printer.
- Secure the cover to the frame using five nylon rivets in the marked openings.

SCHRITT 13 xLCD: Teile Vorbereitung



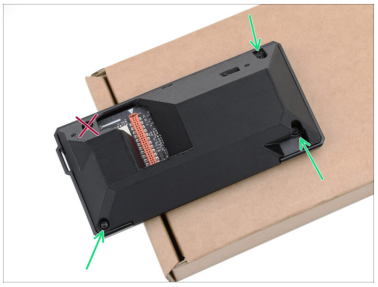
- **For the following steps, prepare:**
- xLCD (1x) *found in the Electronics package*
- xLCD Front Cover (1x) *found in the Printed parts package*
- xLCD Display-mount (1x) *found in the Printed parts package*
- Knob (1x) *found in the Printed parts package*
- Schraube 3x8sT (4x)
- Faston connector (1x) *found in the Electronics package*

SCHRITT 14 Assembling the xLCD I.

- Wir empfehlen, die Frontabdeckung mit der Vorderseite nach unten auf eine Kartonkante oder Tischkante zu legen, um Platz für den Encoderknopf zu schaffen.
- Remove the protective foil from the xLCD.
- Insert the xLCD into the front cover.

SCHRITT 15 Assembling the xLCD II.

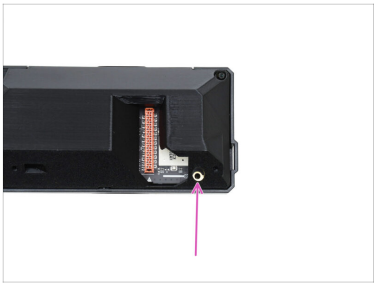
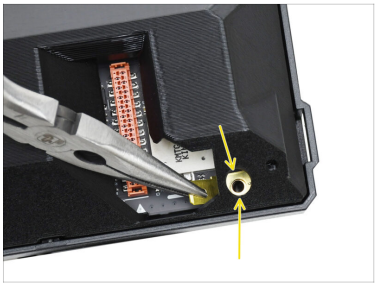
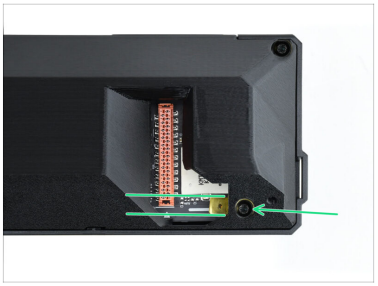




- Cover the assembly with the rear part.
  - Wenn Sie eine ältere Version der gedruckten hinteren Abdeckung haben, muss sie am xLCD selbst in der Ecke einhaken. Bei der aktuellen Version kann der hintere Teil einfach aufgelegt werden.
- Fix the parts together using **JUST THREE** 3x8sT screws in the marked openings.

  ⚠ Setzen Sie die Schraube nicht in die vierte Öffnung neben dem langen Anschluss für den xLCD-Anschluss ein, der durch den Ausschnitt sichtbar ist. Lassen Sie sie vorerst leer.

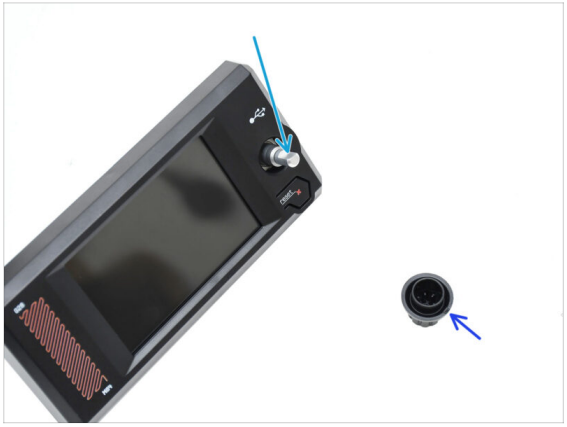
SCHRITT 16 Installing the FE Faston connector

- Let's move on to the fourth screw opening—this is where we will attach the grounding faston connector.
- Using needle-nose pliers, carefully maneuver the grounding faston connector over the screw opening, ensuring the holes line up.
- Secure the connector in place using one 3x8sT screw, making sure it stays lined up as indicated.

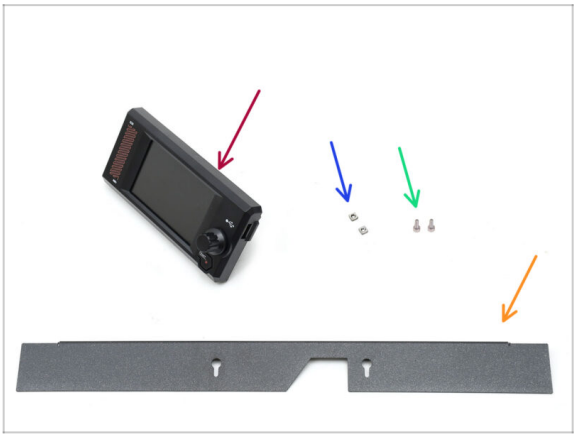
  ⚠ To prevent damaging some of the surrounding electronic components, be careful and make sure the connector doesn't spin, while tightening it.

SCHRITT 17 Installing the LCD knob



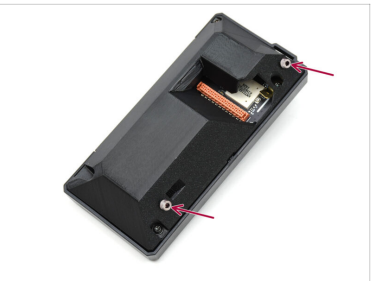
- There is a flat part on the encoder shaft. Rotate the encoder so that the flat part is facing up.
- There is a small gate scar on the injection-molded knob, which can serve as an orientation mark.
- Attach the knob onto the shaft, making sure the mark on the knob is facing up.

SCHRITT 18 xLCD bezel: parts preparation



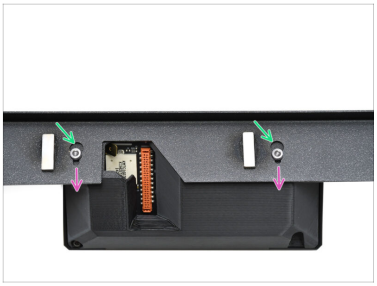
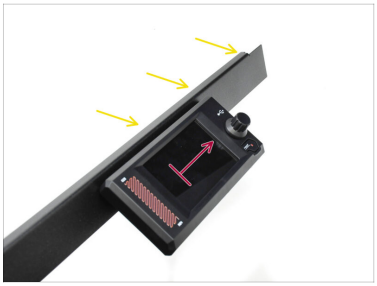
- **For the following steps, prepare:**
- xLCD (1x) *found in the Electronics package*
- M3nS Mutter (2x)
- Schraube M3x6 (2x)
- Bezel (1x) *found in the Metal parts 2/3 package*

SCHRITT 19 Mounting the xLCD I.

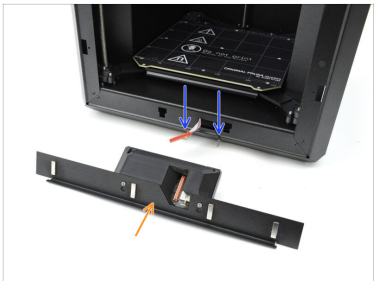
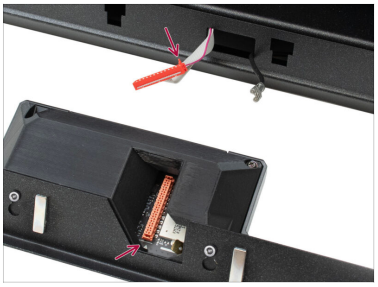

- Insert the two M3nS nuts into the dedicated openings on the back of the xLCD assembly,
  - Push the nuts all the way in until the threads line up with the screw openings.
- Attach two M3x6 screws into the openings. Do not screw them all the way in.
  - Leave a gap under the screw heads.

SCHRITT 20 Mounting the xLCD II.

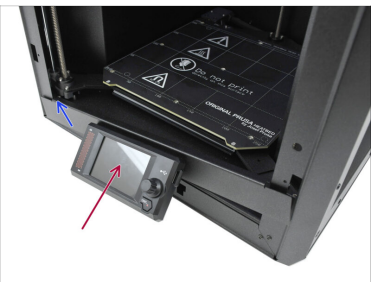
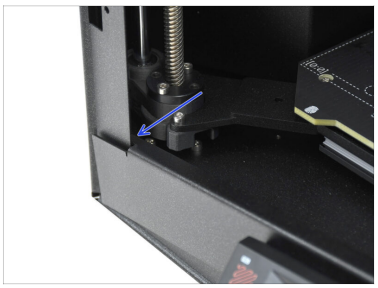

- Hook up the xLCD assembly onto the Bezel.
  - Insert the screw heads into the keyhole openings.
  - Slide the xLCD assembly so that the screw heads engage into the narrower parts of the keyholes.
- If assembled correctly, the LCD should be pointing up...
  - ...While the bent lip on the Bezel is on top.
- Push the screws all the way into the narrow part of the keyhole on both sides. Then, tighten the screws.

SCHRITT 21 Installing the xLCD assembly


- Put the xLCD assembly in front of the printer, as pictured.
- Pull the appropriate cables out from the front of the printer to make connecting them easier.
- There is a small red tab on the main connector. This tab must be oriented towards the triangle symbol on the PCB.
- Connect the main connector into the xLCD.
- Connect the grounding faston connector.

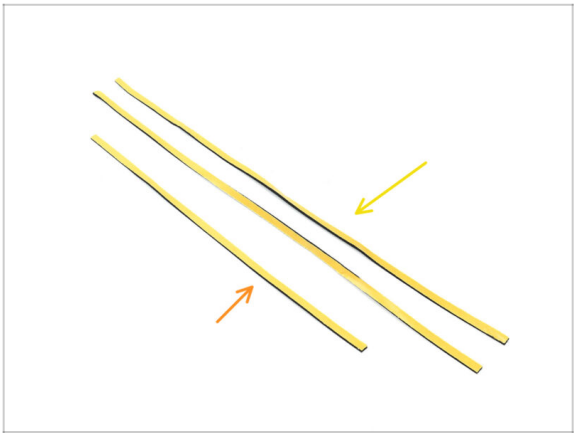
SCHRITT 22 Securing the xLCD assembly


- Gently lift the xLCD assembly into the upward position.

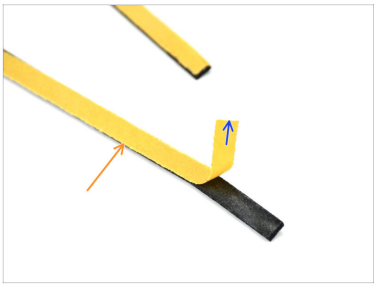
  ⚠ Proceed carefully to ensure none of the cables get pinched or disconnected.
- Hook the tiny tab on the left side of the bezel behind the left vertical profile of the printer.
- Gently lift the bottom part of the xLCD assembly to allow for smoother tab engagement and extra wiggle room.
  - Hook the tab on the right side into the printer's right profile.

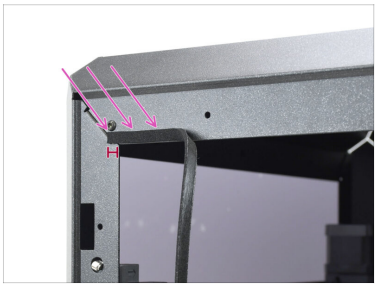
SCHRITT 23 Door seal: parts preparation



- **For the following steps, prepare:**
- Side door seal, a longer one (2x) *found in the Electronics & Fasteners package*
- Top door seal, a shorter one (1x) *found in the Electronics & Fasteners package*
- ⓘ The color of the protective layer may vary.

SCHRITT 24 Attaching the top seal





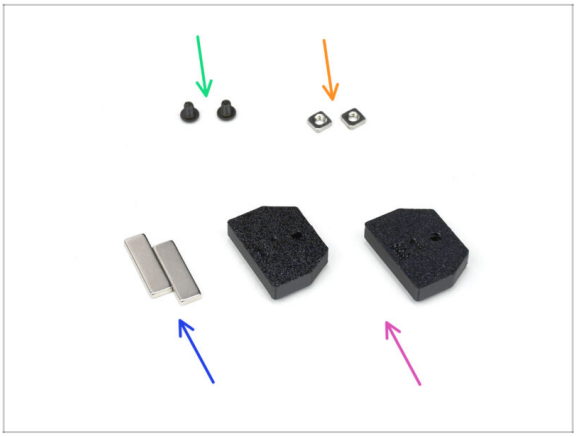
- Take the **SHORTER** seal.
- Peel off the start of the protective foil. No need to remove it entirely yet.
  - ⓘ No need to remove it entirely yet. For easier installation, you can peel it off gradually as you go.
- Start applying the seal along the top edge of the printer's frame.
  - Begin offset from the corner by a distance equal to the seal thickness.
- Apply the seal along the top edge, leaving the end offset from the corner, just like on the other side.

SCHRITT 25 Attaching the side seals


- Apply the longer door seal, starting from the end of the seal on top.
- Work your way from the top down.

  ⓘ With needle-nose pliers, trim the excess.
- Using the same technique, apply the remaining long seal along the left edge of the printer's frame.

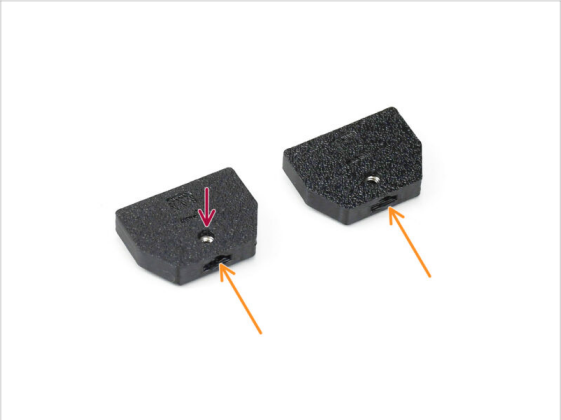
SCHRITT 26 Magnet holders: parts preparation



- **For the following steps, prepare:**
- Schraube M3x5rT (2x)
- M3nS Mutter (2x)
- 20x6x2 Magnet (2x) *found in the Electronics & Fasteners package*

  ⚠ **Keep the magnets apart at a sufficient distance.** They can break each other!
- Magnet Holder (2x) *found in the Printed parts package*

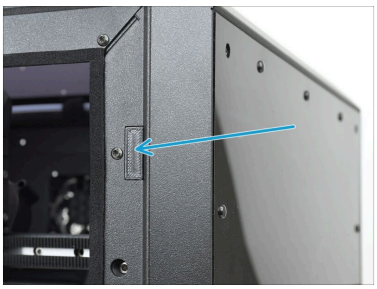
SCHRITT 27 Assembling the magnet holders



- Insert the M3nS nuts into the corresponding openings in the magnet holders.
- Push the nuts all the way in, until the thread aligns with the screw opening.
- Insert the magnets into the corresponding pockets in the holders. Push them all the way in.

ⓘ The orientation of the magnets does not matter.

SCHRITT 28 Installing the magnet holders

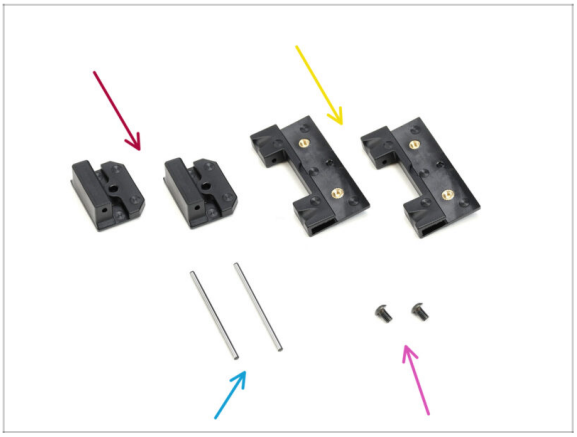


- From the inside of the printer, insert the magnet holder assembly into the corresponding bottom opening in the right-side metal profile.

  ⚠ Ensure the protruding rectangular pocket fits into the cutout.

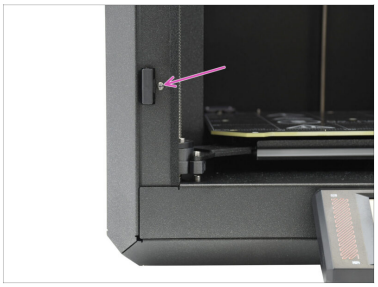
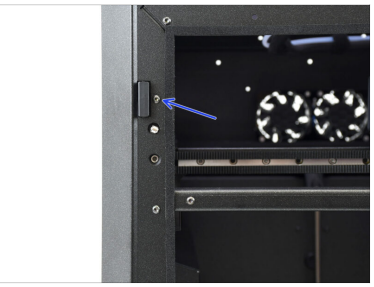
  - Secure the assembly in place using the M3x5rT screw.
- Using the same technique, install the other magnet holder into the top opening on the right side.

SCHRITT 29 Scharniere: Vorbereitung der Teile



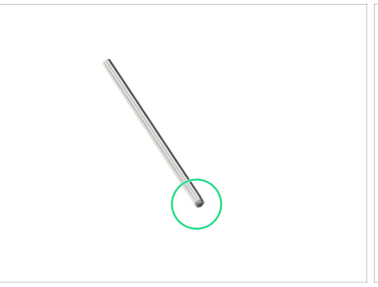
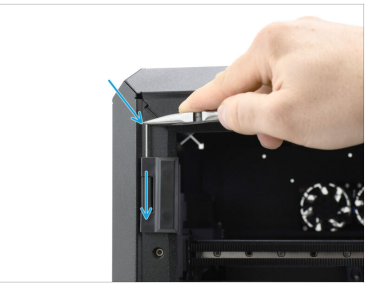
- **For the following steps, prepare:**
- Door-hinge-in (2x) *found in the CoreXY + Hinges set package*
- Door-hinge-out (2x) *found in the CoreXY + Hinges set package*
- Hinge Pin 2 x 40 mm (2x) *found in the Electronics & Fasteners package*
- Schraube M3x5rT (2x)

SCHRITT 30 Installing the door-hinge-in parts

- From the inside of the printer, insert the door-hinge-in into the bottom rectangular opening in the left-side profile. The protruding part should pass through to the front.
- Fix the door-hinge-in in place using the M3x5rT screw.
- Using the same technique, install the other door-hinge-in into the opening on top.

SCHRITT 31 Installing the door-hinge-out I.

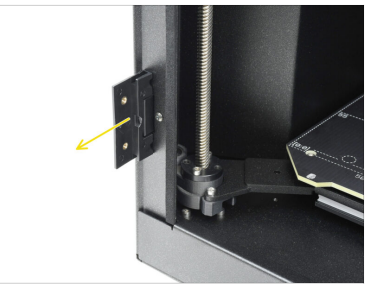




- Align the door-hinge-out with the door-hinge-in.
- The chamfered end of the hinge pin should be inserted first to make assembly easier.
- Insert the pin from the top of the door-hinge-out, guiding it through the door-hinge-in until it is fully inserted.

  ⓘ Use the tip of needle-nose pliers to press the pin in securely.

SCHRITT 32 Installing the door-hinge-out II.

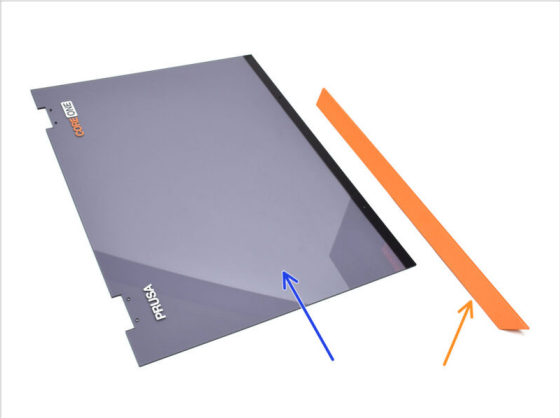




- Using the same technique, install the bottom door-hinge-out to complete the hinge assembly.
- Look into the grooves on the door-hinge-out parts and verify that the pins are fully inserted.

  No part of the pin should be visible above the bottom surface in the groove.
- Open up both the hinges.

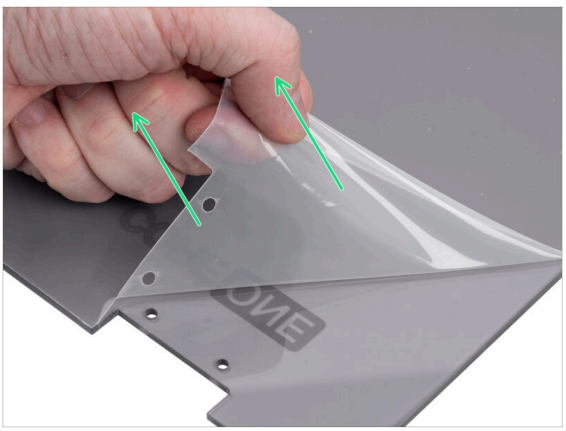
SCHRITT 33 Door panel: parts preparation

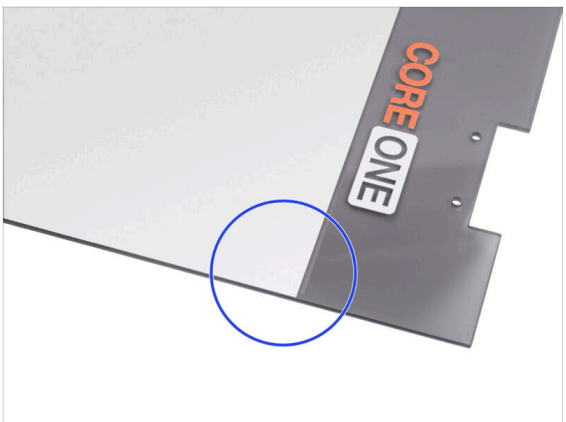


- **For the following steps, prepare:**
- Door (1x) *found in the Plexi set package*

  ⓘ Das Türblatt ist mit **CORE ONE** vorbeschriftet. Keine Sorge, **das ist so gewollt!** Im letzten Schritt werden Sie den **+** Aufkleber anbringen.
- Door handle (1x) *found in the Metal parts 2/3 package*
- Schraube M3x5rT (4x)

SCHRITT 34 Door panel: removing the protective film





- **The door panel has protective film on both sides.** One covers the entire surface, the other just the center area.
- Peel off the film covering the entire door; it's lightly transparent.
- You can remove the center protective film (white) now or after mounting the panel to protect the surface during handling.

  ⓘ This protective film does not interfere with the installation of the hinges or handle.

SCHRITT 35 Installing the door panel

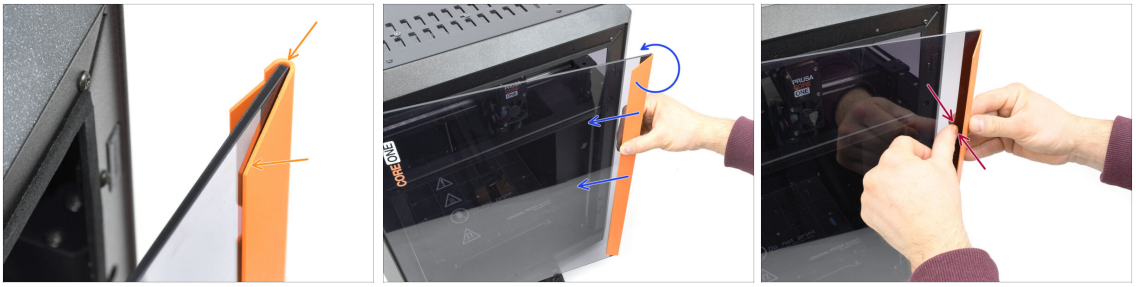
- Align the door with the hinges. The cutouts on the door should fit into the grooves on top and bottom of the leaves.
  - Make sure the door is oriented so that the signs on the door are pointing outward.
  - Slide the door all the way into both the hinges.
- Fix the door to the hinges using four M3x5rT screws. Start with the top one. Then, do the bottom.

SCHRITT 36 Assembling the door handle

- Let's move onto the handle. Remove the protective foil from both the adhesive strips on the inside.
- The part with the adhesive strip will go onto the back of the door. But do not attach the handle yet!

  ⚠ Wait for the upcoming step! We have to align the handle first!

SCHRITT 37 Securing the door handle



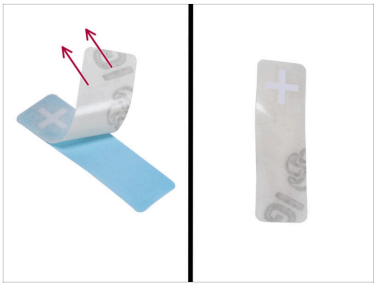
- Align the handle so that the front chamfered part is flat to the door. The top of the handle must be flush with the door.
- While pushing the handle against the door to keep it aligned, slowly rotate it counterclockwise until the adhesive strips bond to the door.
- Push the door and handle together firmly in the adhesive strip areas to ensure a secure attachment.

SCHRITT 38 Anbringen des Aufklebers: Vorbereitung der Teile

- Für den folgenden Schritt bereiten Sie bitte vor:
  - CORE One+ Acrylglasaufkleber

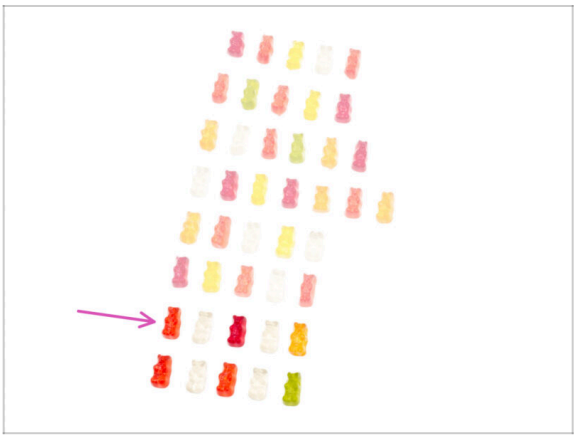
ⓘ Der CORE One+ Acrylglasaufkleber befindet sich in der CORE One+ Upgrade-Box

SCHRITT 39 Anbringen des Aufklebers



- Ziehen Sie den Aufkleber von der blauen Folie ab.
- Richten Sie den Aufkleber am **ONE** aus und üben Sie vorsichtig, aber fest Druck auf den Aufkleber aus.
- Ziehen Sie die transparente Folie vorsichtig ab und stellen Sie sicher, dass + nicht abgelöst wird.

SCHRITT 40 Haribo Zeit!

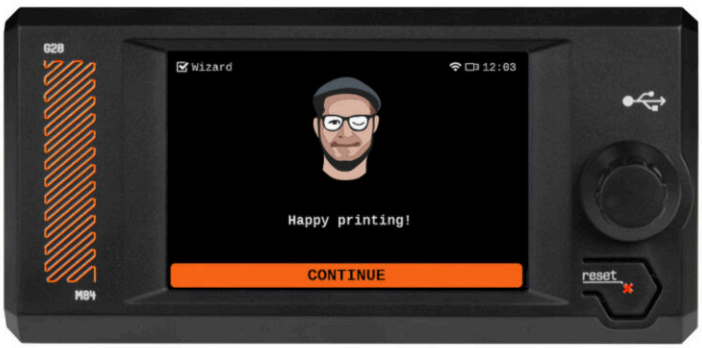


- Hard work deserves sweet results!
- Eat the seventh row.
- ⚠ But don’t eat the rest yet.

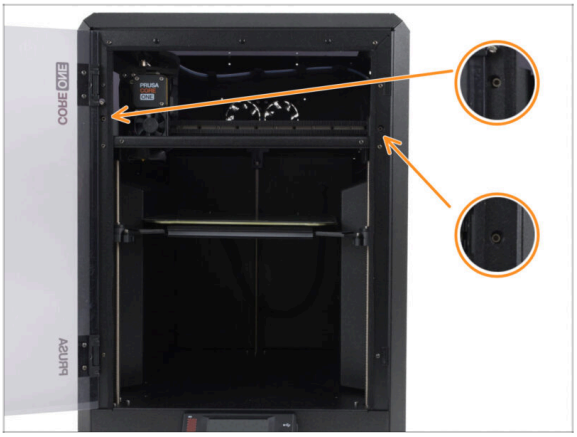
SCHRITT 41 Abgeschlossen

- Herzlichen Glückwunsch! Sie haben Ihren Prusa CORE One+ erfolgreich zusammengebaut.
- Let's move to the final chapter.

9. Calibration & First run



SCHRITT 1 Riemen Spannen



ⓘ This chapter will guide you through calibrating and preparing the printer for its first run.

- Calibrate the belt tension. See the following article for more info:
  - Adjusting belt tension (CORE One)

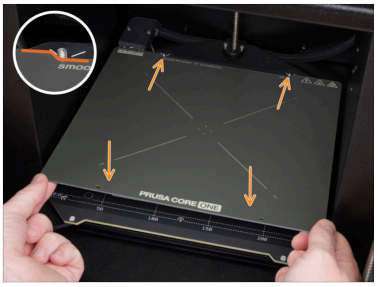
⚠ Don't forget to come back here after adjusting the belts.

SCHRITT 2 Installing the spoolholder: Parts preparation

- **Bereiten Sie bitte für den folgenden Schritt vor:**
  - O-Ring
  - Spoolhoder-static

ⓘ Der Spoolholder-static und der O-Ring befinden sich im gleichen Beutel.

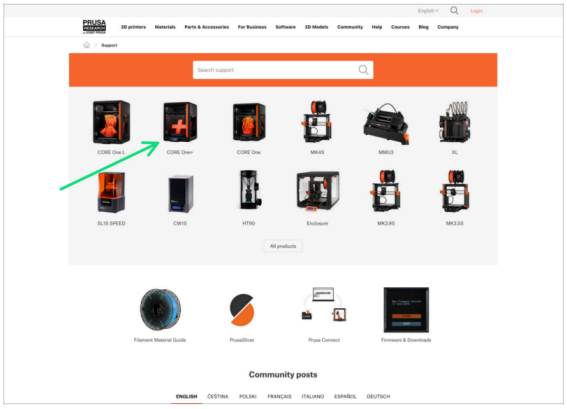
SCHRITT 3 Attaching the print sheet and spoolholder

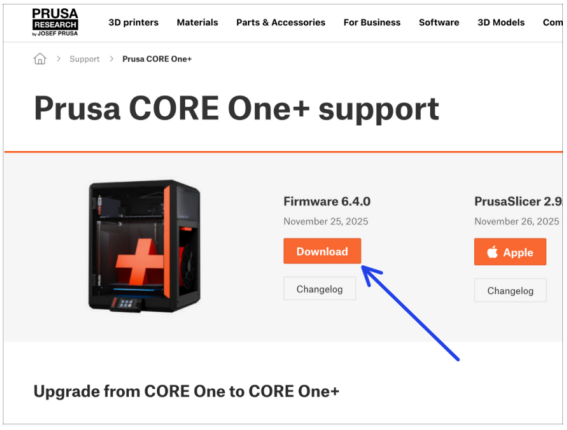


⚠ **Make sure there is nothing on the heatbed.** The heatbed must be clean. Any dirt can damage the surface of both the heatbed and the print sheet.

- **Attach the sheet by first aligning the rear cutout with the locking pins on the back of the heated bed.** Hold the sheet by the front two corners and slowly lay it down onto the heated bed - **watch your fingers!**
  - Keep the print sheet clean for optimum performance.
  - #1 cause of prints detaching from the print surface is a greasy print sheet. Use IPA (Isopropyl alcohol) to degrease it if you have touched its surface before.
- Setzen Sie den O-Ring auf den Spoolholder-static.
- Schieben Sie den Spoolholder-static in das Puck-universal Dock und verriegeln Sie ihn durch Drehen im Uhrzeigersinn.

SCHRITT 4 Firmware Download





- We will have to upgrade the firmware.

  ⓘ Der CORE One+ benötigt die Firmware-Version **6.4.0 oder neuer**.
- Besuchen Sie die CORE One+ Support-Seite auf help.prusa3d.com.
- Download the latest firmware file (.bbf).
  Save the file onto a USB drive.

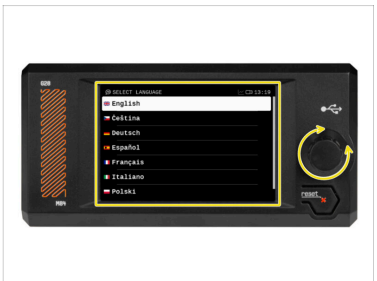
SCHRITT 5 Turning on the printer

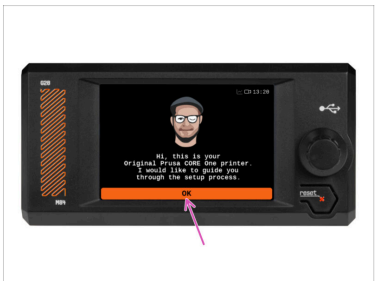

- Insert the USB drive included in your kit into your printer.
  - ⓘ The included USB drive contains the latest firmware file.
- Connect the power cable and plug the printer into a wall outlet.
- Turn the printer on using the switch on the back.

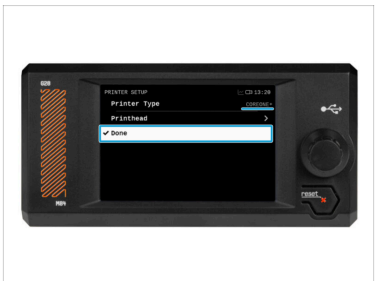
ⓘ The printer will now detect if a new firmware file is available on the USB drive.

- If the "New firmware available" screen appears, hit **FLASH** by pressing the rotary knob to upgrade to the latest firmware.
  - If no such message appears, the printer is running the latest firmware already. Proceed to the next step.

SCHRITT 6 Setting up the printer: Intro







- The printer displays on the screen a prompt to select your language. Use the control knob or touchscreen to set your preference.
- After selecting your language, the printer will display the welcome screen. Hit **OK** to continue through the setup process.
- The next screen will prompt you to select your printer model COREONE. Hit **Done** to continue.

SCHRITT 7 Setting up the printer: Network setup

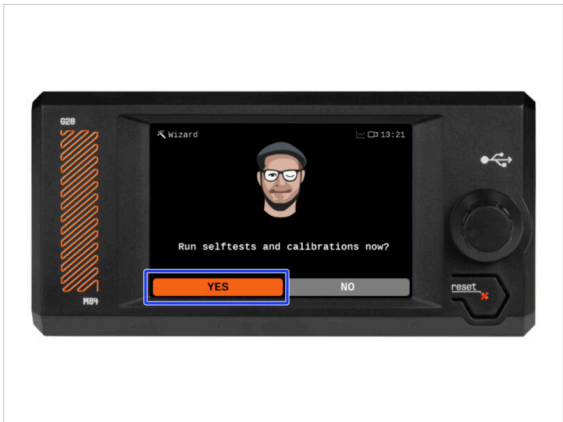
- The Network Setup screen will ask you to connect to a Wi-Fi network using our official Prusa mobile app.

  ⓘ Read more on prusa.io/app.

- If you select **No**, the printer will show alternative ways to connect to Wi-Fi. This step is optional and can be done later.

ⓘ You can skip this screen and set up the network connection later.

SCHRITT 8 Assistent: Intro



ⓘ The printer will prompt you to run self-tests and calibrations for all important components. The entire process takes a few minutes, with some parts requiring direct user interaction.

- Hit **YES** to begin the self-test and follow the instructions on screen.

⚠ During the self-test, **keep the door closed** until you are prompted. Opening the door will interrupt the process.

- **There are HOT and moving parts inside during the self-test.**

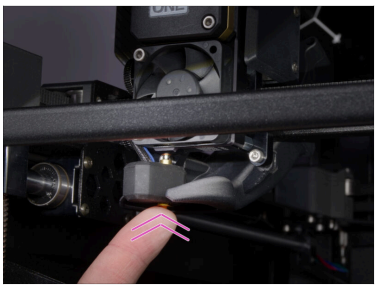
- The printer will begin by testing all the fans. **Be aware—it can get quite noisy for a while!**

SCHRITT 9 Wizard: Door Sensor Calibration

- The first part that requires your interaction is the door sensor calibration. To begin, hit **Calibrate** and follow the on-screen instructions.
- You'll be prompted to gradually tighten the sensor tension screw from its default loose position - usually in half-turn steps, possibly several times during calibration.
  - After each adjustment, observe the door sensor switch emerging from the front profile hole.
- Repeat the procedure until the door sensor is correctly adjusted - meaning it switches at a hand-gap distance. Then hit **Continue**.

  ⓘ Once the sensor is properly calibrated, you should hear an audible click from the door sensor area when opening and closing the door.

SCHRITT 10 Assistent: Wägezellentest

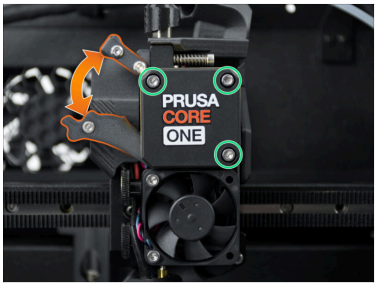


- The next step of the wizard will prompt you to touch the nozzle to test and calibrate the Loadcell. During this procedure, the **parts of the printer are not heated up** so that you can touch them. Hit **Continue**.

ⓘ Loadcell calibration requires the door to be open, as you must interact directly inside the printer.

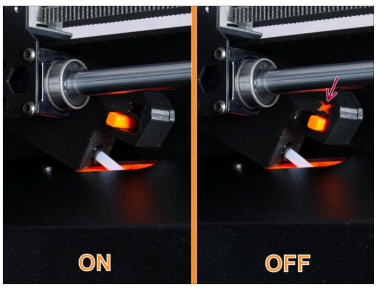
- Do not touch the nozzle yet, wait until prompted by the **Tap nozzle NOW** message.
- Tap the nozzle from below. In case the Loadcell does not detect the touch, you will be prompted to repeat the step. Otherwise, you will see **Loadcell test passed OK** when it succeeds.
- To allow the printer to continue with the Wizard, **close the door**.

SCHRITT 11 Assistent: Getriebeausrichtung



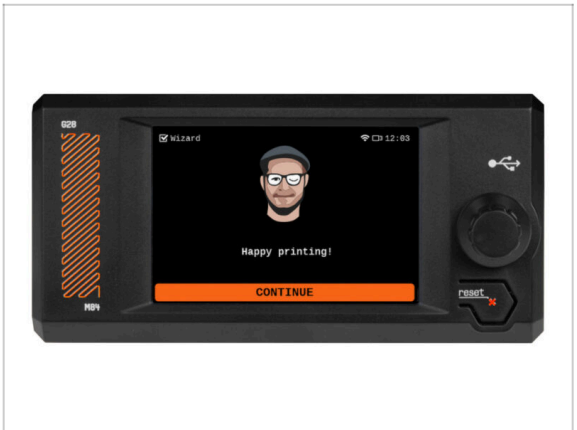
- Once you get to the Gearbox Alignment part, select **Continue** and follow the on-screen instructions.
- Make sure the idler lock (swivel) is unlocked from the idler door.
- Loosen the three screws on the front of the gearbox by 1.5 turns.
- ⓘ The printer will go through the automatic gearbox alignment. This process can't be seen from the outside.
- Once prompted, tighten the three screws in the pattern indicated on the screen.

SCHRITT 12 Wizard: Filament Sensor Calibration



- Check the manual switch on the filament sensor. **Make sure that it is ON.**
- During the filament sensor calibration, you will need to use a short piece of filament. Prepare the filament and select **Continue**.
- ⓘ There should be no filament inside the extruder before the calibration process starts.
- Place a spool of filament onto the spool holder on the right side of the printer.
- When prompted, begin inserting the filament into the PTFE tube located beneath the right handle.
- Remove the filament after the calibration finishes.

SCHRITT 13 Assistent abgeschlossen

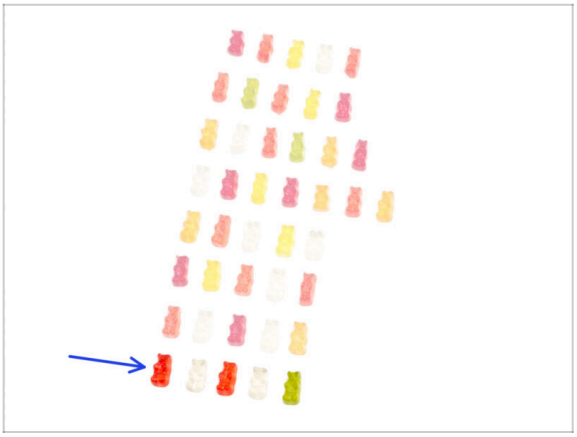


- Congratulations! The Wizard is complete. Now it's time to test some prints.

SCHRITT 14 Setting the printer up

- Um das automatische Öffnen des oberen Gitters zu aktivieren, gehen Sie zu ***Einstellungen -> Hardware -> Kammerlüftungssteuerung*** und stellen Sie auf **Auto**.

SCHRITT 15 Haribo Zeit!



- Victory tastes like gummy bears!
- **Enjoy the rest. You've earned this.**

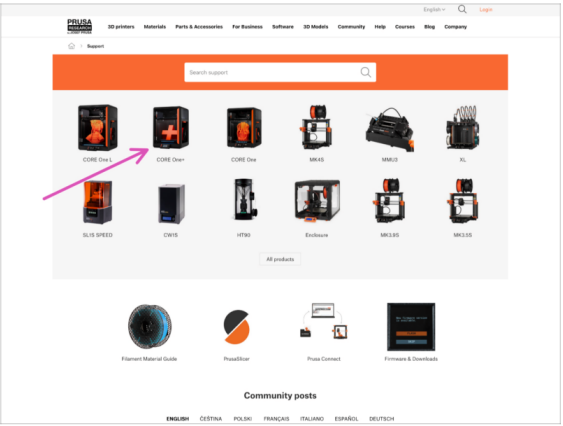
SCHRITT 16 Handbuch

- Read the **3D Printing Handbook** dedicated to your printer and follow the instructions to set up the printer and prepare it for your first print.

The latest version is always available at help.prusa3d.com.

Read the Disclaimer and Safety instructions chapters.

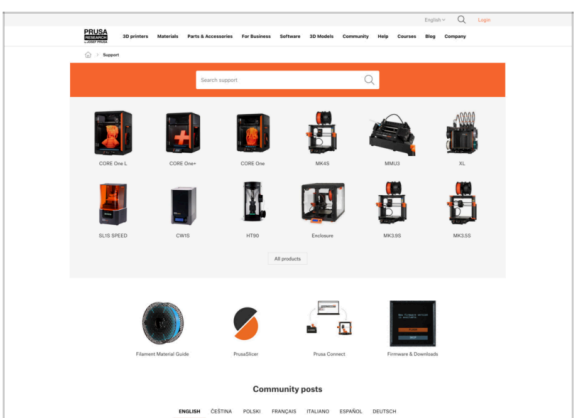
SCHRITT 17 Firmware Update



Alle Drucker werden mit einem USB-Stick geliefert, der die neueste Firmware enthält. Es wird jedoch empfohlen, die Firmware-Version alle paar Wochen zu überprüfen und eventuell zu aktualisieren.

- Visit the help.prusa3d.com page.
- Navigate to the Prusa CORE One+ page.
- Save the firmware file (*.bbf) onto the bundled USB drive.*
- Schließen Sie den USB-Stick an den Drucker an. Wählen Sie dann, wenn Sie dazu aufgefordert werden, die Option FLASHEN auf dem Display.

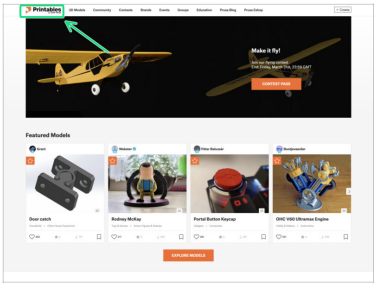
SCHRITT 18 Prusa-Wissensbasis

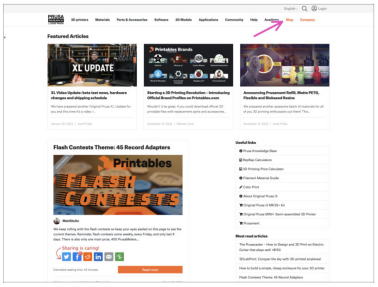


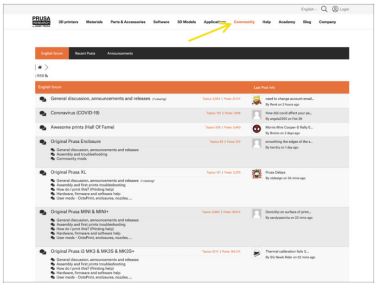
If you encounter any problems at all, don't forget you can always check out our knowledge base at help.prusa3d.com

- We're adding new topics every day!

SCHRITT 19 Kommen Sie zu Printables!







- Don't forget to join the biggest Prusa community! Download the latest models in STL or G-code tailored for your printer. Register at Printables.com
- Looking for inspiration on new projects? Check our blog for weekly updates.
- If you need help with the build, check out our forum with a great community :-)

ⓘ All Prusa services share one user account.

Änderungsprotokoll der Anleitung

SCHRITT 1 Versionsgeschichte

- **Versionen der Prusa CORE One+ Umrüstsatz Montageanleitung:**
- 11/2025 - Initial version 1.00

Notes:

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Notes: