

# Spis treści

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# 1. Introduction

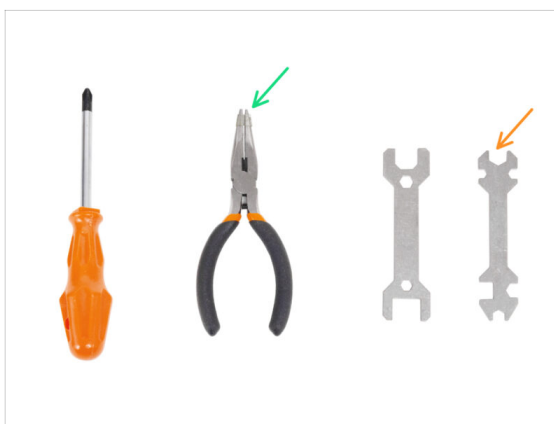
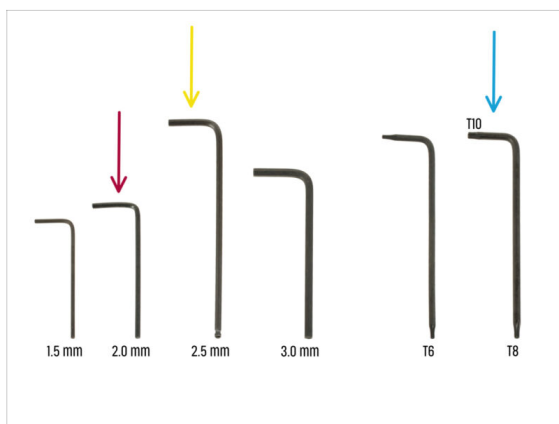


## KROK 1 Preparing the upgrade kit



- This manual guides you through upgrading your **Prusa CORE One L to CORE One L+**.
- Please prepare the upgrade kit received from Prusa Research.
- ⓘ All the required plastic parts are included in the kit.
- 📌 The printable parts are also available on Printables.

## KROK 2 Tools Required



📌 The tools needed for this upgrade are **not included in the kit**. Please use the tools that came with your original CORE One L printer.

● **For the following chapters, please prepare these tools:**

- 2.0mm Allen key
- 2.5mm Allen key
- T10 Torx key / Screwdriver
- Needle-nose pliers
- Unikey with the M3 nut-sized opening.

## KROK 3 Unloading the filament



- ◆ Unload the filament. Visit the menu **Filament** and select **Unload filament**.
- ◆ Unload the filament from the printer.
- ◆ Remove the filament spool from the printer.

## KROK 4 Moving the Z-axis



- ⓘ Before you begin, move the heatbed to an accessible position.
- ⚠ During this step, **keep the printer door closed** and do not reach inside.
- ◆ Move the heatbed via **Control -> Move Axis -> Move Z**.
- ◆ Ensure that the heatbed is in the same position as shown in the photo.
- ◆ Leave at least a 10 cm (3.9 inch) gap between the heatbed and the bottom of the printer.
- 📌 Some of the photos in this guide will show the heatbed positioned lower. This is only a visual difference and does not affect the assembly process.

## KROK 5 Unplugging the printer

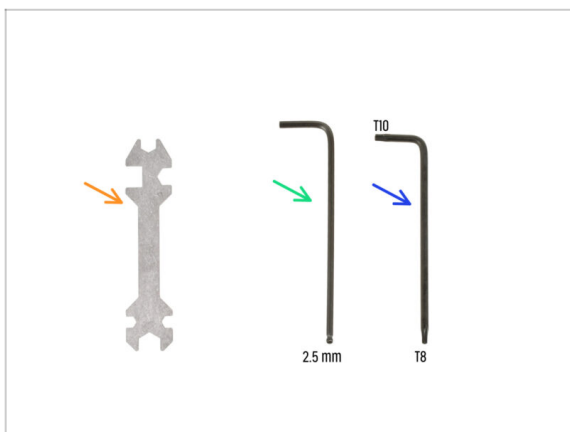


-  Before you begin, make sure the **printer has cooled down** to ambient temperature.
-  Turn the printer off using the switch on the back.
-  Disconnect the printer from power.
-  Remove the steel sheet (optional).

## 2. Preparing the printer



## KROK 1 Tools required



### ● Prepare these tools for this guide:

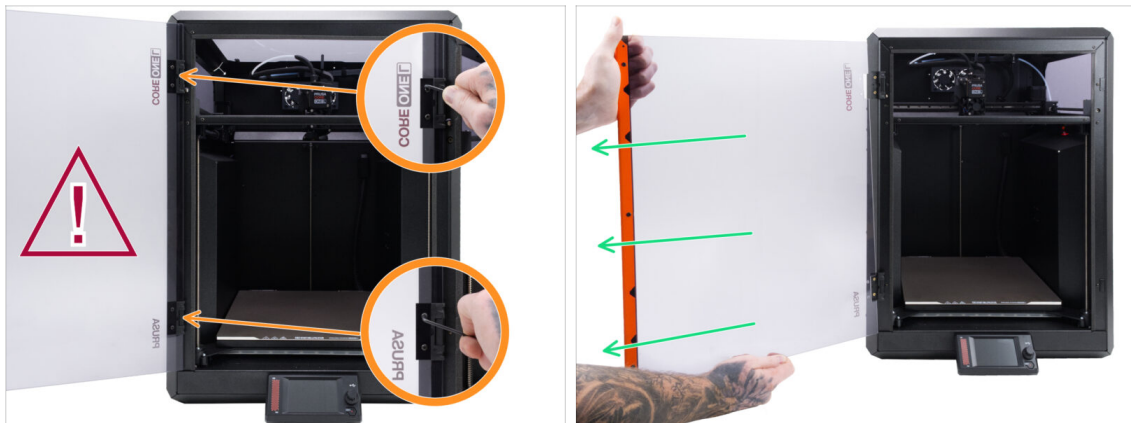
- Universal wrench
- 2.5mm Allen key
- T10 Key / Screwdriver

## KROK 2 Removing the top cover



- Open the door and reach in to the bottom side of the top cover.
  - ① The cover is held in place by a set of plastic latches.
- Locate two of the latches at the bottom front. Squeeze them together simultaneously.
- Lift the cover to unhook it. Pull the cover to the front.
- Remove the top cover.

### KROK 3 Removing the door panel



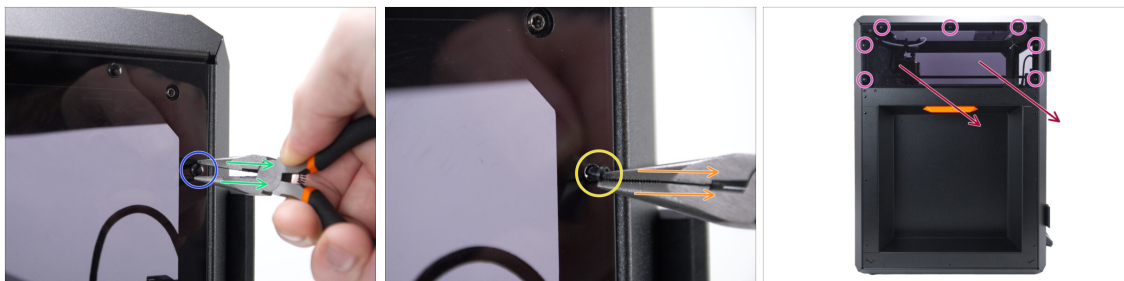
- ❗ We highly recommend that you remove the door. This will make moving and turning the printer a lot easier and safer.
- ⬛ Open the door all the way.
- ⚠️ **Hold the door panel in place** while loosening the screws in the next step to prevent the door panel from falling down.
- 🟡 Use the T10 Torx key to remove the two M3x4rT screws securing the door panel in both hinges.
- 🟢 Carefully slide the door panel out of the hinges.
- ⬛ Place the door panel on a clean and secure surface to avoid any damage.

### KROK 4 Protecting the heatbed



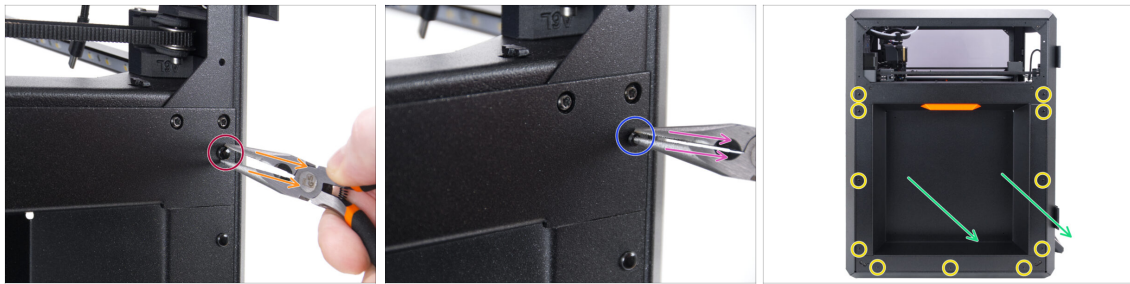
- ⚠️ **Before proceeding, it is recommended to protect the heatbed!**
- 🟡 Use a piece of fabric, cardboard box, bubble wrap, or another suitable material to cover the heatbed to prevent any damage.

## KROK 5 Removing the plexiglass cover



- Turn the printer so you are facing the side without the spoolholder. Choose one of the nylon rivets holding the plexiglass cover.
- **Gently** squeeze the top part of the rivet with the needle-nose pliers.
- Pull the top part of the nylon rivet out.
- ⚠ **When using the needle-nose pliers to remove the nylon rivets, be very careful not to damage the plexiglass.**
- Carefully insert the needle nose pliers into the middle opening in the rivet and squeeze **gently**.
- Pull the bottom part of the nylon rivet out.
- Use this process to remove all seven nylon rivets holding the plexiglass side cover.
- Remove the plexiglass side cover and place it on a secure place where it will not get damaged.

## KROK 6 Demontaż panelu z lewej strony

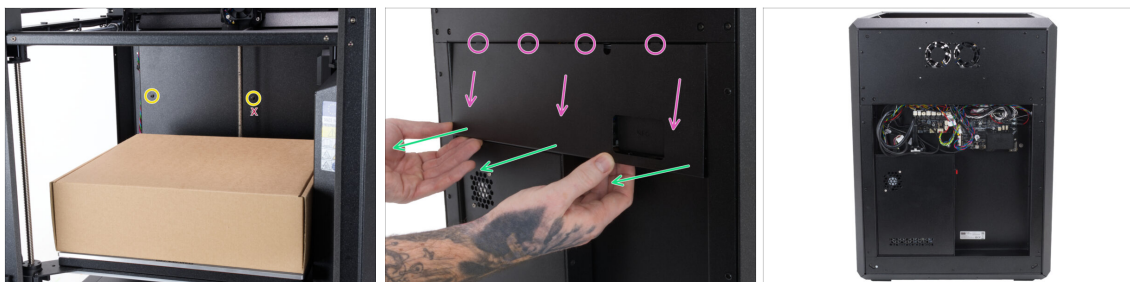


**i** W ten sam sposób wyciągnij nity nylonowe mocujące metalowy panel.

**⚠** **Jeśli używasz szczypiec spiczastych do wyciągania nitów, uważaj, aby nie uszkodzić powierzchni.**

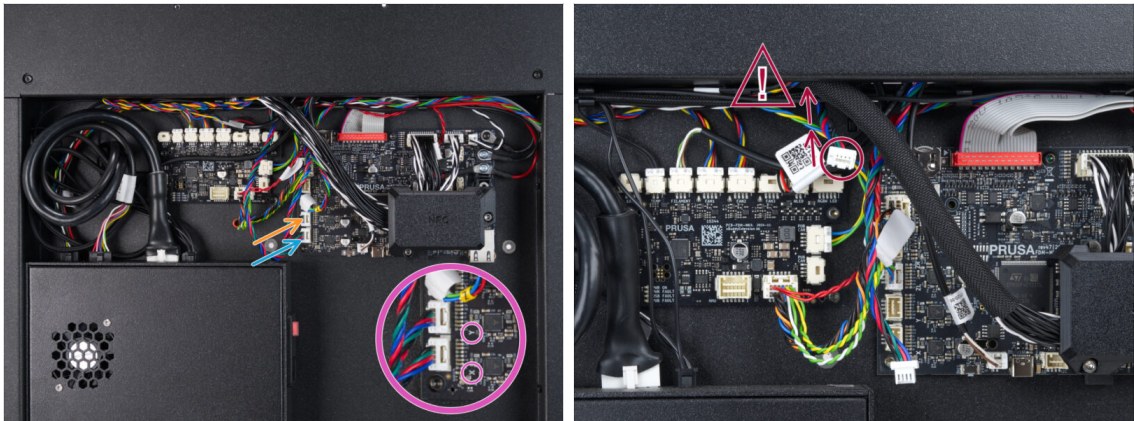
- 🔴** Gently squeeze the top part of the rivet with the needle-nose pliers.
- 🟠** Remove the top part of the nylon rivet.
- 🔵** Carefully insert the needle nose pliers into the middle opening in the rivet and squeeze.
- 🟣** Remove the bottom part of the nylon rivet.
- 🟡** W ten sam sposób wyciągnij jedenaście nitów nylonowych mocujących boczny panel.
- 🟢** Zdejmij panel z lewej strony i odłóż go w bezpieczne miejsce, gdzie nie ulegnie uszkodzeniu.

## KROK 7 Removing the electronics covers



- 🟡** On the inside of the printer, use the T10 screwdriver to remove the two M3x4rT screws that hold the electronics cover in place.
- 🔴** Only remove the highlighted top screw in the middle. Do not touch the lower screw.
- 🟣** Pull slightly downward to release the four tabs on top of the cover from the docks in the printer.
- 🟢** Carefully, yet firmly, pull the bottom of the cover towards you to remove it.

## KROK 8 Disconnecting the motor cables



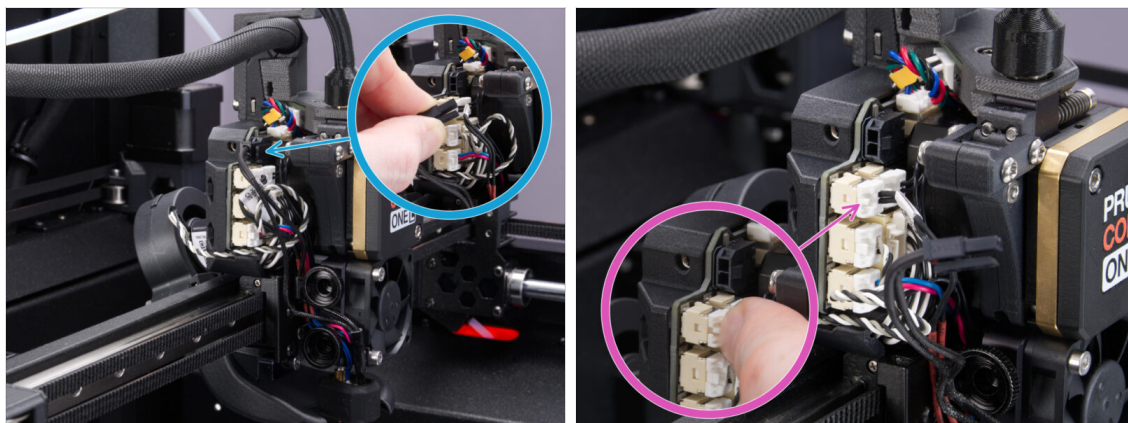
- 🟠 Press the safety latch to disconnect the Y-motor cable from the upper connector.
- 🟡 Press the safety latch to disconnect the X-motor cable from the lower connector.
- 🟣 Note the letters X and Y on the xBuddy board for reference.
- 📄 During the belt exchange, these cables might be pulled up slightly when moving the motor.
- ⚠️ Always check that the cable connector does not get pulled all the way inside the top opening.

## KROK 9 Removing the printhead cover



- ⬛ Adjust the printer so that you can access the Nextrunder from all sides easily.
- 🟡 Using the 2.5mm Allen key, remove the M3x10 screw on top of the Printhead-cover-left.
- 📌 Pro tip: Keep the screws and nuts with the removed parts whenever possible. This will make reassembly easier.
- 🟣 Remove the Printhead-cover-left.
- 📄 Note the LoveBoard scheme for future reference.

## KROK 10 Disconnecting the hotend



⚠ Each connector has a safety latch; **press the latch to remove the connector**, as pulling without pressing the latch may cause a damage.

- 🔵 Disconnect the hotend heater cable.
- 🟡 Disconnect the hotend thermistor cable.

## KROK 11 Disconnecting the fan cables



⚠ **Press the safety latch** before disconnecting each cable. Otherwise, you risk damaging the connector.

- 🟢 Disconnect the print fan blower cable.
- 🟡 Disconnect the heatsink fan cable.

## KROK 12 Removing the print fan



- On the right side of the printhead, use the 2.5mm Allen key to remove the M3x6 screw holding the Printhead-cover-right.
- Remove the Printhead-cover-right.
- On the back of the printhead, use the 2.5mm Allen key to remove the M3x6 screw holding the Printhead-lever and remove it.
- Use the 2.5mm Allen key to remove the M3x20 screw holding the print fan.
- Remove the print fan blower.
- Use the 2.5mm Allen key to remove the two M3x10 screws holding the Printhead-cover-back.
- Remove the Printhead-cover-back.

## KROK 13 Disconnecting the extruder motor cable



- i** Removing the PTFE tube is not essential, but it makes the next steps easier.
- Pull up the Bowden-bend on the extruder PTFE tube.
- Push the black collet down. By pushing it down, you unlock the PTFE tube.
- With the PTFE tube unlocked, pull it out of the collet.
- Press the safety latch** and disconnect the extruder motor cable.
- Use the T10 Torx key to remove the M3x8T screw on top of the print head.

## KROK 14 Disconnecting the Accelerometer



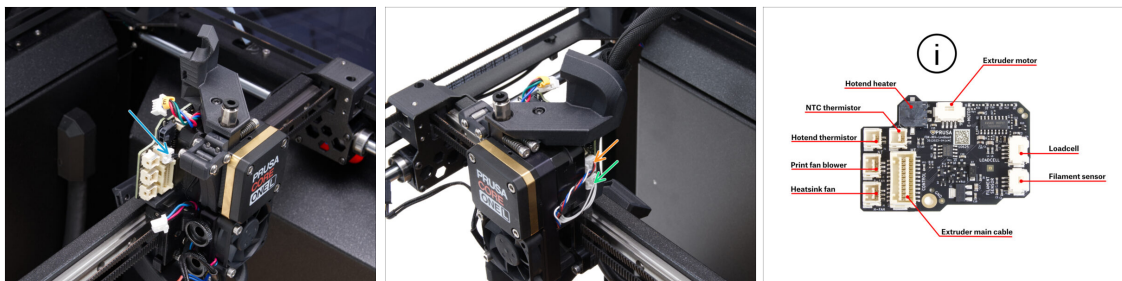
- ✦ Carefully pull out the Accelerometer cable along with the Accelerometer board.
- ⚠ Before you touch the electronics, use any nearby conductive (metal) surface to **neutralize any static charge on your hands**.
  - ✦ Be extra cautious in rooms with carpets, which are often a source of electrostatic energy.
  - ✦ Always **touch the sides of the board only**. Avoid touching the components on the surface.
- ✦ Press the **safety latch** and remove the Accelerometer connector.
- ✦ With the cable disconnected, note the board orientation and carefully insert the Accelerometer board back into the slot in the printhead.

## KROK 15 Disconnecting the main cable



- ✦ Secure the disconnected Accelerometer board in place with the M3x8rT screw that was removed earlier.
- ✦ Move the main cable around the printhead to the front.
- ✦ Press the safety latch to disconnect the main cable.
- ✦ Leave the main cable freely hanging.

## KROK 16 Disconnecting the NTC thermistor



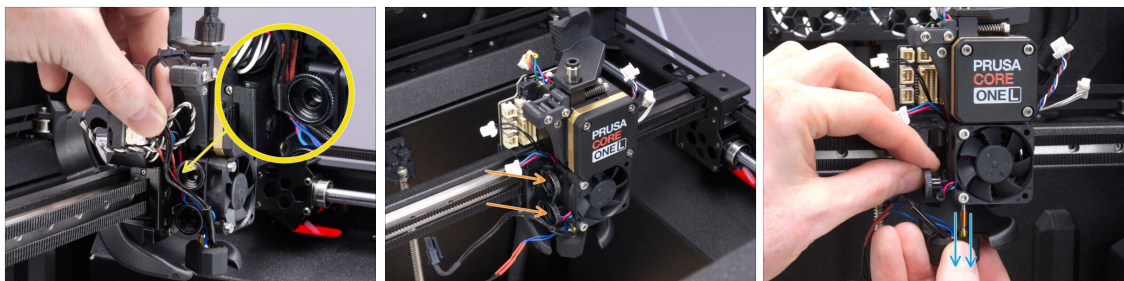
- Press the safety latch to disconnect the NTC thermistor cable.
- Press the safety latch to disconnect the loadcell cable.
- Press the safety latch to disconnect the filament sensor cable.

## KROK 17 Disconnecting the PTFE tube



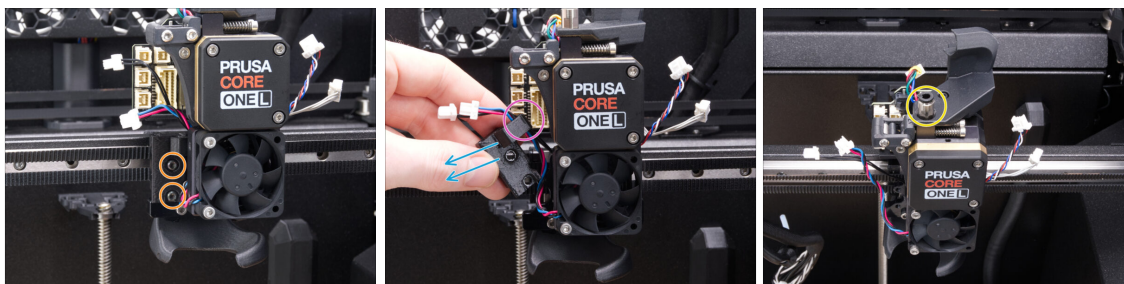
- Push the black collet down on the filament sensor. By pushing it down, you unlock the PTFE tube.
- With the PTFE tube unlocked, pull it out of the collet.
- On the back of the swing arm, use the T10 key/screwdriver to loosen the screw holding the Swing-arm-clip. Do not remove the screw.
- With the Swing-arm-clip screw loosened, push the PTFE tube through the clip and the cable ties as shown in the photo.

## KROK 18 Removing the hotend



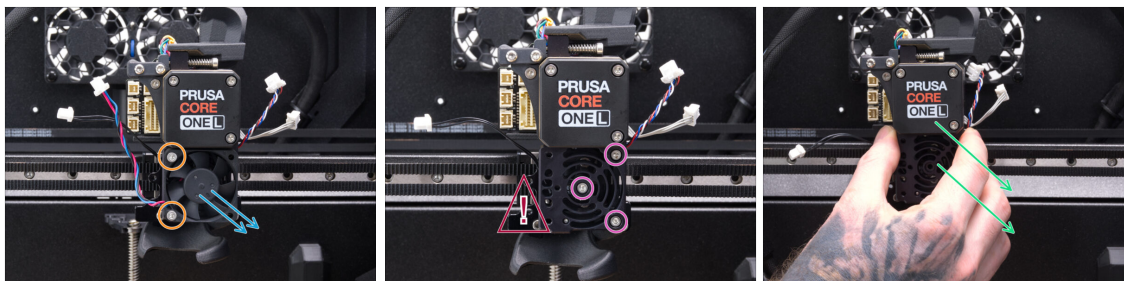
- ✦ Unhook the hotend cables from the plastic cable guide behind the two thumb screws.
- ✦ Remove both thumb screws that hold the hotend assembly in place.
- ✦ Pull the hotend assembly down from the heatsink while removing the thumb screws.

## KROK 19 Removing the Hotend-cable-clip



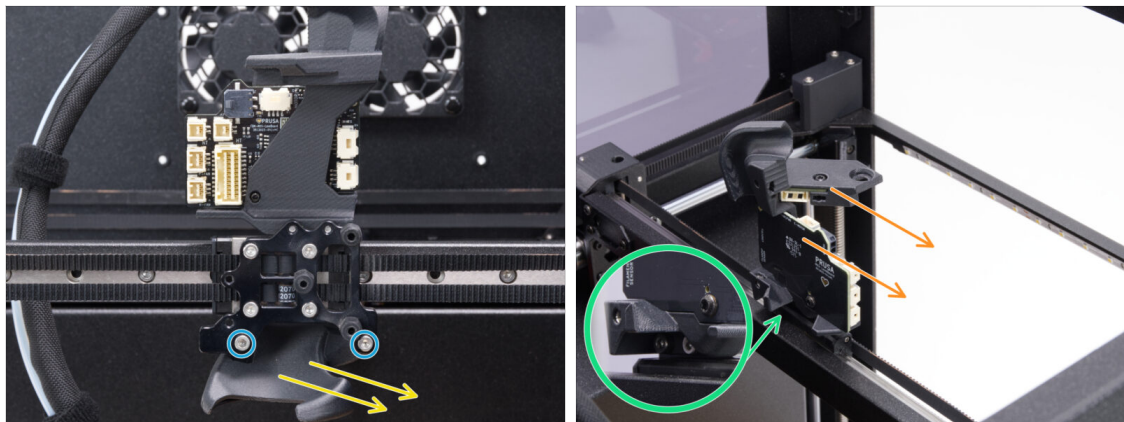
- ✦ Using the T10 key/screwdriver, remove the two M3x4rT screws securing the Cable-clip.
- ✦ Unhook all cables from the Cable-clip.
- ✦ Remove the Cable-clip from the printer.
- ✦ Using the 8mm cutout on the Universal wrench, remove the M5-4 fitting.

## KROK 20 Removing the Nextruder



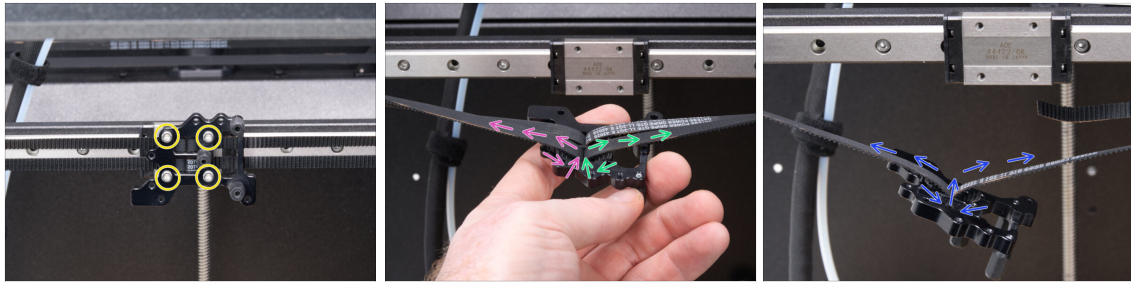
- 🟡 Using the Allen key, remove two M3x18 screws securing the heatsink fan.
- 🔵 Remove the heatsink fan from the printer.
- 🟡 Remove three M3x10 screws securing the Nextruder assembly to the X-axis.
- ⚠️ **CAUTION: While loosening the last screw, hold the Nextruder assembly to prevent it from falling and damaging the printer.**
- 🟢 Set the Nextruder assembly aside in a safe place.
- ⬛ Your text goes here

## KROK 21 Removing the Love board



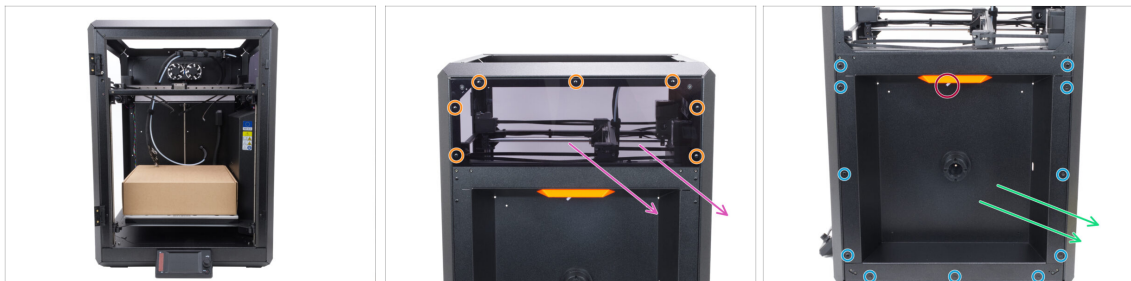
- 🔵 Release and remove two M3x10 screws securing the Fan-shroud to the Nextruder holder.
- 🟡 Remove the Fan-shroud from the printer.
- 🟢 Loosen two M3x10 screws located in the back of the Loveboard-holder.
- 🟡 Remove the Loveboard-holder from the printer.

## KROK 22 Removing the nextruder holder



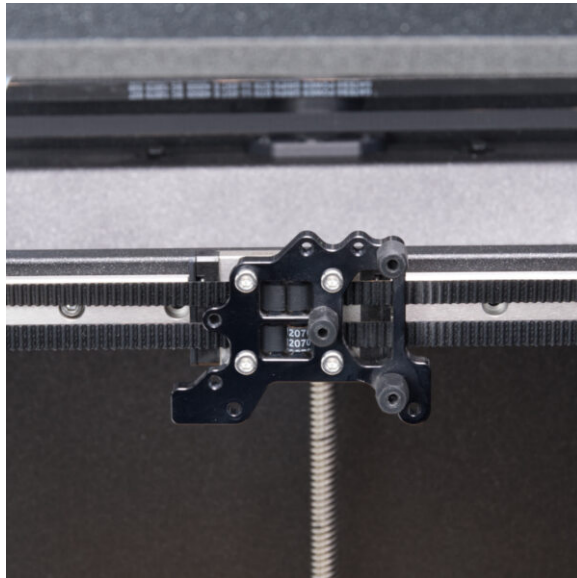
- ✦ Remove the four M3x10 screws securing the Nextruder holder.
- ✦ From the back of the holder, push the top-right belt end through the holder, then pull it out of the Nextruder holder.
- ✦ From the back of the holder, push the top-left belt end through the holder, then pull it out of the Nextruder holder.
- ✦ Repeat to remove both lower belts from the NExtruder holder.

## KROK 23 Removing the right cover

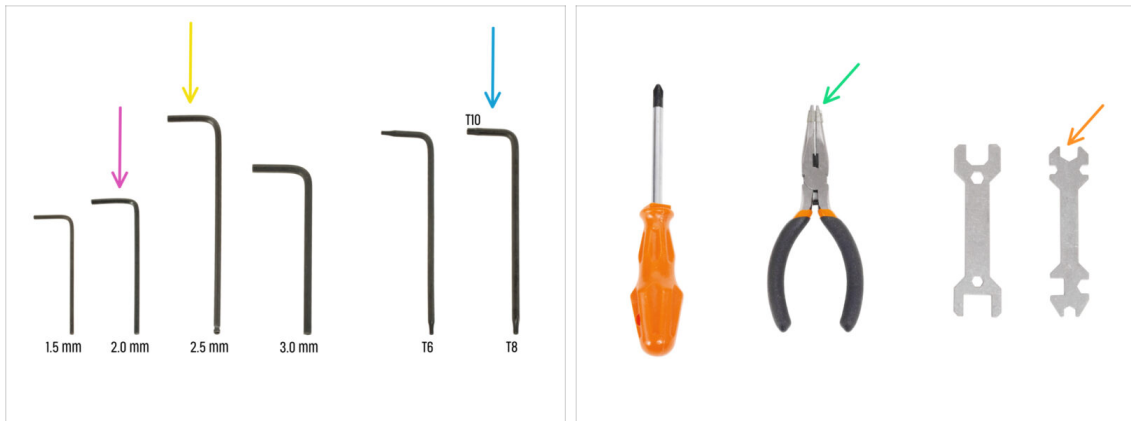


- ⚠ When using the needle-nose pliers to remove the nylon rivets, be very careful not to damage the plexiglass and metal side covers.
- ✦ Use the needle-nose pliers to remove all seven nylon rivets holding the plexiglass right side cover.
- ✦ Remove the plexiglass side cover and place it in a secure place where it will not get damaged.
- ✦ Use the same process to remove all eleven nylon rivets holding the metal side cover.
- ✦ Remove the metal side cover and place it in a secure place where it will not get damaged.
- ✦ When removing the metal side cover, be careful not to damage the PTFE tube that is protruding from the handle!

### 3. Belts upgrade



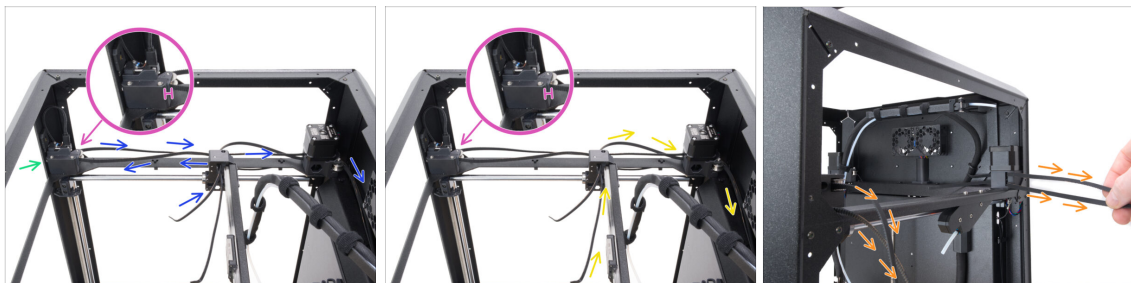
#### KROK 1 Tools



#### Tools necessary for this chapter:

- 2.0mm Allen key
- 2.5mm Allen key
- T10 key/screwdriver
- Needle-nose pliers
- Universal wrench

#### KROK 2 Removing the belts

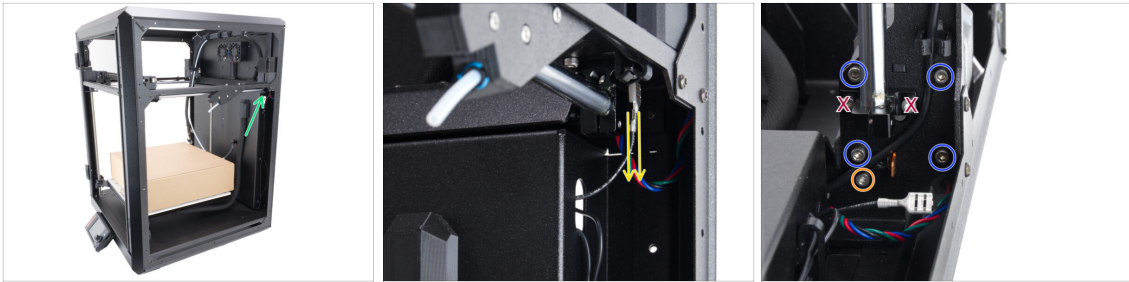


- Use the 2.5mm Allen key to loosen the belt tensioner screw in the left front profile.
- Loosen the belt tensioner screw **on both sides** until the pulley is slightly protruding from the belt tensioner.
- Remove the upper belt from the printer.
- Remove the lower belt from the printer.
- On the right side, completely remove both belts from the printer.



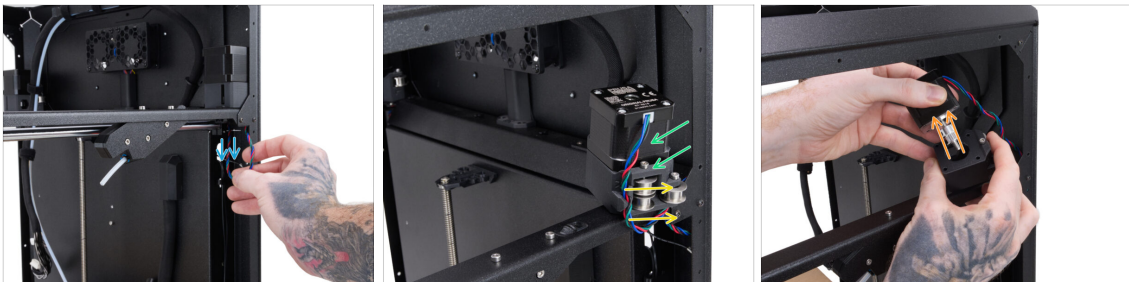
Once you remove the belts, discard them to make sure that you will not mistake them for the new version of the belts that we are about to install.

### KROK 3 Releasing the right motor



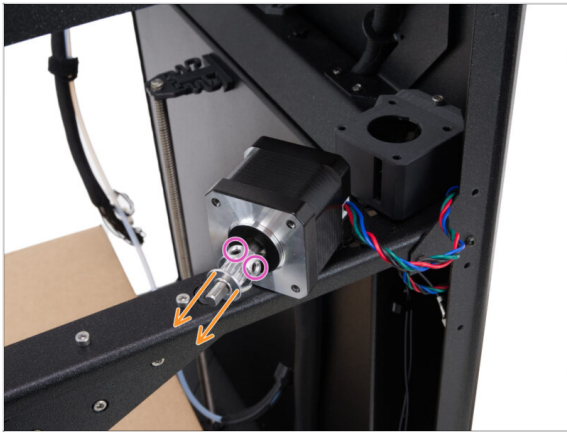
- Move to the underside of the right rear motor.
- Disconnect the FE connector from the faston.
- Remove the four M3x30 screws securing the motor to the motor holder.
- Remove the M3x6 screw securing the motor holder.
- ⚠ Avoid removing the screws securing the rod holder.

### KROK 4 Disassembling the right motor



- **Gently and slowly** pull on the motor cable to extend it as shown in the photo.
- Pull the motor cable out of the channel in the Motor-holder.
- Place the motor assembly on the printer frame and turn it in the same position as shown in the photo.
- Remove the motor from the Motor-holder.

## KROK 5 Securing the motor cable (left motor)



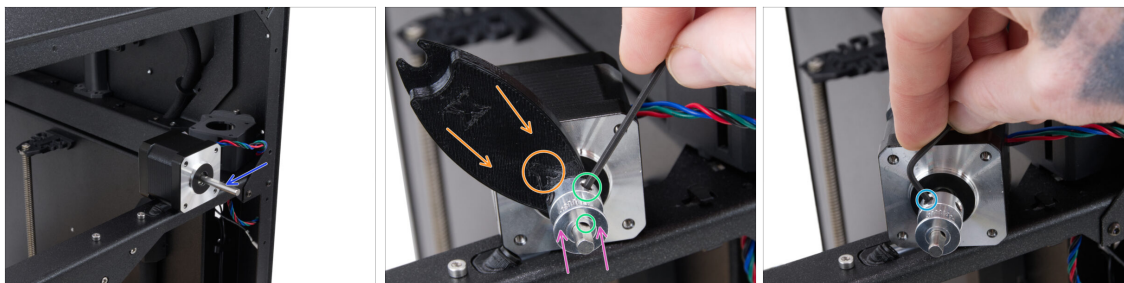
- Place the motor on the printer frame as shown in the photo.
- ⚠ Make sure tha the motor does not fall and pull on the cable!
- ◆ Using a 2.0 mm Allen key, loosen the two set screws securing the pulley.
- Remove the pulley.
- ⓘ This pulley will no longer be used. Set it aside or discard it to avoid confusing it with the new one.

## KROK 6 New pulley: parts preparation (right motor)



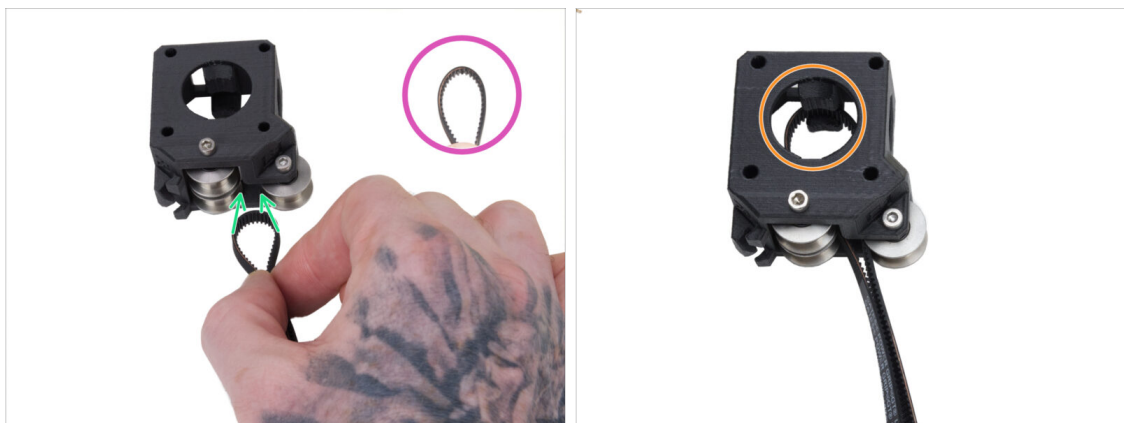
- For the following steps, please prepare:
- ◆ GT1.5-21 pulley (1x)
- ◆ GT1.5 belt (2x)
- Pulley-offset-tool (1x)

## KROK 7 Installing the new pulley (right motor)



- Rotate the motor shaft so that the flat faces you. **Do not rotate the shaft any further.**
- Slide the new GT1.5-21 pulley onto the end of the shaft, with the set screw side **facing the motor.**
- Insert the Pulley-offset-tool, with the **side marked "Y"**, between the motor and the pulley to set the correct distance.
- Press the pulley against the Pulley-offset-tool and tighten the set screw **against the flat on the motor shaft.**
- Rotate the pulley and tighten the second set screw.

## KROK 8 Inserting the lower belt (right motor)



- Remove the motor mount from the printer.
- Take one of the belts and form a loop with the **teeth facing inward.**
- Push the belt loop into the motor mount **between the two lower idlers.**
- Viewed from the top, the belt loop should follow the circular cutout in the motor mount as closely as possible.

## KROK 9 Securing the lower belt (right motor)



Throughout the process, make sure the **belt does not slip out of the assembly**.

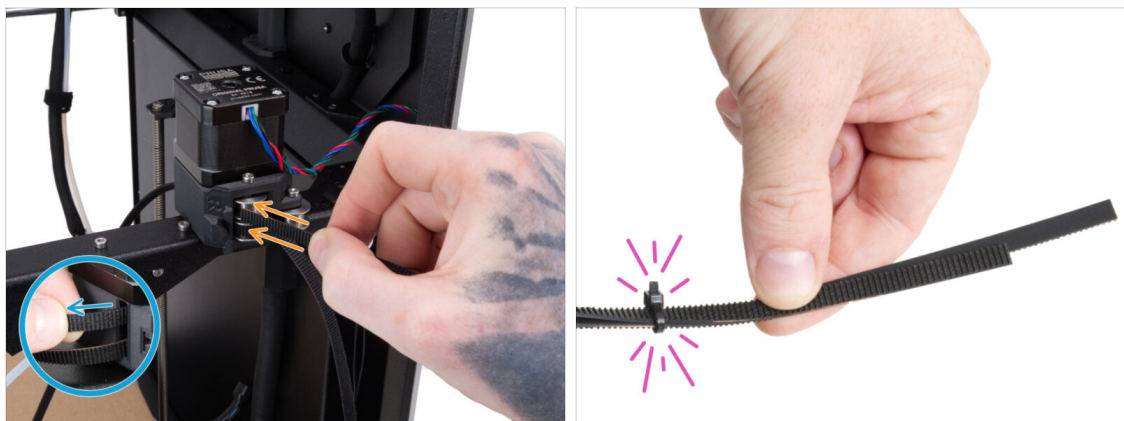
-  Place the motor mount onto the printer frame. The side with the two idlers must be facing down and towards you.
-  Insert the motor with the pulley into the belt loop inside the motor mount.
-  Fully seat the motor against the motor mount.
  -  Orient it so that the **motor cable faces outward** on the same side that the idler screw is located.
-  While holding the motor in place, gently pull both ends of the belt exiting the Motor-mount to secure the belt loop around the pulley.
-  Hold the motor and the Motor-holder together and turn the assembly to check the correct routing of the belt.

## KROK 10 Guiding the lower belt (right motor)



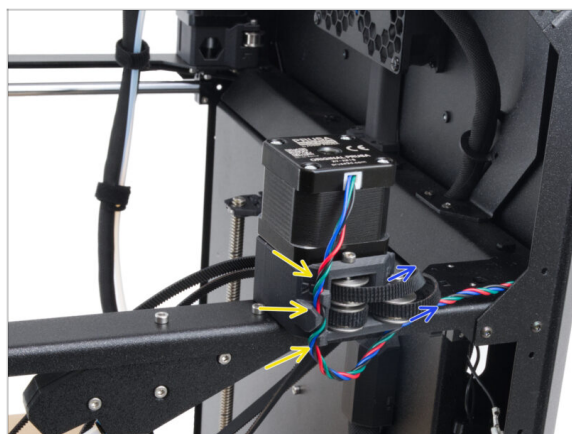
-  Route the belt coming from the left idler around the idler and insert it into the motor mount.
-  On the opposite side, watch for the belt to come out through the opening and pull it through until approximately 15 cm (6 inch) is sticking out.

## KROK 11 Guiding the upper belt (right motor)



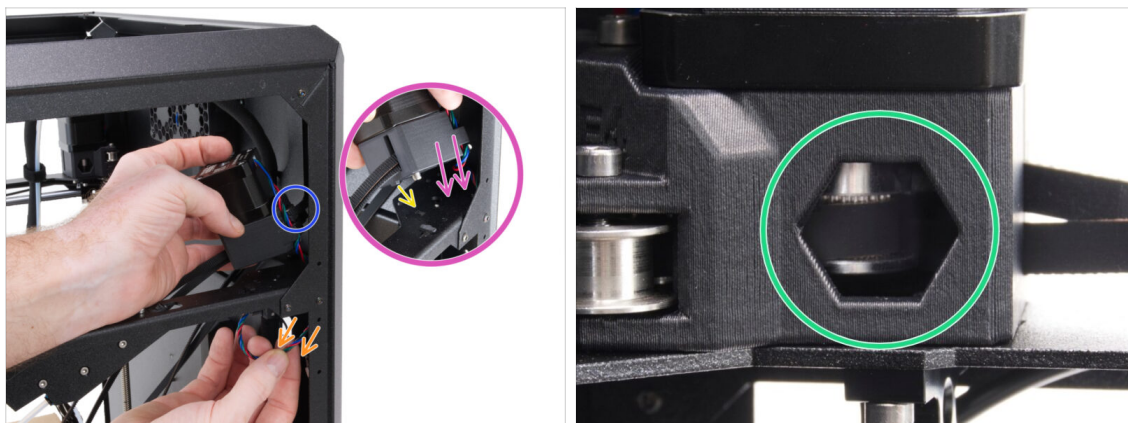
- Take the second **new belt**.
- Route one end of the belt around the **upper idler** from the left side. Make sure the **teeth face away** from the idler.
- From the opposite side, watch for the belt to come out through the opening.
  - Pull it through until approximately the same length of belt is sticking out - around 15 cm (6 in).
- *Pro tip:* To prevent the belts from being accidentally pulled out, loosely secure their ends together with a zip tie.

## KROK 12 Securing the motor cable (right motor)



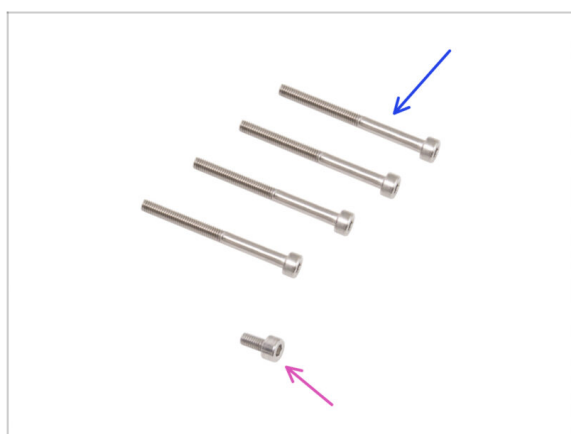
- 📌 Throughout the process, **make sure the belts do not slip out of the assembly**.
- Move the assembly closer to the rear corner of the printer.
- Route the free ends of the belts toward the rear of the printer. Leave them loose for now.
- Route the motor cable through the cable channel, as shown in the picture.

## KROK 13 Fixing the right motor



- Gently pull the motor cable to ensure it does not get pinched when moving the motor assembly into place.
- Rotate the motor assembly with the motor mount into the correct position. The **belt pulleys must face the rear side** of the printer.
- The motor mount has a tab on the bottom side that must fit into the rectangular cutout in the frame.
- Place the motor assembly onto the printer frame.
- From the inner side of the printer, check that the lower belt is seated on the pulley through the hexa hole in the motor-mount.

## KROK 14 Right motor screws: parts preparation



- For the followings steps, please prepare:
- M3x30 screw (4x) *you removed earlier*
- M3x6 screw (1x) *you removed earlier*

## KROK 15 Tightening the right motor



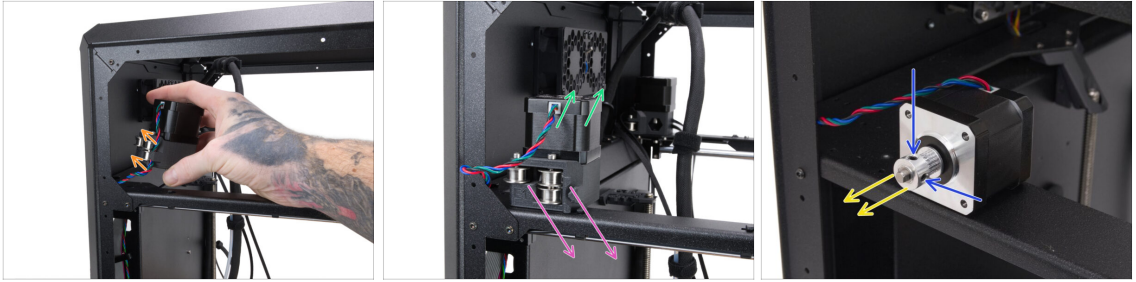
- Connect the FE connector to the faston.
- Secure the entire motor assembly from the bottom side of the frame using four M3x30 screws.
- Finally, secure the motor mount with an M3x6 screw.

## KROK 16 Releasing the left motor



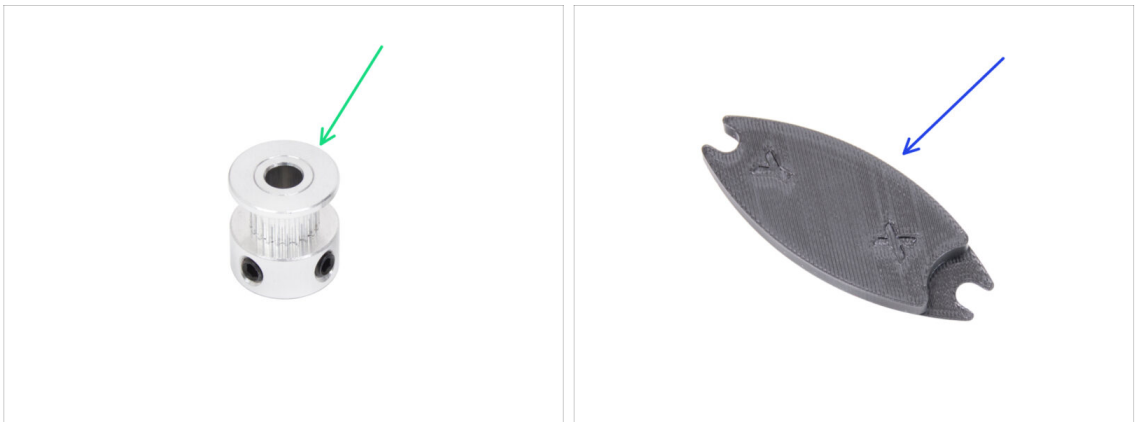
- Move to the underside of the left rear motor.
- Gently and slowly pull on the motor cable to extend it as shown in the photo.
- Remove the four M3x30 screws securing the motor to the motor holder.
- Remove the M3x6 screw securing the motor holder.
- ⚠ Avoid removing the screws securing the rod holder.**

## KROK 17 Disassembling the left motor



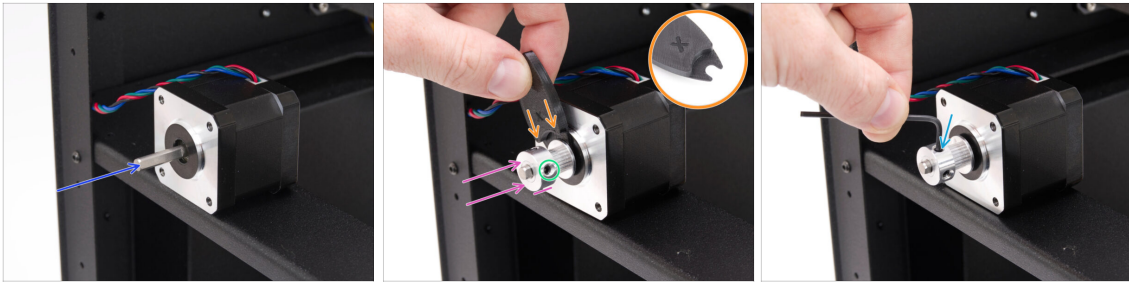
- Rotate the motor assembly with the cable channel in the Motor-mount facing outward.
  - Remove the motor cable from the channel in the Motor-holder.
  - Remove the motor from the Motor-mount.
  - Remove the Motor-mount from the printer.
  - Place the motor on the printer frame.
  - Using a 2.0 mm Allen key, loosen the two set screws securing the pulley.
  - Remove the pulley.
-  This pulley will no longer be used. Set it aside or discard it to **avoid confusing it with the new one**.

## KROK 18 New pulley: parts preparation (left motor)



- For the following steps, please prepare:
- GT1.5-21 pulley (1x)
- Pulley-offset-tool (1x) *you used it before*

## KROK 19 Installing the new pulley (left motor)



- Rotate the motor shaft so that the flat faces you. **Do not rotate the shaft any further.**
- Slide the new GT1.5-21 pulley onto the shaft, with the set screw side facing **away from the motor.**
- Insert the Pulley-offset-tool, with the side marked "X", between the motor and the pulley to set the correct distance.
- Press the pulley against the Pulley-offset-tool and tighten the set screw **against the flat on the motor shaft.**
- Rotate the pulley and tighten the second set screw.

## KROK 20 Belt routing overview



Before routing the belts, familiarize yourself with their path through the CoreXY mechanism.

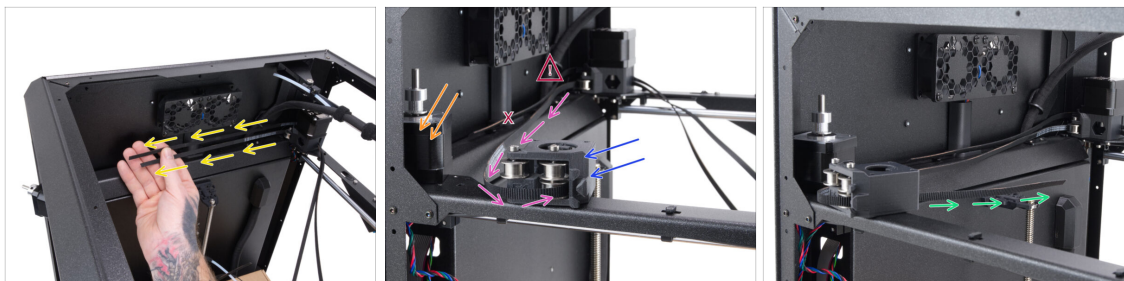
- The following diagrams show the routing of the upper and lower belts and their orientation within the assembly.

■ Upper belt path

■ Lower belt path

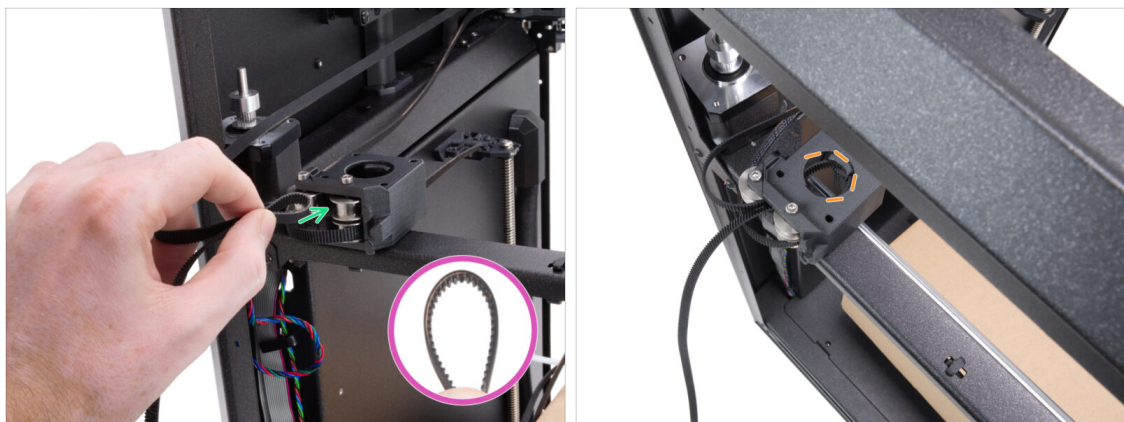
- **Do not perform any actions in this step.**

## KROK 21 Guiding the lower belt (left motor)



- ✦ Route both belts from the right motor towards the rear side of the printer and guide them to the left motor.
- ✦ With the new pulley attached, move the motor in the corner as shown in the photo.
- ✦ Place the motor-mount onto the printer frame with the side containing one pulley facing downward.
- ✦ Route the **lower belt** around the lower idler from the right side.
- ⚠ **Make sure you are holding the lower belt coming from the right motor. The belt must not be twisted along its path.**
- ✦ From the opposite side, pull the belt out approximately 15 cm (6 in).

## KROK 22 Inserting the upper belt (left motor)



- ✦ Take the **upper belt** and form a loop with the **teeth facing inward**.
- ✦ Push the belt loop into the motor mount **between the two upper pulleys**.
- ✦ Viewed from the top, the belt loop should follow the circular cutout in the motor mount as closely as possible.

## KROK 23 Securing the upper belt (left motor)



Throughout the process, make sure the **belt does not slip out of the assembly**.

- Insert the motor with the pulley into the belt loop inside the motor mount.
- Fully seat the motor against the motor mount.
  - Orient it so that the motor cable faces outward on the same side as the idler screw.
- Gently pull both ends of the belt exiting the Motor-mount to secure the belt loop around the pulley.

## KROK 24 Guiding the upper belt (left motor)



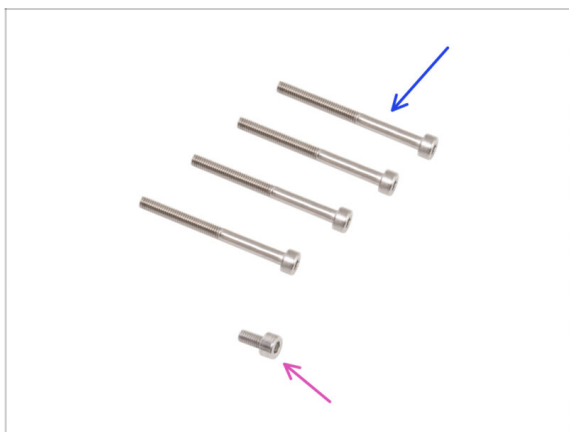
- Route the upper belt around the upper right pulley **from the right side** and insert it into the motor mount.
- On the opposite side, watch for the belt to come out through the opening and pull it through until approximately 15 cm (6 in) is sticking out.

## KROK 25 Fixing the left motor



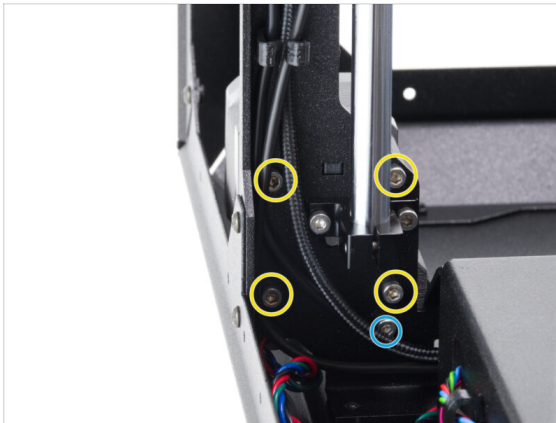
- Insert the motor cable into the cable channel in the Motor-mount.
- Rotate the motor assembly with the motor mount into the correct position. The **belt idlers must face the rear side** of the printer.
- Gently pull the motor cable to ensure it does not get pinched when moving the motor assembly into place.
- Place the motor assembly onto the printer frame.
- The motor mount has a tab on the bottom that must fit into the rectangular cutout in the frame.
- From the inner side of the printer, check that the upper belt is seated on the idler through the hexa hole in the motor-mount.

## KROK 26 Left motor screws: parts preparation



- **For the following steps, please prepare:**
- M3x30 screw (4x) *you removed earlier*
- M3x6 screw (1x) *you removed earlier*

## KROK 27 Tightening the left motor



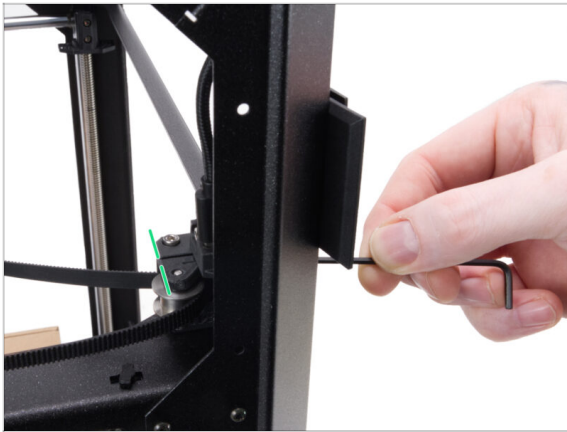
- Secure the entire motor assembly from the bottom side of the frame using four M3x30 screws.
  - Finally, secure the motor mount with an M3x6 screw.
-  With both motors fixed in place, check that your belts are led in the same way as shown in the photo.

## KROK 28 Guiding the upper belt (left side)



- Take the **upper** belt coming from the left motor and lead it as shown in the photo.
-  The belt must not be twisted along its path.
- Route the belt around the belt tensioner idler.
- The toothed side of the belt does not contact the idler

## KROK 29 Tightening the belt tensioner



- 🟢 Tighten the belt tensioning screw until the idler assembly is flush with the stationary part of the Belt-tensioner.
- ⓘ We will do the final adjustment of the belt tensioner at the end of the upgrade process.

## KROK 30 Guiding the upper belt (gantry - left)



- 🟠 Route the free end of the belt coming from the idler around the upper idler on the XY gantry.
- ⓘ The XY gantry idlers may differ visually between printer versions. The procedure is identical for both 3D-printed and injection-molded parts.

### KROK 31 Guiding the lower belt (gantry - left)



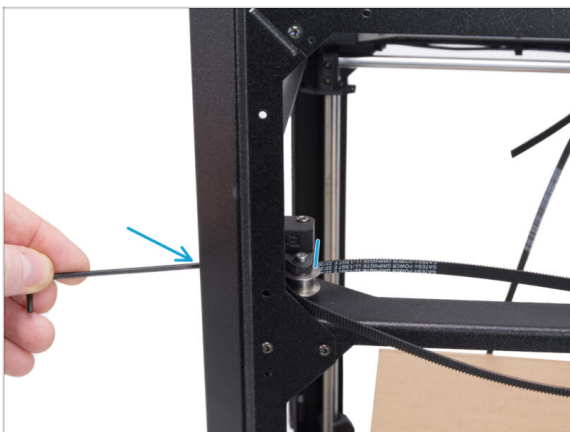
- ◆ Take the lower belt coming from the left motor.
- ◆ Route it towards the XY gantry and around the lower idler.
- ◆ From the opposite side, pull the belt through until at least 8 cm (3 inch) is sticking out.

### KROK 32 Guiding the lower belt



- ◆ Move to the right motor.
- ◆ Remove the zip tie securing the two free belt ends on the right side of the printer, if you used one.
- ◆ Take the **lower** belt coming from the right motor .
- ⚠ The belt must not be twisted along its path.
- ◆ Route the belt around the idler so that the **toothed side** of the belt **does not contact the idler**.

### KROK 33 Tightening the right belt tensioner



- Tighten the belt tensioning screw until the idler assembly is flush with the stationary part of the Belt-tensioner.



We will do the final adjustment of the belt tensioner at the end of the upgrade process.

### KROK 34 Guiding the lower belt (gantry - right)



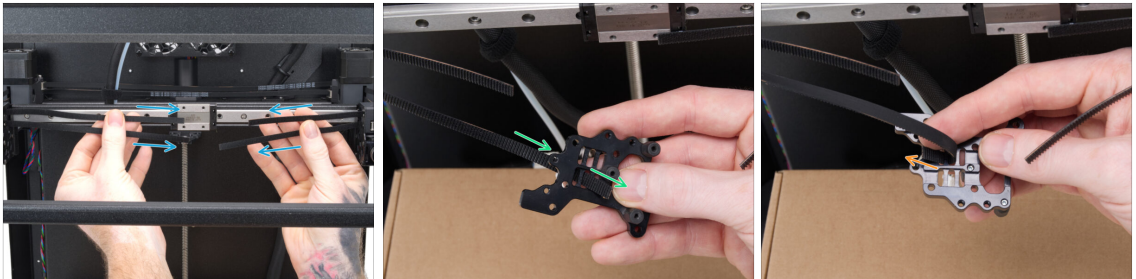
- Route the free end of the belt coming from the idler around the upper idler on the XY gantry.
- From the opposite side, pull the belt through until at least 8 cm (3 in) is sticking out.
- ① The XY gantry idlers may differ visually between printer versions. The procedure is identical for both 3D-printed and injection-molded parts.

## KROK 35 Guiding the upper belt (gantry - right)



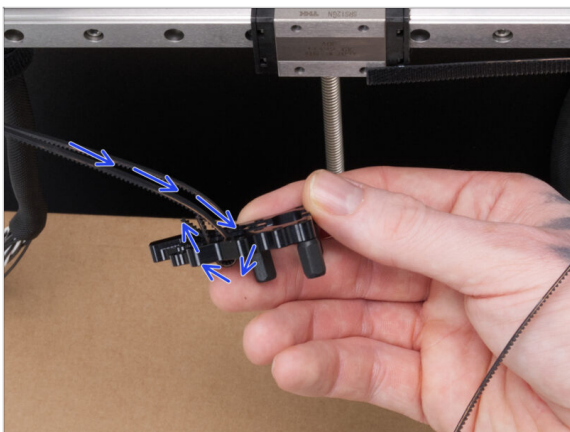
- Take the upper belt coming from the right motor.
- Route the belt around the upper idler on the XY gantry.
- From the opposite side, pull the belt through until at least 8 cm (3 inch) is sticking out.
- Well done! The new belts are ready to be secured to the Nextruder.

## KROK 36 Securing the belts I.



- Gently pull all belt ends towards the center of the printer.
- Keep the Nextruder holder in the same orientation as shown in the picture.
- Route the **lower left** belt through the center opening of the Nextruder holder from the rear side to the front.
- Pull the belt out so that approximately 15 mm protrudes.
- From the front side of the Nextruder holder, route the belt back through the left opening towards the rear.

### KROK 37 Securing the belts II.



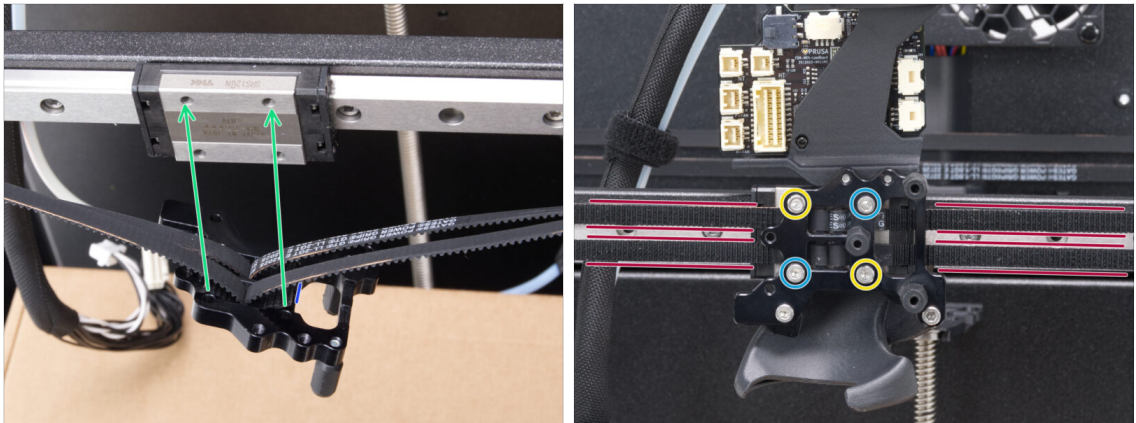
- From the rear side, place the belt end against the Nextruder holder.
- Repeat the same procedure for the **upper left** belt.

### KROK 38 Securing the belts III.



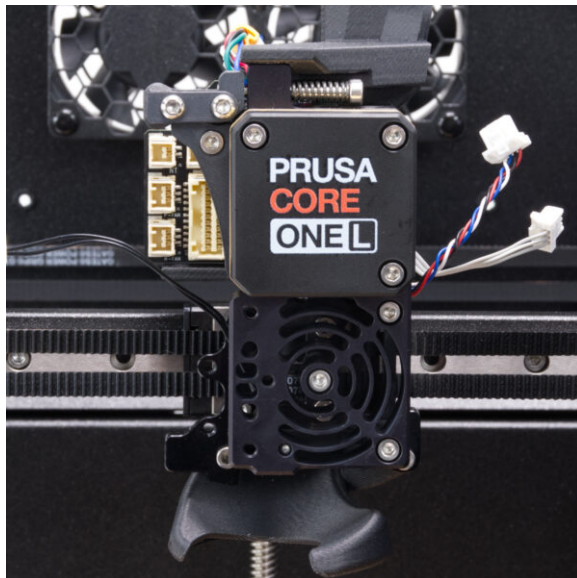
- From the rear side, route the **lower belt coming from the right** side through the center opening of the Nextruder holder.
  - Pull out approximately 15 mm of the belt.
- Route the upper right belt through the rear side of the Nextruder holder.
- Bend both right-side belts and route them back through the right opening of the Nextruder holder.
- Ensure that all four belts are attached through the Nextruder holder as shown.

## KROK 39 Attaching the Nextruder holder

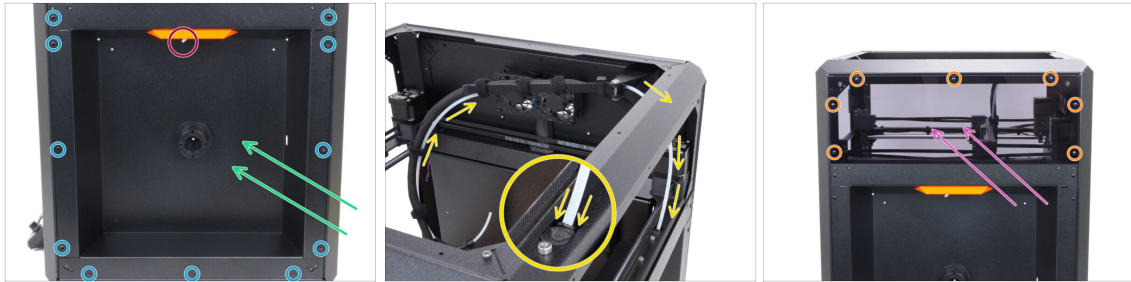


- Align the right-side belts with the edge of the Nextruder holder and adjust their length if needed.
- Align the Nextruder holder with the X-carriage. The Nextruder holder is attached from the belt side.
- Attach the Nextruder holder to the X-carriage and lightly secure it using one upper and one lower M3x10 screw.
- Check that all belts run straight and are not twisted.
- Insert the remaining two M3x10 screws and tighten all four screws firmly.
- Well done! The new belts are in place; let's finish the assembly.

## 4. Assembling the Nextruder



## KROK 1 Attaching the right panel



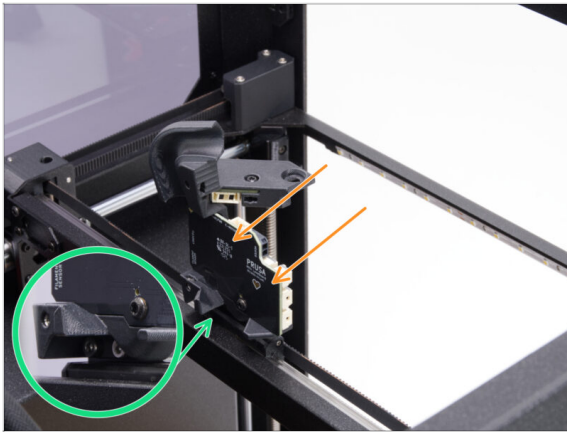
- Place the side panel on the printer.
- Carefully insert the short PTFE tube from the filament sensor through the opening in the side cover handle.
- Fix the side panel in place using 11x nylon rivets. Push one into each indicated hole, and the rivet will hold the side panel in place.
- i** A spare bag of nylon rivets was included with the upgrade.
- Gently pull the PTFE tube and connect it back into the collet. Make sure to insert the tube all the way in.
- Place the side panel on the printer.
- Fix the side panel in place using 7x nylon rivets. Push one into each indicated hole, and the rivet will hold the side cover in place.

## KROK 2 Securing the PTFE tube



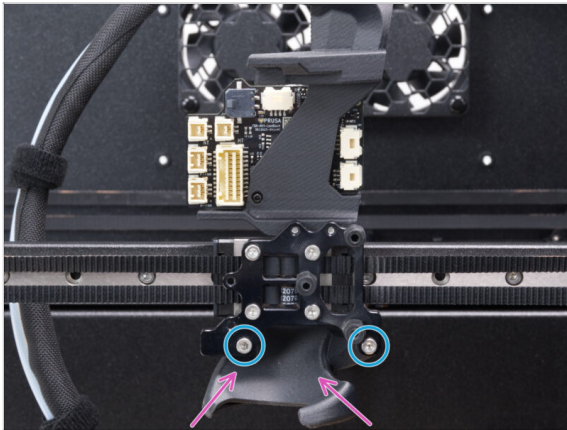
- On the back of the swing arm, use the T10 key/screwdriver to tighten the screw holding the Swing-arm-clip.

### KROK 3 Installing the LoveBoard assembly



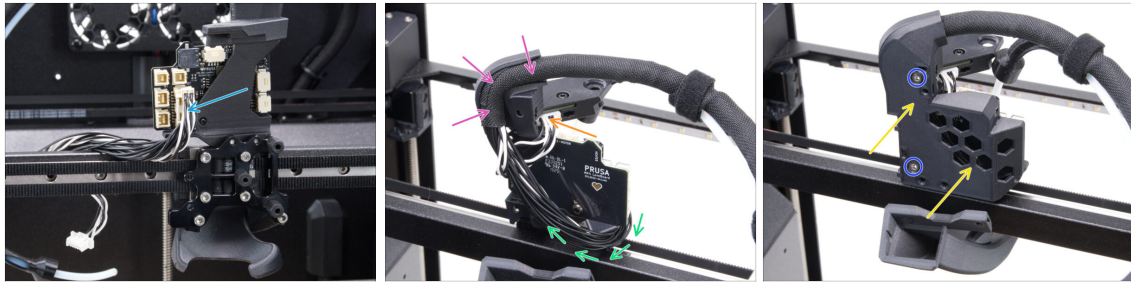
- Look at the rear side of the Nextruder holder.
- Attach the LoveBoard assembly to the rear side of the Nextruder holder while it is resting on the box.
- Align the two M3x10 screws (removed earlier) with the holes in the Nextruder holder, then tighten them with a 2.5 mm Allen key.

### KROK 4 Attaching the fan shroud



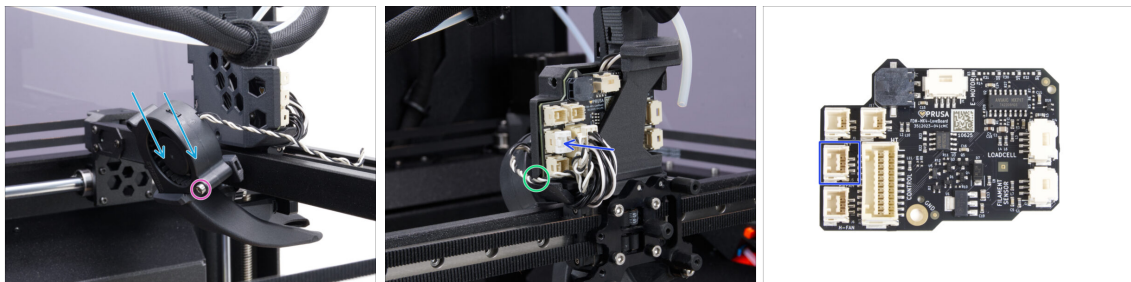
- From the rear side of the Nextruder holder, place the fan shroud onto the Nextruder and align it with the holes.
- Secure the Fan-shroud using two M3x10 screws.

## KROK 5 Connecting the main cable



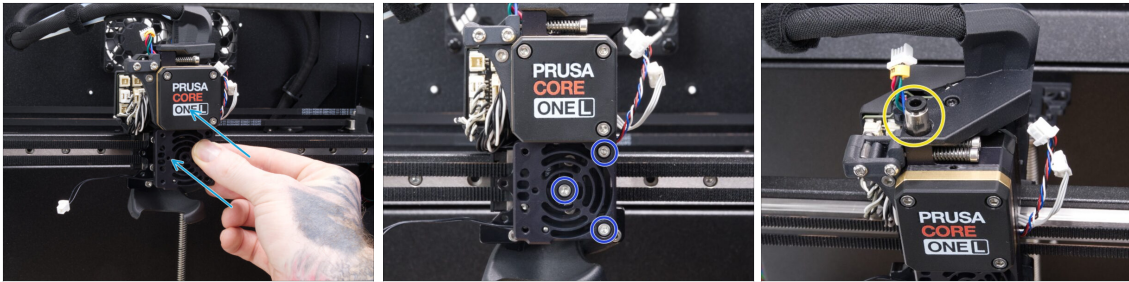
- Plug in the main cable, ensure that the safety latch clicks into place.
- Lead the main cable under the Love board towards the back of the Nextruder.
- Plug in the Accelerometer cable, ensure that the safety latch clicks into place. This connector is plugged in "upside down".
- Tighten the cable sleeve and lead the main cable through the channel as shown in the photo.
- Attach the Printhead-cover-back. Ensure that no cables are pinched or damaged!
- Secure the Printhead-cover-back in place with two M3x10 screws.

## KROK 6 Attaching the print fan



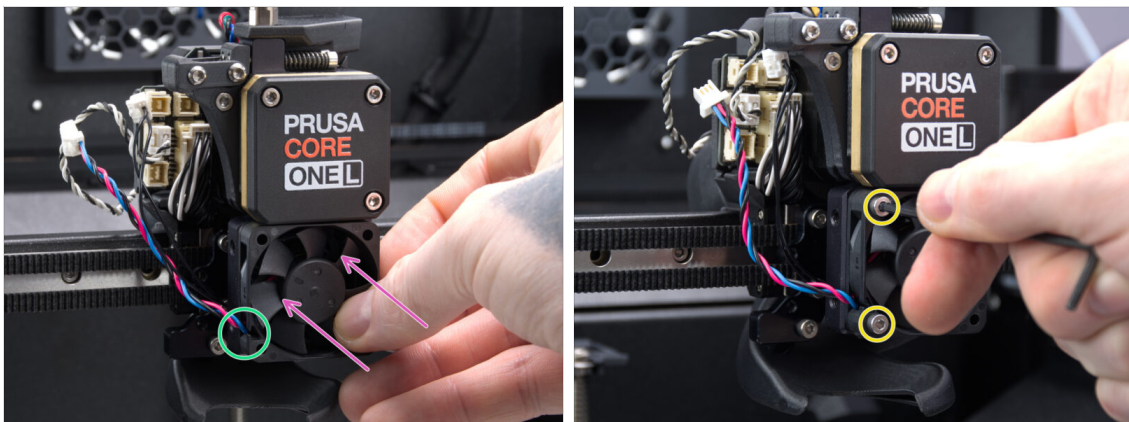
- Insert the print fan into the fan shroud.
- Secure the fan in place using the M3x20 screw.
- Guide the print fan cable towards the front, through the dedicated channel.
- Plug the print fan into the Love board. Make sure that the safety latch clicks into place.

## KROK 7 Attaching the Nextruder assembly



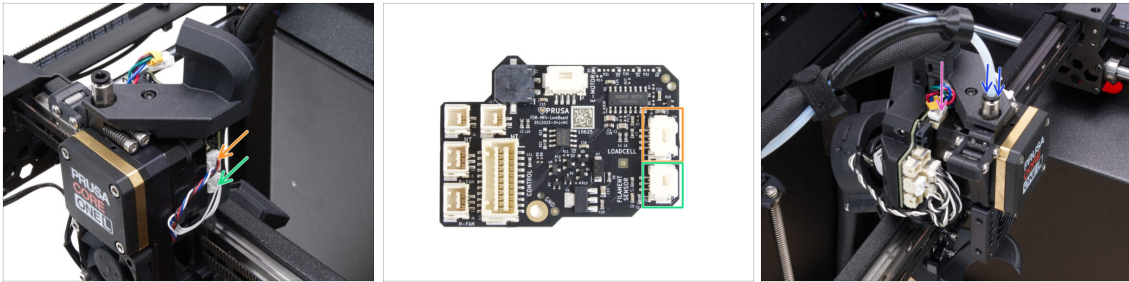
- Attach the Nextruder to the printer.
- ⚠ Ensure that none of the cables and connectors behind the extruder are getting pinched.
- Secure the Nextruder with three M3x10 screws that you removed earlier.
- Insert the M5-4 fitting into the Nextruder assembly and, using the 8mm cutout on the Universal wrench, tighten it.

## KROK 8 Attaching new hotend fan



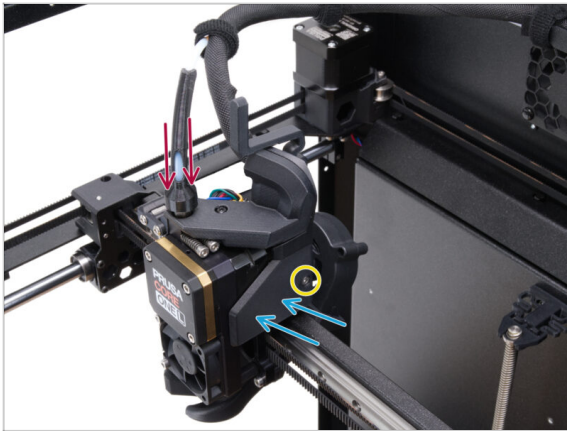
- Place the hotend fan on the heatsink. The sticker side of the hotend fan must be facing the heatsink.
- Ensure that the hotend fan is positioned with the cable protruding from the bottom left corner of the fan.
- Use the 2.5mm Allen key to tighten the two M3x18 screws that you removed earlier.

## KROK 9 Securing the PTFE tube



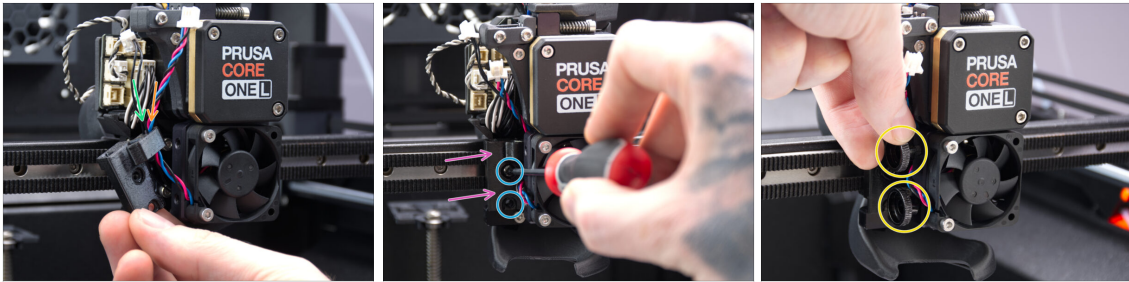
- Plug in the Loadcell cable, ensure that the safety latch clicks into place.
- Plug in the Filament sensor cable, ensure that the safety latch clicks into place.
- Plug in the Extruder motor cable, ensure that the safety latch clicks into place.
- Insert the PTFE tube into the collet. Once inserted, pull it out slightly to ensure that it stays in place.

## KROK 10 Attaching Printhead-cover-right



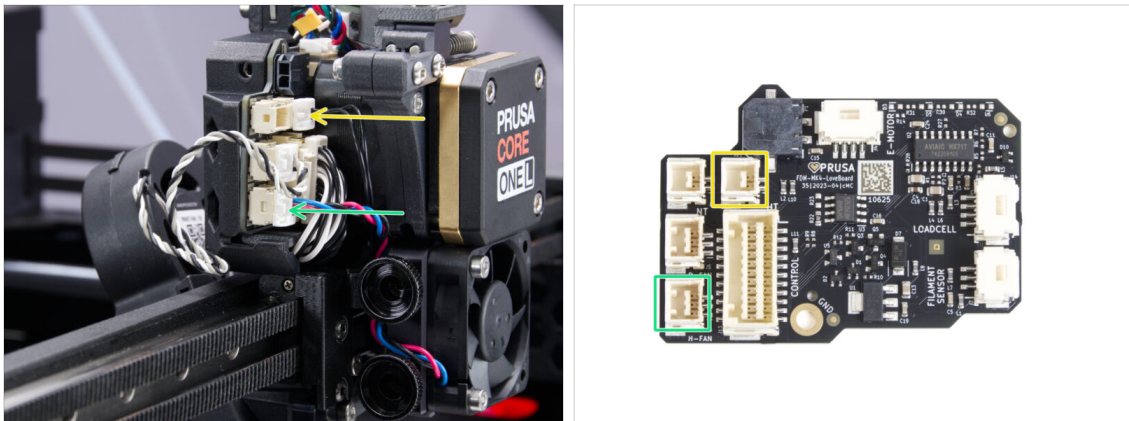
- Move the Bowden-bend down on the extruder PTFE tube.
- Attach the Printhead-cover-right.
- Secure the cover in place with the M3x6 screw (removed earlier).

## KROK 11 Attaching the Hotend-cable-clip



- ◆ Insert the hotend fan cable and the heatbreak thermistor cable into the slot in the hotend-cable-clip:
  - ◆ Hotend fan cable.
  - ◆ Heatbreak thermistor cable.
- ◆ Carefully slide the Hotend-cable-clip back onto the nextruder.
- ◆ Use the T10 screwdriver to tighten the two M3x4rT screws.
- ⓘ With the Hotend-cable-clip in place, make sure that no cables are pinched.
- ◆ Use your hand to screw in the two thumbscrews to the heatsink. **Do not tighten them all the way yet.**

## KROK 12 Connecting the hotend fan and thermistor cables



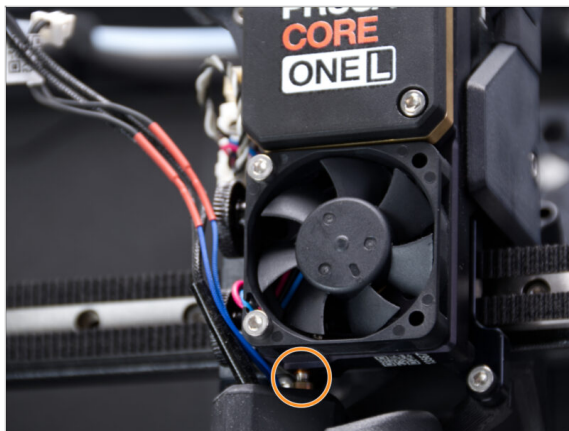
- ◆ Connect the heatbreak thermistor cable to the upper right slot on the love board. Ensure that the safety latch clicks securely into place.
- ◆ Connect the hotend fan cable to the bottom left slot in the love board. Ensure that the safety latch clicks securely into place.

## KROK 13 Inserting the hotend



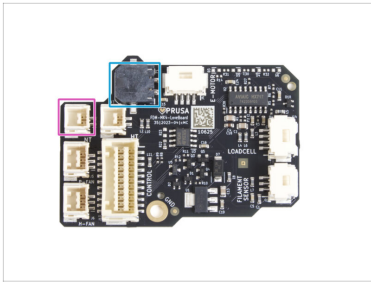
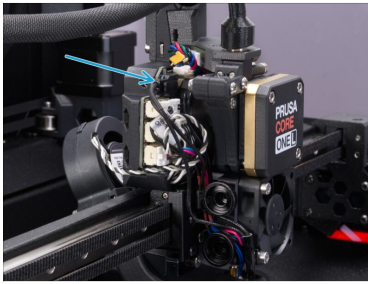
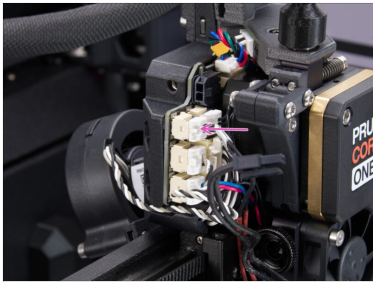
- 🟢 Locate the hole on the bottom of the extruder heatsink and insert the hotend assembly.
- ⓘ Ensure that there is enough free space between the hotend assembly and the fan shroud.
- 🟡 Once the hotend assembly is completely inserted into the nextruder, tighten both thumbscrews.
- 🟢 Double-check that the hotend assembly is fully inserted into the heatsink. It has to align with the fan shroud.

## KROK 14 Checking the nozzle



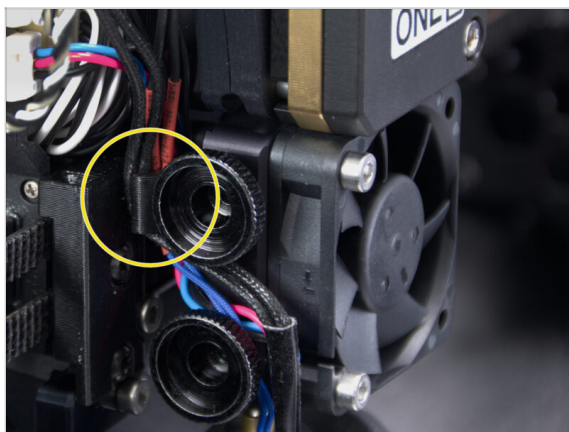
- 🟡 **Verify that the nozzle is fully inserted** into the heatsink. The copper ring on the nozzle has to be barely visible.
- ⚠️ If not inserted properly, the nozzle can cause poor heat transfer and potentially lead to nozzle clogs.
- ⓘ To adjust the nozzle position, loosen the thumbscrews on the side and push the hotend assembly up. Then tighten the thumbscrews again.

## KROK 15 Connecting the hotend cables



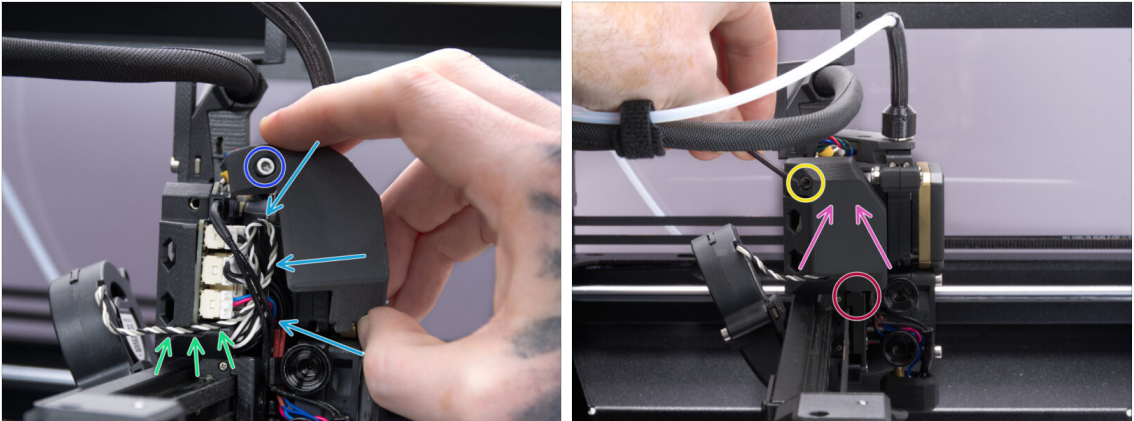
- ✚ Connect the hotend thermistor cable to the top left slot on the love board. Ensure that the safety latch clicks securely into place.
- ✚ Connect the hotend heater to the black slot on the upper part of the love board. Ensure that the safety latch clicks securely into place.

## KROK 16 Guiding the hotend cables



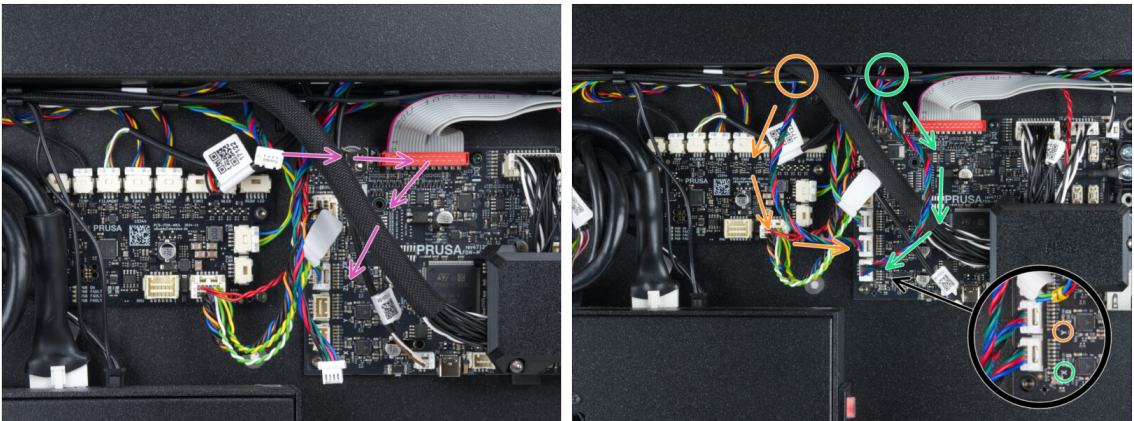
- ✚ Insert the hotend cables behind the plastic cable guide hook. Guide the thermistor cable first, then the hotend heater cable.

## KROK 17 Attaching the Printhead-cover-left



- ◆ Organize the cables to ensure they are not sticking out to prevent pinching them once you attach the Printhead-cover-left (cover).
- ◆ Ensure that the print fan cable is led through the ridge in the Printhead-cover-rear.
- ◆ Tip: Prepare the M3x10 screw and set it up in the cover before attaching the cover.
- ◆ Insert the cover into the bottom slot in the Printhead-cover-rear first.
- ◆ Place the cover on the Nextruder.
- ◆ Fix the cover in place using the M3x10 screw.

## KROK 18 Reconnecting the motor cables



- ❗ During the belt exchange, the motor cables may have been pulled towards the opening in the back panel.
- ◆ Gently pull the cable sideways out of the opening. When the length is sufficient, pull down towards the connector.
- ◆ Plug the cable coming out of the opening on the **left** into the **Y** upper slot in the xBuddy board.
- ◆ Plug the cable coming out of the opening on the **right** into the **X** lower slot in the xBuddy board.

## KROK 19 Covering the electronics



- ◆ Upewnij się, że cztery zaczepy na górze pokrywki wsunęły się w cztery szczeliny w tylnej pokrywce drukarki.
- ◆ Carefully, yet firmly, push the bottom of the cover towards the printer to reattach it to the printer.
- ⚠ While reattaching the electronics cover, ensure that all cables are covered and that no cables are pinched!
- ◆ Przymocuj pokrywę elektroniki dwoma śrubami M3x4rT od wewnątrz drukarki.

## KROK 20 Attaching the left side covers



- ◆ Mount the side panel onto the printer.
- ◆ Fix the side panel in place with eleven nylon rivets.
- ◆ Mount the side cover onto the printer.
- ◆ Fix the side cover in place with seven nylon rivets.
- ⓘ A spare bag of nylon rivets was included with the upgrade.

## KROK 21 Attaching the printer top cover

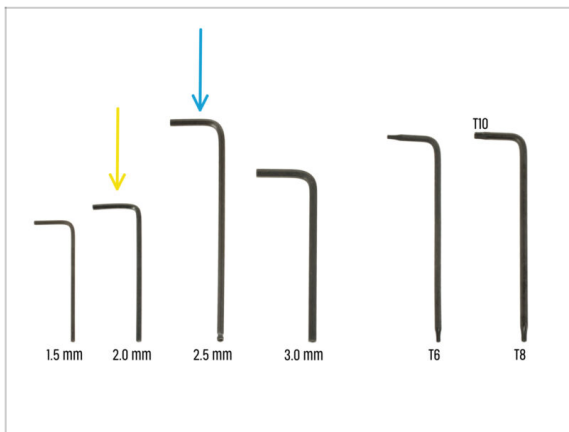


- Place the cover on the printer with the ventilation grille in the front and slide the cover towards the back.
- Align the cover so that the two plastic latches at the rear of the cover slide in and lock the cover in place.
- Once the back is secured in place, lower the front of the cover and gently push the cover down, so the front latches will snap in place.

## 5. Installing the nozzle wiper



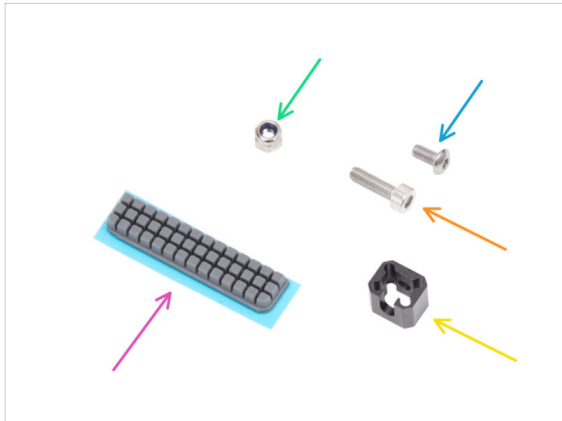
## KROK 1 Tools



### Tools necessary for this chapter:

- 2.0 mm Allen key
- 2.5mm Allen key

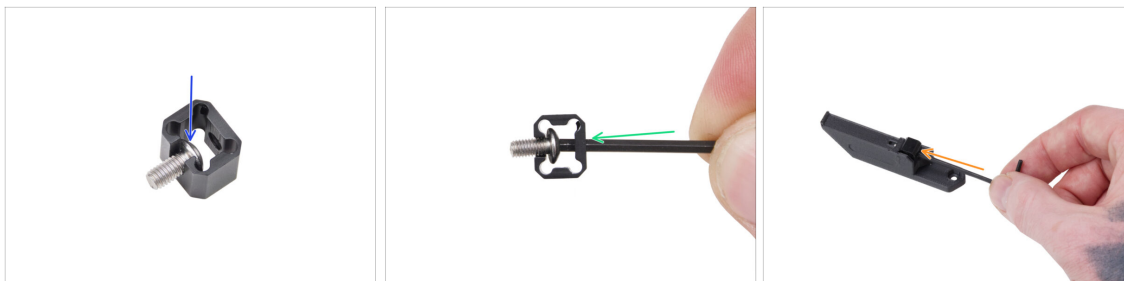
## KROK 2 Nozzle wiper assembly: parts preparation



### For the following steps, please prepare:

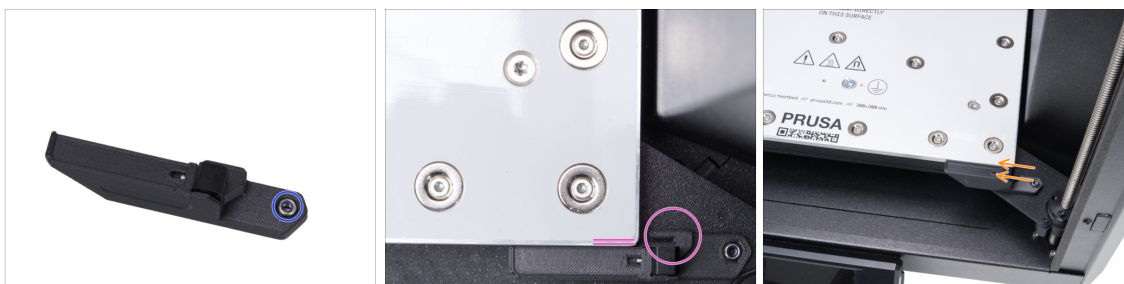
- Nozzle-wiper-holder (1x)
- Nozzle wiper (1x)
- M3n nut (1x)
- M3x6r screw (1x)
- M3x10 screw (1x)
- Expansion joint (1x)

### KROK 3 Assembling the nozzle wiper



- Insert the M3x6r screw into the expansion joint with the screw head first.
- Insert a 2.0 mm Allen key through the threaded hole to reach the screw.
- Attach the expansion joint to the Nozzle-wiper-holder and tighten the screw. Do not overtighten it.

### KROK 4 Mounting the nozzle wiper



- Insert the M3nN nut into the hexagonal opening.
- Place the Nozzle-wiper-holder onto the right side of the Z-carriage.
- Notice the small tab on the holder. It must hook behind the sheet metal edge underneath the heatbed.
- Slide the Nozzle-wiper-holder along the Z-carriage onto the heatbed assembly. Ensure that the hook connects with the heatbed.

## KROK 5 Securing the nozzle wiper



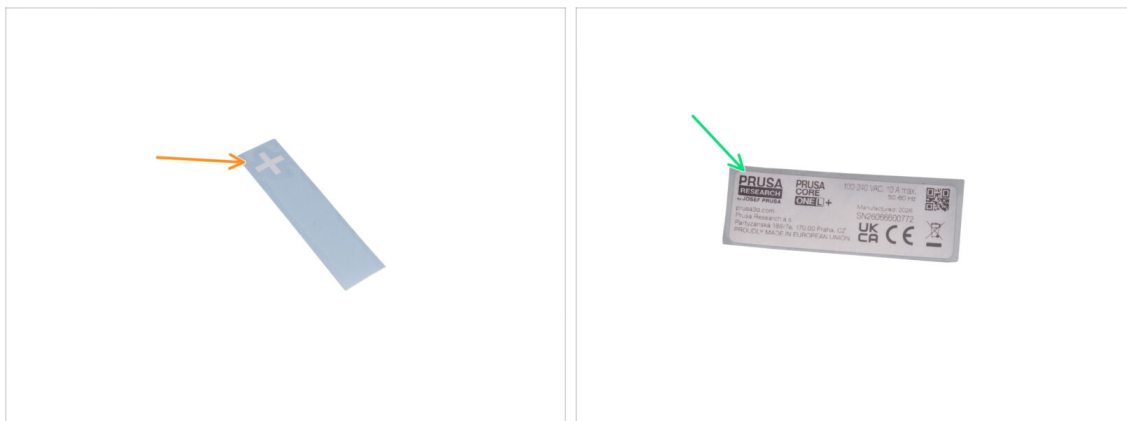
- ✦ From the bottom, insert the M3x10 screw and catch it onto the nut by turning it a few rotations by hand.
- ✦ Push the assembly firmly against the heatbed and secure it from the underside of the Z-carriage using the M3x10 screw.

## KROK 6 Attaching the wiper pad



- ✦ Peel off the protective layer from the nozzle wiper pad.
  - ⓘ **The pad is adhesive** underneath the protective layer. Avoid touching the adhesive surface.
- ✦ Insert the nozzle wiper pad into the matching recess in the nozzle wiper assembly.
  - 📌 Note that the pad has **rounded corners** on one side. Match them to the shape of the recess.
- ✦ Run your finger over the entire surface of the nozzle wiper pad several times to ensure it is evenly adhered and fully seated.

## KROK 7 Stickers: Parts preparation



- Do kolejnych etapów przygotuj:
- CORE One L+ upgrade sticker (1x)
- Serial Number sticker (1x)

## KROK 8 Przyklejenie naklejki po modernizacji



- Align the bottom of the sticker with the "ONE L" part of the logo.
- Place the sticker on the printer door and apply pressure on the +.
- Peel the sticker off.

## KROK 9 Naklejanie etykiety SN



- Attach the CORE One L+ Serial Number sticker above the original SN sticker at the back of the printer.

## KROK 10 Done!



- Congratulations! You have just completed the upgrade.
- Now, proceed to the final chapter.

## 6. Preflight check



## KROK 1 Turning it ON



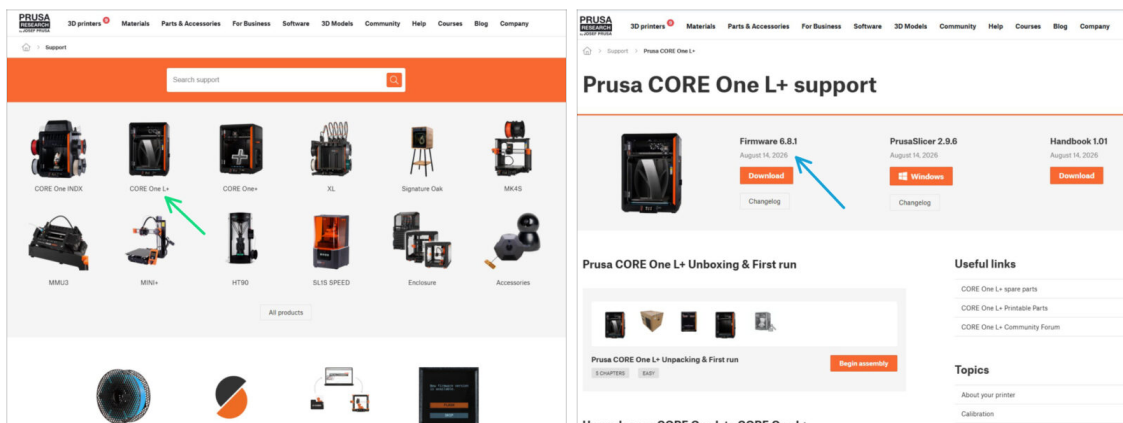
- ✿ Insert the USB drive included in your kit into your printer.
- ✿ Connect the power cable and plug the printer into a wall outlet.
- ✿ Turn the printer on using the switch on the back.
- ❗ The printer will now detect if a new firmware file is available on the USB drive.
- ✿ If the "New firmware available" screen appears, hit **FLASH** by pressing the rotary knob to upgrade to the latest firmware.

## KROK 2 Print sheet and spool holder



- ❗ This chapter will guide you through calibrating and preparing the printer for its first run.
- ⚠ **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.
  - ✿ Przyczyną nr 1 odklejania się wydruków od arkusza jest zatłuszczona powierzchnia. **Użyj IPA (alkoholu izopropylowego), aby ją odtłuścić**, jeśli wcześniej zdarzyło Ci się dotknąć powierzchni.
- ✿ Put the O-ring onto the spoolholder.
- ✿ Push the spoolholder into the Puck-universal and lock it in by turning clockwise.

## KROK 3 Firmware update



- Odwiedź stronę [help.prusa3d.com](https://help.prusa3d.com).
- Przejdź do strony Prusa CORE One L+.
- Save the firmware file (*.bbf*) onto the bundled USB drive.
- Pro tip: Aby przejść na stronę główną Prusa CORE One L+, możesz użyć adresu URL: [prusa.io/CORE\\_One\\_L+](https://prusa.io/CORE_One_L+)

## KROK 4 Firmware Flash



- Insert the USB drive with the firmware file into the printer.
- Once the "New firmware available" screen appears, select the **FLASH** option.

## KROK 5 Selftest: info



It's important to run self-tests and calibrations for all important components. The entire process takes a few minutes, with some parts requiring direct user interaction.



We highly recommend running the self-test after upgrading your printer.



Visit the menu **Control -> Calibrations & Tests** and run the selftest from the start. Hit **YES** to start the selftest.



**Warning:** 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.



**Caution:** Some parts of the Wizard, such as fan testing and axis calibration, **may be loud**.



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

## KROK 6 Belt tensioning



**i** This chapter will guide you through calibrating and preparing the printer for its first run. Starting with tensioning the belts:

✦ The left screw adjusts the upper belt.

✦ The right screw adjusts the lower belt.

**⚠ WARNING: Incorrect procedure may result in damage to plastic parts or seizing of screws. Before adjusting the belt tension, read the dedicated article:**

✦ **Adjusting belt tension (CORE One)**

**📌** Do not forget to come back here after adjusting the belts.

## KROK 7 Handbook

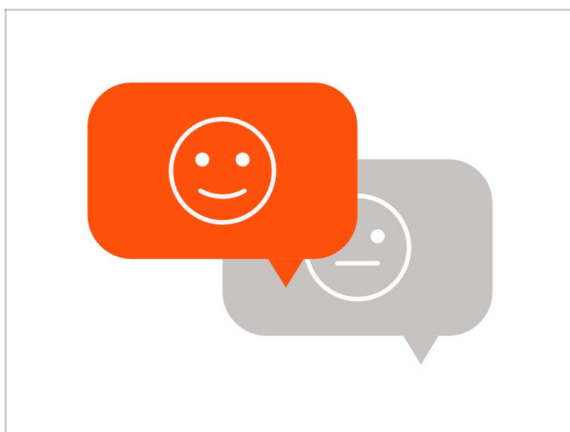


✦ Read the **3D Printing Handbook** dedicated to your printer and follow the instructions to set up the printer and prepare it for your first print.

**📌** The latest version is always available at [prusa.io/CORE\\_One\\_L+](https://prusa.io/CORE_One_L+).

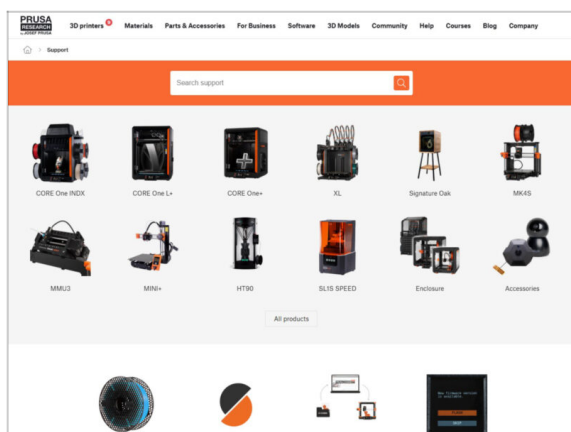
**⚠** Read the **Disclaimer and Safety instructions** chapters.

## KROK 8 Give us feedback



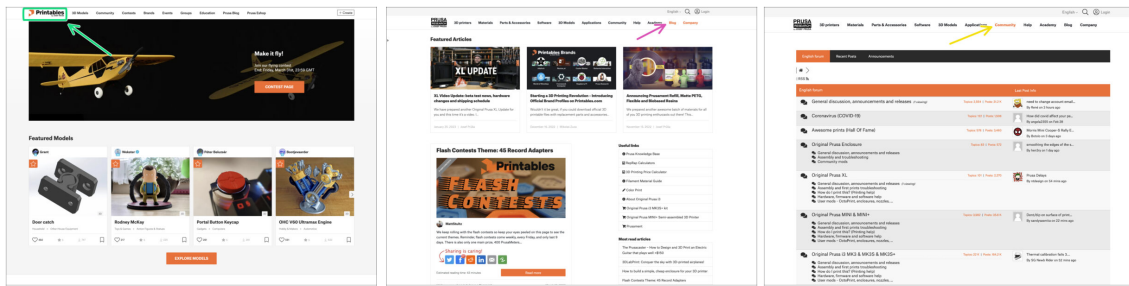
- We know you're eager to start printing, but we'd really appreciate it if you could take 3–4 minutes to **share your thoughts** on this manual: how clear it was, how easy it was to follow, and any ideas to improve it.
- ① This feedback is a little different from the usual comments you might leave on individual steps.
- **Share your feedback here.**
- Thank you for helping us make our manuals even better!

## KROK 9 Prusa knowledge base



- 📌 If you encounter any problems at all, don't forget you can always check out our knowledge base at [help.prusa3d.com](https://help.prusa3d.com)
- We're adding new topics every day!

### KROK 10 Join 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](https://www.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.

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