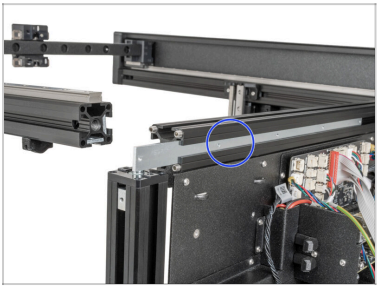
Table of Contents

How to replace the tch-profile-insert (XL)

help.prusa3d.com/g639940

Scan the QR code to display the latest version of this chapter.

STEP 1 Introduction



- This guide will take you through the replacement of the **tch-profile-insert** on the **Original Prusa XL**.

⚠ Keep all the parts of the printer you have dismantled. Don't throw away any screws!

⚠ **Do not relocate the printer while following instructions!** Maintain it in a stationary position.

  - It is recommended to position the printer in a way that ensures accessibility from all sides. At least from the front, rear and right side.

ⓘ Note: This guide involves advanced steps and demands user proficiency. Follow the instructions attentively and with precision.

STEP 2 Torque indicator

⚠ Before you begin the printer surgery, print out the **Torque indicator** that is required for this procedure.

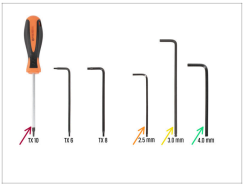
ⓘ The Torque indicator is included in semi-assembly XL versions.

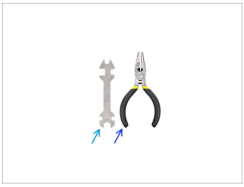
- Download the Torque-indicator from Printables.com.
  - It can be found in *Files -> Others*.
  - Read the Print instructions before printing.

⚠ **Do not proceed without this tool**. It is essential for this procedure.

ⓘ If you are unable to print the part, please contact our customer support info@prusa3d.com.

STEP 3 Tools necessary for this manual





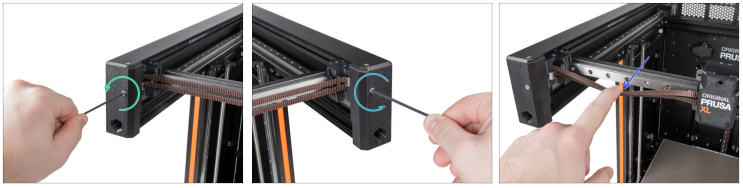
- **The package includes:**
- Torx T10 screwdriver
- 2.5mm Allen key
- 3.0mm Allen key
- 4.0 mm Allen key
- Universal wrench
- Pliers
- Torque indicator for 3.0mm Allen key

STEP 4 Filament sensor detaching

Proceed with this step only if the second side filament sensor is attached to the printer (right side). If not, skip this step.

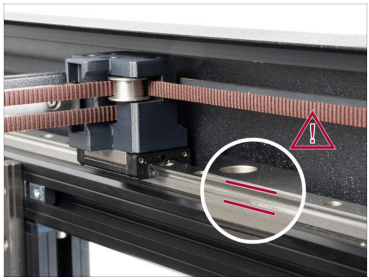
- Using a 2.5mm Allen key, unscrew the M3x10 screw holding the filament sensor.
- By pressing the safety latch, disconnect the filament sensor cable from the filament sensor.

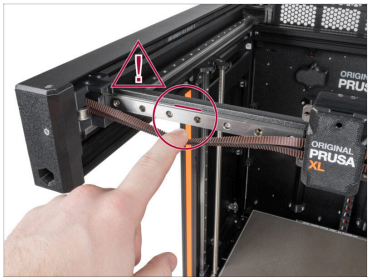
STEP 5 Belt release



- On the front side of the printer:
- Using a 2.5mm Allen key, release the M3 screw holding the left CoreXY tensioner. **Do not remove the screw completely.**
- Using a 2.5mm Allen key, release the M3 screw holding the right CoreXY tensioner. **Do not remove the screw completely.**
- Gently tension the belt with your finger. If the belt exhibits a similar level of looseness as depicted in the picture, proceed to the next step.

STEP 6 CAUTION: Lubricant Handling

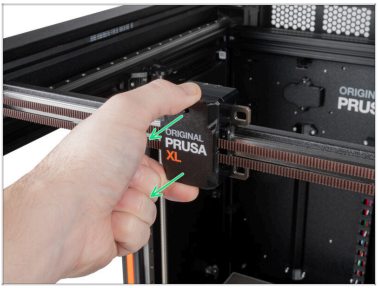




⚠ **CAUTION: Avoid direct skin contact with the lubricant used for the linear rails** in this printer. If a contact occurs, **wash your hands immediately. Especially before eating, drinking, or touching your face.**

- Lubricant accumulates mainly in the linear rail channels on the linear sides.

STEP 7 X-carraige cover removing

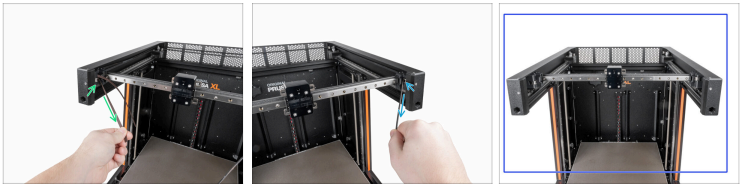


- Remove the X-carriage cover.
  - ⓘ The cover snaps onto the X-carriage. It is easily removable by hand.

STEP 8 Belt clamps removing

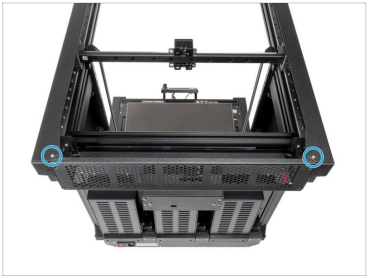
- Using the T10 Torx screwdriver, remove two M3x12rT screws holding the lower belt-clamp. Remove the belt-clamp.
- Using the T10 Torx screwdriver, remove two M3x12rT screws holding the upper belt-clamp. Remove the belt-clamp.
- With the belt-clamps removed, proceed to the next step.

STEP 9 Belts removing



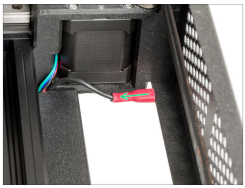
- Grasp the **bottom belt** on the **left side** of the CoreXY and pull the belt out of the printer.
- Grasp the **upper belt** on the **right side** of the CoreXY and pull the belt out of the printer.
- Compare your printer with the image. Then, proceed to the next step

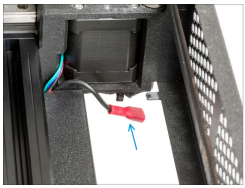
STEP 10 CoreXY cover release



- On the rear side of the printer:
- Using the T10 Torx screwdriver, remove four M3x6bT screws holding the CoreXY cover.
- Using the T10 Torx screwdriver, remove two M3x6bT screws holding the CoreXY cover.

STEP 11 CoreXY cover remove





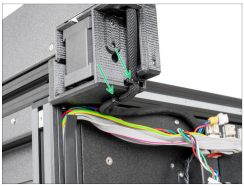
- On the inner side of the CoreXY cover, unplug the PE connector.
- Leave the PE connector free.
- Gently remove the CoreXY cover from the printer.

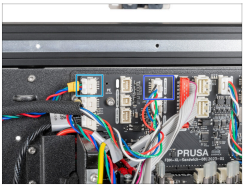
STEP 12 Back covers remove

- Using the T10 Torx screwdriver, loosen four M3x8rT screws holding the XL-buddy-box-cover. **Do not remove the screws, a few turns are enough.** Remove the cover.
- Using the T10 Torx screwdriver, remove four M3x4rT screws holding the rear-cable-management-upper. Remove the cover.

⚠ **Be aware of cables.**

STEP 13 Cables releasing

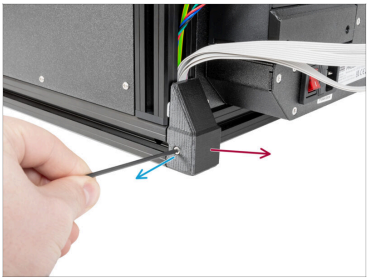




- Cut and remove four zip ties holding the cables.

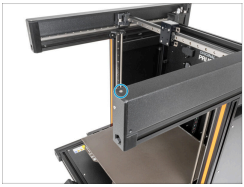
  ⚠ **Avoid cutting cables!**
- By pressing the safety latch, disconnect the left **XY motor** from the connector.
- By pressing the safety latch, disconnect the **Led light 1** from the connector.

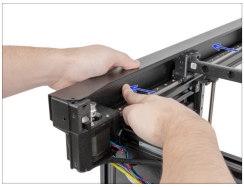
STEP 14 Cable cover removing



- Remove the Extrusion cover 354 mm.
- Using the 2.5mm Allen key, remove the M3x10 screw.
- Remove the frame-rear-cover.

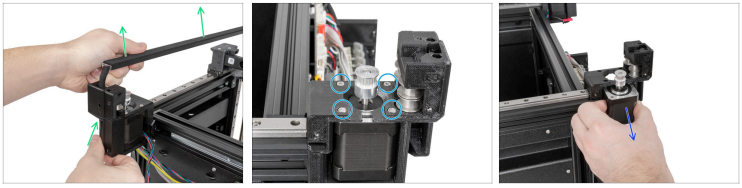
STEP 15 CoreXY metal cover remove





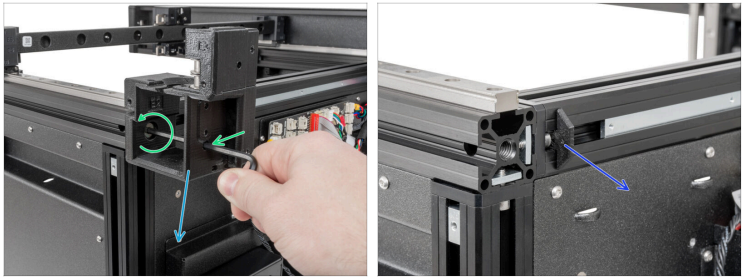
- From the right side of the printer:
- Using the T10 Torx screwdriver, remove three M3x6bT screws.
- From the front-upper side, remove one M3x6bT screw using the T10 Torx screwdriver.
- Push the cover from the inner side and remove the CoreXY cover.

STEP 16 CoreXY back disassembly



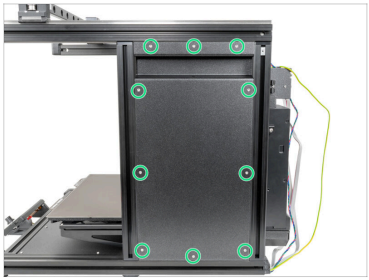
- Gently remove the Led light1 cable from the CoreXY back and remove the Led strip.
- Using the 2.5mm Allen key, remove four M3x10 screws.
- Remove the XY motor.

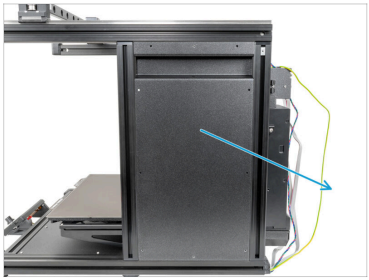
STEP 17 CoreXY back removing



- Insert the 4mm Allen key through the hole and remove the M8x16 screw.
- Remove the CoreXY-back from the printer.
- Remove the mounting-insert-spacer.

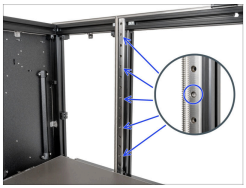
STEP 18 Left side panel removing





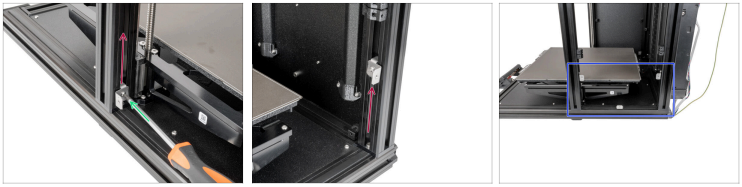
- From the left side of the printer:
- Using the T10 screwdriver, remove ten M3x8rT screws.
- Remove the side panel.

STEP 19 Z-Axis bearing releasing



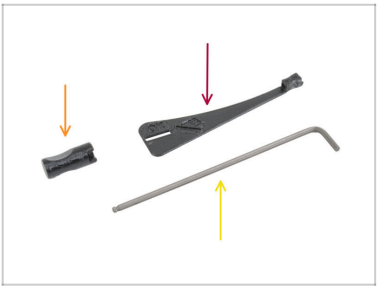
- Using the 2.5mm Allen key, remove two M3x10 screws holding the Z-Axis-bearing-housing.
- Using the 2.5mm Allen key, remove one M3x10 screw holding the linear rail.
- Using the 2.5mm Alle key, remove five M3x8 screws holding the linear rail.

STEP 20 Groundings replacing



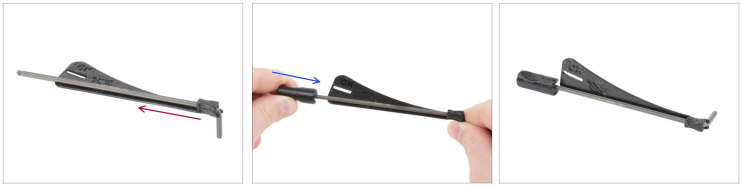
- Using the T10 Torx screwdriver, untighten the M3x8rT screw. **A few turns are enough.**
- Reposition the metal grounding a few centimeters higher to make space for the torque indicator.
- Do the same with the grounding on the opposite side.
- Excellent, the required space for the torque indicator has been successfully created.

STEP 21 Torque indicator: parts preparation



- **For the following steps, please prepare:**
  - Torque-indicator (1x)
  - Allen-key-handle (1x)
  - Allen key 3mm *use the one already prepared*

STEP 22 Assembling the Torque indicator



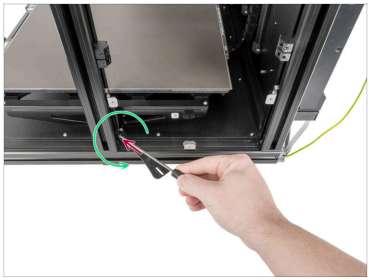
- Insert the 3mm Allen key into the torque indicator.
- Put on the Allen key handle from the other side.
- The assembled torque indicator looks like this.

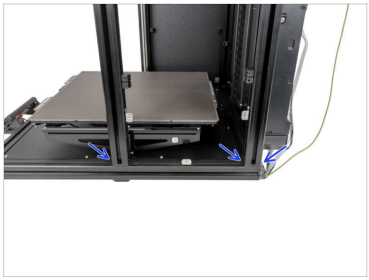
STEP 23 CoreXY assembly releasing

- Insert the shorter side of the 3mm Allen key into the screw securing the Z-axis extrusion.
- Release the screw with the 3mm Allen key.
- Repeat this process for all CoreXY assembly M4x12 screws holding the Z-axis extrusions.

ⓘ Do not dismatnle the torque indicator, we'll use it in the next steps.

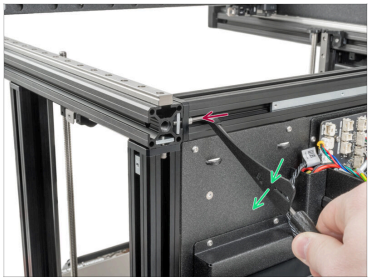
STEP 24 Z-axis extrusion releasing





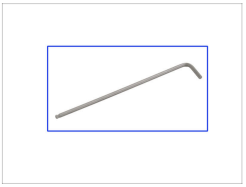
- Insert the shorter side of the 3mm Allen key into the screw securing the Z-axis extrusion.
- Using the 3mm Allen key, loosen the M4x12 screw holding the extrusions together. **Do not remove the screw completely.**
- Repeat this process for all four M4x12 screws. **Do not remove the screws completely.**

STEP 25 CoreXY assembly back releasing



- Insert the shorter side of the 3mm Allen key into the screw securing the Y-axis extrusion.
- Using the 3mm Allen key, loosen the M4x12 screw holding the extrusions together. **Do not remove the screw completely.**
- Repeat this process for the second M4x12 screw on the other side of the extrusion. **Do not remove the screws completely.**

STEP 26 Torque indicator disassembly

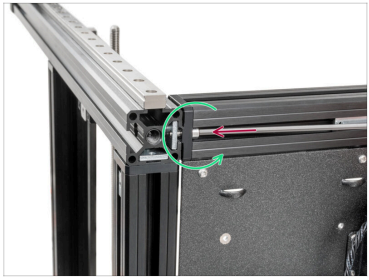


- Pull out the handle from the 3mm Allen key.
- Pull out the 3mm Allen key from the torque indicator.
- The 3mm Allen key is ready for the next steps.

STEP 27 CoreXY assembly releasing

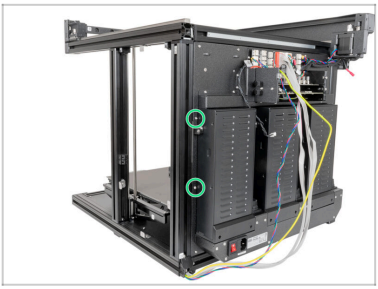
- Insert the longer side of the 3mm Allen key into the screw securing the Z-axis extrusion.
- Loosen and remove the M4x12 screw.
- Repeat this process for the remaining three M4x12 screws.

STEP 28 CoreXY assembly back releasing



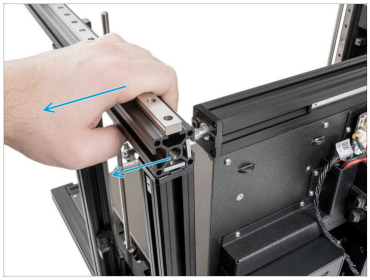
- Insert the longer side of the 3mm Allen key into the screw securing the Y-axis extrusion.
- Loosen and remove the M4x12 screw.
- Repeat this process for the second M4x12 screw on the other side of the extrusion.

STEP 29 Back panel releasing



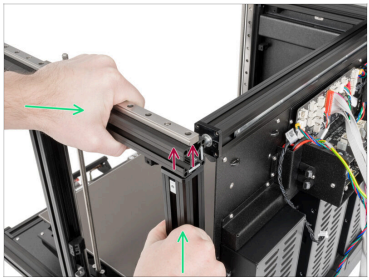
- Using the T10 Torx screwdriver, remove two M3x8rT screws from the back panel.
- Great job! The CoreXY and Z-axis extrusions have been released, and we are ready to proceed.

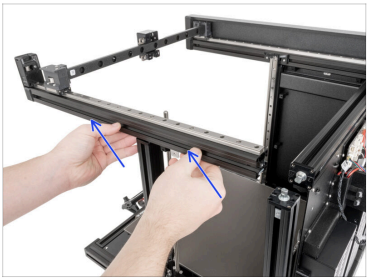
STEP 30 Y-axis detaching



- Grasp the Y-axis with your hand.
- Pull out the Y-axis from the X-axis extrusion.

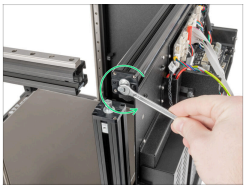
STEP 31 Y-axis replacing

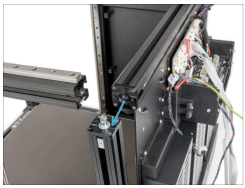


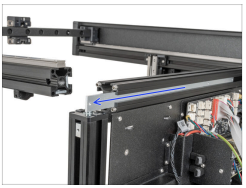


- With your left hand, grasp the Y-axis extrusion. With your right hand hold the Z-axis extrusion.
- Gently pull out the Y-axis from the Z-axis extrusion.
- Using both hands, **very carefully** move the Y-axis extrusion to the left.

STEP 32 Centering pin removing

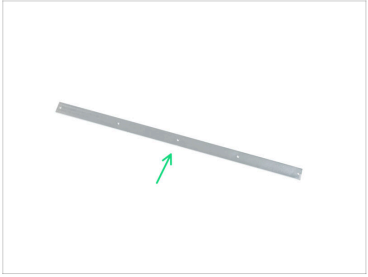


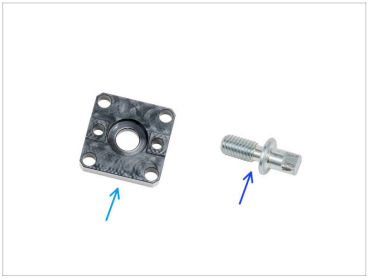




- Using the 5.5mm spanner, release and remove the centering pin.
- Remove the profile-connection-plate.
- Slide the damaged tch-profile-insert out of the printer.

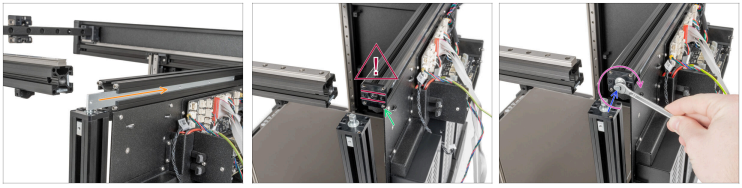
STEP 33 Tch profile replacing: parts preparation





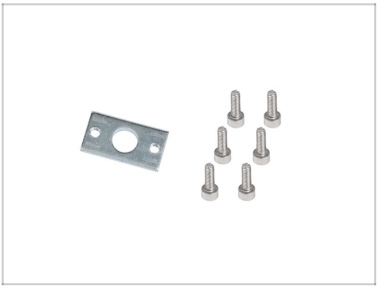
- **For the next step, please prepare:**
- New tch-profile-insert (1x)
- Profile-connection-plate (1x)
- Centering pin (1x)

STEP 34 Tch-profile replacing



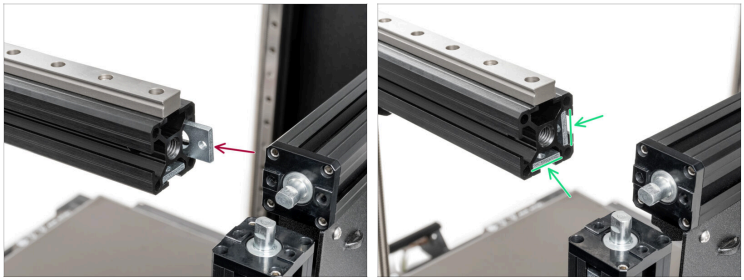
- Insert the new tch-profile-insert into the extrusion.
  - ⓘ The orientation of the part doesn't matter.
- Attach the profile-connection-plate onto four grub screws on the end of the extrusion. **The plate must be in a horizontal position.**
- ⚠ **Check the plate. The plate must be in a horizontal position.**
- Insert the centering pin.
- Using a 5,5mm spanner key, tighten the screw.

STEP 35 Y-axis extrusion: parts preparation



- **For the next step, please prepare:**
- New profile-insert (1x)
- M4x12 screw (6x)

STEP 36 Profile-insert replacing

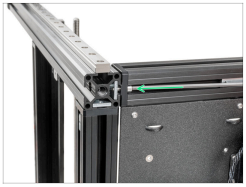
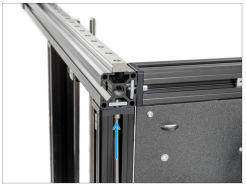


- Replace the old profile-insert with the new profile-insert into the extrusion as described in the picture.
- Align both profile-insert with the end of the extrusion.

STEP 37 Y-axis extrusion align

- Gently and slowly move the Y-axis to the right. Align the Y-axis to fit the corner extrusions.
- Insert the Y-axis onto rear Z-axis extrusion.
- Insert the assembled Y-axis and Z-axis extrusions into the X-axis extrusion.
- Check that the profiles are aligned and fit into the profile-connection-plates.

STEP 38 Y-axis securing

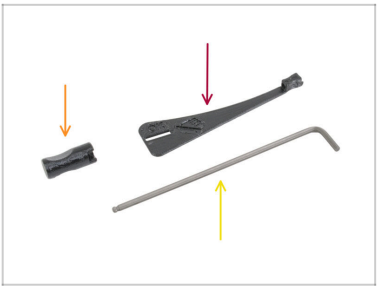

- Insert the M4x12 screw into the profile-connection-plate and tighten the screw using a 3mm Allen key.
- Insert the M4x12 screw into the profile-connection-plate and tighten the screw using a 3mm Allen key.
- Insert and tighten the M4x12 screws on the opposite side of the X-axis extrusion.

STEP 39 Z-axis front extrusion securing



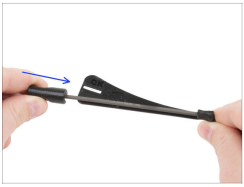
- From the left side of the printer:
- There's a hole in the extrusion that the pin has to fit into.
- Align the Z-axis front extrusion with the hole in the Y-axis extrusion.
- Insert the M4x12 screw and tighten the screw using a 3mm Allen key.
- Insert the M4x12 screws into the inner sides of the Z-axis extrusions and tighten them using a 3mm Allen key.

STEP 40 Torque indicator: parts preparation



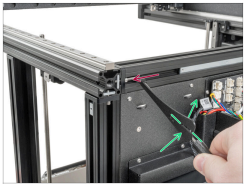
- **For the following steps, please prepare:**
  - Torque-indicator (1x)
  - Allen-key-handle (1x)
  - Allen key 3mm *use the one already prepared*

STEP 41 Assembling the Torque indicator



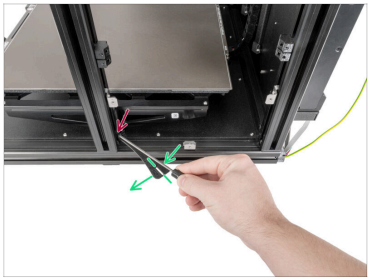
- Insert the 3mm Allen key into the torque indicator.
- Put on the Allen key handle from the other side.
- The assembled torque indicator looks like this.

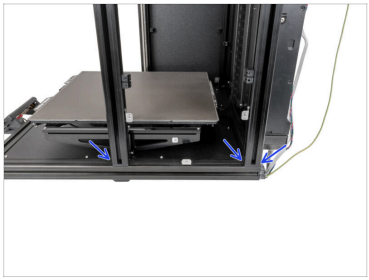
STEP 42 Securing the CoreXY



- From the rear side of the printer:
- Prepare the 3mm Allen key with the torque indicator.
- Insert the M4x12 screw, insert the shorter side of the 3mm Allen key into the screw securing the CoreXY assembly.
- Tighten the screw till you reach the "OK" line on the indicator and the 3mm Allen key is slightly bent.
- Repeat this procedure on all M4x12 screws inserted into the Z-axis extrusions.

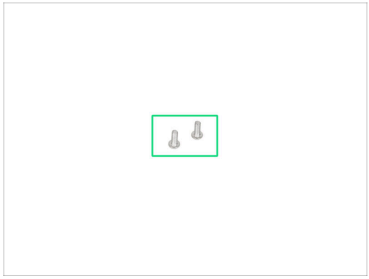
STEP 43 Securing the Z-axis extrusions

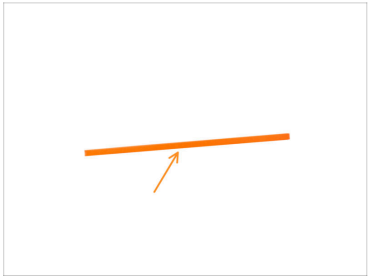




- From the right side of the printer:
- Insert the M4x12 screw, insert the shorter side of the 3mm Allen key into the screw securing the CoreXY assembly.
- Tighten the screw till you reach the "OK" line on the indicator and the 3mm Allen key is slightly bent.
- Repeat this procedure on all M4x12 screws inserted into the Z-axis extrusions.

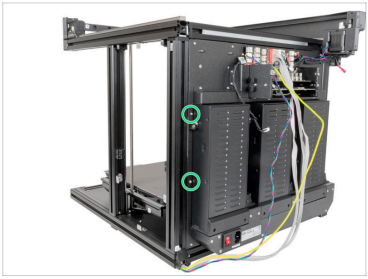
STEP 44 Back panel securing: parts preparation

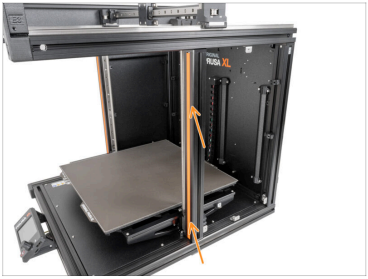




- **For the next step, please prepare:**
- M3x8rT screw (2x)
- Extrusion cover 390 mm (1x)

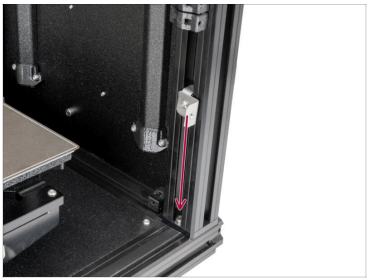
STEP 45 Back panel securing

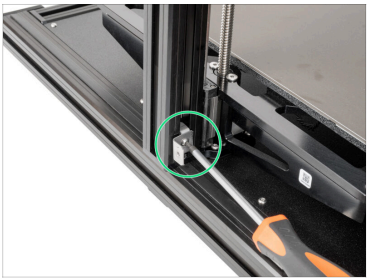




- Insert and tighten two M3x8rT screws in the back panel using the T10 Torx screwdriver.
- Insert the extrusion-cover in to the front extrusion.

STEP 46 Grounding replacing



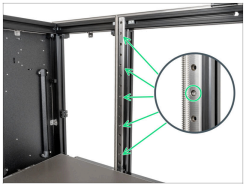


- Push down the grounding till it reaches the M4 screw head, using the T10 Torx screwdriver tighten the M3x8rT screw.
- Repeat the process for the second grounding on the other extrusion.

STEP 47 Z-axis bearing securing: parts preparation

- **For the next steps, please prepare:**
- M3x8 screw (5x)
- M3x10 screw (3x)
- Z-axis bearing housing (1x)

STEP 48 Z-axis bearing securing

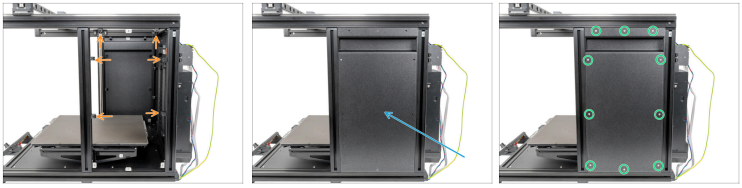


- From the inner side of the Z-axis:
- Insert the M3x8 screws into the linear rail as described in the picture. Tighten them using the 2.5mm Allen key.
- Insert the M3x10 screw into the top hole in the linear rail and secure the screw using the 2.5mm Allen key.
- Install the Z-Axis bearing housing onto the M3nEs nuts.
- Fix it in place by two M3x10 screws using the 2.5mm Allen key.

STEP 49 Left side panel: parts preparation

- **For the next step, please prepare:**
- M3x8rT screw (10x)
- Side panel (1x)

STEP 50 Left side panel attaching

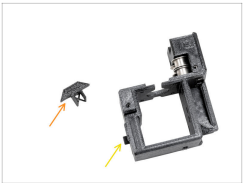


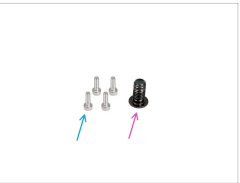
- From the right side of the printer:
- Adjust cover-slips in places, use the pictures as reference:

  ⓘ If the cover-clips fall off from the extrusion. Insert the cover clips vertically into the extrusion and turn the clip by 90° so secure it.
- Attach the side panel.
- Insert and tighten ten M3x8rT screws using a T10 screwdriver.

  ⓘ If the screw cannot pass through the cover clip, slide the cover clip by hand from the other side of the plate.

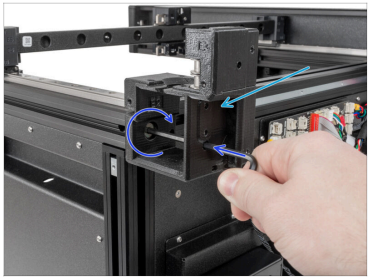
STEP 51 CoreXY back: parts preparation





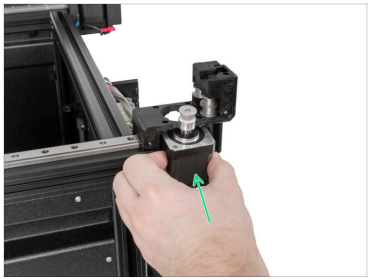
- **For the next steps, please prepare:**
- Mounting-insert-spacer (1x)
- CoreXY-back (1x)
- XY motor (1x)
- M3x10 screw (4x)
- M8x16 screw (1x)

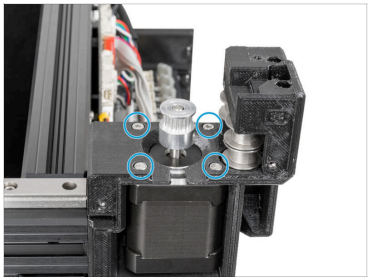
STEP 52 CoreXY back assembly

- Insert the mounting-insert-spacer into the extrusion and push it to the left side next to the M4 screw.
- Attach to the extrusion the coreXY-back.
- Using the 4mm Allen key, tighten the M8x16 screw through the hole in the coreXY-back.

STEP 53 XY-motor assembly



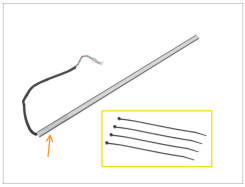


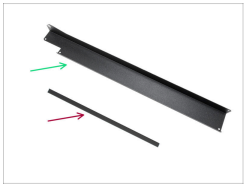
- Insert the XY-motor into the coreXY-back.

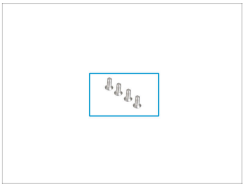
  The motor cable points towards (to the sandwich board).

- Secure the motor with four M3x8 screws using the 2.5mm Allen key.

STEP 54 Led strip: parts preparation

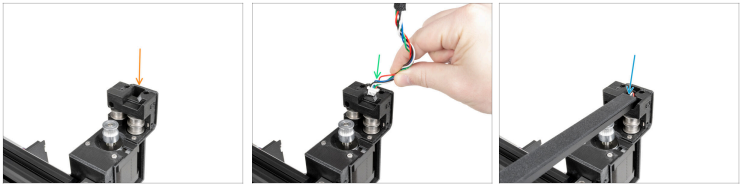






- **For the next step, please prepare:**
- Led strip1 (1x)
- Zip-tie (4x)
- Cover-corexy-right (1x)
- Extrusion cover 354 mm (1x)
- M3x6bT screw (4x)

STEP 55 Led strip inserting: rear side



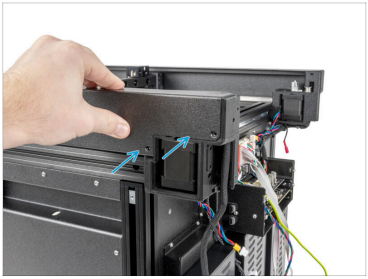
- Locate the hole for the LED cable on the CoreXY back.
- Insert the power cable of the LED strip through the hole in the CoreXY back.

  ⓘ The LED strip panel must face down with the white diffuser facing downwards.
- Attach the back side of the LED strip panel onto the CoreXY back.

STEP 56 Led strip inserting: front side

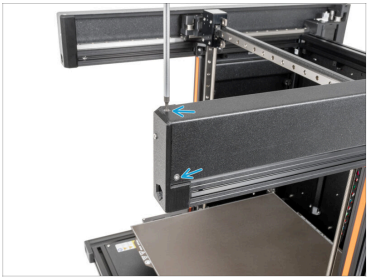
- Attach the front side of the LED strip panel onto the CoreXY front.
- Good job, the LED strip is ready to be covered.

STEP 57 CoreXY cover



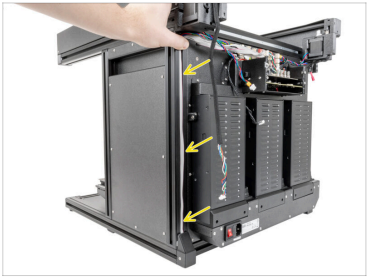
- Insert the front (straight) part of the Cover-corexy-right panel into the CoreXY-front-right and slide the cover into place.
- Push the rear side of the Cover-coreXY-right panel into the CoreXY back.

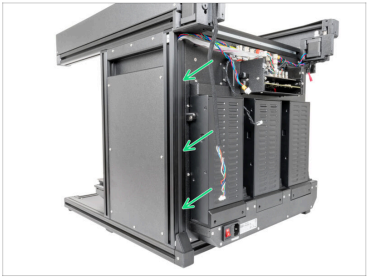
STEP 58 CoreXY cover securing



- Insert two M3x6bT into the holes and tighten them using a T10 Torx screwdriver.
- Insert two M3x6bT into the holes and tighten them using a T10 Torx screwdriver.

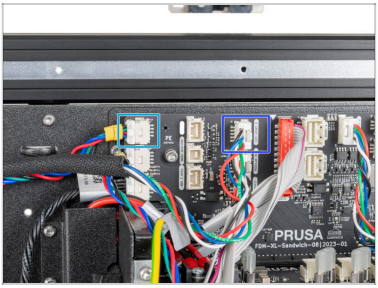
STEP 59 Cable management





- From the back side of the printer:
- On the left edge, start from the bottom. Grab the PE, motor with xLCD cables and gently push them into the extrusion.
- Secure the cables with the Extrusion cover 354 mm.

STEP 60 Cables connecting



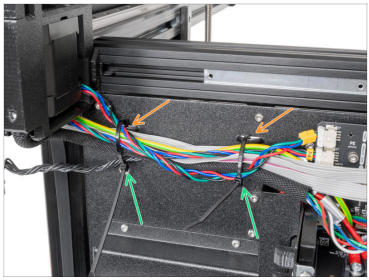
- Connect the left **XY motor** to the connector.
- Connect the **Led light 1** to the connector.

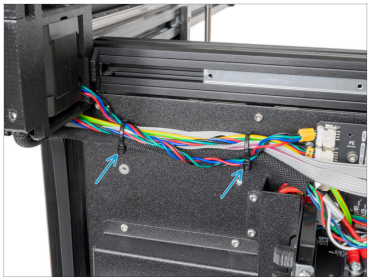
STEP 61 Led strip cable securing

⚠ ATTENTION: Do not overtighten the zip ties! Otherwise, you risk damaging the cables.

- From the bottom side of the CoreXY back, insert two zip-ties around the LED strip cable.
- Gently tighten the zips and cut the ends off using pliers.

STEP 62 Cables securing

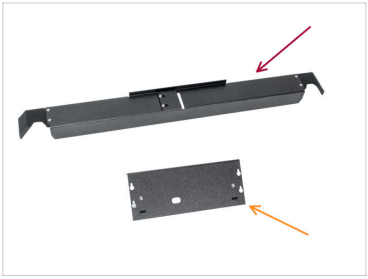




⚠ ATTENTION: **Do not overtighten the zip ties!** Otherwise, you risk damaging the cables.

- Under the cables are two perforations in the metal sheet.
- Insert two zip ties through the perforations in the metal sheet to secure the cables. Tighten them gently.
- Cut the excess of the zip ties.

STEP 63 Rear electronics covers: parts preparation



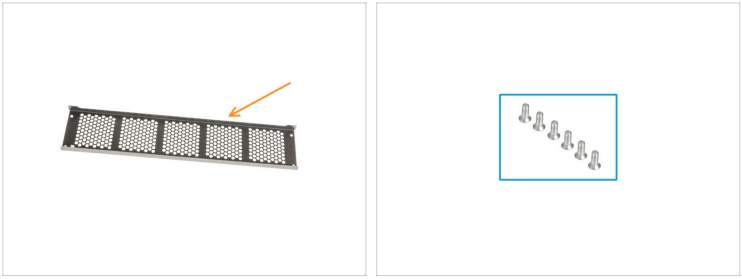
- **For the following steps, please prepare:**
- Rear-cable-management-upper (1x)
- XL-buddy-box-cover (1x)
- M3x5rT screw (4x)

STEP 64 Rear electronics covers

⚠ Be careful, don't pinch any cables.

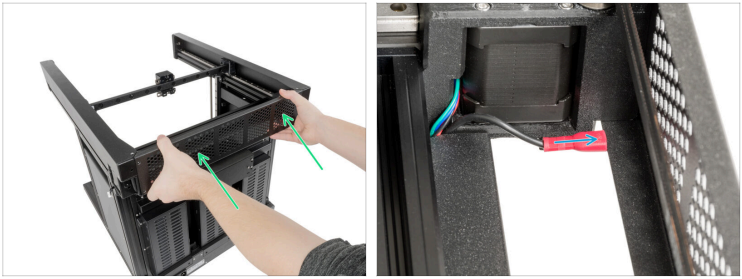
- Gently attach the Rear-cable-management-upper on a rear side.
- Secure it with four M3x5rT screws using a T10 screwdriver.
- Attach the XL buddy box cover to the screws on the electronics box. And slide it down to lock it on the screws.
- Tighten the screws with a T10 screwdriver.

STEP 65 Core XY cover: parts preparation



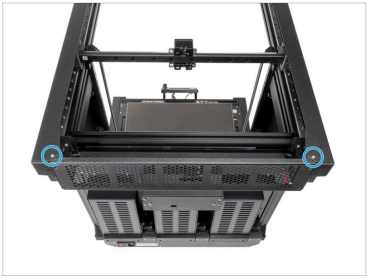
- **For the following steps, please prepare:**
- Core XY cover (1x)
- M3x6bT screws (6x)

STEP 66 CoreXY cover attaching



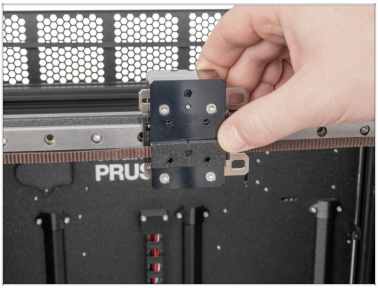
- Gently attach the CoreXY cover on the back of the CoreXY.
- On the inner side of the CoreXY cover, connect the PE connector.

STEP 67 CoreXY cover securing



- Insert four M3x6bT screws and tighten them using a T10 Torx screwdriver.
- Insert two M3x6bT screws and tighten them using a T10 Torx screwdriver.

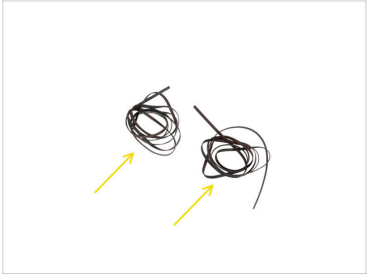
STEP 68 Belt attaching: important information



- It is important to attach the belts correctly to the printer. Do not rush.
- Follow the instructions, look at the pictures.
- Compare pictures with your printer.

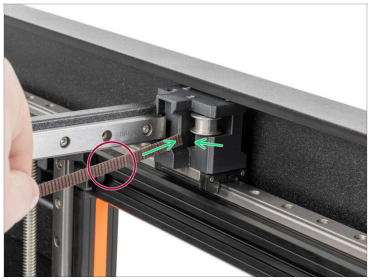
⚠ Make sure, that no belt is twisted.

STEP 69 Belts attaching: parts preparation



- **For the following steps, please prepare:**
- XY belts (2x)
- XL-belt-clamp (2x)
- M3x12rT screws (4x)

STEP 70 Lower belt attaching: right front side

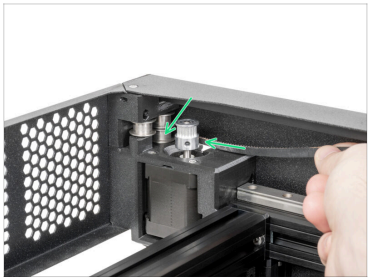


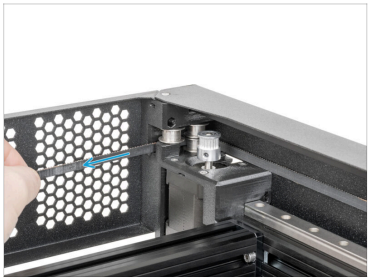
- From the front side of the printer:
- Take one of the belts.
- Insert the one end of the belt into the front lower section of the Y-carriage-right-base.
- The belt has to be facing toward the printer with the teeth showing (not the smooth side of the belt).

  Double check, that you have the teeth showing side facing towards the machine.
- On the inner side of the Y-carriage-right-base pull the the belt.

Don't pull the belt too much, it can fall out from the Y-carriage-right-base and the whole process of the belt attaching has to be repeated from the start.

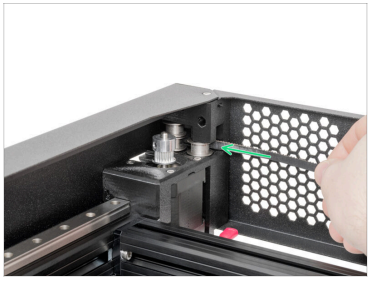
STEP 71 Lower belt attaching: right rear side

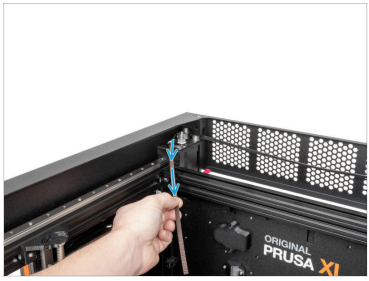




- Pull the belt some more and insert it behind the lower pulley.
- Pull the belt, which is now inserted through the lower pulley.

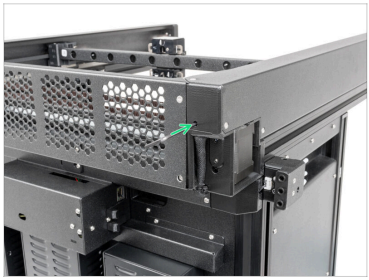
STEP 72 Lower belt attaching: left rear side

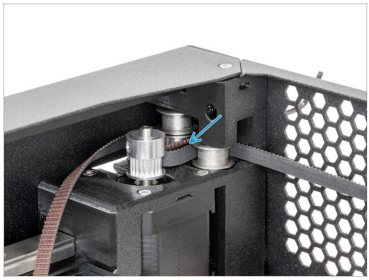




- Pull the belt some more and insert it behind the lower pulleys.
- Pull the belt, which is now inserted through the lower pulleys.

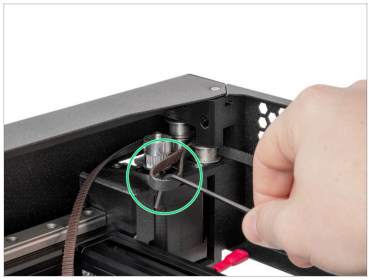
STEP 73 Lower belt attaching: motor pulley belt preparing

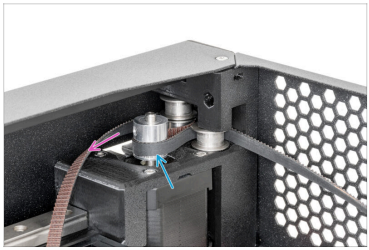




- From the rear side of the printer:
- Insert the 2.5 mm Allen key through the hole to create a loop on the belt.
- When the loop is created, you can remove the Allen key. **Do not pull the belt!**
- Proceed to the next step.

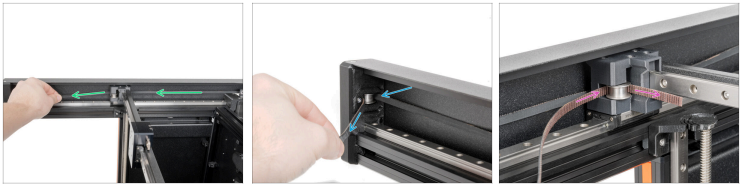
STEP 74 Lower belt attaching: motor pulley belt securing





- From the front side of the printer:
- Using a shorter side of the 2.5 mm Allen key, pull gently the belt to create larger loop.
- Attach the loop on the motor pulley.
- Pull the belt to secure its position on the pulley.

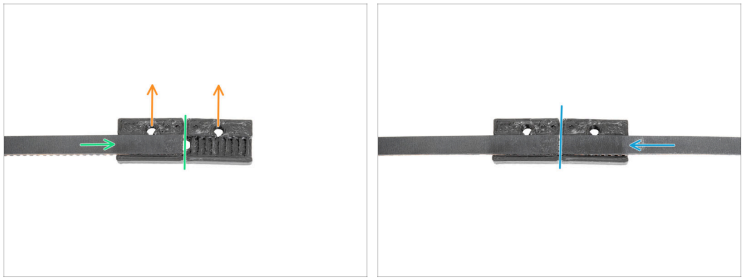
STEP 75 Lower belt attaching: left side



When you pull on the belt you will feel more resistance from the XY motor, that's perfectly fine.

- Pull the belt some more and guide it behind the Y-carriage-left-base.
- Wrap the belt around the pulley on the front left side.
- Wrap the belt around the pulley in the Y-carriage-left-base.

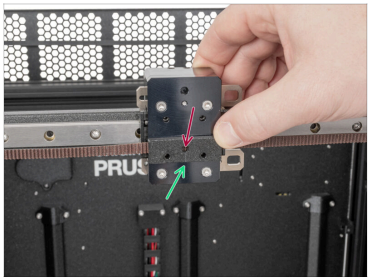
STEP 76 Lower belt attaching: belt clamp



- This image has been created on a white background for better visibility and definition. Follow this step on your printer.
- Prepare one belt-clamp facing with the holes for the screws facing up.
- Attach the left end of the belt to the belt-clamp. The end of the belt must be on half of the belt-clamp.
- Attach the right end of the belt to the belt-clamp. The end of the belt must be on half of the belt-clamp.

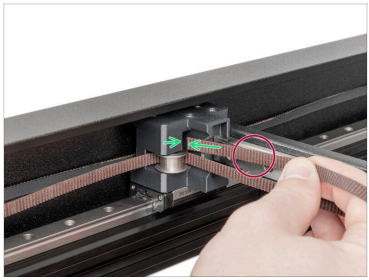
ⓘ The belt-clamp with the belts will be turned by 180°and attached to the X-carriage.

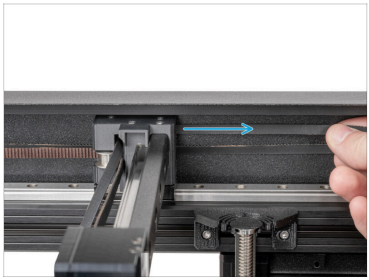
STEP 77 Lower belt attaching: belt clamp securing



- Turn the prepared belt-clamp by 180° and attach the belt-clamp with the belts on the X-carriage.
- Check the belts if they are in their position. If not repair the position by the previous step.
- Insert two M3x12rT screws and secure them using a T10 Torx screwdriver.
- Well done! One of the belts is fastened. Let's try the second one.

STEP 78 Upper belt attaching: left front side



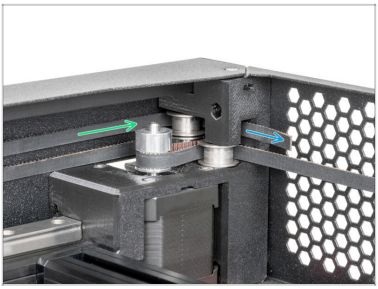


- From the front side of the printer:
- Take the second belt.
- Insert the one end of the belt into the front upper section of the Y-carriage-left-base.
- The belt has to be facing toward the printer with the teeth showing (not the smooth side of the belt).

  Double check, that you have the teeth showing side facing towards the machine.
- On the inner side of the Y-carriage-left-base pull the the belt.

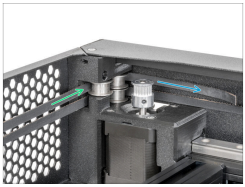
Don't pull the belt too much, it can fall out from the Y-carriage-left-base and the whole process of the belt attaching has to be repeated from the start.

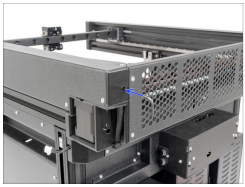
STEP 79 Upper belt attaching: left rear side

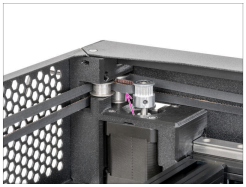


- Pull the belt more and insert it behind the upper pulley.
- Pull the belt, which is now inserted through the upper belt pulley.

STEP 80 Upper belt attaching: right rear side

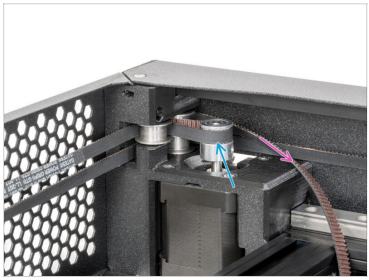






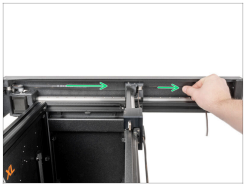
- Pull the belt more and insert it behind the upper pulleys.
- Pull the belt, which is now inserted through the upper pulleys.
- From the rear side of the printer:
- Insert the 2.5 mm Allen key through the hole to create a loop on the belt.
- When the loop is created, you can remove the Allen key. Do not pull the belt!
- Proceed to the next step.

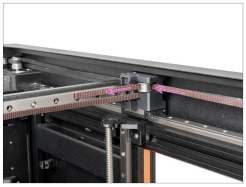
STEP 81 Upper belt attaching: motor pulley belt securing



- From the front side of the printer:
- Using a shorter side of the 2.5 mm Allen key, pull gently the belt to create larger loop.
- Attach the loop on the motor pulley.
- Pull the belt to secure its position on the pulley.

STEP 82 Upper belt attaching: right side

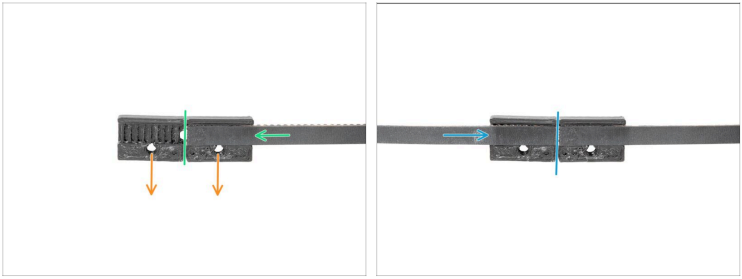




When you pull on the belt you will feel more resistance from the XY motor, that's perfectly fine.

- Pull more the belt and stretch the belt behind the Y-carriage-right-base.
- Pull the belt around the pulley on the right front side.
- Pull the belt around the pulley in the Y-carriage-right-base.

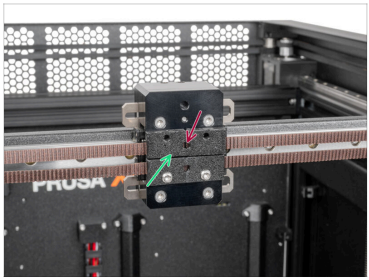
STEP 83 Upper belt attaching: belt clamp

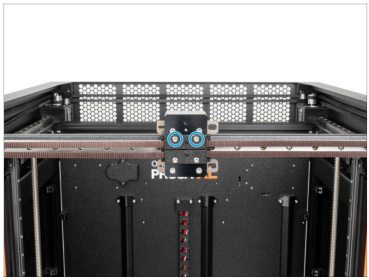


- This image has been created on a white background for better visibility and definition. Follow this step on your printer.
- Prepare one belt-clamp facing with the holes for the screws facing down.
- Attach the right end of the belt to the belt-clamp. The end of the belt must be on half of the belt-clamp.
- Attach the left end of the belt to the belt-clamp. The end of the belt must be on half of the belt-clamp.

ⓘ The belt-clamp with the belts will be turned by 180°and attached to the X-carriage.

STEP 84 Lover belt attaching: belt clamp securing



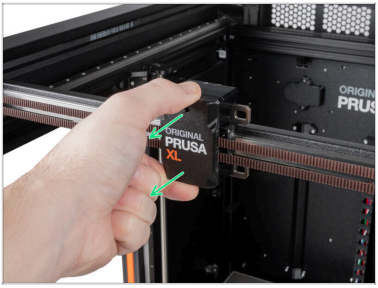


- Turn the prepared belt-clamp by 180° and attach the belt-clamp with the belts on the X-carriage.
- Check the belts if they are in their position. If not repair the position by the previous step.
- Insert two M3x12rT screws and secure them using a T10 Torx screwdriver.
- Well done! Both of the belts are fastened.

STEP 85 Accessories: parts preparation

- **For the following steps, please prepare:**
- X-carriage-cover (1x)
- M3x12rT screw (1x)
- Side filament sensor assembly - right (1x)

STEP 86 X-carriage cover



- Attach the X-carriage cover.

STEP 87 Filament sensor attaching

Proceed with this step only if the right filament sensor is attached to the printer. If not, skip this step.

- Connect the filament sensor cable to the filament sensor.
- Insert and tighten the M3x10 screw using a 2.5 mm Allen key.

STEP 88 Belt tensioning

- On the front side of the printer:
- Using a 2.5mm Allen key, slightly tighten the M3 screw holding the left CoreXY tensioner.
- Using a 2.5mm Allen key, slightly tighten the M3 screw holding the right CoreXY tensioner.
- Do not fully tension the belt, proceed to the next step, where is a video about the adjusting of the belts tension.

STEP 89 Belt tensioning: video

- On the Original Prusa XL, adjusting the belt to the optimal tension is crucial to achieving good quality on the prints. A loose belt can cause Layer shifting, Ghosting, or other print abnormalities, like getting an irregular shape instead of a perfect circle. An over-tightened belt can cause an irregular movement in the X and Y axes.
- We have our own belt tuner. The application determines the belt tension by measuring the frequency of the vibration generated by strumming it. Follow the instructions in the video below to adjust the belt.

STEP 90 The job is done!

- Well done! You've replaced the tch-profile-insert on your Original Prusa XL.

Notes:

Notes:

Notes:

Notes: