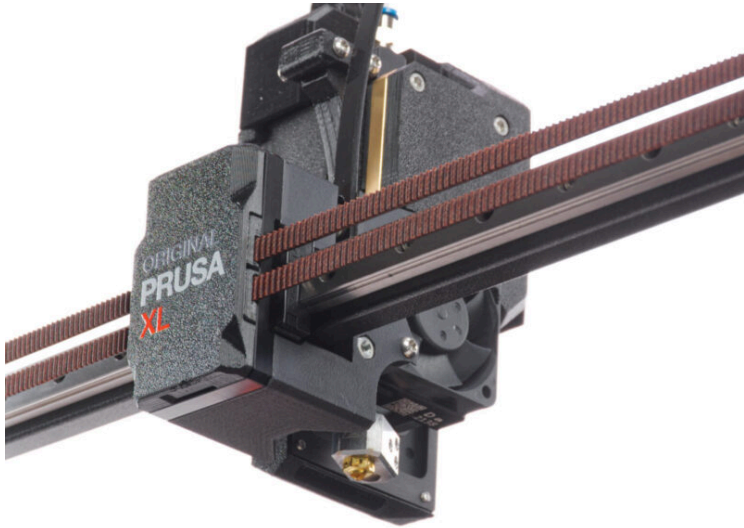


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How to replace a hotend heater (XL Single-Tool)



help.prusa3d.com/g633200

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STEP 1 Introduction



- ◆ This guide will take you through the replacement of the **hotend heater** on the **Original Prusa XL**.
- ◆ This manual is for a **single tool only**.
- ◆ XL Heater 40 W is also available in our eshop.
- ⓘ Note that you have to be logged in to have access to the spare parts section.

STEP 2 Tools necessary for this chapter



● **For this chapter, please prepare:**

● TX 6 Torx key

● TX 8 Torx key

● A cardboard box for use as a heatbed protection during the assembly. *Hint: use the Prusament box.*

● Small brass brush for cleaning the nozzle

STEP 3 Filament unloading



- Manually move the X-axis assembly all the way to the front side of the printer.
- Move the extruder approximately to the center of the X-axis.
- If you have loaded the filament, unload it from the hotend. On the screen, navigate to *Filament* -> *Unload Filament*.
- ⚠ **WARNING: The hotend and heatbed are very HOT. Do not touch these parts!!!**
- Remove the filament from the hotend. It is not necessary to completely remove it from the printer. Just a few centimeters (inches) above the extruder.

STEP 4 Cleaning the hotend



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

i For the following steps, it is necessary to have the heaterblock and the hotend clean from the remains of the filament.

⚠ If you have a Prusa hotend sock on the hotend, remove it.

🟡 On the printer screen, go to Control -> Temperature and set the nozzle temperature to 250°C.

⬛ Wait at least 5 minutes. The remains of the filament must be warmed up slightly so that they can be removed more easily.

🟠 Using the brass brush, carefully clean the heaterblock from the filament residue. **Avoid contact of the brush with the hotend cables, as this could cause a short circuit.**

🟢 When the heaterblock is perfectly clean, cool down the printer. On the screen, navigate to *Preheat* -> *Cooldown*.

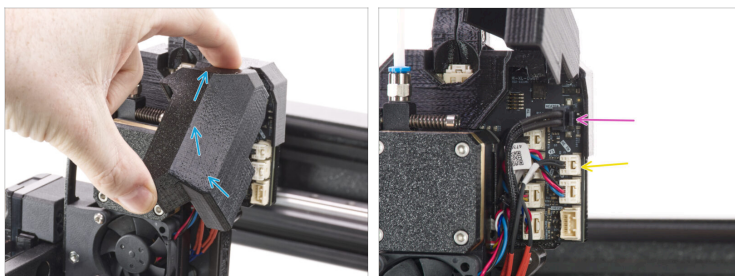
⚠ Wait until the hot parts are cooled down to ambient temperature. It takes approximately 10 minutes.

STEP 5 Preparing the printer



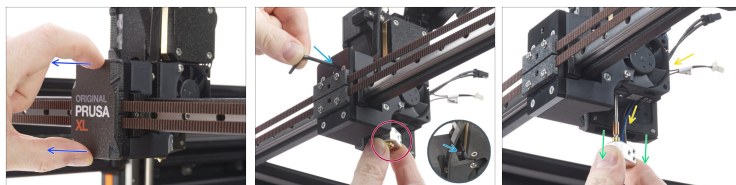
- i** Before you proceed, it is recommended to protect the heatbed.
- Make sure the heatbed is cooled down to ambient temperature. Place the empty cardboard box approximately to the front center part of the heatbed.
- From the rear side of the printer, turn the power switch OFF (symbol "O").

STEP 6 Disconnecting the hotend



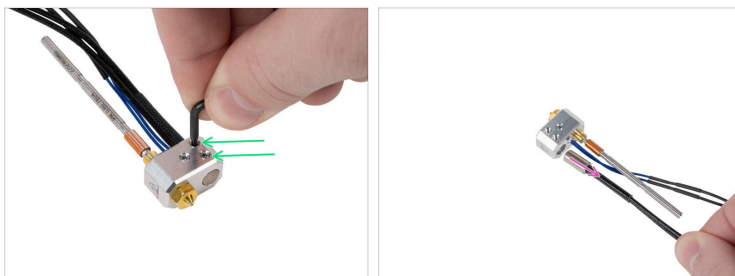
- ◆ Open the dwarf-cover-door to access the electronics board.
- ⚠ Each connector has a safety latch. **It is necessary to press the latch before disconnecting.** Otherwise, the connector may get damaged.
- ◆ Disconnect the hotend heater cable.
- ◆ Disconnect the hotend thermistor cable.
- ◆ Leave both cables free for now.

STEP 7 Removing the hotend



- i** If your x-carriage-cover has a hole in it, there is no need to remove the cover. Use the hole to release the hotend.
- ◆** Remove the x-carriage-cover from the X-carriage.
- ◆** Hold the hotend with your right hand.
- ◆** Using your left hand, insert the TX 8 Torx key all the way through the X-carriage until it reaches the grub screw in the extruder. Loosen the screw. **Do not remove the screw, a few turns are enough!**
- ◆** Carefully pull the hotend assembly out of the extruder.
- ◆** At the same time push the hotend cables behind the fan out of the extruder.

STEP 8 Removing the heater



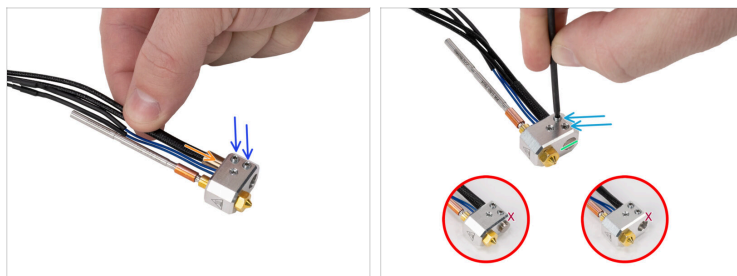
- Using a TX 6 Torx key, loosen and remove two grub screws.
- Pull out the heater out from the heaterblock.

STEP 9 Installing the heater: parts preparation



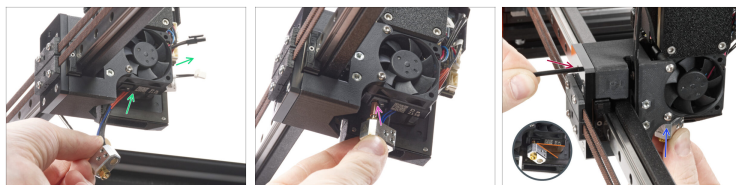
- For the following step please prepare:**
- New XL Heater 40 W (1x)
- New grub screws M3x4 (2x)

STEP 10 Inserting the new heater



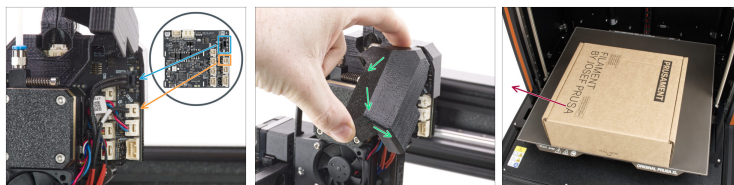
- ◆ Insert new grub screws and screw them using a TX 6 key. **A few turns are enough for now.**
- ◆ Insert the new heater all the way into the heaterblock.
- ◆ Make the heater aligned with the heaterblock's bottom side.
- ⚠ **Make sure your heater is aligned with the bottom side of the heaterblock.**
- ◆ Using a longer side of a TX 6 Torx key, gently tighten two grub screws while keeping the heater in position. **Do not overtight.**

STEP 11 Inserting the hotend



- ◆ Push the hotend cable behind the heatsink fan up to the electronics.
- ◆ Locate the hole in the heatsink from the bottom of the extruder and insert the hotend nub into the heatsink.
- ◆ Push the hotend all assembly the way in.
- ◆ Rotate the heaterblock as in the picture. There must be approximately 35° - 40° angle to avoid damaging the hotend cables.
- ◆ Maintain the position and using the TX 8 Torx key tighten the grub screw to secure the hotend. **Do not use extra force while tightening**, it may damage the hotend nub.

STEP 12 Connecting the hotend



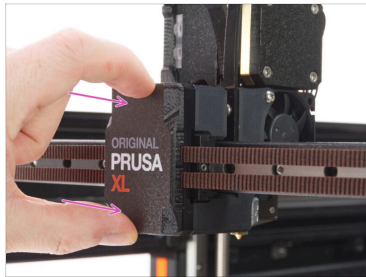
- ◆ Connect the hotend heater to the upper slot on the electronics board.
- ◆ Connect the hotend thermistor to the lower slot on the electronics board.
- ◆ Close the dwarf-cover-door.
- ◆ Remove the cardboard box from the heatbed.

STEP 13 Turning the printer ON



- ◆ From the rear side of the printer, turn the power switch ON (symbol "I").

STEP 14 Checking the temperature

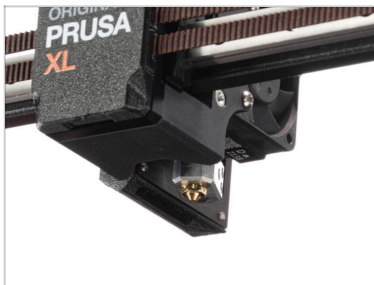


- ◆ To check if everything is working, go to *Preheat* -> *PLA* and on the main screen check if the hotend temperature is increasing.

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

- ◆ Snap the x-carriage-cover back onto the X-carriage. You must feel a slight "click" to ensure the cover fits on the part.

STEP 15 That's it



- ◆ **Easy, right?** Good job. You just successfully replaced the Hotend heater on your Original Prusa XL.
