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# How to replace the hotend fan (XL Multi-tool)



[help.prusa3d.com/g630074](https://help.prusa3d.com/g630074)

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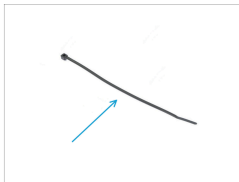
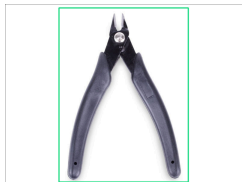
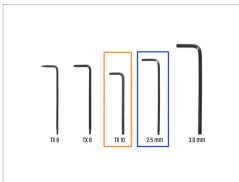


## STEP 1 Introduction



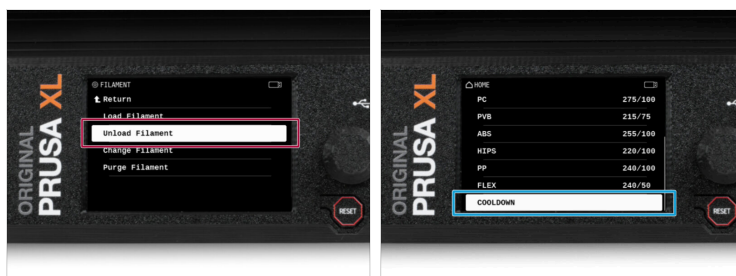
- ◆ This guide will take you through the replacement of the **hotend fan** on the **Original Prusa XL**.
- ⓘ Some parts might slightly differ. However, it does not affect the procedure.
- ◆ All necessary parts are available in our eshop [prusa3d.com](https://prusa3d.com).
- 📌 Note that you have to be logged in to have access to the spare parts section.

## STEP 2 Tools necessary for this guide



- ◆ **For this guide, please prepare:**
  - ◆ TX10 Torx key
  - ◆ 2.5 mm Allen key
  - ◆ Side cutters
  - ◆ Zip tie 1x

## STEP 3 Unloading filament



- i** The following step is necessary only if you have filament loaded.
- ◆** Unload the filament from the hotend. On the screen, navigate to Filament -> Unload Filament.
- ◆** Cool down the printer to room temperature. On the screen, navigate to Preheat -> Cooldown.
- ⚠** Wait for the printer to fully cool down to room temperature before proceeding further.

## STEP 4 Protecting the heatbed



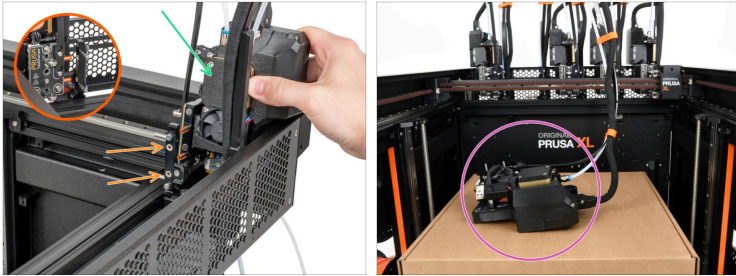
- ◆ Before you proceed, it is recommended to protect the heatbed.
- ◆ Make sure the heatbed is cooled down to ambient temperature. Place the empty cardboard box approximately to the front center part of the heatbed.

## STEP 5 Preparing the printer



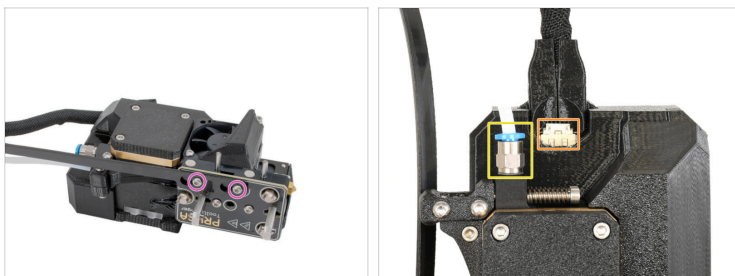
- ◆ On the printer screen, navigate to *Control Pick/Park Tool Park Current Tool* → *Pick/Park Tool Park Current Tool* → *Park Current Tool*.
- ◆ Turn the power switch OFF (symbol "O").
- ◆ From the rear side of the printer, unplug the PSU cable.

## STEP 6 Undocking the Nextrunder



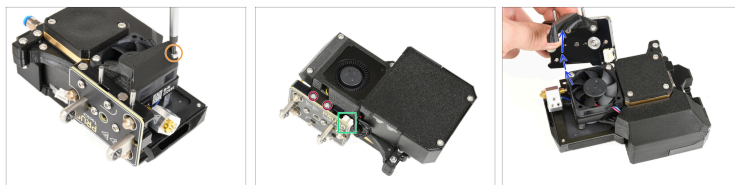
- Remove the Nextrunder, by pulling it outwards from the metal inserts.
- ⓘ Although a small resistance is expected, as the metal inserts are magnetic, **use moderate force**.
- Carefully place the Nextrunder on the cardboard box.

## STEP 7 Disconnecting the Nextruder



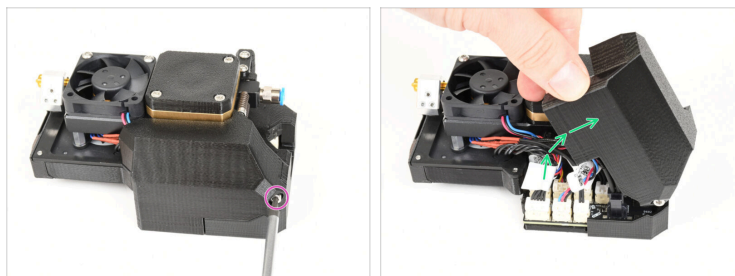
- ◆ With Torx T10 screwdriver, loosen the two M3x8rT screws from the black nylon flexible plate, and unhook it from the tool. Don't remove the screws completely.
- ◆ Unscrew the Festo fitting from the Nextruder or push on the blue collar on top of the fitting and pull out the PTFE tube.
- ◆ Disconnect the main Dwarf cable.
- ⚠ **Each connector has a safety latch. It is necessary to press the latch before disconnecting. Otherwise, the connector may get damaged.**
- ◆ Transfer the Nextruder to a safe working space.

## STEP 8 Removing the toolchanger board



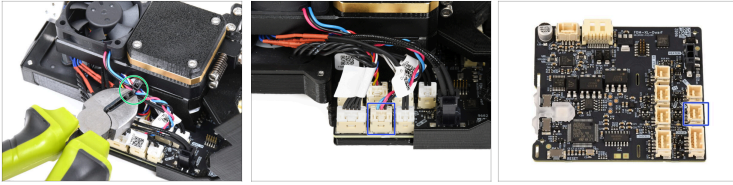
- ✦ With Allen key 2.5 mm remove the M3x30 screw of the fan shield.
- ✦ Remove the M3x8rt screws.
- ✦ Unplug the toolchanger cable.
- ✦ Remove the toolchanger.

## STEP 9 Accessing the Dwarf board





- ✦ Loosen (or remove) the M3x12 screw on the Dwarf Cover Door.
- ✦ Open the Dwarf Cover Door.

## STEP 10 Unplugging the hotend fan

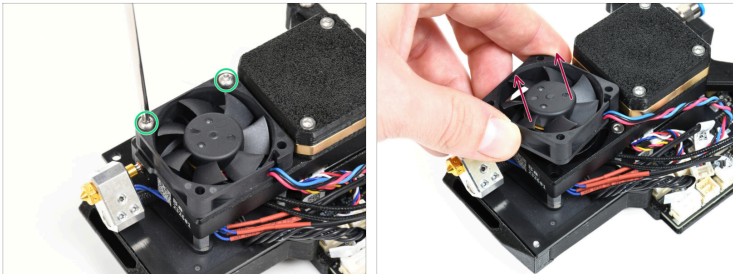




 **Avoid cutting cables!**

-  Cut the zip tie.
-  Unplug the hotend fan cable from the Dwarf board.

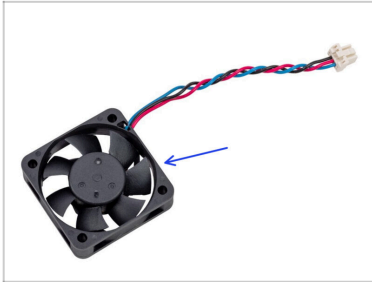
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## STEP 11 Removing the hotend fan



-  Loosen the hotend fan's two M3x18rT screws.
-  Remove the hotend fan from the heatsink and set it aside.

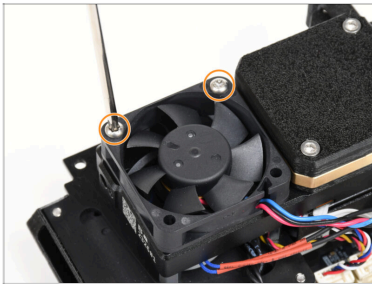
## STEP 12 Mounting the hotend fan - preparation



- For the following steps, please prepare:
- Hotend fan (1x)

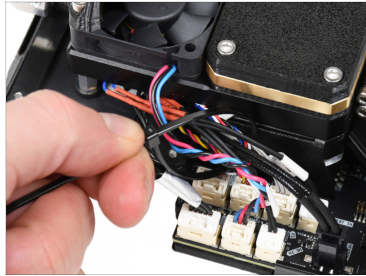
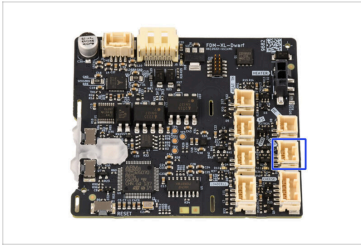
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## STEP 13 Mounting the new hotend fan



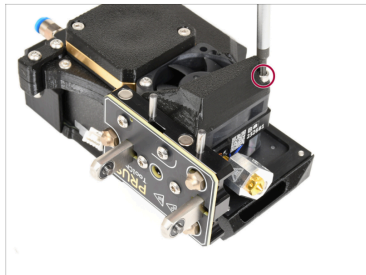
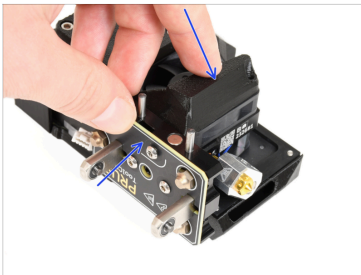
- Attach the hotend fan to the heatsink, and tighten it with two M3x18rT screws.
- ⚠ Mind the orientation of the fan and the position of its cables.

## STEP 14 Connecting the Nextruder cables



- ◆ Plug the hotend fan cable into the Dwarf board.
- ◆ Secure all the cables except for the toolchanger cable with a zip tie.
- ⚠ Be careful not to pinch any wires.

## STEP 15 Reattaching the toolchanger



- ◆ Attach the toolchanger board with the fan shield to the Nextruder.
- ◆ Secure the fan-shield with a M3x30 screw.

## STEP 16 Covering the Dwarf board



- Close the printed Dwarf board cover on the Nextruder.
- Secure the Dwarf board cover with a M3x12 screw.

## STEP 17 Securing the toolchanger and the hotend



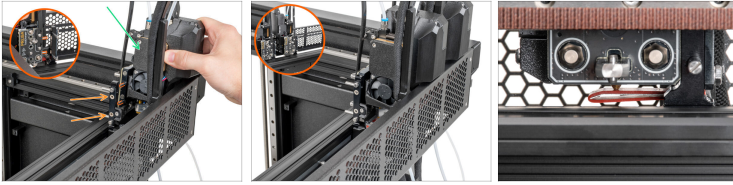
- Secure the toolchanger with two M3x8rt screws.
- Connect the toolchanger cable.

## STEP 18 Connecting the nextruder



- ◆ Insert the PTFE tube into the festo connector as far as possible. Slighty tug on the PTFE tube to make sure it's firmly secured.
- ◆ Plug the Dwarf extruder cable to the Dwarf board.
- ◆ Slide the black nylon plate onto the two M3x8rT screws in the Cheese board.
- ⚠ **Make sure the nylon plate is not twisted.**
- ◆ Tighten the two M3x8rT screws with a Torx T10 key.

## STEP 19 Docking the tool



- ◆ Carefully turn the printer so that the front side is facing towards you.
- ◆ Take the Nextrunder and place it carefully next to the dock.
- ◆ Place the two metal inserts through the white holes in the dock. The magnets will help you dock the Nextrunder.
- ⓘ Check that the Nozzle seal lightly touches the nozzle.
- ◆ Turn on the printer and run the Selftest.

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## STEP 20 Well done!



- ◆ Good job, you made it!



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