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How to clean the side filament sensor (XL)

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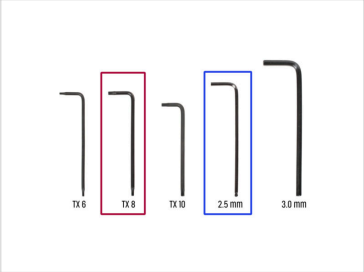
STEP 1 Introduction

- This guide will take you through the **disassembly and cleaning of the side filament sensor** on the **Original Prusa XL**.

This guide is valid for all versions of the Original Prusa XL and for filament sensors installed on both sides.

STEP 2 Necessary tools



- **For this guide, please prepare:**
- TX 8 Torx key
- Allen key 2.5mm
- Compressed air - *also known as air duster or canned air*

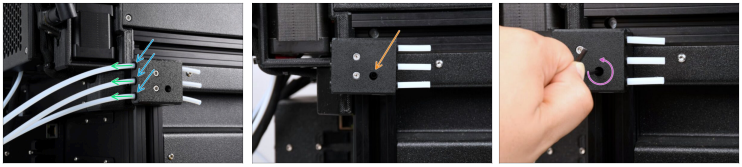
STEP 3 Printer preparation

- On single-tool XL, unload filament navigating to *Filament ->Unload filament*.

ⓘ On multi-tool XL, unload filament from each tool that is attached to the filament sensor assembly.

- For each of these tools, navigate to *Control ->Pick/Park Tool -> Pick Tool #.*
  - After the tool is picked, navigate to *Filament -> Unload filament*.
  - Repeat the unloading procedure for each tool that is attached to the filament sensor assembly.
- After all filaments are unloaded, cool down and turn the printer off.

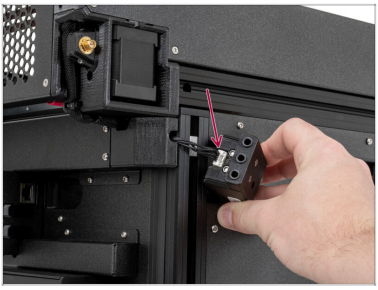
STEP 4 Detaching the side filament sensor



Each of the PTFE tubes on the side filament sensor is secured by a collet, indicated by the blue arrows.

- Push on one of the extruder PTFE tube collets.
  - At the same time gently pull out the extruder PTFE tube from the filament sensor assembly.
  - Repeat the procedure for the remaining PTFE tubes.
- The filament sensor assembly has a hole indicated by the arrow. Inside the hole is a M3x12 screw.
- Insert the 2.5mm Allen key in the hole, and loosen the M3x12 screw, to detach the side filament sensor from the rest of the printer.

STEP 5 Disconnecting the filament sensor cable



⚠ The connector has a safety latch. **It is necessary to press the latch before disconnecting.** Otherwise, the connector may get damaged.

- Gently press the latch on the connector to disconnect the filament sensor cable.

STEP 6 Disassembling the side filament sensor

- Loosen the M3x8 screws using the 2.5mm Allen key
- Identify a small hole in the filament-sensor-insert
- Insert an Allen key in the hole and use it as a lever to push up the filament-sensor-insert.

STEP 7 Accessing and cleaning the mechanism



- Using the TX 8, loosen the two M3x10rT screws.

  ⚠ Loosen the screws carefully. Avoid scratching the electronic board with the TX 8.

- The mechanism is made of three systems of ball, magnet and spring.
- Blow canned air into the spaces where the spring is visible to clean the mechanism.

STEP 8 Reassembling the filament sensor side



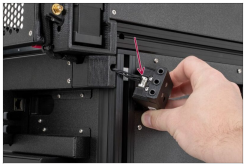
- Using the TX 8, tighten the two M3x10rT screws.

  ⚠ Do not overtighten the screws!

  ⚠ Avoid scratching the electronic board during the procedure.

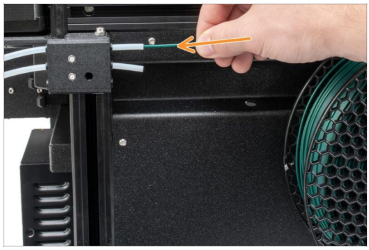
- Push the filament-sensor-insert into the filament-sensor-case
- Using the 2.5mm Allen key, tighten the two M3x8 screws.

STEP 9 Reassembling side filament sensor



- Plug the filament sensor cable into its connector.
- Insert the M3x12 screw using the 2.5mm Allen key through the hole and tighten the screw.
- Push each PTFE tube into its slot.
- Gently pull each PTFE tube back, this will push out the black collet in the side filament sensor and lock the tube.

STEP 10 Final check



- For the following step, please prepare a small piece of filament.
- Switch the printer on.
  - On multi-tool XL, navigate to *Control ->Pick/Park Tool ->Pick Tool #*. Pick one of the tools attached to the affected side filament sensor.
- Navigate to *Info ->Sensor Info ->Side filament sensor*.
- From this submenu, the status can be checked. The possible statuses are **INS** (inserted) and **NINS** (not inserted).
- Insert a piece of filament from the side filament sensor.
- Check if the status changes from **NINS** to **INS** and vice versa according to the filament insertion.
- On multi-tool XL, navigate to *Control ->Pick/Park Tool ->Park Current Tool*. Repeat the step for each of the tools attached to the same side filament sensor.

STEP 11 It's done

- **That's it, good job!** You just successfully cleaned the filament sensor mechanism on your Original Prusa XL.

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