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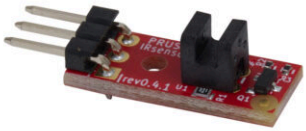
How to replace the side filament sensor (CORE One L)



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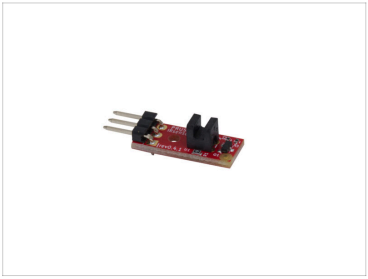
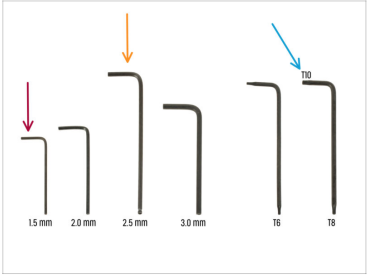
STEP 1 Introduction



- This guide will take you through the **Side Filament Sensor** replacement on your **Prusa CORE One L**.
- All necessary parts are available in our eshop prusa3d.com.

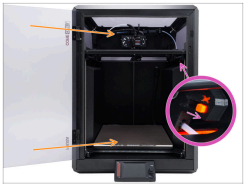
  Note that you have to be logged in to have access to the spare parts section.

STEP 2 Tools necessary for this guide



- **Please prepare tools for this guide:**
  - 2.5mm Allen key
  - 1.5mm Allen key
  - T10 Torx key
  - Needle-nose pliers are recommended as an optional tool.

STEP 3 Preparing the printer (part 1)



- Turn the filament sensor off by sliding the Filament-sensor-switch towards you. The "X" on the sensor has to be orange.
- Close the door.
- Navigate the screen *to **Filament -> Unload filament***.
- Unload the filament from the printer.
- Remove the filament spool from the printer.

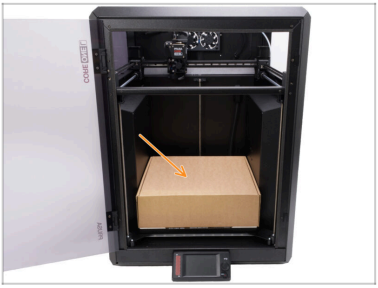
⚠ Ensure that the printer has completely cooled down.

- On the printer screen, navigate to ***Preheat -> Cooldown*** and wait for the temperatures to drop to ambient levels. This may take several minutes.

STEP 4 Preparing the printer (part 2)

- Open the menu ***Control -> Move Axis -> Move Z*** and move the heatbed all the way down.
- Wait until the heatbed moves down.
- From the rear side of the printer, unplug the PSU cable.
- Flip the power switch OFF (symbol "O").

STEP 5 Protecting the heatbed



⚠ Before proceeding any further, it is recommended to protect the heatbed first!

- Use a cardboard box, bubble wrap, or any soft material to cover the heatbed. This will prevent damaging the heatbed/print sheet during the process.

STEP 6 Removing the side panel



- Remove eleven nylon rivets holding the side panel.
- We recommend using the needle-nose pliers.

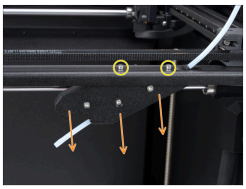
  ⚠ Proceed carefully to avoid scratching the side panel.
- Squeeze the rivet gently and pull the top part of the rivet out of the side panel.
- To prevent scratching the side panel, we recommend removing the bottom part of the rivet by hand.

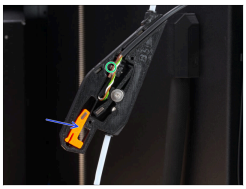
Only use the pliers if you are unable to remove the bottom part of the nylon rivet by hand.

- Gently pull the side panel off the printer
- When removing the panel, proceed carefully to avoid damaging the PTFE tube.

ⓘ You received a bag with spare nylon rivets. In case you destroy any rivets while removing them, use the spare ones later on when re-attaching the side panel.

STEP 7 Disassembling the filament sensor



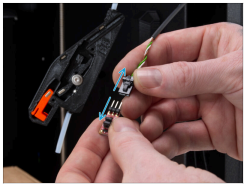


- Using the 2.5mm Allen key, remove the two M3x8 screws that keep the Filament-sensor attached to the printer frame.
- Hold the Filament-sensor and lower it so it hangs on the PTFE tube and the IR filament sensor cable.
- Using the 2.5mm Allen key, remove the two M3x10 screws on the sides.

  ⚠ Do not remove the middle screw.
- Remove the Filament-sensor cover.
- Note the M2x8 screw that is keeping the IR filament sensor in place.
- The Filament-sensor-switch is securely lodged in the Filament-sensor. Be careful when moving the part to prevent it from falling out.

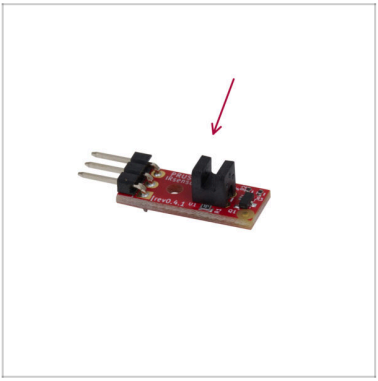
STEP 8 Removing the filament sensor





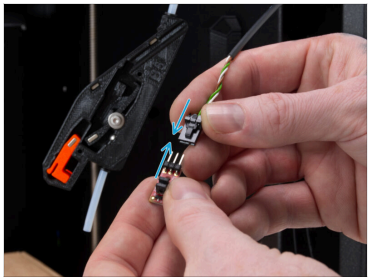
- Using the 1.5mm Allen key, remove the M2x8 screw holding the IR filament sensor in place.
- Once the M2x8 screw is removed, slide the IR filament sensor out of the *F*ilament-sensor.
- Disconnect the IR filament sensor from the filament sensor cable connector.

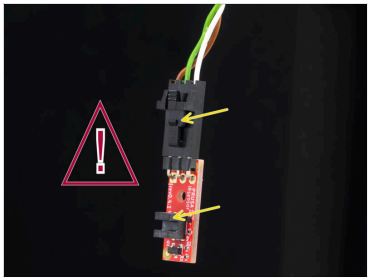
STEP 9 Parts preparation: IR filament sensor



- **For the following steps, please prepare:**
  - New IR filament sensor (1x)

STEP 10 Connecting the IR filament sensor

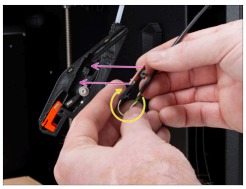
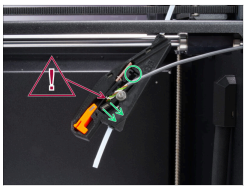




- Plug the new IR filament sensor into the connector as shown in the picture.
- The safety latch on the connector should face the same direction as the optical gate on the IR filament sensor.

⚠ Ensure the connector is correctly oriented and properly plugged in before moving on to the next step!

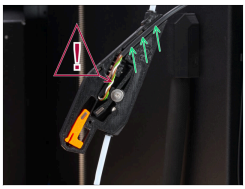
STEP 11 Installing the IR filament sensor

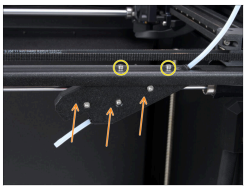




- Gently bend the IR filament sensor cable so that the optical gate part of the sensor points toward the cable.
- Insert the IR filament sensor.

  ⚠ Ensure that the bent filament sensor cable is not blocking the sensor lever! The lever has to be able to move all the way up and down.
- Move the sensor lever to test that it moves freely and properly fits into the optical gate part of the IR filament sensor.
- With the IR filament sensor in place, insert the M2x8 screw and use the 1.5mm Allen key to **gently tighten the screw.**

STEP 12 Mounting the filament sensor





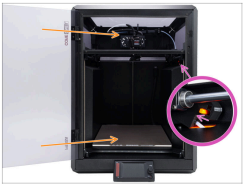
- Guide the cable through the groove in the Filament-sensor and hold it in position when attaching the cover.

  ⚠ Ensure that no wires from the filament sensor cable will be pinched when attaching the Filament-sonsor-cover.

- Place the Filament-sensor-cover on the Filament-sensor.
- Secure the Filament-sensor-cover in place with the two M3x10 screws.
- Mount the Filament-sensor onto the printer frame.
- Using the 2.5mm Allen key, attach the filament sensor to the printer frame with the two M3x18 screws.

STEP 13 Re-attaching the side cover





- Place the side cover on the printer.
- Carefully insert the short PTFE tube from the filament sensor through the opening in the side cover handle.
- Fix the side cover in place using 11x nylon rivets. Push one in each indicated hole, and the rivet will hold the side cover in place.

  ⓘ **You received a bag with spare nylon rivets.** In case you destroyed any rivets while removing them, use the spare ones when re-attaching the side panel.
- Start at the top of the side cover. We recommend holding the side panel in place with one hand while installing the first few rivets.
- **Turn the filament sensor on** by sliding the Filament-sensor-switch towards the back of the printer. The "X" on the sensor has to be empty.
- Close the door

STEP 14 Testing the filament sensor (Part 1)



- Plug in the PSU cable.
- Flip the power switch ON (symbol "I").
- Close the door.
- On the LCD, navigate to ***Info -> Sensor Info*** and find the **Side Filament Sensor** option.

STEP 15 Testing the filament sensor (Part 2)



- When **no filament** is inserted, the ***Side Filament sensor*** will indicate:
  NINS / 1.
- Mount the filament spool on the spool holder
- Insert the filament into the PTFE tube. Ensure it goes through the side filament sensor.
- After a **filament is inserted**, the ***Side Filament sensor*** will indicate: **INS / 2**

  ⓘ ***INS* stands for Inserted.**

  ⓘ ***NINS* stands for Not Inserted.**

STEP 16 Well done!

- Congratulations. Your printer is ready to roll!
- Happy printing.

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