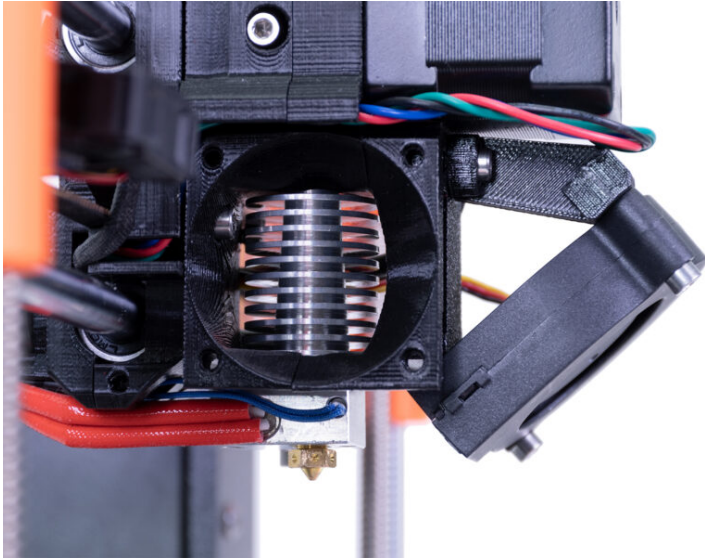


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How to replace a hotend thermistor (MK3S/MK3S+)

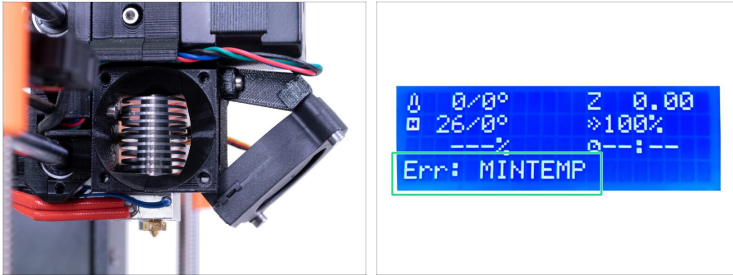


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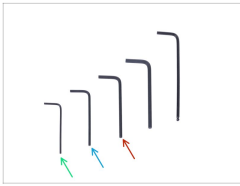


STEP 1 Introduction



- ◆ This guide will take you through the replacement of the **thermistor** in the extruder on the **Original Prusa i3 MK3S** and **MK3S+**.
- ⓘ Some parts might slightly differ. However, it does not affect the procedure.
- ◆ If the thermistor is damaged, you will see the MINTEMP error message on the display.
- ◆ All necessary parts are available in our eshop shop.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



● **To replace hotend thermistor, please prepare:**

● 1.5 mm Allen key

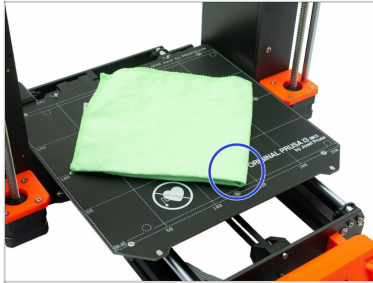
● 2.0 mm Allen key

● 2.5 mm Allen key

● Needle-nose pliers

● Cloth or piece of fabric 15x15cm

STEP 3 Preparing the printer



⚠ Turn the printer off and unplug it!

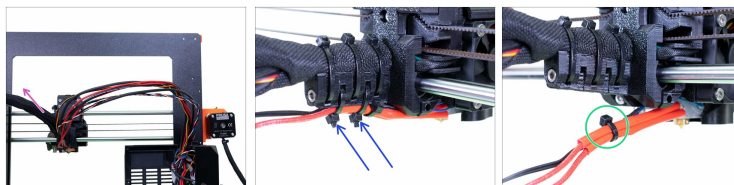
- ◆ **Before you proceed, it is recommended to protect the heatbed.**
- ◆ Take off the flexible steel sheet.
- ◆ Use any cloth or piece of fabric, which is thick enough and cover the heatbed. This will ensure you won't damage (scratch) the surface during the disassembly.

STEP 4 Disconnecting of the thermistor



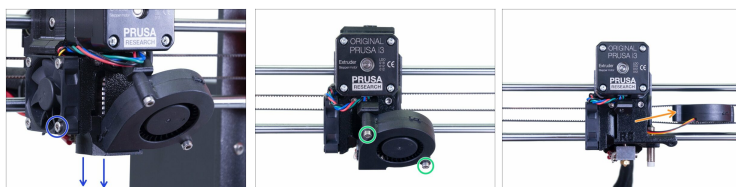
- Using an Allen key release the M3x40 screw and open the door.
- Cut the two zip ties on the cable bundle. **Avoid cutting the cables!**
- Release two screws on the cable clip and remove the clip.
- Disconnect the thermistor cable from the EINSY board.

STEP 5 Removing the textile sleeve



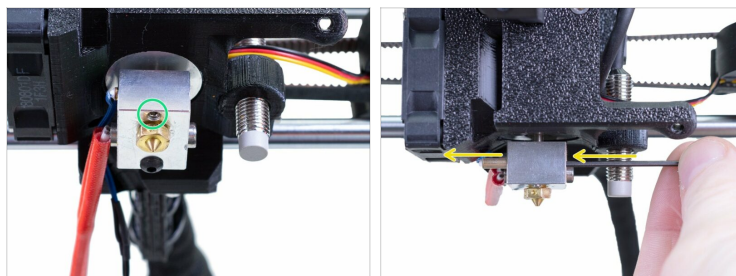
- Pull out the textile sleeve from the cable bundle and remove it all the way to the extruder.
- Cut the two lower zip ties on the cable holder. **Avoid cutting the cables.**
- If you have a zip tie on the heating cable and the thermistor cable, carefully cut it off.

STEP 6 Extruder surgery



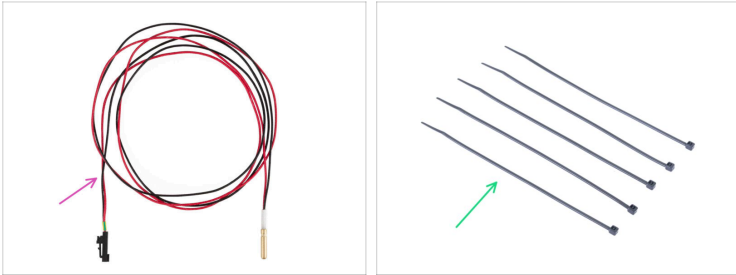
- ◆ Release and remove the M3x20 (M3x18) screw from the hotend fan. Note that the fan-shroud might fall off.
- ⓘ Leave the other two screws holding the hotend fan in place. No need to remove them.
- ◆ Release and remove both screws and remove the Front print fan.
- ◆ Carefully insert the Front print fan in the X-axis belt.

STEP 7 Removing the thermistor



- ◆ Loosen the grub screw at the bottom of the heaterblock with using the 1.5 mm Allen key.
- ⚠ **WARNING:** Do not pull the thermistor cable. Follow the instructions!
- ◆ Using the Allen key gently push the thermistor out.

STEP 8 New thermistor parts preparation



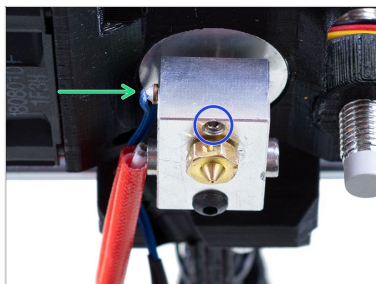
● For the following steps, please prepare:

● New thermistor (1x)

ⓘ The cable color or shape may vary depending on the batch. This does not affect the procedure.

● Zip tie (5x)

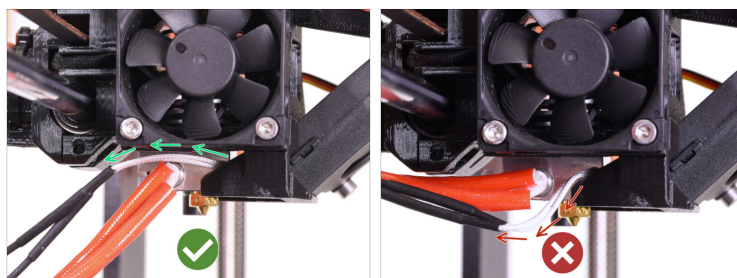
STEP 9 Thermistor installation



- Insert the thermistor to the heaterblock.
- Secure by tightening the lock screw. Do not overtighten the set screw. It may damage the thermistor or the screw.

⚠ Ensure the thermistor is properly inserted and not move!

STEP 10 Guiding the hotend thermistor cables



- Make sure the hotend thermistor cables (thinner pair) are going above the heater cables. If not, guide them according to the picture.

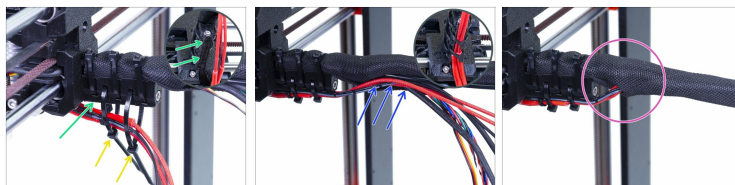
⚠ Guiding the thermistor cables below the heater cables may cause issues later.

STEP 11 Connecting the thermistor



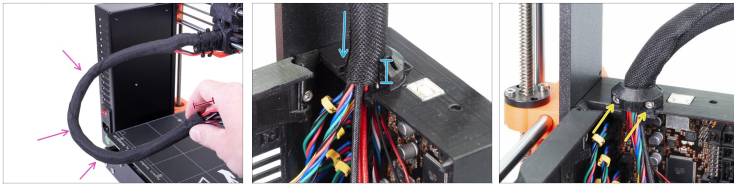
- Connect the cable to the electronics board.

STEP 12 Tightening the textile sleeve



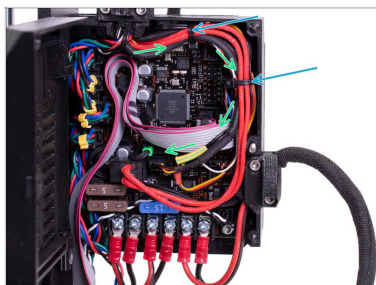
- Use two zip ties and push them through the upper slots on the cable-holder.
 - **ATTENTION!** Before tightening the zip ties add the cables from the hotend. Use the channel in the printed part to arrange them properly.
 - Once the hotend cables are included, tighten the zip ties and cut remaining parts.
 - Open the textile sleeve and insert the cables from the hotend.
 - Compare the look of the cable management with the last picture.
- ⚠ **The zip tie arrangement was tested with the injection molded double spool holder (provided in the kit and assembled later on). If you intend to use any other frame mounted type holder, make sure the zip ties won't crash into it, which might result in a print failure.**

STEP 13 Guiding the textile sleeve



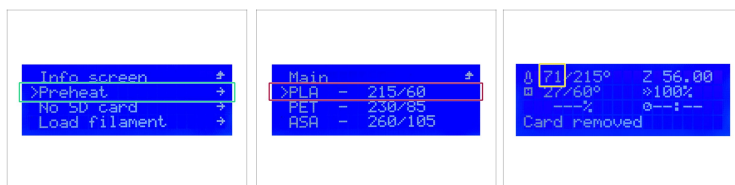
- ◆ Before we proceed further, we need to twist the textile sleeve. This will prevent the cables inside to slip out during the printing.
- ◆ Using your fingers gently twist the sleeve (not the cables) and create several wraps.
- ◆ Twisting the sleeve will effectively shorten its length.
- ◆ Slide the sleeve in the holder at least 3/4 of the holder's height.
- ⚠ **Ensure the nylon filament isn't pushing the motor cables and if needed slightly unwrap the sleeve and push the filament up.**
- ◆ Use the Extruder-cable-clip and two M3x10 screws to fix the cable bundle in place.

STEP 14 Cable guiding



- Manage all cables in the Einsky base like in the picture. And secure it with two zip ties.
- Secure the cable bundle with two zip ties.

STEP 15 Final check



NOTE: Before these steps remove the protective cloth from the heatbed.

WARNING: Avoid touching the **HOT nozzle!!!**

- Plug in the printer and turn it ON.
- On the printer's screen navigate to the **Preheat menu**.
- Select **PLA**.
- Navigate back to the **Info screen** and check if the temperature rises.

STEP 16 It's done!



- ◆ **Good job!** You just replaced the thermistor on the extruder.
