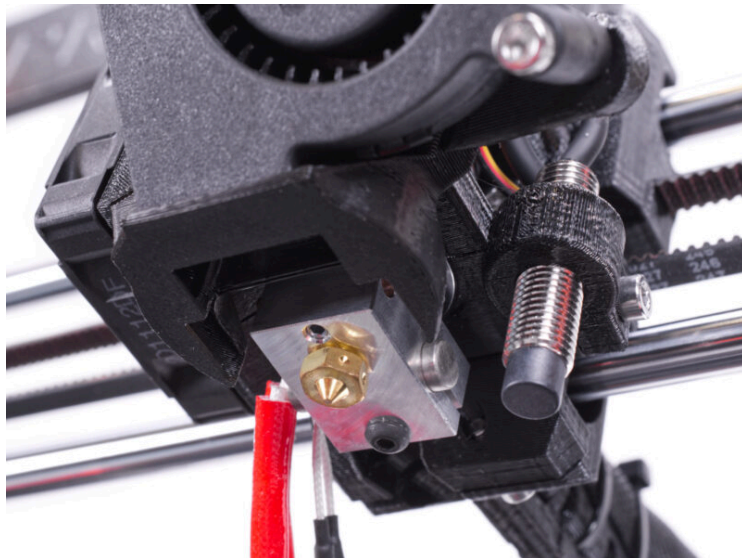


How to replace a hotend heater (MK3S/MK3S+)

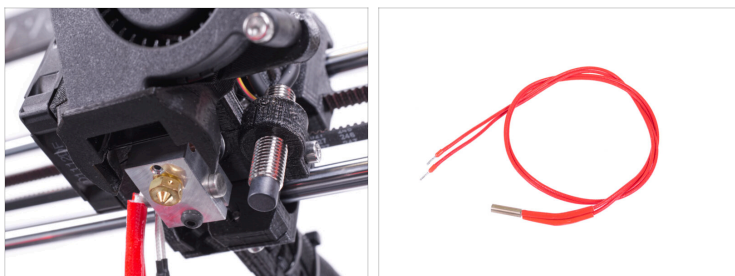


help.prusa3d.com/g221422

Scan the QR code to
display the latest
version of this
chapter.

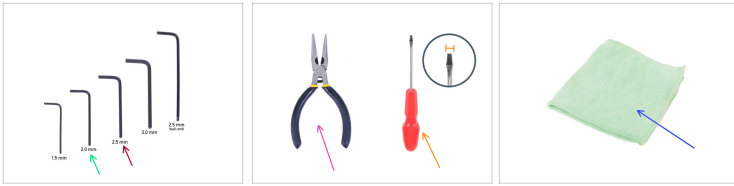


STEP 1 Introduction



- ◆ This guide will take you through the replacement of the **hotend heater** on the **Original Prusa i3 MK3S** and **MK3S+**.
- ⓘ Some parts might slightly differ. However, it does not affect the procedure.
- ◆ 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.

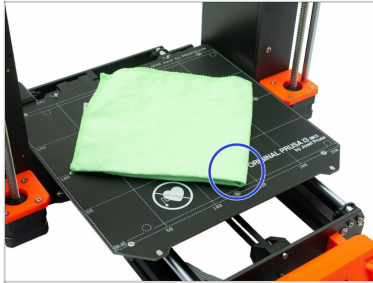
STEP 2 Tools necessary for this guide



● **For this guide, please prepare:**

- 2.0 mm Allen key
- 2.5 mm Allen key
- Needle-nose pliers
- Flat screwdriver tip width 2.5 mm (3/32")
- Cloth or piece of fabric 15x15cm

STEP 3 Preparing the printer



⚠ Turn the printer off and unplug it!

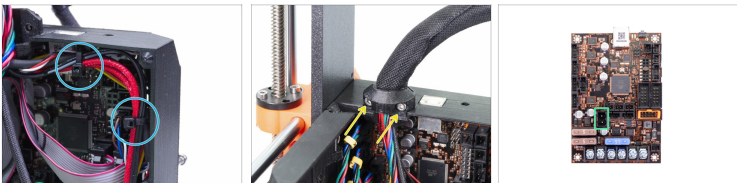
- ◆ **Before you proceed, it is recommended to protect the heatbed.**
- ◆ Take off the flexible steel sheet.
- ◆ Use any cloth or piece of fabric, which is thick enough and cover the heatbed. This will ensure you won't damage (scratch) the surface during the disassembly.

STEP 4 Opening the electronics box



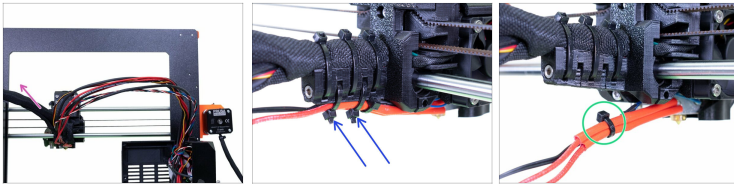
- Release the M3x40 screw in the Einsky case. No need to remove them.
- Open the Einsky-doors.

STEP 5 Disconnecting the hotend heater



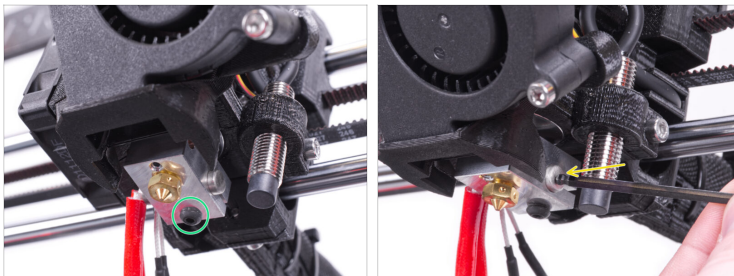
- Cut the two zip ties on the cable bundle. **Avoid cutting the cables!**
- Release two screws on the cable clip and remove the clip.
- Disconnect the hotend heater cable from the Einsky electronics board.

STEP 6 Removing the textile sleeve



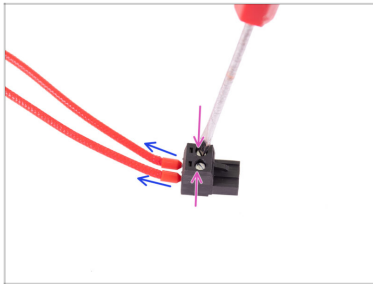
- ◆ Remove the textile sleeve from the cable bundle from the Einsy case to the cable-holder on the extruder.
- ◆ Cut the two lower zip ties on the cable holder. **Avoid cutting the cables.**
 - ⚠ Do not cut the upper three zip ties.
- ◆ If you have a zip tie on the heater cable and the thermistor cable, carefully cut it off.

STEP 7 Removing the heater



- ◆ Using the 2mm Allen key, loosen the black round head screw on the underside of the heaterblock. No need to release the screw completely.
- ◆ Using the Allen key gently push the hotend heater out of the heaterblock.

STEP 8 Removing the connector



- ◆ Remove the hotend heater completely from the printer and put it aside.
- ◆ Using the flat screwdriver, loosen both screws in the connector. **No need to remove them completely.**
- ◆ Pull out both wires from the connector.
- ⚠ **Do not throw the connector away. We will use it again later.**

STEP 9 New hotend heater: parts preparation

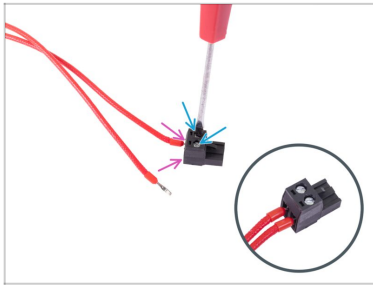


◆ **For the following steps, please prepare:**

- ◆ New hotend heater (1x)
- ◆ Molex connector (1x) reused from the old heater or if damaged, buy a new one in our eshop.
- ◆ Zip tie (2x)

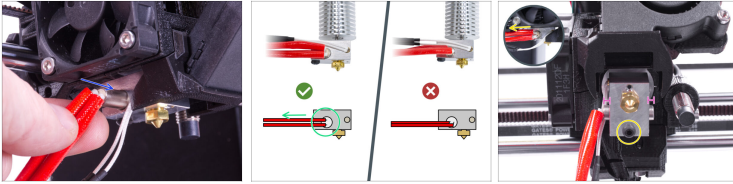
⚠ **WARNING:** Be very careful with the hotend wires, handle them with care.

STEP 10 Assembling the new heater



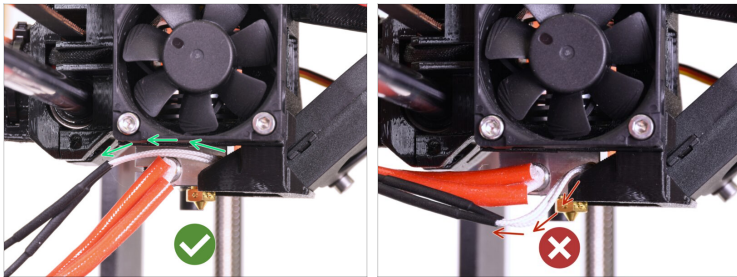
- Insert both heater cables all the way into the Molex connector. The order of the cables doesn't matter.
 - Tighten two screws on the connector by the flat screwdriver.
- ⚠ Make sure the cables are fully inserted and tightened, this is very crucial!**

STEP 11 Installing the new hotend heater



- ◆ Insert the new hotend heater into the heaterblock from the left side of the extruder (hotend fan side).
- ◆ Adjust the hotend heater so that the wires don't cross, but rather go parallel one above another. See the second picture.
- ◆ Center the heater so it sits in the middle of the heaterblock.
- ◆ Hold the heater cables with one hand so that **they keep pointing towards the back of the extruder (X-carriage)**. Using your other hand, carefully tighten the black round screw on the underside of the heaterblock.
- ⓘ After fixing the heater in place, it does not matter if the cables hang down slightly for a while. **But do not pull on them!** We will soon arrange them into a final position.

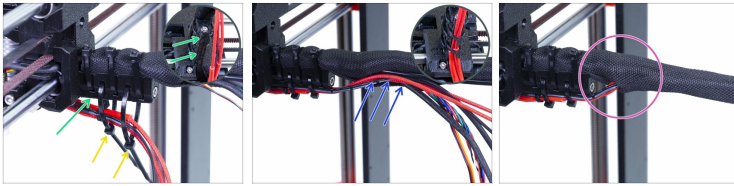
STEP 12 Guiding the hotend thermistor cables



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

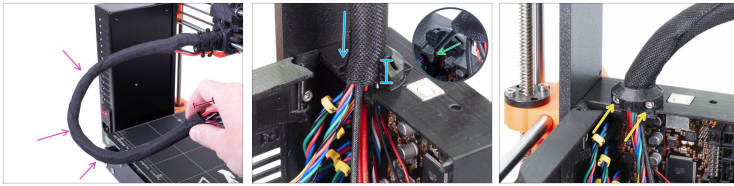
⚠ Guiding the thermistor cables below the heater cables may cause issues later.

STEP 13 Tightening the textile sleeve



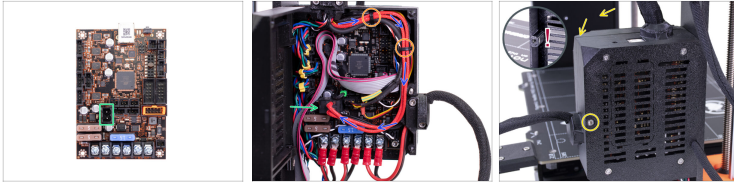
- ◆ Use two zip ties and push them through the upper slots on the cable-holder.
- ◆ **ATTENTION!** Before tightening the zip ties add the cables from the hotend. Use the channel in the printed part to arrange them properly.
- ◆ Once the hotend cables are included, tighten the zip ties and cut the remaining parts.
- ◆ Open the textile sleeve and insert the cables from the hotend.
- ◆ Compare the look of the cable management with the last picture.

STEP 14 Guiding the textile sleeve



- Wrap the entire length of the sleeve around the cable bundle.
- Using your fingers gently twist the sleeve (not the cables) and create several wraps. This will prevent the cables inside to slip out during the printing.
- Twisting the sleeve will effectively shorten its length, so then the nylon filament inside the cable bundle can easily reach the hole in the plastic electronics box (Einsy-base).
- Push the nylon filament into the hole in the plastic cable clip on the einsy-base.
- ⚠ **Ensure the nylon filament isn't pushing the motor cables** and if needed slightly unwrap the sleeve and push the filament up.
- Slide the sleeve in the holder at least 3/4 of the holder's height.
- Use the Extruder-cable-clip and two M3x10 screws to fix the cable bundle in place.

STEP 15 Connecting the hotend heater cable



- ◆ Connect the hotend heater cable to the slot on the Einsky board.
- ◆ Guide the cable according to the picture.
- ◆ Fix the cable bundle with two zip ties inside the Einsky-base.
- ◆ Close the Einsky-doors and secure it by tightening the M3x40 screw from the back of the Einsky-base.
Ensure no cable is pinched.

⚠ **Make sure the M3nS nut inside the Einsky-doors is in place and does not fall.**

STEP 16 Final check

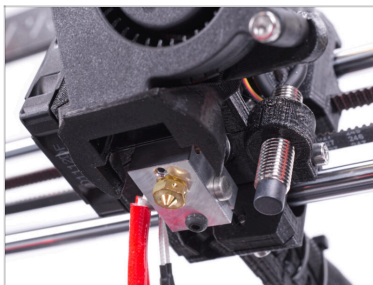


⚠ **NOTE:** Before these steps remove the protective cloth from the heatbed.

⚠ **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 **Main screen** and check if the temperature rises.

STEP 17 Well done!



- **Great job!** You successfully replaced the hotend heater on the extruder.
