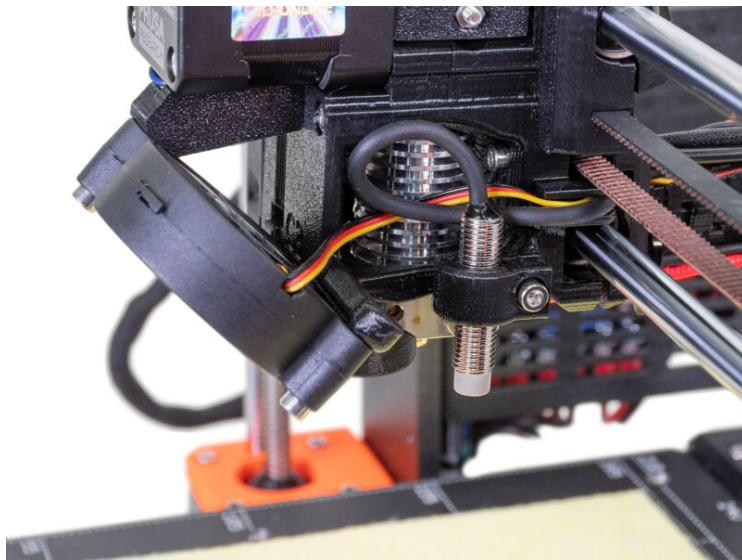


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How to replace a P.I.N.D.A. sensor (MK3S)

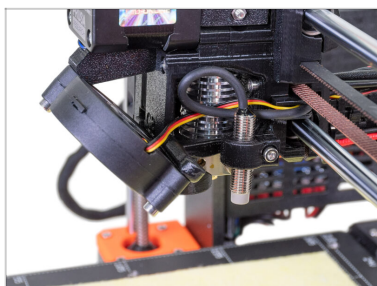


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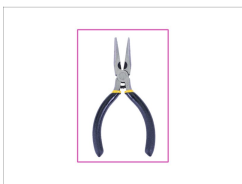
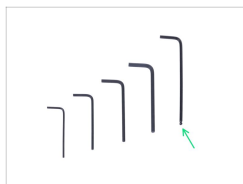
STEP 1 Introduction



i This guide will take you through the replacement of the **P.I.N.D.A. sensor** on the **Original Prusa i3 MK3S**.

! **This guide is obsolete.** Please use **How to replace SuperPINDA (MK3S/MK3S+)** instead. The **P.I.N.D.A. sensor** is no longer available and has been replaced by the **SuperPINDA sensor**.

STEP 2 Tools necessary for this guide



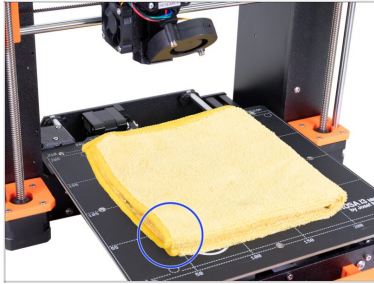
◆ For the following steps, please prepare:

◆ 2.5 mm Allen key


◆ Needle-nose pliers



◆ Cloth or piece of fabric 15x15cm

STEP 3 Preparing the printer

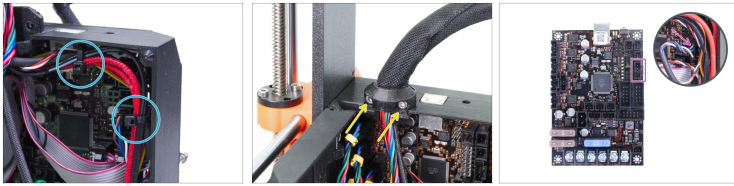


 **Turn the printer off and unplug it!**

 **Before you proceed, it is recommended to protect the heatbed.**

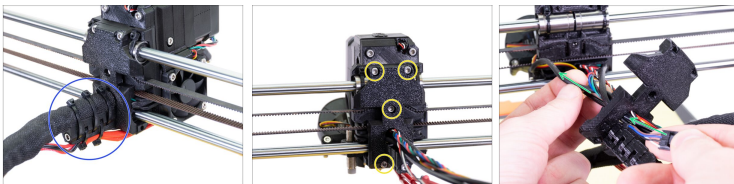
-  Take off the flexible steel sheet.
-  Use any cloth or piece of fabric, which is thick enough and cover the heatbed. This will ensure you won't damage (scratch) the surface during the disassembly.

STEP 4 Disconnecting of the P.I.N.D.A. sensor



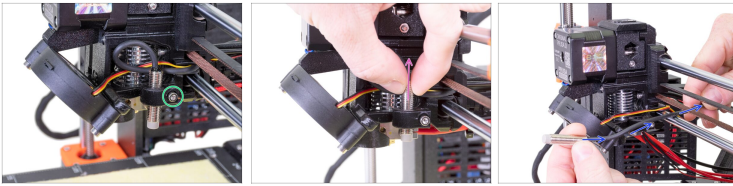
- ◆ Open the Einsy case and cut the two zip ties on the cable bundle. **Avoid cutting the cables!**
- ◆ Release two screws on the cable clip and remove the clip.
- ◆ Disconnect the P.I.N.D.A. sensor cable from the EINSY board.

STEP 5 Removing the x-carriage-back



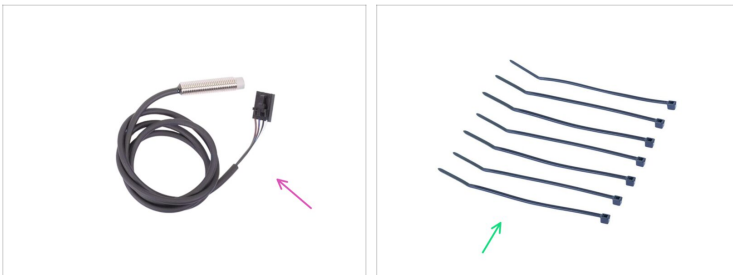
- ◆ Cut the zip ties on the cable-holder and remove them.
- ◆ Remove the textile sleeve from the cable bundle.
- ◆ Release four screws on the x-carriage-back part.
- ◆ Push the P.I.N.D.A. sensor cable through the opening in the x-carriage-back.

STEP 6 Removing the P.I.N.D.A. sensor



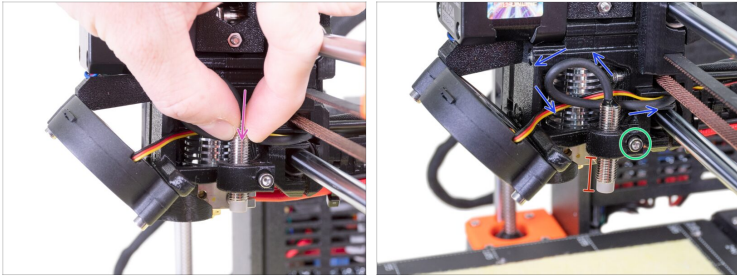
- Loosen the screw on the P.I.N.D.A. holder. No need to remove the screw.
- Remove the P.I.N.D.A. sensor from the printer.
- Push the P.I.N.D.A. cable out of the printer between the X-belt and the smooth rod.

STEP 7 New P.I.N.D.A. sensor - parts preparation



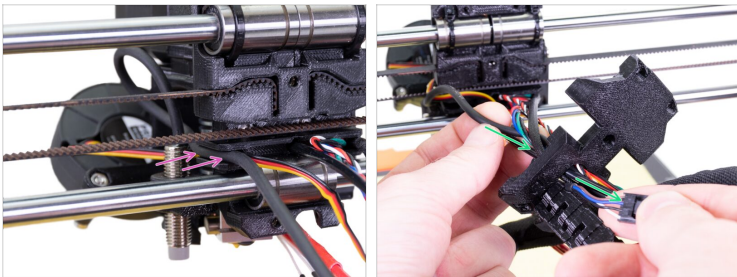
- For the following steps, please prepare:**
- New P.I.N.D.A. sensor (1x)
- Zip tie (7x)

STEP 8 Installing the new P.I.N.D.A. sensor



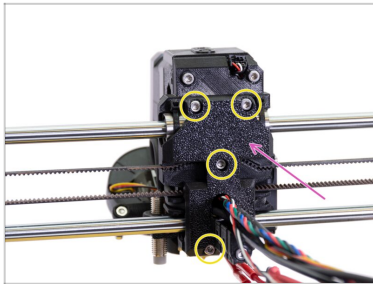
- ◆ Insert the new P.I.N.D.A. sensor into the holder.
- ◆ Slide-in about half of the sensor.
- ◆ Create a loop on the cable from the sensor.
- ◆ Slightly tighten the screw. Do not tighten fully. We will adjust the height of the P.I.N.D.A. sensor later.

STEP 9 Cable guiding



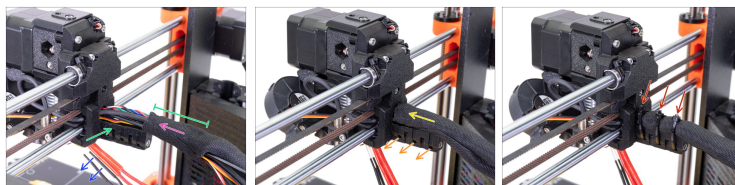
- ◆ Place the cables on the P.I.N.D.A. sensor side over the lower smooth rod and push them back in the channel.
- ◆ Push the P.I.N.D.A. sensor cable through the opening in the x-carriage-back.

STEP 10 Mounting the x-carriage-back



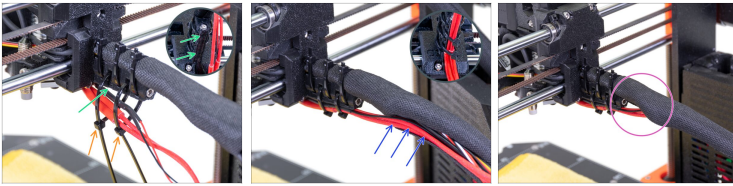
- ◆ Place the x-carriage-back on the extruder.
- ◆ Secure it using four M3x10 screws.

STEP 11 Tightening the textile sleeve



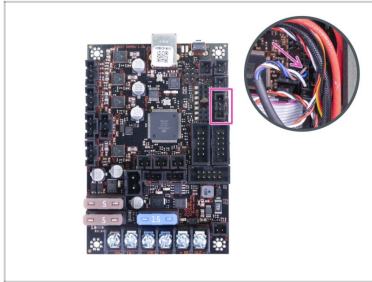
- ◆ Open one end of the textile sleeve and slide it on the cable bundle leading from the extruder.
 - ◆ Leave the cables from the hotend out for now.
 - ◆ Length of the first wrap should be slightly longer than the cable-holder part, about 5 cm is enough.
 - ◆ Gently twist the sleeve to make it smaller and tighter around the cables, orient the sleeve's seam downwards, then slide the sleeve towards the extruder.
 - ◆ **Take 3 zip ties** and insert them into the **lower row** of holes on the cable-holder.
 - ◆ Twist the sleeve again (without twisting the cables inside) and tighten the zip ties.
- ⚠ **IMPORTANT:** Cut the remaining part of each zip tie using pliers as close to its head as possible. Note the correct position of each zip ties's head (slightly off-centre to the left).

STEP 12 Tightening the textile sleeve



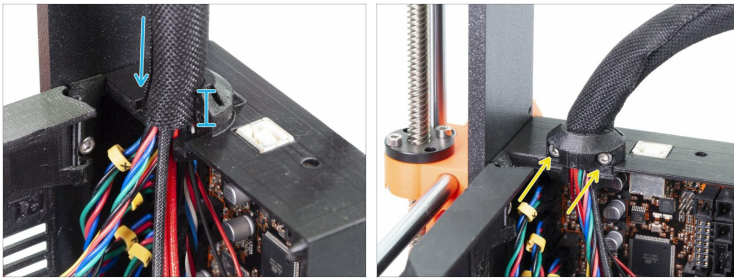
- ◆ Use two zip ties and push them through the upper slots on the cable-holder.
 - ◆ **ATTENTION!** Before tightening the zip ties add the cables from the hotend. Use the channel in the printed part to arrange them properly.
 - ◆ Once the hotend cables are included, tighten the zip ties and cut the remaining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



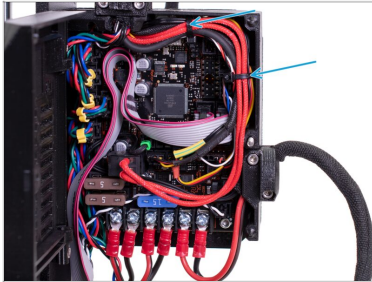
- ◆ Connect the P.I.N.D.A. sensor cable to the Einsy board.

STEP 14 Guiding the textile sleeve



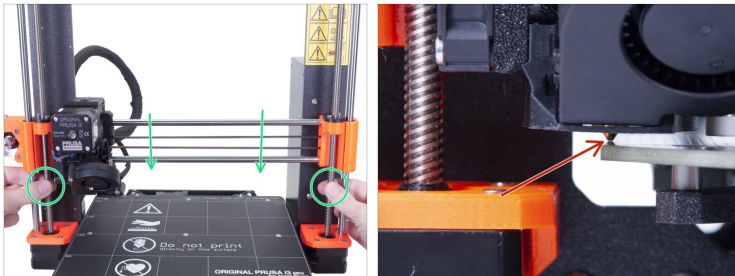
- ◆ Slide the sleeve in the holder on the Einsky base at least 3/4 of the holder's height.
- ⚠ Ensure the nylon filament isn't pushing the motor cables and if needed slightly unwrap the sleeve and push the filament up.
- ◆ Use the Extruder-cable-clip and two M3x10 screws to fix the cable bundle in place.

STEP 15 Cable management



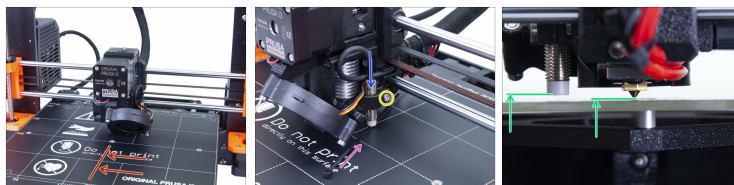
- Manage all cables in the Einsy base like in the picture.
- Secure the cable bundle with two zip ties.

STEP 16 P.I.N.D.A. adjustment



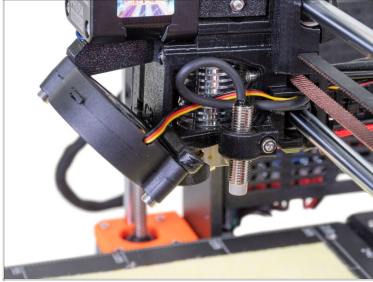
- Take off the cloth from the heatbed.
- By rotating BOTH threaded rods at the same time on the Z-axis move the nozzle until you reach the heatbed. Try rotating both the rods equally!
- ⚠ Check again from a different angle the nozzle is touching slightly the heatbed. Don't bend the heatbed!
- ⓘ Don't place the steel sheet on the heatbed during the entire P.I.N.D.A. probe adjustment process. Wait for the XYZ calibration.

STEP 17 P.I.N.D.A. adjustment



- ◆ By rotating BOTH threaded rods at the same time on the Z-axis move the nozzle until you reach the heatbed. Try rotating both the rods equally!
- ◆ Move the extruder to the centre of the X-axis.
- ◆ Take a zip tie from the package and place it under the P.I.N.D.A. sensor. Use the middle part of the zip tie, **not the tip**.
- ◆ Release the screw holding the P.I.N.D.A. sensor and gently press it against the zip tie.
- ◆ Tighten the screw on the P.I.N.D.A. holder again.
- ◆ A correct height of the P.I.N.D.A. sensor compared to the nozzle should be similar to the last picture.

STEP 18 It's done



- ◆ **Good job!** You just replaced the P.I.N.D.A. sensor on your printer.
