



7. PSU & Heatbed assembly

PSU and Heatbed guide

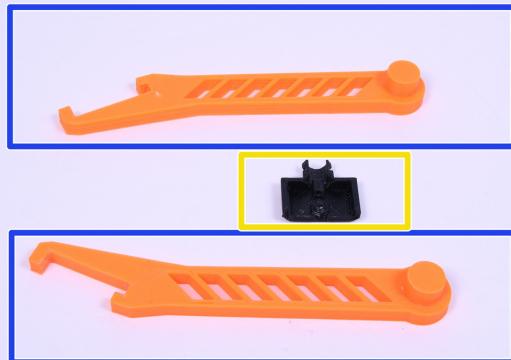
Written By: Josef Prusa

Step 1 — Getting the necessary tools



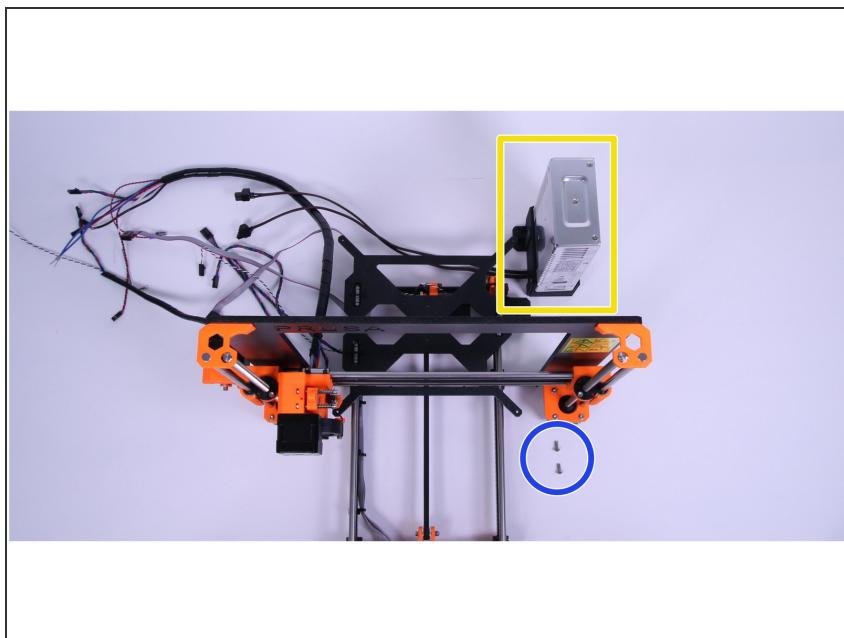
- 2 and 2.5 mm allen key
- Needle-nose pliers

Step 2 — 3D printed parts



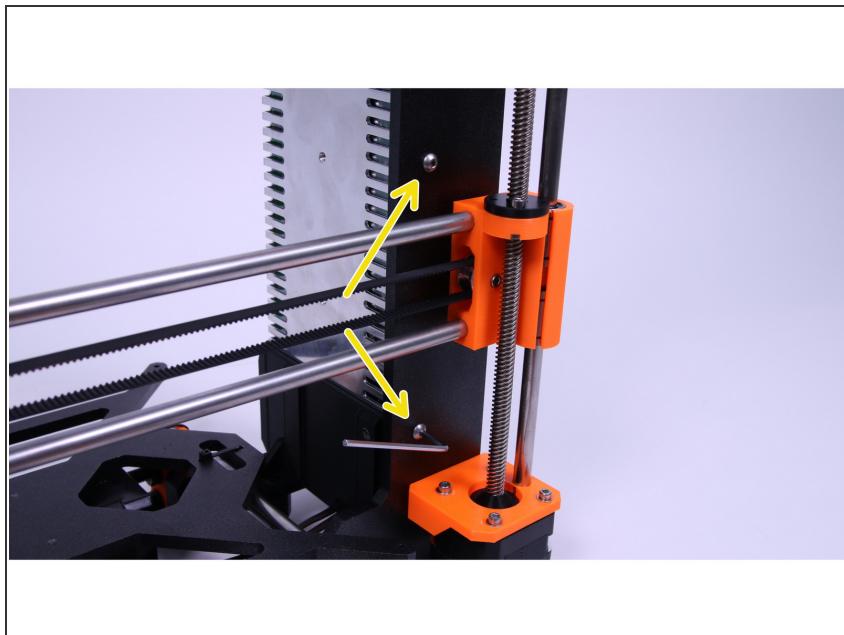
- Spool holder
- Heatbed cable cover

Step 3 — Assembling the PSU



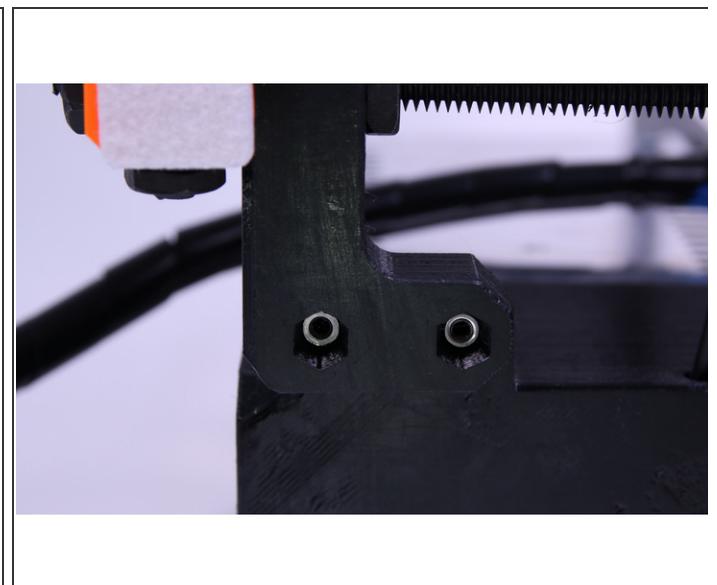
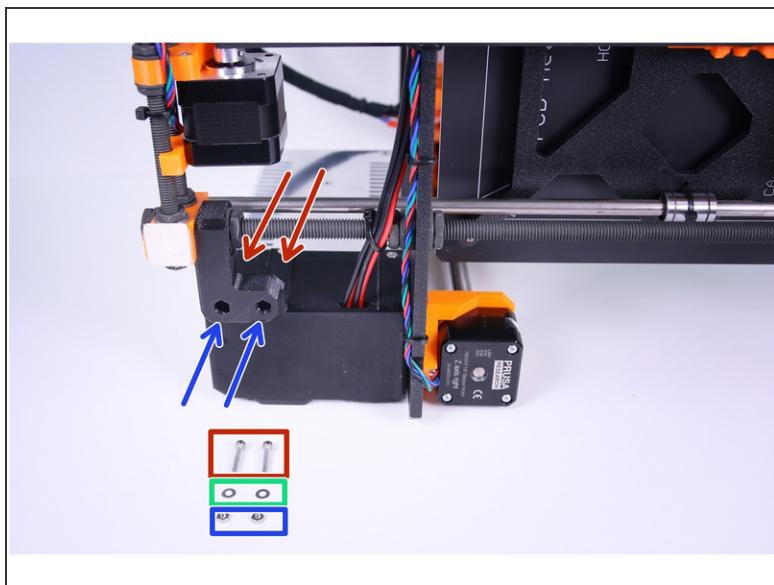
- M4x10 with dome head (2 pcs)
- ● 12V/240W Power supply with cover

Step 4 — Securing the PSU



- Using 2.5mm allen key, tie the PSU to the frame.

Step 5 — Connecting PSU-Y part



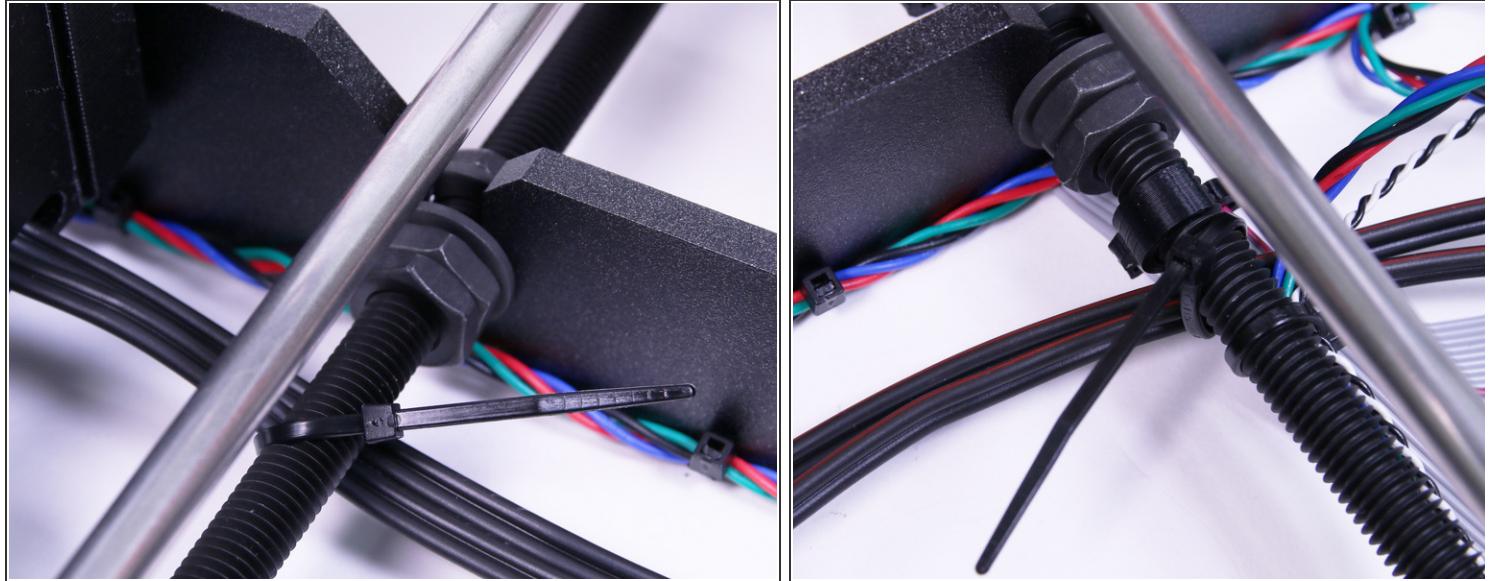
- M3x18 screws (2 pcs)
- M3w washers (2 pcs)
- M3n nuts (2 pcs)
- Insert M3n nuts in PSU-Y-part nut traps.
(i) To insert nuts inside traps, you can use similar "on screw" technique as for the extruder assembly. For more go back to [1. Introduction, Step 7](#).

Step 6 — Assembling PSU-Y-part



- Using 2.5mm allen key, tie the PSU-Y-part to the PSU-cover.
- *(i)* If there is a gap, use the screws to contract it.

Step 7 — Main power cables guide



- Guide the low voltage cables from the PSU under the threaded rods to the other side of the frame as shown in the picture.
- Tie the low voltage power cables to both threaded rods.

 Do not tighten them too much, otherwise you can damage cable insulation.

Step 8 — Configuring the PSU



- Check the switch position on the side of the PSU if it's in correct position.
- ⚠** Make sure that the power supply is not connected to mains!
- (i)** Correct position means that the switch is on the side with your mains voltage. (If you have 110/120 V mains [mostly America] the switch has to be on the left, if you have 220/230 V [Europe and the rest of the world] the switch should be on the right).
- (i)** You can change the switch position with flathead screwdriver.
- ⚠** **This is very important part, if the power supply is configured incorrectly it can be damaged!**

Step 9 — Y-belt holder helping nuts removal



- ⚠ If you assembled the optional nuts on the Y-belt holder screws, you have to remove them.
- Remove the M3 nuts highlighted in the picture.

Step 10 — Preparing the heatbed



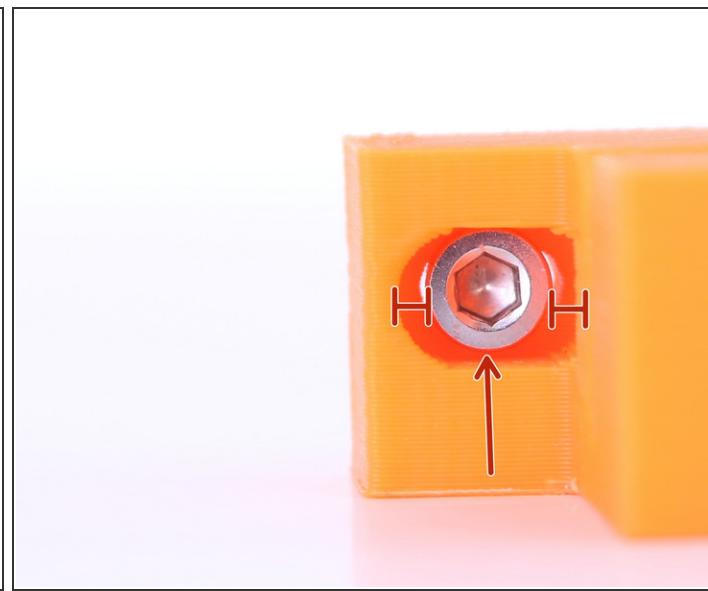
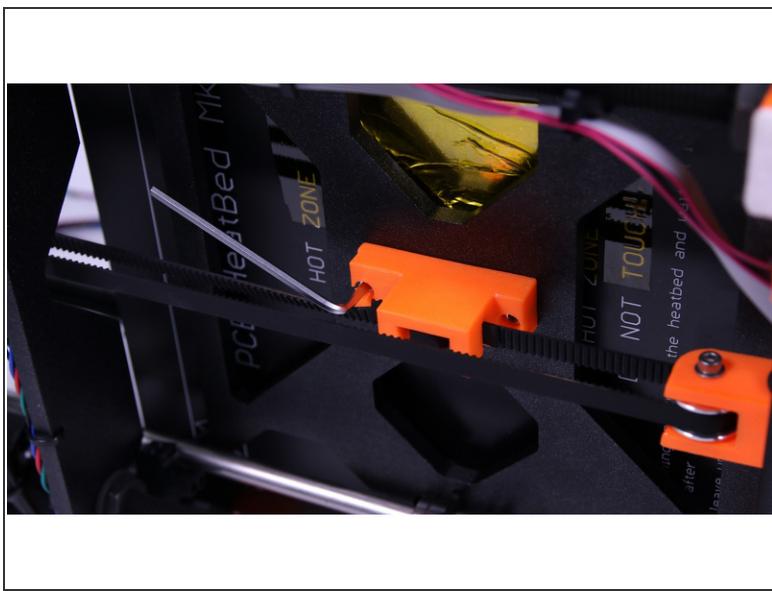
- M3x8r screws (4 pcs)
- ⚠ Heatbed comes with the print surface (yellowish foil) already stuck on so DO NOT REMOVE IT and take extra care to prevent any damage to the surface.

Step 11 — Assembling the heatbed



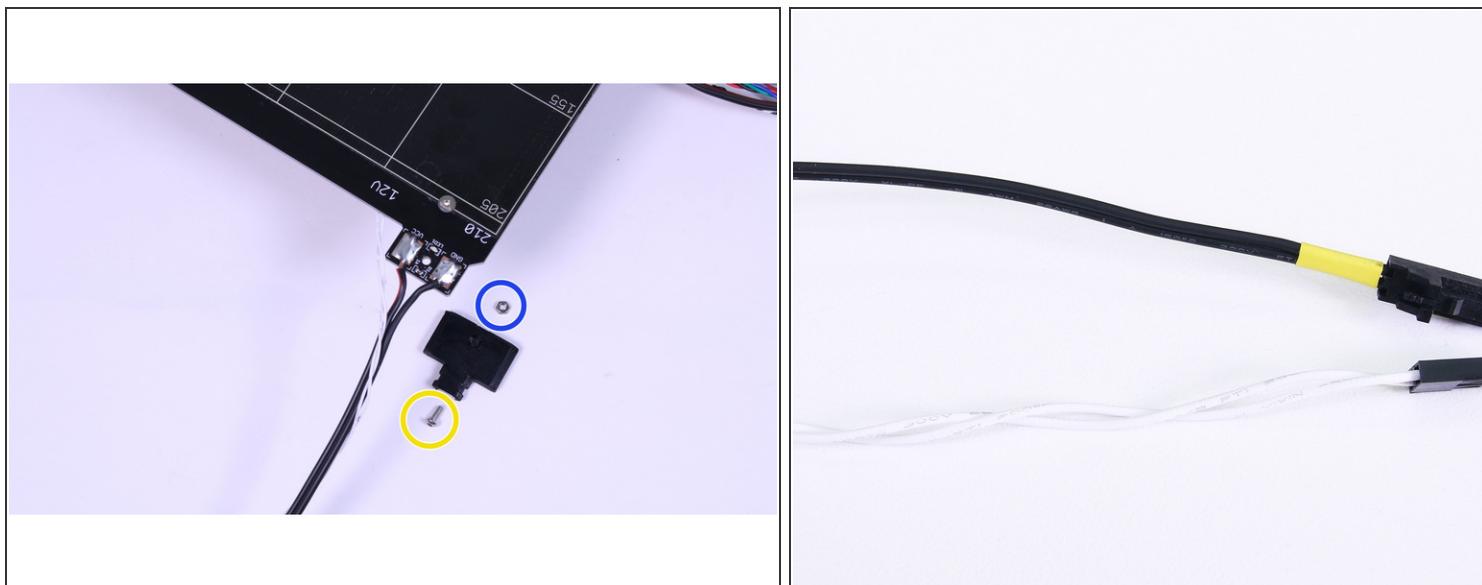
- Using 2mm allen key, tighten the heatbed to the Y-carriage.
- ⚠** Tighten the screws with care. The threads inside the heatbed can be easily broken!
- ⚠** The screws should fit directly to the threads, if not, you could have turned the Y-carriage upside down, see Chapter [2. Y-axis assembly](#) for the correct assembly.

Step 12 — Finalizing the heatbed



- Tighten the Y-belt holder to the heatbed using the supplied 2.5 mm Allen key.
- *(i)* Make sure that the screws are screwed into the heatbed and no space is left between the nut on the heatbed and the Y-carriage.
- ⚠ Tighten the screws with care. The threads inside the heatbed can be easily broken!
- If you have the Y-belt-holder with a slot, make sure that the screws are in the middle as shown in the picture.

Step 13 — Preparing the heat bed cable cover



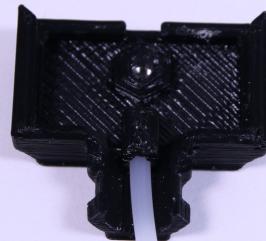
- M3x8r screw (1 pc)
 - M3 nut (1 pcs)
- (i)** Note the white cable from the heatbed can be also in black version, however their function is the same (see the second photo).

Step 14 — Assembling the heat bed cover



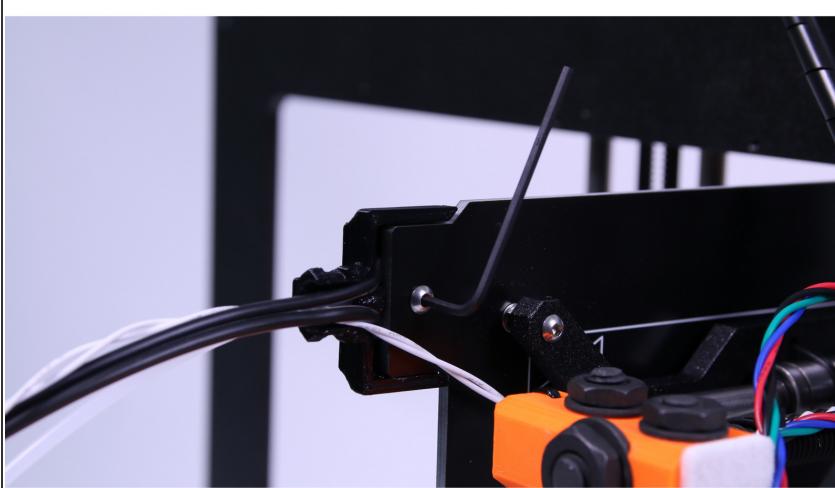
- Insert M3n nut in place.

Step 15 — Preparing the filament



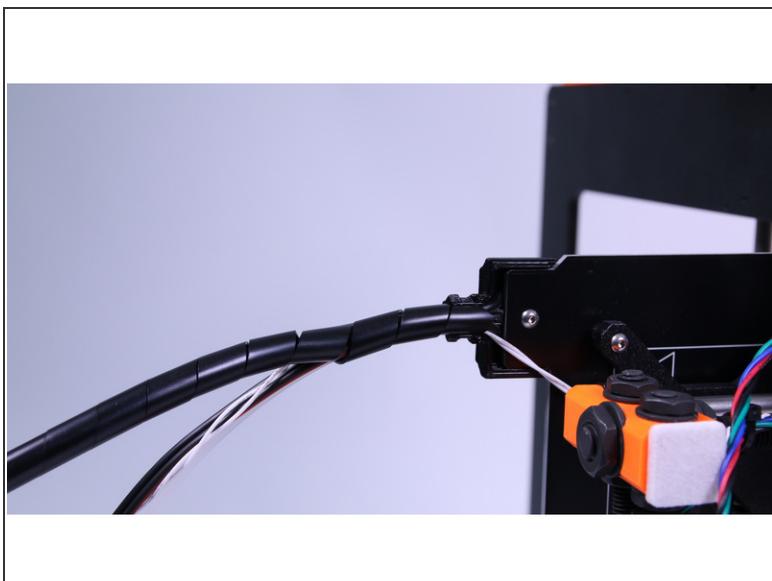
- Take the piece of filament that came with the parts (length cca 30 cm).
 - Push it all the way down in the filament holder hole in the heat bed cable cover. If you experience difficulties when inserting the filament use pliers to make a sharp tip on the filament.
- (i)* The filament is for whole harness support. Don't cut it, it'll go all the way with the wires to the electronics.

Step 16 — Assemble the heatbed cable cover



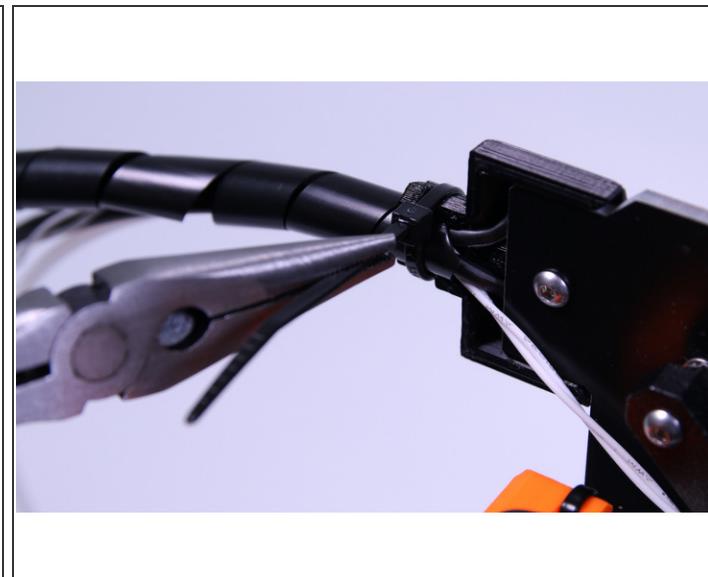
- Tighten the part to the heatbed using 2 mm Allen key.

Step 17 — Wrapping the heatbed cables



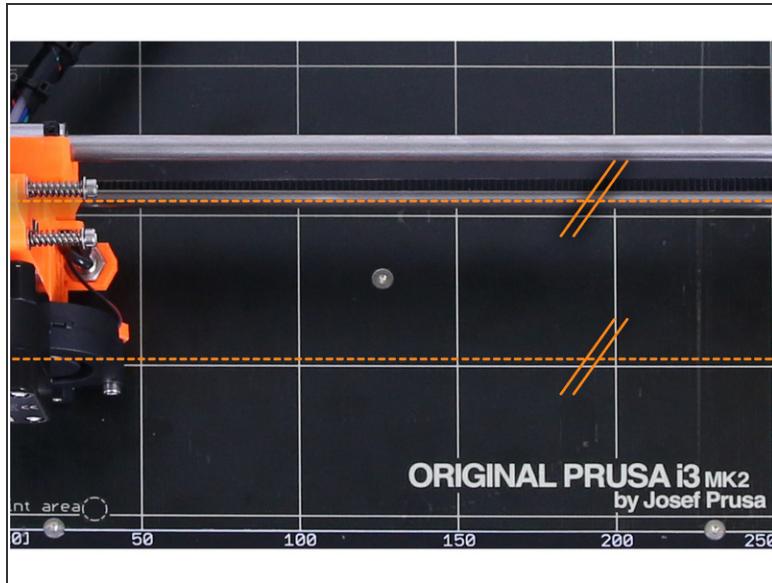
- Use the spiral wrap and wrap nylon with the cables (black from the top and white from the bottom) from the heatbed.
- DO NOT cut the filament, you'll need the full length.
- Note the white cable can be also in black version, see [Step 13](#). second picture.

Step 18 — Securing the spiral wrap in place



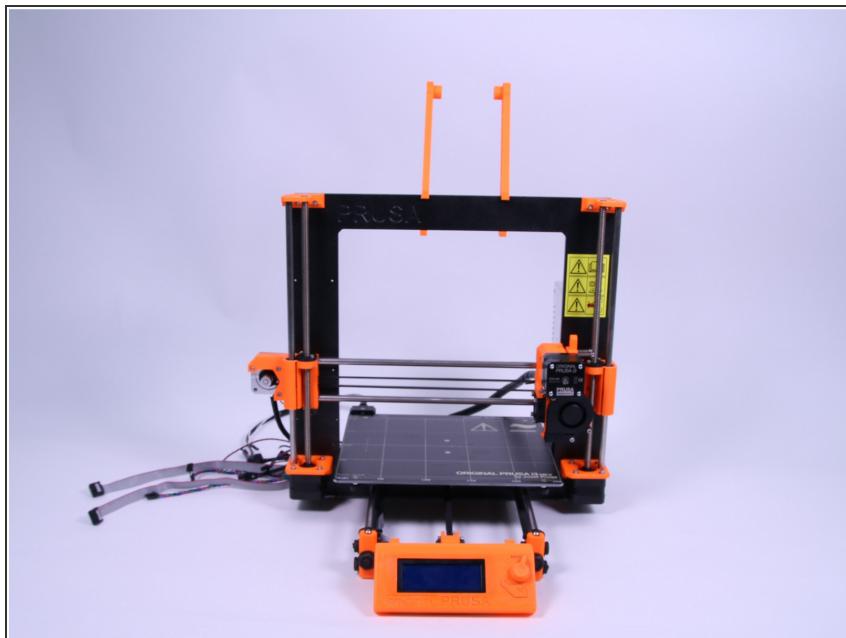
- Slide spiral wrap into the holder in the heatbed cable cover and secure it in place using a ziptie.

Step 19 — Check if everything is correct



- Take a look on the printer from the top side and make sure that lines on heatbed are perfectly parallel with the X axis rods as shown in the picture.
- If they are not in parallel position, use 17 mm wrench to adjust the M10 nuts to get it correct. Use nuts only on the side close to left Z axis motor.
 - ⚠ This is extremely important, if the things are not in parallel, you'll have huge troubles calibrating later on!
 - ⚠ If you'll adjust the nuts, make sure that the M10 threaded rod is all the way down in the slot.

Step 20 — Last finishing touch and done!



- Assemble the Spool-holders to the top of the frame as shown in the picture.
- Almost there! You're one step before finish! Continue by connecting the electronics in the next chapter - [8. Electronics assembly](#)

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