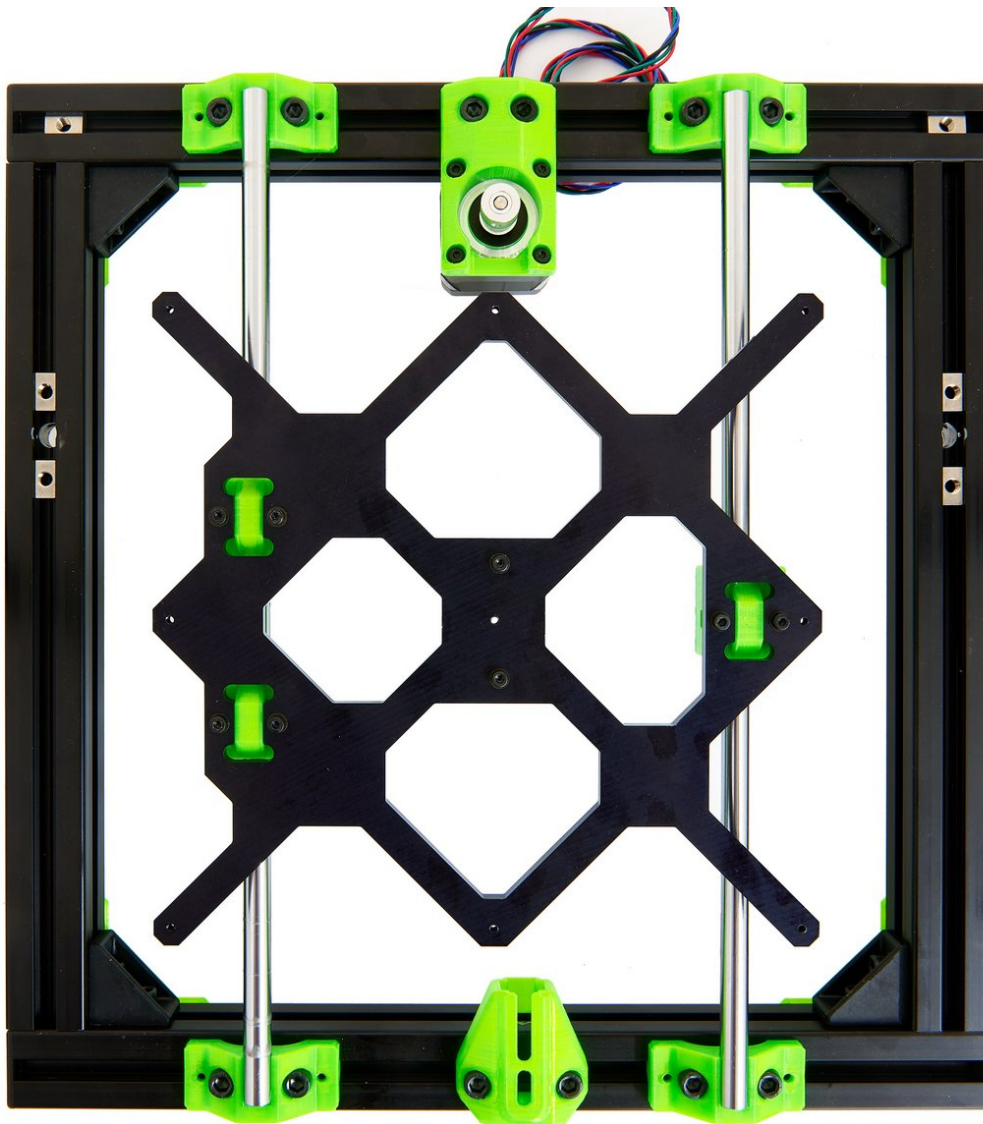


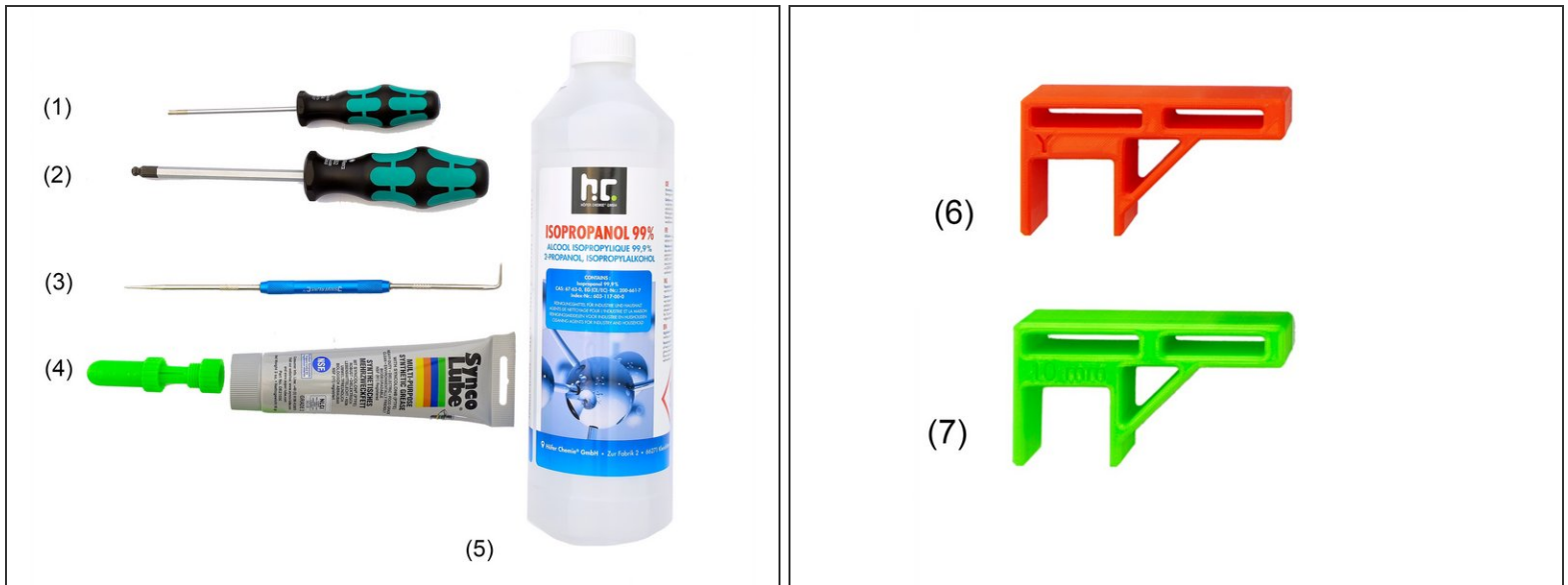
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03.2. Assembly and Installation of the Heatbed Carriage (for MK52)

Written By: Katja Aller

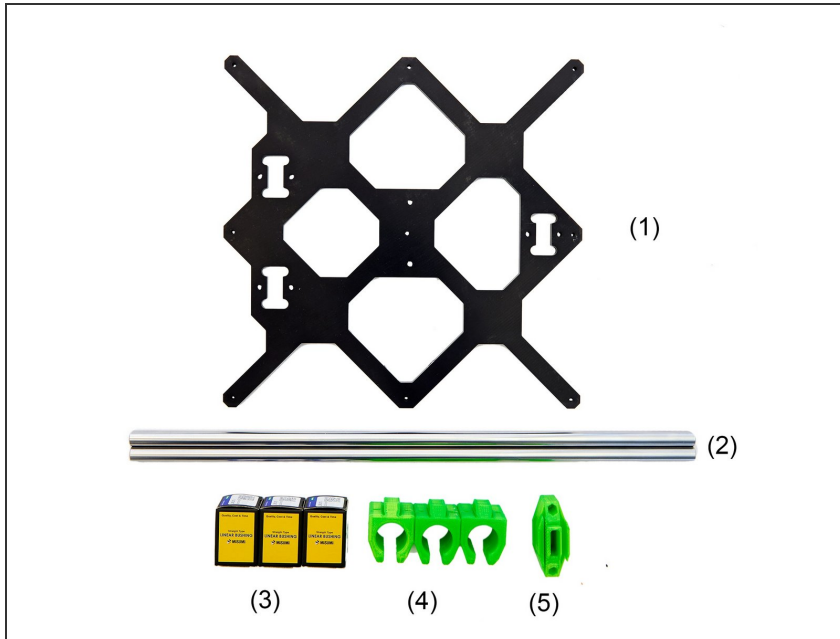


Step 1 — Required Tools



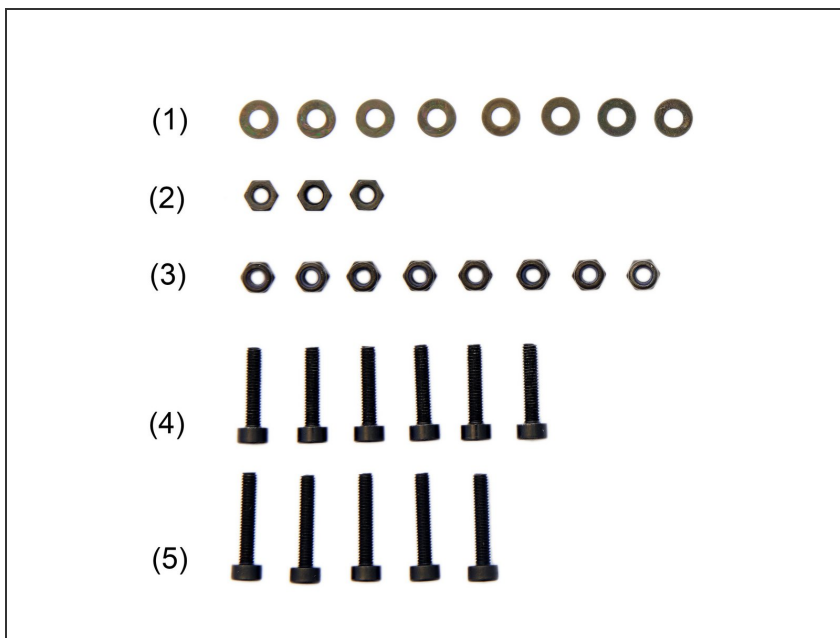
- (1) [2.5x100mm Hexagon Ballpoint Screwdriver](#)
- (2) [5.0x100mm Hexagon Ballpoint Screwdriver](#)
- (3) [Engineer Scribe](#)
- (4) [Super Lube](#) + Injector
- (5) Isopropanol
- (6) 8mm y-Alignment Tool
- (7) 10mm y-Alignment Tool

Step 2 — Assembling the Parts



- (1) [y-Carriage for MK52](#)
- (2) **2x** [y-Rods 360mm](#)
- (3) **3x** [LMU10 Linear Bushing](#)
- (4) **3x** y-Bearing Holder
- (5) y-Belt Holder

Step 3 — Assembling the Screws



- (1) **8x** [M3 Black Washers](#)
- (2) **3x** [M3 Nuts](#)
- (3) **8x** [M3 Self-Securing Nuts](#)
- (4) **6x** [M3x14mm Hexagon Socket Head Cap Screws](#)
- (5) **5x** [M3x16mm Hexagon Socket Head Cap Screws](#)

Step 4 — Preparing the y-Bearing Holders



- ① In preparation for later, **3x LMU10 Bushings** must be placed in isopropanol for 15min.
- ① To save time, you can now already prepare the **3x LUMW10 Bushings** and the **LMU10 Bushings**. You will need these parts later for the construction of the x-axis.
- Insert **2x M3 Self-Securing Nuts** into the sides of each y-bearing holder.
 - ⚠ While doing so, check the alignment through the hole on the top of the y-bearing holder.

Step 5 — Assembling the y-Bearing Holders (1 / 3)

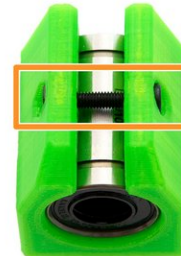
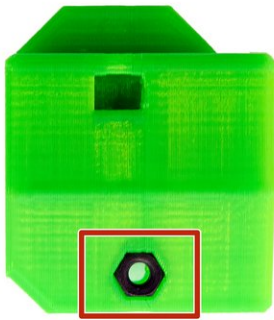


⚠ Pay attention to the alignment of the balls. The bushings should be inserted in such a way that the ball guide grooves are positioned at 45° to the vertical line.

- Take one of the LMU10 bushings you have previously soaked in isopropanol, and insert it into the y-bearing holder.

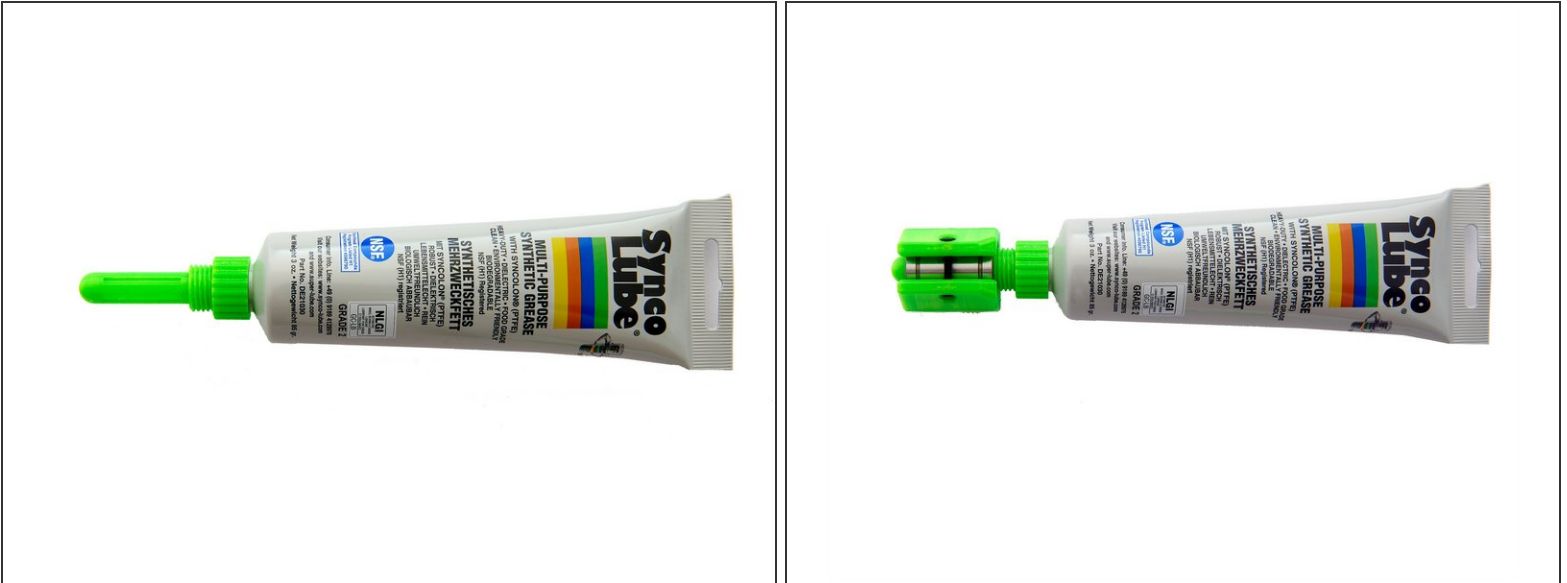
⚠ Please note that the bushing can only be inserted from one side.

Step 6 — Assembling the y-Bearing Holders (1 / 3) (2 / 3)



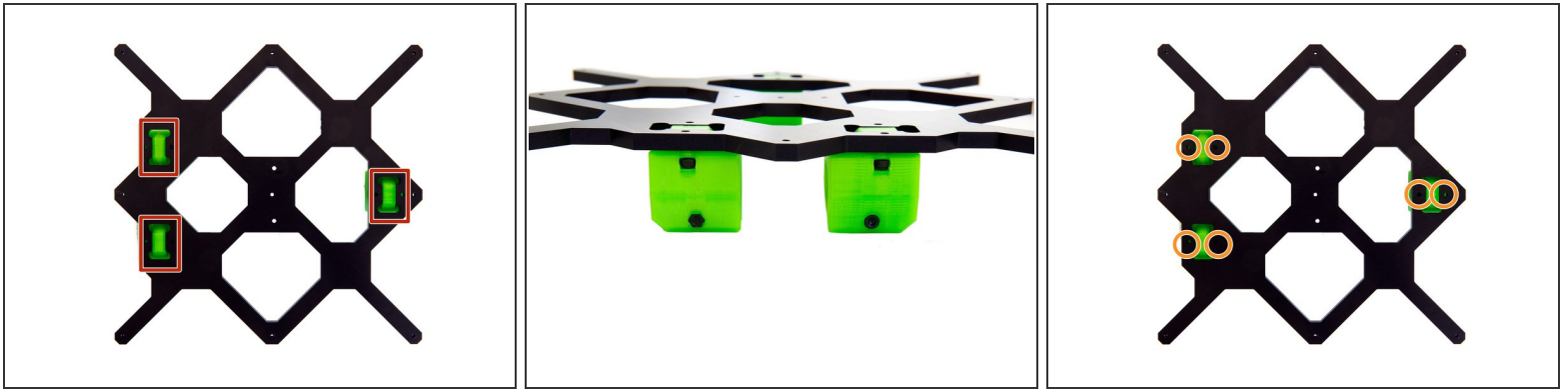
- Secure the bushing by inserting an **M3 Self-Securing Nut** (using an engineer scriber) into one side of the y-bearing holder.
- They are then *lightly* tightened with a **M3x16mm Hexagon Socket Head Cap Screw**.

Step 7 — Assembling the y-Bearing Holders (1 / 3)(3 / 3)



- Now open the Super Lube tube and screw the injector onto it.
- Place the bushing inside the y-bearing holder on the injector. Distribute the Super Lube inside the bushing.
 - ❗ The bearing is sufficiently greased when the grease oozes out of both ends of the bushing.
- Repeat these steps for the other two y-bearing holders.

Step 8 — Installing the y-Bearing Holders



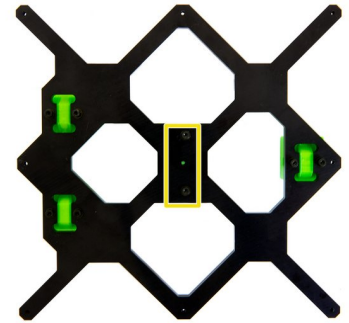
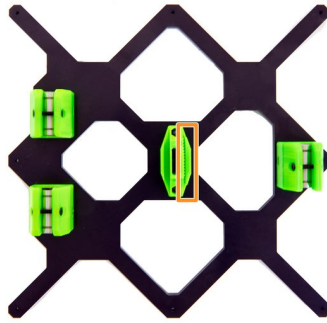
- The three assembled bearing holders can now be placed in the holes in the y carriage.

⚠ Here, you must pay attention to the alignment of the y-bearing brackets, since on the side on which two y-bearing holders are installed, the flattened sides must face outwards (see Fig. 2).

- Each y-bearing holder gets *loosely* attached to the y-carriage with **2x M3 Washers** and **2x M3x14mm Hexagon Socket Head Cap Screws**.

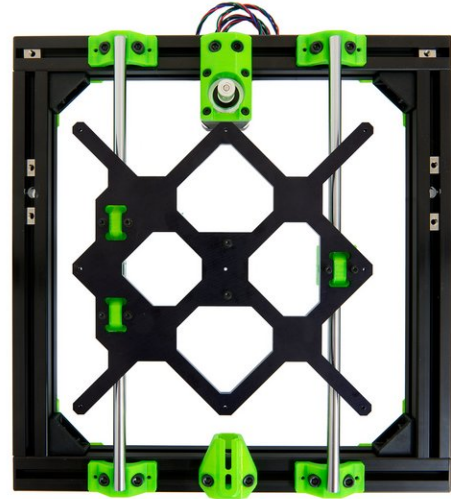
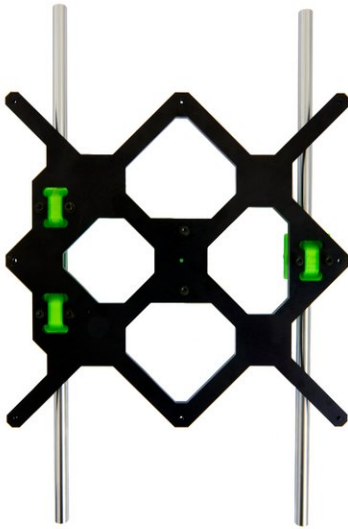
ⓘ The y-bearing holders should still be easily moveable.


Step 9 — Installing the y-Belt Holder



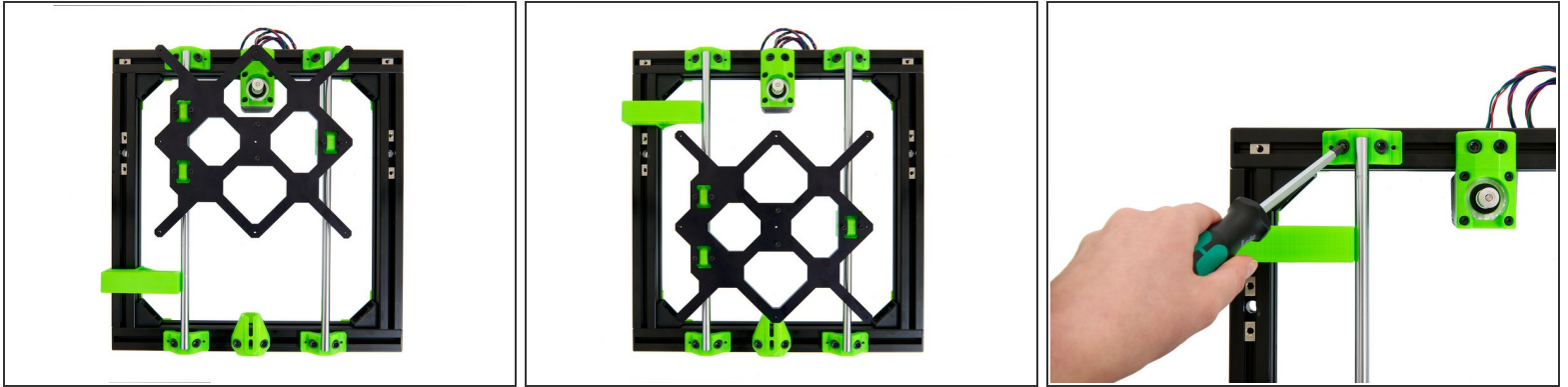
- Insert **2x M3 Self-Securing Nuts**, (using e.g. an engineer scribe), into the holes of the y-belt holder.
- Place the y-belt holder on the y-carriage as shown in Fig. 2.
⚠ Make sure that the teeth for the belt point to the side with the single bushing.
- The y-belt holder is attached from the top with **2x M3 Washers** and **2x M3x16mm Socket Head Cap Screws**.

Step 10 — Installing the y-Carriage



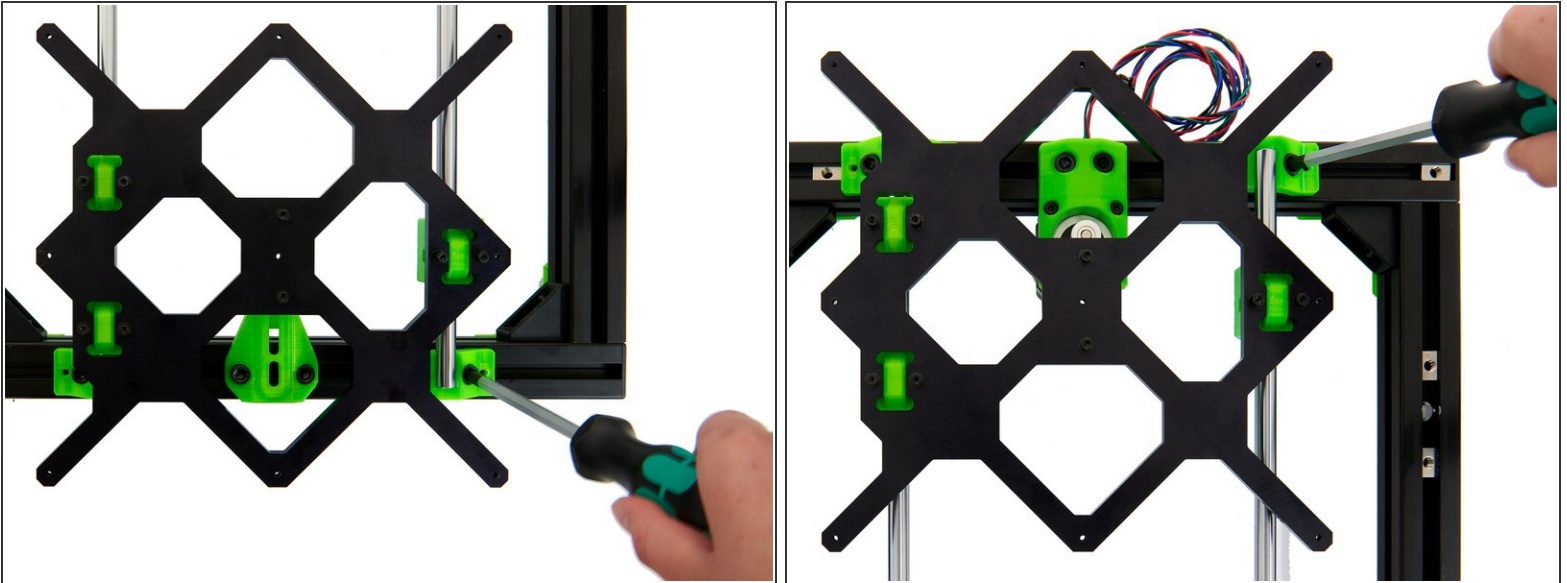
- Carefully slide the 2x y-rods through the three bushings and place them on the y-rod holders.
 Make sure that the side of the y carriage where the two bushings are located, is on the left side of the frame.
- When the y carriage is correctly aligned, press the rods into the four y-rod holders.

Step 11 — Aligning the y-Carriage (1 / 3)



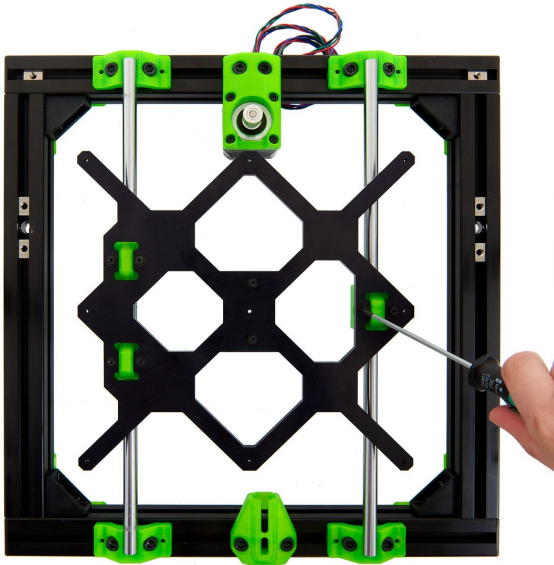
- Place the 10mm y-alignment tool at the bottom of the frame's left y-axis and press the rod against it.
- Then place the alignment tool on top of the left y-axis and press the rod against it here as well.
- Once you have correctly aligned the rod, fasten the **4x M6x12mm Socket Head Cap Screws** inside the y-rodholder at (1) the left front and (2) the left rear.

Step 12 — Aligning the y-Carriage (2 / 3)



- Then move the y carriage to the far front and fasten the **2x M6x12mm Socket Head Cap Screws** in the y-rod holder on the right front.
- Move the y-carriage to the far rear and fasten the **2x M6x12mm Socket Head Cap Screws** in the y-rod holder at the right rear.

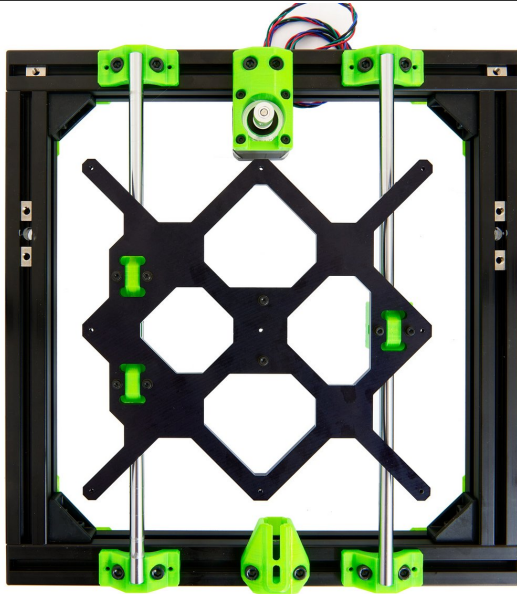
Step 13 — Aligning the y-Carriage (3 / 3)



- Move the y-carriage back and forth while gradually tightening the **6x M3x14mm Socket Head Cap Screws** on the y-bearing holders.

- ⚠ Do not fully fasten the screws immediately. Fasten each screw with only half a turn for the time being.
- ⓘ Keep moving the carriage back and forth to make sure it can move freely.
- ⓘ If the y-carriage runs a little out of round, both loosening and tightening the screws on the y-bearing holders several times and realigning the rods can help.

Step 14



- i** The heat bed carriage for MK52 is now completely installed.
- i** Continue with instructions [04. Installing the y-Belt.](#)